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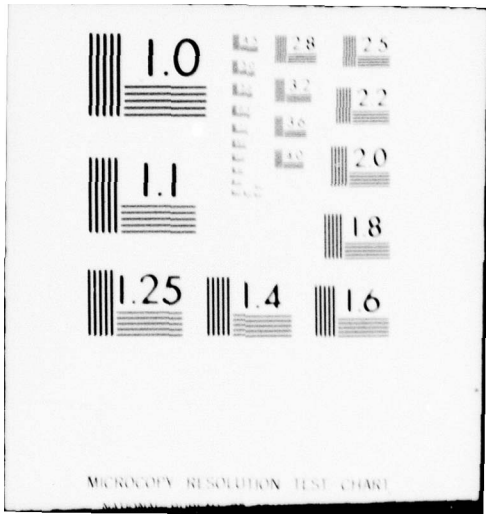
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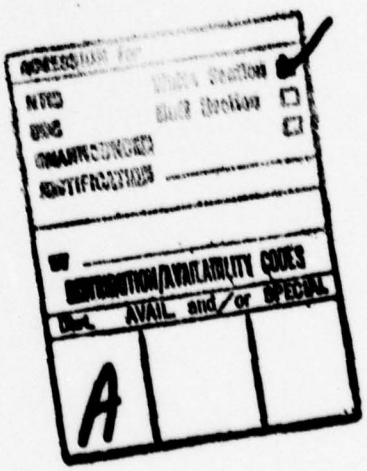

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The Regulation of Transportation--An Analysis

by

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Commander, United States Navy
B.S., United States Naval Postgraduate School, 1974

Submitted in partial fulfillment of the
requirements for the degree of

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ABSTRACT

This thesis offers a general evaluation and analysis of the process of regulation as it applies to the transportation system in the United States. It traces the development of transportation regulation from its birth as an outgrowth of the Granger laws in the 1870's and 1880's to the present. An evaluation of the agencies responsible for enforcing, interpreting, and applying the regulatory process is included, as well as a discussion of the pros and cons of regulation versus deregulation. Finally, alternatives are offered relative to remedies available to the legislative process to improve current regulatory practices.

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THE REGULATION OF TRANSPORTATION--AN ANALYSIS

I. INTRODUCTION

Transportation regulation agencies are backward looking. They seek to enact legislation from actions already past in order to prevent reoccurrences in the future. Legislative regulation of the nation's transportation modes prohibits the interaction of the basic economic precept, that of free competition. Regulation of the transportation industry by the United States government creates monopolistic situations. Regulations of the modes denies, by law, freedom of entry and exit to entrepeneurs. Regulatory requirements mandate the performance of services which are unrelated to the commercial market, yet cost the industry and ultimately the consumer. (1:844-898, 3:398-419)

However, regulation of commerce prevents discrimination and enforces equality of treatment by common carriers. It ensures that rates are just and reasonable to the using public. Regulation ensures that industry does not engage in ruinous competition to the detriment of the industry, the public, and the nation. Regulation ensures that safety standards are met by the transport modes in serving the public.

Transportation regulatory policy efforts now tend toward promotion of the various modes as well as recognition of their contribution to the nation's economic and societal survival. (2:16-19) Insuring that all transportation modes survive in an

atmosphere of economic competition, while at the same time, making sure that the public enjoys full advantages of the services offered at the least cost is a difficult, if not impossible, task.

II. OBJECTIVE

This paper will examine the historical roots of federal regulation of the modes of transportation within the United States. Each mode will be discussed as well as arguments for and against regulation of the modes. Since rail regulation has been the corner-stone for present day transportation regulations, it will be used as the pivotal for comparison of the modes of motor, water, and air. Information will be provided concerning the background, purpose, and problems associated with attempts to regulate each mode as well as a comparison of the effects of monopoly versus competition. The purpose, strengths, and weaknesses of the regulatory agencies will be reviewed, and whether enforcement serves the purpose for which it was intended.

The objective of the dissertation is to provide the reader with sufficient data on which to draw an informative conclusion concerning the effectiveness of regulation, and what alternatives might be available for the future.

Pipelines have not been a regulation focal point, therefore for the purpose of this paper, this mode will not be included.

