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Export Transportation and Intergovernmental Public Policy

February 1985

The cover photo is provided courtesy of the Port of Long Beach.

NOTE: This report is an analysis of key issues associated with intermodal port development. Part of its content includes policy and other recommendations based on this researcher's perception of the issues involved. Recognizing that there may be many alternative approaches to resolving transportation problems, these positions may not necessarily represent those of the U.S. Government. As such, no endorsement of these conclusions or recommendations is either expressed or implied by the U.S. Department of Transportation.

Export Transportation and Intergovernmental Public Policy

Final Report
February 1985

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EXECUTIVE SUMMARY AND CONCLUSION

Traditionally a successful exporter, the nation now has a complex trade problem. The 1984 trade deficit was $123.3 billion and may reach $150 billion in 1985. When related to gross national product the imbalance cost two percentage points in real growth and 2.5 million jobs in 1984.

To help call attention to the situation, the President's 1983 State of the Union Message addressed the interrelationship of international trade, exports and jobs. His interest has stimulated public discussion of the dilemma.

According to many observers, several possible reasons may account for the change in our trade balances: general productivity of the economy, basic competitiveness in world trade, need for "reindustrialization" and high value of the dollar. With lower value of the dollar, temporary trade imbalances should begin to self correct. But our transport system may also be adding to the difficulty of exporting. It may not be operating in the most economic, efficient and effective way for exports.

The purpose of this study is to focus on the domestic transport component of the export process. American transportation modal systems (highway, rail, pipeline and water) play an important individual and collective role in the export transportation process. They, as industries, are in positions of both leadership and support for export transportation. By leadership, they are attempting to take an active role in encouraging exports and presenting workable packages. The support role has been always a function of their activities; mainly within the normal domestic transport operation without special attention necessarily upon the export process. A key leadership role here has been displayed by the American port industry in identifying opportunities, bringing foreign and domestic participants together, assembling packages, arranging financing, and implementing projects to make large scale export activities possible. For the most part this is a new and significant role for the port industry and is now being expanded by the larger domestic transport companies.

Aside from the immediate urgency of the growing trade imbalance and the impact of declining exports upon employment, there are long-term factors with potentially large implications. The United States is in an excellent position or will be by the year 2000 to provide much of what the world needs for basic life support, raw resources, commodities, goods and services. The more likely candidates include coal and agricultural products such as grain cargo carried by container freight rather than break bulk will be increasing as well. There is concern that by the year 2000, as the demand for our output increases, the transportation system may be at points of maximum operation and thus require significantly expanded or new facilities and services. Should this be the case,they may well encounter the intergovernmental public policy system. Whatever is necessary operationally to change or build will in many locations come into contact with the federal, state and local laws, rules, regulations and policies governing domestic activities. This intergovernmental policy framework might offer some impediments or bottlenecks, which could become absolute stoppages or barriers to the export transport process in key ways.

To consider these questions, this study reviewed long-term public policy implications of the intergovernmental policy framework for export transportation. It examined the general export transportation process, American port facilities, role of ports and trade, intergovernmental policy framework, deregulation and selected port experiences.

Research methodology employed extensive literature search of a vast body of information, collection of material by mail and phone requests, and field interviews and case studies. The work was guided by an advisory committee composed of representatives from the U.S. Advisory Commission on Intergovernmental Relations, Department of Transportation, American Association of Port Authorities, National Council of Physical Distribution Management, Ports of Long Beach and Los Angeles, Southern California Association of Governments, Los Angeles County Transportation Commission, Southern Pacific Railroad and Security Pacific Bank. Products included two interim reports, a workshop on " Exports, Transportation and Private/Public Cooperation," and workshop proceedings.

The existing American intergovernmental public policy system was developed on a piecemeal basis without real consideration of transportation, exports or ports. Such incremental evolution resulted in a rich mosaic of structures, practices, traditions and experiences, often enunicated in the form of public policy laws, rules and regulations. In the same regard, governmental levels have different interests and purposes for their own public policy. Transportation - related intergovernmental policy of general concern and sometimes a specific difficulty include the environmental area (air, water, wildlife, dredging, dredging waste, noise), highway vehicle weight and size limitations, permits and licensing, state utility commission permitting and licensing, coastal zone controls, local regional, county and city land use and zoning controls, safety and hazardous cargo policies, tax policies for international business, motor carrier and railroad deregulation, and questions of eminent domain as in new transport technology development and implementation (slurry pipelines). For example, federal influence uses direct orders, cross cutting requirements, crossover sanctions, and partial preemptions. Some port facility projects worked with over 70 federal, state, and local reviews and permits. Dredging may require 23 to 25 years from project conception to completion. These experiences are not unique.

The current economic resurgence should provide incentive to plan ahead and decide some key strategy issues. Although export transportation problems are not yet at the intensity experienced in 1979-80, they may recur for coal or grain transport. The American economy has undergone severe stress and is faced with increasing strong foreign competition. At the same time heavy industry is experiencing "reindustrialzation," causing uncertainty about what it will produce and export. The "smokestack" areas of the nation, the Northeast and Midwest, have lower export volume. To the extent these areas no longer produce export cargo, their supporting transportation and port infrastructure will be impacted. This is something to consider for long-term strategy policy planning at the highest levels as the nation readjusts itself internally. All infrastructure location and investments may be affected by these shifts. On the other hand, such stress external to the port industry provides new opportunities and some pitfalls regarding actual cargo carried, routing and the governmental regulation process. For the time being lower levels of activity compared to the 1970's provide an opportunity to address the future and plan for it more thoroughly, anticipating what might occur and how to prepare for it. An illustration may be in the case of increasing agricultural and coal exports. If new facilities are desirable (or

certainly expanded services), programs could be arranged now, designed, publicly discussed, reviewed and approved for all permiting and licensing. They could then be ready to go as the operations pick up again. Some port officials though fear, that even if this were the case, political affairs in local areas may switch and reverse prior approvals.

For the American transport system to be as supportive as possible for the export process, certain strategic policy issues need to be addressed in the coming years. Management of the port facilities, the role of labor, the introduction of new technology both on and off shore, costing and productivity must all be monitored carefully and coordinated. If volume attains high levels, it may be more prudent to shift cargo to less densely populated urban areas or rural coastal locations, where smaller but specialized facilities can be constructed quickly and cheaply. Should this happen, it would be a major relocation of port facilities outside our urban areas. There are some indications that some ports might consider joint activities to develop facilities in less congested rural locations. Two factors in this rearrangement are the cost of renovating and improving existing facilities, and incentive provided by large railroad company operations with more flexible export cargo routing and costing. At the same time ports are facing financial stress. Compared to general service local and state governments, they appear to be making a lot of money. Even though they need to preserve and protect their earnings for capital development and operations, financially hard-pressed units of government see them as potential candidates for borrowing of funds or outright sharing of earnings. In effect, politicalization of port activities is a serious concern.

It is possible that ports may become in some cases more like transportation company conglomerates, who would view the port operation as a profit center and invest earnings for greatest return. If this did happen, then we might start seeing some ports in dense urban areas slowly but surely leaving the port business and transferring into other money making operations. Existing urban port land could then be converted to higher value utilization for residential development on the waterfront, commerical and entertainment complexes.

Lastly, the intergovernmental policy system has great capability to cause consternation and difficulty. Its very complexity, number of actors and levels, cross-cutting horizontal and vertical relationships, all may add up to a morass hindering timely response by ports to export. On the other hand, the system is designed for non-export transportation purposes. It serves general urban life goals and objectives. Thus the system may be indirectly telling the port industry that, at some point, port activity is no longer as valued an economic activity for its regional areas. It will be allowed to reach full, existing capacity incrementally; not allowing major new facility operations and cargo flows through dense urban areas. If that occurs, such indirect sequencing is a result of free marketplace calculations about cost and transport activities. In the long-term cargo flows would be redirected to more rural locations where, theoretically, transport operation is easier to conduct. Whether present or future activities the intergovernmental policy framework has potential to say "No" in a non-coordinated way, but little capability to say "Yes" in a coordinated way. This crucial distinction is important to keep in mind and must be dealt with. If coal is significantly expanded, then any of the communities in many states along the way may reject the development of coal transport activities through existing railroad (or other modes) rights-of-way. Just the example of the street crossing situation may be enough for local governments to politely suggest that the national interest would be served best elsewhere.

The export transportation industry has developed by independent actions a collection of strategies that are beginning to show significant signs of improving the system. Most of the ideas and new programs are generated by the private sector (carriers, shippers) and some by public agencies (ports, local, state and federal). Over ninety have been identified. Facilities and Services include; goals and value statements, planning task forces/associations, design and engineering, finance, taxes/fees, and operations. Regulations include: railroads, motorcarriers, shipping, pipelines, export impact statement, cost benefit analysis, fast tracking, and regulatory relief. Exports include: representation assistance, promotion, financial/tax, and coordination.

CONCLUSION

The export transportation system is an important, but still subsidiary, component of the domestic transportation framework. Rail and motor carrier deregulation has added competitive vigor to the whole system. Shipping and regulatory changes are now opening more competitive possibilities. As the federal government reduces regulatory activity, private and public roles and relationships begin to adjust, data collection functions are eliminated, coordination is less evident, and policy vacuums are created. Long-term transportation system considerations are guided more by immediate and near-term marketplace forces.

Before deregulation, no part of government clearly addressed how the complex intergovernmental policy system affected the export transportation function. Now, more than ever, it is necessary to encourage public attention and discussion on this matter. An excellent opportunity is presented for private and public institutions at the national, state regional and local levels to assume this role, individually or cooperatively, while the system is relatively "unstressed" and prior to a crisis-response cycle of problem and solution.

What functions might best help to encourage more public attention and discussion of a subject that has no organized support group and constituency, yet affects so much of the national economy, employment, corporate and government revenues, and quality of life?

There may be three levels of basic activities:

Level I - Informational Communication Activities:
1. data collection
2. discussion and briefing sessions
3. conferences
4. training
5. educational programs for technical groups, private and public decision makers, citizens

Level II - Advocacy Communication Activities:
1. position statements
2. lobbying
3. service on advisory committees
4. public statements and media messages
5. press releases

Level III - Decision Making Powers:
1. program and/or office funding
2. program and/or office staffing

3. program regulations, policies, rules, procedures
4. voluntary agreements and programs by concerned parties
5. collective agreements by concerned parties
6. legislative power from Congress, state or county/city jurisdictions
7. identification of transportation corridors for export (e.g., as with Dept. of Defense strategic rail corridors, or Surface Transportation Assistance Act of 1982 requirement to identify special large truck Interstate routes.

A variety of private organizations could accomplish these candidate functions. In the private sector, it could be accomplished by local chambers of commerce, trade associations, industrial groupings, export associations, cooperation with nonprofit research and university groups. At the regional, state and national levels, similar types of organizational mechanisms may be established for increasing awareness and discussion of export transportation.

In the public sector, starting with local government, a somewhat similar network potentially exists among the governments at the city, county, special districts, and regional levels. For example, some areas of the nation have active "district export councils" based on the U. S. Department of Commerce's trade program forums. At the state and federal levels, similar office functions exist and may become useful in these activities.

Identification of candidate levels of activity and implementing organizations is designed to be "menu-driven." By this, it is meant that all of these are potential, voluntary activities. They may be accomplished by marketplace, private sector forces as need occurs. Depending upon the intensity of the export transportation problem, a mixture of the approaches could be considered for longer-term situations. For example, if the backup of export transportation cargo occurs in the rail or highway system in key points of the country, local areas could try to organize and handle the response themselves. In fact, this did occur and did not require a strong state and federal involvement, except in monitoring. In the case of Hampton Roads and Baltimore and coal export, the queuing and vessel permit systems lessened severity of the situation. The Port of Seattle has been active in helping to consolidate export shipments to secure lower "through rates" for shippers or manufacturers. Portland has organized the Columbia and Snake River system. Houston linked closely with railroads on grain backlogs. New Orleans provides leadership for the Mississippi system. Charleston is opening inland consolidation facilities and providing realtime shipment monitoring systems. Miami is developing the gateway concept for Latin American trade. In Southern California, regional government in cooperation with many local public and private agencies, including the ports, has identified rail freight corridors for export transportation. The Port of Long Beach and Port of Los Angeles are jointly developing an intermodal container facility, and a master plan for the year 2020. These illustrate local voluntary action and how they may come into play.

If things become far more intense and voluntary local private and public cooperation did not respond adequately, then a stronger governmental role should be considered and initiated after a sufficient period for a natural local solution to develop.

In an extremely competitive world of international trade, every little advantage yielded by our transportation system to facilitate exports can only help the nation's economic healthiness and position in trade. This coordination is necessary. It appears now that we have none to minimal coordination, thus in the late 1970's and early 1980's, there was an intense export boom almost demanding it. When export pressure grows again to maximize the system for the long term, we may well wish for more advance planning and coordination by the private and public sectors.

What must be decided by the marketplace and the intergovernmental policy system is, what priorities should the export transportation system have to make our exports as competitive as possible? These types of policy issues and ques tions must be discussed and resolved. This research study sees a growing need for some kind of coordination to be encouraged and accomplished. Whether it is a result of free market forces alone or with governmental encouragement, the results hopefully will be the same and effective support would occur. The visibility of centralized functions and informational campaigns, statutory and program coordination and implementation will facilitate a useful statement of the broad game rules for export transporta tion priority. Such steps as the Export Trading Company Act and discussion of dredging legislation are a good beginning to redirect attention and to develop integrated policy and programs.

The intergovernmental policy of the nation as it stands now is <u>not</u> to treat export transportation as a total policy package. Such intergovernmental freedom and independence may be scrutinized more and more if the balance of trade deficit continues to grow. A clear decision between local and national interest might have to be made. A potentially useful approach to initiate discussion is establishment of a policy agenda to consider future export transportation strategy options and decisions.

ACKNOWLEDGEMENTS

For the combined export transportation system of the nation, the period of 1981-1984 was a stimulating time, full of challenge, opportunity, and uncertainty. This research effort documents that era and offers data, observations, analysis and suggestions based upon cooperation and support from many agencies, corporations and individuals dedicated to improving our export transportation system.

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General management of the entire project was the responsibility of Peter L. Shaw. Over the course of the study, colleagues involved included Linda Brandt, Gerald Leonard, John Matzer, Elbert Segelhorst, Elizabeth Letson and

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Cover photo courtesy of the Port of Long Beach.

Chapter I

INTRODUCTION

The United States is closely integrated with the world by many intricate relationships such as trade, economic policy, telecommunications, environment, transportation. This study reviews in depth one aspect of the web of interrelationships -- the domestic transportation function -- and export of the nation's output. Influencing the transportation activity is a set of federal, state, and local laws, policies and programs which, in effect, form the country's intergovernmental public policy system.

For export of American output, the domestic transportation system should ideally operate economically and efficiently. Problems of transporting goods and commodities from their points-of-origin to seaports should be minimized by the role of government, not unintentionally exacerbated. There is reason to believe that the intergovernmental system has offered some key bottlenecks (impediments) and barriers (obstructions). The export transportation system must operate within the very same complex, fragmented institutional policy framework formed by the intergovernmental system.

In the land-sea export process, American seaports have been widely recognized as the pivotal point. To the transportation company executive, the manufacturer or farmer, the governmental policy-maker, ports are a natural place to consider when thinking about exports and transportation. In some situations, they may be too visible. They are indirectly encouraged to take leadership positions to develop trade, line up financing, and long-term contracts, assemble the best domestic transportation packages, and steady suppliers. From their successes, benefits accrue to the nation's economy, producers, and citizens. Jobs are created or enhanced through the multiplier effect. But, on the other hand, the ports may take a lot of "heat" by being aggressive and visible in behalf of improving exports. Their return on organizational and financial capital invested may be revenue earned as port landlords, owners, or operators of the facilities through which cargo moves. That revenue does help their parent jurisdictions and local economies. Overall though, the ports have voluntarily assumed the leadership role.

Interest in exports, transportation and public policy is growing. The President in the 1983 State of the Union address noted:[1]

> One out of every five jobs in our country depends on trade. So, I will propose a broader strategy in the field of international trade--one that increases the openess of our trading system and is fairer to America's farmers and workers in the world marketplace. We must have adequate export financing to sell American products overseas.
>
> I will ask for new negotiating authority to remove barriers and get more of our products into foreign markets. We must strengthen the organization of our trade agencies and make changes in our domestic laws and international trade policy to promote free trade and the increased flow of American goods, services, and investments.
>
> Our trade position can also be improved by making our port system

more efficient. Better, more active harbors translate into stable jobs in our coal fields, railroads, trucking industry and ports. After two years of debate, it's time for us to get together and enact a port modernization bill.

Education, training, and retraining are fundamental to our success, as are resaerch, development and productivity. Labor, management, and government at all levels can and must participate in improving these tools of growth. Tax policy, regulatory practices and government programs all need constant reevaluation in terms of our competitiveness. Every American has a role, and a stake, in international trade. (emphasis added)

The Council of Economic Advisers and Congress have also emphasized trade.[2]

The imbalance in 1984 was a trade deficit of $123.3 billion which "cost the gross national product two percentage points in real growth" and "as many as 2.5 million" jobs. The 1985 deficit may reach $150 billion.[3]

In support of the President, according to Ambassador William E. Brock, U.S. Trade Representative, is:[4]

Domestically, our challenge will be to fashion economic policies that will generate sufficient growth to allow the nation's economy to adjust to rapidly changing technological and competitive conditions. As economic recovery accelerates, American industries will emerge more efficiently and better able to compete.

Tax policy, regulatory practices, and governmental programs will be regularly evaluated in terms of our competitive opportunities. (emphasis added)

Although the domestic export transportation system is not the primary cause of the nation's trade imbalance, it may be a contributing cost factor for its product competitiveness. It is very difficult to separate transportation costing, especially that element attributed to governmental laws, regulations and policies.

The American public appreciates the country's international trade situation and understands its importance. Eighty-nine percent agreed with the statement: "We must make better products more efficiently to compete in the world, rather than depend on trade barriers such as tariffs."[5] Yet, fifty-five percent favor "increasing taxes on foreign imports to protect American jobs in certain industries."[6] The seeming inconsistency can be explained in the first poll by the question noting a condition that U.S. exporters are treated liberally abroad as a quid pro quo. This became most evident in March,1985 in the strain placed on United States - Japanese trade relations.

Given the importance of international trade to the American economy and the role that export transportation intergovernmental policy may have, there is a distinct and clear federal strategic policy interest. It was within this context that the U.S. Department of Transportation,Research and Special Programs Administration was concerned by the long-term implications of export trade, transportation, and intergovernmental institutional policy.

Study Purpose

The research study was conducted in a three-phased effort in the 1981-1984 period. The primary purpose was to identify intergovernmental transportation bottlenecks and barriers to the efficient operation of the export process. The first year of study examined the demand for U.S. exports, the intergovernmental transportation policy system, and how it interacted for the transportation of coal, grain, and containers to the Port of Long Beach and Port of Los Angeles. The second phase reviewed the changes in the intergovernmental transportation system, the impacts of deregulation, the direct experience of the ports of Baltimore, Hampton Roads (Norfolk-Newport News), New Orleans and Seattle. This report presents long term considerations for exports, ports, intergovernmental policy (including deregulation, port operation, and dredging), and the key strategic policy issues for the federal government and the transportation industry.

Research Questions

The underlying concept, the interface between intergovernmental policy framework and transportation of goods and commodities for export, requires that several broad questions be identified. These relate to the "flow" sequence from point-of-origin in a port's "hinterland" or service zone to the port, onto the ships, and past the coastal limit.

For example, what federal, state, and local laws, regulations, rules and policies govern directly (or to an important indirect degree) and relate to these components of the transportation export process: 1. point-of-origin: preparation of goods and commodities for shipment; loading process, facilities, labor; transportation facilities, supply, labor; freight forwarders, brokers; capability for new demand; capital requirements; 2. transportation (origin to port): mode (truck, rail, pipeline, barge); operational process (facilities, equipment, labor); charges; maintenance; capability for new demand; capital requirements; 3. port complex: access to port; transfer equipment, operation (unloading and loading), labor; storage facilities, space, operations, labor; ship berthing and departure; ship harbor traffic (internal moorage, movement); ship exit to and beyond coastal territorial limit; capability for new development; capital requirements.

Another set of research questions relates to the laws, regulations, rules and policies. How does one determine if a governmental law is good or bad? What criteria exist to help shed some light on such matters? Unfortunately, the field of public policy offers no clear cut way. So much depends upon the original need for the law, the groups and individuals to benefit or disbenefit, the implementation of the law, and subsequent operation over time. Recognizing the delicate ground here, this study attempts to lay out the various perspectives and interpretations explicit and implicit in a particular situation.

So, such questions as the following will be raised whenever appropriate: 1. transport law contact: what brings laws into play; what statutory requirement exists; what standard serves as trigger mechanism to initiate; process; what time periods are involved; 2. administrative law criteria; who benefits/disbenefits; burden; equity; fairness; efficiency; effectiveness; financial cost; even-handedness in interpretation and application; uniformity; consistency; 3. policy incentives and disincentives; regulatory license and operations; subsidy; rate of

return on investment; taxes.

Research Paradigm Shift

The original problem, which initiated the study, was the quickly growing demand for United States exports of coal, grains, and merchandise. Foreign purchases were expanding so fast that by the late 1970's, many cargo logistical bottlenecks, and sometimes barriers, became more visible in the domestic land-sea transportation system. Parenthetically, some had been anticipated by similar experiences on the import side of the equation (e.g., petroleum import). The role of government was static. Exports were, as interstate commerce, a federal concern. State and local activity deferred to historical federal leadership in these spheres. The transportation system was considered by all governmental levels to be mainly concerned with domestic origins and destinations. Except for ports and some export-oriented firms, little attention was given to the interrelationships.

Between 1980 and 1984, the stable role of government and all its participants underwent a "sea change" in philosophy, direction, activity and funding. Deregulation occurred for rails and motor carriers in 1980; shipping regulation was modified and "loosened" in 1984. The federal government had the stated goal of lessening its involvement across the board in the domestic intergovernmental public policy system. Transportation was one of many functional areas to be vacated slowly. At the same time, the nation experienced high inflation, deflation, government revenue shortfalls, and a continued trend of more imports, fewer exports and increasing value of the dollar.

The export cargo logistical system was no longer stressed. Urgency became less important. Studies indicated that rising demand for exports would be "postponed" until the outyears, 1990 and beyond. At the same time, state and local governments recognized the value of trade and began expediting the export process. Ports became quite visible as lead agencies in encouraging exports (and imports).

Thus, the study reviewed a period that began with intensity, urgency and high demand for coal and grain, and is now in a less stressed, lower demand time. The intergovernmental public policy system has also become less a present concern because logistical overload does not indicate an immediate need for expansion of existing operations and construction of new facilities.

The "boom and bust" cycle of trade has afforded the nation a temporary reprieve before demand jumps up again and utilizes the system to capacity. When that occurs, all parts of the export transportation system should be ready with procedures and facilities to handle increased cargo flows. The intergovernmental public policy system should also be prepared to respond in a coordinated effective manner to support export transportation needs to help improve the nation's trade position and competitiveness in accordance with desired public policy goals. In essence, there is a window of opportunity to get prepared for the long-term possibilities.

Research Methodology

To explore these questions, research approaches incorporated several techniques.

1. Literature Review. The vast body of literature has been reviewed for information about the technical elements of the transportation process and the variety of federal, state, and local laws that might apply. Especially useful resources include the Maritime Research Board and Transportation Research Board Bibliographies, the Index to Legal Periodicals, and American Association of Port Authorities materials.

2. Advisory Committee. General input and valuable assistance have come from the Research Advisory Committee, composed of representatives of the Port of Long Beach, Port of Los Angeles, Southern California Association of Governments, Los Angeles County Transportation Commission, Ports Transportation Task Force, Southern Pacific Transportation Company, Security Pacific National Bank, U.S. Department of Transportation, and U.S. Congress Surface Transportation Committee, American Association of Port Authorities, National Council of Physical Distribution Managers, and the Advisory Commission on Intergovernmental Relations.

3. Interviews/Meetings/Information Gathering. Numerous interviews were conducted with local, state, and federal officials, representatives of trade associations, corporate managers for the railroads, trucking, terminal and commodity organizations. General information about all ports in the nation has been collected directly from them, along with trade association materials about the goods and commodities for export. Local, state, and federal officials and corporate managers have been contacted by mail and phone to elicit their informal thoughts about the export-transportation intergovernmental policy contacts.

4. Case Study. Much of the subject matter is abstract and conceptual until fleshed out with the realities of actually transporting export goods and commodities. Case studies examined individual experience: Atlantic Coast (Baltimore, Charleston, Hampton Roads, Miami) Gulf Coast (Houston, New Orleans), and West Coast (Long Beach, Los Angeles, Portland, Seattle). Each port was chosen to represent a mixture of geography, cargo, size, and operations.

Research Limitations

Several constraints need to be mentioned at the outset. The export intensity and degree of logistical system overload have lessened. The basic study purpose and questions explored became more distant, rather than immediate. Nevertheless, the essential problems should be addressed in terms of strategic policy.

Data collection sometimes proved difficult. Carriers and ports, acting in a proprietary manner in very competitive industries, did not readily share cost data. Published sources are often out-of-date, incomplete, based on different measures and formats for presentation. Such has been the norm for the field.It became even more difficult with deregulation when federal regulatory agencies stopped or reduced data collection activities for reasons of philosophy and cost Also, many ports downscoped quickly their future plans, reflecting lower export activity, and viewed them as more distant concerns to be considered later, not now.

Institutional images were also a factor. Extensive interviews were conducted with all segments of the field. Representatives of a specific company or governmental agency would, in effect, suggest:"There are no problems here. "Our agency does not impede the flow of exports." "This agency is innovative and doing many positive things." As it was most understandable, almost all representative spoke in general terms giving hints and clues for other parts of the country or

industry. It appeared that only when things had gotten so bad and frustrating that officals felt free to mention negative experiences with the intergovernmental system. Despite this, all were pleased to talk about basic issues for the nation, what might be done about them, and to explain how innovative practices and ideas can make a difference.

Final Report Format

The research project has produced two interim reports, a workshop and proceedings and this final report treats the subject for the period of 1980-1984. Material is essentially new, with some inclusion of prior data. The report is divided into three major units:

Part I: System Development
- Export Demand
- Port Facilities

Part II: Intergovernmental Policy System Operations
- Intergovernmental Public Policy
- Transportation Regulation
- Port Profiles
- Dredging

Part III: Long-term Implications
- Strategic Policy Issues
- Export Transportation Policy Strategy

Part I explains current and future export requirements for the nation and how ports serve that demand. Part II discusses the interaction of the export transportation system and the general intergovernmental public policy framework, regulation of transportation, port case study profiles, and port dredging. The subject flows from the broad sweep to the specifics of dredging. Part III looks forward to anticipate issues and promising strategies.

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[1]President Ronald Reagan, "State of the Union Address Text," Los Angeles Times (January 26, 1983), part I, p. A.

[2]See: Office of the President and Council of Economic Advisers, Economic Report of the President (Washington,D.C.: Government Printing Office, February 1984), pp.5-6; U.S. Congress Subcommittee on Trade, Hearing-U.S. Trade Deficit (Washington,D.C.: Government Printing Office, 98th, 2nd session, 1984); and, U.S. Congress,Subcommittee on Commerce,Transportation and Tourism, Hearing - Trade Deficit and the Economy (Washington,D.C.:Government Printing Office,98th,2nd session,1984

[4]William E. Brock, "U.S. Trade Policy," National Journal (February 19, 1983), p. 409.

[5]"Faith in Free Trade Has Not Waned," Business Week (May 30, 1983), pp. 16.

[6]"A Poll in foreign Trade: America First?" Newsweek (May 30, 1983), p. 28.

Chapter II -UNITED STATES EXPORT POSITION

Introduction

The importance of trade in international affairs cannot be understated. It is of great significance to the United States economy and world economy. As a nation founded on trade, the United States has a tradition in the maritime industry and in trading that, while it is at times ignored, is not forgotten by those who are engaged in its pursuit. At the present time, there is much rhetoric about the trade deficit and the need to increase the value of our exports. If exports are to play a greater role in the U.S. economy, (-Ø.3 percent net exports in 1983, greater private and public effort will be necessary.[1] In the past we have been able to dictate the rules by virtue of being the largest player in the marketplace. The U.S. exported twenty-five percent of the total volume of world trade in 1950. The figure drops to fourteen percent in 1984, and is forecast to be ten percent in 2000. At the same time the spectacular growth in world trade volume is projected to decline a bit and actual volume to remain somewhat level until the end of the century. Against this rather sober background the immediate past,present and future of U.S. exports will be examined.[2]

Significance

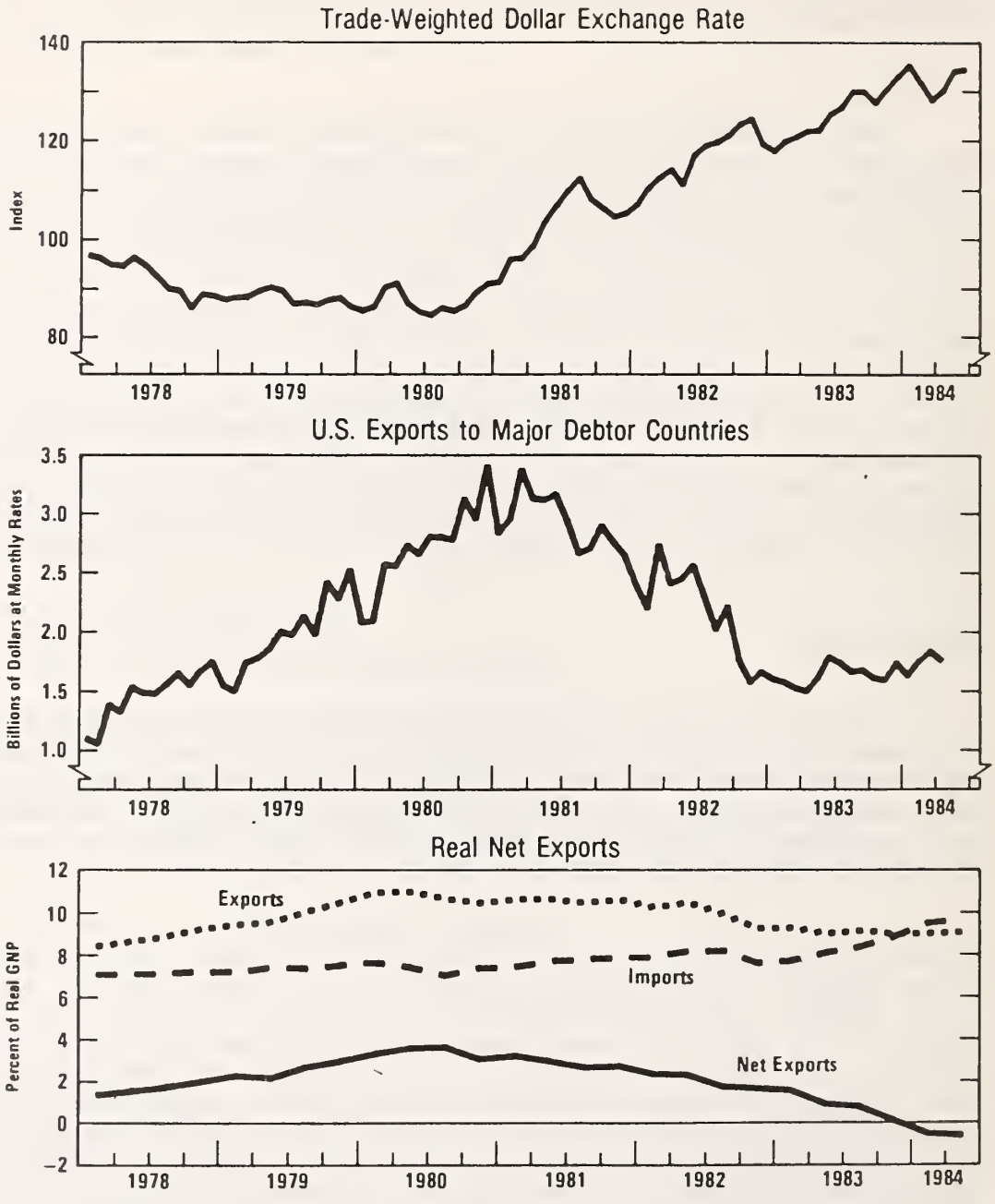
In the past, because of its large domestic market and rich supply of natural resources and energy, the United States has not had to rely upon imports or exports to satisfy its basic needs. That has changed with the greater reliance upon imported energy, raw materials, especially for the petrochemical industry, and manufactured goods that occurred during the 1970's and continues into the 1980's. (See Figure II-1).

In comparison to other developed western nations, the United States imports a relatively small percentage of its GNP, 9.8 percent c.i.f. in 1980. The Netherlands imports over 45 percent and the other European nations over 20 percent of their GNP.[3] In contrast, the U.S. exported 5.9 percent of its GNP in 1983, France, 18.3 percent, West Germany, 29.5 percent, the United Kingdom, 20.1 percent, and Japan, 12.7 percent. Unfortunately, the net export of goods which was .9 percent in 1980, had fallen to -.3 percent in 1983 when the trade deficit was $69.4 billion.[4] The 1984 figures are $123.3 billion trade deficit and a net export figure of about -1 percent of real GNP. Economists estimate that the trade deficit has cost the U.S. two percentage points of real growth last year as well as an estimated 2.5 million jobs by some estimates.[5]

It is the trend of this statistic as well as its magnitude which concerns economists. Not since the beginnings of the Industrial Revolution in the United States, 110 years ago, has the US had a trade deficit for as long as nine consecutive years.[6] Key sectors of the American economy have been impacted. For example, there is the plight of Mid-western farmers unable to pay off loans owned to local banks and the Farmers Home Loan Administration. While farm land was appreciating at a rapid pace due to the expansion of exports, bankers made loans which totaled one hundred percent of the collateral on the assumption that the increased value of the land would soon reduce the amount to the more standard eighty percent. In the last two years, several factors have acted together to depress the value of

Figure II-1

U.S. International Economic Performance



SOURCES: Federal Reserve Board; International Monetary Fund; U.S. Department of Commerce, Bureau of Economic Analysis.

NOTE: Major debtor countries: Mexico, Brazil, Venezuela, Argentina, Poland, Yugoslavia, Chile, Peru, and Philippines.

Source: U.S. Congress, Congressional Budget Office. The Economic and Budget Outlook: An Update (Washington, D.C.: Government Printing Office, August 1984), p. 25

farmland particularly in the wheat and corn regions of the mid-west. Countries which previously imported United States grains are now exporting grain, most notably France and China. Also, world harvest of many major crops is setting records this year. The high level of supply is depressing the price buyers is willing to pay and thus the farmers are receiving a lower price for their crops than they anticipated.[7] The combination of these factors plus higher prices for machinery, labor and supplies is putting pressure particularly on the middle sized farmer who has no outside income as does the small, part-time farmer and is not part of a large business as are the conglomerate farmers.[8]

One sixth of all domestic manufacturing jobs depends directly upon exports and over seventy percent of our goods are exposed to foreign competition.[9] Two-fifths of agricultural employment is involved in export production.[10]

The ability of an industry to increase its market by exporting makes it possible to maintain a domestic presence in the particular sector in which the industry operates. Unfortunately, many industries have found it cheaper to export the whole operation rather than compete for higher priced U.S. capital and labor in the domestic market.[11]

A similar problem exists for mining which finds itself in a depressed world market having to compete with nationalized industries which are operated to provide employment in lesser developed countries plus whatever foreign exchange the export of ore or semi-finished products will bring.[12]

Historical Trade Relationships

As a nation founded mainly by European nations interested in trade, new territories were a source of raw materials and a growing market.

With nationhood and expansion, the country relied upon transportation to carry its goods to the world's markets and to extend its development to the West, particularly to California and the gold fields. Clipper ships sailed to China carrying Yankee traders to a legendary place in history. Their ghosts seem to haunt the merchants of today as they struggle to make a dent in the competition for world market share.

The surge of industrialization which occurred in concert with the development of the transportation network supplied the machinery and goods to develop a nation. Such great quantites were needed that much of the industrial output, great as it was, was required by the domestic market. The United States in many ways withdrew from the rest of the world until involved in World War I. She did not actively rejoin the world community until World War II, when she supplied the rest of the world with food, technology, and manufactured good while helping destroyed economies to rebuild with state-of-the-art technology. Because there was no intense competition to encourage a company to stay 'lean and mean' many factories were not modernized and/or became saddled with labor contracts which discouraged peak productivity and efficiency.[13] This state of affairs was not a large problem until recently when American manufactured goods have found it almost impossible to compete overseas unless they were high tech, state-of-the-art electronics or machinery which utilized such sophisticated technology in their operation or construction. Even in this field, the Japanese are developing new generations of computers almost more rapidly than we are, and they are applying that technology to the construction of consumer goods which the rest of the world seems unable to do without.[14]

This leaves our natural resources and agriculture as our major exports to the rest of the world. These high bulk relatively low value products include: lumber, coal, grain, fibers, feed, tobacco, oilseeds, livestock and poultry. The United States exports sixty-five percent of its wheat, fifty-five percent of its soybeans, and thirty-five percent of its coarse grains (oats, rye, millet, etc.) crops.[15] As has been previously mentioned the world supply of agricultural products has been expanding rapidly while demand is projected to grow at five to six percent per year until the end of the century . The Pacific Rim is expected to grow at a rate of 6.3 percent and will thus offer and expanded market to US farmers but they will have to compete for it with the Australians and the rest of the food exporting nations on the combination of price and transportation cost.[16] (See Figure II-2)

The problem of food for less developed nations (LDC's) and particularly African nations of the Sahel region remains. Unfortunately these nations will not be able to afford to buy food on the world market and will have to be supplied through government aid or extremely low rate loans with long repayment periods. The problems of this region and of Africa in general will take much time and more than just food aid in order to reestablish stable, self-supporting economies able to participate in the world market as full partners.[17]

Up until this point in time, the United States has enjoyed a positive balance of trade in services. This positive balance has offset the negative trade balance in the merchandise trade and prevented the US economy from suffering as greatly as it might have without it. In the past year , the amount of this surplus has been halved from $28.1 billion at the end of 1983 to $12.2 billion annualized at the end of the third quarter of 1984. Investment income receipts and payments fell from $23.5 billion in 1983 to $14.7 billion in mid-1984. Business- related services, primarily travel, transportation, fees, and royalities, fell from $5.7 billion in 1983 to $0.2 billion in third quarter of 1984. Other services category, already in the red,went from -$1.0 billion in 1983 to -$2.7 billion. This reflects the effect of higher interest rates and a faster growing US economy on the investors in foreign countries.[18] In 1982, United States investors had placed $215 billion abroad while $65 billion of foreign capital was invested in the United States. In 1984, $200 billion of United States capital was invested abroad and $130 billion foreign capital was invested here. The difference falling from $150 billion to $70 billion over this period of time.[19]

The normal United States recovery rate for imports in the early stages of recovery after a recession is twice as fast as GNP, but since the 1980-81 recession, our imports have grown at four times the rate of GNP. This is attributed to the more rapid recovery of our economy as compared to those of our trading partners. It is assumed that this will level out with their recovery. Among the United States's major trading partners in the past have been countries in Latin America. Those countries burdened with huge debts to pay off, are limiting their imports to the bare essentials at the best price and exporting everything they can to get foreign exchange to pay the banks. This will have some positive benefit to the United States as they owe large amounts to United States banks. The balance of payments is predicted to even out with the rest of the world as their rate of growth increases from its present low rates to two percent for European countries and four percent for Canada and Japan. Developing countries are predicted to achieve 3.8 percent through 1985.[20]

Export Profiles

Since 1980, the United States merchandise balance of trade has gone down-

The United States is the world's leading exporter of agricultural products, accounting for nearly 18% of such exports in 1981. Each year for the past 25 years nearly one-quarter of the U.S. farm product has been sold abroad.

Japan has been the leading purchaser of U.S. farm products for many years. Other major purchasers have been the Netherlands, Mexico, Canada, West Germany, United Kingdom, South Korea, and (since 1976) the U.S.S.R. Western Europe, though still the largest regional market, now takes a smaller share of U.S. agricultural exports than in the 1960s.

Source: Map and table figures based on Department of Commerce, *Highlights of U.S. Export and Import Trade*, (FT 990) December issues; *U.S. Exports by World Area* (FT 455), annuals

Figure II-2

U.S. Agricultural Export Markets, 1967-71 and 1977-81

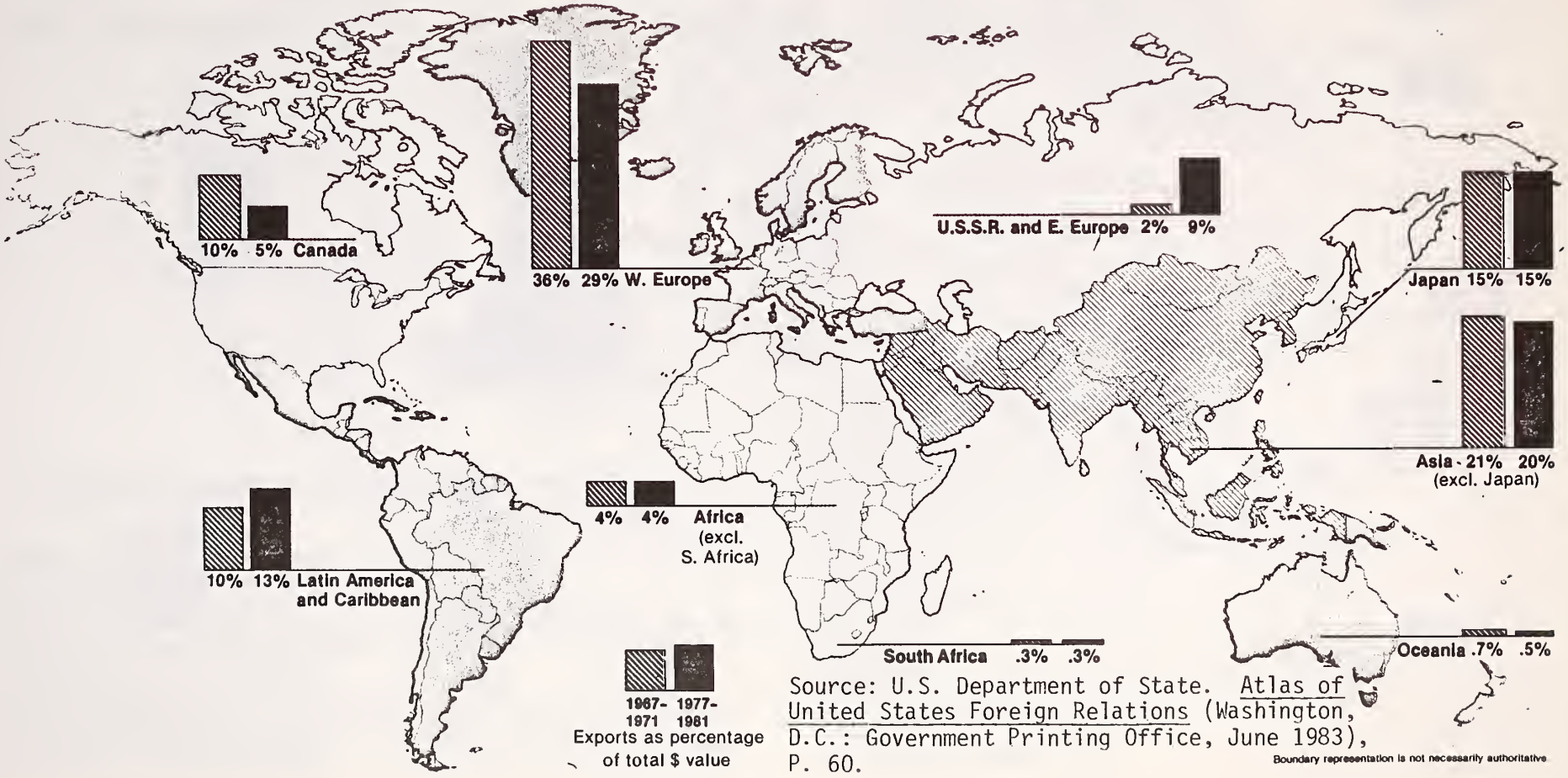
U.S. Agricultural Exports, 1981

$ billions

TOTAL	**43.3**
Western Europe	11.9
Netherlands	*3.3*
West Germany	*1.7*
Asia (excl. Japan, China)	7.0
Japan	6.5
Latin America and Caribbean	6.3
Mexico	*2.4*
U.S.S.R. and Eastern Europe	3.1
Africa (excl. South Africa)	2.6
Canada	1.9
China	1.9
Other	2.1

Leading U.S. Agricultural Exports in Order of Value, 1981

Corn
Wheat
Soybeans
Cotton
Soybean cake and meal
Rice
Tobacco



Source: U.S. Department of State. Atlas of United States Foreign Relations (Washington, D.C.: Government Printing Office, June 1983), P. 60.

The value of U.S. exports (excluding services) almost tripled between 1967 and 1981. But U.S. export trade in this period did not grow as rapidly as that of other developed market economies. The leading single-country importer of U.S. goods is Canada. Other major importers, in order of rank, are Japan, Mexico, the United Kingdom, and West Germany. In 1981, for the first time in more than two decades, Western Europe as a whole accounted for less than 30% of U.S. merchandise exports. Developing countries (including oil exporters) accounted for about 31% of U.S. exports in 1967 and 39% in 1981.

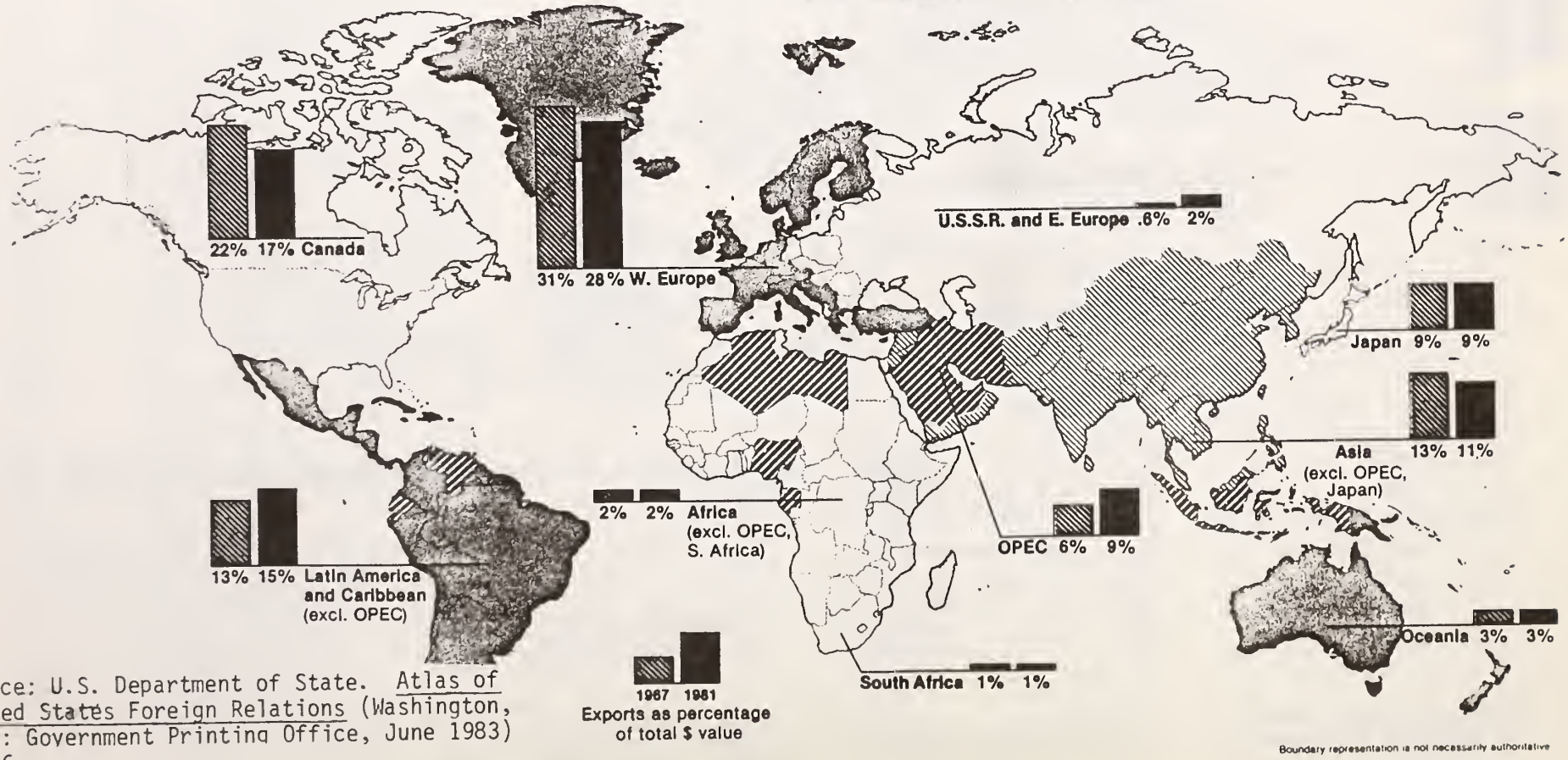
Source: Figures based on U.S. Department of Commerce, *Highlights of U.S. Export and Import Trade*, FT 990 (December 1968, December 1981)

U.S. Merchandise Exports, 1981

$ billions	
TOTAL	234
Western Europe	65
United Kingdom	*12*
West Germany	*10*
Canada	40
Latin America and Caribbean (excl. OPEC)	36
Mexico	*18*
Asia (excl. OPEC, Japan)	26
Japan	22
OPEC	22
Oceania	6
Africa (excl. OPEC, South Africa)	5
U.S.S.R. and Eastern Europe	4
South Africa	3
Other	5

Figure II-3

U.S. Merchandise Exports, 1967 and 1981



Source: U.S. Department of State. Atlas of United States Foreign Relations (Washington, D.C.: Government Printing Office, June 1983) p. 56

The United States was the world's largest exporter of manufactured goods from the end of World War II until 1970 when it was surpassed by West Germany. The West German share of world manufactured exports in the 1970s was 16%, the U.S. share about 13%. (Most of West Germany's manufactured exports remain within the European Economic Community.) The United States, however, was once more the leading exporter of manufactured goods in 1981, surpassing West Germany by about $3 billion. Machinery and transport equipment accounted for about one-quarter of U.S. manufactured exports in 1981, the largest subcategory being road motor vehicles and their parts. Although Canada, Japan, the United Kingdom, and West Germany have long been the leading importers of U.S. manufactured goods, Asian developing countries as a group have become the fastest growing market for these products.

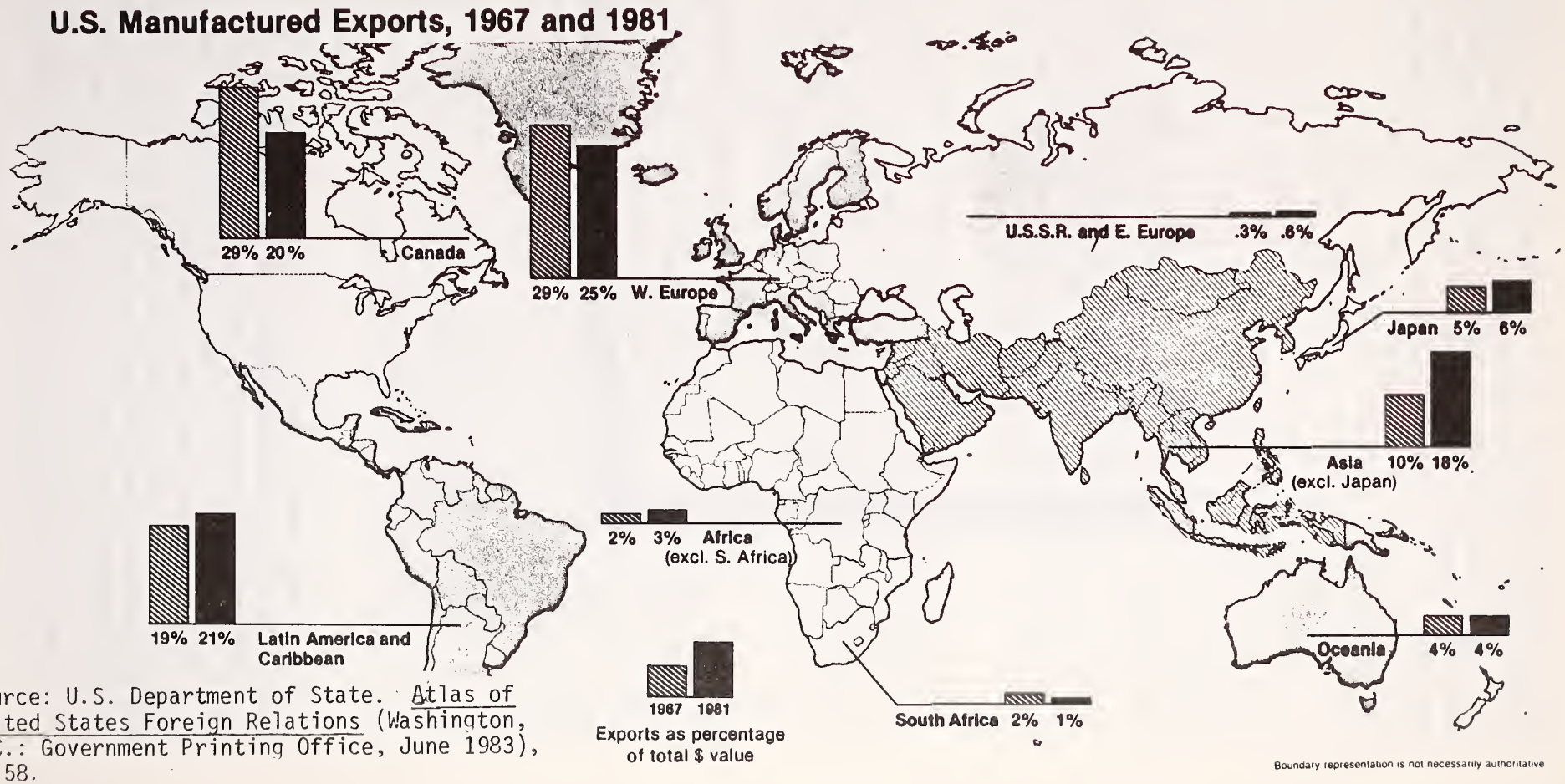
Source: Figures based on U.S. Department of Commerce, *Highlights of U.S. Export and Import Trade*, FT 990 (December 1968, December 1981); *U.S. Exports, Commodity by Country*, FT 410 (December 1967, December 1981)

U.S. Manufactured Exports, 1981

$ billions

TOTAL	**154**
Western Europe	**39**
United Kingdom	*8*
West Germany	*7*
Latin America and Caribbean	**32**
Canada	**30**
Asia (excl. Japan)	**27**
Japan	**10**
Oceania	**6**
Africa (excl. South Africa)	**5**
South Africa	**1**
U.S.S.R. and Eastern Europe	**1**
Other	**3**

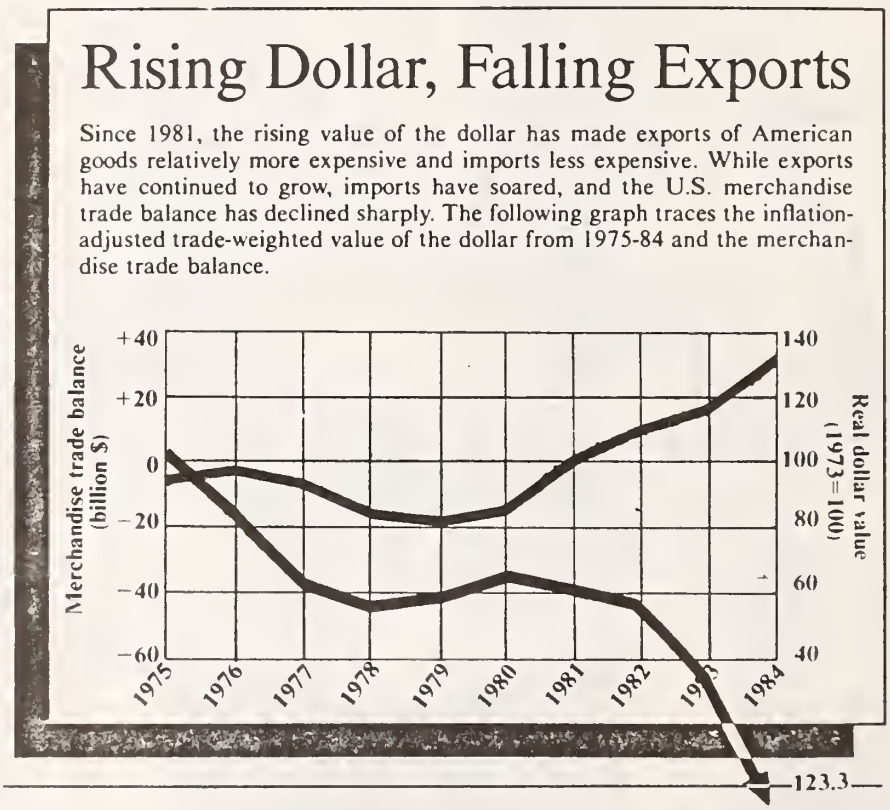
Figure II-4



Source: U.S. Department of State. Atlas of United States Foreign Relations (Washington, D.C.: Government Printing Office, June 1983), P. 58.

hill. Since mid-82 the angle has become rather steep, and the figure for the end of 1984 ($146.3 billion) is almost three times the last dip which occurred in mid-79. Unfortunately, the bottom is not in sight; Secretary of Commerce, Malcolm Baldridge, predicts that the trade deficit in 1985 will be about $150 billion.[21] The portion of this balance which is attributed to manufactures has led this decline with a drop to -$38.2 billion in 1983 and an annualized third quarter figure of -$112.1 billion.[22] See Figure II-5.

Figure II-5



Source: Richard Corrigan and Bruce Stokes. "The High Flying Dollar", National Journal (Vol. 17, No. 8, February 23, 1985), p. 412.

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In 1983, the trade balance for capital goods was $26.4 billion, but by the third quarter of 1984, the figure had dropped to $6.9 billion, annualized rate. Only food and beverages of the other categories continued to show a positive figure with $6.5 billion at the third quarter of 1984. Consumer goods were at -$51.3 billion, Petroleum and products at -$53.2 billion, and other industrial supplies at -$9.0 billion complete the list. The positive balance in the services category of $13.7 billion at the end of the third quarter of 1984 offsets this deficit somewhat, but that figure is down from the 1983 figure of $28.1 billion.[23]

Even in areas where the U.S. has traditionally exported a large percentage

or its production, agriculture, the trend is down to wavering. The 1984 figures for export of grain and feeds is down three percent over last year and oilseeds and products is down 16 percent. Cotton and linters is up nineteen percent but the total volume is rather small. The other significant area of export, livestock and products, is up four percent. Overall, agriculture exports are down four percent from 1983.[24]

In recent years, there have appeared to be several bonanza opportunities for U.S. exports, the most spectacular was the demand for U.S. coal which peaked in the late 1970's. This was caused by a combination of factors, mainly strikes, in Poland, South Africa and Australia which shifted demand to U.S. supplies in spite of the higher price. Many plans were made to service this increased demand on the assumption that it would continue in the future (Long Beach, Portland, Maryland, New Orleans, Hampton Roads, etc.). Unfortunately, no careful analysis was made of the true basis for the demand, and it disappeared as soon as the strikes and political disturbances were settled, leaving several suprised ports, railroads and coal companies with large investments and no way of recovering them. It must be pointed out that an expanded demand for coal has been predicted as the oil supply dwindles and various sectors are priced out of the market. The glut in the world oil market with the continued lowering of the price puts this possibility into the long term as opposed to the short term future.[25]

Yet, the coal situation is not that unusual for other commodities. A recent article in the Los Angeles Times tells of a storm wiping out seventy percent of the Japanese onion crop and its effect on demand for U.S. onions. The U.S. farmers responded by abandoning their domestic market for the export market. The next year onions were over planted; the Asians were out of the market and the glut was so large that farmers sold onions for less than it cost to raise them. The bonanza was an expensive bust.[26]

This lack of analysis may be the result of many small firms or players misjudging the market or an oversight, but many people have commented upon the lack of a long-term, cohesive U.S. trade policy.[27] George Cabot Lodge has commented that "there is no monitoring, no data base, and no coherent system in place to predict critical needs."[28] The grain embargo against the USSR after its to invasion of Afghanistan merely caused minor inconvenience to them as they switched supplies and purchased wheat from Argentina. United States wheat farmers were sorely affected by the excess grain which accumulated and affected the following years' crop prices as well. This harmed United States farmers both by loss of income and by loss of the reputation of being reliable suppliers. This last has affected more than the grain farmers as commodity buyers in foreign countries have been hesitant to sign long-term (five to ten years) contracts for fear that U.S. government action will interupt the flow of needed goods. Being a friend of the U.S. is not seen as protection against such action as similar moves against Mexico and other are cited as examples.[29]

In more recent years the strength of the dollar has made the cost of United States goods even dearer overseas. Traditionally sure markets for United States grain such as the Soviet Union in non-boycott years, have cancelled contracts to buy wheat from the United States to take advantage of lower prices offerred by France and Argentina. In early 1985, Soviets cancelled purchases totalling 450,000 metric tons. In corn market, where the United States faces much less competition, is much more favorable. But there are reports that China has shipped corn to Mexico, a traditional major purchaser of United States corn. In other agricultural commodities, similar actions are occurring. India has purchased soybean oil from Brazil instead of the U.S. Turkey which earlier had offered to

buy United States wheat has withdrawn the offer to pursue other suppliers, possibly France.[30] The crowning blow to United States agriculture was delivered when Cargill, Inc., the world's largest grain merchant, announced in January, 1985, plans to import twenty-five thousand metric tons of Argentine wheat to the United States. The high value of the dollar has made the unthinkable possible. For a country which had contributed 50 percent of the world's grain trade in the 1970's to be importing wheat ten years later was hard on the United States farmers. Cargill expected to deliver the Argentine wheat to the Gulf Coast for about $112 per ton as compared to US wheat at $150 per ton.[31]

Even such traditionally non-agricultural nations as Saudi Arabia are investing in wheat farming. Using oil drilling technology and American dryland farming methods, the desert produces prodigeous amounts of wheat. Four years ago, the country produced four thousand tons of wheat and relied upon imports from the U.S. to the supply the rest of its needs. In 1984, the wheat harvest was 1.3 millions tons, and Saudi Arabia became an exporter of food. This feat was accomplished using deep drilling methods from the oil industry to tap into deep aquifers containing fossil water which is pumped up to supply one thousand foot long pivoting irrigation arms which apply water to circular fields. To encourage development the government gave the farmers the land, paid for half the cost of drilling the wells, extended interest free loans to cover other costs, and provided a subsidy of about five times the world price for wheat ($978 per ton). In 1985, the subsidy is expected to drop to $560 per ton and eventually to zero as the Saudis expect to compete on the world market.[32]

In spite of the negative news, the grain sales to the Soviet Union total 15.63 metric tons compared with the record 1978-79 year of 15.5 metric tons. This level of purchase is in part a response to the severe crop losses which the Soviets sufferreed last year. But the existence of other sources in the market place has made the U.S. less likely to sell the volume of grain it has in the past.[33]

With foreign cotton selling at a price of four to eight cents a pound lower than United States cotton, farmers are expected to reduce their plantings slightly to 10.7 million acres in 1985. Other farmers are also expected to plant fewer acres to crops; a combination of low prices, acreage diversion program, and the inability of financially strapped farmers to obtain production loans is cited as the reason.[34]

The lack of an export market has made it difficult if not impossible for farmers to pay off the loans necessary for modern farming. This has led to failures of rural businesses dependent upon farmers' trade: banks, implement and supply stores. The threat is that many of the small towns which dot the heartland of America will no longer have the population or the business to sustain them. The falling domestic sales coupled with the competition from lower cost foreign plants has encouraged several equipment manufacturers to move their operations overseas; thus intensifying the effect upon the Mid-west economy. The high value of the dollar is cited as a contributing if not ultimate cause.[35]

The situation with United States coal exports is no better. Coal is sold in two categories: steam or thermal and coking or metallurgical. Steam coal can be of any grade, but only bituminous coal with certain characteristics is used to make coke for steel production. Steam coal competes directly with natural gas and petroleum for use in electric generation plants and indirectly with water, wind, solar and nuclear power. Petroleum coke, a by product of oil refining, competes with coal in steel making. Because of its specialized requirements,

metalurgical coal has sold in the export market at a consistently high level. Overseas exports during 1984 totaled 49.3 million tons as compared with 43.0 million tons for one year earlier. Steam coal exports totaled 11.4 and 17.1 million tons for the same period.[36]

While the United States is well situated to serve both the European and Pacific markets and has the largest export volume of any producer, it exports a rather small percentage of its production. Overseas exports have usually totalled less than ten percent of production, topping that figure only during 1981 and 1982 when Poland and Australia were both out of the market. The United States coal industry is unique because of its low level of export percentage; a major share of foreign coal production is exported. It is also different because of the diversity of holdings ranging in size from small owners with one mine to large multinational companies. Most foreign production is tied to long-term contracts with little excess capacity available to the spot market. United States producers have excess capacity and regularly deal on the spot market. Most of the new, high-volume mines in Australia, South Africa, and Western Canada have been developed with associated rail and port facilities by government owner-operators specifically for the large-scale export of steam coal. The United States rail-port system was designed with more diverse uses in mind, combining both the domestic and general export markets in the design.[37]

In the future, the growing market in the Far East is seen as available to western United States coal production, but because of the long distance to port, inland transportation costs total fifty to seventy-five percent of the delivered cost of western coal at the port. United States coal is already the highest priced coal in the international market and the addition of high transportation costs makes it even less able to compete with sources with lower labor and/or transportation costs. While western mines have lower labor costs, their higher transportation costs puts them at the high end of the market. The reliability of United States supply allows it to capture a larger share of the market than price alone would dictate because buyers are willing to pay up to a $10 per ton premium.[38] As in the case of grain, United States' coal mining costs are so far above the world level that International Marine Terminals near New Orleans has imported a 30,000 ton shipment of Columbian steam coal for a power plant. The cost is competitive with coal mined in eastern Kentucky and shipped by rail or barge to central Florida.[39]

As older deep pit mines in Europe, Japan and Taiwan become uneconomical to continue to work, the existance of large coal reserves in western states capable of being mined by open pit or strip mining techniques holds hope for the future for United States coal producers. The factors which favor United States mines will also favor Canadian mines in Alberta and British Columbia. China is expected to become a major player in the market after the year 2000 when the infrastructure to connect mines to ports will be in place. The competition from other sources of energy, mainly petroleum, will be the other major constraint on United States coal development as a larger supplier in the Pacific Rim market.[40] The continued strength of the United States dollar will make the price of United States goods more expensive in the international market and will continue to agravate the position of United States coal in the energy market.[41]

The United States position in trade with other nations has reflected the strength of the dollar. Our balance of trade is positive only with the Communist Bloc. In 1984, the value of US imports from Western Europe, Japan, Canada, OPEC, and Other developing contries is lower than the value of our exports to them. The trend is again in the negative direction parallelling the

trend in our overall trade patterns.[42] See Table II-1.

The strength of the dollar against foreign currencies has been attributed to several causes. The more rapid recovery of the United States economy after the recent recession, the federal deficit, the relative safety of investment in the US, and higher interest rates are cited among other reasons. What ever the cause or combination ot causes, the ability of foreign goods to penetrate and establish themselves in the United States market will have long reaching effects. Quotas and tariffs on automobiles, textiles and steel have only shifted emphasis of overseas exporters to machinery and other capital goods. Prices lower by twenty to twenty-five percent have attracted purchasers in the United States who are attempting to modernize and thus improve the output of their production lines. Michael Evans of Evans Economics commented,"Patriotism can only be stretched so far."[43] Capital goods is one sector where the United States has had to this point a surplus in trade. That advantage is disappearing rapidly. In 1982, the figure was $34.6 billion; in 1983,$26.4 billion; the third quarter 1984 annualized figure is $3.7 billion. The final figure for 1984 rebounded to 17.0 billion.[44]

This inter-relationship of the various sectors of the economy is reflected in the transportation system which has been developed to serve as conduit for the goods produced by it. The provision of roads, rails, waterways and ports to move domestic and foreign goods to market from their point of manufacture has also provided the means of communication to build social and political cohesion within and between communities. The movement of the goods will provide income to the operators to apply to the costs of operating and maintaining the various facilities but the decline in domestically produced goods in the American economy will remove the economic basis for maintaining communities and therefore markets for many of those goods. Witness the changes predicted for the Mid-western farm belt and the smokestack industrial areas of the eastern United States.[45]

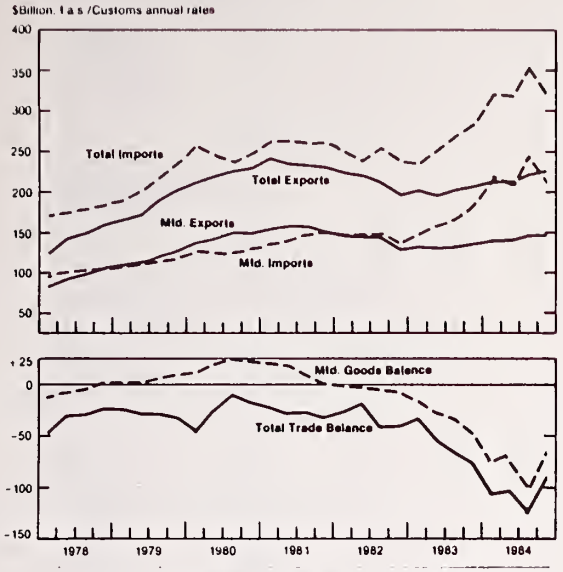
What export volume there is, is concentrated in those ports which handle bulk products or have a trade advantage with the Pacific Rim nations: Portland, Seattle, Baltimore, Hampton Roads, New Orleans, Los Angeles-Long Beach, Oakland. The struggle between the various ports to acquire or to extend their internal attractiveness to shippers and therefore their revenues has been fierce. The discussion over the proposal to impose a fee upon ports and/or ships using the Corps of Engineers dredging projects has illuminated the fray to a small degree.[46]

Long-term Trends

As can be gathered from the preceding discussion, the past long-term trends in United States export trade have not been positive. The United States merchandise trade balance as a percentage of the gross national product has fallen steadily except for a brief upward spike in 1975.[47] The major factor in this situation seems to be connected to the strength of the United States dollar and to the federal deficit as a factor in attracting foreign investment in U.S. securities and real estate. A contributing factor is the relative security of investment and the higher rate of return in the United States. Another factor is the need of U.S. industries to modernize and increase productivity. United States industry also need to develop consumer products based upon basic research as have the Japanese. Another factor is the slower recovery of other nations from the recent recession. Actions taken by other nations to erect tariff or non-tariff barriers to United States exports and/or to undersell us in the world market by use of export subsidies will need to be met with strong negative action, either at the negotiating table or in the event of failure by a re-examination of our stand

Table II-1

U.S. MERCHANDISE TRADE

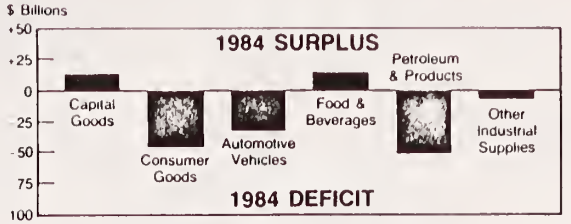


	Exports f.a.s.	Imports Customs	Balance f.a.s./ Customs	Balance c.i.f. [1]
	(Billions of dollars, annual rates)			
Total trade [1]				
1983 annual	200.5	258.0	−57.6	−69.4
1984 annual	217.9	325.7	−107.9	−123.3
1984: I	213.1	318.0	−105.0	−119.3
II	212.4	317.2	−104.8	−119.8
III	222.6	351.5	−128.9	−146.3
IV	224.0	318.1	−94.1	−109.2
Manufactures trade				
1983 annual	132.4	163.4	−31.0	−38.2
1984 annual	143.1	221.5	−78.4	−88.7
1984: I	138.5	213.7	−75.2	−84.7
II	140.1	212.2	−72.1	−82.0
III	146.7	246.8	−100.1	−112.1
IV	148.1	215.0	−66.9	−77.1
Agricultural trade				
1983 annual	36.5	16.5	20.0	18.4
1984 annual	38.2	19.8	18.4	16.6
1984: I	41.0	20.4	20.6	18.8
II	36.4	19.0	17.4	15.6
III	37.9	21.9	16.0	14.0
IV	37.3	18.4	18.9	17.2

[1] C.i.f. import values not shown

Notes for tables: Quarterly data seasonally adjusted unless starred (*). All values in current dollars. f.a.s.—Free alongside ship. c.i.f.—Cost, insurance, and freight.

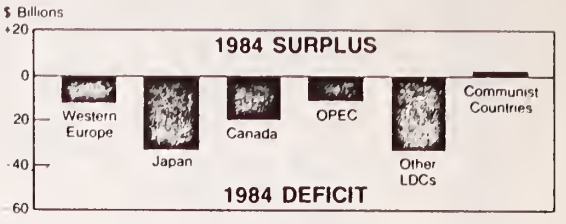
COMPOSITION OF U.S. MERCHANDISE TRADE



	Exports f.a.s.	Imports Customs	Balance f.a.s./Customs
	(Billions of dollars, annual rates)		
Capital goods			
1983 annual	67.2	40.9	26.4
1984 annual	72.0	59.8	12.2
1984: I	70.2	57.5	12.7
II	71.3	55.9	15.4
III	72.4	68.7	3.7
IV	74.1	57.1	17.0
Consumer goods			
1983 annual	13.4	44.9	31.5
1984 annual	13.3	59.8	−46.5
1984: I	13.4	60.2	−46.8
II	13.1	57.0	43.9
III	13.4	64.7	−51.3
IV	13.4	57.5	−44.0
Automotive vehicles and parts			
1983 annual	17.0	42.0	−25.0
1984 annual	21.0	55.3	−34.3
1984: I	21.0	53.3	−32.3
II	19.6	55.2	−35.6
III	22.0	59.2	37.2
IV	21.4	53.4	−32.1
Food and beverages			
1983 annual	30.9	18.2	12.8
1984 annual	31.4	21.2	10.3
1984: I	34.4	20.9	13.5
II	30.5	20.3	10.2
III	29.4	22.9	6.5
IV	31.4	20.5	10.9
Petroleum and products			
1983 annual	5.0	53.6	−48.6
1984 annual	4.7	57.3	−52.6
1984: I	3.6	55.0	−51.4
II	4.7	59.9	−55.2
III	4.7	57.9	−53.2
IV	5.9	56.4	−50.5
Other industrial supplies			
1983 annual	51.5	52.2	−0.7
1984 annual	56.7	64.8	−8.0
1984: I	54.9	64.9	−10.0
II	55.7	63.8	−8.1
III	59.7	68.7	−9.0
IV	56.7	61.7	−5.0

Note: Commodity values do not add to U.S. trade totals because of omission of miscelleneous products.

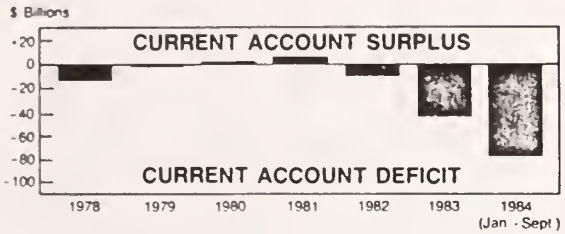
U.S. MERCHANDISE TRADE BY AREA



	Exports f.a.s.	Imports Customs	Balance f.a.s./Customs
	(Billions of dollars, annual rates)		
Western Europe			
1983 annual	56.1	53.9	2.2
1984 annual	58.0	71.2	13.1
1984 I	57.5	72.1	14.5
II	55.6	67.3	11.7
III	60.1	78.1	18.0
IV	59.2	67.9	8.7
Japan			
1983 annual	21.9	41.2	19.3
1984 annual	23.6	57.1	−33.6
1984 I	22.6	50.8	28.2
II	23.6	55.0	31.4
III	23.5	67.3	43.8
IV	24.6	56.2	31.6
Canada			
1983 annual	38.2	52.1	13.9
1984 annual	46.5	66.5	−20.0
1984 I	46.5	63.6	17.1
II	46.6	67.0	20.3
III	47.7	69.1	−21.4
IV	45.6	67.1	−21.5
OPEC*			
1983 annual	16.9	25.1	8.2
1984 annual	14.4	26.6	−12.2
1984 I	15.0	24.9	10.0
II	14.1	28.8	−14.8
III	13.9	28.3	−14.4
IV	14.6	24.3	−9.7
Other developing countries*			
1983 annual	55.3	77.2	−21.9
1984 annual	60.0	93.2	33.2
1984 I	56.5	93.6	37.1
II	60.2	89.4	29.2
III	61.7	100.6	−38.9
IV	65.6	89.1	23.5
Communist countries*			
1983 annual	5.1	3.6	1.5
1984 annual	7.2	5.2	2.0
1984 I	6.4	4.9	1.5
II	5.9	4.7	1.1
III	7.1	6.0	1.1
IV	9.4	5.2	4.2

Note: Areas are not intended to add to U.S. trade totals.

U.S. BALANCE OF PAYMENTS
CURRENT ACCOUNT



	Exports	Imports	Balance
	(Billions of dollars, annual rates)		
Current account total			
1983 annual	332.2	373.8 [1]	41.6
1984 annual			
1984 I	362.8	441.4 [1]	- 78.7
II	355.6	454.4 [1]	- 98.8
III	366.7	498.3 [1]	- 131.6
Merchandise trade (adjusted, excl. military) [2]			
1983 annual	200.3	261.3	- 61.1
1984 annual			
1984 I	215.7	319.2	- 103.4
II	218.3	321.6	- 103.3
III	222.0	354.5	- 132.5
Services			
1983 annual	131.9	103.8	28.1
1984 annual			
1984 I	147.0	113.7	33.3
II	137.3	124.2	13.1
III	144.7	132.5	12.2
Investment income receipts and payments			
1983 annual	77.0	53.5	23.5
1984 annual			
1984 I	93.2	62.2	31.0
II	83.3	69.5	13.8
III	90.0	75.3	14.7
Business-related services [3]			
1983 annual	41.6	35.9	5.7
1984 annual			
1984 I	43.1	37.8	5.3
II	43.2	40.8	2.4
III	43.4	43.2	0.2
Other services			
1983 annual	13.4	14.4	- 1.0
1984 annual			
1984 I	10.8	13.7	- 3.0
II	10.9	13.9	- 3.0
III	11.3	14.0	- 2.7

[1] Includes unilateral tranfers
[2] Values differ from those in "U.S. Merchandise Trade" table as they are adjusted to the balance of payments accounting
[3] Primarily travel, transportation, fees, and royalties

KEY INTERNATIONAL COMPARISONS
Balance of Merchandise Trade

	Total		With U.S. [1]	
	1983	1984	1983	Jan.-Sept. 1984
	(Billions of dollars, annual rates)			
United States	57.6	107.9	-	-
France	5.7	- 2.2	2.4	0.8
Germany, Fed. Rep.	- 21.0	+ 23.5	- 1.9	- 4.7
United Kingdom	1.6	- 5.5	+ 1.2	+ 1.0
Japan	+ 31.6	+ 44.4	+ 18.5	+ 31.8

[1] Imports valued c.i.f.

	% Change in Trade 1983 to 1984		Exports as % of GNP, 1984
	Exports	Imports	
United States	+ 8.7	+ 26.2	5.8
France	+ 2.7	- 0.9	19.7 [1]
Germany, Fed. Rep.	+ 1.2	- 0.2	27.6 [1]
United Kingdom	- 2.3	- 6.4	21.5 [1]
Japan	+ 15.7	- 8.7	13.6 [1]

[1] January-September

Share of World Exports

	1970	1975	1980	1983	1984 [1]
			(Percent)		
United States	15.4	13.6	12.1	12.4	12.8
France	6.4	6.7	6.3	5.9	5.2
Germany, Fed. Rep.	12.1	11.4	10.5	10.5	9.7
United Kingdom	7.0	5.6	6.0	5.7	5.2
Japan	6.9	7.1	7.1	9.1	10.2

[1] January-September

Value and Share of Industrial Countries Manufactured Exports

	Value			Share [1]		
	1970	1980	1984	1970	1980	1984 [2]
	($ Billion)			(Percent)		
United States	29	144	143	21.3	18.3	19.7
France	14	84	71.1	9.1	10.2	9.2
Germany, Fed. Rep.	31	167	147.1	19.8	19.8	19.1
United Kingdom	17	86	82.1	10.4	10.0	7.8
Japan	18	124	162.1	8.9	11.9	15.2

[1] Excluding exports to United States [2] January-June
† January-September at annual rate

FACTORS INFLUENCING U.S. COMPETITIVE POSITION

	1983	1984	1984 I	1984 II	1984 III	1984 IV
	(% change from same period of previous year)					
Industrial Production						
United States	6.5	10.8	15.4	12.9	9.2	6.2
France	0.6		2.5	1.3	0.6	
Germany, Fed. Rep	0.8		6.0	- 1.3	5.1	
United Kingdom	3.3		3.0	1.0	- 1.1	
Japan	3.5		10.9	11.7	10.6	
Wholesale Prices for Manufactures						
United States	1.0	2.4	2.7	3.3	2.2	1.6
France	11.1	13.1	15.5	14.4	12.6	10.2
Germany, Fed. Rep	1.5		2.9	3.2	2.6	
United Kingdom	5.4	6.1	5.9	6.3	6.2	5.9
Japan	- 1.5	- 0.1	- 0.8	- 0.1	0.3	0.5
Value of U.S. Dollar Vis-e-Vis Other Currencies						
13 currencies	2.9	6.8	5.0	4.9	7.3	9.7
French franc	15.9	14.7	20.5	11.6	12.5	14.7
German D-mark	5.2	11.5	12.2	9.1	10.5	14.1
U.K. pound	15.3	13.9	6.8	11.2	16.5	20.9
Japanese yen	- 4.7	0.1	- 2.0	3.3	0.5	5.1

	1960/70	1970/80	1982	1983	1984
	(% change, average annual rate)				
Productivity in Manufacturing					
United States	2.8	2.5	2.1	4.3	4.7
France	6.7	5.0	5.6	5.9	
Germany, Fed. Rep	5.8	4.5	1.2	4.7	
United Kingdom	3.7	2.7	3.9	6.6	
Japan	10.8	7.7	8.1	5.0	

U.S. IMPORTS OF PETROLEUM AND PRODUCTS

	Quantity (Mil. bbl./day)	Value Customs (bil. $)	Price per barrel (dollars)
		(Annual rates)	
1983 annual	5.1	53.2	28.58
1984 annual	5.5	56.9	28.11
1984 I	5.5*	56.4*	28.32
II	5.6*	58.3*	28.45
III	5.5*	56.8*	28.00
IV	5.5*	56.2*	27.70

Note: Values differ slightly from adjusted data in "Composition of U.S. Merchandise Trade" table

Source: U.S. Department of Commerce, International Trade Administration. Current International Trade Position of the United States (Washington, D.C.: Government Printing Office, February 1985).

as a free market operator. As long as these factors continue to operate, United States goods will be among the higher priced in world markets.[48]

Forecast

Attempting to forecast the future in any detail beyond one or two years is very risky and is seldom attempted by anyone other than psychics, or without many qualifications and conditions attached. Most long-range economic forecasting is of this nature. The major subject of long-range forecasts is in the area of trends - the most famous in recent times is John Naisbitt's Megatrends. Of the ten trends Mr. Naisbitt highlights, several are of interest in the area of world trade. The change from an industrial society to an information society is evident in the shift of basic industries such as mining, steel, and other heavy industry from the developed countries of Europe and North America to the lesser developed countries of the Third World. The shift from a United States national economy to a world economy is more than evident in the balance of trade deficit and the increasing penetration of imports into the United States market. The shift in technology to high tech uses in almost every aspect of life is exemplified by the increasing robotization of the assembly line and talking appliances, to mention two extreme examples. The increasing emphasis upon quality in products and strategic planning represents the shift from the short term outlook to the long term outlook. All of these trends portend an increasingly interdependent world connected by mutual interest and mutual need. The production of basic goods in lesser developed countries for consumption in economically advanced countries, food grown in one country for consumption in another and energy produced where a quirk of nature placed it exported to the area which can used it and can afford it are all scenarios of the present destined to intensify in the future.[49]

Other forces include: a shift to increasing North/South trade patterns over the East/West pattern, a growth in counter trade or barter in international trade, growing pressures for protectionism particularly non-tariff barriers, and differential rates of growth in national or regional economies. North America will slow to two to three percent for the rest of the century while Europe grows at one to two percent and the newly industrial nations of the Pacific Rim grow at six percent.[50] Another trend which is developing is the change in the growth rate of world trade. Through the 1960's and early 1970's, it increased at rates exceeding at times forty percent annually. After the slow down in 1975, the rate of growth climbed back to 26.8 percent in 1979. Since then, the trend has been in a negative direction with recent years below ten percent.[51] This slowed growth in world trade is predicted to continue to the next century and thus any large growth in United States foreign trade will come at the expense of another nation's trade.[52]

In addition to these extensions of existing trends, the development of technology such as the smart-power or high-voltage integrated circuit which will enhance the life of fluorescent lights and the quality of the image of computer flat panel displays, will enable small electric motors to start-up and slow-down smoothly,and improve the efficiency of alternating current motors by forty percent. This promises a reduced rate of increase in the demand for electricilty which will further lower our dependence upon foreign oil but at the same time will reduce overseas demand for our steam coal. Another technological advance is in the area of reinforced plastics and composites. These products are already common in microwave bakeware, showerstalls, and golf club shafts. New applications include an internal-combustion race car engine made of polymers, a drive shaft of graphite composites and a fiberglass minesweeper for the Navy. In some ways this will increase the demand for oil and natural gas as raw materials, but

it also has the potential for reducing demand for oil by reducing the weight of vehicles which use it for fuel.[53]

The trend toward the application of advanced technology to agriculture has already been noted in Saudi Arabia. Lybia too is attempting to tap the vast reservior of water trapped in deep aquifers beneath the desert. In a plan that envisions drilling 270 gravity flow wells in an area 1,243 miles into the interior,Lybia is building a pipeline which will supply 700 million cubic meters of water per year to be used to irrigate 180,000 acrea of farms along the coast. Expansion from the present crops of dates, olives, citrus and other fruits, grapes and tobacco should make Lybia self-sufficient in most of its agricultural needs. A combination of United States and Korean firms are the principal contractors. The project, which is estimated to cost $3.3 billion, is scheduled for completion in 1989.[54] The OPEC nations which have the foresight to use their oil revenues to develop the other sectors of their economies will enable their citizens to maintain a reasonably high standard of living. The impact for the United States is that a nation self-sufficient in foods needs little or none of our principal export commodities. On the other hand, the problems of sub-Saharan Africa continue to grow. With few natural resources needed in the world market, as in the Sahel, or with a national leadership unable or unwilling to commit itself to economic development in the rural areas, as in Nigeria, nations below the Sahara are facing famine, falling standards of living, poverty of large numbers of their citizens, and the threat of eventual civil disorder as unhappy citizens or opportunistic neighbors react to the deteriorating situation. Nations unable to grow their own food for whatever reason will need to import it, but without the means of earning foreign exchange, they have no way to pay for it. In order to assure ourselves the markets for our goods, we need to help these nations to stabilize their economies and to develop industries and activities which wil produce the goods whose sale will enable them to sell on the world market.[55]

Regardless of what the lesser developed nations do, the continued penetration of the United States market by foreign manufactured goods and the continued inability of United States manufactured goods to compete in the world market must be of concern. Steps must be taken to assure the success of United States manufacturers in foreign markets. The strategic advantage of gaining a first niche in a market has been ignored by the United States in negotiating sales agreements in other countries. Other developed countries are using a combination of loans and foreign aid to secure contracts for their own national firms. The United States has cried foul but that has not stopped countries such as Germany from using the technique to secure that crucial toehold for machinery which extracts oil from seeds in Egypt to the detriment of a United States bidder. To accomplish this, the Germans matched the price and loan package and threw in $10 million in foreign aid funds to boot. The U.S. has attempted to duplicate this procedure but with little success. When the United States has offered to use Agency for International Development funds with lesser developed nations such as Botswana to help purchase locomotives, the offer was turned down because the government preferred to receive the aid as uncommitted monies to be used as they wished without strings attached. The major problem seems to be that the receiving nations perceive that the money is being moved about as in a shell game and no new money is being added to the deal, only new strings; a procedure which is not designed to gain the United States a reputation for generosity or fair play.[56]

Conclusion

While the United States has pushed for the opening of other nation's borders

to trade free of tariffs and non-tariff barriers,we have been succumbing to the not so subtle pressures of industries undergoing heavy competition from foreign goods in the domestic market. The auto, textile and steel quotas and a forty-five percent tariff on motorcycles are only some of the examples which come to mind. "Buy American" laws are still on the books for much government work, and the Jones Act prevents foreign flag carriers from engaging in domestic trade between United States ports. These are much more open than the almost archane examples of "health and safety" rules and "quality" standards imposed by other nations, particularly by the Japanese whose bureaucracy combines with a traditional society based upon long standing associations to keep foreign penetration of their market to a minimum. It has been premised that the structure of Japanese society is a much stronger force in keeping foreign goods out of Japan than are the rules and regulations. "Buy Japanese" is a way of life and needs no laws to enforce it. In spite of the inconvenience involved, other nations have taken the Japanese attitude and applied it to Japanese imports, and others if they happen to compete in a particular product. France requires all video recorders to undergo rigerous test in a small inland town, Poitiers, before being released to the French market. The General Agreement on Trade and Tariffs is supposed to cover these kinds of regulations but has no section which covers non-tariff barriers nor does it cover the growing international trade in services. Attempts to negotiate such agreements have met with failure to this point. [57]

As long as such barriers meet national needs without imposing high-cost penalities, they will continue to exist.[58] "Buy American" has serious national defense implications as chromium, cobalt, manganese and platinum, metals widely used in steel, areospace, electronics and other high-tech industries, are produced by South Africa, Zaire, and the U.S.S.R. Our dependance upon such sources encourages such actions as strategic stockpiles and contingency plans for recycling domestic scrap. It also underlines our increasing dependance upon our fellow nations in the midst of our build up of defensive posture.[59] During the next decade, the United States needs to assess her position in world trade for the future and make preparation to carry out whatever plan is decided upon. The existance of barriers to trade will need continual attack to prevent their growth to the proportions of the 1930's when protectionism and super-nationalism almost destroyed the world. The other point to work upon is the strength of the United States dollar relative to other currencies. As long as it remains as high as it is at present United States firms and goods will remain the last resort for buyers with alternative markets.

Table 13. Industrial Countries: Export and Import Volumes, 1967–85 [1]

(Percentage changes)

	Average 1967–76 [2]	Change from Preceding Year								
		1977	1978	1979	1980	1981	1982	1983	1984	1985
Exports										
Canada	7.0	8.9	10.2	1.6	0.5	3.6	−0.7	8.8	24.7	7.7
United States	6.7	1.2	10.0	14.2	7.0	−3.2	−11.9	−6.2	6.5	3.6
Japan	13.0	9.1	1.0	0.2	19.2	10.6	−2.4	8.6	12.3	5.5
France	9.6	6.6	6.6	9.1	3.3	4.0	−3.8	3.7	5.5	4.5
Germany, Fed. Rep. of	8.1	6.0	4.6	7.3	3.9	5.2	1.9	0.4	8.5	7.0
Italy	8.8	7.0	11.1	7.3	−8.1	5.5	−0.5	5.2	5.0	4.0
United Kingdom	5.7	7.8	2.6	4.8	1.0	−0.8	2.3	0.8	6.1	4.0
Other industrial countries	8.0	4.9	6.0	8.3	1.9	2.4	1.4	6.3	6.5	4.4
All industrial countries	**7.9**	**5.3**	**6.2**	**7.6**	**3.9**	**3.3**	**−2.3**	**2.6**	**8.6**	**5.1**
Of which,										
Seven major countries above	7.9	5.5	6.2	7.4	4.6	3.6	−3.6	1.5	9.2	5.4
European countries	7.9	5.8	6.0	7.3	1.3	3.9	0.3	3.8	6.6	4.9
Imports										
Canada	7.7	1.2	4.0	9.1	−5.2	2.7	−15.3	14.1	23.5	7.7
United States	6.9	12.7	7.4	1.0	−6.0	0.7	−5.0	10.0	27.8	11.1
Japan	10.4	3.6	6.6	11.6	−5.0	−2.4	−0.7	1.3	8.1	5.5
France	10.2	0.7	6.1	12.2	6.2	−3.9	3.1	−2.0	2.1	1.5
Germany, Fed. Rep. of	8.0	4.3	7.9	9.2	2.0	−3.7	0.4	5.2	7.5	4.7
Italy	7.1	−0.2	7.9	13.9	2.8	−11.3	3.2	1.6	6.5	6.5
United Kingdom	5.2	1.8	4.7	10.6	−6.0	−3.9	4.8	6.9	7.2	4.7
Other industrial countries	6.9	3.8	1.4	9.3	0.8	−3.0	1.8	1.6	5.2	4.1
All industrial countries	**7.5**	**4.4**	**5.2**	**8.6**	**−1.5**	**−2.2**	**−0.6**	**4.4**	**11.9**	**6.5**
Of which,										
Seven major countries above	7.8	4.7	6.7	8.3	−2.3	−1.9	−1.5	5.5	14.5	7.0
European countries	7.5	2.5	4.1	10.7	1.1	−4.3	2.0	2.9	5.5	4.2

[1] Trade in goods only. For classification of countries in groups shown here, see the introduction to this appendix.
[2] Compound annual rates of change.

Source:
International Monetary Fund, World Economic Outlook, September, 1984, Occasional Paper 32, Washington, D.C., International Monetary Fund, 1984. P. 40.

Endnotes

[1] Security Pacific National Bank. Economic Report (Spring-Summer 1984), p. 107.

[2] Shirley Hoffman Rhine. The Impact of Regulations on U.S. Exports (New York: The Conference Board, Report No. 809, 1981), p. 1.

[3] Ibid. p. 41.

[4] U.S. Congress, Congressional Budget Office. The Economic and Budget Outlook (Washington, D.C.: Government Printing Office, August, 1984), p. 25.

[5] Oswald Johnston. "1984 Trade Deficit Hits $123 Billion", Los Angeles Times (January 31, 1985), Pt. I, p. 1.

[6] "Challenge On Trade", Los Angeles Times (editorial, Feburary 5, 1985), Pt. II, p. 10.

[7] Albert R. Karr. "World Harvests of All Major U.S. Crops Setting Highs, Putting Pressure on Prices", Wall Street Journal (November 12, 1984), p. 32.

[8] Jeff Bailey and G. Christian Hill. "Plowed Under: As Many Farms Fail, More Rural Banks Are At Risk of Dying Too", Wall Street Journal (January 1, 1985), p. 1; "93,000 Medium Size Farms in Financial Trouble, Report Says", Los Angeles Times (March 11, 1985), Pt. I, p. 4.

[9] George Cabot Lodge and William C. Crum. "Keeping Informed: U.S. Competitiveness: the Policy Tangle", Harvard Business Review, (January-February 1985), p. 34.

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[11] Paul Richter. "How Strong Dollar Sells Out Firms", Los Angeles Times (February 2, 1985), Pt. I, p. 1.

[12] "The Death of Mining: America Is Losing One of Its Most Basic Industries", Business Week (December 12, 1984), p. 65.

[13] "The Toughest Job in Business: How They're Remaking U.S. Steel", Business Week (February 25, 1985), p. 51.

[14] "Challenge On Trade"

[15] John R. Block, U.S. Secretary of Agriculture. Address to the American Association of Port Authorities National Convention (Seattle: September 14, 1983).

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Chapter III

U.S. PORT FACILITIES

Introduction

The American port industry is undergoing rapid change. In a sense, it acts as a lightning rod for much of the world and American economy. It also is quite sensitive to how economic forces are translated into specific public policy at the national, state and local levels of government.

More observers are recognizing the importance of ports and what they have done and may do for the nation. Citizens, industries, and public officials in maritime areas have long recognized the relationship and their governments have on the whole been supportive. The national government has recognized the importance and value of ports, but has trouble demonstrating it in a coherent statutory and programmatic agenda. Whether it be dredging or merchant marine, coastal preservation or coal terminal development, increased productivity through technological application (containers) or longshoremen job preservation and protection, the contrasts continue in many ways. However this simply illustrates further the implicit contradictions of public policies that are placed upon the export transportation system and how they become most visible for ports.

Aside from recent presidential proclamations for National Transportation Week, the President has further stated that export is critical. In his State of the Union message, January 25, 1983, he stated that one out of five jobs in the country is tied to export. Furthermore, he mentioned the intent to propose a coordinated foreign trade policy.

In recent years more attention has been given to the multifaceted port industry. The following information summarizes the status of the port industry.

Port Facilities

The American port industry is diverse. There are many different components and organizational form;and relationships with public and private agencies vary too. A summary report from the U. S. Department of Transportation noted the following[1] (Table III-1,2):

1. There are 183 commercial seaports on all coasts (including Great Lakes);
2. These deep draft ports require only two percent or 1650 miles of coast;
3. There are 2871 deep draft berths for ocean going vessels including 1396 for general cargo, 699 for dry bulk and 776 for liquid bulk;
4. There are approximately 25,000 miles of commercially-navigable inland waterways, of which the Mississipi System accounts for 16,000 miles along with the Gulf, intracoastal, Alabama River, and Columbia/Snake River systems.

Table III-1
U.S. Seaport Terminal Facilities by Region[1/]

REGION	NUMBER OF PORTS	TOTAL NUMBER OF TERMINALS	NUMBER AND TYPE OF BERTHS											TOTAL
			GENERAL CARGO FACILITIES				BULK CARGO FACILITIES							
			CONVENTIONAL	SPECIALIZED GENERAL CARGO			DRY BULK				LIQUID BULK			
			BREAKBULK	CONTAINER	RO/RO	BARGE SHIP	GRAIN	COAL	ORE	OTHER	PETROL	LNG/LPG	OTHER	
NORTH ATLANTIC	27	322	308	54	26	5	13	23	14	47	185	6	34	715
SOUTH ATLANTIC	24	143	116	21	30	2	1	1	3	26	65	1	13	279
GULF	24	358	252	12	14	6	29	9	7	51	137	2	68	587
SOUTH PACIFIC	37	222	189	51	21	2	8	5	-	29	90	-	23	419
NORTH PACIFIC	43	204	142	26	9	-	19	-	8	54	76	-	13	347
GREAT LAKES	28	317	110	-	-	-	47	65	47	193	48	-	15	525
TOTAL	183	1,566	1,117	164	100	15	117	103	79	400	601	9	165	2,871

1/ Includes those commercial cargo-handling facilities with a minimum depth alongside of 25 feet for the ocean coastal ports and 18 feet for the Great Lakes ports.

Source: Maritime Administration, Office of Port and Intermodal Development, Port Facility Inventory, 1975-1983; and U.S. Army Corps of Engineers, Water Resources Support Center, Port Series, 1972-1983.

Source: U.S. Department of Transportation, Maritime Administration. A Report to the Congress on the Status of the Public Ports of the United States (Washington, D.C.: Government Printing Office, August 1984), p. 8.

Table III-2
Commercially Navigable Waterways
of the United States by Lengths and Depths[1/]

Waterway Groups	Lengths in Miles of Waterways and Corresponding Depths					
	Under 6 ft.	6 to 9 ft.	9 to 12 ft.	12 to 14 ft.	14 ft. & Over	Total
Atlantic Coast Waterways	1,426	1,241	584	938	1,581	5,770
Atlantic Intracoastal Waterway-Norfolk, Va. to Key West, Fla.	-	65	65	1,104	-	1,234
Gulf Coast Waterways	2,055	647	1,133	79	378	4,292
Gulf-Intracoastal Waterway-St. Marks, Fla. to the Mexican Border	-	-	-	1,137	-	1,137
Mississippi River System	2,020	969	4,957	740	268	8,954
Pacific Coast Waterways	730	498	237	26	2,084	3,575
Great Lakes	45	89	-	8	348	490
All Other Waterways	76	7	-	1	7	91
Grand Total	6,352	3,516	6,976	4,033	4,666	25,543

1/ The mileages in this table represent the lengths of all navigable channels of the United States, including those improved by the Federal Government, or other agencies, and those which have not been improved but are usable for commercial navigation.

Source: U.S. Army Corps of Engineers

Source: U.S. Department of Transportation, Maritime Administration. A Report to the Congress on the Status of the Public Ports of the United States (Washington, D.C.: Government Printing Office, August 1984), p. 9.

The inland systems, have over 1460 barge facilities in 130 major riverports.

These ports have a tremendous influence upon the national economy. In 1980 they generated the following activity:

1. Handled over 2 billion short tons of trade.
2. Added $5.5 billion from custom fees to the treasury.
3. Contributed over $35 billion to the gross national product.
4. Generated $70 billion in direct and indirect dollar income from gross sales and services to its users.
5. Invested over $5 billion from 1946 to 1980 in capital facilities and anticipated by 1990 an additional $5 billion.
6. Inland ports anticipated $4.8 billion investment through 1990.

Port Structures

To accomplish these impressive statistics a variety of organizational structures have been developed over the years. For the most part, the type of organization (and its relationship to various levels of intergovernmental operation) depends upon the sector of the country and the age of the port. In the North Atlantic (where jurisdictions are more compact and densely populated) of approaches used include municipal ports, bi-state port authority, state port authorities and departments of transportation. Moving southerly, public corporations and state port authorities seem to become more in use, and along the Gulf Coast the independent navigation district is the predominant pattern as well as in the North Pacific area. The South Pacific is a mixture of municipal ports and independent navigation districts with some state influence. All in all, the predominate form throughout the country is the independent navigation district with shared rankings of autonomous state chartered public corporations and municipal port departments. See the following American Association of Port Authorities description, Table III-3.

Although according to this table states have a more limited role in their establishment and connection to port authorities, statistics suggest something different. The American Association of State Highways and Transportation Officials studied state involvement and found that:[2]

1. Twenty-two states have funding programs for land-site port and cargo facilities.
2. States invested $674.7 million between 1977 and 1981.
3. Tidewater land-site ports received $531.3 million state investments, Great Lake ports $66.9 million and inland waterway terminals $76.4 million.
4. The East Coast and the Gulf Coast received the most state investment money at $272.5 and $245.9 million, respectively.
5. The Midwest and the West received much less at $98.4 million and 57.9 million, respectively.