III. BACKGROUND

A. THE DEVELOPMENT OF REGULATION

1. The Beginnings to 1897: The basic foundation of all social control of transportation rests on the concept of legitimization of regulation. The act of transportation itself is of pivotal importance to commerce and economic growth, it has therefore been regulated since early times. History has shown, for example, that the rules of liability relating to bills of lading provisions were very similar today as in Christ's time in that a carrier has full responsibility for the safe delivery of the goods tendered to him. (1:16).

In the 1300's, English courts were imposing obligations on carriers very similar to the four "common carrier obligations" (duty to serve, to deliver, to charge reasonable rates, and to avoid discrimination). These common law rulings eventually were transformed into statute laws in the United States. (1:16) Around these four obligations rests today's myriad transport regulations.

Transportation regulation within the U. S. began with the farmer- (Granger) dominated legislatures in the midwestern states. The Granger actions were in response to the agricultural depression and the economic disruption of the Civil War coupled with overproduction of agricultural products resulting from the Homestead Act of 1863 (large supply of agricultural products

lead to lower profits per unit). The State legislatures imposed strict regulation over railroads having to do with rates charged to farmers because of their misguided belief that the railroads' use of rates were the cause of their economic plight.

2. 1897-1906: Three important issues highlighted the Granger legislation and had to be resolved: (1) Should power to control rates rest solely in the hands of the State? (2) Should this power to regulate extend to corporations (or just to individuals)? (3) Should this regulatory power extend to interstate traffic?

In 1886, the issues were resolved by the Supreme Court in the resolution of the Wabash, St. Louis, and Pacific Railway Co. vs. Illinois case. The decision concluded the right to regulate commerce between several states resided in the Constitution and was reserved to the federal government. As a result of this separation of powers, there is a dual regulatory structure, the State is concerned with intrastate commerce. It also decided that control of the interstate commerce could be applied to a corporation. (1:18)

Partially in response to the Wabash case, and partially because of difficulties with preferences shown by the railroads for the large shipper over the small shipper and rate rebating, Congress established the Act to Regulate Commerce in 1887. (1:19) The provisions of the law applied only to interstate and foreign commerce, and not to intrastate commerce. (2:224) The Act also created the Interstate Commerce Commission (ICC).

The ICC's charter was primarily one of regulation of the provisions of the act and it attempted to function in that role, however, orders of the Commission were not binding on the party unless supported by a court order. (2:233) The resort to the law courts procedure seriously weakened the effectiveness and credibility of the Commission particularly when its orders were overturned in court.

3. 1906-1917: The Act to Regulate Commerce (1887) was aimed at the abuses of that time, specifically unjust and unreasonably high rates, carrier favoritism, and discriminatory practices. The Act was later amended, added to, and changed during the next three decades, but it was the railroads which initially exploited the public through monopolistic transportation practices. (1:19)

The Hepburn Act of 1906 went far toward re-instating the ICC regulatory bite in the government push to eliminate the railway's monopolistic actions. The Hepburn Act extended the Commission's jurisdiction, expanded its authority to include pipelines, and most importantly, empowered the Commission to prescribe maximum rates. (2:229-230) The Mann-Elkins Act of 1910 further extended the powers of the Commission in that the ICC could now suspend for 120 days any proposed railroad rates, during which time the lawfulness of the proposed rate could be determined. (2:236)

4. 1917-1920: The railroad system encountered serious difficulties in handling full mobilization to support the United States' entry into World War I. As a result of this inability to function effectively, the federal government took over operation

of the railroads late in 1917.

Even under governmental operation, the railroad system was inadequate, and $1.5 billion of federal funds were necessary to keep the system going. Another dimension of regulation made itself known: the requirement for an adequate system to meet the needs of the nation. (1:19)

It was recognized that the concept of adequacy included both physical and financial viewpoints. The nation needed not only an adequate railroad system, but from available data, the regulatory structure had found rates too low and had fostered ruinous competition. (3:412) Adequacy therefore, included an extension of the ICC's charter to ensure the carriers earned a fair return (determined to be 6%). Additionally, the ICC was given authority to set minimum rates as well as maximum rates and mergers were allowed.

5. 1920-1933: The railroads were returned to private control in 1920. During the same year, the Transportation Act of 1920 was passed with the dominant purpose of promoting an adequate system of transportation in the U. S. (2:242, 278)

The federal government adopted an affirmative policy of building up the system, but the results were not remarkable. Carriers did not seem overly eager to cooperate and once more the law courts became the force in determining transportation policy. Part of the problem could be laid at the door of the federal government. In 1916, financial aid began flowing to highways and all through the 1920's it continued. The aid increased many-fold

during the early '30s as a depression-fighting maneuver. (1:19) In 1925, federal air mail contracts to infant airlines provided a much-needed source of income to this new transport mode.

Federal aid was commendable for purposes of promoting an adequate transportation system, but it changed the face of the system. It gave birth to competition by other modes. The transportation market changed from monopoly to competition. (1:19)

6. 1933 to Date: The change in transportation from one of monopoly by the railroads to intermodal competition with the introduction of motor transportation, brought about the Motor Carrier Act of 1935, which was incorporated into the Interstate Commerce Act as Part II. The primary thrust of this act was to limit entry into motor transportation by requiring certificates of public convenience and necessity. (1:20) The proliferation of motor carriers was due in part to the relative cost of aquiring assets with which to conduct business. The rail, water, and air modes all required substantial outlays of initial capital in order to gain competitive entry, whereas this was not true of the motor mode.

In 1938, air transportation was brought under regulation by the Civil Aeronautics Act, and a Civil Aeronautics Board was created with the same basic charter as the ICC, with the exception that while the ICC was tasked to regulate rail, motor, and water modes, the CAB was tasked not only to regulate, but to promote the air carrier industry. Domestic water transportation was

regulated by the Transportation Act of 1940. The Act of 1940 also provided for a national transportation policy which recognized the relationships between the different modes and their places in the transportation system of the country. All three modes, rail, Part I of the Interstate Commerce Act; motor, Part II, and water, Part III, had their own inherent advantages and as such should be preserved. (2:266)

7. The methods of regulation: rate/earning controls, entry controls, and service controls, have not changed in the last few years. What has changed is society's approach to transportation. In recent years, congressional action and various programs have been aimed at specific transportation problems such as: (1) The 1956 National System of Interstate and Defense Highways--a massive federal aid program to upgrade existing roads and to build new highways. Affecting only about 1% of the roads, these were nevertheless the most traveled and used, (2) The 1970 Airport and Airways Improvement Act (aimed at improving the nation's airport system), (3) Federal assistance in improving the maritime program by building new ships as a part of the National Defense Reserve Fleet, (4) AMTRAK in 1970, a private corporation set up with federal support to run passenger trains between 14 major cities, (5) The 1974 Urban Mass Transportation Assistance Act to help mass transit, and (6) CONRAIL in 1976 was established to consolidate seven railroads to provide for a viable rail transportation system for the northeast. (1:20-21, 4:52-58)

All these endeavors have been, and in many respects are still being attempted within the framework of regulation.

B. CONTROL OF RATES

In the opinion of this writer, the question of rate control has been the single catalyst which has brought about the complete and detailed regulation of all common carrier obligations: duty to serve, duty to deliver, duty to charge reasonable rates, and duty to avoid discrimination. Rates have been involved in each of these areas and if not directly responsible for each's inclusion in regulation, certainly a factor.

The question of rates and rate control gave the initial impetus to the establishment of three agencies and one cabinet post concerned with enforcement or arbitration of disputes basically over the uses and abuses of rates:

a. The Federal Maritime Commission whose job it is to regulate rates of ocean carriers.

b. The Interstate Commerce Commission which regulates interstate transportation by rail, pipeline, motor, and domestic water and rates associated with interstate transportation.

c. The Civil Aeronautics Board relates to economic regulation of air transportation.

Note: Regulation of safety had it origins directly related to economics. Economics (and therefore rates) had considerable significance when associated with plant and

equipment, particularly in the railroad's younger days. The cost to make and keep equipment operating safely was sometimes a secondary consideration and most sensitive during the era of "ruinous competition." As a result of inadequate profits (from inadequate rates), equipment was not always the safest. The federal government therefore developed and implemented mandatory safety standards.

d. Department of Transportation (DOT) is a Cabinet position whose functions are related to safety, research, and development. It exercises extensive powers concerning safe operation over the transportation modes of rail, air, pipeline, and highway. (2:275) The Secretary of Transportation is primarily concerned with the development of transportation policy, but has the right to intervene in cases before the ICC and other regulatory bodies that involve questions of policy. (1:275) Most transportation policy revolves around administration and regulation of rates, therefore there is every reason to think that the Secretary of Transportation will, or should, become more and more involved with rates.