Table III-3

Types of U.S. Port Authorities by Region[1/]

Region	State Dept. of Transport.	State Port Auth.	Bi-State Port Auth.	Municipal Port Dept.	County Port Dept.	Independent Navigation Districts	Municipal Port Corp.	Autonomous State-Chartered Public Corp.	No. of Ports
North Atlantic	2	1	2	3	-	1	1	3	13
South Atlantic[2/]	1	3	-	-	1	1	-	4	10
Gulf	1	-	-	3	1	12	-	3	20
South Pacific[3/]	2	-	-	5	-	6	-	-	13
North Pacific[4/]	-	-	-	1	-	13	-	-	14
Great Lakes	-	1	-	2	-	2	-	5	10
TOTALS	6	5	2	14	2	35	1	15	80

1/Based on total of 80 U.S. ports which comprise the corporate membership of the American Association of Port Authorities (AAPA).
2/Includes Puerto Rico and the U.S. Virgin Islands.
3/Includes Hawaii and Guam.
4/Includes Alaska.

Source: The American Association of Port Authorities. AAPA ADVISORY, Vol. XVI, No. 49 (Washington, D. C., December 6, 1982).

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6. State port and terminal construction funds are administered by nine state departments of transportation, eight state port authorities, four state economic development agencies and one capital development agency.
7. Various procedures are used for state funding authorization, including twelve at discretion of state agencies, ten legislator-enactment of state agency recommendations, five by legislative authorization on a project-by-project basis.
8. Funding sources include general obligation bonds, general revenue funds, revenue bonds, user charges and excise taxes; the largest sources provided by general obligation bonds at $309.4 million.
9. In addition to the eight state port authorities, there are 239 local port authorities, port departments, dock boards, or port commissions created by state and local units of government to develop port facilities.

Nationwide for the four year period between 1977 to 1981, funding levels have been relatively consistent ranging from a low of $107 million to a high of $173 million, though beginning to drop off again in the 1981 period. And, certain states have been predominantly involved with funding port facilities (principally Louisiana and South Carolina) for deep draft ports on the coast. Illinois and Indiana have been involved with Great Lakes ports, and Indiana and Louisiana for inland waterways. Most states fund projects which purchase land, construct piers, docks and wharves, buildings, storage areas and facilities, cargo handling equipment, access roadways and railspurs, dock and navigation channel dredging,

cargo terminal insurance and security facilities.[3] Most states also have per sive funding powers granted to local port authorities within local government rules and regulations. So, for example, local port authorities are allowed to issue revenue bonds, general obligation bonds, industrial revenue bonds, borrow money, receive grants or loans from the state, receive grants or loans from federal agencies. Far fewer are able to levy taxes.[4]

To generate and support this amount of activity, ports have to charge fees and collect revenues for its services.[5] General obligation bonds are the main source of funds (twenty-eight percent); revenue bonds (twenty-five percent) and port revenues (twenty-two percent) are also important. Previous studies have found that ports use a variety of methodologies for determining their cost and charging fees and tariffs. The AAPA further found that it would be desirable to have a consistent aproach available to the ports. And, the U. S. General Accounting Office identified a growing problem in the late 1970's regarding ports' financial position. Being a very competitive industry, such rate formulation was almost privileged information and did help one port maintain its edge over another port. On the other hand, unbridled "cut-throat" competition, would if left unconstrained, hurt some ports so much so that they would have severe financial difficulties. Although the situation was not yet chaotic, the potential did exist. Other transportation industries are now beginning to experience true deregulation and free flow pricing, i.e., railroads and trucking. They are, according to many shippers, approaching chaos. The port industry, though never being so closely regulated, has had the independence of pricing and relied upon the marketplace to maintain its relationships and its long-term stability.

Fourteen port authority structures representing all types were examined.[6] Earnings potential came from a variety of sources. Six of the ports were operating ports and eight were run by lessees and contractors. The majority earn their monies from usage revenues, principally from terminal fees and wharfage activities. An underlying message is that ports are quite sensitive to the volume of activity and their fee structure has a tight margin of profit. The more flexibility they have in adjusting their fees, the more possibility they can work closely with shippers and carriers to combine the best package for export activities. This allows and encourages competition in the marketplace and is generally healthy. Still, the central point is that cargo volume (not value) is the source of income for most of the ports.

Several other aspects of the American port system must be noted at the outset of this study:[7]

1. 42.2% of the berths in the nation are in port city population zones of 500,000 or more;
2. 28.6% of the berths in the nation are in port city population zones of 100,000 to 499,999;
3. The physical condition of the ports is in acceptable shape--58% of the national average as "good" and 29% of the national average as "fair;"
4. Between 1970-1976, the industry invested $138,689,000 in federally mandated environmental protection (70%); employee health/safety (11%); and cargo security (19%);
5. Between 1970-1976 the industry incurred $55,121,000 in operating costs for environmental protection (22%), employee health/safety (11%), and cargo security (67%).

The fact that most of the capacity is in already developed urban population areas is not surprising. What is of potential concern is, should these facilities require upgrading, modernization, or expansion, there simply may not be sufficient land surface area. Some ports have had to create new acreage from their dredge material Another aspect of this is the potential expansion of freight movement to and from the harbors through the densely populated areas. More and more conflicts with competing public purposes policies are bound to occur. At some point, local jurisdictions may face the hard decisions—

> "should our port remain at its current level of activity with its known impacts, or should it be allowed to increase activity significantly and have possibly commensurate urban impacts?"

Lastly, the total foreign waterborne commerce (export and import) in 1983 was 735,198,000 short tons valued at $269,391,000,000. The leading tonnage was handled by New York. Tables III-4 and 5 show the total commerce, export data and port rankings. Preliminary figures indicate the downward trend of 1981-83 was reversed in 1984.

Conclusion

The coastal and inland ports of the United States represent a major economic and transportation activity. Their role and influence, collectively, is tremendous. Yet, politically, the governmental system responds in a fragmented way which in part represents the nature of the port and transportation industry. Even on key issues that cut across the lifeblood of port activities, that is, the capacity of facilities to handle large size vessels, and channel and harbor dredging, for example, disagreement exists. Free enterprise attitude and the realities of competitive pricing directly affect port income sources. Pressures from local and state agencies or private operators to raise or lower charges illustrates their difficulty. Reaching a common position, good for the whole industry, on such matters is a complex process.

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[1]U.S. Department of Transportation, Maritime Administration, A Report to the Congress on the Status of the Public Ports of the United States (Washington, D.C.: U.S. Government Printing Office, August 1984), pp. 3-11.

[2]American Association of State Highway and Transportation Officials, Survey of State Funding of Landsite Port Facilities and Cargo Terminals—1982 (Washington, D.C., 1982), p. 3.

[3]Ibid, p. 26. [4]Ibid, p. 36.

[5]U.S. Army Corps of Engineers, A Public Port Financing Study (Washington,D.C.: Government Printing Office,Institute for Water Resources, June, 1984),p.VII-XI.

[6]U.S. Department of Transportation, Usage Pricing for Public Marine Terminal Facilities—Volume I (Washington, D.C.: U.S. Government Printing Office, December 1981), pp. 1-10.

[7]U.S. Department of Commerce, Maritime Administration, National Port Assessment 1980/1990 (Washington, D.C.: U.S. Government Printing Office, 1980), pp. 13-27.

Table III-4

TOTAL FOREIGN WATERBORNE COMMERCE - LEADING UNITED STATES SEAPORTS*

Calendar Years 1983 and 1982

	SHORT TONS				DOLLAR VALUE			
	1983	1982	% of Change		1983	1982	% of Change
TOTAL UNITED STATES	735,198,000	787,191,000	- 6.6	TOTAL UNITED STATES	$ 269,391,000,000	$ 283,216,000,000	- 4.9
New York, NY	51,714,500	47,430,500	+ 9.0	New York, NY	$ 42,743,000,000	$ 41,642,000,000	+ 2.6
Houston, TX	40,793,000	48,167,000	- 15.3	Long Beach, CA	20,103,000,000	17,936,000,000	+ 12.1
New Orleans, LA	36,573,000	47,153,500	- 22.4	Houston, TX	17,953,000,000	23,961,000,000	- 25.1
Norfolk, VA	33,448,100	46,915,200	- 28.7	Los Angeles, CA	15,471,000,000	14,129,000,000	+ 9.5
Philadelphia, PA	22,137,000	25,679,000	- 13.8	Seattle, WA	14,376,000,000	13,070,000,000	+ 10.0
BALTIMORE, MD	21,623,800	30,682,700	- 29.5	BALTIMORE, MD	12,797,500,000	14,224,400,000	- 10.0
Tampa, FL	20,710,500	16,962,500	+ 22.1	New Orleans, LA	11,192,000,000	13,793,000,000	- 18.9
Long Beach, CA	20,010,500	19,846,000	+ 0.8	Oakland, CA	9,549,000,000	10,016,000,000	- 4.7
Baton Rouge, LA	19,605,000	23,193,500	- 15.5	Norfolk, VA	8,614,000,000	10,318,000,000	- 16.5
Corpus Christi, TX	17,211,000	18,782,500	- 8.4	Philadelphia, PA	6,202,000,000	7,099,000,000	- 12.6
Portland, OR	14,832,500	13,070,500	+ 13.5	Savannah, GA	4,784,000,000	4,240,000,000	+ 12.8
Newport News, VA	14,249,500	21,673,000	- 34.3	Charleston, SC	4,774,000,000	4,577,000,000	+ 4.3
Mobile, AL	13,363,900	16,041,800	- 16.7	Portland, OR	4,388,000,000	3,898,000,000	+ 12.6
Marcus Hook, PA	13,307,500	13,120,000	+ 1.4	Jacksonville, FL	4,063,000,000	3,788,000,000	+ 7.3
Los Angeles, CA	12,212,000	12,353,000	- 1.1	Tacoma, WA	3,476,000,000	2,910,000,000	+ 19.5
Tacoma, WA	9,613,500	7,978,500	+ 20.5	Corpus Christi, TX	3,113,000,000	3,549,000,000	- 12.3
Seattle, WA	8,976,000	7,709,000	+ 16.4	Galveston, TX	2,772,000,000	2,870,000,000	- 3.4
Galveston, TX	8,451,000	7,599,500	+ 11.2	Baton Rouge, LA	2,765,000,000	3,584,000,000	- 22.9
Savannah, GA	8,258,500	8,464,000	- 2.4	Boston, MA	2,709,000,000	2,718,000,000	- 0.3
Paulsboro, NJ	7,292,000	9,307,500	- 21.7	Marcus Hook, PA	2,658,000,000	2,953,000,000	- 10.0
Boston, MA	6,020,000	5,237,500	+ 14.9	Tampa, FL	1,937,000,000	1,834,000,000	+ 5.6
Richmond, CA	5,109,500	2,675,500	+ 91.0	Portland, ME	1,936,000,000	1,503,000,000	+ 28.8
Portland, ME	4,865,000	7,073,000	- 31.2	Newport News, VA	1,726,000,000	2,475,000,000	- 30.3
Charleston, SC	4,812,000	4,088,000	+ 17.7	San Francisco, CA	1,703,000,000	2,061,000,000	- 17.4
Oakland, CA	4,744,500	4,522,500	+ 4.9	Wilmington, NC	1,674,000,000	1,810,000,000	- 7.5
Jacksonville, FL	4,583,000	4,572,000	+ 0.2	Richmond, CA	1,515,000,000	1,107,000,000	+ 36.9
Wilmington, NC	2,576,500	2,502,500	+ 3.0	Paulsboro, NJ	1,462,000,000	2,046,000,000	- 28.5
San Francisco, CA	1,391,500	1,517,500	- 8.3	Mobile, AL	1,461,000,000	1,783,000,000	- 18.1
Stockton, CA	929,500	1,184,000	- 21.5	Stockton, CA	134,000,000	155,000,000	- 13.5

*Position - 1983

Source: Maryland Department of Transportation. Foreign Commerce Statistical Report - 1983 (Baltimore: Maryland Port Administration, 1983), p. 10.

Table III-5

FOREIGN EXPORT WATERBORNE COMMERCE - LEADING UNITED STATES SEAPORTS*

Calendar Years 1983 and 1982

	SHORT TONS				DOLLAR VALUE		
	1983	1982	% Of Change		1983	1982	% Of Change
TOTAL UNITED STATES	363,298,500	403,135,000	- 9.9	TOTAL UNITED STATES	$ 105,169,000,000	$ 120,045,000,000	- 12.4
Norfolk, VA	29,152,100	42,871,700	- 32.0	New York, NY	$ 12,019,000,000	$ 14,100,000,000	- 14.8
New Orleans, LA	24,593,500	28,850,500	- 14.8	Houston, TX	10,301,000,000	13,358,000,000	- 22.9
Houston, TX	22,295,500	25,909,500	- 13.9	BALTIMORE, MD	6,958,600,000	8,556,200,000	- 18.7
Tampa, FL	16,354,000	13,512,500	+ 21.0	New Orleans, LA	6,541,000,000	7,793,000,000	- 16.1
Baton Rouge, LA	13,403,000	14,986,500	- 10.6	Norfolk, VA	5,609,000,000	7,305,000,000	- 23.2
Portland, OR	12,521,000	11,209,500	+ 11.7	Long Beach, CA	5,486,000,000	5,246,000,000	+ 4.6
BALTIMORE, MD	12,216,200	20,845,600	- 41.4	Oakland, CA	4,737,000,000	5,277,000,000	- 10.2
Long Beach, CA	12,203,500	12,468,500	- 2.1	Los Angeles, CA	3,605,000,000	3,803,000,000	- 5.2
Newport News, VA	11,827,500	18,557,500	- 36.3	Seattle, WA	2,521,000,000	2,602,000,000	- 3.1
Mobile, AL	10,215,900	11,969,300	- 14.6	Charleston, SC	2,517,000,000	2,797,000,000	- 10.0
Galveston, TX	7,142,500	5,596,000	+ 27.6	Savannah, GA	2,252,000,000	2,080,000,000	+ 8.3
Tacoma, WA	7,037,000	5,733,000	+ 22.7	Portland, OR	2,172,000,000	1,892,000,000	+ 14.8
Los Angeles, CA	6,060,000	7,040,500	- 13.9	Galveston, TX	2,050,000,000	1,873,000,000	+ 9.5
New York, NY	5,418,000	5,730,500	- 5.5	Baton Rouge, LA	1,993,000,000	2,345,000,000	- 15.0
Seattle, WA	4,552,500	3,952,000	+ 15.2	Tampa, FL	1,259,000,000	1,179,000,000	+ 6.8
Philadelphia, PA	4,269,500	5,447,500	- 21.6	Philadelphia, PA	1,242,000,000	1,583,000,000	- 21.5
Savannah, GA	4,135,500	4,708,000	- 12.2	Newport News, VA	1,178,000,000	1,709,000,000	- 31.1
Corpus Christi, TX	3,036,000	3,066,000	- 1.0	Wilmington, NC	1,046,000,000	1,233,000,000	- 15.2
Oakland, CA	2,730,000	2,926,000	- 6.7	Tacoma, WA	984,000,000	943,000,000	+ 4.3
Richmond, CA	2,560,000	1,160,500	+ 120.6	Jacksonville, FL	847,000,000	987,000,000	- 14.2
Charleston, SC	2,556,000	2,315,000	+ 10.4	Mobile, AL	791,000,000	1,229,000,000	- 35.6
Jacksonville, FL	2,110,000	2,359,500	- 10.6	San Francisco, CA	677,000,000	963,000,000	- 29.7
Wilmington, NC	692,000	775,000	- 10.7	Richmond, CA	604,000,000	388,000,000	+ 55.7
Stockton, CA	680,000	930,000	- 26.9	Corpus Christi, TX	541,000,000	646,000,000	- 16.3
San Francisco, CA	668,500	795,000	- 15.9	Boston, MA	538,000,000	660,000,000	- 18.5
Boston, MA	623,000	498,000	+ 25.1	Stockton, CA	106,000,000	122,000,000	- 13.1
Paulsboro, NJ	293,000	230,500	+ 27.1	Paulsboro, NJ	67,000,000	65,000,000	+ 3.1
Marcus Hook, PA	153,500	128,500	+ 19.5	Marcus Hook, PA	52,000,000	46,000,000	+ 13.0
Portland, ME	25,500	5,000	+ 410.0	Portland, ME	3,000,000	15,000,000	- 80.0

*Position - 1983

Source: Maryland Department of Transportation. Foreign Commerce Statistical Report - 1983 (Baltimore: Maryland Port Administration, 1983), p. 11.

PART II - INTERGOVERNMENTAL POLICY SYSTEM OPERATION AND CHALLENGES

This section discusses current operations and challenges of intergovernmental public policy. It is based upon Part I - System Development, which explained the American export situation and how it is served by the port transportation system. The orientation of the material in Part II is from the general to the specific. Chapter IV discusses the broad intergovernmental policy system in terms of federal, state and local laws and regulations which may directly or indirectly affect export transportation. Chapter V addresses the more narrow based aspect of intergovernmental policy dealing with regulation. Even though it is a large field in its own right, transportation regulation is still a subsidiary element of the intergovernmental public policy framework. Chapter VI reviews selected major export seaports in the country with reference to contact with the intergovernmental system. Lastly, Chapter VII analyzes intergovernmental public policy addressing seaport and channel dredging. The discussion on dredging integrates many specific federal, state and local policies as almost important and complex example of how the intergovernmental system operates in just one segment.

Chapter IV -INTERGOVERNMENTAL PUBLIC POLICY SYSTEM

Introduction

The concept of intergovernmental public policy is relatively new in terms of historical development of the American federalism system. In the simplest, theoretical sense, it is the belief that each level of government has clear cut responsibilities. The federal government has one set, state government and local government still another. To the corporate manager attempting to export or to the informed government employee, or citizen, only a small piece of the system is visible. It is only when things begin to go awry does it become obvious that the system is far more involved than this initially simplistic notion. For that reason, this chapter describes in general terms the intergovernmental public policy system, its relationship to export transportation, the participants in that system, policy mechanisms to influence activity, and how the separate but comingled worlds of intergovernmental policy and export transportation systems contact and interact.

Development of Intergovernmental System

The intergovernmental public policy system is a composite framework of federal state and local laws and policies for the conduct of their official responsibilities. The system relates vertically and horizontally in several ways. For example, vertical interrelationships may be between two levels of government (local to state, or state to federal) or within one specific functional category (local transportation agencies relating to state transportation agencies, or state relating to federal). Horizontal interrelationships are found in one level of government. Local governmental agencies must work with each other in many ways in different functions. The same horizontal scale occurs for state and federal agencies. Adding to this executive and administrative complexity are the traditional, other two branches of government at each level. Legislative and judicial sections have influence as well on the intergovernmental public policy system. So, when first thinking about the intergovernmental public policy system, one must immediately have this framework in mind and the placement of the discussion in the hierarchy of the framework - whether a problem relates

to vertical or horizontal interrelationships; or, is it solely within one element of a governmental operation? Is the matter a responsibility of only one branch, legislative, executive/administrative or judicial? Or, is it part of several in combination?

Although the basic, simple intergovernmental framework was established at the very founding of the nation and has been elaborated, it was not until the stimulus of population growth and rapid urbanization, interrupted by two world wars, that governmental activity truly grew and fleshed out the framework. As more and more people moved from the farm to urban areas, or migrated to the United States, population densities and political power grew in urban centers. These large populations required governmental structure and services to meet their needs. Much of the growth of the federal domestic structure and state and local governmental activities occurred as a result. A second major stimulus for growth of the intergovernmental policy framework was military necessity. The federal government, in order to protect the nation in two all-consuming wars, increased its power and program. It expanded activities for defense and interstate commerce to facilitate military preparedness and economic strength.

For the most part the defense aspects are separate from the domestic program structure. But there are overlaps and points-of-contact when it comes to domestic functions of commerce and transportation. For example, it is necessary to have an internal transport system able to meet defense logistical needs. It is necessary to have a strong economy with promotion of internation trade to help support industrial and agricultural capability. It is necessary to have a strong economy for the preservation and support of the domestic population. There are other examples of how overlap may occur, however for the goals of this research the relationship is kept distinct.

The most common form of federal activity has been subsidy. Beginning with the land grant program for establishing an agricultural university system, to the present day cash grants or aid for a desired activity, it has been a frequent practice. Since 1969, according to the Advisory Commission on Intergovernmental Relations, subsidy has been supplanted by regulation. It is a "dramatic shift" and strongly influences states and localities. "Although the upward climb in grants subsidy persisted during most of this era, federal policy makers also turned increasingly to new, more intrusive, and more compulsory regulatory programs to work their will."[1] Regulation became increasingly pervasive until the early 1980's.

Characterized in qualitative terms, subsidy would be an incentive for an individual or organization to behave in a certain way, and regulation would be a coercion or sanction backed by penalties to behave in a certain way. It would appear that the intergovernmental system has definitely received greater direction of the negative-type (through regulation) due to the growth of federal program activities and intrusion into state and local governmental affairs. And, it is apparent that states and their localities have acquired the practice for their own subagencies and jurisdictions. Part of this is tied to the very human notion that money is not passed out freely. Expectations are stated and connected to grant awards. Yet, in many programs the two, although clear here for definitional purposes, are not so separate in operation and they often are blended and fused

together. Few pure types seem to exist. Both seem to be elements of a continuum showing diverse parameters in practice. Subsidies or cash grants with few strings would be at one side of the continuum; on the other would be regulatory policy with sanctions and penalities.

Participants in the Intergovernmental Policy System

In the broadest sense, American organization culture has two large divisions which are the public or governmental sector and the private sector. Within and between each are a wide range of possibilities. Sometimes they are called quasi-public, quasi-private, or nonprofit agencies or organizations. In the public sector is the basic division of federal, state and local government (composed of regional, county, municipalities, and special districts). More often than not, the special district or public authority such as a seaport is another example of local government with private like powers acting as a free agent in the public realm. On the private sector side, governed by the marketplace are organizations providing services, goods and commodities within the requirements of the intergovernmental policy system. They may be private seaport terminals, transportation carriers, producers of export goods and services and many other orgaizations. Both public and the private sectors also operate within a free market type system, interacting as interests meet. The intergovernmental policy systems attempts to exert influence in a positive way upon that open operation by establishing game rules and constraints. To the extent the system provides incentives, the marketplace will behave in one way. If sanctions are wielded, the marketplace and the players will perform in a different way. With little or no governmental guidance, the free market place will resolve most problems by itself, according to theory.

In reality, the existence of our intergovernmental policy system in part presumes that the marketplace needs more guidance and direction. By assigning functions to different levels and types of government, specific benefits will accrue and will improve overall well-being of the economy and the population. Since late 1970's, some have questioned these assumptions and sought improvements. Is it possible that government collectively and individually should back out and provide less subsidy and regulation? These are new thoughts compared to the last thirty years and strike at the very heart of the intergovernmental policy system as developed through the 1970's. Current discussion is lively and fluid, although broad perameters have been established by transferring federally collected tax funds to state and local governments, sharing more power with state and local governments, and lastly lessening subsidy and regulation in some areas (particularly the transportation sector).

Policy Mechanisms to Influence Activity

Perhaps a key feature to note about intergovernmental regulation is that it has a significant factor of compulsion. In some ways, it is "more nearly mandatory" upon state and local governments.

There are four types of federal programs utilizing the following techniques:

1. direct orders
2. cross cutting requirements
3. crossover sanctions

4. partial preemptions

Table IV - 1 illustrates how they operate in potential policy areas of involvement. The most prevalant one used appears to be cross cutting requirements. Partial preemption has sometimes been called a substitution approach and is most evident in the Clean Air Act of 1970. Fiscal penalties occur under crossover sanctions such as in Highway Beautification or the Emergency Highway Energy Conservation Act of 1974.

Table IV-1

A Typology of Intergovernmental Regulatory Programs

Program Type	Description	Major Policy Areas Employed
Direct Orders	Mandate state or local actions under the threat of criminal or civil penalties	Public employment, environmental protection
Crosscutting Requirements	Apply to all or many federal assistance programs	Nondiscrimination, environmental protection, public employment, assistance management
Crossover Sanctions	Threaten the termination or reduction of aid provided under one or more specified programs unless the requirements of another program are satisfied	Highway safety and beautification, environmental protection, health planning, handicapped education
Partial Preemptions	Establish federal standards, but delegate administration to states if they adopt standards equivalent to the national ones	Environmental protection, natural resources, occupational safety and health, meat and poultry inspection

Source: Advisory Commission on Intergovernmental Relations. Regulatory Federalism: Policy, Process, Impact and Reform (Washington, D.C.: Government Printing Office, February 1984, A-95) p. 8.

These techniques of regulation have been developed, at first, incrementaly and then later in at least thirty-two major statutes of intergovernmental regulation between 1960 and 1980. Table IV-2 identifies them in historical chronology.

In addition to regulation generated by federal programs, there are other techniques that influence activities in the federal program structure. They need to be identified here as reminders of the variety of means of influence.

As noted, subsidy is a principal form of incentive. The monies granted by subsidy could be accomplished by formula allocation, based upon some pre-agreed approach, to the recipents. Revenue sharing as a grant-in-aid type program is a variation upon formula in which money is being returned to a jurisdiction through a block of funds with few or no restrictions. Other techniques include benefits in tax law, no interest or low interest loans, and sharing of cost for desired

activities.

Table IV-2

Major Statutes of Intergovernmental Regulation, 1960–80

1964	*Civil Rights Act* (Title VI)
1965	*Highway Beautification Act*
	Water Quality Act
1966	*National Historic Preservation Act*
1967	*Wholesome Meat Act*
1968	*Civil Rights Act* (Title VIII)
	Architectural Barriers Act
	Wholesome Poultry Products Act
1969	*National Environmental Policy Act*
1970	*Occupational Safety and Health Act*
	Clean Air Act Amendments
	Uniform Relocation Assistance and Real Property Aquisition Policies Act
1972	*Federal Water Pollution Control Act Amendments*
	Equal Employment Opportunity Act
	Education Act Amendments (Title IX)
	Coastal Zone Management Act
	Federal Insecticide, Fungicide, and Rodenticide Act
1973	*Flood Disaster Protection Act*
	Rehabilitation Act (Section 504)
	Endangered Species Act
1974	*Age Discrimination Employment Act*
	Safe Drinking Water Act
	National Health Planning and Resources Development Act
	Emergency Highway Energy Conservation Act
	Family Educational Rights and Privacy Act
	Fair Labor Standards Act Amendments
1975	*Education for All Handicapped Children Act*
	Age Discrimination Act
1976	*Resource Conservation and Recovery Act*
1977	*Surface Mining Control and Reclamation Act*
	Marine Protection Research and Sanctuaries Act Amendments
1978	*National Energy Conservation Policy Act*
	Public Utility Regulatory Policy Act
	Natural Gas Policy Act

Source: Advisory Commission on Intergovernmental Relations. Regulatory Federalism: Policy, Process, Impact and Reform (Washington, D.C.: Government Printing Office, February 1984, A-95), p. 6.

Regulation certainly includes the four categories of direct orders, cross cutting requirements, crossovers sanctions, partial preemption. It also includes devices serving as a medium for these techniques such as licenses, permits, standards, criteria, guidelines, and direct requirements. Each of these has an implicit and sometimes very obvious condition that a certain mode of behavior is desired in order to receive approval to operate or to receive the benefits granted.

Enforcement serves as a form of regulation. It relies upon fines, penalties and prohibition. Often, enforcement may be only partly, or not at all, utilized. Thus the players in the system may well know that some activities are not seriously targeted for compliance.

Not noted as part of the kit of subsidy, regulation and enforcement is a concept that is actually the social and economic political glue holding the system together and allowing it to work. Leadership is that theoretial element. At some point a credible and workable statement of philosophy, goals and objectives is necessary for public policy to be implemented effectively by the players. It does require shared participation in the formulation and implementation of that policy. Consensus must exist for delivery and continued success. There must also be forums to resolve disagreement and conflict, informally and formally with in the system or outside the system. Each of these matters depends upon the degree of leadership provided at the appropiate jurisdictional level. If that ingredient is missing then a free-for-all system is in effect. Judgements will be accomplished by many independent discrete actions by the parties. Sometimes, they will only be resolved by special legislation, rulings, or judicial action.

Additional devices for influencing activity throughout the intergovernmental system[2] are described in Table IV-3. Indirect management may influence program scope and contents, program delivery, program control, and all of proceedings. The devices range from legislation and budgets to requests for proposal, training, audits, evaluations, selection of key operational personnel. Each of these provides real meaning to the concept of policy mechanisms to influence activity. All of them occur at each level of government but with the principal influence being from the higher to the lower level of government. On occasion, they may occur in one level but among agencies that must coordinate.

Some believe that the judiciary (federal and state)has been too active, while others suggest too acquiescent. In either case, most observers agree that the court system has had singular impact upon intergovernmental policy. Often one decision on a narrow part of programmtic law could well influence many other programs through the establishment of a precedent, or the broad application of its interpretation.

With the intergovernmental policy system and the new forms of regulation, numerous problems have been identified. One particular array is the following seven: [3]

1. cost
2. inflexibility
3. inefficiency
4. inconsistency
5. intrusiveness
6. ineffectiveness
7. unaccountability

In support of these seven elements are insightful observations regarding the implementation of the regulatory process.[4]

* Substantial delays are frequently encountered between passage of a regulatory statute and the beginning of actual administration and enforcement.

Table IV-3

Devices for Indirect Management of Intergovernmental Programs

Area of Influence	Devices
Program Scope and Contents	Legislation Budget —Proposal —Authorization —Appropriation Formal regulations —Prohibitions —Standards —Requirements Interpretation of Regulations Grant Applications (Assurances, formal plans)
Program Delivery	RFP (Request for Proposal) Proposals (Bids) Reimbursement Procedures Technical Assistance Training
Program Control	Plan Review and Approval Licensing Contract Negotiations Interpretation of Regulations and issuance of waivers Audits (financial, program) and disallowances Monitoring: inspections, site visits Evaluations Sanctions: withholding future funding support, closing facilities
All of the Above	Influence on selection of key operational personnel

Source: Stephen R. Rosenthal. "New Directions for Evaluating Intergovernmental Programs", Public Administration Review (November/ December 1984). p. 474.

* Legislative language and history often provide insufficient guidance on crucial operational questions.

* In many cases the technical or scientific information required for efficient and effective regulation is not available.

* Issues not addressed or left unresolved by the Congress often erupt into intense political conflict during the rulemaking stage.

* Federal regulators tend toward expansive, inflexible, and costly interpretations of national requirements.

* Overly stringent or unrealistic regulatory standards and requirements actually may hamper progress toward national goals.

* The new forms of federal intergovernmental regulation have been litigated heavily, adding to delays and uncertainties.

* Federal courts typically have upheld agency interpretations of legislative intent, have urged faster action, tighter standards, and more vigorous enforcement.

* Federal agencies generally lack adequate capacity and resources to assure full compliance with regulatory requirements.

* For administrative and political reasons, federal officials are often reluctant to impose harsh sanctions against state and local government that fail to meet national standards or deadlines.

* Attainment of regulatory objectives depends heavily upon the leadership and commitment of target jurisdictions.

Implementing such programs no doubt encounters many of the above problems. First, "writing rules - easier said than done". It may be quite complex, include regulatory delay, agency mismanagement, administrative complexity, statutory ambiguity, and political conflict. Once written the regulations may be too broad or too narrow. They in turn will be subject to confusing and complex dynamics in regulation within the specific requirements of the statute. The motivations of the bureaucracy and scrutiny from the judicary must be considered. In this sequence, the weakest link seems to be in enforcement. Often it is due to administrative and technical infeasibility, limited resources and political liabilities.

These are in broad brush the mechanisms available to influence activity within the intergovernmental system. They are mainly applied by the federal government to state and local governments, however they are more and more used by states to their localities and within each level of government. At the same time, individual governmental units and their agencies, as well as private corporations, act independently within the system and must deal with the variety of techiques and devices designed to achieve some goal of public policy. As noted in the criticisms a program may in an abstract way be manageable and "reasonable" for compliance by subject parties. But if many are necessary to respond to, all at once, before a particular activity receives approval, then progress is far more difficult, time consuming and possibily expensive. For a private agency pro-

posing some activity or attempting to expand an activity, this feature of cumulative corrsponding complexity is most significant. It would work the same for a public agency however the expense is not as visible and, possibily, not as immediately crucial.

Export Transportation Policy

Federal statutes, illustrating the new forms of regulation, govern very much the export transportation system. An ACIR study of regulations since 1960 includes over thirty-six that potentially apply to the export transpo-rtation sector (Table IV-4). For the most part,it would appear that of the cross cutting type requirements, socio-economic policies total thrity-six. The primary category would be environmental protection containing sixteen separate pieces of legislation. Protection and advancement of the economy contains three pieces of legislation and the section on labor standards also three pieces. There are over twenty-three adminstrative and fiscal policies requirements governing public employee standards (two) for administrative and procedural requirements of a general kind (ten) and recipient-related administrative and fiscal requirements (nine).

Another study polled large and small business managers familar with exports to determine the impact of regulations of the United States exports. Commissioned by the United States Conference Board, Inc., an independent not-for-profit research institution supported by 4,000 associates from corporations, governments, unions, universities, and other organizations and individuals, the survey was conducted in August and September 1980 and was sent to 909 manufacturing companies; 168 were useable returns from companies involved in export with sales ranging from $20 million to $47 million annually. Although not statistically representative, the opinions did suggest an interpretation of how the system was operating at the time and is revelant today. Two tables of analysis were presented and are shown here. Table IV-5 addresses the impacts of specific regulations on U.S. exports.[5] This table notes that the items of most substantial negative concern include taxation on foreign income of U.S. citizens, anti-boycott legislation, Foreign Corrupt Practices Act, and export embargoes or restrictions. The balance of possibilities dealt with technical aspects of trade practices, defense, and cargo matters.

The study noted that in addition to these direct disincentives for export, there are others serving as indirect and unintentional deterrants from legislation designed to regulate domestic operations.[6]

For example, compliance with legislation aimed at cleaning up the environment, making the work place safer, keeping unsafe products off the market to name a few, frequently raise costs of production, if only because of the increased paperwork and the growth of compliance staffs. This, in turn, means higher prices. Since costly domestic regulations are far more prevalent here than abroad, U.S. producers are at a disadvantage in the international market place vis-a-vis their foreign competitors.

Appendix Figure 1–A

Major Federal Statutes Regulating State and Local Governments

Title	Objective	Public Law	Type[1]
Age Discrimination Act of 1975	Prevent discrimination on the basis of age in federally assisted programs.	94–135	CC
Age Discrimination in Employment Act (1974)[2]	Prevent discrimination on the basis of age in state and local government employment.	93–259; 90–202	DO
Architectural Barriers Act of 1968	Make federally occupied and funded buildings, facilities and public conveyances accessible to the physically handicapped.	90–480	CC
Civil Rights Act of 1964 (Title VI)	Prevent discrimination on the basis of race, color or national origin in federally assisted programs.	88–352	CC
Civil Rights Act of 1968 (Title VIII)	Prevent discrimination on the basis of race, color, religion, sex or national origin in the sale or rental of federally assisted housing.	90–284	CC
Clean Air Act Amendments of 1970	Establish national air quality and emissions standards.	91–604	CC,CO,PP
Coastal Zone Management Act of 1972	Assure that federally assisted activities are consistent with federally approved state coastal zone management programs.	94–370	CC
Davis-Bacon Act (1931)[3]	Assure that locally prevailing wages are paid to construction workers employed under federal contracts and financial assistance programs.	74–403	CC
Education Amendments of 1972 (Title IX)	Prevent discrimination on the basis of sex in federally assisted education programs.	92–318	CC
Education for All Handicapped Children Act (1975)	Provide a free appropriate public education to all handicapped children.	94–142	CO[4]
Emergency Highway Energy Conservation Act (1974)[5]	Establish a national maximum speed limit of 55 mph.	93–239	CO
Endangered Species Act of 1973	Protect and conserve endangered and threatened animal species.	93–205	CC,PP

Title	Objective	Public Law	Type[1]
Equal Employment Opportunity Act of 1972	Prevent discrimination on the basis of race, color, religion, sex or national origin in state and local government employment.	92–261	DO
Fair Labor Standards Act Amendments of 1974	Extend federal minimum wage and overtime pay protections to state and local government employees.[6]	93–259	DO
Family Educational Rights and Privacy Act of 1974	Provide student and parental access to educational records while restricting access by others.	93–380	CC
Federal Insecticide, Fungicide,, and Rodenticide Act (1972)	Control the use of pesticides that may be harmful to the environment.	92–516	PP
Federal Water Pollution Control Act Amendments of 1972	Establish federal effluent limitations to control the discharge of pollutants.	92–500	CC,PP
Flood Disaster Protection Act of 1973	Expand coverage of the national flood insurance program.	93–234	CC,CO
Hatch Act (1940)	Prohibit public employees from engaging in certain political activities.	76–753	CC
Highway Beautification Act of 1965	Control and remove outdoor advertising signs along major highways.	89–285	CO
Marine Protection Research and Sanctuaries Act Amendments of 1977	Prohibit ocean dumping of municipal sludge.	95–153	DO
National Energy Conservation Policy Act (1978)	Establish residential energy conservation plans.	95–619	PP
National Environmental Policy Act of 1969	Assure consideration of the environmental impact of major federal actions.	91–190	CC
National Health Planning and Resources Development Act of 1974	Establish state and local health planning agencies and procedures.	93–64	CO
National Historic Preservation Act of 1966	Protect properties of historical, architectural, archeological and cultural significance.	89–665	CC
Natural Gas Policy Act of 1978	Implement federal pricing policies for the intrástate sales of natural gas in producing states.	95–621	PP
Occupational Safety and Health Act (1970)	Eliminate unsafe and unhealthful working conditions.	91–596	PP

Table IV-4 cont.

Title	Objective	Public Law	Type[1]
Public Utilities Regulatory Policies Act of 1978	Require consideration of federal standards for the pricing of electricity and natural gas.	95–617	DO
Rehabilitation Act of 1973 (Section 504)	Prevent discrimination against otherwise qualified individuals on the basis of physical or mental handicap in federally assisted programs.	93–112	CC
Resource Conservation and Recovery Act of 1976	Establish standards for the control of hazardous wastes.	94–580	PP
Safe Drinking Water Act of 1974	Assure drinking water purity.	93–523	CC,PP,DO
Surface Mining Control and Reclamation Act of 1977	Establish federal standards for the control of surface mining.	95–87	PP
Uniform Relocation Assistance and Real Properties Acquisition Policies Act of 1970	Set federal policies and reimbursement procedures for property acquisition under federally assisted programs.	91–646	CC
Water Quality Act (1965)	Establish federal water quality standards for interstate waters.	88–668	PP
Wholesome Meat Act (1967)	Establish systems for the inpection of meat sold in intrastate commerce.	90–201	PP
Wholesome Poultry Products Act of 1968	Establish systems for the inspection of poultry sold in intrastate commerce.	90–492	PP

[1] Key: crosscutting requirement (CC), crossover sanction (C0), direct order (D0), partial preemption (PP).
[2] Coverage of the act, originally adopted in 1967, was extended to state and local government employees in 1974.
[3] Although the *Davis-Bacon Act* applied initially only to direct federal construction, it has since been extended to some 77 federal assistance programs.
[4] Although participation is voluntary, the failure of a participating state to comply with federal requirements can result in the withholding of funds from several federal handicapped education programs. The requirements of PL 94–142 are nearly identical to those established by the Department of Education under Section 504 of the *Rehabilitation Act*, a crosscutting requirement.
[5] A permanent national 55 mph speed limit was established by the *Federal-Aid Highway Amendments of 1974*, (PL 93–643), signed into law January 4, 1975.
[6] Application was restricted by the Supreme Court in *National League of Cities v. Usery*, 426 U.S. 833 (1976).

Source: Advisory Commission on Intergovernmental Relations. Regulatory Federalism: Policy, Process, Impact and Reform (Washington,D.C.: Government Printing Office, February 1984, A-95), pp. 19-21.

Table IV-5

Impact of Specific Regulations on U.S. Exports

Regulation	Substantial Negative Impact	Moderate Negative Impact	Slight or No Negative Impact	Positive Impact	Does Not Apply	Unfamiliar With the Regulation	Number of Responses
	Percent of Total Responses						
Taxation of income earned abroad by U.S. citizens living abroad	22	41	19		18		(155)
Anti-boycott legislation	24	38	33		4	1	(154)
Foreign Corrupt Practices Act	21	34	38	3	4		(156)
Export embargoes or restrictions for the purpose of furthering foreign policy objectives, other than human rights	15	29	41		13	2	(156)
Uncertainty over availability of foreign tax credits	12	32	46		10		(155)
Export embargoes to countries where human rights are being violated	14	25	48		12	1	(157)
Controls on re-exports of U.S. originated products	5	25	37		28	5	(154)
Export controls for national security reasons	8	17	47		28		(154)
Uncertainty about the application of antitrust laws to joint international ventures	2	21	47		28	2	(156)
Controls on the export of hazardous substances	5	11	30		53	1	(154)
Foreign policy and environmental reviews required for Export-Import Bank credit	3	12	38		40	7	(156)
Arms export controls	3	6	24		66	1	(156)
Export controls on products in short supply in the United States	1	4	32		61	2	(154)
Nuclear export controls	1	3	23		72	1	(156)

Source: Shirley Hoffman Rhine. The Impact of Regulation on U.S. Exports (New York: The Conference Board, Report No. 809, 1981), p. 15.
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In some instances a particular regulation may have no - or perhaps only a slight - direct negative impact on a company's exports, but the total negative on the company may be substantial because of regulations' indirect effects. For example, one respondent pointed out that although the direct impact on his firm of taxation of income earned abroad by U.S. citizens was slight, it seriously affected the overseas business of some U.S. contractors that are its customers. Consequently, when these contractors lost some of their overseas business, they cut back on their purchases from U.S. suppliers. This meant that the responding company lost a significant amount of export orders from U.S. contractors working on overseas projects.

Also as a consequence of the ripple effect, the loss of export sales by U.S. companies may result in the loss of domestic sales by other U.S. companies from which they components parts.

Table IV-6 shows domestic regulations that have had a negative effect on U.S. export. The most frequent item of concern is Occupational Safety and Health. The Clean Air Act, the Water Pollution Control Act, the Consumer Product and Safety Act, Toxic Substances, Food and Drug and Environmental Protection received about one-third to one-half "mentions." The ways in which these regulations caused difficulty was additional capital outlay, more personnel, more paperwork and diverse additional costs.

Table IV-6

Domestic Regulations that Have Had a Negative Impact on U.S. Exports

	Number of Mentions	How Regulation Has Increased Costs: Additional Capital Outlays	Additional Personnel	More Paperwork	Miscellaneous[1]
Occupational Safety and Health Act (OSHA)	31	10	7	8	15
Clean Air Act	15	12	3	3	6
Water Pollution Control Act	12	11	3	4	3
Consumer Product Safety Act	11	4	1	2	10
Toxic Substances Control Act	10	3	3	3	7
Food and Drug Act (FDA)	9	1	1	1	9
Environmental Protection Agency (EPA)[2]	9	5	2	2	3
Employee Retirement Income Security Act (ERISA)	6	1	1	4	3

[1]Many of these responses were general rather than specific, for example, increased production costs; overall cost increases; internal cost; increased cost of product. Aside from the nonspecific responses, there were a number of more explicit responses, for example, for OSHA: increased maintenance costs, legal fees, insurance costs; Clean Air Act: additional operating expenses; Water Pollution Control Act: increased administrative costs; Consumer Product Safety Act: products engineered to U.S. product liability standards are not competitive in export markets; Toxic Substances Control Act: increased registration cost before products can be exported; FDA: FDA approval of new drug often takes years, requires building manufacturing facilities abroad, increased insurance costs; ERISA: increased administrative cost.

[2]Respondents did not mention a specific regulation or act but instead replied in a general way: "environmental regulations," "various EPA regulations," "noise control."

Note: Other domestic legislation mentioned include Equal Employment Opportunity, voluntary wage and price controls, Resource Conservation and Recovery Act, and energy efficiency standards of the Department of Energy. Each of these was mentioned by fewer than four respondents.

Source: Shirley Hoffman Rhine. The Impact of Regulations on U.S. Exports (New York: The Conference Board, Report No. 809, 1981), p. 17. Reprinted with permission.

Within the context of these laws, whether federal, state or local and regulatory policies, are the specific activities necessary to meet the spirit and letter of the law. In most cases when identified as separate steps or procedural activities, complexity quickly grows as the number of actors or players in the intergovernmental public policy system increase. Several studies indicate in just small sections as subsets of a larger intergovernmental public policy system how things may operate.

The subject of environmental protection is an official concern of many federal agencies and activities that authorize operations in U.S. navigable waters or ocean waters. For example, there are over forty-four different agencies with jurisdiction over seventy different activities ranging from permits and licensing, to pipelines, foreign trade zones, water supply, shoreline erosin and climatology.[7] (See Appendix I).

An example of how this may operate when combined with state and local permit requirements is the Cove Point Maryland Terminal, a new liquidified natural gas terminal. Proposed in 1970 by the Columbia Gas System and Consolidation Natural Gas Company for the importation of liquified natural gas (LNG), forty-nine separate permits were required. It took over six and half years for the final permit to be issued. An LNG terminal for import may be more controversial and complex than traditional export transportation facilities, however the example of complexity carries forward. There were eleven federal, twenty state, and nineteen local permits required.[8]

Another situation for importing energy resources was the New England Energy Company oil refinery near the Maine Coast. Begun in 1972 by the Gibbs Oil Company and then later reorganized into a consortium, a refinery was to be built in the vicinity of Sanford, Maine with terminals in Portland,Maine. By the time the project was approved five federal, seven state, four municipal, and two other types of licenses and permits were required.[9]

Aside from permits and licenses as a regulatory device, system generated problems are characterized by:

1. delay
2. uncertainity
3. unrealistic conditions
4. confusion
5. "blackmail"
6. excessive cost of regulationn
7. denial
8. shifts in harbor uses
9. loss of trade

These problems manifest themselves as a result of procedural and substantive problems. Procedural problems include: redundancy, poorly defined processes, agency interpretation, agency advocacy, lack of accountability, double jeopardy, lack of decision making mechanism, lack of harbor policy, lack of economic and management responsibility for regulatory actions, and interactive delay. On the substantive side, the problem that agencies lack sound and detailed policy technical basis from which to make decisions. "It appears that many technical criteria are promulgated with inadequate investigation and with poor understanding of their full impact on the environment as well as on our industry and the public."[10]

System Contact And Interaction

In normal operation the intergovernmental policy system offers numerous points of web-like contact for transportation shippers, carriers, ports, governments, and export buyers. For the most part the system clearly works. Goods and commodities are manufactured and produced. They are loaded on transportation carriers, shipped, transshipped in ports onto ocean going vessels, and then

ultimately received at the foreign destination.

It is when the logistical system is at a maximum or has an accident that intergovernmental regulatory policy comes into play, frequently in an oversight or negative sense. The mechanisms which trigger the contact include: performance standards in the law not being met; complaints from the public or producers or carriers; major versus minor contact related to project or activity size; significance of location, timing, events, cost; existing operations; proposed expanded operations, or new facilities or new operations. Each of these is subject to a different set of perceptions from the primary participants in the intergovernmental policy framework.

Looking at such trigger mechanisms and perceptions, there might often be predictable flash points. One could anticipate very readily what type of situation will cause the most difficulty. From the preceding observations about how the intergovernmental policy system has worked for subsidy, and particularly regulation, at the federal level it is clear then that just the myriad number of agencies with different responsibilities and requirements potentially will be a procedural logjam. Occasionally, it may serve the public interest if projects that should not be considered are ultimately cancelled through the review process. For the private sector, the flash point often occurs when planning requires large, continued expenditure of time and money for their activities. It is possible that some of the basis for the plans would disappear, as in coal export operations, from changing market conditions. In this case the initial negative point of in contact became a blessing. it took a long enough time for the review process to occur that when terminals might have been already under construction, market demand evaporated or shrank. In many ports, market forces protected most parties from heavy capital investment losses in the short term, and at best in the long term creating reserve capacity which may never be used.

Rarely is there a mechanism established in the system to resolve conflicts and disagreements. It is left to individual program operation and internal procedures established. Sometime conflict is resolved by changes in market place demand. At other times a situation becomes so overridingly important that a major piece of legislation, new national policy, or change in public mood is possible for the proposed, original activity.

To illustrate: in Long Beach California a large petroleum importation project was ultimately cancelled in May 1979 from delays and excessive cost of regulation through combined federal, state and local requirements. The company said originally that the project was too expensive to development under the existing laws and requirements. Others believe that the demand for North Slope Oil diminished; therefore, the project, on its own merits regardless of the laws became too expensive. While this was still going on and the project was about to be cancelled, the citizens of Long Beach conducted an election on an "advisory issue" about whether or not to allow construction and operation of the terminal facility. The citizens voted for it. Nevertheless the project was cancelled. This is on the import side but it does demonstrate what could happen should export projects be treated similarly.

Sometimes an activity creeps into the public conscience as a significant matter of national interest. Head-on conflicts might not occur; instead, a case for action is slowly built into the system. The Surface Transportation Act of 1982 exemplifies this possibility. It provided additional federal funds to maintain and rehabilitate the Interstate Highway System and to allow useage in many areas of larger and double trailers. The legislation yielded a positive compounding of

results for the export transportation system. The issue at hand earlier was the fact the system was falling apart and causing delays and damage to vehicles and goods. More indirect, negative consequences were experienced by surrounding urban areas. They received traffic forced to take local streets and alternative routes.

General deterioration of public infrastructure in the nation is another aspect that is being reviewed in the same regard. To the extent that the infrastructure is necessary to allow transportation of export cargo, then the type of compound, incremental situation may ultimately impact quite severely the flow of export goods. It may be in the form of freeway or tunnel bridge safety. But if a national policy is developed to ameliorate infrastructure difficulties, then it will avoid emergency, negative contacts of the intergovernmental policy system triggered by the crisis.

In the area of environmental regulation, a large illustration of system interaction is cost estimates (in 1978 dollars) through 1987 for abatement expenditures necessary for air pollution, water pollution, solid waste, toxic substance, drinking water, noise, pesticides and land reclamation. Estimating a cumulative total sum of $710.10 billion, costs are identified for public and private sectors. Not all of this to export transportation, however a significant amount relates to the production of goods and commodities for export, transportation to the ports and port operations. To factor out the costs separately would be quite difficult. Yet, this is an anticipated starting point. When faced with such high costs in a general sense, it becomes very clear that the impact is high on ultimate competitiveness of American products, and subsequent ripple effect upon the transportation system and cost capabilities.