The four (five including safety) common carriers' obligations have been incorporated into regulations and have, from time to time, been tested in the courts. The obligations to serve, deliver, avoid discrimination, and provide safe operations taken together have not raised more moral or economic questions than that of rate control. A brief summary of the significant cases and events surrounding the development of regulations might be in

order to highlight the history of rate controls:

1. The Granger Cases in 1877: such as Munn v. Illinois, Chicago, Burlington & Quincy Railroad Co. v. Iowa, and Piek v. Chicago and the North Western Railway Co. were concerned with economic policies of public warehouses, prescribing maximum rates on intra- and inter-state traffic. (2:219-285)

2. The Windom Report from 1874 to 1878 was a special committee appointed by the Senate to investigate the possibility of securing cheaper transportation between the interior of the U. S. and the seaboards. The report reflected the view that competition was the best regulator of rates, but competition invariably ends in combination, and therefore was not sufficient protection for the public.

3. The Wabash Case of 1886 held that a state could not control rates on interstate traffic.

4. The Act to Regulate Commerce in 1887 contained six sections all concerned with forms of rates. Section I required all rates to be reasonable. Section II prohibited personal discrimination ". . . directly or indirectly by any special rate, rebate . . .." Section III prohibited undue preference or prejudice ". . . unlawful . . . to give any undue or unreasonable preference or advantage . . ." (a form of rate preference). Section IV prohibited long-and-short haul discrimination, ". . . unlawful . . . to charge or receive any greater compensation in

the aggregrate . . . for a shorter than for a longer distance . . . ." Section V prohibited pooling agreements. The provision represented the view that enforced competition was the best protection against unreasonable rates. Section VI required the publication of rates. The act also established the ICC whose primary function was to become the adjudicator of rates and the disputes concerning the application of rates.

5. The Elkins Act of 1903 contained four provisions: (1) The railway corporation was to be held liable for prosecution on account of unlawful discriminations and concessions (forms of rates), (2) made it unlawful to receive rebates and concessions, (3) departures from published rates became a misdemeanor, and (4) made changes in the penalties concerning unlawful discriminations or departures from published rates.

6. The Hepburn Act of 1906 extended the ICC jurisdiction to the control of accessorial services (another form of rates) furnished by the railroad, gave the ICC power to prescribe maximum rates, increased the ICC's control over through rates, and required notification before rates would be changed by a carrier.

7. The Mann-Elkins Act of 1910 authorized the ICC to suspend proposed changes in rates ". . . for a period of not exceeding 120 days . . .," during which time it was to determine the lawfulness of the proposed rates.

8. The Valuation Act of 1913 set up a standard for the

determination of the reasonableness of the general level of railroad rates.

9. The Transportation Act of 1920 had as one of its most important provisions an entire section devoted to rate making. (2:243)

10. The Hoch-Smith Resolution of 1925 required the ICC, in adjusting freight rates, to bear in mind that commodities should move freely. The resolution was intended to justify rate reductions for depressed industries.

11. The Railway Labor Act of 1926 concerned labor disputes related to rates of pay. Rates of pay are directly related to profits and therefore to rates charged for the movement of goods.

12. The Transportation Act of 1940 prohibited the ICC from prescribing a rate designed to protect traffic of another type of carrier, placed the burden of proof on the railroad in any proceeding involving a change in rates, and released the land-grant railroads from the obligations of carrying government traffic at reduced rates. (2:267-269)

13. The Reed-Bulwinkle Act of 1948 legalized rate bureaus through which the railroads could consider changes in rates. (2:269)

14. The Transportation Act of 1958 provided for relief from unduly low intrastate rates, for discontinuance of unprofitable

train service, and directed the ICC to observe more consistency in allowing carriers greater freedom to meet the competition of other modes. (2:271-274)

15. The Transportation Act of 1966 addressed the exercise of authority over safety modes of transport. (2:278) The total cost of operation included costs associated with the maintenance of required safety of equipment, and is therefore indirectly related to sufficiency of rates.

It is apparent that of the 22 historically regulated events from 1877 through 1977, the 15 cited were either directly or indirectly related to the question of rates and their application and control.

Transportation regulation has developed on the assumption that the competitive forces in the market, under the rules applicable to the industry in general, are inadequate to afford the safeguards considered necessary in the public interest. (3:492) Therefore, to protect the public from discriminatory, preferential, or unreasonable rates, the government has a social obligation to enforce adequacy, thereby mandating rate control.

IV. PRESENTATION OF DATA

I. INDUSTRY REGULATION

A. RAILROAD TRANSPORTATION REGULATION

1. Regulatory History, Problems and Economic Factors

The year traditionally assigned as the beginning of the American railroad era is 1830, and during the next decade, over 2,800 miles of track were laid. From 1850 to 1900, railroads expanded to over 192,000 route miles.

Crucial to this rapid development were land grants given the railroads by the federal government. This policy was initiated to attract private capital into railroad construction and to increase the value of land owned by the government. (2:7) Federal policy, however, changed in 1862. Instead of providing land for a specific rail development in one state, the aim was to tie together the whole nation with a transcontinental network. This changed attitude gave even more impetus to continued expansion by the railroad industry as the federal government eventually gave away over 131 million acres of the public domain in rights-of-way. (2:79)

To gather the huge capital needed to build the railroads, the industry often practiced excesses in promotion and financing. Overcapitalization, together with frenzied and ruinous competition, often led to business practices ranging from the

inefficient to the reprehensible. (2:92) The routes where little or no competition was encountered were charged exorbitant rates while those user routes where competition was very keen, rates were charged often-times below cost.

The history of regulation begins with the railroads. The railroads had a number of monopoly characteristics which made the ordinary market competition ineffective. (2:152) Railroads were thought to be noncompetitive since their construction required huge investments in land, labor, rolling stock, and terminals. All of these investments were irrecoverable and so expensive that more than one locality could not be served by more than one railroad. Thus, railroads charging monopoly rates could take unfair advantage of the powerless shippers. Regulation, therefore, was needed to protect the public. (7:9)

By 1875, however, most large cities in the United States were served by more than one railroad. The initial investment cost was behind them and they could direct their attention to competitive pricing policies based on each railroad's own relative variable or marginal costs. Variable costs (those costs which tend to vary with traffic volume) do not include average costs which are composed of the marginal plus a certain proportion of fixed costs. Basing rates on variable rather than average costs brought financial chaos to the industry, because frequently the railroads failed to cover their average costs. As long as the variable costs would be covered, the railroads figured it would be to their advantage to slash rates to attract

as much traffic as possible. This practice of charging rates which were not based on difference in actual cost of service was officially known as "discrimination." The intense political interest which was ultimately aroused over this issue brought about the first regulation directed at the transportation industry. (2:153, 3:211)

The Granger laws in 1875 were the first attempts at economic regulation of the rail industry. Ultimately federal regulatory legislation established an Interstate Commerce Commission, whose job it became to act as a "watchdog" over the rail industry's rate making efforts. Their job was to insure rates were reasonable, were not discriminatory, and that no carrier showed undue preference or prejudice to any shipper. (3:220-225)

The myriad, multitudinous regulatory controls in existence today are probably a far cry from that envisioned by the legislators in 1875. Regulation today touches every phase of the railroad industry, from financial subsidy on the one hand to minute dictum on the other. Entry to the industry and exit from it are fully regulated, and today, the market place has little to do with rates to shippers.

The railroad industry is a mature industry. Much of the equipment is aged and in need of replacement. The road bed is badly in need of upgrading and replacement. The federal government, with the railroads, has undertaken two financial projects to enhance the profitability and image of the industry.

Both projects, Consolidated Rail Corporation (CONRAIL), and National Rail Passenger Corporation (AMTRAK), continue to encounter serious financial difficulties. AMTRAK is a concerted effort to attract rail passengers not only on a commuter basis, but on a tourism basis as well. The system has been plagued by any number of difficulties, the least of which is the serious dirth of paying passengers.

CONRAIL is an attempt to revitalize the railroad cargo-carrying system, particularly in the north-eastern part of the United States. It was carved out of the rail lines of Penn Central and several other collapsed eastern rail lines. The federal government has pumped $2.03 billion into CONRAIL, and there is every indication that an additional $1.28 billion may be needed if the road has any chance of surviving. (6:12, 7:15)

Whether or not the railroads can survive by the infusion of larger and larger amounts of federal funds is doubtful. To date, evidence would tend to refute the idea that federal support will insure economic survival of what is purportedly a private enterprise. Federal funding has not brought about a modern economically viable railroad system in the U. S.