The physical condition of the infrastructure of the nation is also a matter of concern and subject to debate. Some believe that it has a strong influence upon the ultimate economic recovery of the nation and its ability to operate efficiently and grow. Others are uncertain of the connections and which industries benefit from what parts of the system. With that debate about the economic role of the infrastructure aside, major progress has occurred in financing the system, particularly highways. The U.S. Surface Transportation Assistance Act of 1982 programmed an additional $6 billion per year for the Federal-aid Highway System and public transit. About $900 million per year was dedicated to eliminating bridge deficiencies under bridge replacement and reconstruction program. In total the increase of expenditures for infrastructure moved from $19 billion in fiscal year 1982 to $25 billion in fiscal year 1983. The states too have been increasing their support. Thirty-four states since 1981 increased motor vehicle fuel taxes. Most are earmarked for transportation.[11]

There are several reasons for federal involvement in programs of this nature. Spill over or external effects, centralized coordination, development and distribution of resources are primary motivators. These involvements are based upon interstate relationships the federal government must govern, whether impacts are positive or negative. Coordination is often necessary to maintain a network in the national interest. Also, funds have been invested in infrastructure for regional development and to foster growth of the economy as a whole.[12]

Table IV-7

ESTIMATED TOTAL POLLUTION ABATEMENT AND ENVIRONMENTAL QUALITY EXPENDITURES, 1978-87 (in billions of 1978 dollars)

	1978 Total Annual Costs*	1987 Total Annual Costs*	1978-87 Cumulative Total Costs**
Air Pollution			
Public	1.7	4.0	27.4
Private			
Mobile	7.6	14.4	111.4
Industrial	6.2	11.3	87.4
Utilities	3.8	13.0	79.5
Subtotal	19.3	42.7	305.7
Water Pollution			
Public	13.1	19.9	164.5
Private			
Industrial	4.7	12.0	85.3
Utilities	2.4	3.9	32.1
Subtotal	20.2	35.8	281.9
Solid Waste			
Public	1.9	3.2	27.0
Private	4.5	7.9	66.3
Subtotal	6.4	11.1	93.3
Toxic Substances	0.1	0.3	2.2
Drinking Water	0.6	1.6	12.5
Noise	◄.05	0.1	6.6
Pesticides	◄.05	0.1	0.5
Land Reclamation	0.1	1.0	8.0
Total	46.7	94.2	710.7

*Includes operation and maintenance costs and capital costs.
**Includes capital investment, operation and maintenance, and capital costs.
SOURCE: Council on Environmental Quality, Executive Office of the President, *Environmental Quality, 1979*, Washington, DC, U.S. Government Printing Office, 1979, p. 667.

Advisory Commission on Intergovernmental Relations, The Federal Role In The Federal System: The Dynamics of Growth, Protecting the Environment: Politics, Pollution, and Federal Policy. (Washington, D.C., Advisory Commission on Intergovernmental Relations, 1981.) p.57.

Another illustration, in part byzantine in nature, addresses trade relationships. A bill has been proposed in Congress, HR 422, the Imported Coal Tariff and Trade Equalization Act of 1985, which would "impose a duty of $8 per ton on coal imported from countries other than those that have historically bought more coal from the United States than they have sold it." The duty could be adjusted upward or downward under specified circumstrances. The amount,$8,is the difference for costs between the U.S., Poland, South Africa, and Australia at the mine-mouth. At this time, coal imported into the United States is duty free.[13] What this simple example illustrates is that while we are attempting to sell more coal to the rest of the world, we erect barriers to sales to us. The example we set makes our free trade stance hypocritical and may encourage the American Coal industry and carriers not to be as cost conscious as they might be under competitative pressure from the world market. Similar observations might hold for other sectors of the American economy such as agriculture and steel.[13]

Federal preemption also occurs for motor carrier safety. The Federal Highway Administration has been ordered to review state laws for vehicle safety under the Motor Carrier Safety Act of 1984. State commercial vehicle safety regulations are to be examined and analyzed in relationship to existing federal requirements to see if they have the same effect, are less stringent or more stringent than federal regulations. The intent is that by October 30,1989 the laws must be brought into conformance or be preempted. This governs only interstate commerce, commerical vehicles operations and foreign commerce.[14]

In another area, federal standards are being proposed for heavy duty diesel engines. "EPA has called for more strict diesel engine gases and particularly emmission standards for 1987 and 1990 model year trucks." The American Trucking Association believes that this will cause a "fuel economy penalty" of "$6,000 per truck per year" and by 1997 will cost $2.2 billion in additional fuel costs for the motor freight carrier industry. The matter becomes even more complex according to the American Trucking Association. They labelled the action as "irresponsible" and argued that the attempt to reduce some heavy diesel engine emissions offsets gains made by other legislation allowing use of twin trailers and wider equipment. It would hurt the industry's productivity.[15]

Within the federal level there is also a division of opinion between the executive branch and Congress regarding the direction of environmental programs. At a time when Congress and the public are making sharper distinctions among the subjects best suited for regulation and deregulation, the status of many programs and broad federal policies will remain in flux for an unknown period of transition. There is severe disagreement between economic regulation and social regulation, which is meant to include environmental controls. This push-pull nature of public policy affects the intergovernmental policy system and the export transportation subsystem.[16]

A confusing situation is developing for motor carrier freight in several mid-western states. Some states have added what is called "third tier" or "third structure" tax to all carriers, regardless of their state registration. Examples of such taxes include "annual fees, trip fees, per miles taxes, ton per mile taxes, per axle taxes, per gallon taxes, per ton mile taxes, taxes based on fuel to be used multiplied by fuel price, per truck taxes, per trailer taxes, variety of flat rate taxes." If one state raises a tax specifically for all carriers passing through the state, but exempts operators registered in the same state, then other states begin to place retroactive taxes of similar kind. The net effect is that its possible, due to the routing of certain carriers, that they could pay a retaliatory tax currently for six states. There are seven states

registered showing taxes of this kind (Arkansas, Georgia, Maine, Nebraska, New Hampshire, New Jersey, Oklahoma). The Private Truck Council of America and local truck associations are challenging the issue. Such retaliatory taxes do not apply if the motor carrier is registered in a state not utlizing them. It is exempt. Per vehicle this does not seem to be a tremdous cost; some taxes area $120, others are $185 but in the aggregate it is another illustration of the complexity of the pricing structure, impact on domestic and international export trade, and how numerous, small independent decisions add up and injure the competitiveness of the economy.[17]

The Surface Transportation Act of 1982 changed the tax structure for federal highway transportation, as well as increased taxes. Table IV-8 shows the before and after situation. Gasoline and diesel fuel rates increased from four to nine cents per gallon. These rates in total will cost average truck owners by the following amounts (Table IV-9) on the estimated increases for 1985. Note how larger units pay almost double the previous amounts and the smaller units have small increases.[18] The American Trucking Associations believes in almost every category the real rates are higher. The complexity of the matter is also illustrated by a range of estimates for future costs under the tax schedules generated by the American Trucking Associations, Inc., Data Resources Inc., Congressional Research Service, and the Department of Agriculture for 1985. The estimates run from a low of $1.98 tax increase per mile driven to a high of $2.65 for eighty thousand pound gross vehicle weight.[19] Lastly, there is a dispute about the total productivity effects of the law for the trucking industry 1985. Including such elements as allowing double trailers in the East, increased vehicle widths, increased vehicle lengths and elimination of barrier state weight limits, and less tax burden the Department of Transportation estimates that $3.24 billion will accrue. But the American Trucking Associations, Inc., estimates only $829 million.[20] There is a general belief that the act will increase productivity, have variable economic effects, and favor the less than load motor carriers more than the full truck load carriers. Short haul carriers should benefit more than long haul carriers but owner operators will be "worse off" than the averages.[21]

Another illustration of the number of federal and state regulations governing one significant aspect of environmental regulations is that of wet lands. There are over twenty-four agencies and legal requirements in effect, and the practice varies, in terms of treatment of state owned or privately held land,fresh and salt water wet lands, inland and coastal wet lands, navigation, and general definition of wet lands and boundaries. Often coastal states have wet land protection as part of a larger more comprehensive legislation regulation. Case by case permits are granted for fill or structural activities in a dozen coastal states. A regulatory agency is authorized in six states to "enact wet land protection orders such as zoning regulations, permitting, and wet land use designations." Five inland states, by 1978, developed wet land protection acts.[22] Forty-five states have some kind of regulation and activity regarding wetlands and floodplains. The number of programs vary from one to as many as five. The total number of relevant pieces of legislation is ninety-six.[23]

And in May 1980, "nineteen states have federally approved the program; however, four states are currently out of the program and the chances for four other states achieving approval program are questionable." Implementation of the federal law was made difficult for reasons of funding, complexity, lack of monitoring at the state level, and special local cases.[24]

Table IV-8

Highway Trust Fund Tax Rates
Before and After the Surface Transportation Assistance
Act of 1982 and Effective Dates of Change

Item	Old rate	Effective date of change	New rate[a]
Gasoline, diesel fuel	4 cents/gallon	4/1/83	9 cents/gallon
Trucks, trailers	Trucks with a GVW of 10,000 pounds or less and trailers intended for use with such trucks: no tax Other trucks and trailers: 10 percent of manufacturer's sales price	4/1/83	Trucks with a GVW of 33,000 pounds or less and trailers with a GVW of 26,000 pounds or less: no tax Other trucks and trailers: 12 percent of retail sales price
Truck parts and accessories	8 percent of manufacturer's sale price	1/7/83	Repealed
Lubricating oil	6 cents/gallon	1/7/83	Repealed
Highway tires	9.75 cents/pound	1/1/84	40 pounds or less: no tax 40-70 pounds: 15 cents/pound over 40 pounds 70-90 pounds: $4.50, plus 30 cents/pound over 70 pounds 90 pounds and over: $10.50, plus 40 cents/pound over 90 pounds
Laminated tires	1 cent/pound	1/1/84	Repealed
Other tires	4.875 cents/pound	1/1/84	Repealed
Inner tubes	10 cents/pound	1/1/84	Repealed
Tread rubber	5 cents/pound	1/1/84	Repealed
Heavy vehicle use tax (annual)	26,000 pounds GVW or less: no tax More than 26,000 pounds GVW: $3/1,000 pounds	7/1/84[b]	Under 33,000 pounds GVW: no tax 33,000-55,000 pounds GVW: $50, plus $25/1,000 pounds over 33,000 pounds GVW 55,000-80,000 pounds GVW: $600, plus $40/1,000 pounds over 55,000 pounds from 7/1/84 to 6/30/86 $44/1,000 pounds over 55,000 pounds from 7/1/86 to 6/30/87 $48/1,000 pounds over 55,000 pounds from 7/1/87 to 6/30/88 $52/1,000 pounds over 55,000 pounds after 6/30/88 80,000 pounds GVW and over: $1,600 from 7/1/84 to 6/30/86 $1,700 from 7/1/86 to 6/30/87 $1,800 from 7/1/87 to 6/30/88 $1,900 after 6/30/88

[a]All of these taxes that were not repealed by the Surface Transportation Assistance Act of 1982 are scheduled to expire on September 30, 1988.

[b]The effective dates of the new rates of the heavy vehicle use tax are delayed 1 year for trucks belonging to persons who own and operate no more than five taxable trucks. Vehicles used for less than 5,000 miles on public highways are exempt from this tax.

Sources: Background and Description of Present Federal Excise Taxes, prepared by the staff of the Joint Committee on Taxation (U.S. Government Printing Office, 1982), p. 30. Summary of Present Federal Excise Taxes, prepared by the staff of the Joint Committee on Taxation (U.S. Government Printing Office, 1983), pp. 6 and 7.

Source: U.S. Comptroller General, The Surface Transportation Assistance Act of 1982: Comparative Economic Effects on the Trucking Industry. Report to the Committee of Finance, U.S. Senate (Washington, D.C. General Accounting Office, 1984),p.6.

Table IV-9

Estimated Increases in Federal Highway Taxes For Average Truck Owners in 1985[a]

Type of truck	Under old tax rates	Under new tax rates	Tax increase for each truck owned	Tax increase for each mile driven (cents)	Percentage tax increase
Single unit under 26,000 lbs. GVW - 12,028 miles	$ 125	$ 138	$ 13	.11	10.4
Single unit over 26,000 lbs. GVW - 15,474 miles	506	506	-	-	-
Combination unit under 50,000 lbs. GVW - 30,709 miles	745	1,024	279	.91	37.4
Combination unit between 50-70,000 lbs. GVW - 32,156 miles	1,193	2,153	960	2.99	80.5
Combination unit between 70-75,000 lbs. GVW - 62,764 miles	1,555	3,061	1,506	2.40	96.8
Combination unit over 75,000 lbs. GVW - 67,930 miles	1,699	3,441	1,742	2.56	102.5

[a]These estimates implicitly assume that all changes in the federal highway excise taxes on such items as fuel, tires, and new equipment are fully passed on to truck owners. Although 1985 is the first full year that the increased heavy vehicle use tax will be in effect, it will continue to increase from 1986 to 1988 for owners of vehicles with a GVW over 55,000 pounds. Any adjustments to 1985 tax revenue forecasts or 1985 truck population projections will affect these estimated increases in federal highway taxes.

Source: DOT, "Information on New User Fees and Truck Size and Weight Provisions in the Surface Transportation Assistance Act of 1982," and Final Report on the Federal Highway Cost Allocation Study.

Source: U.S. Comptroller General, The Surface Transportation Assistance Act of 1982: Comparative Economic Effects on the Trucking Industry. Report to the Committee on Finance, U.S. Senate (Washington, D.C., U.S. General Accounting Office, 1984),p.19.

The Port of Los Angeles is considering an application for a domestic eastbound pipeline to carry North Slope Alaskan oil. Similar to the previous example of the Sohio project and the Port of Long Beach, the proposal for a $1.66 billion pipeline to transport up to nine hundred thousand barrles of crude daily between Los Angeles and Midland, Texas. It is proposed by Pacific Texas Pipeline Company for a thirty year lease on "yet to be built 130 acre land fill". By May,1979 Sohio had spent forty-five months for permitting and a $57 million. The company maintained that the delay cost $3.5 million a month on a proposal already at $700 million. It believes that the problem was not only permitting, but a larger

question of the "process". "There were so many pieces that weren't coming together." There are many differences in the proposal, as well as the intrepretation of environmental rules today compared to seven or eight years ago when the major concerns were raised by the State of California's Air Resources Board and the South Coast Air Quality Management District. Today, this proposal appears to benefit from the learning experience, better agency jurisdictional definition, better interpretative data on technologies to be selected, and an interagency task force coordinated by the Port of Los Angeles to handle the processing of the applications.[25]

According to a recent survey by the Highway Users Federation, many states anticipate raising motor vehicle and truck carrier taxes. Eighteen states are considering higher truck fees taxes, twenty-three states are reviewing possible increases in motor fuel levys, twelve are reviewing the possibility of repealing the 55 mile per hour speed limit, or not to enforce the federal restriction. Many of the states included are the largest in the nation and very active in exports such as California, Georgia, Louisianna, Massachusetts, Missouri, Oregon, Pennsylvania, Tennessee, and Texas. These naturally include port locations. In 1984 seven more states increased motor vehicle fuel taxes. Thus the majority of states has increased their own taxes since the federal tax increases in the Surface Transportation Act of 1982.[26]

At the state level a battle is being raged about new technology. A coal slurry pipeline has been proposed from the Southwestern Virginia coal fields to the Port of Hampton Roads. The specific project would have required 400 miles of right-of-way and had the state electric utilities and the railroads lining up against the coal producers, exporters and pipeline interest. In addition, important concerns were the impact of eminent domain, acqusition of right-of-way and environmental impacts. The issue vividly shows the intense opposition often greeting introduction of any new technology. It directly affects the potential for export. The proposal agrues that the costs would be lower for slurry transportation than for rail system operation. The vote in the Virginia House of Delegates after a three year debate was sixty-two against and thirty-six for, which was considered a strong defense.[27]

To be completely fair, the intergovernmental public policy system has impacts as already discussed not only for exports but for the entire domestic economy. A recent study has found that "fantastic numbers" of interstate trade barriers could cost consumers as much as $150 billion per year in higher prices for goods and services. In the agricultural sector alone there are fifteen hundred restrictions on interstate trade in eleven western states. These restrictions are caused by preference given to local products and services by state and local governments. Part of the problem is that these protective measures result from unclear definitions of "interstate commerce" and illegal trade restrictions "at the federal level. It is maintained that the Supreme Court has about the half the time upheld state barriers. In short it is a "invisible" trade war.[28]

State governments are running into an interesting national situation that has potential offsetting consequences. As the economy became more difficult, states have realized the desirability of promoting their own economic growth through increased exports. For that reason many states have directed activities to expansion of trade promotion and assistance to their companies. All states in 1983 spent an estimated $36 million on promotion through technical assistance and export financing aid. The "technical assistance includes state offices abroad, international trade shows, and other forms of information dissemination."[29] In contrast, many states through the late 1970's concentrated only on attracting

foreign investment. Benefits for the states are helping their economy through swings in the larger national economy, jobs, income, and tax revenue. However benefits and liabilities of state export promotion may not be clear-cut. According to the Congressional Budget Office:[30]

> The effect of government export subsidies is ambiguous. Theoretically, in a world with flexible exchange rates, export subsidies are self-defeating for the economy as a whole. While they may increase sales of the subsidiized products, the increased demand for dollars in foreign exchange markets to pay for those purchases will cause the value of the dollar to rise. This in turn will dampen demand for all other exports and increase the demand for imports, leaving the overall trade balance unchanged. The net effect is a change in the composition of trade favoring subsidized products. Nevertheless, individual states may see it as within their interests to support in-state industries, if they can be fairly certain that out-of-state industries will bear the burden of compositional changes in the traded sector.

In the area of export financing, programs are available in eight states, legislation is pending in four and thirteen are seriously considering the possibility although no legislation is proposed, three have a constitutional provision and the remaining states have no activity planned according to a National Association of State Development Agencies survey in July 1983.[31] Lastly, twelve states employ a unitary taxation system which does impact the national business involvement and possible federal law. California, one of the largest first states to declare its right to tax mulit-national corporations with operations in California on a unitary basis, was upheld by the Supreme Court in June 1983. Foreign based corporations believe that such taxation "violates international tax treaties because it results in double taxation of earnings made outside the United States." The motivation behind the unitary taxation is that it permits states to receive an accurate amount of taxes based upon actual income earned on total earnings in and out of the state and abroad. This prohibits under income reporting and moving profits from one subsidary geographically to another to avoid taxation.[32] State economic development programs which help promote export as part of economic development may experience a variety of advantages and disadvantages. The advantages could include: responding to diversity, greater experimentation, cost sharing through state financing, and greater awareness of local conditions. On the other hand, disadvantages may include: locational inefficiency, poor budgeting policy, conflict with national purpose, administrative duplication, and bidding wars.[33]

The states possess incentives and disincentives in the form of tax exemptions, deductions, credits and special treatments to help economic development. The spill over effect potential is valuable for export industry and activities. Each technique is used by the following number of states:

1.	job creation tax credits	19
2.	investment tax credits	23
3.	property tax abatement	31
4.	business inventory	35
5.	goods in transit	43
6.	research and development	14
7.	pollution control equipment	39
8.	industrial machinery & equipment	45
9.	industrial fuels & raw materials	44
10.	energy & fuel conservation measures	41

Each of these has some kind of concession in these categories.[34]

State technical assistance for trade activities varies as well. The mean for each state is about 7.3 of the following type programs with their totals listed alongside for the whole nation:[35]

1.	trade missions	46
2.	trade shows	45
3.	marketing assistance	48
4.	marketing development	41
5.	export education	46
6.	investment information	44
7.	investment missions	45
8.	advertising	35
9.	international tourism	25

Because the states are so actively moving into the international trade arena for self benefit, they are now experiencing some of the conflicts internally and potentially with the federal government in establishing policy and programs and reconciling when they may conflict. For example, promoting export programs may directly conflict with promoting internal investment programs. Such promotional activities are rapidly getting to the funding levels of the United States Department of Commerce for trade promotional activities. To the extent the states move into trade financing experimentation and tax incentives, this may begin to compete with the federal Export Import Bank and DISC programs in terms of multi lateral discussions and controls at the international level. Foreign customers might see contradictory policies occurring, as in the State of California, where there are incentives and promotional programs for export. Yet the unitary tax policy would drive away foreign business in Californa. The very real fear here is that in matters of national policy, if the states move forward and create their own policies for trade promotion (and subsequently transportation), they will be subject to the very same conflicts, confusion and complexity of policy experienced at the federal level. This would be just another manifestation of the possibile types of federalism that were discussed earlier. Instead of being truly cooperative federalism, it has been more co-optive or antagonistic federalism. The potential for further conflict is large as a laissez faire atomsphere is created to allow states to exercise, develop and implement a heretofore federal function.[36]

At the national level, U.S. trade promotional activities are increasingly subject to inclusion and discussion by the national industrial poliy debate. Such export promotion currently is accomplished by the Export/Import Bank that offers loan guarantees and direct loans to foreign companies or countries so they can buy American goods. The belief is that without such assistance the transactions could not occur. In fiscal 1982 new obligations of the bank were $3.5 billion with net outlays of $763 million, while new guaranteed loan commitments equalled $5.8 billion. A second activity is the DISC program which "attempts to increase exports through a system of tax deferral." It has been determined to be illegal under the General Agreement on Tariffs and Trade (GATT). A third program is a creation of Export Trading Companies to help facilitate small and medium size business development of markets and sales.[37] Although each of these approaches has its advantages, there seems to be the general belief that if the nation really applies a free trade philosophy in a world that does not, any export promotion will be most difficult. At the highest most strategic levels then, it becomes obvious that trade and the role of American transportation systems in support of trade is a subsidiary concern to the more fundamental

questions of the economy, the value of the dollar and interest rates.[38]

Conclusion

The intergovernmental pubic policy system in general and the transportation subsystem for exports is a complicated, tension filled system. It is characterized by several levels of government and subsections of each level along with many independent functions within each level. The levels relate to each other vertically and horizontally. Exports and transportation are not a conscious part of the system's design. In most cases it grew on an incremental, slow evolutionary basis for the domestic economy and domestic well being. To the extent that foreign affairs, trade and exports are connects they are overlays from clearly national interest perspectives (or as lately-by states self-interest). The stressful system is like a web, it has grown and promises to continue to grow at the state and local (and perhaps federal). Indeed, in some situations at the federal level the system is showing signs of deregulation and disinvolvement, allowing states and local governments to pick up formerly federal activities in actual authority and funding opportunities. It causes a very uncertain period of transition while the economy is also going through a degree of instabililty.

Debate exists beyond the matter of institutional level, roles and power. There are questions of how accurate technical data may be upon which decisions are made. The criteria, the standards, the guidelines required may be subject to legitimate dispute. Intepretations of law and practice may as well be open to discussion. The attitude about the role of government in the private sector varies from one region and sector of the country to another. Such customs and beliefs definitely influence the expectations and individual units in each sector. On the whole, it would seem that all parties value the need for exports, positive benefits and a transportation system that supports it. But at that point, the commonality may end, not by intention, but more by honest positions representing diverse perspectives.

The net effect still seems to be that exports receive a low priority, and the transport role in the process an even lower priority. The domestic economy and market are so large that they demand all of an organization's attention. As one president of a large exporting corporation noted, whether decision affect foreign or domestic affairs, little notice seems to be given to the impact upon the export system and its significance to national well-being. The country is now seeing the cumulative effects of those seemingly incremental, uncoordinated and compounding decisions over the years.

Lastly, there are still valid pros and cons for the roles that have been exercised so far. The increasing role of regulation since 1960 as identified by the Advisory Commission on Intergovernmental Relations has relied upon preemption as a technique to influence the conduct of state and local officials, and commensurately the private sector. In a summary way the benefits and disbenefits, which can be equally applied to state governments relating to the local governments (and therefore the operation of the private sector) help to:[39]

1. reduce discretionary authority of state and local governments and inhibits their ability to work out problems;
2. create confusion among citizens about who is accountable;
3. undermine the effectiveness of state programs already in place;
4. threaten the principle of federalism;
5. heighten intergovernmental conflict and tension;
6. not always assure that adequate or appropriate action will be

taken once a field is nationally occupied;

7. in cases of partial preemption ... shift responsibilities from state legislatures to governors;

8. as courts have presumed a predominate role in deciding preemption issues,...remove issues from the political process.

Several agruments are identifiable for broad preemption powers and are based upon:

1. relieve states of the responsibility and costs of providing services or regulation;

2. eliminate inconsistent legislation from one state to another;

3. enable a coherent and logical response to problems that are national in scope.

Consequently, the intergovernmental policy system directly and indirectly affects the export transportation function in many ways, often not immediately visible but obvious on a cumulative, incremental basis. It would appear that the system would function similarly for other governmental concerns too (e.g., health, education, housing). it seems though to be particulary accute for the export transportation system in that it may cause delays, additional costs and inefficiencies. It may make the nation less cost competitive in the world economy. There are many benefits that have resulted from this system but there is a growing belief that it could be fined-tuned at the very least, or improved structurally in several ways to make it operate better and facilitate our position for export transportation and trade promotion.

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Chapter V - TRANSPORTATION REGULATION

Introduction

This chapter will discuss the transportation regulatory system for railroads, motor carriers and shipping as a major component of the intergovernmental policy system. At the outset it is important to note since 1980 the field has been exciting, stimulating and stressful. The nation is seeing, and thus the export transportation sector, fundamental changes in the domestic system which attempt to redirect practices developed over the last one hundred years. Much of this is generated by forces external to the carriers. The direction and momentum established are still under development. There may be calls for further change to accelerate and advance the process of transportation economic deregulation. On the other hand, some wish to reregulate. The industry itself is fragmented and the variety of experiences and opinions dictate contradictory political system demands and requests. Such turbulence and dynamism cannot but help to spill over to the export transportation system.

Regulatory System

The nation's transportation history is based to a large extent upon several waves of new technology, expansion and competition with older technology. Whether it be establishment and expansion of the barge and canal systems, intracoastal packets and schooners, railroads, pipelines, and highway trucking systems, each has experienced difficulty. To find a stable place for each sector is not easy.

In addition to the advancement and expansion of technology, a key factor has been the manner in which a transportation sector conducted itself, that is, not subject to external controls or challenges. Apparently, governmental influence was necessary in some aspects. Much of the regulation for the surface transportation system was developed in response to negative experiences in canals and barge operations and in the railroad system. In part that system and experience provided a model for subsequent antitrust and industrial regulation of basic industries such as petroleum, steel, chemicals, and manufacturing. Until strong governmental regulation entered in each case, the process seemed to be characterized by rapid speculation and expansion of transport facilities, financial bankruptcies, loss of public trust and money and often higher charges to the consumer.

This intense cycle was best evidenced in the promotional age of railroad development up until the 1870's. Then it progressed to an era of captive audiences, competition for freight sources and other practices considered predatory. All aspects of the market seemed to be open including freedom to establish new companies, expand access from existing operations to related activities, change services and facilities freely, avoid coordination due to technological requirements (e.g., switching and equipment classifications and communications) and abandon or discontinue service. Each of these fundamental areas of commerical activity in the free market place ultimately came under governance of the federal interstate commerce clause.[1]

In many ways, a similar course of events occurred for motor carrier freight, pipelines and shipping. Although shipping has been more concerned with international cooperation. Much of the shipping concerns were to help establish solid ground for the domestic maritime trade competing with other nation-state organizations, often not acting as free enterprise, but as governmentally encouraged cartels.

An illustration of how things seem to change is that railroads and shipping companies in the late 1800's had closely coordinated their activity for import and export. For example, railroads with cooperation of steamship companies generated passenger travel demand by encouraging migration to the United States. Industrial and agricultural workers were recruited from all parts of Europe and encouraged with advertisements, posters and salesmen in their home town and language saying"Come to the United States the land of opportunity." They would also incidentally offer very low cost, one-way fares. The same thing happened on the west coast for the Chinese and Japanese. Chinese were recruited as a labor source for railroad construction. Later, Japanese were more actively recruited for agricultural production. In the reverse direction, grandiose plans were arranged so that whole agricultural sectors of the country were opened up a "bread basket" or food sources for Europe and China. The San Joaquin Valley in Northern California became a wheat supplier for decades to most of Europe. The draw was tremendous. Demand for raw resources from the United States helped generate the capital and the political desire to open up the land for agricultural and mineral development. Utilizing in turn the cheap mannual labor provided by immigration from Europe and Asia. The transportation system expanded intermodally (rail and shipping) to help exploit vast resources.

Now, railroads and steamship companies in some cases are allowed to associate again for trade.

With the maturing of the canal and the railroad industry, the introduction of competitor modes (trucking and pipeline) the regulatory system then shifted slowly to consider the national well-being in a different regard. In earlier days it was designed more often for the protection of the public from abuses by the industry. By the Depression period, emphasis continued on the protection of the public but also on the stability of the existing transportation infrastructure and permitting changes and improvements incrementally. That theory and philosophy did seem to work, though it often slipped into maintenance of status quo, resisting new technology. Through industrial and political influence, the regulatory system came more of a competitive burden, while protecting the public. Ultimately the regulatory system grew to great complexity and permitted an inefficient transport system. In effect, it helped develop the 1970's economic context indicating need for deregulation.[2]

Regulatory Changes

The structure of public policy regulating interstate transportation underwent fundamental shifts in 1980. In the case of railroads, almost one hundred years of incremental expansion of the federal regulatory role was frozen and reversed. Motor carriers experienced a similar transformation. Although the movement towards deregulation--that is, disinvolvement of the federal government from private sector intervention--was called for by many interests in the previous decade, the environment for public policy formulation made July to October, 1980 a memorable legislative period. The Motor Carrier Act of 1980 (Public Law 96-296) was passed by the Senate on April 15, by the House on June 19-20, and signed by the President on July 1, 1980. The Staggers Rail Act of 1980 (Public Law 96-448) was passed by the Senate on April 1-3, by the House on September 9, and signed by the President on October 14, 1980.

Almost four years later, March 1984, shipping underwent significant change too. Technically it was not "deregulation", although the statute shared some of the same spirit.

Both acts (motor carrier and rail) shared a common philosophy designed to untangle the matrix of regulations, institutional relationships, and policies. The legislative findings section of each law illustrated basic concerns, utilizing fairly strong language:[3]

Motor Carrier Act:
Sec. 3 (a):
* The Congress hereby finds that a safe, sound, competitive, and fuel efficient motor carrier system is vital to the maintenance of a strong national economy and a strong national defense;
* that the statutes governing Federal regulation of the motor carrier industry are outdated and must be revised to reflect the transportation needs and realities of the 1980's;
* that historically the existing regulatory structure has tended in certain circumstances to inhibit market entry, carrier growth, maximum utilization of equipment and energy resources, and opportunities for minorities and others to enter the trucking industry;
* that protective regulation has resulted in some operating inefficiencies and some anticompetitive pricing;
* that in order to reduce the uncertainty felt by the Nation's transportation industry, the Interstate Commerce Commission should be given explicit direction for regulation of the motor carrier industry and well-defined parameters within which it may act pursuant to congressional policy;
* that the Interstate Commerce Commission should not attempt to go beyond the powers vested in it by the Interstate Commerce Act and other legislation enacted by Congress;
* and that legislative and resulting changes should be implemented with the least amuont of disruption to the transportation system consistent with the scope of the reforms enacted.

Staggers Rail Act:
Sec. 2: The Congress hereby finds that--
* (1) historically, railroads were the essential factor in the national transportation system;
* (2) the enactment of the Interstate Commerce Act was essential to prevent an abuse of monopoly power by railroads and to establish and maintain a national railroad network;
* (3) today, most transportation within the United States is competitive;
* (4) many of the Government regulations affecting railroads have become unnecessary and inefficient;
* (5) nearly two-thirds of the Nation's intercity freight is transported by modes of transportation other than railroads;
* (6) earnings by the railroad industry are the lowest of any transportation mode and are insufficient to generate funds for necessary capital improvements;
* (7) by 1985, there will be a capital shortfall within the railroad industry of between $16,000,000,000 and $20,000,000,000;
* (8) failure to achieve increased earnings within the railroad industry will result in either further deterioration of the rail system or the necessity for additional Federal subsidy; and
* (9) moderization of economic regulation for the railroad industry with a greater reliance on the marketplace is essential in order to achieve maximum utilization of railroads to save energy and combat

inflation.

The wide sweeping changes embodied in both laws [4] are still being understood and implemented by all parties. Their full effects are not known yet.

The Motor Carrier Act affected the following activities:

1. Common Motor Carrier:
   * eases entry in the motor carrier market and limits protests against applicants with contestants bearing burden of proof;
   * permits zone of rate freedom--raising or reducing rates by ten percent without fear of ICC suspension;
   * stipulates that ICC may require joint rates and through rates;
   * allows more exemptions in commodity transport and services, such as ex-air traffic, used pallets, empty containers, livestock and poultry feed, and mixing of exempt and regulated commodities in the same vehicle.

2. Contract Motor Carrier;
   * limits protest against permit applications;
   * allows carriers to engage in common carrier service; and
   * removes limits on geographic coverage and number of shippers that can be contracted.

3. Freight Forwarder:
   * permits freight forwarders to enter into contracts with railroads;
   * permits zone of rate freedom--raising or reducing rates by ten percent without ICC suspension; and
   * permits use of contract carriers.

4. Exempt Transport:
   * transportation of used pallets, empty containers, intermodal cargo containers and other shipping devices;
   * transportation in interstate commerce within municipalities and commerical zones; and
   * trucking of agricultural commodities, fish, livestock, feed, seed, and plants.

The Staggers Rail Act affected the following railroad activities:

   * provides greater rate freedom with fewer restraints;
   * reduces involvement in management affairs;
   * codifies long term contracting for rates, services, and related conditions;
   * exempts piggyback and container-on-flatcar services from regulations (indirectly, through new ICC authority);
   * permits the ICC to deregulate various types of rail transport under certain conditions:
   * eliminates the discriminatory provisions for contracts, surcharges, route cancellations, or separate rates for distinct services.

The legislation for trucking and railroads does not really address the export component of interstate land transportation. By extension though, their

collective provisions affect the export transportation chain from point-of-origin to seaport. If the more open competitive marketplace benefits general interstate commerce, similar benefits should spill over to the export component in terms of better service and lower costs.

Although in timing coincident to the movement of deregulation, the Shipping Act of 1984 (Public Law 98-237) is a revision and improvement in many regards to the Shipping Act of 1916. The new legislation is a result of over four years discussion and intensive study attempting to reconcile the many interests involved. Signed into law by President Reagan March 20, 1984, the Act accomplishes many of procedural and substantive changes. Perhaps best expressing the spirit of the Act is the Declaration of Policy:

> 1. to establish a nondiscriminatory regulatory process for the common carriage of goods by water in the foreign commerce of the United States with a minimum of government intervention and regulatory costs;
> 2. to provide an efficient and economic transportation system in the ocean commerce of the United States that is, insofar as possible, in harmony with, and responsive to, international shipping practices; and
> 3. to encourage the development of an economically sound and effecient Unites States-flag liner fleet capable of meeting national security needs.

This particular piece of legislation reconciles two earlier Congressional bills H.R. 1878 and S. 504. The legislative supplemental information and conference reports provided considerable detail on the meaning of various phrases. However, confusion resulted and further legislative definition and clarification may be necessary.

The act is a landmark in that it does attempt to bring American shipping and supporting groups into the 1980's. There were few changes since the Shipping Act of 1916. Except for Federal Maritime Commission and antitrust legislation interpretations along the way, the earlier act became quickly irrelevant in many regards. Nevertheless, its provisions were attempted to be applied by federal agencies and the private sector participants. The actual provisions are best summarized by the following material. The act specifically expands the antitrust immunity provision, requires conferences to recognize independent action, allows for service contracts, and intermodal through rates by conferences and other procedurers. Thirteen major areas were covered:[5]

> 1. Consortia Agreements- The new procedures and the new general standard for agreements are going to make formation and alteration of consortia far easier. The new expedited procedures allow agreements to become effective 45 days from submission to the FMC..
>
> 2. Conference Agreements- The Act and the legislative history strongly support conference formation and intermodal authority. Loyalty agreements are not permitted for new agreements.
>
> 3. Service Contracts - The new law authorizes carriers and conferences to enter into service contracts with shippers. The "essential terms" must be disclosed.
>
> 4. Conference Ratemaking - Under the 1916 Act, initial rates and

rate increases require 30 days notice; decreases of existing rates are effective immediately; conferences with dual rate contracts may increase rates only on 90 days notice. The new Act keeps the same 30 day rule in effect for rate increases and new and initial rates, with conferences to publish a member's independent action rate on 10 days notice.

5. Time Volume Rates - Time volume rates are specifically allowed under the new bill. Individual carrier members have a right of independent action on time volume rates.

6. Controlled Carriers - The Act basically continues the Controlled Carrier Law without change, but operation of the law may be quite different because of the changed nature of conferences. Under the controlled carrier law, carriers that are deemed controlled have a 30 day notice period for all rate changes, including decreased rates. Controlled carriers' rates are subject to suspension if the FMC finds them to be unjust or unreasonable.

7. Shippers' Associations- The effect of this section is not entirely clear. The Act defines a "shippers' association" as a group of shippers that consolidates and distributes freight on a non-profit basis for the members of the group in order to secure carload, truckload, or other volume rates or service contracts. It is prohibited for a common carrier to directly or indirectly "refuse to negotiate with a shippers' association." Yet, there is no antitrust immunity given to conferences which negotiate with shippers' associations. The report of the conferees explains this by stating that shippers' associations remain liable to all provisions of other laws, implicitly meaning the antitrust laws. It would appear that further rules will need to be promulgated.

8. Antitrust Immunity - The new Act changes the structure of the antitrust immunity for conferences and other rationalization agreements. There are two aspects to potential antitrust liability, civil and criminal. Under the old law, if carriers collectively took action outside the scope of an approved and criminal penalties. Under the new law, it is a prohibited act to operate under an agreement required to be filed which has not been filed, or which has been filed and disapproved.

9. Non-Tariff Items - The new law requires a continuation of tariff filing in the same manner as the old Act, except that a few commodities will not be subject to tariff filing, and a new "forest products" definition is substituted for the old "softwood lumber" exception.

10. Intermodal Ratemaking - One of the principal provisions of the new law is clearly to allow conferences to publish intermodal rates. As with existing practice, however, conferences with intermodal authority can set rates for an intermodal movement, but cannot collectively negotiate with the inland carriers. The Act gives conferences an antitrust immunity to "discuss, fix or regulate transportation rates, including through rates," but not inland divisions.

11. Forwarders - The new law codifies much of existing practice with

regard to forwarders. Carriers may not collectively agree to give forwarders less than reasonable compensation.

12. Foreign Flag Discrimination - The new Act gives the FMC much broader authority to take action against offending carriers, including tariff suspension. It allows suspension of tariffs of foreign-flag vessels of nations which have impaired access of U.S. flag vessels to foreign-to-foreign trades.

13. Marine Terminal Agreements - Carriers wishing to jointly operate terminals will be free to do so, but will not receive anti-trust immunity.

The following sections of this chapter will review and discuss events since the passage of these three laws, and their relationship to the export transportation system.

Motor Carrier System

Almost within a year of the passage of the Motor Carrier Act of 1980, significant changes became visible. Several independent studies within and outside the government attempted to mark the progress and to document the degree of change.

One summary was published by a "pro-transportation" group entitled the Business Council for Improved Transport Policies, Washington D.C., December 1982. Overall, prices and service conditions changed considerably. Referring to a 1981 Harbridge House Survey of transportation users, averaging slightly over $1 billion in sales, the council noted that "a weighted mean average savings per firm of $2.4 million per year on a weighted mean freight bill of $32 million, or 7.5%, attributed by these firms to the combined effects of rail, air, and truck regulatory changes. The bulk of the savings were in the motor carrier area." A Business Week study noted that the one hundred largest carriers experienced a peak in revenue just after the passage of the MCA and went downward in 1981. Fewer complaints have been received by the ICC after the act. And, price discounts seem to be widely used. While this was occurring the Teamsters Union reported "wide spread lay-offs, and has made a number of concessions in the recently signed contract, including avoidance of wage increases other than cost of living increased for three years..." Contract rates have increased significantly.[6]

Another major concern was the effect on small communities motor carrier services. A study by the ICC reviewed the truck service experience to small isolated communities. It found that shippers in these areas heavily relied upon "for hire" truck service. The variety of shipments vary significantly from as few as one per month to over twelve hundred per week. Under 500 pounds was "the most frequently mentioned shipment size." It appears that most shippers experience better available service and improvement in service, by three to eight times than those reporting poorer service. The majority felt that service was almost always on time, shipments arrived in good condition, and that their options for shipment and receiving were about the same as previous to the MCA. Complaints were on a downward trend. The mandated study selected businesses in randomly selected small communities with a response rate over two-thirds in most segments.[7]

A spirited discussion of the changes in the Motor Carrier Act and in the perceived role of the Interstate Commerce Commission is raised by one observer, noting that the Commission has lost its "character, competence, and independence." In brief, the ICC has in the case of motor carrier regulation carried the mandate too far and perhaps in key areas given advantage to the railroad industry especially with trailer and flat car type operations and intermodalism.[8]

The Chairman of the Interstate Commerce Commission provided a summary statement of the progress made under the Motor Carrier Act of 1980 for the House Surface Transportation Subcommittee.(Figure V-1) The difficulties found in the first two years of experience, he believed, were due to, primarly the condition of the economy and not a result of the MCA. Things have substantially improved since then.

The numbers do look impressive and in some areas have significance for export operations. In general, the number of new certificates granted for operating authority and new carriers has helped to instill competition and affect the pricing structure. The shippers seem to be on the whole satisified. Most importantly, applications for contract carriers have increased thirty-seven percent in the forth year. Rate increases ranged up to eight percent but "served merely as base prices from which discounts are taken." And, piggy-back and trailer container on flat car traffic has incresed twenty percent in 1983.[9]

Another point of view is based upon a survey[10] of motor carrier executives and their review of the future for the next five years in terms of market outlook, competitive forces, technology trends and impacts, cost reduction and pricing tactics, and management priorities for financial success. The respondants felt that tonnage would increase by ten percent annually through 1988. On the other hand, they would receive intense competition from other modes such as TOFC and air freight. On the whole, "for-hire trucking industry, truck load carriers and special commodity divisions of LTL carriers were expected to experience stronger growth than LTL carriers, exempt carriers and owner operators." All expected equipment, labor and fuel costs to increase.

Interestingly, a majority felt that government influence would increase. "Nearly all survey respondants assumed that federal and state highway taxes would increase; most also believed that more stringent safety, emission, and noise regulations would be forthcoming with the next five years. Larger investment requirements and lower profitability were expected as a result."

Adoption of new technology for information processing and billing were essential in the minds of many. And, technology aimed at increasing fuel efficiency and lowering operating costs were thought necessary by motor carrier executives for investment decisions. Many believed that they would be increasing their use of longer and wider trailers. Also, "one-third anticipated increased use of double trailers..."

An important footnote to the government regulation aspect is that even though taxes would be increasing regulations expanding energy and air quality, and application of new technology, many felt still the roads highways and bridges would be deteriorating.

The study was based upon a year long study research program of motor carrier chief executives, mailed in the spring 1983. Of the 500 companies contracted, 126 participated. "The survey sample represented a broad spectrum of the for-hire motor carrier industry."

Figure V-1
Motor Carrier Act of 1980 Summary - June 30, 1984

- Since the effective date of the Act, July 1, 1980, 23,610 new carriers have received authority from the Commission. This marks an increase of 15,224 over the figures reported to this Committee on June 23, 1982. More than 3,788 grants of authority have been issued to new carriers since November 16, 1983.

- The total number of new certificates served since the Act went into effect is 65,800. There was an increase of approximately 5,389 new certificates since the last House hearing.

- As expected, applications appear to have leveled off. As of June of this year, applications were being filed at a rate of approximately 1,100 each month. They are holding steady at about that rate.

- Overall, shipper satisfaction with the level of service remains high.

- Although initial results indicated that the Motor Carrier Act had little positive impact on owner-operators, recent figures suggest that, increasingly, they are making use of the special provisions of the Act to obtain their own operating authority. Since June 1, 1982, 287 owner-operators have been granted certificates for operating authority.

- Contract carrier applications, as a percent of all applications, rose to 37 percent during the fourth year under the Act. For the first three years, they accounted for 16 percent, 27 percent, and 28 percent, respectively. Existing carriers accounted for about 65 percent of all contract carrier applications for the fourth year.

- Broker authority growth has been strong, with 1195 approvals since mid-1983. This is an annual rate of 1304, which is 45 percent higher than a year earlier.

- More than 1000 firms, with approximately 11,000 subsidiaries, have notified the Commission of their intent to engage in compensated intercorporate hauling.

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[1] Unless otherwise specified, figures for the fourth year are based on data for the 11-month period ending May 31, 1984.

Figure V-1 cont.

- Independent rate actions increased steadily through FY 1983 from 27,141 in calendar year 1979 to 60,000 and 115,085 in calendar years 1980 and 1981, and to 180,829 and 230,184 during FY 1982 and FY 1983. For FY 1984, 59,426 independent actions are projected, based on six months' actual data from major rate bureaus. The projected drop is attributed to the fact that many motor carriers are no longer publishing independent rates through the rate bureau process, but instead are publishing discount provisions and individually negotiated rates in individual tariffs.

- General rate increases were approved, effective April 1, 1984, for nine major rate bureaus. Increases ranged from 2.5 to 8.0 percent. Increases for the bureaus a year earlier ranged from 4.6 to 6.6 percent. The 1983 restructuring, which resulted in significantly higher increases in lower LTL weight brackets, was less evident in this year's general increases. In many instances, the rates, as increased by general increases, serve merely as base prices from which discounts are taken.

- TOFC/COFC traffic continues to offer opportunity and competitive challenge to motor carriers. Piggyback volume rose approximately 20 percent during 1983, and is continuing to increase in 1984. Numerous motor carriers are specializing in gathering and distribution operations, in coordination with long-haul motor carriers and railroads.

- Financial performance and tonnage improved during calendar year 1983, as compared to 1982, for the 100 largest motor carriers of property. During 1983, revenue tons increased by 1.9 percent, the first increase in 12 month traffic volume for the largest 100 carriers since the period ending June 30, 1979. Net carrier income more than tripled. The combined operating ratio for these carriers improved from 98.6 to 96.0 percent. Rate of return on equity increased from 2.6 to 12.4 percent. These improvements were broad-based.

Source: Statement of Reese H. Taylor, Jr., Chairman, Interstate Commerce Commission before the Surface Transportation Subcommittee of the House Public Works and Transportation Committee on Implemention of the Motor Carrier Act of 1980 (Washington, D.C.: Interstate Commerce Commission June 20, 1984).

There is increasing evidence that collective rate making is dying out as a practice in the trucking industry and is being replaced by increasing competition. An antitrust official observes that single firm profit maximization is a goal as this trend increases.[11] Some corporations have installed a "simplified national rating system" based on postal zip codes and a rate scale. Introduced by Roadway Express Inc. Akron, Ohio, these

> tariffs are national in scope and are set outside the collective rate making process. Whether intended or not, they can not possibly strengthen the collective rate making process and inevitably must undermine it. We are seeing, I believe, the commerical (as opposed to the political or legal) beginning of the end for collective rate making.[11]

The Surface Transportation Act of 1982 permitted double trailers and 102-inch wide commerical motor vehicles on designated Interstate and other qualifying Federal-aid Highways. After extensive investigation and discussion the Federal Highway Administration as required by the act determining (June 31, 1984) the conditions and size of the system.[12] It was a "national network" and required twelve foot wide lanes. Many routes were disputed for reasons of safety geometrics, maintenance, rehabbititation, and signing. Other factors included length of the trailers, special situations for automobile transporters, dromedary boxes, and overhangs. The maximum gross vehicle weight will be 80,000 pounds. The entire system is over 181,000 miles, of which 42,000 miles are Interstate.

Significant economies are anticipated from greater operating efficiency and productivity. When totally factored into the export transportation system's costing of goods carried by such trailers, there should be a discernible, positive impact. On the other side of the coin is the realization that as traffic increases, there will be off-setting wear and tear, greater expense and perhaps increases. User vehicle fees will not cover actual rehabilitation or maintenance necessary for these heavier and larger trucks. Also, a concern raised by many states and individuals regards mixing personal automobile or bus travel with these larger freight vehicles.

The matter of double trailers is still under study, as required by the act.[13] "Compared with single trailers, double trailers offer the advantage of increased volume and capacity and the potential for added operating efficiency. Two 28' trailers have about 20% greater cubic space than a 45' semi-trailer,the largest single trailer in common use nation wide." As allowed by the act, when 48' semi-trailers are fully employed on the national network, that cargo space advantage will be cut to about 15%. In total, the economic advantages are significant. Safety and pavement wear should also be considered:

> The combined effects of greater use of doubles and higher weight limits are forecast to produce shipper cost savings in 1985 of $2.1 billion dollars (in 1977 prices). Of this, $1.6 billion is attributable to the shift to freight to doubles, due to lower terminal handling costs and line haul savings from the larger capacity of doubles. Average small shipment freight costs fall 2 cents per ton mile (about 6%).[13]

A provision was designed specifically for the "barrier states" (Illinois, Arkansas and Missouri) requiring permitting eighty thousand pound vehicles on the Interstate System. They had lower limitations which effectively prohibited larger vehicles to be used cross country. In addition, there must also be

reasonable access "between the national network and truck terminals, facilities for food,fuel, repairs and rest."[14]

States have not followed quickly on the federal deregulatory path. According to the chairman of the American Trucking Associations, the trend of deregulation at the federal level has not really spread to the states. "Forty-four states now regulate motor carriers in some fashion, while six do not." The degree of regulation remains quite high as forty-one states continue to fully regulate their for-hire motor carriers of property.[15]

States maintain strongly their right to tax and support freight industry highway useage. At an annual meeting of the National Governors Associations, policy principles were endorsed about the right of states to tax and finance their own systems and their responsibility for safety of the highway users. A complicated set of principles identified situations in which minimized requirements would be desirable for motor carriers operating in more than one state and how the state should coordinate their systems. The importance of these observations and principles is against the backdrop at that time of pending federal legislation about a National Trucking Industry Commission to study taxation of truckers (H.R. 3612), draft legislation by the federal Department of Transportation on more uniform state truck registration tax procedures, additional legislation from the American Trucking Association "advocating preempting of some long sacrosanct state prerogatives" and other DOT directives.[16]

One consistant fear regardless of federal or state is, what happens to the small and medium size community and shipper. Earlier, an ICC study found that there was no significant adverse impact on most parties involved. At the state level, a Florida investigation found that the most important factor was location rather than firm or community size. And most groups of shippers and receivers found that improvements far outweighed erosions inservice.[17]

Railroad Carrier System

The Staggers Rail Act of 1980, according to the Interstate Commerce Commission, has substantially improved the industry.[18] Despite economic recession and continuing cost inflation, there is the belief that railroads are in better financial position than in many years. In fact, it is believed that without the Act the effects of the recession would have been far more severe. It has given carriers more freedom and encouragement to make needed changes. There have been more mergers; the larger of which are the CSX Corporation control of the Chessie System and Seaboard Coastline Industries, Burlington Northern Inc's merger with the St. Louis-San Francisco Railway, Norfolk and Southern's control of the Southern Railway and Norfolk and Western Railway, and Union Pacific Corporation control of Missouri Pacific and Western Pacific. "As to the future, it appears that the current merger movement will continue. The efficiences and economics resulting from single line or single system operations will lead, in all likehood, to the creation of a few transcontinental system."

One attractive deregulatory feature for railroads is permmission to offer contract rates. As of summer 1983, 7844 rail contracts had been filed with the Commission since the passage of the Act, as shown below in Table V-1.

Deregulation of railroads has extended to one important aspect of export transportation system operation--coal cargo. It is of such concern to rail carriers and coal producers that each has commissioned studies and petitioned the

Commission to either regulate or deregulate.[19] A study by the Coal Exporters Association and National Coal Association found:

Table V-1
Contracts Approved

Commodity Group	Contracts	Percent
Grain/Grain Products	1033	13.2%
Coal	349	4.5
Forest Products, Lumber, Paper	1562	19.9
Autos, Parts, Machinery, Implements	273	3.5
Iron and Steel, Metals, Scrap	887	11.3
Foodstuffs	984	12.5
Bulk Chemicals and Minerals	1769	22.5
All Others-Service-Misc., Ftc	987	12.6
Totals	7844	100.0%

Source: Reese H. Taylor, Jr., Chairman, Interstate Commerce Commission. Testimony before the Surface Transportation Subcommittee of the Senate Committee on Commerce, Science and Transportation on the Staggers Rail Act of 1980 (Washington, D.C.: Interstate Commerce Commission, July 26,1984).