Some of the advantages of the rail system over the motor, water, and air modes relating to movement of goods are: Best integrated system for mass transportation; serves almost all industrial localities and most communities; has the ability to accomodate nearly every type of shipment and commodity; provides numerous and convenient terminal facilities; ability to operate

under inclement weather conditions; provides transit facilities to include storage, processing, etc.; lowest cost per ton-mile for volume shipments with reasonable speed; increase in tonnage hauled does not result in corresponding increase of manpower for hauling. The railroad system's energy use per ton-mile is 750 BTU. This compares quite favorably with 2,700 BTU per ton-mile for motor, and 63,000 BTU for air carriers.

The disadvantages associated with the rail system includes: Peculiarly susceptible to paralyzing congestion due to the many bottlenecks in the railroad net; inordinately subject to enemy action; terminal delays slow service on short hauls; a lack of door-to-door service on merchandise traffic and on some carload traffic; all points are not served, and is not as conservative as the water carriers at 500 BTU per ton-mile.

The federal government, since 1887, has economically regulated the industry. Such regulation has not brought about an economically profitable transport system. The factors of supply and demand have not been allowed to work effectively, and continued existence of non-economical routes has been mandated by regulation and has not worked. CONRAIL, AMTRAK, and even the Bay Area Rapid Transit (BART) Systems are examples. Competition as such does not exist within the rail industry and will not with current policies of propping up uneconomical methods of railroad management through the federal treasury.

2. Rail Competition versus Monopoly

Competitive forces have not been allowed to work freely within the rail industry almost since the first regulatory endeavors in 1887. "Grandfather" clauses have practically insured no new entrepeneurs will test the system. Entry into the industry is limited by regulation as well as a requirement of continued service to rail points which are no longer economically profitable. Admittedly, huge initial investment capital is required for entry and would be difficult to lure prospective investors given the current state of the market. However, there might be incentive for investment, and therefore competition, if the marketplace were given an opportunity to function.

U. S. transportation policy is directed toward the survival of all current modes of transportation. Federal funding has been legislated and provided to all modes at one time or another on the basis that the citizens require and deserve access to all modes. The major problem with the current policy is that it forces the citizen to financially support a transportation system which he may or may not use. The user in this case may not pay the full cost for service. This is particularly true with AMTRAK, CONRAIL, and to some extent, the San Francisco Bay Area Rapid Transit (BART).

Whether, if economic regulatory restrictions were removed, ruinous competition might eventuate is conjecture only. Present regulation guarentees the market place will not be allowed

to work freely, therefore any economic advantages which might or might not accrue to the consumer is merely food for thought.

B. MOTOR TRANSPORTATION REGULATION

1. Regulatory History, Problems, and Economic Factors

Road development in the U. S. was slow and was limited initially to those areas where water transportation was not available and primarily to the Eastern Seaboard. In the early 1800's, pressure from two groups began to expand the road system. The railroads wanted more land transportation to move goods from production to depots, and farmers needed improved mobility and access to markets and railheads. By 1915, forty-five states had highway-aid laws through the actions of road lobbyists in state legislatures. Each state developed its own highway department, however, ownership, maintenance, and administration of most of the highway miles were still primarily in local hands.

The federal government continued to expand its commitments to improve and enlarge road facilities. Congress passed a series of acts that provided various types and degrees of aid, mostly for new construction, but not for highway maintenance.

In 1944, the Federal Highway Act provided the first significant federal aid for urban highways. The act also created another system of roads, or "Secondary Systems," consisting of principal secondary and feeder roads, including farm-to-market

roads, rural free delivery mail, and public school bus routes. (2:10) A "National System of Interstate Highways" was designated and designed to connect by routes, the principal metropolitan areas, cities, and industrial centers to serve the national defense. Most of these routes were already a part of the Federal Aid Primary System or Federal Aid Secondary System. The Federal Highway Act of 1956 assumed 90 percent of highway construction costs for any portion of the interstate highway system.

Motor transportation differs significantly from rail transportation in a number of ways. First, motor transportation is ideally suited to short haul modes of operation, particularly inter-city. Secondly, motor transportation does not require huge initial investment in capital resources, therefore entry to the market is relatively easy. (8:141-143) Commercial trucking as a whole, is a small-scale industry. There are numerous common carriers operating a large number of vehicles, but there is a much greater number of operators with a few trucks. Unlike the railroad industry, the motor carrier industry is not characterized by a substantial element of fixed costs. (2:642-651)

Additionally, motor carriers: provide service to many communities not served by other modes, do not require elaborate terminal facilities, furnishes door-to-door service integrated with line-haul service, do not require as extensive packing of goods compared to water and rail modes, is very responsive to special user requirements, allows for greater flexibility over

water and rail, and can rapidly improvise in emergencies.