1. coal export railroads have market power over domestic shippers;
2. domestic railroads have market power in world coal trade;
3. economic losses are caused by exemption;
4. antitrust sanctions are inadequate;
5. comparing rail rates to coal prices does not lead to the conclusion that rail rates are reasonable.

The study in general determined that exempting coal export rates from regulation is not justified. It predicted that "deregulated rail rates for export coal would average 57% higher than if they remained regulated." With higher freight rates anticipated under deregulation between 1983 and 1990, 450 million fewer tons of coal would be exported at a domestic shipper revenue loss of $20.8 billion dollars and an export receipts loss of $21.4 billion (including higher rail revenues). It would also result in a cumulative reduction of U.S. real income of $4.2 billion. The importance of this discussion is that railroad carry the predominate amount of coal for domestic use or export (Table V-2). Indeed, much of it for some parts of the country is carried only by one company. For example, railroads carry 99.78% of the anthracite and bituminous coal produced in 1980.

Table V-2

MARKET POWER OF RAILROADS OVER DOMESTIC SHIPPERS: SHARE OF EXPORT TONNAGE IN CEA SURVEY WHICH WAS CAPTIVE TO ONE CARRIER FOR MOVEMENT FROM MINE TO PORT

Mode and Capacity Status	Anthracite and Bituminous		Bituminous Only	
	1980 Tonnage (Thousands of Tons) (1)	Percent Share ((1) 37,425.8)x100 (2)	1980 Tonnage (Thousands of Tons) (3)	Percent Share ((3) 37,104.1)x100 (4)
(1) All-Truck:	81.2	0.22	0.0	0.00
(2) From Points with Rail Origins	7.7	0.02	0.0	0.00
(3) From Points with Rail Origins	73.5	0.20	0.0	0.00
(4) All-Water	0.0	0.00	0.0	0.00
(5) Truck-Water	0.0	0.00	0.0	0.00
(6) Rail-Water	0.0	0.00	0.0	0.00
(7) All-Rail:	37,344.6	99.78	37,104.1	100.00
(8) From Points Served by Two Railroads	1,175.5	3.14	1,175.5	3.17
(9) From Points Served by One Railroad (Row (7)-Row (8))	36,169.1	96.64	35,928.6	96.83
(10) All Modes Combined	37,425.8	100.00	37,104.1	100.00

Source: Verified Statment of Richard B. Blackwell in Support of Complaint vs. The Atchison, Topeka and Santa Fe, et al., Docket No. 38301S:
Rows (1), (2), (3), (7), Table 1.
Rows (4), (5), (6), p.3
Row (8), p. 9.
Row (10), Table 1 and p. 3.

Source: National Economic Research Associates, Inc. Railroad Exemption -- Export Coal (Ex Parte No. 346 (Sub 7)) before the Interstate Commerce Commission (Washington, D.C.: NERA, Coal Exporters Association, National Coal Association: December 18, 1981).

Table V-3
COAL EXPORT PRICES

1960 - 1980

	F.O.B. Mine Price				Average Rail Freight to Port			
	Holmes		Bales		Holmes		Bales	
	Current Dollars (1)	Constant 1972 Dollars (2)	Current Dollars (3)	Constant 1972 Dollars (4)	Current Dollars (5)	Constant 1972 Dollars (6)	Current Dollars (7)	Constant 1972 Dollars (8)
1960	NR		$ 5.12	$ 7.45	NR		$ 4.08	$5.94
1961	NR		5.20	7.50	NR		4.08	5.88
1962	NR		5.30	7.51	NR		4.08	5.78
1963	NR		5.31	7.41	NR		4.08	5.69
1964	NR		5.50	7.56	NR		4.08	5.61
1965	NR		5.54	7.45	NR		4.08	5.49
1966	NR		5.72	7.45	NR		4.08	5.32
1967	NR		6.07	7.68	NR		4.08	5.16
1968	NR		6.21	7.52	NR		4.23	5.12
1969	NR		6.67	7.69	NR		4.48	5.17
1970	NR		9.33	10.20	NR		5.13	5.61
1971	NR		12.20	12.71	NR		5.42	5.65
1972	NR		13.38	13.38	NR		5.62	5.62
1973	NR		14.74	13.95	NR		5.90	5.58
1974	NR		37.91	32.99	NR		7.03	6.12
1975	$44.51	$35.44	44.68	35.58	$ 8.27	$ 6.59	8.10	6.45
1976	41.63	31.51	42.16	31.91	9.20	6.96	8.67	6.56
1977	42.51	30.58	42.70	30.54	9.66	6.91	9.47	6.77
1978	43.13	28.74	43.34	28.88	10.75	7.16	10.54	7.02
1979	41.74	25.64	41.51	25.50	12.22	7.51	11.98	7.36
1980	40.86	23.03	NR		13.19	7.43	NR	

NR - Not reported.

Source:

Cols. (1) and (5): Verified Statement of Constance B. Holmes in Support of Complaint vs. The Atchison, Topeka and Santa Fe, et al., Docket 38315, Attachment Thirteen.

Cols. (3) and (7): Verified Statement of William B. Bales, in Support of Petition by Norfolk and Western, Ex Parte No. 346 (sub-No. 7), Attachment H at 3.

Cols. (2), (4), (6), (8): Derived from the above, using the GNP Implicit Price Deflator.

Source: National Economic Research Associates, Inc. Railroad Exemption -- Export Coal (Ex Parte No. 346 (Sub 7)) before the Interstate Commerce Commission (Washington, D.C.: NERA, Coal Exporters Association, National Coal Association; December 18, 1981).

Of that only 3.1% is produced is areas served by railroads. (See Table V-2). In 1980 the average rail freight to a port, according to several studies, was approximately 32% of the mine price (in current dollars). The mine mouth current dollar price was $40.86 per ton for coal export, plus $13.19 transport to the port for a total port price of $54.85 per ton.

Effective September 12, 1983, the ICC Export Coal Decision exempted all aspects of export coal transportation from regulation.[20] And, as required by Section 208 of the Staggers Rail Act of 1980, an ICC study on railroad contract rates was undertaken in 1984.[21] Reflecting the concern over confidential contract information, most railroads and shippers participating in the study requested that their contract rate/making practices and individual information be kept confidential. Thus, this report provided a general overview of the contract rate making and did not disclose specifics of individual carrier or shipper contracts or practices. It added further that a major element of the act was to "protect the confidentially of contracts and allow railroads and shippers a degree of confidentially similar to that of other businesses throughout the country."

Coal transportation costs still influence major decisions for regional development and therefore export activities. Southwestern states, according to one state official, require additional transport lines to develop nearby energy sources. In one case a railroad with captive access to the source would charge a rate high enough to convince the utility buyer to look for a coal source outside the state, or at least an alternative transportation mode. As a result, a coal slurry carbon dioxide pipeline is being examined as a possibility. The utility official voiced a need for Congress to take into consideration captive markets, particularly utility coal shippers and to protect them through the Interstate Commerce Commission.[21]

But the Maryland legislature (joint House-Senate Study committee) rejected a bill to "grant eminent domain authority for proposed coal slurry pipeline through Maryland." It would link coal fields in West Virgina through Maryland at the Cheasepeake Bay. The recommendation is not binding but it will carry considerable weight.[22] This further illustrates to introducing new technology.

The situation regarding coal export has gotten more complicated.[23] After the ICC exempted coal export from regulation, suits were filed and an Appeals Court reversed the ICC decision. The Commission then asked the Supreme Court to overturn the United States Court of Appeals, District of Columbia Circuit decision. the ICC reportly argued that market forces were sufficient to establish "the most effective means of insuring reasonable rail rates on export coal." The court did not agree and said that

> the ICC failure to prove that effective competition against railroads exists in the export coal market... if permitted to stand, will effectively preclude the ICC from any significant use of the exemption power intended by Congress to be cornerstone of federal rail transportation policy.

Ports "have a special interest in contracts because of their rights under the Staggers Act to protest contracts that may result in unreasonable discrimination." An ICC survey received responses from the California Association of Port Authorities, the Inland Rivers Ports and Terminals, Inc. and the Pacific Coast Association of Port Authorities. The opinion is split. Four of the eleven California ports responding felt that contracts did not help them and that the overall impact has been negative. Confidentiality is a negative factor. They just do not know as a result how contracts may help them or not help them and

fear unreasonable discrimination. Inland river ports also feel that they have not benefitted and that the confidentiality factor is very important for the same reasons. For the larger membership of the Pacific Coast Association of twenty-four ports, nineteen of which are U.S. ports, there is also division of opinion. Some believe that the practice has been beneficial because it provides "a marketing tool that allows aggressive port sales staff to develop new business." But that contract confidentiality has a negative aspect to it.[24]

It is believed that the contract rate making has been "one of the most sucessful regulatory measures provided by the Staggers Act."[25] For the railroads

* Contract revenue constitutes an average of 26.5 percent of total revenue.
* Contracting has intensified intramodal competition and has also been successful in attracting traffic from other modes.
* Growth in contract traffic is anticipated to be five to ten percent annually over the next five years.
* Contracting was especially useful in weathering the recession as carriers were able to obtain volume commitments in return for rate concessions.
* The major benefits of contracting were the ability to lock in traffic; flexible pricing to quickly meet market conditions; and the ability to tailor rates and service to individual customers.
* Confidentiality of contracts is viewed as a key incentive to contract rate-makeing.
* Dedicated cars or equipment are not a major part of contracting.

On the other hand, the railroad experience does not carry over necessarily to the shippers or the ports. For example,

* Most reporting shippers, with the exception of coal burning utilities, indicate that they have benefitted from contracts with the primary benefit being reduced rates.
* Most reporting shippers felt that the greatest benefits of contracting were realized by shippers with competitive transportation alternatives.
* Most reporting shippers indicated that contracting was successful in diverting traffic from other modes to rail. rail.
* Most reporting shippers viewed the confidetiality of contracts as a postive factor in negotiating contracts.

On January 16, 1985, the Association of American Railroads and the National Industrial Transportation League came to an agreement about joint rates, route cancellations and changes. This is very significant in that their agreement will be recommended to the ICC to form the basis of a guidelines for rule making. Now, a rail carrier "proposing to cancel a through 4-5 days prior to the effective date of such cancellation." It also provides an opportunity for the affected party to respsond and establishes a procedure that the protestant would need to meet with a carrier before going to the ICC. The word "significant" is used several time insofar as the impact or effect upon the shippers and it is not defined. It is anticipated that this will be an issue for the ICC to resolve.[26]

User groups and some of the smaller carriers are feeling the negative effects of deregulation. Routes are being consolidated, lines abandoned, service limited prices in some cases raised, and joint switching rights may be set at conducted higher rates, or cancelled. These lead to an anticompetitive environment and more captive market sectors. According to the president of the Association of

American Railroads, "there is no more important fight for us." Part of the reason for the growing movement may be in the following observation: "the benefits of deregulation, while real enough, tend to be diffuse and indirect (emphasis supplied). But when deregulation imposes cost on certain groups, such as the shippers, the political reaction is focused and sharp."[27]

Another important goal of the Staggers Act is to balance the need for railroad revenue adequacy and promoting intermodal competition. Some believe that in the long-run these may not be compatible and offer intensive economic analysis to show the possibilities.[28]

Another aspect of the deregulatory era is railroad operation or merger with competitive modes. Evident already is the rapid entry of railroads into trucking operations. There is the additional example of a railroad purchasing a barge line. This directly alarms barge operators and brings back memories of the era when rails were able to compete in a most predatory way to capture business. Then, they put the barge companies out of business and raised their rates. These fears are being brought up again. Representatives of the railroad industry believe that there is no demonstration "rail-barge mergers will not harm competition and that they can in fact produce efficiency gains."[29]

While deregulation is occuring there is a growing belief that the transportation system still has over capacity. Of particular relevance to agricultural users is the decline in the agricultural export markets and results over supply of transportation capacity. Even with the projected ten percent increase in the market by 1985, the system can absorb it. In turn, there is still concern though on "the evolving consolidation" within one mode and among modes. There is a real possibility that agricultural shippers will be presented with fewer competitive markets and fewer shipping alternatives.[30]

The Canadian system has been feeling similar forces and will most likely be very competitive.[31]

> Canada's grain transportation system can probably move 30 million metric tons of export grain in 1985/86 if proposed additions are completed. However, bottlenecks will develop in the west as exports of nonagricultural bulk commodities resume and exceed their prerecession levels. The Canadian system will be hardpressed to increase grain and oilseed exports to 36 million metric tons by 1990 given proposed investment levels.
>
> Canada could expand its market share, possibly at the expense of U.S. grain and oilseed exports, if the transportation constraint is overcome. Improvements in grain handling and transportation facilities that enable Canaded to deliver grain without costly delays will enhance its competitiveness in the world market for grains by helping establish Canada's reputation as a reliable supplier.

Shippers seem in general to have mixed opinions on deregulation. They are pleased but worried. Apparently, there is an "unprecedented increase in railroad action to eliminate competing railroads from the market place." Known as vertical foreclosure, to railroads it means "joint rate and route cancellations, the outright closing of reciprocal switching, or the raising of reciprocal switching charges far beyond reasonable rates to make them economically prohibitive." As a result the shipper has many fewer options among competiting roads. An industry group, "The Procompetitive Group" established in 1983 by a variety of shippers, believed the ICC is not implementing the act strongly enough in these statutory

areas.[32]

To put the concept of intermodalism in better perspective, it is necessary to address the competitive positions of trailer or containers on a railroad flat car against the traditional railroad box car. Railroads provide both services and it is most likely that the container technology eats into the box car traffic. One of the most contested issues before the ICC was boxcar exemptions. There is also the recent change permitting larger and longer motor carrier freight vehicle combinations on the Interstate. This will impact boxcar traffic too. According to some, "boxcar traffic is approaching a solid core" and "boxcar deregulation will help protect that core." The kind of commodities carried best by boxcars appears to be "heavy-loading commodities, products requiring high cube equipment with less-sensitive commodities." In order to compete effectively with TOFC and COFC boxcars had to be deregulated and Conrail was a big motivator for this.[33]

Another important component of intermodalism is labor. The regulatory system now allows greater flexibility and competition, technology is either available or on the drawing boards for improvements, but labor practices may not fully allow greater productivity. A relevant example is the Road-Railer concept tested in the Conrail corridor between Buffalo and New York City. After eighteen months it was found to be very competitive and favorable, with the execption of work crew costs. Unions "refused to adjust the one hundred mile rule and to decrease crew size to a total of two; a trained pilot and copilot, each of whom is trained as an engineer and brakeman so that they can exchange duties during the trip." With such work rules future rail carriers will be much fewer in number and carry only bulk commodity requiring less labor over longer distances.[34]

Representing new technology that is coincident with the development of deregulation is a dedicated coast-to-coast intermodal train service of double deck units. Utilizing a specially designed flat car, train service started July 21, 1984 between Seattle, Washington and Kearny, New Jersey. There are "twenty car sets, each with five articulatd platforms. Each platform has positions for two forty or forty-five containers." "The end platforms can also hold two twenty foot containers and one of the larger containers. This gives each car set the capacity to hold up to twelve containers." The service uses Union Pacific, Chicago and Northwestern, and Conrail rights-of-way. It was established by American President Lines with the equipment made by the Budd Company of Philadelphia.[35]

An illustration of the dynamic rate structure and how different service/technology combinations may be is Table V-4 , quoting rates from Trailer Express, December 1, 1984, for shipments from Chicago to Seattle. Note the close cost range and how the price structure dropped for less immediate shipments and those services offered by steamship, container trains or backhauls.[36]

There are further complications for what the ICC is attempting to do. The literature and experience to this point suggest that goals as with other kinds of public policy may not be compatible as given in the original legislation. In fact, one source suggests much of the difficulty of the ICC in implementating Staggers Rail Act is tied to multiple policy objectives. "This tendency to treat the various objectives separately is encouraged by the fact that the many interconnected issues are subject to separate rule making and individual cases before the ICC." The goals of the Act include revenue adequacy, protection to captive (or market dominant shippers, relaxing regulation of competitive traffic and

revenue enhancement of deficit traffic.[37]

Table V-4
Transport Options

To Seattle	From Chicago Door-to-Door (Most Points)
1. In a 45' Railroad Trailer (3,000 cu.ft.)	$1,754 to $1,770
2. In a 40' Railroad Trailer (2,750 cu.ft.)	$1,704 to $1,720
3. In a Backhaul Reefer Trailer (unit off) (2,450 cu.ft.)	$1,620 to $1,670
4. In a 40' Steamship Container (daily) (2,500 to 2,700 cu.ft.)	$1,520 to $1,670
5. In a 40' Steamship Container "Stack Train" (weekly) (2,500 to 2,700 cu.ft.)	$1,415 to $1,470
6. In a 20' Steamship Container (daily) (approximately 2,200 cu.ft.)	$ 890 to $ 965
7. In a 20' Steamship Container "Stack Train" (weekly) (approximately 2,200 cu. ft.)	$ 850 to $ 925
Or	Rail Spur to Rail Spur
8. In a 50' Railroad Car (5,000 to 5,300 cu.ft.)	$1,400**

** On 45,000 pounds, add $1 per 100 pounds over 45,000 pounds with $150 switching charges absorption on each end if not on the BN.

9. *Truck* rates can be quoted at about $1 per mile from or to almost any point in the 48-state area. That would be about $2,000 from Chicago to Seattle. You as a traffic manager can use options, for you can then buy transportation to suit your special needs. Allow two days longer and you can save huge sums to use the railcar. It now competes with both trucks and rail. On light and bulky freight, it is a 50 per cent savings. Third parties do have special deals. for they buy volume lots and give you the benefits of that buying and their nationwide coverage and service very few companies can match at a competitive cost.

Source: Fred H. Tolan. "How A Traffic Manager Survives Under Deregulation" Traffic World (Vol. 200, No. 12, December 17, 1984), pp. 73.

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Many parties have pleaded for fairness and equity, which in their cases means they are losing some of the captive shipper protection they enjoyed pre-Staggers. Or,there may be calls from parts of the industry, that have not had to compete as much, about sunk costs and rates of return. A caution in this regard is:[38]

> Any transition mechanism must thus come to grips with the essence of the transition problem from a political as well as an economic perspective: who is to bear the consequences of the "overhead" of sunk costs. Misunderstanding or failing to recognize these transition problems can pose substantial dan gers: specifically, premature application of economic concepts that, while arguable valid in some future regime in which all sunk cost are amortized, decidely do not account for the effect of these sunk costs on the marketplace in the short run. Misunderstandings of the transition problem may also encourage false conclusions about the eventual results of deregulation, that is, the long-run competitive equilbrium and industry structure that will emerge. As a consequence, policy recommendations designed to address the problems of the transition may inadvertently

frustrate the ultimate goal of deregulation.

By the summer 1983, a review[39] of the ICC's implementation of the Staggers Act of 1980 found that the railroad financial performance has been mixed, few railroads earned adequate revenue, selected shippers saw change in rates and service, and the ICC investigated fewer shipper rate protests. Forty-two shippers were contacted, representing the category of possibily lacking competitive shipping alternatives before the Act was passed. About half were generally dissatisfied. About half thought that service has improved, "though few attributed it to the Staggers Rail Act." About half said that they had benefitted from the contract provisions. "One noted that it had contracted to move 98% of its coal at rates 20% below the railroads published rate." The act had changed provisions for obtaining an investigation or suspension of an rate increase. It became more difficult and thus found that before the act in a two year period about twenty percent of the cases were investigated and after the act only about eleven percent. For the same time periods, suspensions fell from eight percent to almost ten percent.

For states, Staggers permitted federal preemption of intrastate rate regulation. Part of the concept was based upon the belief that "state rate regulation, in the absence of market domiance by railroads, is completely preempted." This will limit the future role of states "to rigidly exercising present and forthcoming ICC standards and procedures." On the other hand for motor carriers, there is no preemption evident yet. Many felt that "preemption was a pragmatic remedy to the conflicts and frustrations resulting from state regulation." It has changed so much that "truly independent state economic regulation of transportation no longer exists."[40]

Rapid progress made under rail deregulation thus seems to be under challenge from many parties. One notable situation is coal export regulations. A three judge federal Appeals Court overturned the ICC's coal export rate deregulation decision in 1983. The court said "The ICC had tilted too much toward railroads."[41] Furthermore there is continuing dissension at the ICC and in public press. Doubt exists about the continued direction toward deregulation,or whether there will be reregulation. Apparently, clear-cut clash of philosophy is found at the commissioner level.[42] Continuing this thrust of uncertainity is the possibility of federal invovlvement again via Congressional action on the concept and application of deregulation. With this perhaps in mind, "the ICC announced that it will undertake a consolidated review of its post-Staggers regulations in a single proceeding."[43]

Nevertheless, deregulation of railroads has been successful in general [44] and in one of its main objectives - rehabilitating the system. Much of the massive capital inflow for maintenance and development has been in anticipation of improved earnings caused in part by deregulation.

> Over the past five years railroads have invested more than $60 billion in maintenance, renewal and expansion of track, yards, terminals and equipment. And this investment has been made over a period characterized mostly by economic recession.
>
> Today, America's freight railroad have virtually eliminated main-line deferred maintenance. Conrail...is running freight trains at 70 mph over some of the finest track in the industry. Transcontinental shippers are guaranteed fifth morning delivery on coast traffic, and third morning delivery between the west coast and Chicago--all highly competitive with motor carriers.

And,

> The rate of increase in rail coal rates since Staggers--27.3% before adjusting for inflation -- is less than the corresponding increase in electric rates. Railroad coal rates today are a smaller percentage of the delivered price of coal than a decade ago. Through Straggers would have allowed the railroads to raise their coal rates 22% above the rate of rail inflation since 1980, railroads have raised their coal rates by only about 3% above such a level since 1980. And al most half the coal we move now moves under contract -- with most contracts representating reduction in the precontract prices.

Ocean Carriers System

It is far too early to be able to assess adequately and accurately the impact of the Shipping Act of 1984. However it is desirable to identify apparent issues. Temptation is considerable to view the legislation as a deregulation bill; therefore, rounding out the deregulation of motor carriers and rail with shipping. That is not really the case and there is good reason for this, notwithstanding strong expectations in this regard.

At first glance it may appear an internal contradiction that conferences are allowed and continued. This is an outgrowth of the original Shipping Act of 1916. Reflecting an era of turmoil, it was an attempt to rationalize cutthroat and severe competition in trade. The conference approach appeared to be the best way to organize the industry, provide for the national interest, rationalize a division of trade and insure American maritime capabilities. A driving reality was that international acceptance of carrier conference agreements had been historic, and for the United States to compete and cooperate in world trade, such an approach was deemed necessary. House and Senate conferees stated that "the reasonable use of conferences and other conservative activity to address structural competitive problems, such as severe rate instability and over capacity" are acceptable aims.[45]

> Underlying this determination is also a realization that the major economic allies of the United States continue to tolerate or even support conference and other cooperative carrier activity, in many cases in a measure far stronger than our laws have tolerated. Any major change in regulatory policy, although not precluded by these differences in approach, should be taken with a sensitivity to interests of friendly nations, and, insofar as possible, in tandem with them.

Also involved is gradual errosion since 1916 of carrier antitrust immunity as originally granted. It would appear that such erosion[46]

> has rendered those protections largely illusory. Conferences act at their peril in conducting the very activities that the shipping act contemplates they won't undertake, because the FMC and the courts usually view such activity as anticompetitive combinations which are presumptively contrary to the public interest.

Some of the results of the incremental erosion are:

1. Delay in the FMC's approval process for Section 15 agreements sometimes stretching on for years.
2. Application of vague standards of approvability for Section 15

agreements and subsequent loss of predictability in regulatory decisionmaking.

3. Conflicting views of executive branch agencies concerning acceptable conference practices, as well as shifting decisions by the FMC and the courts, have created confusion over the responsibilities of the conferences and the Government's regulation of conference activities.

4. A "chilling effect" on the efforts of carriers cooperatively to arrive at rational commerical arrangements to improve U.S. participation in our liner trade, increase operational efficiency, and promote comity with our trading partners. These efforts not only face constant risk of opposition from the Antitrust Division of the Department of Justice, but have exposed all parties to presecution or the threat of prosecution under the U.S. antitrust laws.

In perhaps the best statement of the philosophy and need counter to deregulation of the land transportation system is the following language from the Senate Report. It is fascinating in that it mentions reasons from the international sphere as to why anticompetitive forces should be encouraged:[47]

A new statutory framework, establishing a new regulatory philosophy, is needed to allow carriers and shippers to conduct international trade in a stable efficent and fair manner. It must place a new emphasis on harmonizing U.S. policies and practices with those of our trading partners and removing the handicaps which our laws have imposed upon our own carriers. Domestic rules of competition may work at home and fully justify recent deregulatory approaches to reexposing domestic transportation to the antitrust laws; they have been proved, however, not to work in international liner shipping.

This bill recognized that such phenomena as containerization, state-controlled fleets, the aspirations of less developed nations to possess merchant fleets, and cargo sharing arrangements by multilateral or bilateral measures were not even dreamed of when the Shipping Act of 1916 was enacted.

Concurrent to this long lasting debate was the world liner trade movement toward protectionism, as reinforced "by the UNCTAD code, which calls for closed conferences and bilateral allocations of cargoes among the trading countries(effective October 1983)." All this at a time that overcapacity had worsened,containerzation had increased efficiency, and curtailed shipping demand. "State-controlled carriers (particularly Soviet) have impinged on existing business, offering in some instances rates below the costs of a American-flag carriers." And in some cases "several countries have used the American open conference system to gain a piece of lucrative American trade." For reasons of national pride, even among newly emerging third world nations developing their own fleets, maritime fleet capacity most likely will increase despite questionable profitablity. National flag liner fleets are more a political and military force than a trade force. There has been a large drop in the number of flag liner companies. In the U.S. the number has decreased from nineteen in 1970 to eight in 1983. A similar period of reduction starting even earlier has reduced the Japanese flag lines from twenty to about six lines controlling "around 80% of all tonnage operated under the Japanese flag."

The U.S. Comptroller General argued that competition should be increased. In a letter, June 1, 1983 to the Chairman, Committee on the Judiciary, House of Representatives he stated that the U.S. flag liner fleet "is not in a state of

decline commonly ascribed to it, and its present condition does not justify a major revision in the shipping act." Containerization technology which in fewer ships carrys the total cargo, makes the claim possible. He agreed that it may be necessry in the future for carriers to form "consortia in order to pool their resources" to take advantage of technology produced larger more costly vessels. The GAO felt that if Congress were "to eliminate antitrust immunity for liner operators serving U.S. foreign trade...," American diplomatic relations would be affected, high cost U.S. flag carriers would be affected, but it would introduce price competition and reduce wasteful service competition. Foreign operators flag liners would be subject thus to the American antitrust laws.[49]

There is a body of opinion that believes the act does "reduce U.S. government regulation of carriers while placing greater reliance on shipper demands for low rates and good service as a means of 'regulating' carriers." It does so in three ways:[50]

1. It makes clear that carriers may receive antitrust immunity for the collective setting of rates for through transportation.
2. It makes major changes , both substantive and procedural, in the way that government reviews multi-carrier agreements.
3. It expands the antitrust immunity conferred on carriers for their collective actions.

The act also provides "shippers provisions" which include a mandatory write up in an independent action for conference carriers and statutory recognition of service contracts and ocean liner transportation in the shippers associations. "It is believed that these provisions enhance shippers ability to bargin for better rates and services."[51]

One of the more widely reported elements is contract authority granted under the intermodal section. "Conferences may lawfully received authority from the FMC (thereby receiving antitrust immunity for collective setting for intermodal through rates)." This allows carriers to market intermodal services. It distingishes between "inland portion" and "inland division". The former being the actual geographic section of travel offered by common carrier and the later being the allocation of costs to the carrier for that portion. It prohibits discussion or agreement regarding the inland division (prices or charges) on through rates. Also, a conference cannot negoitate with a group of nonocean carriers (e.g., truck and rail)on any matter relating to rates or services provided them by those nonocean carriers. "Thus the antitrust immunity extended by the Act is limited only to the ocean side in most large concerns."[52]

It would appear then, that the Shipping Act of 1984 has eased government regulation of carriers within the conference system. And it has "provided a strengthening of shippers negotiating power vis-a-vis carriers, so that shipper regulations could substitute for governmental regulation."[53]

Independent of the actual passage of the Shipping Act of 1984 was a "Notice of Inquiry and Intent to Review Regulation of Ports and Marine Terminal Operators" (Federal Maritime Commission, Docket No. 83-38), initiated on September 14, 1983. The Commission requested comments from the public on this matter and the period for comment closed December 2, 1983. The inquiry addressed marine terminal tarifts, filing of approval of marine terminal agreements, and the need for continued antitrust immunity for marine terminal operators."[54] The comments submitted and hearing record determined that "the vast majority of the commentators indicated that terminal tariffs should continue to be published, centrally located, easily accessable, and filed with the commission." Some of the reasons

offered in favor were that it would insure proper notice of shippers, carriers and other users of port facilities about other revelant charges, rules and regulations. It would also "insure ready access to market information" and "provide information to other terminal operators resulting in stability and abating the possibility of rate wars."

The American President Lines, Eagle Marine Services, Virginia Port Authority and Port of Seattle stated that the information would be available at the operator's place of business or by the port terminal operators. Regarding agreements, "no clear consensus emerged" on exempting terminal agreements from filing approval requirements. However twenty-five percent thought the status quo should be left. Many overall believed that the public notice elements were essential for "business intelligence". "An overwhelming majority" thought that antitrust immunity for port and marine terminal industry should be continued. Forty percent believed that stability would result from continued antitrust immunity; it would help avoid rate wars and provide consistency and uniformity in rates and practices. It would also protect small ports from predatory larger ports. Another aspect is that one-third felt that the port industry is a "unique and essential industry." Many seem to believe that the stability and consistency provided by antitrust immunity allowed to public enterprises, that is, the ports must be very capital intensive while operatig in a very dynamic rate service market. Long term agreements can result and this would be a better way to build new technology and facilities, such as container terminals. It also helps retain public confidence for purchasing low cost financing bonds. The role of information exchange is quite valuable and would allow conferences to pool their knowledge, experience and expertise for terminal activities. It would also provide them with the same kind of parity to help offset powerful ocean a carrier conferences and high volume shippers. Some were concerned by the "whipsawing" of ports and prices.

As a result of the inquiry, a report [55] was made and with the recommendation that rules should be prepared by commission staff to

1. unconditionally exempt fully non-anticompetitive terminal agreements from all filing and processing requirements, including:
   a) strictly landlord-tenant leases of on-dock and off-dock facilities; and
   b) agreements detailing ar limited to facilities and services used in connection with the handling of proprietary cargo.
2. specify that terminal conference and interconference agreements continue to be filed and processed under existing rules and procedures; and
3. exempt all other terminal agreements from the 45-day waiting period of section 5, on condition that they be filed and published for informational purposes.

Divergent testimony is provided in the record. Leading executives of the major ports in the nation commented upon the difference between the port public community andits role in serving the public interests of its area, and the nation. The majority did support the need for antitrust immunity of terminals and ports. Unbridled competition, concensus agrued, would only diminish implementation of the public interest. The hearing officer drew the conclusions that the public nature of the ports and marine terminal operators "constitute community investments financed by the taxpayer justfy the greater protections and safeguards provided by antitrust immunity." Also it was determined that "terminal rates are not excessive, and are often barely compensatory or noncompensatory. Terminal conferences often help achieve compensatory levels." Oddly, it

was noted that competition is not stifled by the cartels authorized with antitrust immunity simply because they are not that efficient. And, "independent terminal operators use the benefit of antitrust immunity to compete more effectively with carrier-affiliated MTO's."

In line with the interim authority granted to the FMC by the Shipping Act of 1984, the hearing officer found that the antitrust immunity for shipping should be continued, however not blindly adhered to for an unknown future time. The Shipping Act of 1984 requires that the question of antitrust immunity for ports and marinal terminals be considered in the report developed by the Advisory Commission on Conferences and Ocean Shipping, established by the Act. It would cover information collected and analyzed over a five year period.[56]

Both reports, part I and II, have been reviewed and adopted by the Commission and the Proceeding continued as of January 18, 1985.

With the passage of the act, the ocean carrier industry is somewhat more optimistic. But it has been down so low, according to some, that the optimism is understandable. "Those in U.S. shipping circles feel that you can only go up from the bottom."[57]

Nevertheless, there are realistic fears of overtonnage, rate wars, and more stress.[58] The background of optimism has perhaps encouraged new technology, ships and services. Constructed by a South Korean company for $570 million, the United States Lines is purchasing "12 new mammoth container vessels" to be used in around-the-world service. "The vessels, 950' long by 106' wide, can haul more tha 4,420 foot containers stacked eight below deck and five above." The ship will take 84 days for around the world service. The Atlantic Line is purchasing $300 million of flexible container ships carrying 2300 twenty foot equivalent units. The Barber Blue Sea Line is purchasing the largest RoRo vessels in the world. Lykes Brothers Steamship Company is adding six ships to the Pacific fleet. Evergreen Marine Corporation of Taiwan already has twenty-four G-type container ships (carrying 2720 TEU) for around the world service. Even with more tonnage in the Pacific, thehre is a lot of traffic moving east and that reflects the current import situation in the United States. It is also anticipated that ocean carriers will expand their trucking ocmpany agreements and rights for increased consolidated service. They will not purchase or start, though, their own companies in domestic United States transportation.

Besides overtonnage at a time when many ships are "sailing out of the United States ports as much as two-thirds empty," is continuing diversion of United States cargo to less costly Canadian ports' and bilateral trade agreements cause further concern. Canadian diversion is high. "One steamship executive estimates some fifty percent of outbound container cargo, mostly from Midwest, moves on the North Atlantic via Canada." Bilateral trade agreements reflects the attempts of less developed nations to "protect their own fleets from more efficient carriers."

Overtonnage is part of the trend toward around the world liner service and load centers developing American coasts. Some experts believe that the high value of the dollar has changed the cargo mix to

> low rated products as raw materials, scrap rag, and resins to specific Pacific Rim and Asian Countries. Formerly, there was machinery and heavy industrial equipment. Under the around the world liner service changes have already begun to occur. The two companies

offering such service, U.S. Lines and Evergreen, have begun to bite into the load factors of other carriers and will increasingly take a share. The diversion in the Pacific trade for the east bound land can be absorbed by other carriers reasonable better than on the Atlantic side and East coast U.S. lines "has cut its east coast ports of call to just two - New York and Savannah - and others are expected to follow."

It is noted that the trend to consolidation is not new but it has accelerated.

Conference groups are already changing. Under the new act they may operate in more flexible manner and it would appear that consolidation is the trend. "For example, the nine east bound and west bound conferences that once governed trade between U.S. East Coast, U.K., Europe, and Scandinavian have been replaced by just two - one east bound, the other west bound - with authority from Main to Florida." By March 1, 1985, "the four conferences that deal with trade between the U.S. East Coast and the Mediterranean become just one, and on the West Coast, one conference with twenty carriers already signed up will replace several formerly involved in U.S. trade to the Far East and South East Asia."[58]

It is interesting to observe that the concept of super ports based on load centering by the ocean carriers has received indirect support by the Federal Maritime Commission. A question occurred about natural tributary cargo and the FMC ruled that "cargo originating at a particular geographic point cannot be considered naturally tributary to any port, no matter how close together the port and point may be. The agency cited "the rise of containerization, intermodalism, and load centers as a basis for its decision." This may facilitate the growth of load centers in places such as Seattle and Los Angeles, even though there is excess capacity in the industry now and more ports can compete.[59]

Under the Shipping Act of 1984, service contracts were allowed. Since the bill's passage, during the first six months over 310 have been filed at the Federal Maritime Commission.[60] The contracts are still governed by regulatory rules however often they are at lower rates than published tariffs. There are additional benefits that were anticipated by the act that "the contracts make the market place regulatory of business, as carriers can tailor their services and rates to meet the specific demands of shippers." "Many contracts focus mainly on guaranteeing vessel space in return for a guaranteed volume of goods over a specified time." According to the FMC, by November 28, 1984, 303 contracts were filed and "one-third were submitted by Evergreen Lines, the non-conference Taiwanese carrier that initiated around the world service earlier in the year." Contracts seem to be available for many diverse categories. Evergreen was quick to reassure that the rates were not mandatory and that they are"normal for the market." As a large independent, Evergreen could be disciplined under the Shipping Act by the other conference members. Evergreen has more freedom to offer contracts initially than conference members who may be disciplined or prohibited by virtue of their conference membership. "Over 200 of the contracts filed so far at the FMC are for U.S. imports." And shippers may certainly benefit from contracts locking in future space, pricing and timing. But if market conditions change particularly with the over capacity that generally exists, shippers may be locked into paying a higher amount which initially looked advantageous.

Representative of the difficulty the liner and ship construction industries are encountering is the cost differential for both operational labor and ship construction. Table V -5 illustrates representative crew costs for U.S. flag ships, OECD and non OECD flags. For the various types including liner, dry bulk

and tanker, the difference is astounding. Daily costs are mainly a function of wage rates. For the OECD members the difference is for liners is almost one-third less and for the non-OECD the difference is almost one fifth. Ship construction Table V-6 illustrates representative building costs in millions of dollars for liners, dry bulk and tanker. The differential is rather considerable compared to Japan. For liners the United States is almost twice as much. The relationship relatively holds for the other categories.[61]

Table V-5

Representative Crew Costs

	U.S. Flag		OECD Flag		Non-OECD Flag	
Ship Type	Manning Level	Daily Cost	Manning Level	Daily Cost	Manning Level	Daily Cost
Liner	39	$8,200	33	$3,061	37	$.1,616
Dry Bulk	26	6,250	26	2,100	26	1,250
Tanker	26	6,200	26	2,310	26	1,375

Source: W.R. Di Benedetto. "Washington Report - In-Fighting Is In", WWS/World Ports (October/November 1983), p. 10.
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Table V-6

Representative Ship Constructions Costs
($ millions)

Ship Type	U.S.	Japan
Liner (2,450 TEU*)	$118.0	$61.5
Dry Bulk (35,000 DWT**)	62.0	27.3
Tanker (90,000 DWT**)	86.0	41.3

*TEU: "Twenty-foot equivalent units" A standard measure of containerships.
**DWT: "Dead-weight tons"
Source: Office for Policy and International Affairs, U.S. Department of Transportation.

Some believe that the Shipping Act is not as clear and reform oriented as first apparent. It may be "the lawyers' full employment act of 1984", from one perspective. The Act favors large shippers and carriers at the cost of smaller sized-shippers and carriers. The concensus of opinion is that although there may be disagreement on what the Act does and who benefits, a new set of tools is available which substantially changes internal competition and marketing freedom. It is up to the industry now to utilize them effectively.[62]

Conclusion

With the dynamic changes in all modes of land and water transportation regulaton in the United States, and among the modes for intermodal services and activities, it is most difficult to draw firm conclusions about the relationships and the long term impacts on export transportation systems. Increasingly, it becomes clear that the export situation is a subset of the larger domestic transportation process and system. In some well defined situations it can be a dominating or influenial factor, but still it appears on the whole to be subsidiary factor.

Whether it be changes driven by political, economic, technological, or profit making forces, much seems to be in flux. For example, deregulation by the ICC of coal export rates has been challenged, as well as boxcar deregulation and

joint rates. The motor carrier industry is unhappy with the taxation structure and the competition provided by railroad TOFC and COFC operations. World shipping carriers, who are establishing larger ship service and load center concepts for around the world routing, will exert more influence on development of port locations and supporting inland transportation systems. The Shipping Act of 1984 allowing through rate service is a step in the right direction for one-stop shopping, however that too will begin to influence the dynamics of rate structure. Such freedom in aggregate benefits large volume shippers and a select number of lines or carriers. Despite studies of the small shipper and small town areas (or medium size areas) showing they are not unduly injured, fear still exists. Continuing concern about regulation would therefore cause a potential demand for reregulation in some of these areas.

Perhaps, one of the best ways to identify the amount of turblence and stress, as well as opportunity in the new regulatory environments, is the observations from a traffic manager's point-of-view.[63]

1. There is no dependable overall freight rate source today. It is a "mish-mash of dozens of contracts, tariffs, quotes, discounts and new third party alternatives."
2. Carrier monopolies rarely exist now except for some limited bulk situations such as coal. There are at least five or more options.
3. The Interstate Commerce Commission as a policeman in the marketplace has just about vanished and state regulations are dropping.
4. There is at least a 20% to 30% over supply of domestic transportation which is depressing rates and forcing carriers to buy "cash flow" with unwarranted rate cuts. The trucking fleet is overaged now and badly needs replacement.
5. The new size and weight limits for highway trucks will soon revolutionize most highway transportation.
6. The rise of piggyback has moved vast amounts of highway and boxcar traffic into the piggyback.
7. The decline of railroads sales staff and the loss of personal contacts presents a pale shadow of what they were five years ago. Many railroads have reduced their staffs and gone to third parties for quotations.
8. At least 75% of all piggyback shipments are now routed and controlled by third parties under the railroad today.
9. The decline of U.S. exports from the Midwest and East to the West Coast is offering huge new opportunities for domestic shippers to use backhaul steamship containers and steamship trains to cut west bound costs.

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Chapter VI - EXPORT SEAPORTS

Introduction

American seaports compose a rich fabric of diversity, and experience. Ten ports were chosen to highlight the wealth on the Atlantic, Gulf and West Coast; specifically examined were exports, regional draw, size, logistics and plans, intergovernmental policy, new directions and concepts.

On the Atlantic Coast, case studies[1] reviewed the experiences of Baltimore, Charleston, Hampton Roads, and Miami; on the Gulf Coast, Houston and New Orleans; on the West Coast, Long Beach,Los Angeles, Portland and Seattle. As individual ports and as groupings by coast they may share similar circumstances,and sometimes responses. Much depends on the age of the facilities, urban and hinterland infrastructure for transportation, along with the industrial and agricultural base.

Atlantic Coast

The ports of Baltimore, Charleston, Hampton Roads and Miami are discussed here. Two are large established operations and two are smaller emerging ports. Table VI-1 profiles key information.

Baltimore

Management of the Port of Baltimore is the responsibility of the Maryland Port Administration, a department of state government. The MPA also has jurisdiction over several smaller ports in the state. The entire operation of the MPA is in turn the responsibility of the Maryland Department of Transportation. The port operates as an independent agency, however annual budgets, income, and expenses are reviewed by the state Department of Transportation.

In some functions, the port is an "operator" port in that it provides the service, rather than serving as a landlord, for general cargo and containerships. Railroads, shipping, and commodity interests own private terminal facilities. Such division of activity permits the port to target its resources for modern technology and facility development.

Trade volume exceeded 34.3 million (short tons), of which 21.4 million were export in 1981. The largest export was coal and mineral fuels at 12.9 million and food and live animals at 5.5 million. Serving the industrial Northeast and Midwest hinterland, the port is subject to the well-being of those regional economies. Many of the traditional industrial belt export industries are declining and port volume experiences corresponding changes, while container imports increase. Coal holds long-term promise but as almost all other coal ports, facilities are underutilized.

Surface transportation systems to the port have been consolidating and adjusting service under deregulaton. The CSX System and Conrail serve the port and own considerable amounts of acreage and facilities. The CSX operation is modern and well maintained, while Conrail has had to eliminate lines, slowly rebuild trackage and acquire rolling and motive stock. The CSX appears to be in a better position to handle large unit train-type operations at faster, safe speeds than Conrail. Over 160 trucking companies and carry cargo to the port, which is served by 127 ocean carriers. The metropolitan expressway and Interstate

Table VI-1 Selected Port Characteristics - Atlantic Coast

Port	TRADE Total Int'l Tonnage (,000's)	Value (000,000's)	Exports Tonnage (,000's)	Value (000,000's)	Imports Tonnage (,000's)	Value (000,000's)	NEW IDEAS/ACTIVITIES
BALTIMORE							
1983	21,624	$12,797	12,216 Coal Corn General cargo	$8,969 total	9,408 Iron Ore Gypsum Residual Fuel Oil Sugar Misc Petroleum Products	$6,072 total	World Trade Center Waterfront Development
CHARLESTON							
1983	4,812	$4,771	2,556 Textiles Fibers Chemicals Paper Products Grain	$2,517 total	2,256 Semifinished Textiles Iron & Steel Products Bananas Metallic Ores Petroleum	$2,257 total	International Transport Center, Export Packing Company
HAMPTON ROADS							
1983	17,698	$1,034	40,980 Coal, Bituminous Corn & Wheat Soybeans Fertilizers, mfgd Animal Feed	$6,787 total	6,718 Crude Petroleum Heavy Fuel Oil Bauxite & Al Ores Gypsum & Crude Limestone Crude Rubber	$3,553 total	World Trade Center V. International Terminals ETC (VEXTRAC) FTZ Unification of several ports into one management
MIAMI							
1983	23,057		12,479 Food & Food Products Machinery Transport. equipment Paper Products & News print Rubber & Plastic products	$5,000 total	10,577 Food & Kindred Products Stone, Clay Vitreous & Glass Construction Materials & Supplies Beverages Electrical & Electronics		Free Trade Zone

Port	PORT ORGANIZATION Structure				LOGISTICS		Transport Mode				
	Agency	Mgt Role	Net Income (,000's)	Revenue (,000's)	Op. Exp. (,000's)	Location	Depth	H	T	RR	B	S
BALTIMORE	State Wide Port Authority	Landlord &OP. Container Terminal	n.a.	n.a.	n.a.	BackBay	50' channel 25-40 berth	2	160	2		
CHARLESTON	State Wide Port Authority 9 Commissioners Apptd by Gov.	Land Lord & Operator	n.a.	n.a.	$29.63 mil	River	35' channel 40' plan	5	94	2		17
HAMPTON ROADS	State Port Authority 11 commissioners Development monies from state	Land Lord Co-ordination planning	$3,509	.$15,421 (82')	$11,912 (82')	Rivermouth	45' channel 55' plan	1	135	3		85
MIAMI	County Seaport Department (Metro-Dade) Self-supporting	Land Lord	$1,449	$11,756 (82')	$2,773 (82')	Bay	36' channel 42' plan	1	50	2		18

H - Interstate Highways, T - Trucking lines, RR - Railroads, B - Barge lines, S - Ship lines

Systems are adequate. A key link to be expanded is the Fort McHenry tunnel, supported by $825 million federal Interstate monies. Dredge spoils from the 1.7 mile harbor tunnel will create new land for a marine terminal.

If coal export terminals were expanded, as originally proposed, dredging would be necessary in the main channel and alongside some wharves, in order to receive the super colliers. Current depths handle forty-two feet but fifty feet are necessary. Dredging plans in 1982 could cost as much as $840 million. Full project authorization has been held up for reasons of federal funding constraints.

The large upper reach of the Chesapeake Bay has ample shoreline for port expansion and the inner harbor has facilities that can be upgraded. The inner harbor is the core of a successful waterfront entertainment and office development with a World Trade Center building complex and ajacent hotels leading the rennovation. The port is considering selling the WTC. As a natural resource, the Cheseapeake Bay is sensitive to environmental changes. In the last decade, concern about its condition has increased and local and state governments carefully review proposed activities. The port is sensitive to such concerns and planning with them. Lastly, labor practices and regulations influence port competitiveness for general cargo.

Charleston

As an agency of the South Carolina Port Authority, considerable automony allows management to act in many ways similar to a private corporation. The port board is composed of nine members appointed by the governor and confirmed by the state senate for seven year terms. Though a state organization, the land-lord port operating costs are covered from revenues (1984 operating budget $29.6 million). Capital support from the state is in the form of general obligation bonds,e.g., the Wando River Container Terminal was underwritten by $56 million in state bonds.

The port's hinderland encompasses the Southeast and Central Midwest. Land transportation offers five Interstate Highway routes, two major rail system, ninety-four motor carriers and seventeen coastal barge operations. Ocean carrier service to and from fifty-six nations are promoted by fifty-seven steamship companies. The port has "28 first end arrivals" and "50 last out sailings," which offer cost and time savings on cargo storage and transit.

Land is available to the port on several banks of the Charleston Bay, Ashely River, Cooper and Wando Rivers. The natural anchorage afforded by the bay exits at Fort Sumter to the Atlantic Ocean. Only one-half hour from open sea, harbor channels are dredged to thirty-five foot depths and maintained by the Corps. Plans anticipated forty-two foot entrance depths and forty foot channel depths.

In 1983, Charleston trade totalled 2.8 million, of which about 64 percent of general cargo and 63 percent of container trade is export. Compared to 1973, 70 percent was import trade. Principal exports are textiles, fibers, chemicals, paper products, grain, forest products, wood pulp, clay and clay products, heavy equipment and machinery. Container trade is growing quickly (increasing from 69 percent of current trade total to 85 percent of total trade. Large sums have been invested in new container facilities (Wando Terminal, and Cooper River west bank) in the combined amount of $97 million. More export growth is anticipated

in Southern pine lumber and textiles machinery. To carry this cargo, motor carriers transport 74 percent in 1980 and are projected to carry 81 percent in 1990. Evergreen Line has selected Charleston as one of its East Coast load center ports-of-call on around the world liner service.

Increased container traffic in the larger vessels will be facing depth problems. Currently thirty-five feet, the more optimal depth would be forty feet. Since 1970, the Corps of Engineers have reviewed and studied the situation. Estimated project costs are $104 million but federal funds were not approved in 1984.

The port has opened a Foreign Trade Zone adjacant to the Charleston airport on the Interstate system and has permission to opreate a FTZ in Spartanburg, S.C.(200 miles inland). Also, the port established in 1983 the International Transport Center for "containerized cargo destined inland to come the 210 miles direct from Charleston before being cleared by Customs for reshipment to individual inland area business. Empties returning to Charleston will be available for export and thus offer cargo consolidation and eliminate one-way empty charges. New trade offices were opened in Brussels and Tokyo in 1983 and a state-wide delegation sent to China. It also has a state-of-the-art twenty-four hour on-line computer shipping document system -- the Orion Computer.

Hampton Roads

America's first port, the region of Hampton Roads is a collection of cities and urbanized portions of the Virginia tidewater. The cities of Newport News, Norfolk, Portsmouth and Cheseapeake and their surrounding areas comprise the port urban jurisdiction. Due to the proximity to the coals fields of West Virginia, and to a favorable rail cost position, Hampton Roads is by far the largest coal handling port in the country. For most other commodities including containers, there is heavy competition along the Eastern seaboard -- but coal is the domain of Hampton Roads.

In 1952 regional port competition was foreseen for the East Coast and the Virginia General Assembly created the Virginia Port Authority to consolidate the four existing Hampton Roads area ports and five smaller ports outside the area. The VPA is directed by a fourteen member Board of Commissioners in Norfolk. The natural common martime interest of the Hampton Roads is also shared by the large U.S. Navy facility in the sheltered Cheseapeake Bay. The VPA is also proceeding with a plan of consolidation for general cargo, and container facilities, owned and operated by the Norfolk and Western Railway Company.