The disadvantages are that the motor carrier industry has limited capabilities for mass transportation, as costs manpower requirements, and fuel consumption increase directly with increases in ton-miles. There is a serious lack of integration and coordination among carriers with respect to interchange of traffic not present with water and rail modes. The industry is susceptible to wartime shortages of fuel, rubber, equipment, and personnel. The industry is less dependable than railroads due to mechanical failures, weather, traffic congestion, driver fatigue, and there are limitations on bulk cargoes and overweight and outsized articles. Energy use of 2,700 BTU per ton-mile compares favorably with the air carrier industry of 63,000 BTU per ton-mile, but does not do well against the 500 BTU per ton-mile for water, and 750 BTU for rail carriers.

The ease with which a prospective carrier could enter the market meant that the new industry quickly became saturated with small trucking firms. Competition for service took on, at times, dangerous proportions and, in some instances, physical violence. As a result, the states first regulated the motor carrier industry and each state enacted legislation peculiar to their own needs. The state laws varied widely in their content and the degree of success with which they were administered.

With the difficulties encountered by the individual states attempting to regulate interstate trucking, federal legislation enacted the Motor Carrier Act of 1935, and in 1940

the provisions of this legislation were incorporated into Part II of the Interstate Commerce Act. Today, states continue to have the obligation to regulate for the protection of highways, and the promotion of safety within their respective borders, but the ICC regulates the economics of the industry. (2:656-675)

Part II of the Act deals with the four types of transportation agencies by motor vehicles: Common carriers (service held out to the general public); contract carriers (service contracted out to one or a limited number of users for specific services); exempt carriers (services held out to the general public which are exempt from rate control by the ICC); and private carriers (company-owned equipment).

One of the first concerns which has continued to impact on the administration of the motor carriers' regulations is the difference between it and the railroad regulations. Part I (railroad), and Part II (motor-carrier), contain some wide variances which in themselves are tantamount to discrimination with the transportation policy as a whole. A summary of some of these differences are as follows:

1) Railroads are almost wholly common carriers. Motor carriers include common, contract, exempt, and private.

2) Motor carriers are not subject to a long and short haul clause.

3) Part II requires motor carriers to obtain insurance or other liabilities protection--not so for railroads.

4) The Interstate Commerce Commission has no power to

prevent abandonment of operations by a motor carrier if the carrier wishes to discontinue operations entirely.

5) The ICC cannot control intrastate rates for motor carriers. Part I does contain authority for the ICC to raise intrastate rates to the level of interstate rates if the former are so low as to constitue discrimination against interstate commerce.

The "Grandfather" clause (1 June 1935), (no proof of public convenience and necessity or of consistency with the public interest was required under this clause) continues to cause considerable difficulty for the ICC. The "Grandfather" clause can easily be construed to mean discriminatory entry restrictions for a prospective carrier. The clause, in effect, limits entry to the industry, and as claimed by many entrepeneurs, protects existing carriers. The requirement for a certificate for service to be submitted and defended by a prospective carrier and the fact that he must be found "fit, willing, and able to perform the service proposed and that such service is required by public convenience and necessity," would appear to justify claims of protectionism since such certificates were not required of those in the trade when the legislation was enacted. (7:25-26)

The large element of fixed expenses in the railroad industry provided an explanation of the tendency for competition among railroads to engage in "ruinous" competition. Since the element of large fixed expenses is missing from the motor-carrier

industry, ruinous competition would therefore not develop as it did with railroads. However, overcapacity of the trucking industry led to the same rate-cutting, rate wars, and unremunerative rates as a way of attracting trade. These dubious practices have led to myriad regulatory directives for both economic and safety controls.

The industry today continues to suffer from overcapacity, and rates are a constant administrative thorn in the side of the ICC. The tendency toward overcapacity may be a result of the fact that, unlike the rail industry, the road beds have been almost exclusively constructed from federal funding and maintenance has been accomplished by a combination of state and federal funds. The motor carrier industry has not had to plan, fund, or manage the most expensive portion of their total operations--the highways.

Current energy considerations appear to have had little impact on the industry as a whole. As sources of fossil fuel become more scarce, particularly sources of crude oil, the trucking industry will face some very serious economic difficulties. It may be that with the cost of crude oil continuing to rise, other modes of transport may become more attractive for some types of shippers. Also, many of the smaller trucking companies may find they cannot survive in this very rate competitive arena as the cost of fuel escalates.