In the peak year of coal export, 1981, Hampton Roads exported 52 million short tons of coal, and 4.7 million tons of corn and wheat, of a total export of 59.8 million tons. As with Baltimore ships were forced to wait outside the harbor as long as one month. With railroad, terminal, and Coast Guard cooperation, a registration and queing system smoothed out the backlog. Currently, key depths are forty-five feet and need to be expanded to fifty-five feet. The VPA landlord function is intensively coordination operations and planning. Some state development funds have assisted. In 1982 the port earned $3.5 million on revenues of $15.4 million.

Surface transportation to the port is by three railroads, and 135 trucking companies; 81 ocean carriers make calls. For some rail routes back to the coal fields, 353 public rail-highway grade crossings are on coal unit train routes.

In 1981 about $50 million was estimated for grade separation work. There is one connection for the Interstate System, I-95.

As coal exports increase and the port complex successfully diversifies its trade base, more traffic will result in all modes. Existing facilities are not at the moment stressed, but, as in the case of coal, significant overload is possible. Environmental impacts with all aspects of coal mining, transport, storage, processing, and ship loading may be significant.

There is also commercial development of the waterfront for office and entertainment activity. A Foreign Trade Zone and Export Trading Company have been established, and a World Trade Center. Should volume grow again, particularly for coal, dredging and land side rail congestion will be concerns.

Miami

One of the most recently developed, emerging ports in the country, Miami is in a gateway position to serve Latin American trade and to support the Carribean Basin Initiative. A measure of the rapid growth is that in 1960 Florida foreign trade was less than $700 million. In 1980 over $9 billion worth of cargo passed through the Port of Miami.

The six hundred acre Port is a non-operating department of the Metropolitan Dade County government. It is not as autonomous as a public authority or special district-type ports.

Trade in 1982 was 2.6 million tons and 1.7 million cruise ship passengers. Operating costs are carried by fees and lease earnings, while revenue bonds underwritten by the county support capital development. In 1982, $1.4 million was earned from $11.7 million revenue. Over fifteen million tons are planned in the year 2000. Current exports are food and food products, machinery, transportation equipment, paper products and news print, rubber and plastic products. Bulk cargoes are not handled by the port. The port is going after high value containerized cargo trade.

The port is at the end of a long distribution network for the country. It is served by fifty motor carriers, two railroads,and eighteen ocean carriers. To the extent that logistical problems could occur far back up the system, the port, as other Atlantic coast ports, might be affected. For example, the Conrail corridor is of concern, particularly at the Alexandria, Virginia freight yards. Florida Interstate components and the Jacksonville freight yards may need extra capacity should cargo grow significantly. Rail traffic southbound is six times larger than northbound.

Highway and rail approaches to the port are through the fast growing office area on downtown Miami's border. Access to the port island is by one highway bridge (two lanes) and one rail bridge (one track) Plans have been announced for building a new bridge and later a tunnel. Local opposition does not want heavy trucks affecting downtown ambient noise levels, traffic, and property values. Some prefer reconstruction of the existing bridges for short-term needs. General costs may reach $30 million. Direct access is also necessary to I-395 over a four block, local street segment.

The port islands are not fully developed. Cargo growth will require new land space and more intense use of existing facilities. An advantage that the port has is the capbility to manage space on a day-to-day basis by being a

landlord. It does not have contracts with unions or facility operators in terms of fixed cargo and activity locations. Given operational needs, cargo may be sent to the most appropriate facility. Plans includes additional dredging from thirty-six foot channels to a forty-two foot channels.

The port has established a Free Trade Zone and is establishing a Latin American network of representation and service.

Gulf Coast

The ports of Houston and New Orleans serve the heartland of the nation. Historically, the latter specializes in agricultural exports and the former in coal. Table VI-2 presents basic data.

Houston

The Port of Houston started in the Buffalo Bayou in 1836. With rapid growth the agency has been renamed from the Harris County Ship Channel Navigation District to the Port of Houston Authority in 1981. Directed by five commissioners, two named by Houston City Council, two by Harris County Commissioner's Court, and a chair named by both governing bodies. In 1979 further public support was received when Harris County voters approved additional financing for Barbours Cut and turning basin facilities.

In 1983 the port volume was 40.7 million tons, of which exports were 22.2 million tons. On that activity the ports earned $11.4 million from $43.5 million in revenue. All five grain elevators on the channel handled 8,516,966 tons. Most of the bulk in the port is controlled by private facilities and include crude petroleum, petroleum products, petro chemicals and grain. There is also a Foreign Trade Zone.

The port is prinicipally an owner-operator facility: Barbours Cut Container Terminal operations, the bulk terminal operations and the turning basin and the Public Grain Elevator. By virtue of the role of private enterprise in the industrial development in the area,considerable capitalization has occurred for facilities along the entire length of the fifty mile channel. These are owned and operated by private organizations and sold or purchased on the real estate market as such. They must conform to the City of Houston's and Harris County: rules and regulations governing the navigation district as a geographic area within the municipal county boundaries. For the most part space along the channel is limited and highly valued.

The port is served by the Southern Pacific, the Union Pacific systems, Santa Fe, Burlington Northern, and the Missouri-Kansas-Texas railroads. Within the port facilities a port terminal railroad association handles switching services for both public and private activities in the upper section of the channel. Motor carriers number at least one hundred for the port and the area served by an extensive freeway system including several Interstate loops leading to eight freeways. At the Gulf Coast, there is access to the intercoastal waterway for barge traffic. With traffic as dense as it often may be on the channel a voluntary vessel traffic system is in operation by the Coast Guard. As a result in the past three years, the port has "maintained one of the lowest vessel accident rates among major U.S. ports."

Table VI-2 Selected Port Characteristics - Gulf Coast

Port	TRADE						
	Total Int'l		Exports		Imports		
	Tonnage (,000's)	Value (000,000's)	Tonnage (,000's)	Value (000,000's)	Tonnage (,000's)	Value (000,000's)	NEW IDEAS/ACTIVITIES
HOUSTON 1983	40,785	$17,955	22,287 Ind. Mach & Equip Grain Wheat	$10,302 total	18,497 Passenger Autos & Vehicles Crude Oil Iron & Steel Products	$7,652 total	FTZ World Trade Center
NEW ORLEANS 1983	36,573	$11,192	24,593 Grain Coal Animal Feed Heavy Fuel Oils Syn. Resins & Plastics	$6,541 total	11,979 Fuel Oils Iron & Steel Products Lubricating Oil Al & Al Alloys	$4,651 total	FTZ World Trade Center Consolidation service to small volume shippers

Port	PORT ORGANIZATION					LOGISTICS					
	Structure		Net Income	Revenue	Op. Exp.			Transport Mode			
	Agency	Mgt Role	(,000's)	(,000's)	(,000's)	Location	Depth	H	T	RR	B	S
HOUSTON	Port Auth. 5 Commissioners 2 app. by City council 2 app. by Harris Commissioners court Chairman named jointly	Operating	$11,430	$43,508	$42,689	Ship Channel	30 berths	100	5			
NEW ORLEANS	State 7 Comm'rs 5 yr. terms App'td by Gov Nom. by local groups. Reflects 3 parishes in Port area.	Land Lord	-$1,374	$31,133	$32,507	River	40' channel 36' channel	3	6	100		

H - Interstate Highways, T - Trucking lines, RR - Railroads, B - Barge lines, S - Ship lines

The Houston ship channel does cause some concern environmentally. As of 1983, it did not meet water quality standards and was projected not to meet them in the future without significant capital expenditures. A study is now underway to consider the possibility of instream airation to offset the pollution levels. Thus expanded new and amended waste water permits (both state and federal (MPDES) cannot legally be recommended for issurance under the existing allocation. It is estimated that more stringent treatment levels would cost $180 million in addition of $15 million a year for operation and maintenance costs."

The port has experienced logistical problems both in number of ships in the channel and rail trains leaving and entering the port. Shipping congestion has been handled for the most part by the Coast Guard Vessel Management system mentioned earlier. Also is the fact that facilities are being moved further down the channel to the coast, such Barbours Point, which lessens the need for traffic to come up the entire channel. The rail problems occurred when grain exports were high. In 1983 a plan was developed called the Houston Project. All rail corporations belong to it and through constorium agreements help to control all train track facilities far back into the countryside. For an area with effectively no zoning and less powerful local and regional governments than other parts of the country, coordination has developed essentially through large actors in the marketplace. Now that the channel is almost fully developed, coordination of shoreline useage and adjacent land has become more necessary. The channel is governed principally by Houston regulations. The largest concern of channel activities still has been environmental impacts. There is a long history of the water being unable to support wildlife; however fish are entering back into the channel. A large cause of the pollution is nonpoint source pollution from urban runoff. Thus a significant generator is not solely the ships but the surrounding industrial activity.

New Orleans

The Port of New Orleans on the Mississippi River is the true bellweather port for the agricultural and natural resource heartland of the nation. It draws upon almost the entire Midwest, and further upriver to the Northeast and Northwest sections of the central part of the country. The New Orleans community is sensitive to the relationship, in that for the last two hundred years the city has served as a cultural and trade headquarters for large hinterland service zone.

The port is an agency of state government, but with a large degree of autonomy. Stipulated by state law, the seven citizens are appointed by the governor, to the Dock Board for five year terms. They are selected from different maritime related interests: four from Orleans Parish, two from Jefferson Parish and one from St. Bernard Parish. In the case of the Parish of Orleans, a nominating group is composed of the Chamber of Commerce of the New Orleans Area, New Orleans Board of Trade, Ltd., New Orleans Steamship Association, International Freight Forwarders and Custom Brokers Association of New Orleans, Inc., International House, Maritime Trades Council of Greater New Orleans and Vicinity, Metropolitan Area Committee, Lousiana Farm Bureau, New Orleans Cotton Exchange, International Trade Mart, Urban League of Greater New Orleans, Dillard University and Xavier University. Such broad interest representation formalizes group participation and appears to enhance successfully the community's stake in the port.

In 1982 port trade totalled 47.2 million tons of which exports were 28.9 million tons (grain 15.3, coal 4.8 and animal feeds, 2.8 million tons). Principal imports were fuel oils, 18.3 million tons, barged up the river system. A

measure of the extent of the port's role in U.S. bulk foreign commerce is that in 1981, twenty three percent passed through the port.

The port is served by barge carriers. The industry is undergoing a shakeout now due to overexpansion of capacity, lower trade volumes and higher prices. In 1984 one company tried an experiment carrying containers by barge from New Orleans to the Chicago area. The service was not utilized much by shippers but the operation was shown to be feasible. Other studies indicated that the entire industry must contract to survive. Rail systems serving the port area number six. The are increasing their competitive position at the expense of barge operators and motor carriers. Unit trains running parallel to the river offer alternative service. And, a trend may start as one road, the CSX, purchased a barge operator, Atlantic Coast. Upriver logistical bottlenecks include Locks and Dam 26 on the Mississippi, a new dam and lock are necessary for Gallipolis on the Ohio River, and replacement locks on the Monogahela.

Land facilities have sufficient space along much of the river's urban New Orleans area for development or rehabilitation of aging, general cargo facilities. Some land was dedicated in the central city for the World's Fair location, office and commerical development and entertainment complexes. A localized bottleneck is the Inner Harbor Navigation Canal, restricted by bridge, lock and depth dimensions between Lake Pontchartrain and the River.

River and coastal access depths are a concern if the port is to handle deeper draft ships for coal exports. The major restraint is forty foot depths at the outlet depending upon which channel is taken. Currently, topping off is necessary for large loads, but fifty foot depths are planned.

The port has a Foreign Trade Zone, World Trade Center building and is considering an Export Trading Company. While these outreach activities occur, railroads are providing strong land bridge competition to the West Coast with faster service than via the Panama Canal. Slurry systems might lessen barge export volume, whenever implemented. The state has established a Task Force to study the river system port needs, and an authority for a bulk offshore terminal to be shared by river ports. These efforts in the short-term will also help offset dredging constraints. General cargo labor handling, as on the East Coast, is a continuing concern. But the Port has significantly expanded and installed modern container facilities, and more are planned.

Pacific Coast

Ports in the Pacific provide illustrations of rapid growth and geographic advantage for the Pacific Basin trade. As a group, they experience the opportunities of expansion, and the stresses. Table VI-3 presents their profiles.

Long Beach

The port's development did not begin in earnest until 1911 when the City of Long Beach completed a municipal pier. At that time, the city was vying economically with the City of Los Angeles, and the nearby Port of Los Angeles.

As a municipal entity, the Port is directed by a five member Board of Harbor Commissioners, appointed by the City Council. Membership is actively

sought by members of the community. Officially there is no requirement that certain segments of the community be included but the Council seeks members with businesses, international trade or financial experience. For six year terms. The Harbor Department acts as an independent agency, subject to Council review.

Net income in 1983 was $25.5 million of a total revenue of $64.2 million, based on principally land-lord charges for most port activity.

Trade is growing quickly with container import expanding fastest. Total tonnage in 1983 was 47,989,799 MRT composed mostly of petroleum (bunker fuel), general cargo, and containers. Leading export cargo was bulk petroleum and coke. To handle this volume, the port has 4.5 square miles of land area. Water depths range from sixty foot channel and turning basin to seventy to seventy-six feet in anchorages and berths. Additional dredging plans for the year 2020 anticipate up to eighty-two feet. The port is served by an extensive network of Interstate and California freeways, including three major Interstate routes. Over two hundred trucking firms and three railroads (Southern Pacific, Santa Fe, Union Pacific). Over 53 shipping lines also serve the port.

With such rapid growth, the transportation infrastructure in the harbor areas has not kept pace for current needs and projected year 2020 growth. Cargo is anticipated to grow to 100 million tons, mainly in containers. Ship sizes and frequency of visits require deeper berths, channels, basins and improvements in almost all facilities. Additional land is necessary and will provide by dredge spoil land fill, in and outside the breakwater. The total capital cost of the project approaches $350 billion. Land side improvements planned include transportation systems and private industry port-users.

Transportation bottlenecks appear now on local road systems, with out-of-date arterials,and insufficient bridges, poor internal circulation and safety hazards. Rail systems need improvement and a large project with the Port of Los Angeles is already underway - the Joint Intermodal Container Terminal — which will move Southern Pacific rail container facilities from older yards in Los Angeles about twenty-five miles closer to the port complex border. The Long Beach Freeway needs additional upgrading for projected growth. The Terminal Island Freeway needs direct access to other nearby freeways. In general terms, the rail and highways systems leading into Southern California are modern, well maintained and have the capability to handle anticipated cargo increases by the year 2020. Of concern will be the additional wear and tear caused by larger containers, vehicles, and weight from both modes as a result of technological changes and dimension increases permitted under the Surface Transportation Act of 1982. It may be advisable for motor carriers to avoid rush-hour travel on some routes.

The Port of Long Beach has a Foreign Trade Zone, is reviewing the possibility of an Export Trading Company, and announced plans for a large World Trade Center complex in downtown Long Beach. The Port is in a sound financial position and has adequate access to the capital markets. However, to facilitate the growth foreseen in the 2020 plan institutional, financial, dredging and environmental issues will need to be worked out closely with the large port community.

Los Angeles

The Port of Los Angeles developed before the port of Long Beach, in part because the City of Los Angeles had aggressively sought municipal ownership of the harbor facilities. By 1909 the city had annexed a narrow strip of land from

Table VI-3 Selected Port Characteristics - Pacific Coast

Port	TRADE Total Int'l Tonnage (,000's)	Value (000,000's)	Exports Tonnage (,000's)	Value (000,000's)	Imports Tonnage (,000's)	Value (000,000's)	NEW IDEAS/ACTIVITIES
LONG BEACH 1983	20,011	$20,103	12,203 Petroleum, bulk Coke, bulk Grain, bulk Chemicals, misc. Wastepaper	$5,486 total	7,807 Petroleum, bulk Steel & Steel mfg. Electric Mach. & parts Plastics mfgs. Clothing	$14,617 total	World Trade Center, Intermodal Container Freight Center
LOS ANGELES 1983	12,212	$15,471	6,060 Petroleum Coke Coal Iron & Steel Scrap Cotton Fruit	$3,605 total	6,152 Petroleum Automobiles Bananas	$11,866 total	World Trade Center
PORTLAND 1983	14,833	$4,388	12,521 Wheat Woodchips Barley Soda Ash Lumber	$2,172 total	2,311 Alumina Limestone Rock Autos, Vans & Parts Misc. Iron & Steel Products Salt Crude	$2,216 total	FTZ, Portland Ship Repair Yard
SEATTLE 1983	8,976	$14,376	4,553 Grain Fruit	$2,521 total	4,423 Petroleum Automobiles	$11,855 total	Consolidated intermodal transport rates Container unit trains

Port	PORT ORGANIZATION Structure Agency	Mgt Role	Net Income (,000's)	Revenue (,000's)	Op. Exp. (,000's)	LOGISTICS Location	Depth	Transport Mode H	T	RR	B	S
LONG BEACH	City Board of Commissioners 5 App'td by Mayor 6 yr. term	Land Lord	$25.5 mil (83')	$64.2 (83')	$36.2M (83')	Coastal	60' channel 75-82' plans	3	200	3		83
LOS ANGELES	City Board of Commissioners 5 appt'd by Mayor	Land Lord	$41.7 mil (84')	$80.6 (84')	$33,581 (82')	Coastal	51' channel 75-82' plans	3	200	3		46
PORTLAND	Indep. Port District 9 member board App'td by Gov.	Operating	$4,992 (83-84')	$58,296 (83-84')	$54,381 (83-84')	River	40' channel 12.2 m plans	2	64	3		20
SEATTLE	Ind Munic. Corp 5 elected commissioners	Land Lord	$10,174 (83')	$94,819 (83')	$84,645 (83')	Coastal	Unlimited channel 12-73' plans	2	34	4	10	65

H - Interstate Highways, T - Trucking lines, RR - Railroads, B - Barge lines, S - Ship lines

almost twenty-five miles inland (to the north) reaching directly to the Wilmington and San Pedro area.

As a municipal agency, the port is managed by a five member Board of Harbor Commissioners. Appointed by the mayor, and confirmed by the city council, membership is balanced among the various port interests.

The port acts in a landlord capacity. In 1982 its net income was $42,584,547 on a revenue base of $69,793,207.

Trade is benefiting from the Pacific Rim growth and the port is heavily investing in new facilities and expanded operations. Major export items are petroleum, scrap metal, general cargo (and container freight). Growth is anticipated primarily in container freight. The port facilities are housed on seven thousand acres of land. It is now completing a rigorous channel dredging and land fill program to facilitate large size ships. The main channel has been dredged to fifty-one foot total (federal funds supported work to the forty-five foot depth). Additional plans are to depths ranging from seventy-five to eighty-two foot depths. Some land area is available for replacement activity. Fish cannery operations are closing down. The shipyard component is operating at low levels as foreign builders outbid many projects.

The dredging project may very possibly be the last of the "old style" Corps of Engineers projects in the nation. The project started in 1965 and was not completed until 1984. Approved costs in 1979 totalled $26,625,000. Problems encountered were institutional and technical. For example, among the federal, state and local governments over twenty-eight coordination points were offically necessary between 1977-1979. This also included long-term coordination with fourteen federal agencies, thirteen state agencies, one regional and six county agencies, nine municipal agencies, three chambers of commerce, and eighteen environmental groups and interested parties. Such numbers very possibly under state what some other ports presently coordinate with on an ongoing basis. Tech nical operations are hindered by delays in finding an electric dredge instead of a diesel dredge (which emits more air pollutants).

The port shares development plans with the Port of Long Beach on two key projects: the Joint Intermodal Container Freights Terminal and the 2020 Plan. In the ITCF project, a completely new transfer operation will be built, in three stages on 260 acreas of Port of Los Angeles land. By full completion in the year 2000, total escalated cost is estimated at $130 million with the first phase now under construction. Capacity requirements would grow from a 1981 two-part base of 123,000 containers annually, 908 daily, to 612,700 annually andd 4,517 daily in 2000. The facility will connect Southern Pacific container rail service twenty-five miles closer to the port than existing facility locations. It is to be built and operated by a specially created authority with powers to raise capital. Loan quarantees are provided by the Long-term Industrial Bank of Japan, Ltd.

Land and rail logistical bottlenecks are generally shared with those discussed under the Port of Long Beach profile. Land space availabity is constrained without significant new land fill operations, as suggested in the 2020 plan.

Portland

The Port of Portland is located at the confluence of the Willamette river and the Colmbia River. Its hinterland draws much further back, though, on the combined Columbia/Snake River system into the upper Northwest of the country. It perceives itself as serving the Midwest, in terms of large population centers because the upper northern tier of the country is undeveloped although a source of some export products.

In 1891 the Oregon legislature established the Port of Portland. In November, 1970 the citizens of the City of Portland and Multnomah County agreed that the port itself and the Portland Dock Commission should be merged and the new Port of Portland would be a municipal corporation. The state legislature "approved expansion of the port district to include Washington and Clackamas counties in 1973".

The port is directed by commissioners appointed by the governor of Oregon. Representing the three Oregon counties involved for the Port of Portland district,the nine member board of commissioners serve without pay.

The port trade position in 1983 had 9.8 million tons for export and 2.1 million tons for import totaling almost 12 million tons. The majority of this was dry cargo at 11.7 million. The leading trading partner was Japan for export at 3.5 , Korea for 1.4, and India for 1.3 million tons. The major commodities exported include wheat (6.8 million tons) barley (605,575 tons), and wood chips (650,886 tons), and in lesser amounts lumber, metal scrap, paper board/liner board, soda ash, and bentanite clay.

The port has assets valued at $403,137,000. The port is supported by property tax revenues principally and some capital grants from federal and local governments. This was done to prevent it from relocating to another location another part of the country. And industrial development revenue bonds were issued to Upland Industrial Development Company, Union Pacific Railroad Company, and Stichers Steel Products Company, for $14.7 million.

The port has been concerned by dredging and bridge problems. The Columbia River Bar dredging project is anticipated to be finished by 1985 bringing the depth from forty-eight feet to fifty-five feet. This will allow greater efficiency for the forty foot channel at the Columbia River to Portland. Further significance is in the fact that "it is believed that with better load planning and utlilzation of high water river stages, ships will be able to call and depart Portland with heavier loads." The Bonneville Dam Lock system needs rehabilitation and enlarging. Such improvements will bring it into conformity with other lock systems on the Columbia/Snake river system. "At the present growth rate, the lock will reach capacity by the end of the decade - with congestion already emphasising the importance of the project." The stage of the project is that it has been authorized and primarly soil testing and engineering work have already been accomplished, although in 1985 Congress may authorize the project. Two bridges have been of concern and there is now work underway to replace "the seventy year old Burlington Northern Railroad bridge spanning the Willamette river."

The port is a owner-operator facility and in addition to maritime facilities has a ship yard repair facility, and is responsible for managing the commerical and general aviation of the area. In contrast to many other ports in

the nation, Portland has an interesting measure of success in that on May 15, 1984, its voters supported a new indebtedness of $40 million for general obligation bond measure to fund the rebuilding of the northern half of Terminal Two on the west side of the Willamette River.

The port has considerable land space available for development and leases it out in accordance with a plan development process. It has helped in some cases expedite industrial development including "a major filling project by the port's dredge Oregon in order to keep a major company in the port district (CUMMINS).

The port is served by three railroads, Union Pacific, Burlington Northern and Southern Pacific and an Interstate freeway system heading south and east. Over seventy major truck lines call on the port. The port is also served by the Columbia/Snake river barge navigation capabilities as far as twelve hundred miles inland.

The port has an extensive goals statement and public involvement in its activity. It took a leadership role in forming the Columbia/Snake River System Marketing Group. It has connsolidated tariffs, reduced their length and complexity and organizing through service. Lastly, railroads have lowered or maintained their rates to Portland to draw Midwest cattlehides and Texas and Tennesee cotton for export. Imports rates have increased.

Seattle

As the leading port trading with the Orient, Seattle holds a unique position among the nation's ports. This relationship is due to the port's role in actively seeking trade, and being a full-day closer to the Orient in sailing time than other "lower - 48" ports. In 1896 the Gateway role was initiated with the arrival of the first Japanese vessel in the trans-Pacific trade. In 1897 Yukon gold fixed Seattle as a staging point.

Governed by five commissioners elected by King County voters, for six year terms, the Port also manages Sea-Tac International Airport. The Commission is balanced with business and labor leaders. The Port acts in a landlord capacity. In 1983, port net income was $10.1 million on revenues of $94.8 million. Total trade tonnage was over 9 million metric tons (MT) of which 1.6 were grain, and 1.1 were petroleum. Containers accounted for 5.2 million. This activity is accomplished on deep Puget Sound natural coastal location, up to seventy-three feet of water, with a land area of 779.85 acres.

Surface logistics are performed by two Interstate Highway links, thirty-four motor carriers and four railroad systems. Ten barge operators serve the coastal Alaska trade. Sixty-five ocean carriers serve the port.

The port land area is surrounded by built-up sections of the City of Seattle. Space appears to be limited, especially for container operations.

Port revenues are supported by a property levy upon King County real estate for about ten percent of its annual operating budget. That amount is directed by port policy solely toward capital improvements so that the citizens will recognize a constantly improving equity position in the community.

The port is the major container port on the Pacific Coast topped nationally only by New York in 1982. Geographic location, advanced terminal equipment, and

interlocking customer services utilizing the newest generation of data/processing facilities help make this possible. An example of aggressive customer service is the port assuming a contract rate and cargo assembly role. The port has contracted for unit trains serving the Midwest and East, arranging consolidated shipping rates for LTL and LCL.

With strong community support, the port has developed a comprehensive statement of goals, policies and programs incorporating economic, service, environmental and community needs applicable to maritime and aviation activities. Illustrating compatible activities, the port has helped upgrade a pier for small fishing vessels, build a new fish-processing and cold storage facility.

Inland transportation routes are well established and maintained. Seasonal snow blockages may delay motor carrier or rail service but usually for a short period. Depending upon the cargo, the hinterland zone reaches the Midwest and East. Most of the aagricultural, wood and mineral cargo originates from the Upper Midwest and Northwest. Some hinterland competition is with Tacoma,which opened a new container facility that drew Sea-Land from Seattle, the Canadian Port of Vancouver, and Portland. Some rail service concerns existed when the Chicago, Milwaukee, St.Paul and Pacific Railroad declared bankruptcy.

The port appears to have a positive relationship with local public and state agencies. Environmental consciousness has been a strong value of the Northwest and has been incorported into port planning and operation. Deregulation has affected opertors and provided lower, long-distance contracts rates and cargo consolidation innovations by the port. In general, the well maintained relationships make conflict mitigation and resolution more likely.

CONCLUSION

These ten ports represent the spirit, dynamism and importance of the general port role in the export transportation system. Each has had historical development patterns still governing its relationship with the immediate urban area and hinterlands. Under the broad force field changes occurring in the world economy, trade relationships, domestic transportation and public policy, they are sources of innovation and leadership. Most ports would act in the same way if confronted with similar externalities. Collectively, all are concerned by finance, trade volumes, trade composition, direction and technology requirements, labor costs. As large-scale new facilities must be developed, they are faced with intergovernmental public policy coordination that must be factored into the time and expense calculations. To the extent work can be accomplished with existing facilities and increasing productivity, then response-time can be shortened with less potentially negative impacts and contact with the intergovernmental system.

In any case, it appears that ports must continue even more to act outside the federal support system (trade promotion, service, dredging, customs, etc.) as the federal government confronts resource limitations. They must also face competition among themselves, not just regionally, but now as load centers, or parts of land-bridge, mini-bridge systems. Consolidated rail, barge, and motor carriers contract and shipments will force reliance on fewer carriers with less competition. Ocean carriers now can arrange through service agreements to simplify the shipping process, but also to lessen the port's role as middleman or intermediary in many cases. Such challenges will continue.

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[1] Port narrative is based on full case studies contained in Phase I and Phase II interim reports and working papers.

Chapter VII - DREDGING POLICY

Introduction

This section will examine why port dredging is important, how it is financed and alternatives to the need for dredging. Almost every port in the nation requires routine maintenance dredging to keep existing channels and wharf areas free of silt. Some locations have greater difficulty than others. River ports, especially in the Lower Mississippi, have more need at the river mouth than immediately in the port confines. Some coastal ports are man-made such as Los Angeles and Long Beach, while others are in bays, inlets or far into the upper regions of a large bay, such as Hampton Roads, Baltimore, Charleston, and Seattle.

Ironic as it may be, the significance of dredging has come full circle. Apparently, over ten year ago initial concern about the water ports and the need for dredging was generated by the imperatives of petroleum import. The nation was in an energy crisis and anticipating larger supertankers. That pressure has been relieved somewhat by changing technology, use of off-shore pipelines and commodity flow patterns. However in the late 1970's early 1980's coal became very important as an export commodity with a promise that grain would soon follow. Both exports benefit from large, deep draft ships. Now, although petroleum is still being imported in supertankers, the load center concept and supercontainer ships generate a demand for greater depths. The export element of deep draft vessels, whether coal or grain has turned down and is not anticipated to reach soon the levels envisioned at the earlier period.

Nevertheless, dredging is critical to the long term health of ports and national export capability to benefit from economies of scale offered by newer technologies in ocean vessels. Yet, there are external constraints that may lessen advantages offered, to the exporting and importing ports.

Lastly, as an element of intergovernmental public policy dredging is one of the most immediately significant examples before the ports. Technological demands may far outstrip port institutional and financial settings. The willingness and capability to respond will determine the future of many ports in the country.

Importance Of Dredging

An effective way to visualize how the question of dredging becomes important is demonstrated by the following tables. Table VII-1 illustrates specifications for the largest and average-sized vessels. Table VII-2 shows related port depths (channels, wharves, turning basins). The largest vessels in the world draw from 67 to 81 feet. Dry bulk carriers require 67 feet, have a beam of 164 feet, a length of 1,030 feet and carry up to 224,000 dead weight tons (DWT). Combination carriers go slightly higher for a depth of 71 feet carrying 278,000 DWT. At the moment the largest in the world is the general tanker which draws 81 feet and 556 DWT. Some also reach as much as 94 feet however they are slightly smaller in length, beam and capacity. All carry over 500,000 DWT. Note that the largest full containership carries 52,000 dwt and draws 43 feet, but average world fleet vessel sizes and characteristics are considerably lower for actual operational uses. Even at those levels some of our ports are reaching their limits such as with combination carriers at 45 feet, general tankers at 38 feet, dry bulk carriers at 35 feet.[1]

Table VII-1

Largest Vessels and Average Vessel Size in the World Fleet[1/]

Vessel Type	Largest Vessels in the World Fleet				Average Vessel Size in the World Fleet				Total Number of Vessels
	Capacity[2/] (000's)	Length[3/] (ft.)	Beam (ft.)	Draft[4/] (ft.)	Capacity[2/] (000's)	Length (ft.)	Beam (ft.)	Draft (ft.)	
Breakbulk Freighter	34 dwt	603	84	37	8 dwt	391	55	24	9,924
Partial Containership	31 dwt	600	90	38	11 dwt	444	64	27	1,290
Full Containership	52 dwt	944	106	43	18 dwt	573	79	30	705
Roll-On/Roll-Off	42 dwt	599	106	39	9 dwt	453	69	23	638
Container/Ro-Ro	44 dwt	808	106	38	12 dwt	514	75	25	46
Pallet Carrier	15 dwt	552	85	33	7 dwt	374	60	23	23
Barge Carrier	49 dwt	858	107	40	32 dwt	775	100	32	32
Dry-Bulk Carrier	224 dwt	1,030	164	67	34 dwt	598	84	35	3,912
Combination Carrier	278 dwt	1,109	179	71	106 dwt	805	117	45	239
LNG Tanker	82 dwt	900	138	44	45 dwt	747	109	32	64
LPG Tanker	122 dwt	892	128	54	15 dwt	427	64	25	372
Chemical Tanker	82 dwt	833	113	46	13 dwt	405	60	25	532
General Tanker	556 dwt	1,504	226	81[5/]	75 dwt	661	97	38	4,364

[1/] As of January 1, 1982, for foreign-flag vessels, and June 1, 1982, for U.S.-flag vessels.

[2/] Capacity in terms of thousands of deadweight tons (dwt).

[3/] Length shown is length overall (LOA), when available, otherwise length between perpendiculars.

[4/] Draft shown is loaded, or load draft.

[5/] There are three other tankers in the world fleet having a loaded draft of 94 feet, but they are designed with a lesser length (1,359 ft.), beam (207 ft.), and deadweight (545,000-546,000 dwt).

Source: Maritime Administration, Office of Port and Intermodal Development and Office of Trade Studies and Statistics, 1983.

Source: U.S. Department of Transportation, Maritime Administration. A Report to the Congress on the Status of the Public Ports of the United States (Washington, D.C.: Government Printing Office, August 1984), p. 19.

Table VII-2

SUMMARY OF STRAIGHT CHANNEL DEPTH AND WIDTH
FOR EACH MAJOR U.S. PORT (DEPTH IN FEET)

	WIDTH				
HARBORS	350-400	400-500	500-600	600-800	800-1000
Portland					35
Boston	32				35
Providence	35		40		
New London			33		
New Haven	35	35			
New York	35	35	35	35	
Philadelphia		40		40	40
Albany	32	32	31		
Chesapeake		35		42,37	41,40
Baltimore	27			42	35
Charleston	35,33	35	35	35	35
Norfolk				42,40,45	45
Wilmington	38	40			
Savannah	38	40,38	40		
Jacksonville	30	38,39	34	42,38	
Miami		38,35			
Tampa	34,32	36	36		
Mobile	40	40	42,40	40	
New Orleans		36,33	40,30,38		
Port Arthur	40	40			
Corpus Christi		45	47,47		
Houston	40,35			42,40	40
Los Angeles		47			
Long Beach				60	
San Francisco	30	45,30,35	35,30		
Portland		40	40	40	
Coos Bay	30				
Seattle					55
Juneau					30
Honolulu	35	40			
Duluth					

Source: Panel on Harbor/Port Entrance Design, Marine Board Assembly of Engineering, National Research Council, Problems and Opportunities in the Design of Entrances to Ports and Harbors -- Proceedings of a Symposium (Fort Belvoir, Virginia, August 13-15, 1980), p. 72.

Clearly evident is the contrast between growing maximum ship fleet sizes and draft requirements with current port capabilities, regardless of cargo and trade direction. The issue has been anticipated at least a decade ago as technology rapidly progressed. Concern is less immediate now for export and more likely a problem for import by large container ships employing the load center concept. Illustrating earlier concern is the fact that legislation was introduced and special studies conducted as part of the U.S. Senate energy oversight activities. The National Fuels and Energy Policy Studies, authorized by Senate Resolution 45, May 3, 1971, created a special committee. The issue then was petroleum and how it may be best imported, given predictions that importation will continue to grow quickly requiring larger vessels. One study concluded that deep water ports are indeed desirable, however coastal port costs and environmental impacts suggest strongly that off-shore deep water ports should instead be developed. Draft legislation was even proposed and comprehensively reviewed by governmental agencies. One of the key reasons for considering offshore facilities was that authorization to dredge would be too time consuming, costly, and complex a process. It would also encounter local port area fears of potential negative impacts from additional large petroleum refineries nearby, and the introduction of such large ships with attendent environmental impacts.[2]

Whether deep water ports are necessary for exports or imports, it apears that technology is forcing the American port system to remain competitive by enjoying the promised economies of scale. It is almost as if the choice is not that of the United States or individual ports, but more ne of how best to catch-up technologically. This may be likened to the introduction and impact of container cargo boxes as a technological breakthrough thirty years earlier. Dredging appears to be a feasible route to increase capacity for carrying commodities such as coal and grain, with side benefits for import of petroleum and containers by super-sized ships. Due to the turn down of export demand, particularly for coal, cargo flow will not increase as fast as originaly projected, however in the long run potential increases are still promising and dredging seaports will make a difference.

The limited obvious capacity of American ports to handle deeper dratt ships became during the coal export boom in the early 1980's. Quickly responding though to market demand, many ports announced plans(Tables VII-3)to expand existing coal through-put facilities or to build new ones. According to a 1982 survey[3] existing capacity was 94.4 million tons of coal export although facilities were designed for 189.8 million tons. Expansion could add 160.4 million tons, but by 1982 when the boom was slowing down only 23.0 million tons of expansion construction were underway. Most of this expansion was at Newport News, Baltimore and Philadelphia.

At one point, effective total capacity by 1985 might have been as high as 277.8 million tons. Large investments would have had to be made in existing new facilities. This would mean, for example, improving railroad rights-of-way, unloading and storage facilities in the port vicinty, ship loading facilities, and water capacity to handle larger and deeper ships.

Depths necessary to support activity originally projected run from fifty-five to eighty-feet. These plans have been substantially revised and postponed but do represent original estimates. For example, Hampton Roads had anticipated fifty-five feet and Los Angeles/Long Beach up to eighty. The projects are not cheap. In 1980 dollars Hampton Roads would have required $438.5 million for the deepening plans, which is not excessive when compared to other plans. The range

Table VII-3

Existing and Potential Effective Capacity for Handling Export Coal at U.S. Ports

Port/Terminal	Vessel Size (dwt)		Existing Capacity (10^6 tons)		Capacity Expansion[a] (10^6 tons)		Total Mid- to Long-Term[b] Effective Capacity,[a] 1985 (10^6 tons)
	Existing	Proposed	Designed	Effective	Planned	Underway	
East Coast							
New York (P)[c]	80,000				5.0		5.0
Philadelphia, Pier 124 (E)[d]	60,000		5.0	2.5		6.5	9.0
Camden (P)	35,000				2.0		2.0
Wilmington (P)	30,000				7.5		7.5
Lower Delaware Bay (P)	100,000+				10.0		10.0
Baltimore (E)	70,000	100,000+	27.2	16.6	11.0	6.5	34.1
Norfolk-Pier, 6-North (E)	80,000	100,000+	58.0	29.0	7.3		36.3
Pier, 5-South (E)			8.0	4.0	1.0		5.0
Newport News, Pier 14 (E)	80,000	100,000+	33.0	16.5			16.5
Pier 15 (E)			14.6	5.3		5.0	10.3
Pier 9 (E)					5.0		5.0
Portsmouth (P)	50,000	100,000+			10.0		10.0
Morehead City (P)	50,000	100,000+			5.0		5.0
Charleston (P)	40,000	50,000			5.0		5.0
Savannah (P)	50,000	70,000			7.5		7.5
Brunswick (P)	30,000	43,000			5.0		5.0
Total			145.8	73.9	81.3	18.0	173.2
Gulf Coast							
Mobile (E)	60,000	100,000+	11.0	5.5		5.0	10.5
New Orleans, Davant (E)	60,000	100,000+	14.0	7.0	3.0		10.0
Myrtle Grove (E)	60,000	100,000+	6.0	3.0	9.0		12.0
Mile 118 (P)	60,000	100,000+			4.0		4.0
Baton Rouge (Burnside) (E)	60,000	100,000+	5.0	2.0	4.0		6.0
Port Arthur (P)	60,000	100,000+			2.0		2.0
Galveston (P)	55,000	100,000+			10.0		10.0
Corpus Christi (P)	75,000	100,000+			0.5		0.5
Total			36.0	17.5	32.5	5.0	55.0
West Coast							
Los Angeles (E)	100,000+		4.0	1.5	7.5		9.0
Long Beach (E)	100,000+		4.0	1.5	5.0		6.5
Sacramento (P)	30,000	40,000			1.2		1.2
Stockton (P)	35,000	40,000			1.2		1.2
Astoria (P)	50,000				5.0		5.0
Portland (P)	55,000				3.0		3.0
Coos Bay (P)	35,000				3.0		3.0
Kalama (P)	50,000				7.5		7.5
Bellingham (Cherry Point) (P)	100,000+				1.2		1.2
Dupont, Washington (P)	100,000+				3.0		3.0
Grays Harbor (P)	40,000	60,000			3.0		3.0
Anchorage (P)	100,000+				3.0		3.0
Trading Bay (P)	100,000+				3.0		3.0
Total			8.0	3.0	46.6		49.6
Total United States			189.8	94.4	160.4	23.0	277.8

[a]The columns showing capacity expansion and effective capacity are not dependent upon the deepening of channels at the respective ports; however, the column showing proposed vessel size is dependent upon the completion of dredging projects.

[b]Based on a survey of U.S. ports, using 1985 as the nominal date for mid- to long-term coal port development plans.

[c](E) Existing Facility.

[d](P) Potential Facility.

Source: Ref. 1.

Source: Kenneth M. Bertram, Argonne National Laboratory, Energy and Environmental System Division, Center for Transportation Research. Alternatives to Deep-Draft Port Dredging for U.S. Coal Export Development: A Preliminary Assessment (Washington, D.C.: Government Printing Office, U.S. Department of Energy/ U.S. Department of Transportation, March 1982), p. 33.

seems to run from $371.8 million to $479.6 million. Table VII-4 shows estimated costs and trade tonnage deepening plans.[4]

By any standards, these plans are quite capital intensive public works activities. For them to be borne alone by an individual port is quite difficult, even in the best of times. But at one point the Port Authority of New York/New Jersey attempted to develop a coal export terminal on State Island and not seek federal dredging funds. It was anticipated project completion would be expedited by many years and allow New York to move quickly into the export market. The project was subsequently cancelled (or technically put "on hold" for market conditions). Allowing for the port's unique financial strength, the possibility indicates how frustrating the federal authorization process could be.

Table VII-4

Estimated Costs and Trade by Port, 1990

Port	Existing Operations and Maintenance Costs	Total Costs Construction	Incremental Operations and Maintenance Costs	Estimated Total Trade[1] in 1990	Estimated Coal Exports in 1990	Deepening Plans
	(million 1980 dollars)			(million short tons)		
Hampton Roads	3.2	438.5	6.1	80.6	58.9	55 feet
Great Lakes[2]	4.5	0.0	0.0	31.5	19.7	None
Baltimore	2.1	383.7	1.6	74.9	29.2	50 feet
New Orleans/Baton Rouge	14.9	479.6	125.1	173.5	8.6	55 feet
Mobile	4.6	371.8	2.8	25.8	4.7	55 feet
Los Angeles/Long Beach	0.1	420.2	0.0	81.4	2.8	80 feet
Philadelphia	5.8	0.0	0.0	67.7	12.0	None

[1] Total trade is comprised of waterborne exports, imports, and coastwise movements.
[2] Includes the Ohio ports of Ashtabula, Conneaut, Sandusky, and Toledo.

Note: Existing operations and maintenance cost estimates converted from 1982 dollars using the GNP deflator, 1.1641; new construction cost and incremental operations and maintenance cost estimates converted from 1981 dollars using the GNP deflator, 1.0946.

Sources: ● Office of Policy, U.S. Army Corps of Engineers for cost estimates.
● 1990 total trade by port estimated from Maritime Administration data and forecasts from the Federation of American Controlled Shipping.
● 1990 coal trade by port estimated using regional coal export forecasts from the International Coal Trade Model and current and under-construction port capacity from the Maritime Administration

Source: U.S. Department of Energy, Robert M. Schnapp and Byung Doo Hong, Energy Information Administration, Office of Coal, Nuclear, Electric and Alternative Fuels. Port Deepening and User Fees: Impact on U.S. Coal Exports (Washington, D.C.: Government Printing Office, Department of Energy, May 1983), p.18.

Ports often can act quickly and the dredging "bubble" represents their flexiblity. That in turn is a function of their quasi-public (and quasi-private) position. It became evident that not all the plans could proceed. Only a few locations were actually pushed forward: Hampton Roads, New Orleans, Long Beach and Los Angeles. This type of experience may well foretell how things might develop for other cyclical exports for (agricultural) and for the load center concept initiated by containership companies. Selected locations will eventually develop in the marketplace for a variety of economic and logistical reasons.

Dredging Process

The process for planning dredging activities, receiving approval and actually constructing is quite involved. It is representative of much what does occur in the intergovernmental public policy system.

Table VII-5

Sequence of Steps for Navigation Projects Undertaken by U.S. Army Corps of Engineers

1. The public requests assistance from Congressional delegation to solve water resources problems.
2. The committee on Public Works of House or Senate authorizes study.
3. Congress enacts initial funds for study into law.
4. Corps district officials conduct reconnaissance (Stage 1 Planning) includes public meeting and other forms of public involvement.
5. If results of reconnaissance are favorable, Corps district officials continue study and develop preliminary alternatives (Stage 2 Planning) includes public meeting and other public involvement.
6. Corps district officials select several alternatives to develop in detail and, on the basis of further evaluation, tentatively select plan that best achieves the objectives of the study (Stage 3 Planning) includes public meeting and the preparation and circulation of a draft report and a draft environmental impact statement (EIS).
7. District engineer submits report and EIS to division engineer.
8. Division engineer submits report and results of division review to Board of Engineers for Rivers and Harbors (BERH)--includes public notice.
9. BERH reviews district and division recommendations and issues its findings and recommendations--includes public notice of recommendations.
10. Chief of Engineers coordinates proposed report and EIS with Governors of affected States and Federal department heads.
11. The Secretary of the Army and the Office of Management and Budget review the chief Engineers report. This report is submitted to Congress--final EIS is filed with the Environmental Protection Agency.
12. Congressional Committees on Public Works hold hearings and include project in authorization bill or authorize by joint resolutions.
13. Congress appropriates initial funds for advance engineering and design for project enacted into law--usually several years after authorization.
14. Corps reaffirms plan based on current conditions and any new planning criteria applicable to project--including a public meeting and other forms of public involvement.
15. If plan is reaffirmed, or satisfactorily modified to accommodate new conditions or criteria, Corps develops engineering and design specifications and awards initial construction contracts.
16. Non-Federal interests enter into formal agreement with Secretary of the Army to fulfill their obligations, as authorized by Congress.
17. Congress appropriates initial funds for construction of project enacted into law--requires specific decision by President and Congress to initiate construction of project.
18. Corps continues engineering and design specifications and project construction--may include adjustments based on results of detailed engineering design.
19. Project construction is completed.

Source: U.S. Army Corps of Engineers, based on material in *Coal Exports and Port Development - A Technical Memorandum*, April 1981, Office of Technology Assessment.

Source: U.S. Department of Energy, Robert M. Schnapp and Byung Doo Hong, Energy Information Administration, Office of Coal, Nuclear, Electric and Alternative Fuels. Port Deepening and User Fees: Impact on U.S. Coal Exports (Washington, D.C.: Government Printing Office, Department of Energy, May 1983), p. 14.

Whether federal funds are used or not, various permits and coordination are required by federal law. Cited in the chapter on intergovernmental public policy was the fact that there were over 72 federal activities involved in the navigable U.S. ocean waters managed by 44 agencies. This complexity is repeated in many ways at the state and local levels. On the whole, most port attention is upon federal practices as that level is the primary source of funds.

Table VII-5 shows the actual sequence required for U.S. Army Corps of Engineers project approval and implementation. The Corps is the lead agency for approval of applications and also for conducting much of the work from project conception to actual construction and maintenance. This dual role aspect is

Table VII-6

Status of Approvals for U.S. Seaport Dredging Projects

Project Port	Present Project Step Under Way[a]
Principal coal ports	
Baltimore, Md.	16
Hampton Roads, Va.	10
Mobile, Ala.	9
New Orleans	6
Additional coal ports (or potential)	
East Coast:	2
New York City	10
Charleston, S.C.	7
Savannah, Ga.	
Brunswick, Ga.	10 (unfavorable)
Gulf Coast:	
Galveston, Texas	
(Texas City)	6
(Pelican Island)	Permit granted to private organization
Sabine, Texas	6
Corpus Christi, Texas	6
West Coast:	
Columbia River, Wash.	
(Astoria)	6
Kalama, Wash.	Permit requested for private dredging
Bellingham, Wash.	Deepening not required, step not applicable
Gray Harbor, Wash.	6
Long Beach/Los Angeles	18
Sacramento, Calif.	9

[a]Approval process has the 19 steps outlined in Table 2.

Source: Ref. 2.

Source: Kenneth M. Bertram, Argonne National Laboratory, Energy and Environmental System Division, Center for Transportation Research. Alternatives to Deep-Draft Port Dredging for U.S. Coal Export Development: A Preliminary Assessment (Washington, D.C.: Government Printing Office, U.S. Department of Energy/ U.S. Department of Transportation, March 1982), p. 8.

difficult for the Corps. The table identifies nineteen different steps through which projects must progress. At each critical stage Congress must review the status of the application and appropriate funds. Summary information is not readily available on recent completed projects because no new project has been approved in recent years. The most recent authorization by Congress was in 1970 for the Port of Baltimore. The project is nearing completion. For thirty-six projects completed between 1973 and 1975, the average period required was nine to ten years from Congressional resolution and feasibility study to completion of engineering and environmental reviews. Add another six to seven years for Congressional authorizations and construction funding. Actual implementation of the project would require an additional eight years. In sum, twenty-three to twenty-five years were necessary in completing a project from start to finish. Tables VII-6 shows approval states for major projects.

Much of the problem can be identified as lack of funding and thus long delays waiting for more money to be made available. Project backlogs and activities already underway require the Corps still to conduct a significant amount of activity. In 1982 about $670 million a year was spent of which $270 million was for construction, operation and maintenance of shallow draft projects and about $337 million for operation maintenance of deep draft projects.[5]

One subpart of the integrated process is review and approval necessary for environmental aspects. Frequently subject to dispute and controversy is agreement on environmental migation measures. The Corps implemented on July 8, 1983 the "principles and guidelines" for water and related land resources implementation studies. The statement instructs the Corps to consider mitigation during planning.[7]

In general terms, problems associated with mitigation measures are at the federal level. Sometimes they also reflect what occurs even more intensely at state and local levels. The most prevalent issues are:

1. disagreement between agencies over what projects need mitigation, what constitutes mitigation, and what constitutes "replacement in kind;"
2. the absence of consistent federal standards and policies regarding mitigation requirements and subjective basis of agencies decisions;
3. extensive unpredictable time delays;
4. a lack of expertise on the part of the agency personnel in the fiscal engineering and operational limits of ports.

Each agency has a legal mandate and, of course, chooses to implement it properly. In some cases the statutory basis has no reference identifying the special situations of ports or an area's economic needs.

Another observer notes that the concept of mitigation is "undisputed." However the negotiation necessary to make it work is very difficult and ports as project applicants should allow for a long-term, lengthy involvement. The Port of Oakland in an expansion activity had difficulty receiving precise comments from the Environmental Protection Agency, the Fish and Wildlife Service and the National Marine Fishery Service specifying what are the exact mitigation measures in their project and how compensation should be done. "Herein lies the basic problem. The permitting system can require mitigation but there are no set procedures as to how you determine how much mitigation is required or where it should be located."[9]

With many of these elements in mind the American Association of Port Authorities passed a resolution, E-11-Dredge Material Disposal and Fill, that attempted to address one aspect of this general concern. Appendix II presents the recommendation. The resolution focuses upon the timing, expense and discretionary parts of the review process. During the coal export boom, many recognized that expedited processing was necessary. Proposals were advanced from the Congress and the executive branch. "Fast tracking" such reviews is still an objective of legislation.

One of the accomplishments in this regard has been in the Section 404 review process that the Corps must manage. According to Robert K. Dawson, Acting Assistant Secretary, U.S. Army Corps of Engineers, there has been significant progress.[10]

Reflecting the status of the dredging matter was the creation of a Task Force to Study the National Dredging Issues. It is sponsored by the Marine Research Board, National Research Council of the National Academy of Sciences. The study considers prospects for trade and vessels likely to carry the trade, design criteria for navigational channels and turning basins, environmental effects of dredging and disposal of dredge materials, alternatives to dredging, regulatory institutional framework, national security and defense. The study group and the task force were announced in the Federal Register and the effort was requested by U.S. Corps of Engineers. The final report has not yet been issued, however one of the findings has addressed criteria for dredging. There is uncertainty as to how ports actually arrive at there numbers; why does one choose forty-one feet or another forty-five. Such criteria do not exist in general and could be established to facilitate a uniform analytic framework.[11]

Another concern has been the backlog of projects, first caused by insufficient funds. The General Accounting Office investigated and determined that there is a water project construction backlog. Based upon Corps data "934 authorized water projects needing about $60 billion to complete construction" were left pending. Due to inflation in project cost increases, the Corps had in 1982 a twenty-three year backlog "based on appropriations approved in those years". And operation and maintenance funding has required an increasing share of the Corps budget and has grown to thirty-seven percent in 1982 from twenty-threed percent in 1973. Options for reducing the backlog were identified and included increasing appropriations, cost sharing and setting priorities. These, as will be seen, are very controversial approaches. Increasing the budget is unlikely given the current national fiscal situation. Cost sharing is under serious consideration. Setting priorities is difficult because of the balancing required for maritime and other factors. The group of factors priority setting must face is generic to the gamut of water projects managed by the Corps and the Bureau of Reclamation.[12]

Financing of Dredging

As an established national priority, water projects are funded by federal programs. On account of many factors, including political philosophy and competitive budget priorities, the question of financing of dredging has been opened up in the last several years. Discussion has intensified in Congress; many bills, too numerous to identify here, have been proposed to accomplish the financing of dredging. The range of possibilities are from one hundred percent federal financing to almost no federal financing, with many combinations in between. The most recent federal proposal requires "non-federal sources to pay 70 percent of the costs for projects at harbors with depths of 45 feet or less, and 100 percent

of the costs for increasing harbor depths beyond 45 feet." For inland waterways, operations and maintenance imposes "a user-fee based on a ton-mile system resulting in non-federal sources paying 70 percent of maintenance costs." Federal funding in 1984 was $570 million for deep draft ports and harbors and $630 million for inland waterways. This amounted to full subsidy for the ports and a ninety-one percent subsidy for the inland waterways. These are revenues considered foregone, that is the federal government would not receive funds for these activities. In light of the total enterprise (ports and maritime community) it is a somewhat different situation. Deep draft ports and harbors have a cargo shipping community equalling $13.7 billion for total enterprise transactions of which the federal subsidy equals 4.2%. Inland waterways (similarly through barge freight and shippers) has a total enterprise activity of $2.5 billion of which 23% is subsidized.[13]

The concept of user fees or cost sharing (proposed to respond to federal funding difficulties) works in this way. The user or beneficiary pays a fee (sometimes called a tax) that reflects to some extent the actual cost of the benefit received. That fee on prorated basis equalsone hundred, fifty, or ten percent of the total activity costs. Another way that this could be accomplished is through cost sharing which has a similar motivation and is slightly variant. The total project costs and activities necessary to maintain them would be identified, and agreed to in advance for specified period of time. If fifty percent of project dredging cost would be borne by the federal government, the other fifty percent might be covered by state and local governments , the ports and/or a combination of user fees or taxes. Advantages of user fee financing include:[14]

> first, federal fees give the user of service an incentive to demand suitable choices of federal investment... Second, if the relative cost of competing services are not distorted by selective public subsidies, improved allocation of private resources follows.. Third, user fees applied properly can encourage efficient use of existing capacity, thus helping to reduce the need for new construction... Fourth, financing back user can be critical to start needed new projects. There is also the significant advantage of reduction of the federal deficit in transfer of cost burden to non-federal sources.

On the other hand, there are limitations of user fees: existing subsidies to competitors,infant industries, previously invested capital, and legal constraints.

The types of user fees include: system wide fees(tax, tariff, benefit tax); specific fees (taxes, tolls); special facility or service fees (levies, surcharges, incident-specific fees); two-tier fees (fixed rate, metered rates, peak-hour surcharges, congestion fees).

Some basic issues relate to administering them: system wide versus specific fees; market pricing versus cost recovery; cash flow versus amortized financing; financial linking versus fiscal control. In one study by the Congres sional Budget Office (CBO) fees of $.27 per ton of cargo were analyzed along with an average fee for coal colliers of $1.66 per ton.

> A systemwide fee of 27 cents per ton of cargo paid by commerical shippers could defray the U.S. Army Corps of Engineers 1984 outlays of $570 million on routine port construction and maintenance. Covering the additional costs of adapting certain harbors to the special deep-draft-needs of large coal-carrying vessels could

require further annual Corps expenditures of $100 million to $200 million. These latter amounts could be recovered by a specific fee to operators of colliers averaging $1.66 per ton. At coal ports, the result would be a two-tier fee system, with all shippers paying the systemwide fee and coal shippers paying a surcharge to finance the service only they require.

Similarly, the CBO study reviewed the situation inland:

> The existing federal barge tax--8 cents per gallon of motor fuel--recovers only $54 million of the $631 million spent annually on inland waterways by the U.S. Army Corps of Engineers. Recovery of all federal costs would require a systemwide fee equal to 3 mills per ton-mile (the current tax is equivalent to 0.25 mills per ton-mile). The alternative of a segment-specific fee would range from 0.6 mill per ton-mile for low-cost waterways to $1 for the most expensive ones. A uniform fee would raise shipping costs by roughly one-third, in turn, increasing prices of goods shipped by barge and/or reducing farm incomes. Another outcome would be a diversion of freight traffic from barge to rail.

In coal or grain export such cost increases would at first affect the nation's competitive position. However many of the countries to which the cargo is sent have import levies. The net effect, it is believed, would be that higher landed prices of the U.S. cargo would still remain above the importing countries internal price, and "import levies would simply be reduced accordingly." "If the U.S. were under sold by cheaper grain from other grain export countries, demand would be unaffected." Interestingly, other countries sell commodities at a higher price than the international market. Japan sells American wheat at a price that is over fifty percent markup from the purchase price. That would suggest, then, that U.S. price increases would not materially affect the volume sold in already highly controlled and high priced internal markets.

Importing countries employing import tariffs applied to American (or other) products count on that revenue source. It would seem likely that they would increase their own tariff even more to offset import prices equal to or below their own domestic prices. The revenue loss "withdrawal pains" would be significant in many cases.[15]

Another study investigated the impact of twenty-five cent per ton user chargesfor the entire nation. Table VII-8 shows how the economic effects would play out through the industrial-port shipping system in terms of direct sales, jobs, income, taxes, duties, user charges, cargo and commodity balance. The biggest loser in direct salesd would be the port shipping industry in comparison to hinterland industries, however the hinterland would lose almost twice as many jobs.[16]

A sobering point of view suggests that even with the imposition of various types of user charges and cost sharing, the position of the American export market would not materially be charged on a delivered cost price basis. For example in coal, the United States is a "swing" or"marginal supplier". Marginal in that it handles an increment that a country would purchase based on the fact that America is known as a stable supply source of relatively good quality products. The swing supplier is vital whenever a foreign crisis or interruption of regular supply occurs. The United States has been counted on to increase production for the temporary situation. Unfortunately for many ports and

Table VII-7

Economic Effects of a User Charge on U.S. Deep Water Commerce
ALL FOREIGN & DOMESTIC COMMERCE, 1979, BY PORT AREA
(1979 Dollars)
User Charge = $.25 per ton of Imports, Exports, Domestic Unloadings

INDUSTRY/AREA	Direct Sales $1000	Employment Jobs	Income $1000	Taxes $1000	Duties $1000	User Charge $1000	Cargo 1000ST	Commodity Balance $1000
Port/Shipping Industry								
North Atlantic	-8329	-677	-15869	-4147	-4017	85164	-1946	10910
South Atlantic	-1468	-121	-2841	-743	-1151	17763	-237	2508
Gulf of Mexico	-9493	-771	-18065	-4721	-3964	124282	-1478	-41021
California	-3179	-268	-6373	-1666	-1067	33525	-414	-683
Pacific Northwest	-4319	-358	-8465	-2212	-780	22942	-614	-16603
Great Lakes	-12339	-1073	-25577	-6685	-1169	53162	-4822	-10924
Total	-39128	-3267	-77193	-20175	-12147	336847	-9512	-55816
Hinterland Industry								
North Atlantic	-4631	-646	-12605	-2608	-	-	-	-
South Atlantic	1585	-25	944	366	-	-	-	-
Gulf of Mexico	-91488	-4229	-122463	-32341	-	-	-	-
California	-3899	-86	-3053	-946	-	-	-	-
Pacific Northwest	-18116	-1172	-29053	-7353	-	-	-	-
Great Lakes	-9517	-688	-16621	-4076	-	-	-	-
Total	-126066	-6846	-182852	-46958	-	-	-	-
Total								
North Atlantic	-12960	-1323	-28474	-6755	-4017	85164	-1946	10910
South Atlantic	117	-146	-1897	-377	-1151	17763	-237	2508
Gulf of Mexico	-100981	-5000	-140528	-37062	-3964	124282	-1478	-41021
California	-7078	-354	-9426	-2612	-1067	33525	-414	-683
Pacific Northwest	-22435	-1530	-37518	-9565	-780	22942	-614	-16603
Great Lakes	-21856	-1761	-42198	-10761	-1169	53162	-4822	-10924
Total	-165194	-10113	-260045	-67133	-12147	336847	-9512	-55816

Source: U.S. Department of Commerce, Economic Development Administration. User Charge Study Findings - Economic Effects of Levying a User Charge on Foreign and Domestic Commerce to Finance Harbor Maintenance (Washington, D.C.: U.S. Department of Commerce, September 16, 1983, Fact Sheet), p. 32.

business, the up-turn in the coal market experienced recently was based more upon that swing situation. Polish mine production was stopped by a long worker strike. Now, there are reports that other countries as well are up-grading their facilities far more comprehensively and at a lower cost than the United States (South Africa, Australia and Canada). Furthermore, there is promise that coal in China will be developed for export. Given these circumstances, it is difficult to project in the short-term a very strong competitive position for the United States coal market. Assuming a reduced transportation cost of up to $4 per ton for large coal colliers, it still is "not sufficient to either induce a sizable increase in foreign demand for U.S. coal or allow the United States to significant other major suppliers." Consequently, noneconomic factors may play an influential role in the increase of American sales, if freight buyers perceive the nation as a cooperative trading partner, politically stable, or a general increase in world coal demand.[17]

There is also doubt among the international community that the United States will be able to be a significant provider for world coal markets on a cost basis. Insufficient transshipment facilities including ground storage, loading and automatic sampling equipment are lacking. U.S. antitrust law prevents collective agreements by coal sellers for sale abroad. A combination of high rail rates and lack of East and Gulf Coast deep draft ports makes marketing abroad with credibility difficult. One benchmark study believes "under present constraints the United States will tend to remain a swing supplier with an erratic annual volume of export steam coal."[18]

Alternatives to Dredging

With heightened attention upon the dredging situation, more research has been targeted to identify other possibilities. Choices include a combination of technology, financial and institutional changes. Already discussed under the issue of financing has been the element of user fees and cost sharing. These will strongly influence market demand and requirements that would determine the size of the ships, depths necessary and volume of cargo coming through. All of these would be factored into help choose an alternatives. As some studies suggested, it is entirely possible that dredging would not be necessary in many cases.

In the realm of technological and institutional choices, there are six basic approaches with many subsets involved. These include:

1. port dredging
2. coarse coal pipelines
3. coal slurry pipelines
4. vessel to ship loading
5. barge carrying ships
6. extra wide beam coal ships

Table VII-8 addresses alternatives, funding, time requirements, impacts and constraints. It would appear that the quickest responding items would be vessels-to-ship type loading activities, or barge-carrying-ship possibilities and extra-wide beam coal ships. These also should be less costly to public agencies. The technology is generally available. In the case of slurry pipelines, or of coarse coal pipelines, the technology has been demonstrated and proven but would encounter, potentially, considerable environmental and right-of-way problems from railroads, competition from barge companies and water supply difficulties.

Table VII-8

Port Dredging Vs. Alternatives for Coal Export Port Development

Alternative	1981 Capital Cost (10^6 $)	Sources of Funding	Capital Recovery Mechanisms	Time Requirements: Tasks	Time Requirements: Years	Constraints	Remarks (key system characteristics, advantages, disadvantages, etc.)
Port Dredging (Major Ports - to allow 100,000+ dwt ship traffic and loading).	280-440 per port (1980 costs).	Local, state and/or federal govts.; ports.	User fees (based upon vessel draft or cargo tonnage).	Administrative review (EIS, etc.) Congressional authorization and funding. Planning, design and construction.	9-10 6-7 8	Federal government funding doubtful; environmental controversies (dredge disposal site impacts and groundwater aquifer disturbances, etc.).[A,B]	User charge estimates range from $0.20/ton to $3.70/ton vs. estimated freight rate savings of $3 to $6/ton for deep-draft coal ships.[A] These savings do not include $6 to $10/ton recent demurrage charges at Norfolk and Baltimore.[C] Similar economies would result for large oil, ore, and grain ships. U.S. freight rates would improve relative to competition (see Table 1). Tables 2 and 3 indicate that of 15 major coal-port public dredging proposals, only Baltimore and Long Beach have completed administrative review stage (see time requirements columns).
Coarse Coal Pipelines: Kamyr, Inc. (slurry load/dry unload of up to 250,000 dwt ships).	140-160 (5-mi offshore pipelines, 10 million annual tons)[a,D,G]	Private pipeline company, energy company, or consortium.	Pipeline freight rates (current U.S. port loading costs plus premium added to capture ocean freight savings).	All (EIS requirements not yet investigated).	3	5 mi maximum offshore distance (limits U.S. East Coast applicability); private financing uncertain; environmental considerations not yet investigated; pipeline plugging or severing would require major repairs.[D,E]	Throughput of 7000 tons coal/h using seven 1000 ton/h onshore high-pressure feeding stations. Large coal particle size (up to 6 in.) and dewatering system claimed to eliminate need for ship retrofits. Return pipeline from ship to shore allows water reuse in system. Coal is 25% of slurry volume and a final coal moisture content of 8-10% aboard ship is estimated.[D] System has shorter implementation time than dredging, but is unproven underwater, has distance limitations, and has no present commitments. Has reduced coal (only) ocean-freight rates similar to port dredging, but higher loading charge.
Wheelabrator-Frye, Inc. (slurry load/dry unload of 140,000 dwt ships).[a]	150 (15-mi offshore pipelines, 5 million annual tons) 165 (expanded system - 15 million annual tons).[F]	Private pipeline company, energy company, or consortium.	Pipeline freight rates (current U.S. port loading cost plus premium added to capture ocean freight savings).	All (assumes EIS not necessary).	3	Private financing and avoidance of EIS uncertain (despite verbal assurances from environmental officials).	Throughput of 2500 tons coal/h. Initial system throughput would require 3 retrofitted ships and expanded system would require 8 additional ships. Costs shown include inland transport interface, coal storage, two pipelines (one for water return and reuse in system), ship mooring buoy, and ships.[G] Coal is to make up 50% of slurry volume; particles are to be maximum of 2 in.; and final moisture content of coal aboard ship is estimated at 6 to 8%.[F] System has shorter implementation time than dredging and longer (claimed) distance capabilities than other underwater coal pipelines, but is unproven underwater

Table VII-8 cont.

Alternative	1981 Capital Cost (10^6 $)	Sources of Funding	Capital Recovery Mechanisms	Time Requirements: Tasks	Time Requirements: Years	Constraints	Remarks (key system characteristics, advantages, disadvantages, etc.)
							and has no present commitments. Distance capabilities are disputed by Boeing Corp., which claims that pump pressures required for moving 2 in. coal underwater beyond 6 mi would burst casings on a centrifugal pump. Has reduced coal (only) ocean-freight rates similar to port dredging, but higher loading charge.
Coal Slurry Pipelines: Boeing Corp. (slurry pipeline from mine mouth to 350,000 dwt slurry carrier ship).[b]	750[c,H] (1980 cost; 11 million tons annually).	Private pipeline, energy company, or consortium.	Pipeline freight rates (current U.S. inland transport and port loading costs, plus premium added to capture ocean-freight savings).	Administrative and environmental approval.[d] Design and construction.	2[H] 4[H]	Only use of predesignated utility corridor or railroad use of its own right-of-way avoids need for state and/or federal eminent domain; water requirements can spark environmental opposition. Funding doubtful for the one proposed.	Underwater pipeline throughput of 6000 long tons coal/h. Ship-to-shore pipeline returns water for treatment and agricultural use. System realizes cost savings of both onahore and offshore slurry pipelines. System can transport only 1/8 in. maximum size particles (53% of slurry weight) or inland pipeline can connect with coarse-coal pipeline at dock area. System has shorter implementation time than dredging, but longer one than coarse-coal pipeline (Exception: built by railroad along its own right-of-way, mine mouth-to-ship slurry pipeline implementation time requirements would roughly equal those for underwater pipelines.) Fine slurry proven underwater. Requires reslurrying of 30%-moisture coal at destination. Has no present commitments.[I] Has reduced coal (only) ocean freight rates similar to port dredging, but higher loading charge.
Continental Resources Corp. (slurry pipeline from port area to 150,000 to 350,000 dwt ships).	250[e] (<20 mi underwater pipelines, 10 million tons annually).[J]	Continental Resources Co.	Pipeline freight rates (current U.S. port loading cost, plus premium added to capture ocean freight savings).	All (assumes EIS not required).	3[e,J]	20 mi maximum offshore distance. Avoidance of EIS uncertain. Water requirements could spark environmental opposition.	System is same as Boeing's except it would be designed as the only port area ship-loading facility or would connect with proposed 1500-mi Kentucky-Florida slurry pipeline. Also differs in that range of chartered vessel sizes is considered. Capital funding can be assured.[J] Has reduced coal (only) ocean freight rates similar to port dredging, but higher loading charge.
Vessel-to-Ship Loading: Topping off of 130,000 dwt	<20/ship[e] (conversion of self-	Shipowners	Topping off charge (<ocean freight	Brokering	0.5-0.8[e] (beginning in 1983-84).	Reduced coal ship freight rates due to European recession; funding	Reduced coal-ship freight rates and reluctance of ship operators and European buyers to make advance commitments due to recession has under-

Table VII-8 cont.

Alternative	1981 Capital Cost (10^6 $)	Sources of Funding	Capital Recovery Mechanisms	Time Requirements: Tasks	Time Requirements: Yesrs	Constraints	Remarks (key system characteristics, advsntsges, disadvantages, etc.)
ships (using 70,000 dwt ships).	unloading bulk carrier).[K]		cost difference between full and partial loading).			presently unsvailable for those proposed.	mined near-term development. U.S. East Coast efforts postponed until 1983-84. However, 25,000 dwt Great Lakes ships recently loaded 160,000 dwt bulk ship with coal in Seven Islands, Cansda (Gulf of St. Lawrence.)[f,L] Hss ocean freight rates only slightly lower than at present.
Topping off 150,000 dwt ships using floating coal terminals (Sea Containers, Inc. and Coastal Barge Corp.).[T]	80 (40 per terminal, 10 million tons annually).	Sea Containers, Inc. and Coastal Barge Corp.[T]	Topping off charge (same as above).	Design and construction.	2[M]	Insufficient shelter in rough weather.	Vessels loaded at port to 70,000 dwt will be topped off. Floating terminsl is to operate in 70-ft-deep water beyond bar at mouth of the Mississippi River. Break-even volume is much less than 10 million annual tons. More units may be built.[T] Has ocean freight rates similar to ship-to-ship topping off.
Barge Loading or topping off of 120,000 dwt ton ships.	None			Can be immediately implemented.[A]		Barge and ship scheduling difficulties. Requires deep-draft sheltered loading areas.[A]	Avoids double transfer of coal at dock, as well as need for dredging. Requires marshalling up to 80 1500-ton barges to meet 120,000 dwt ship and a sheltered area with 55-ft depth.[A] Largest ship loaded so fsr 59,000 cargo dwt; took 5 days with 2 derrick cranes. Losding 120,000 dwt would take 5 days using 4 derrick cranes.[M] Has ocean freight rates slightly lower t'an current rates.
Barge-Carrying-Ships: Current (LASH, SEABEE ships).	120/ship[N] (SEABEE).	None needed (existing) or private shipping company.	Ocean freight rates.	Design and construction.	2.5[N]	Insufficient cargo capacity, noncompetitive freight rates.	LASH ship cargo capacity 25,000 tons using loaded barges; 40,000 tons loading ship cells directly. Minimum freight rate of $125/ton not competitive.[O] SEABEE cargo capacity 23,000 tons; best long-term contract rate of $90/ton.[P] Neither ship type designed for this service. High tare-to-cargo weight ratio.
Proposed (120,000 dwt ship - 1257-ft length, 213-ft beam, 38.7-ft draft; 80 barges with 1500 tons capacity each).	250[e,N] (1.2 million tons/ship annually @10 trips).	Private shipping company.	Ocean freight rates.	Design and construction.	3.5 (U.S.)[N] 2 (foreign)[N]	Wide-beam incompatibility with most U.S. port channels, dry docks.[P,Q] Government construction subsidies unlikely.	Needs inland waterway connections to enhance efficiency. High tare-to-cargo weight ratio. One extra set of barges per ship required. System could be used for backhauls of other bulk cargo.[R] Ship beam a major problem.[P] Ocean freight rate competitiveness uncertain. Tax benefits. Guaranteed share of U.S. coal traffic would facilitate.

Table VII-8 cont.

Alternative	1981 Capital Cost (10^6 $)	Sources of Funding	Capital Recovery Mechanisms	Time Requirements[a] Tasks	Time Requirements[a] Years	Constraints	Remarks (key system characteristics, advantages, disadvantages, etc.)
Extra-Wide Beam Coal Ships: 45-ft draft, 170-ft beam, 940-ft length, 143,000 dwt ship.	N/A (estimate under development).	Private shipping company.	Ocean freight rates.	Design and construction.	2-3[R]	Government subsidies unlikely. Requires most U.S. ports to be dredged to 45 ft.	Possible Marad program calling for construction of 20-40 ships over next decade. First contract awards would not be made until late 1983. Required port dredging would need same approvals as deeper, 55-ft dredging. Freight rates would be much lower than 60,000 dwt ship much higher than 55-ft draft, 150,000 dwt ship.
38-ft draft, 173-ft beam, 885-ft length, 120,000 dwt ship.	120[e,S] (1.2 million tons/ship annually for 10 trips).	Private shipping company.	Ocean freight rates.	Design and construction.	2.5[e]	Less fuel efficient than 45-ft- and 55-ft-draft ships and requires higher ocean freight rate.[S] Government subsidies unlikely.	Would not require port dredging. Avondale shipyards would contract to build. Considers dimensions viable.[S] Higher ocean freight rates than 45-ft draft, 120,000 dwt ship are still much lower than 60,000 dwt ships.[R] Tax benefits (accelerated depreciation and higher investment tax credit for U.S. vs. foreign ships) and guaranteed share of U.S. coal traffic would facilitate. Most appropriate for shorter U.S. East Coast to Europe movements, where ship fuel use penalty is less.[S]

[a]All estimates preliminary. Costs include Kamyr estimates of $85-100 million for delivery and return pipelines plus dewatering system and Wheelabrator-Frye estimates of $55-60 million for shoreside components and mooring buoy. Cost of 1 mile offshore pipelines would be $108-119 million. Wheelabrator-Frye system also has cost estimate of converting ships for dewatering of $1.4 million/ship.

[b]Specific mine-to-port pipeline would be 654 miles from Emery fields of Utah to Port Hueneme, California. Slurry storage/terminal facility located 2 miles southeast of Port Hueneme and mooring buoy 14,200 ft offshore to 117 ft of water. Vessels handle 350,000 dwt cargo, but 30% is water.

[c]System costs include four new $147 million ships, with one-half of financing provided by U.S. government subsidy. Currently unavailability of subsidy will significantly diminish claimed delivered freight cost advantage (see text).

[d]Federal and state approvals could take as long as four years, but certain design and construction activities could begin after two years.

[e]Preliminary estimates.

[f]Receiving vessel bound for Nippon Steel, Japan. Delivering ships were self-unloaders. Monthly shipments now being made.

SOURCES:

[A]Office of Technology Assessment (OTA), U.S. Congress, Coal Exports and Port Development (April 1981), pp. 24, 25, 72, 73, and U.S. Senate Environment and Public Works Committee, as cited by R. F. Morrison, in User Fee Calculation: Big Question for Ports, J. of Commerce, pp. 24b, 3B (Dec. 31, 1981).

[B]U.S. Interagency Coal Export Task Force, Interim Report of the Interagency Coal Export Task Force (Jan. 1981), p. 92.

[C]Coal Week International, March 18 and 25, 1981, as cited in OTA report.

Table VII-8 cont.

[D]Kamyr, Inc., Coarse Coal Pipeline and Dewatering System, Onshore-Offshore; Engineering Report and Cost Estimate, Glens Falls, N.Y., graph 2, pp. 6, 8, 25 (Sept. 8, 1981).

[E]Erwin Funk, Manager, Special Projects Group, Kamyr, Inc., personal communications, (Aug., Sept. 1981, March 1982).

[F]William D. McDonough, A Coal Slurry Export Terminal Concept, paper presented at Association of American Port Authorities Seminar, Mobile, Ala., pp. 5-8 (Feb. 1981).

[G]William D. McDonough, Project Manager - COSMOS, Wheelabrator-Frye, Inc., personal communications (Aug., Sept. 1981, Feb. 1982).

[H]Boeing Engineering and Construction Company, Executive Summary: Pacific Bulk-Commodity Transportation System, report prepared for Maritime Administration, U.S. Department of Commerce (June 1980), pp. 9-14.

[I]Leonard Kopeiken, Vice President - Business Development, Boeing Engineering and Construction Co., personal communication (Aug., Sept., 1981).

[J]Robert Kelly, Manager, Corporate Development, Continental Resources Co., Inc., personal communications (Sept. 1981, Feb. 1982).

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Finally, an idea not cited in this table but recently studied by the U.S. Maritime Administration is the concept of one-way dredged channels. The inbound channel is dredged to a shallower depth for the lighter empty ship. The outbound channel is dredged to a greater depth to allow for the fully loaded ship.[19]

Conclusions

Dredging is crucial to the capability of American sea- ports to handle larger ocean ships. The argument for such capability rests principally upon economies of scale, afforded by larger ships. Nevertheless, studies have begun to note that even with lower cost, the relative position of the American coal export and grain markets would not significantly change. This may in fact be caused by the U.S cost structure, which is far higher overall than other world suppliers. In the case of coal, it would therefore suggest that the U.S. as a marginal and swing supplier will ultimately share in the growth of the world market, but not take a giant large stake. In the situation of grain similar potential exists , however the commodity is subsized at a lower price by current federal programs, which as with dredging programs, are under budget scrutiny. If such commodities had to sell based upon true costing, the impact of dredging would even be less some studies argue.

By itself, dredging appears to be one of the less expensive ways to take larger sized ships. On the other hand, it is the most time consuming and potentially environmentally harmful. Thus it is unlikely to be permitted in many locales.

Furthermore, dredging is significant for the import side of the American economy. Super containerships carrying imports to the United States also require greater depths. Such capability would help lower per unit sales costs to the American consumer, which in its own way would be an offsetting benefit to present export difficulties. Still, it would appear in the long term that dredging is necessary to handle larger ships, ceteris paribus, in order to be sure the United States has the most up-to-date, technological transportation system in use and development. If other forces are allowed to prevail, alternatives to dredging in selected locations may be prudent and timely.

In the meantime, the intergovernmental public policy framework presented sizable problems demanding speedy resolution. Much of the delay at the federal level has been based upon funding problems. At all levels there is controversy about agency missions, interpretations, lack of clear-cut guidelines and agency coordination. These may be improved by coordinative mechanisms and up-front agreement on requirements and standards.

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PART III -LONG-TERM IMPLICATIONS

This final part of the study addresses the more enduring type issues and responses necessary for the export transportation system to consider. Virtually every part of the system seems to be under stress and change. Given such characteristics, new ideas often are developed faster and solutions more rapidly accepted. If that be the case, the nation has a clear-cut need and opportunity to do so.

The emphasis here is upon strategic policy for federal, state and local agencies. Chapter VIII will identify candidate issues for strategic policy consideration Chapter IX will identify strategies to help address these issues. The suggestions draw from Part I and Part II about system development, and current operations and challenges. A primary goal is to stimulate further thinking, dialogue, research, and action. Some of the issues are already being considered. Some of the strategies are being implemented. Others are still under discussion.

Again, in any case almost everything seems to be in flux in a very turbulant era. It is a lively time when ports, carriers and governments are trying to be more proactive and less reactive.

Chapter VIII

EXPORT TRANSPORTATION STRATEGIC POLICY ISSUES

Introduction

The purpose of ths chapter is to address the sensitivity of the export transportation system to changes in its external operating environment, the United States economy and the world economy. It will suggest how the domestic and export transportation systems are structured for a different set of underlying assumptions than may be operating now and will be operating in the future. The system's predicament is becoming profound. These issues represent serious danger signals for management throughout government, and the port and land transportation industries concerned by export transportation viability. At the same time, promising opportunities are presented the following issues.

Structural Shift

The nation is moving toward a service economy, but it is served by a transportation - economic system based upon earlier imperatives. Fundamental change is taking place. The following summarizes key aspects of that process:

1. The domestic transportation system is predicated upon an industrial structure designed for heavy industry and manufacture, natural resource and agricultural production and distribution.

2. That structure relied heavily upon railroad transport and physical labor.

3. For exports and imports the system relied upon a generally balanced two-way flow.

4. The international trade system was co-mingled with an extensive domestic transport infrastructure of the rails, highway, barges and pipelines.

5. Based upon international trade flows and domestic U.S. population geographic shifts, the demand for this transportation infrastructure has shifted.

6. The older parts of the system, Northeast and Midwest, reflected the industrialized "Snowbelt" of the country.

7. The newer parts reflected the growth in the "Sunbelt" South, Southwest, and Northwest and relied more upon a new extensive highway system instead of rail, except for long intercity distances.

8. The newer port facilities were also constructed in the growing South and Southwest, Northwest.

9. Subsequent trade flows show the greatest growth has been exports to the Pacific Rim and not Latin America, Europe or Africa. (though need exists).

10. Ports exporting agricultural and natural resource commodities, and industrial goods will be hurt by the failure or slow dimunition of these economic sections.

There are many other factors certainly involved in this cycle but the external forces operating seem to suggest this direction. More discussion is necessary to explain fully why these may be.

An early warning system, in reviewing such factors, might well indicate that our transport system is out of synch with what is being bought and sold, exported and imported. It may be located in the wrong places, the wrong technology, the wrong costs, and greatly subject to one way flows with empty vehicles or containers returning to their originating point. For some, this may seem like a roller coaster with many cyclical ups and downs happening at unpredictable times. Others may see these patterns and begin to suggest that it is no longer a roller coaster, it is in fact a long-term radical change. The process by which our transport system moves from older assumptions to the newer, yet partially understood assumptions will be a wrenching and difficult one. Ports and the land transport system for export will not be exempt from this and will experience many of these disconcerting effects.

The change has been dramatic in the last two decades.[1] The merchandise trade balance has declined from about one percent of GNP in 1960 to about negative two percent of GNP in 1983.. The decline has been evident in " steel, automobile, consumer electronics, apparel, and machine tool industries..." And,

* America's share of world GNP and exports have fallen considerably.
* Our merchandise trade balance has deteriorated both in absolute terms and as a percentage of GNP.
* Many domestic companies have suffered reduced profitability and

* The manufacture capacity utilization rate has cascaded while unemployment has climbed.

Underlying this situation is the fact that over seventy percent of the American economy's goods are in active competition with foreign made goods. American entrance, thusly, into the world competitive market arrived slowly and quietly. [2]Many companies and corporations did not fully realize this was happening.[2]

Another way to view the situation is that basically U.S. heavy industrial production was losing out to foreign competition. Major categories were being invaded so that by 1981, to illustrate, "26% of its cars, 17% of its steel, 60% of its televisions, radios, tape recorders and phonographs, 43% of its calculators, 27% of its metal forming machine tools, 35% of its textile machinery and 53% of its computerized machine tools" were being imported. All these categories were less than 10% apiece twenty years ago. Similarly, there were closely related declines to the American shares of the world market--"automobiles by almost one-third; industrial machinery by 33%; metalworking machinery by 55%." There are many reasons suggested for why this may happen. Some are lower cost labor, newer technology, nationally subsidized industry, trade restraints against American products, more devoted and industrious labor force, and higher productivity. Many American corporations found it more profitable to shift their domestically generated profits to foreign markets to produce there at a cheaper cost. In turn, the United States' capital-driven foreign produced goods and commodities would be sold here and the profit margin much greater. In a world market there is nothing wrong with this. In fact, it is a strength of free trade. But for an economy that must depend upon its own capital being reinvested at home and employing its own citizens at home, such cycles can be devastating. Lastly, America's strength as an automated industrial society may in fact become its undoing. High volume automated manufacture can be outperformed by other countries. Germany and Japan suffer from the same problems of an advanced industrial society as the United States. They are being outcompeted and performed by lower cost, emerging economies such as Korea, Singapore, and Taiwan.

Offsetting these trends of American exports may be such items as agricultural and natural resources.

> Sales of grain and coal and revenues from services have helped ease Americans trade imbalance, but these enterprises alone cannot guarantee our economic future. The most accessible coal will have been mined within the next few years; additional coal will be more costly to retrieve not only in terms of machinery and equipment but also in damage to the environment and injuries to workers. Nor can grain exports be relied upon indefinitely; improvements in agricultural production will spread to the areas of the globe with favorable climate and soil conditions and our soil will gradually become depleted.

The future for the United States seems to be heading towards a flexible industrial society designed for technically advanced and skill-intensive activities, for example, information processing and service industries. New markets must be sought out, cultivated and instantly responded to. Just as in the Export Trading Company Act, the implicit belief is that the United States must produce what the world wants to buy, not sell what it has to produce.

These beliefs have significant impact on the present and future American transport and export system. Simply put, if the above fears are credible (they may not be), what is it that the United States will be exporting in ten to twenty years? It would seem doubtful that the economy will not be producing anything that is marketable abroad. Domestic rail, truck and barge transport will still be necessary. But the volume might be diminished from present day levels. These lingering thoughts are disturbing.

More popularized in thinking but equally as dramatic are the observations of John Naisbitt, in Megatrends.[3] He forsees ten key changes in our society and believes the radical transformations are also affecting the entire world. He sees numerous opportunities and pitfalls along the way, but still the directions are on balance more positive. Of special relevance to discussion here are the trends suggesting that the country is moving from an industrial society to an information society, from forced technology to high technology, from a national economy to a world economy, from centralization to decentralizaation and north to south.

One strong indicator of the first appropriate trend is that only thirteen percent of the workforce is in manufacturing. Every indication is that the number will still shrink and move out of the country. New job opportunities will be in the information production or processing industries which provides now sixty percent of employment. This may be counterblanced by some new exportable breakthrough in idea, production or technology so that jobs remain in the United States.

The second trend is the forced technology to high technology point. Over the years it would seem that the American working force has resisted technology. Technology was brought into play over a painfully long time with considerable union negotiation. When ultimately accepted, any new changes were equally resisted. The more that high technology is generated and applied, such as space age techniques or robotics, the more potential job loss. In the transport industry one need only look at container technology and its application as a breakthrough compared to labor-intensive breakbulk and general cargo industries. Unit trains of containers do not require individual boxcars to be loaded and unloaded. Similarly for trucking, the application of containers yields a vast difference.

The fact that our economy is becoming closely integrated (if not already entirely) with the world economy is significant. More and more people and industries will be involved in exporting and importing. What they will be exporting and importing is somewhat uncertain. Perhaps it will be information and service industries but not mass production, capital goods and agricultural product or natural resources. What will the transport system carry? One interesting possibility is that the United States could become a transportation conduit across the continent by land bridge operations. It might be cheaper to produce high value products and basic industrial goods in the Far East to send to Europe via a land bridge across the United States (or vice versa, for European production). These may be farfetched thoughts now but they should not be dismissed. At the moment, land bridges are necessary because the Panama Canal cannot handle the additional volume and ship size. Even if a second canal is constructed in Central America, the area is subject to political instability.

The idea that the world and particularly the U.S. economies are undergoing a shift from centralization to decentralization is enticing. It has visions of high tech usage at home. It also indicates that business activities requiring

concentration and interaction of people in a particular location may no longer be as necessary. It also may indicate that the means of distribution will be different. The transport system for carrying freight and cargo for domestic distribution and export may have different fundamental directions and needs.

For example, decentralization has made possible the growth of the South and Southwest as population centers. The rapid shift of the population and industry of all types from the North, Northeast and Midwest to the Sunbelt areas has overly concentrated initially in Southern California, Northern California and San Diego. These areas have become overcrowded and expensive. As consumption and production areas, their businesses are spilling over to less dense, undeveloped desert or mountain areas. For those natural resources and agricultural products produced in rural areas, there may be considerable population growth developing nearby the production areas, or adjacent to the transport corridors. As more and more transportation activity occurs, it would seem that these areas in turn would become subject to the same problems seen today in transportation, production, and surrounding land use impacts. A most notable example currently is the controversy caused in the Port of Long Beach by the proposed coal unit trains coming into a dense urban areas; illustrative of what may happen when national export needs and port facility capabilities and surrounding dense urban areas clash.

A shift to the South from the North in terms of population and industrial base is fundamental and appears to be irreversible. Supporting demand for infrastructure development and maintenance will become crucial, as it may already be in many of the locations such as Florida, Texas and California. What it also implies is that the nation has a very large investment in highway, rail and barge systems in the older areas no longer fully necessary. And, many indications seem to lead to the belief that they will be underutilized by the year 2000. Such projections suggest that we have unequal distribution of infrastructure capacity, population, and resource demand. Without economic incentives to retain the population where the infrastructure already exists, a host of new investments may be necessary. For industrial production and export transportation, it would seem then that the basic industries of those areas in the North and Midwest--automobiles, steel, chemicals, rubber, metalworking, farm equipment, machinery, for example--have been the large shippers for domestic and export consumption. What will the railroads and trucks carry if that is no longer the case? These may in part be some of the basic reasons why the Penn-Central merger was necessary, why it went bankrupt, and why Conrail was created. All in all, it is an illustration of a cycle of a declining industrial population base area and an out-of-synch transport system. Ports relying upon serving these areas may be consequently affected.

The other side of the coin is import transportation and "back-hauls" of empties. To the extent though that the United States continues to buy more and more from abroad, there must be some internal distribution system than can carry the goods and commodities. This will suggest that the existing transport system will be primarily carrying one-way import cargo. Perhaps, the volume of imports will be so much that it will counter the loss of exports and keep ports, railroads, barge and trucking companies fully occupied. Perhaps, they will carry items only for domestic distribution on the backhaul. And, then the container or ship, will go back empty to the producing foreign country. If this were the case, then the cost would be factored into the overall freight rates and charged to the American consumer. It is already a practice.

These external shifts have clearly affected our transport and export system. They show up in lower exports in almost all categories, lower export

earnings, lower profits in transportation industries, and lower port revenues.

With deregulation of the rail and trucking industry, and shipping regulation reform, there is intense competition for for carrying declining traffic volumes. All sorts of combined services, new fare structures, and route locations are evident. Shippers have a difficult time determining which price and service quote will promise future stability and long term contracts. Prices have dropped in longer haul competitive market areas, but they have also risen in low volume, non-traditional route areas. Discontinuance of service and route abandonment have been announced by many companies. This too will affect American capability to export its declining marketable products.

New Opportunities and Pitfalls

Deregulation has allowed transportation companies to be more aggressive and competitive. It provides new institutional market opportunities to find better ways to serve customers and make more profit. But the theoretical opportunity has not fully been exercised yet. In part the economies of the railroad industry suggest that the long haul, more modern western and southern roads will merge to form several cross country railroad systems. They will begin to out compete the northern, eastern and midwestern roads tied to declining industrial sectors. They will have better capital, plant and equipment, maintenance, and through service. Such aggressive railroad operations will foster new relationships and strenghten older ones with key ports, particularly those on the South Atlantic and the Pacific Coast or the Gulf Coast and the Pacific Coast for mini-bridge and land-bridge services.

The trucking industry might experience under deregulation similar opportunities. However, the indication so far is that the competition has been cut-throat. Many have been absorbed or gone out of business. Furthermore, railroads are now able to operate their own trucking companies under deregulation and provide through intermodal bill of lading service. This has great advantage to many shippers for essentially "one-stop shopping" The full service operations will expedite the movement of freight and possibly lower costs. Ocean carriers may now also participate in the through service concept.

All these changes are just resulting from deregulation and the external forces and shifts identified earlier. They are the tip of the iceberg of what might occur should these trends continue unabated. It is entirely possible that the number of railroads and trucking companies concerned with large scale transport leading to export operations from point-of-origin and the hinterland will clearly diminish and become a small number of large full service interconnecting operations. Ultimately, it may provide better service for importers and exporters who happen to be near the major transportation corridors of the main line carriers. It will cause, initially, difficulty and more expense for those producers who are not near main routes. Examples are already evident as in the situation of country grain elevators along recently abandoned rail lines. Should a new technology such as slurry pipeline operations come into play, some feel that the railroads will be completely threatened and no longer viable as economic transportation operations. Recent comments by the representatives of the American Association of Railways, indicate the possibility. Although in the long run slurry might be a better and cheaper mode for transporting many export bulk commodities, it will dramatically affect railroad operations, barge operations in competitive corridors and the number of employees supported by these activities.

Once the cargo is ready to ship, often there is more than one feasible export port destination. Possibly there are more ports than necessary for current export activity. On the other hand, they are necessary as imports gates of entry for large nearby markets. Much depends upon how deregulation works out with the changes in rail and motor carrier services. Shippers will respond and reroute trade flows if geographic advantage and preferential pricing are favorable. Fluidity of this kind is not reassuring for long-term transport planning. It is an area that needs to be watched quite closely.

In the case of ports for exports, it may be foreseeable that there will be a resorting of the facilities. If for example, coal or grain is a major export, it may become necessary to find each a different location than existing ports, or through dense urban port areas,and it may cause citizen complaints of travel obstructions at grade crossings, heavy highway traffic, accidents, noise, dust, or vibration problems. At some point it may become more desirable technically and politically to move the commodity to an isolated port specially designed for high volume bulk commodities. Although it would hurt traffic and revenues for existing ports, it may be a way to permit movement of bulk commodities without unduly impacting urban populations. Slurry pipelines could offer that opportunity by being relatively inexpensive to construct and operate to the port or to offshore locations.

Another variation on this theme may be that all coal or grain would go to one or two locations on each coast for export. By national or marketplace design, the ports would specialize their facilities and become mutually supportive and not competitive. This is a political "landmine" area and not meant to be a suggestion, just an outcome of marketplace forces under some of the assumptions postulated earlier. Port regionalization and coordination may end up costing the consumer, whether domestic or abroad, more because of potential monopolistic effects from cartel-like-operations. Competition among the transportation carriers and the port industry, especially after deregulation promises price service improvements possibly lost by such rationalization.

Strategic Policy Issues

Given the external shifts, the transition and turmoil and the new opportunities facing the export transportation industry, one would think the industry response would be forceful, organized, and concerned. It would appear though that for the most part, the combined industry is as fragmented as federal policy is on export. Past trends and behavior patterns are continuing and intensifying, and require closer monitoring.

In the transportation industry management has been historically less than competitive. Railroads have had their market share and long-term customers arranged. There was little incentive to compete on price or service, except for the markets that were extremely lucrative. They became accustomed to the ICC protective role, which buttressed the tendency to avoid hard competition and price reductions. Trucking was essentially the same.

With deregulation management is for the most part leaner, more competitive, and more responsive in the marketplace. There is open competition on pricing and service. For the shippers, this is a healthy, however for the time being, hectic and uncertain environment. Part of the management changes in the railroad and trucking industries is caused by consolidation or mergers, particularly for the railroads in providing cross country connections and coordination. Trucking firms are now finding that railroads can now enter and operate with their own

firms are now finding that railroads can now enter and operate with their own trucking service and provide intermodal, through bill-of-lading delivery.

Railroads are becoming less labor intensive. Still, a railroad strike could occur at any time over work rules, salaries or other conditions. The Brotherhood of Railway Workers and related unions have power to stop the system. They are particularly susceptible to key pressure points and the influence of a few people in yard or locomotive operations.

Trucking is more labor-intensive because more of the cargo is less than a full container (truckload) and requires manual packing and unloading. The sheer number of drivers and mechanics to support operations also can be large and influenced by union operations. The Independent Truckers' Association went on strike in January 1983 to object to the new federal gas tax increases. Believing that the tax would be particularly severe upon member operations and would drive many of them out of business, it too had the potential to impact all transport operations and export. For the most part though, in terms of trucking and highways, labor costs increase in predictable stages by contract relationships.

Labor in the port operations is an important factor. Equipment, i.e. containers handling even more automated. But, the systems are just as vulnerable at key points.

Most American transport systems are improving their technology. Railroads have developed unit train operations for natural and agricultural resources. These required specially designed loading and unloading terminals owned or operated by the railroads or other private companies. The railroad fleet is being renewed through new engine and car construction. More technology-efficient cars are added for capacity, safety and performance. The mixture of the fleet is changing too towards lighter weight, more fuel efficient cars. Containers particularly offer a fascinating insight into the quickly moving technological developments. One that is of special note is the Road Railer developed by the Bi-Modal Corporation. It is a truck chassis with tires and steel rail wheels attached to the undercarriage. Each set can be lowered and raised for the appropriate mode. The container stays on the chassis. Facilitating through service, entire trains now are dedicated on an experimental basis and run successfully from Buffalo to New York City for export and from St. Louis to Houston. Another new technology incorporated here is the Fuel Foiler from Santa Fe. Two large aerodynamically designed containers,and stacked upon each other, on top of a specially low-slung chassis.

Another technology that cannot be understated is the impact potential of slurry pipelines systems. It is feasible now given sufficient water and resolution of the political and modal competitive problems.

In shipping the technology is improving to develop larger size ships. Unfortunately, recent studies show that the "economy is down so much that the dry cargo and bulk cargo fleet suffers from excess capacity, ships are still being produced, coming on-line as demand is woefully low."

Transport cost appears to be dropping on the land side. Deregulation has permitted trucking and rail rates to decline in competitive areas and to increase where there is litle competition and almost a monopoly on service. Cost savings are in part possible because technology and new lower cost labor agreements are implemented.

Breakthroughs in management attitude and practice, labor relations and technology, and improvements in cost of export transportation would seemingly result in greater productivity. Every indication is that this should be the case, however there is little hard information to document it. Most observers take it on faith that productivity must result every time automation is introduced. There is no reason to suspect that this relationship does not hold and apply here but there is little to present in terms of documentation.

One aspect that does promise more productivity and can be demonstrated is that the larger the vessel, the greater the capacity. This holds whether a truck or a rail car, a barge, bulk carrier, or supertanker. Other factors may well offset the advantage; for example, attendent costs for support facilities in terminals, rail yards, heavier track, wear and tear on the track, bridge structure, grade crossings, locks and dams on the rivers and canals, dredging harbors and channels, port of entry capability in the receiving country. Such factors must be added to the full calculation and may make the smaller size operations more cost-effective. Lower cost may result by maintaining and expanding capacity and operations and the margin.

Incremental improvements should be easier to make than the radical, total new facilty operations which cost so much capital up front. During uncertain economic periods, it may be more prudent to be cautious.

Shipping technology changes also make major changes possible. Broader, shallower beam ships such as Great Lakes freighters allow more tonnage than conventional Panamax sizes. They do not require the great draft that colliers or supertankers require. Lightering, and topping off can assist in that aspect of productivity. Or, slurry pipelines for loading and unloading. In any case, bigger and bigger facilities and operations are being planned and constructed.

Transportation facility location is also undergoing change. Restructuring of the American economy has set the basic direction. Deregulation hastens it. The railroad system is consolidating, shrinking, and focusing on the intercity long haul. This has great advantage for the through shipper but offers less service to the occasional and small shipper. Trucking may in turn pick up the business declined by railroads. Barge amd maritime facilty locations are established and not all that flexible. In some cases private carriers and shippers may choose to develop a new loading and unloading facility on the river system, or altogether a new terminal port operation outside the current established ports. The Louisiana Offshore Oil Port is one response, but for oil import (not export). Slurry pipeline proposals have suggested new offshore mooring points, not requiring a great capital structure onshore.

Collectively, what these trends and events begin to indicate is that transportation system facility location and service are beginning to reflect structural changes in the entire economy and caargo flows. If this is a long-term response, it is perhaps more telling than any short term crisis that could occur. Yet, basic decisions may well be made in crisis situations such as the queuing at Hampton Roads for coal colliers.

The transportation industry has found itself in the midst of a governmental philosophic shift. Deregulation certainly has strongly affected rail and motor freight carriers and shippers. The entire spectrum of federal, state and local laws, regulations and rules has definitely influenced transport of export goods from the hinterland to the seaports. Other sections of this report discuss how these contacts may occur. For existing operations, the contacts have been pretty

well worked out. It is often when an accident occurs or some exceptional circumstance that the intergovernmental system is pulled in. Unfortunately, the involvement may be in a negative responsive way. Many times the environmental process is used as a substitute for integrated planning by transport agencies, carriers, and ports. There is no well-defined process requiring all parties to work together. In many locations, the need has not been that great. But, when a question or an issue arises the easiest way to put things on hold and to force reevaluation is to use the environmental review process. At the federal level and in some states environmental laws are strong. On the other hand, if a particular export commodity and operational significantly expands its volume, then it will at some point exceed the system's logistical capacity and become more visible to the public. Large cargo increases may require greater transportation operations, expanded facilities, or new constructed systems. Then, without doubt the full spectrum of intergovernmental laws comes into play and focuses on that project and those proposals as lightning rods. American ports, railroads and coal companies have experienced such a response cycle themselves. Grain export may follow suit should the flows move to the East and the West, and not all through the river barge traffic on the Mississippi and coastal waters.

At the one port level, an equally complex mixture of issues confronts management. According to a 1983 review of the industry:[4]

1. There is little understanding by policymakers and publics of the harbor as a system serving multiple and changing needs.

2. The harbor decision-making environment is complex, fragmented, and often fails to recognize the interconnectedness of uses and the need for comprehensiveness in analysis and decision-making.

3. Because of the influence and control port authorities exert over resources, improvements in harbor decision-making and management will have to include port authorities in substantial ways.

4. Ports are public enterprises, having the characteristics of a government agency and a private business

5. The traditional orientation of public ports promotes a bias toward the enterprise function and away from local, public interest, non-revenue generating functions of ports.

6. Three trends over the next twenty will influence port decision-making substantially: 1) shifts in maritime trade and transportation due to economics of scale and deregulation within a highly competitive environment; 2) the scarcity and higher cost of capital with which to build new facilities and 3) increased pressure from local economic and environmental organizations seeking more benefits and better accountability from public ports.

In the last ten years it would appear that the nature of the institutional process issues facing ports and by extension the export transportation industry appear to be consistent. In many ways their magnitude and intensity have only increased. Ports face an administrative dilemma of attempting to implement diverse Congressional legislation, fragmentation of power and lack of national goals. Opportunity still exists for expanded state and federal roles in terms of understanding and describing the overall national port situation.[5]

A 1984 survey of sixty-two port directors, balanced for all categories and sizes, elicited their opinions on key issues facing ports. The principal findings indicated that financing and load centers were the primary concerns. For the time being, it would appear that the ports felt that environmental problems were still important but not as severe as financing and load centering. Deregulation, government policy, labor, and legal problems took lower rankings. To some extent, it would appear that the ports that are less active in terms of volume (and possible earnings) were more concerned, therefore, by finance needs. Ports attempting to expand were more concerned by environmental aspects. Smaller ports were less impacted by load centers than medium size or even larger ports. The North Atlantic and the Great Lakes areas considered labor as significant concern. Deregulation disturbed ports on the Atlantic and Gulf Coasts more than the other locations. All experienced uncertainty in cargo growth.[6]

By virtue of their middle position in the transportation cost chain, ports are experiencing a rate squeeze. In the 1960-70's ports made tremendous investments to containerize and improve technology. In order to stay competitive the cost was not passed along, for the most part, to the carrier. As sources of pressure became more diverse, American made goods started to lose competitiveness abroad. The cost squeeze thus fell more heavily on the full transport cost of the export package. "Rail and truck lines, although making some reductions, retained a good portion of their former rate structure." Steamship lines were able to reduce their costs, forced by competition and introduction of new technology, or absorb low profit levels. However, some port areas were at a disadvantage - the unionized ports in the Northeast. With the price squeezing even tighter and steamship companies introducing larger ships and more expensive technology, ports are beginning to feel a squeeze not known before. The load center concept requires selection of ports with the most attractive rate structure and facilities able to handle the ships.

For many ports to stay in the game, heavy capital investment is necessary. This financial crunch and subsequent sorting out appears likely and severe.[7]

For ports, and most of the transportation community, data problems affect capability to make informed decisions. There has been a downturn in the availability, amount, and quality of data collection information heretofore relied upon and considered important.[8] These changes have resulted, in part, because of deregulation, public finance and information technology.

> Many data collection programs of public agencies have been thrown out with the regulatory bathwater on the assumption that the need for such data no longer exists. Yet carriers, shippers brokers, and individuals need more-not fewer cost and other data to cope with the increased diversity and competition in for-hire transportation.

Several issues related to data collection and application are:

1. institutional mechanisms for monitoring and feedback;
2. benefit cost evaluation of data;
3. decentralization and privatization;
4. cost recovery and public agencies as data vendors;
5. social and political impacts of data and information technology;
6. improved efficiency of data collection and management.

These crosscutting categories lead to specific needs and involve the stan-

dard industrial classification codes, commodity flow data, truck activity data, passenger travel data, urban travel data, and highway monitoring and inventory systems. In brief, organizations do not exist to collect, monitor and utilize the data. There is increasing need for this function as the data absence is noted more and more.

Ports face greater local government politicalization and may lose their intentional insulation from general purpose, city-county-regional governmental operations. The practice has allowed them to operate more as a business and to protect their revenues for facility operation, construction and redevelopment. Such insulation is not undesirable. Through the use of the special district or public authority technique, quasi-public or quasi-private agencies have been employed in many different aspects of American governmental-private sector relationships. It is a very effective device for single purpose non-mainstream public activities. In many regards they have been independent enough to control their own budgets, fees and revenues, operations and to have bonding and taxing authority.

However, public pressure upon American ports is growing. Many port agencies, and their officials, are definitely concerned about the growing involvement of the general citizenry and elected officials. Since ports in many places are "money machines," compared to financially hard pressed local governments facing severe budget cutbacks, elected officials may be tempted to dip into port "pots-of-gold." How long they may insulate themselves and keep their funds intact for their own operations and project devlopment is a good question.

The public is also getting more involved in port activities by recognizing port impacts. If coal trains come through more densely congested urban areas, there will be undesirable effects. Elected officials are responding to the public and are more closely reviewing port activites and structures. Their quasi-independence may be affected by any number of procedures--from outright city council or county-level control, to regular budget review to removal of bonding or fee setting powers. These are just some of the examples of the politicalization process. If this trend actually picks up and materializes strongly, then ports have real reason to be concerned. If port export-related activites are tightly controlled and limited by local governments, the system might not be able to meet future demand. It does not mean that efficiency and effectiveness will disappear but other non-economic factors may be brought into play through the political process. Such work and influence in the past have led to more slowly developed projects, greater public review and accountability, sharing of funds and higher overall transportation costs passed back on to the consumer.

Another aspect of the intergovernmental response is that the system is still fragmented at all levels. Many observers, whether professional transportation managers, elected officials or leaders of the nation's industry and government, have noted that a single point-of-focus at the federal cabinet level is quite desirable for export and trade policy. The Administration proposed in May, 1983 that a Department of Trade be established. The President proposed, and noted in his State of the Union and in National Transportation Week activities, that exports in general need to be facilitated by integrated, coordinated governmental policy at all levels. Export transportation is one of the key facets. At the same time though, special studies by the Heritage Foundation and the Grace Commission recommend less federal waterway support. So, the problem has been identified. Organizational turf and bureaucratic infighting have prevented prior proposals from succeeding. And there is a legitimate difference

of opinion on what functions and powers should be part of the proposed agency.

Conclusion

The transportation port industry response to the traumatic shifts in the external environment is complex and uneven. It is not coordinated and reflects a free moving system that often seems to be an amoeba, making progress here and retreating there, oozing forward and backward in different ways. The system is undergoing intense politicalization on account of financial and budget constraints, strong competition from foreign countries and producers outbidding and selling American producers. The system intergovernmentally will be allowed to stand so long as there is little pressure and reason to change. The Shippers, carriers and ports have learned to work with the system and to handle the costing. If demand for any export product expands considerably, then new points-of-contact and conflict will occur. At that time the intergovernmental system will come into play. There will be legitimate concern about how the system may retard export operation and in the long run make the nation less competitive.

Identification of these problems will facilitate advance planning on how to respond when the export economy picks up and intergovernmental points-of-contact occur in greater depth. The magnitude of agricultural and coal exports in the late 1970's demonstrated weaknesses in the system. With the current slow-down there is time to reflect and to improve the process at a less hectic but still well-programmed and paced sequence. The opportunity must not be lost, otherwise the nation and its export transportation industry will be caught in a crisis reactive mode. With advanced planning and coordination again, residents of densely populated urban port areas will be better prepared to accept and to work with ameliorating negative impacts by increased export transportation activity. That is not to say that everything can be worked out. Hard decisions will arise where compromise can not resolve all points and trade-offs. But much more can be fine tuned and incrementally accomplished.

Endnotes

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3. John Naisbitt. Megatrends (New York: Warner, 1982).

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Chapter IX - EXPORT TRANSPORTATION POLICY STRATEGIES

Introduction

The focus upon strategies for the export transportation system is based on a belief that a participant will first need to know several aspects: 1. what action is possible; 2. who to contact; 3. how to do it; and 4. what contact points to expect with the intergovernmental policy system. Whether the perspective is one of the producer, shipper, carrier, port, broker, freight forwarder, or federal, state and local governments, the orientation is similar in attempting to bridge the long range possibilities against immediate or short term needs and actions. The strategy approach provides that blend and helps identify the range of possibilities and approaches in different settings.

In a sense, this constitutes a menu of strategies drawn from the whole of the export transportation system. The illustrations raised are generated more often by the private sector with significant public sector input. Ports and carriers play an important role in bringing the parties together. And occassionally, governmental agencies themselves are party to the successful application of some of the strategies.

Strategy Framework

A wealth of ideas is being generated during the current period of economic change and stress. Many relate directly to transportation modal and intermodal operation, exports, and national policy. The freedom provided by regulatory change has helped to create a competitive atmosphere to stimulate improvements in facilities and service. Technological change in some cases is introduced faster. In others, resistance is high to new technology. Transportation regulation is in a momentary period of "rest" while rapid change started with deregulation is still being absorbed. Export generation and assistance are subsumed by the greater questions of national economic policy and strategy. The general belief is that the American economy should receive direct attention before any sub-parts, including trade, are addressed. Current economic policies appear to offer that stability and long-term power.

Based upon the research conducted in this study, over ninety ideas were identified which hold promise for improving the nation's export transportation system operation and policy framework. Each concept is presented in a matrix of characteristics:

- Source or sponsor
- User
- Results
- Intergovernmental levels
- Status

Presented as possible actions to consider, the concepts are further organized by:

- Facilities and Services
  1. Goals and Values Statement
  2. Planning Task Forces/Associations
  3. Design and Engineering
  4. Finance
  5. Operations
- Regulation
  1. Railroad
  2. Motor Carrier

3. Shipping
4. Pipeline
5. Export Impact Statement
6. Cost-Benefit
7. Fast Tracking
8. Regulatory Relief

Export
1. Representation
2. Assistance
3. Promotion
4. Financial/Tax
5. Coordination

Table IX-1 summarizes the data. The array is intended to stimulate ideas and further consideration by all interested parties. Quick reference to the "User" column will assist each export transportation system participant to determine potential applicability.

Following the table is additional narrative highlighting the more recent, not as widely known, concepts and experiences throughout the nation.

The following discussion synopsizes the material presented in the table. If the reader wishes to pursue more detailed information, fuller discussion is in previous chapters. Additional material is fully cited here.

Facilities and Services

Many ports and related transportation activities in the country have internal belief systems and value statements that help guide or at least document their activities. Rarely, though, are they published and shared with surrounding communities in ways that demonstrate commitments and policy positions. Occasionally, this may happen in a formal statement such as a plan, or environmental analytic document. The Port of Portland, has taken a further step in this process and announced a Goals and Values statement.[1] Its ideas relate to the purpose of the port and how it conducts business and relates to the community. It may facilitate public communication, comprehension, and coordination with other agencies. Six basic values included are:

* Build a strong economy: The port will promote a strong economic base in the community to the fullest extent of its charter with emphasis on marine, aviation and land development.
* Maintain public confidence: We recognize that public confidence in the port is essential in carrying out our responsibilities.
* Assure customer satisfaction: To compete successfully in our markets, we must have satisified customers.
* Demand competitive financial performance: The port combines a unique blend of government and business practices that requires a special approach to its financial performance. The port must be financially healthy if it is to perform its economic role in the community and earn enough to remain competitive.
* Insist on excellent leadership and teamwork: Leadership and teamwork are the cornerstones to the port's success and are encouraged at all levels.
* Recognize employees are the port's key resource: We are commit-

Table IX - 1

Selected Long-Term Transportation Strategy Concepts - Facilities and Service

Characteristics:	Source/Sponsor	User	Results	Intergovernmental	Status
Action:					
1. Goals and Values Statement	Port of Portland	Port	Public awareness	Local	Implemented
2. Planning Task Forces/ Associations					
A. Municipal Goals	City of LB Harbor Goals Com	City Port	Public awareness and support	Local	Implemented
B. Marketing Group	Columbia/Snake River Marketing System	Ports	Coordination and Action	Oregon, Wash, Idaho	Implemented
C. Ports Task Force	Southern Calif. Assoc. of Govts.	Ports, carriers, cities	Coordination and Action	Region, 3 counties cities, carriers, 2 ports	Implemented
D. Study Commission.	Louisiana	Mississippi ports	Governor's study mission on ports	State. ports, cities	Implemented
E. Operations Group	Port of LB Harbor Talking Com.	Maritime trades	Coordination	Port, local, state, federal	Implemented
F. Master Plan	Ports of LB and LA (Corps of Engineers)	Ports	Year 2020 Plan	Local, state, federal	Announced, Public Review
3. Design and Engineering					
A. Maximum Feasible Utilization	Ports of LB and LA	Ports, carriers processors	Newer technology, facilities, more intensive use, higher productivity, incremental impacts	Ports	Ongoing
B. Joint Authority Container Terminal	Ports of LB and LA	Ports Carriers	Joint Intermodal Container Freight Authority	Local, carriers	Construction
C. Joint Authority River	Louisiana	Ports carriers coal shippers	Bulk Terminal Commission (Off-shore)	State, ports	Commission formed, study initiated
D. Joint Authority-Bay	Delaware Bay Ports	Ports shippers carrier	First port concept	Local, states, federal	Concept discussion

Table IX - 1 (Cont)

Selected Long-Term Transportation Strategy Concepts - Facilities and Service

Characteristics:	Source/Sponsor	User	Results	Intergovernmental	Status
Action:					
E. Regional Plan	Metropolitan Transp. Comm, Bay Area Conservation Dist.	Ports carriers	Joint Bay Area Development and Conservation Plan (conflict resolution)	Local, state	Adopted, implementing
F. Overload-Coal	Hampton Roads Baltimore	Port carriers	Coal collier queing, reservation	Local, Coast Guard	Implemented
G. Overload-Grain	Port of Houston	Port Carriers	Coord. of grain unit trains	Port of Houston, local governments	Implemented
4. Finance					
A. Bonds	Port of LB and LA	Ports carriers	Bonds, Japanese loan guarantees (bank)	Local	Contracts signed
B. Real Estate	1. Port of Baltimore	Port, general	Commercial waterfront development (Rouse Corp)	Local	Operating
	2. Port of Baltimore	Port,general	World Trade Center	Local	Operating
	3. Port of Los Angeles	Port,general	Marina, park	Local	Construction
	4. Port of Long Beach	Port,general	World Trade Center	Local	Announced, leasing, construction in 1986
	5. Hampton Roads	Port, general	Commercial waterfront development	Local	Operating
C. Fees/Taxes	1. User Fees-general	Carriers	Dedicated to mode	Ports, states, federal	Concept discussion, proposed legislation (various)
	2. Federal Dredging Fees	Carriers, ports	Harbor deepening	Local, state, federal	Concept discussion/ proposed legislation
	3. Federal Taxes	Carriers	Dedicated to Mode	State, federal	Operating
	4. Local Taxes	Port of Portland	New property Taxes	Local	Approved 5/84

Table IX - 1 (con't)

Selected Long-Term Transportation Strategy Concepts - Facilities and Service

Characteristics:	Source/Sponsor	User	Results	Intergovernmental	Status
Action:					
Operations					
A. Rights-of-way					
1. Freight Routes	Federal	Motor freight	Interstate Syst. Freight Network	Federal,state	Implemented
2. Defense Routes	Federal	Dept.of Defense, Railroads	Strategic Rail Network	Federal	Announced
3. Unit Train Routes	Southern Calif. Assoc.of Govts.	Railroads	Dedicated Harbor Rail Corridors	Local, state, federal ports	Concept discussion
4. Public Safety Routes	States, federal	Railroads Motor-freight	Hazardous Mat. Routes	Local, state, federal ports	Concept discussion, some states, local implementation
5. Urban By-pass	Railroads	Railroads	By-passes/short cuts (shorter, more direct routes)	Local	Implemented
6. Slurry Pipeline System	Slurry Coal Pipeline Assoc.	Coal, Shippers	Slurry network	Local, state, federal ports	Concept discussion, state and federal leg. introduced
7. Mega-container Ports	Ocean carriers	Carriers ports shippers	Load Centers	Ports	Operational
8. Channels	Ports, ocean carriers	Ocean carriers ports	Deeper inbound channels dredged	Local, state, federal ports	Concept discussion
B. Equipment					
1. Container Train Productivity	Railroads	Railroads shippers	Double Stack Container Train	Local, state, federal ports	Operational
2. Container Train Productivity	American Assoc. of Railroads	Railroads shippers	Integral Container Trains	Local, state, federal ports	Concept discussion
3. Bulk Train Productivity	American Assoc. of Railroads	Railroads shippers	Integral Bulk Trains	Local, state, federal ports	Concept discussion
4. Rail/Highway Vehicle	Bimodal Rail, Corp	Railroads shippers	Road Railer	Local, state, federal ports	Demonstrated feasible in service

Table IX - 1 (con't)

Selected Long-Term Transportation Strategy Concepts - Facilities and Service

Characteristics:	Source/Sponsor	User	Results	Intergovernmental	Status
Action:					
B. Equipment (con't)					
5. Motor Carrier Productivity	Motor freight, shippers, ports	Motor freight shippers, ports	Double trailers, longer units, heavier units, wider units	Local, state, federal ports	Operational
6. Ship Productivity	Research	Ocean carriers ports shippers	Larger shallow draft, wide beam vessels	Ports, state, federal local	Concept
7. Ship Productivity	Ocean carriers	Ocean carriers ports shippers	Supersized vessels, coal, liquid containers	Local, state, federal ports	Operational
C. Labor and Technology					
1. Caboose - less Trains	Railroads	Railroads	Lower labor cost	State, federal	Experimental
2. Decentralized Facilities	Port of Charleston	Motor carriers railroad shippers	Inland transfer facility (lower cost)	Local, state port	Operational
D. Intermodal Coordination					
1. Full Service	Ocean carriers	Shippers	Through service/ rates	Ports, state, federal	Operational
2. Liner Trains	Am.Pres. Lines	Shippers	Coast-to-coast contain unit train (landbridge)	Ports, local, state, federal	Operational
3. LTC/LTL	Port of Seattle	Shippers	Cargo consolidation, lower rate	Port, state, federal	Operational
4. Documentation Processing	Port of Charleston	Port, shippers	Orion computer	Port, customs	Operational
5. Customs Consolidation	Port of Portland	Columbia/ Snake River	3 Customs District consolidated	Ports, federal	Implemented
6. Carrier Consolidation	Railroads, motor carriers	Railroads, motor carrier	Larger, more efficient systems	Local, state, ports	Operational, in process, proposal
7. Contracts	Railroads, motor carriers	Shippers	Lower prices/ higher volume (grain, coal, containers, etc.)	Ports, state, federal	Operational

Table IX - 1 (con't)

Selected Long-Term Transportation Strategy Concepts - Facilities and Service

Characteristics:	Source/Sponsor	User	Results	Intergovernmental	Status
Action:					
D. Intermodal Coordination (con't)					
8. Rail-barge	CSX-Am. Com. Lines	Shippers	Rail-Barge syst.	Ports, state, federal	Operational
9. Rail-trucking	Railroads	Shippers	Containers, intermodal	Ports, state, federal	Operational
10. Rate System Files	Private Company	Shippers	Joint line rates by computer	Ports	Vendor Accouncement
		Transportation Regulation			
1. Railroad	Federal	Railroads ports shippers	Staggers Act - deregulation 1980	Federal, state, local ports	Operational, calls for reregulation
2. Motor Carrier	Federal	Motor carrier ports shippers	Motor Carrier Act deregulation 1980	Federal, state, local ports	Operational, calls for reregulation
3. Shipping	Federal	Ocean Carrier Railroads motor carrier ports shippers	Shipping Act of 1984, flexible contract coordination	Federal, state, local ports	Operational development
4. Pipeline	Coal Slurry Assoc.	Coal	Legislation voted down	Local, state, federal ports	Uncertain for experts operating domestically
5. Export Impact Statements	Federal	Federal	Coordination	Federal	Staff proposal
6. Cost-benefit Analysis	Federal	Federal	Review of trade-offs	Federal	Staff proposal, limited experience
7. Fast-tracking (dredge, coal, terminals)	Federal	Ports	Earlier project completion	Ports, local, state, federal	Congressional bill; some federal and state agencies streamline procedur
8. Regulatory Relief	Advisory Com. on Intergovt. Relations	Local ports states	Direct order cost reimb. (new regs)	Ports, local, state	Congressional bill

Table IX - 1 (Con't)

Selected Long-Term Transportation Strategy Concepts - Export

Characteristics:	Source/Sponsor	User	Results	Intergovernmental	Status
Action:					
1. Representation*	states ports	Exporters	Export sales/ import investments	States, local, ports	Ongoing-(1980-33 states developed)
	local	Exporters	L.A. Int. Trade Dev. Corp. (export sales/ import investment)	State, local, ports	Ongoing
	ports	Exporters	trade	States, local, ports	Ongoing
2. Assistance*					Ongoing
- missions	states	exporters	export growth	states (local,ports)	-46
- trade shows	states	exporters	export growth	states (local,ports)	-45
- marketing	states	exporters	export growth	states (local,ports)	-48
- market development	states	exporters	export growth	states (local,ports)	-41
- export education	states	exporters	export growth	states (local,ports)	-46
- investment information/missions	states	exporters	export growth	states (local,ports)	-44/35
- advertising	states	exporters	export growth	states (local,ports)	-35
- port development	states	exporters	export growth	states (local,ports)	-22
- Fast-track	Los Angeles ITDC	exporters	export growth	local	ongoing
-export licensing	Port of Charleston		Orion Computer	port	ongoing
3. Promotion	federal	port local	Export Trading Co.	port, local, state federal	ongoing
	federal	port local	Foreign Trade Zone	port, local, state federal	ongoing
	federal	coal producers railroads	Coal Export Co.	federal	Congressional bill
4. Financial/Tax*					
	states	exporters	mixed credits	state, federal	ongoing (14 states)
	federal	exporters	mixed credits	state, federal	ongoing
	Louisiana	exporters	tax-free exports	port, local, state	ongoing
	California	exporters	Calif. Export Bank	state, local	proposed legislation

Table IX - 1 (con't)

Selected Long-Term Transportation Strategy Concepts - Export

Characteristics:	Source/Sponsor	User	Results	Intergovernmental	Status
Action:					
5. Coordination					
- cabinet	federal	federal	Dept. of Trade	federal	Congressional bill
- policy review	dederal	federal	Export Impact State	federal	staff proposal
- processing	federal	ports local, state federal	"Fast-Tracking" key projects	ports, local, state federal	congressional bill
- task forces on export transportation	port local state federal	local,state federal, port	coordination	port, local, state federal	concept (possibly use existing private, trade non-profit associations)
- industrial policy reforms		federal	incremental	federal	ongoing
1. Laissez-faire	Interest groups	marketplace	tinkering		
2. The Space Shot	Interest groups	federal	"Big-Idea" Mobilization	federal	proposed legislation
3. Structural Reform	Interest groups	federal	Depts. Boards Advisory Councils	federal	proposed legislation
4. Protection or Retaliation	Interest groups	federal	private sector protection	federal	proposed legislation

* Federal government already active in these spheres.

ted to an environment in which all employees can contribute, feel good about their work, are appreciated as individuals, develop to the fullest extent possible, and are proud to work for the port.

When confronted with a challenge that is beyond the resource capability of one institution, often consortia are formed to address the issue at hand. For the most part these bodies are temporary, aimed at dispute or conflict resolution. Some are designed for advance planning for future projects. The agencies involved include many from port local communities and private sector interests, and higher in the intergovernmental hierarchy. For example, the City of Long Beach has a municipal task force to determine what kind of city is desired for the year 2000. A key subgroup relates to the port. The Port of Long Beach has established a Harbor Talking Committee to consider, informally at first, operational concerns within the port's community. Ongoing membership is the Los Angeles Steamship Association Southern California Terminal Operators Association and Los Angeles Customs and Freight Brokers Association.[2] The Columbia/Snake River Marketing System Group, initiated by the Port of Portland, encourages joint research and action among the ports, counties and states of Oregon, Washington and Idaho along the 465 mile system. The group has stimulated containerized agricultural for export cargo.[3] The Ports Task Force of the Southern California Association of Governments started in response to the anticipated export coal boom through the ports. Ports, local governmental along rail corridors to the ports and carriers meet[2] regularly to review plans for meeting greater freight demand.[4] The State of Louisiana has established a Governor's Study Commission on Ports with members of the maritime and political communities. it will identify ways to improve the state's competitive postion, deep draft and inland waterways, assist shallow draft ports, and avoid duplication.[5] Coincident is the first-time formation of a state-wide ports association.[6] And, the state has also created a Bulk Cargo Off-shore Terminal Commission.[7]

Design and engineering necessary to implement new ideas are allocated to several different mechanisms. Continual upgrading and installation of new technology are the traditional responsbility of port departments. In the case of larger efforts, an official goal is to maximize the productivity of the land, facility or practice involved. As a regular part of the planning process, the Port of Long Beach and Port of Los Angeles apply this philosophy individualy and jointly.[8] Illustrative joint projects include the Intermodal Container Freight Authority[8] and the Year 2020 Master Port Plan.[9] Models for such cooperation also exist in the San Francisco Bay Area which utilized a Joint Bay Area Development and Conservation Plan for conflict resolution (Metropolitan Transportation Commission and Bay Area Conservation District).[10] The recently created Louisiana Bulk Terminal Off-shore Commission and concept discussion of First Port in the Delaware Bay[11] are additional applications. When coal and grain exports were backing up on the port-rail system,for coal and grain, respectively, Hampton Roads and Baltimore, and Houston worked out queing systems for colliers, grain ships, and unit trains to coordinate the facility overloads. Private industry played an important role in solving "queing"-type logistical problems.

In general the sponsoring agencies as employing an authority approach, whether limited to one agency or joint involvement, often grant additional powers to manage the entire program, including financial plans and raising capital.

For many large capital projects, ports require extra funding. Frequently, they turn to the private capital markets for tax-exempt indebtedness, sell or develop real estate holdings, enter into a commerical activity for recreational, entertainment, or World Trade Center complexes. The Port of Portland received

voter approval to increase local property taxes for facility development. Long Beach and Los Angeles are issuing tax-exempt bonds for the Joint Intermodal Container Freight Facility Authority back with a line of credit arranged by the Southern Pacific with the Industrial Bank of Japan, Ltd., should gate charges not meet debt service obligations.[12] Land development has been completed or is underway by the New York, Baltimore, Hampton Roads, Long Beach and Los Angeles. World Trade Centers already have been built for New York and Baltimore (considering selling the asset). Long Beach is about to sign a contract for facility development. A variety of taxes, fees, and user charges are largely in place or proposed for motor carriers, railroads,[13] barges, and ports. Most are dedicated for specific uses such as fuel taxes for highway construction and maintenance. Proposals for port user fees have been intensely debated as part of the dredging situation.[14]

Operationally, each mode carrying cargo to the ports has enough volume in selected areas to require special consideration in terms of routing, capacity, technology and impacts on urban life and the environment. The installation of double-trailer motor carriers vehicles, with larger containers, longer trailer combinations, heavier gross weights stimulated the identification of an Interstate Freight Network System with a $2 billion cost savings.[15] The basic core of the nation's rail system has been identified by the Department of Defense in the "STRAGNET-Study of Rail Lines Important to National Defense" of 32,422 miles with 5,034 additional miles for military base connection.[16] Dedicated rail freight corridors to and from the ports of Long Beach and Los Angeles are under consideration by the Southern California Association of Governments Ports Task Force. Similarly, hazardous materials are receiving special routing considerations, whether carried by rail or truck.[17] Railroads have developed special track by-passes around densely congested urban areas, thus cutting travel time.[18] Ocean carriers are introducing larger containerships, around the world liner service and load center concepts. Slurry pipeline transport offers potential benefit for coal export but encounters eminent domain problems wherever it must cross railroad rights-of-way. And, one way deeper channels in selected harbors are being considered for heavily laden export cargo ships to help offset dredging costs.

New equipment in all modes holds much promise. Railroads are exploring Integral Container Trains and Integral Bulk Trains.[19] Already developed and operation are double stack container trains, and Road Railer technologies. The former increases container train capacity and in some variants (Santa Fe) saves fuel by aerodynamic design. The latter was demonstrated in New York upstate service but discontinued principally due to labor rules and costs. Motor carriers anticipate increased productivity and cost savings from double trailers, longer, heavier and wider units. Super-sized ships for coal, other dry and liquid bulk, and containers are forcing port facility and shipping practices to adjust. Conceptually under exploration are large capacity, wide, shallow beam ships similar to Great Lakes ore carriers.

Labor practices have not kept pace with technology changes. The Bi-modal Corporation found work rules to be restrictive on dual operations. Some railroads are experimenting with "caboose-less" trains, made possible by high-tech telecommunication and sensing devices to eliminate the need for human observation from an observation platform at the end of the train. In other locations, particularly the East Coast, the fifty-mile labor rule affects the competitive position of box cars, and sometimes containers. Some ports and carriers have opened up transfer facilities far inland beyond the zone of work rule coverage.

The North Carolina Port State Authority has established direct unit train service with the Seaboard System between Charlotte and Wilmington. The seven hour trip runs once a week and carries twenty foot and forty foot containers on thirty-one flat cars. It is coordinated with the newly opened Charlotte Intermodal Terminal, North Carolina Port Authority container storage facility. It is considered the "first inland facility of its type in the country."[20]

Intermodal coordination is being developed in several ways. Some companies are acquiring operations in other modes. The CSX has purchased the American Commerical Lines for joint rail and barge operations.[21] Railroads are consolidating, as well as motor carriers cooperative arrangements are established.[22] The Port of Settle has negotiated contracts with motor carriers and railroads for consolidating cargo, including LTL. Significantly lower rates are possible.[23] The American President Lines has land-bridge container unit trains regularly operating.[24]

Regulations

Carriers, ports, and private vendors are taking advantage of additional market freedoms provided by regulatory changes. Railroads have issued contracts for coal, grain, containers and other freight. One private vendor has developed a system to quote Joint-Line Rates by Computer to facilitiate quick references for the myriad number of pricing and routing possibilities.[25] The Port of Charleston has in operation the Orion Computer system with the capability in one day (or hours) to provide full and accurate data on the status of inbound and outbound shipments. The Columbia/Snake River System has obtained Customs District consolidation (three to one).[26] There is a need for accurate modal cost accounting. The suggestion is generated by shifting of demand, thus construction and maintenance cost, as a major modal diversion. Highways need more financial support to help carry increased traffic from abandoned rail lines.[27]

Directing cargo also impacts barges. The load center concept is receiving a de facto boost from barge operators. They intend to develop a feeder service with new facilities and equipment for the North Atlantic and Gulf of Mexico ports. The advantage of barge feeder service would be that it utilizes the Intracoastal waterway, American carriers, and help the non-load center, smaller regional ports compete with rail and truck traffic for such cargo diversion. Carriers believe that under contact arrangements they could offer lower rates to offset longer shipment time compared to truck or rail. One carrier maintains that a thirty percent savings is possible for barge traffic carrying containers between Houston and New Orleans, against truck or rail transportation. It is anticipated that West Coast traffic will soon pick up with the same service orientation.

Explored in depth in the chapter on regulation is the status of railroad and motor carrier deregulation, and shipping regulatory changes. In fact, there are now bills introduced in Congress to "reregulate" railroads and motor carriers. Shipping regulatory changes promise more flexible relationships between ocean carriers and land transportation systems. Slurry pipelines have been denied permission by Maryland and Virginia state legislatures, and Congress, to establish companies to build and operate such systems. On the other hand, coincident with deregulation has been the introduction in the Surface Transportation Assistance Act of 1982 of double trailers with larger dimension containers. This particular technological change, though seemingly incremental, may be the real "sleeper". If it catches on, all facilities wil need to be adjusted to handle larger sizes. It is very possible a dual export system will be in effect

by the year 2000 for rails, motor carriers, highways, ports, and ocean shipping, if other nations upgrade their systems to larger sizes. For example, as trade with China expands, new facilities will need to be constructed in all modes. What container size technology will China choose? Will that choice drive the rest of the world system? Finally, there have been proposals to require Export Impact Statements at the federal level to ensure full consideration of systemic effects; and more extensive use of cost-benefit analysis.

Several different parts of the federal government study commissions and nonprofit groups have called for greater usage in federal agency management of the policy technique called cost-benefit analysis or cost effectiveness analysis. The ideas has been available and used for many years in the planning and policy analysis fields, often part of systems analysis activities. However in this case it would be more rigorous, applied by legal requirement in the internal management of agencies as well as in programs proposed. These important sources for further application of the concept include:

1. Presidential Executive Order Number 12291, February 17, 1981 requiring "cost benefit analyses before promulgating major new regulations, revealing major existing regulations, and developing legislation proposals concerning regulations".
2. The Advisory Commission on Intergovernmental Relations has repeatedly called for increased usage of the technique for measuring intergovernmental impacts.
3. Further elaboration of the technique has been proposed by the General Accounting Office.
4. The White House Council on Trade had proposed greater use of cost-benefit type concepts for export promotions and review of regulations and trade relating to export activities. This extension would have been called a "trade impact analysis statement.`
5. The Heritage Foundation has called for the application of cost benefit and cost effectivenes requirements to all regulatory agencies as a very high priority.

Regardless of the source of the request, the application of the concept has validity and merit. As with any new activity, no matter where applied, federal, state and local, it may well be more burdensome and expensive, especially if it requires additional cost, time, preparation and review. This offsetting question must be handled on a case-by-case basis to decide the ultimate value of the technique. For example in the trade situation, a White House Committee felt that it would be burdensome to add the practice.[29]

Recognizing the added expense of federal policies to state and local governments, the Intergovernmental Regulatory Relief Act of 1984 was introduced March 8, 1984. The bill was designed to assist state and local governments by relieving them of costs necessary to meet federal regulations: "by reimbursing state and local governments for direct costs they incur in complying with new regulations; by requiring a reduction in existing cost either by reimbursement, by reducing the regulatory requirements themselves, or by a combination of the two." Interestingly "if such relief is not provided for, the bill prohibits any federal agency or court from enforcing the unreimbursed regulation." Lastly, it also "requires the President to prepare an annual report estimating total costs incurred by state and local governments in complying with federal regulations."[30]

Exports

The preceding discussion presumes there is cargo to carry, that exports generate their own demand. Increasingly, experience suggests that the intergovernmental policy system must actively engage in the promotion of trade and exports.

Over thirty-three states already have some kind of representation presence in foreign cities. Some municipalities have created their own promotion organizations, such as the Los Angeles International Trade Development Corporation. Ports have long had foreign offices. Export assistance is offered by a majority of states, along with a variety of promotional and financial tax incentives. Fourteen states are now creating export finance programs. More states are establishing foreign offices and those with existing officies are expanding their operation. Traditionally,these have been dedicated import development but now are focusing on export. "Twelve states now maintain sister state agreements with provinces of the Peoples Republic of China." Some are initiating contacts with Japanese trading companies. In some cases several states are combining their efforts for trade promotion. Several states are exploring Export Trading Company (ETC) possibilities. "At least 14 state governments are now developing new export finance facilities, and perhaps another dozen are now exploring the relevance of such institutions for their exporters." Twenty-seven operate in 52 offices and 10 countries, with most in Japan, Belgium, and West Germany. Two port areas have established export trading companies the New York-New Jersey Port Authority (XPORT) and the Virginia Port Authority (VEXTRAC). The Port of Portland is developing an ETC.[32]

Since that accounting there are fifteen states with legislation creating export financing agencies,[33] including a proposed California Export Financing Bank.[34]

A device that is growing as well in importance is the role of an advisory committee at the state level reviewing the many aspects of the export system, commenting, making suggestions,and proposing legislation. The South Carolina Governor's Port Advisory Committee has created an incentive for exporters "who increase their gross income through direct export sales" and would have a tax deferred on the income.[35]

A fundamental component of the export situation is the coordination of American basic industry. According to Raymond A. Hay, Chairman and Chief Executive Officer of the LTV Corporation, and member of the Executive Committee of President Reagan's Private Sector Survey on Cost Control, basic industries are in trouble. In almost every sector the country is losing its industrial competitivenenss and position. It is losing foreign markets consistently. This dislocates basic industry, affects national security, lowers overall employment, and has severe impacts on surrounding communities. Several polls commissioned by LTV, surveyed the attitudes of five hundred opinion leaders in the country (business, media, labor, elected and appointed officials, public interest groups and universities). "Overall two out of three opinion leaders believe that America's economic difficulties can be traced primarly to a structural revolution now taking place in the United States economy." Over 71 percent felt that basic manufacturing industries may "well "become much smaller than during the last 15 years and more streamlined and more competitive internationally." A note of optimism was that over half believe workers could be retrained and will find jobs. Over half believe that government should take some kind of role regarding the basic industries. However, there is disagreement as to the types of

government involvement necessary.[36]

Finally, the White House has recognized the question of federal coordinative roles and leadership. The general subject of exports and how to facilitate them has been under study by an interagency working group and a White House group. A list of recommendations was developed by the President's Commission on Industrial Competitiveness and was reviewed by the White House Cabinet Council on Commerce and Trade.[37]

The Commission was supported by a Cabinet Council Working Group on Industrial Competitiveness composed of representatives from the Departments of Commerce, Treasury, Labor, Justice and Education, Office of Management Budget, Office of the U.S. Trade Representative, and Council of Economic Advisors. The recommendations were:

1. The President should direct the Secretary of Commerce to coordinate with the appropriate Executive Branch agencies in order to establish a coordinated local interagency export system.
2. The President should direct the Executive Branch and regulatory agencies to calculate and publish analyses of the anticipated effects of any proposed legislation.
3. The President should seek legislation to clarify the meaning and the application of the Foreign Corrupt Practices Act.
4. The President should require U.S. Ambassadors to provide him annual reports on their embassy's annual export expansion strategy and the President should appoint a visiting commerical activity review team of leading U.S. business executives.
5. The Secretaries of Commerce and State should strengthen the personnel programs of the Foreign Service and the Foreign Commerical Service to modify current rotation policies to insure longer tenures and a greater continuity of U.S. effort.
6. The President should direct the Office of Management and Budget to identify which nonfinance-related limitations on the Eximbank's operating authority should be removed.
7. The President should direct the Chairman of the Eximbank to devise a competitive U.S. approach to the mixed credit financing.
8. The Eximbank should stimulate greater private sector lending for exports by expanding its working relationship nationwide with commerical banks and state export banks.
9. The President should initiate a new U.S. export promotion campaign in 1985.
10. The President should appoint a commission or task force to investigate the feasibility of creating a semi-private, non-profit U.S. export promotion organization.

Reportedly, the Cabinet Council rejected the idea of a new export promotional campaign in 1985, rejected Export-Import Bank recommendations, and rejected a recommendation that would require federal agencies to "calculate in published analysis of the potential impact of proposed legislation on U.S. export industries." This last item would be "terribly costly".

From the perspective of this research study, it is interesting to note that the Department of Transportation was <u>not</u> involved in the work. Also, that the most relevant recommendations (coordinated local interagency export, impact statements of export policies and combined recommendations for export promotion and financing) were either rejected or considered accomplished by other agencies and unnecessary. The did not require presidential attention and formal public

statements at this point. The staff committees essentially agreed with the intent of these recommendations but believed their imposition would either be unnecessary or burdensome.

Conclusion

The very depth and breadth of ideas implemented, explored, and discussed are reassuring. America's dynamic export transportation system, in its parts, is independently attempting to find ways to review discrete pieces of the transportation system and improve service and profitability. Theoreticallly, the parts will add to an invigorated whole that by "enlightened self-interest and benefit" will stimulate positive changes in the export transportation system.

Some observers believe that the general economic and philosophical system is too large, and diverse for governmental control. And, it is also too fragmented and diverse for marketplace self-guidance and corrections. In matters of significant national interest, where basic well-being is at stake, there needs to be "holistic, coherent, flexible, and balanced" set of strategies. They should "also rest on a broad social consensus and match our institutional norms; it cannot be dictated from on high".[38]

This chapter has identified a range of long-term strategy options generated from existing export-transportation subsystem activities. On paper the nation appears to have an integrated and coordinated program. Most assuredly, the nation has neither.

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FEDERAL AUTHORIZATION FOR ACTIVITIES IN U. S. NAVIGABLE WATERS OR OCEAN WATERS RELATIVE TO ENVIRONMENTAL PROTECTION

ACTIVITY	ARMY	COMMERCE											HEW		HUD	INTERIOR									LABOR	STATE			TRANSPTN							TREASURY	USDA	OTHER							
	COE	ACOMP	CEQ	BRTA	EDA	MA	NMFS	NOS	NWS	OCZM	EPA	FMC	EPC	FDA	PHS	CPAD	BLM	BOR	BSFW	NPS	BIA	BR	OCG	USGS	OSHA	IBC	IJC	OMA	FAA	FHA	FRA	OPLS	SLSDC	UMTA	USCG	BOC	AP HIS	AEC	FCC	FEA	OMB	PCC	TVA	WRC
Permits	X										X	X			X																					X								
Licensing				X							X		X	X															X	X	X	X		X	X			X	X				
Certification										X	X				X														X						X								
Letter of Permission or Approval	X	X					X				X					X	X	X	X	X	X	X	X	X		X	X								X								
Coordination	X		X	X			X			X	X					X			X				X						X						X			X					X
Review	X	X	X			X	X	X	X	X	X					X	X	X	X	X	X	X	X	X				X	X	X	X	X		X	X			X		X			X
Enforcement	X			X			X				X		X	X	X				X				X	X	X				X	X	X	X			X	X	X	X	X			X	X	
Fines							X				X	X		X	X										X				X	X	X	X				X								
Environmental Impact Statement	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dredging/Filling	X	X					X			X	X						X		X						X											X				X		X	
Dredge Spoils Disposal	X	X					X			X	X						X		X																X						X		
Anchorages	X							X																											X								
Aids to Navigation								X	X																										X						X		
Harbor Protective Works	X							X	X																										X								
Harbor Lines	X							X																											X								
Ports & Terminal Facilities	X			X	X	X		X		X													X		X				X				X	X	X							X	
Intermodal Transportation						X																			X				X	X	X	X				X							
Vessels				X		X		X				X											X		X		X							X	X	X		X				X	
Port Security & Safety																									X										X	X		X					
Vessel Traffic Control																																			X		X				X	X	
Locks, Dams & Canals	X						X						X						X		X			X		X	X														X	X	
Bridges & Causeways	X																									X	X			X	X			X								
Harbor Tunnels	X																																											
Pipelines	X																						X	X		X	X					X								X			

ACTIVITY	ARMY	COMMERCE											HEW		HUD	INTERIOR									LABOR	STATE			TRANSPTN							TREASURY	USDA	OTHER							
	COE	ACOMP	CEQ	BRTA	EDA	MA	NMFS	NOS	NWS	OCZM	EPA	FMC	EPC	FDA	PHS	CPAD	BLM	BOR	BSFW	NPS	BIA	BR	OCG	USGS	OSHA	IBC	IJC	OMA	FAA	FHA	FRA	OPLS	SLSDC	UMTA	USCG	BOC	AP HIS	AEC	FCC	FEA	OMB	PCC	TVA	WRC
Submarine Cables	X																																					X						
Aerial Power Lines	X							X					X																															
Recreation	X						X			X						X	X	X	X	X		X													X								
Recreational Boating								X	X								X																		X							X	
Boating Safety								X	X																										X								
Marinas and Small Boat Facilities	X				X																																						
Inland Waterways	X					X											X																		X							X	X
Great Lakes	X			X		X			X	X	X	X	X			X		X	X	X	X	X	X	X		X	X								X		X					X	
St. Lawrence Seaway	X					X			X		X	X	X																				X				X					X	
Panama Canal & Terminals	X					X						X																													X		
Waterborne Commerce	X			X		X																						X						X							X	
Foreign Trade Zones				X		X								X	X																				X		X						
Offshore Ports & Terminals	X									X							X						X									X			X				X				
Outer Continental Shelf								X		X							X						X	X																X				
Offshore Oil Drilling																																								X				
and Mineral Extraction										X							X						X	X																				
Offshore Nuclear Power Siting										X			X				X																						X		X			
Offshore Oil Leasing										X							X						X	X																	X			
Energy Conservation				X									X										X	X																	X		X	
Urban Development	X				X					X						X																		X									
Urban Mass Transit																X																		X									
Land Use Classification		X								X						X	X			X		X	X																	X				X
Flood Control	X							X								X					X		X					X														X	X
Water Supply	X				X					X			X	X		X					X	X	X																				X	X

ACTIVITY	FEDERAL AGENCIES: ARMY			COMMERCE										HEW		HUD	INTERIOR								LABOR	STATE			TRANS'PN							TREASURY	USDA	OTHER						
	COE	ACOHP	CEQ	BRTA	EDA	MA	NMFS	NOS	NWS	OCZM	EPA	FMC	FPC	FDA	PHS	CPAD	BLM	BOR	BSFW	NPS	BIA	BR	OCG	USGS	OSHA	IBC	IJC	OMA	FAA	FHA	FRA	OPLS	SLSDC	UMTA	USCG	BOC	AP HIS	AEC	FCC	FEA	OMB	PCC	TVA	WRC
Water Quality			X				X			X	X				X	X			X		X			X		X	X								X		X						X	X
Oil Spills			X				X			X	X								X																X									
Oily Waste			X			X	X			X	X								X																X									
Liquid Chemical Waste			X			X	X			X	X								X																X									
Other Hazardous Substances			X			X	X			X	X								X						X										X			X						
Sanitary Waste			X			X	X			X	X				X				X																X									
Solid Waste			X			X	X			X	X								X																X									
Harbor Debris Cleanup	X		X			X	X				X				X	X			X																X									
Air Pollution			X								X				X										X																			
Stack Emissions			X			X					X				X										X																			
Thermal Pollution							X			X	X		X						X																			X						
Coastal Zone Management	X					X	X			X									X				X			X	X								X									
Shoreline Erosion	X							X	X	X	X						X	X		X				X																				
Estuarine Sanctuaries							X			X									X																X									
Marine Sanctuaries							X			X									X							X	X	X							X									
Wetlands							X			X								X	X	X	X																							
Wild & Scenic Rivers							X			X								X	X	X																								
Marine Ecology			X				X			X	X								X																X									
Fish & Wildlife	X						X	X	X	X								X	X	X	X																						X	
Aesthetics		X								X						X		X		X																								
Historic Values		X								X						X				X	X																							
Climatology								X	X													X		X											X									

FEDERAL AGENCY IDENTIFICATION

ACOHP	Advisory Council on Historic Preservation
AEC	Atomic Energy Commission
APHIS	Animal and Plant Health Inspection Service (USDA)
ARMY	Department of the Army
BIA	Bureau of Indian Affairs (INTERIOR)
BLM	Bureau of Land Management (INTERIOR)
BOC	Bureau of Customs (TREASURY)
BOR	Bureau of Outdoor Recreation (INTERIOR)
BR	Bureau of Reclamation (INTERIOR)
BRTA	Bureau of Resources & Trade Assistance (COMMERCE)
BSFW*	Bureau of Sports, Fisheries & Wildlife (INTERIOR)
CEQ	Council on Environmental Quality (EXEC. OFC. OF PRESIDENT)
COE	Corps of Engineers (ARMY)
COMMERCE	Department of Commerce
CPAD	Community Planning & Development (HUD)
EDA	Economic Development Administration (COMMERCE)
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration (DOT)
FCC	Federal Communications Commission
FDA	Federal Drug Administration (HEW)
FEA	Federal Energy Administration
FHWA	Federal Highway Administration (DOT)
FMC	Federal Maritime Commission
FPC	Federal Power Commission
HEW	Department of Health, Education & Welfare
HUD	Department of Housing & Urban Development
IBC	Internation Boundary Commission (US–CAN & US–MEX)
IJC	International Joint Commission (US–CAN)
INTERIOR	Department of the Interior
LABOR	Department of Labor
MA	Maritime Administration (COMMERCE)
NMFS	National Marine Fisheries Service (NOAA–COMMERCE)
NOS	National Ocean Survey (NOAA–COMMERCE)
NPS	National Park Service (INTERIOR)
NWS	National Weather Service (NOAA–COMMERCE)
OCZM	Office of Coastal Zone Management (NOAA–COMMERCE)
OMA	Office of Maritime Affairs (STATE)
OMB	Office of Management & Budget (EXEC. OFC. OF PRESIDENT)
OOG	Office of Oil & Gas (INTERIOR)
OPLS	Office of Pipeline Safety (DOT)
OSHA	Occupational Safety & Health Administration (LABOR)
PCC	Panama Canal Company
PHS	Public Health Service (HEW)
SLSDC	St. Lawrence Seaway Development Corporation (DOT)
STATE	Department of State
TRANSPORTATION	Department of Transportation
TREASURY	Department of the Treasury (CUSTOMS)
TVA	Tennessee Valley Authority
UMTA	Urban Mass Transportation Administration (DOT)
USCG	U. S. Coast Guard (DOT)
USDA	U. S. Department of Agriculture
USGS	U. S. Geological Survey (INTERIOR)
WRC	Water Resources Council

*U.S. Fish and Wildlife Service as of 1 July 1974.

Source: National Research Council, Committee on the Impact of Maritime Services on Local Populations. Public Involvement in Maritime Facility Development (Washington, D.C.: National Academy of Sciences, 1979), p. 239 - 242.

E-11
Dredged Material Disposal and Fill

WHEREAS, the ports of the United States serve the local, regional, national, and international needs of maritime commerce, fisheries, defense, and recreation; and

WHEREAS, in 1980 ports accounted for one million jobs, $66 billion in gross sales, $31 billion in personal and business income, and $15 billion in federal taxes and Customs revenues and state and local taxes; and

WHEREAS, the dredging and disposal of dredged material and the placement of dredged fill is critical to the construction and maintenance of port facilities and waterways that generate these economic benefits; and

WHEREAS, dredging and the disposal of dredged material and the placement of dredged fill is controlled by a variety of regulations, policies, laws, and treaties, which contain, and are susceptible to containing through amendments, unreasonable and excessive restrictions and prohibitions meant, but not necessarily proven, to protect the environment, which can cause delay, uncertainty, additional cost, and even denial, to the construction and maintenance of port facilities and waterways;

NOW, THEREFORE, BE IT RESOLVED by the American Association of Port Authorities that its Committee on harbors and Navigation be charged with the development of recommended strategies for the enactment of U.S. laws, policies, and regulations which, with respect to dredging and the disposal of dredged material and the placement of dredged or fill material, will embody the following principles, namely, that:

1. Permit decisions be based on the total public interest which balances environmental impacts with such non-environmental factors as facilitation of oceanborne trade, defense, employment, business investment and income, international relations, tax revenues, energy, and sociological factors.

2. Alternatives be required to be considered only when there is reason to believe that the proposed dredging, disposal, or fill will cause significant adverse effects on ocean waters for which better alternatives exist.

3. Federal, state and local agencies should develop coordinated regulatory policies and procedures, such as joint hearings, application forms, public notices and agency review comment.

4. Permit decisions be made within 90 days of issuance of the Public Notice on the permit application, with only one extension allowed for just cause for a period of another 30 days.

5. Individual permits be issued for periods that conform to proposed work staging or programming, not to exceed 10 years.

6. Permit application fees not exceed reasonable administrative costs.

7. The recommendations and comments of agencies reviewing permit applications shall describe the benefits to be achieved, be reasonably available to the applicant, be feasible and practical, and be within the statutory authority and mandate of the reviewing agency.

8. The Corps of Engineers exercise management control over final permit actions and the expeditious resolution of interagency disagreements.

9. The existence of resource value in need of protection be justified on a case-by-case basis, rather than by presumption.

10. The ocean be considered an appropriate alternative for the disposal of dredged material subject to proper management, rather than the medium of last resort.

11. The disposal of dredged material be recognized as not being a "waste," and thus be subject to management and regulation that reflects this distinction.

12. The London Dumping Convention to which the United States is a Contracting party be viewed as a "non-self-executing" treaty commitment as related to the regulation of the ocean disposal of dredged material.

13. There is a basis for considering a legislative consolidation of the separate laws that presently control the disposal of dredged material.

14. Expedited permitting procedures should be developed for emergency, minor, and routine dredging through general and national permits.

BE IT FURTHER RESOLVED by the American Association of Port Authorities that its Committee on Harbors and Navigation be authorized to support those activities of the International Association of Ports and Harbors Special Dredging Task Force that have as their objective fulfillment of the above principles and all those intended to facilitate dredging and the disposal of dredged material and the placement of dredged fill at U.S. Ports, and to be authorized to be represented on the Subcommittee on Ocean Disposal of the U.S. Shipping Coordination Committee, as all of the above relate to the London Dumping Convention.

Resolutions E-4 and E-26 of 1982 (New York, NY)
Recommended for readoption as amended by the Harbors and Navigation Committee.

Recommended for adoption by the Resolutions Committee.
Unanimously approved.

Source: American Association of Port Authorites. Proceedings - Annual Conference (Seattle, Washington: September, 1983), p. 56-57.

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