2. Motor Monopoly versus Competition

The total number of motor carriers within the industry in itself mitigates against monopolies. This is not to say that a monopoly cannot occur, but the chances of such an event is remote. There is a current trend by shippers toward the use of more contract carriers or investment in company-owned organic assets. Both these types of carriers are exempt from much of the ICC regulation. The fact that a shipper may circumvent most of the costs of administering the industry regulation is reason enough to invest in their own assets.

The most important issue likely to impact on the concept of competition is that of consolidation or merger. Consolidation can, in fact could, result in improved service, or lower costs, but the ICC has not been authorized by Congress to ignore anti-trust laws. The courts have stated, however, that ". . . the Commission is not to measure proposals for all-rail or all-motor consolidations by the standards of the anti-trust laws." (3:707) The Commission will have to tread a fine line between violating anti-trust laws, preserving competition between independent carriers, and allowing the shipper the advantages of lower costs which may result from a consolidation.

C. WATER TRANSPORTATION REGULATION

1. Regulatory History, Problems, and Economic Factors

Water was the main method of travel in the early United States. Since the Eastern Seaboard contains so many bays, harbors, and river inlets, transportation by water was almost a natural phenomenon. Land transportation at this time in history was both time consuming and expensive. Early water transport was of utmost importance in the development of commerce and for the expansion of manufacturing. Passengers traveled mostly by water.

The use of the steamship in the early 1800's gave added impetus to water transportation and with the successful completion of the Erie Canal in 1825, extensive canal building in Pennsylvania, Massachusetts, Maryland, Virginia, Ohio, Indiana, and Michigan rapidly expanded the inland waterways.

The waterways grew rapidly until the railroad industry seriously reduced heretofore cargo destined to travel by barge. There was enough interest in reviving the inland system in the late part of the 19th century, that the federal government eventually assumed the construction and maintenance of all inland waterways on the morale belief that preservation of the nation's waterways system was in the best interest of the public.

Waterways are provided by the government to the extent that they are not usable in their natural condition. The federal government, and to a much lesser degree, the state governments, have funded the construction or improvement of water transportation facilities. State and local governments have funded terminal facilities to a considerable extent. (2:729)

The cost characteristics of domestic water transport are

much the same as those of motor carriers, and for the same reasons. Ownership of the vessels can be separated from that of the waterways, canals, and terminals. Shipping costs are mostly variable, therefore the industry is highly competitive in its structure. (3:180) The industry is not required to invest large sums in fixed costs to either construct the waterways or to maintain them.

Federal jurisdiction over control and improvement of inland waterways stems from its power to regulate interstate commerce. Water transportation, like highway transportation, but unlike railroad transportation, is a mode of transportation which is provided and maintained at public expense. Transportation service over the waterways, however, is in the hands of private enterprise in much the same way as the motor carrier transport. Competing carriers may operate over the same waterway which are, for the most part, considered public ways. As with highway transportation, there are four classes of carriers: common, contract, exempt, and private. Services provided by each of the classes are basically the same as those provided by the motor carrier industry and are subject to the same regulatory controls. (8:124-125)

The chief advocate of bringing inland water carriers under federal regulation was the railroad industry, which had been suffering from competition of inexpensive water carriage. Water carrier regulation eventually became Part III of the Interstate Commerce Act, and closely parallels Part II, the regulation of

motor carriers. (9:31)

Regulation of water carriers developed more slowly than railroad regulation and had not, to 1940, been as encompassing as railroad regulation. Such regulation as had developed had been enacted to prevent the creation of overcapacity within the industry. Overcapacity in the water carrier world led to the same conditions as encountered in both the railroad and motor carrier industries: rate cutting, discrimination, and undesirable practices.

International shipping, as opposed to coastal and inland waterway shipping, must be self-regulating by the industry. No nation can effectively control the shipping of other nations. In domestic shipping, however, direct government control through rate regulation and certificate requirements substitutes for self-regulation. Overcapacity, discriminatory pricing, and other abuses have occurred within the ocean shipping industry, and similar situations have appeared on inland waterways. To prevent such events, regulatory action was demanded and implemented.

The extension of regulation to water carriers to coastwise, intercoastal, and inland waterways had an additional purpose. Regulated carriers are required to publish their rates and to adhere to them. If some unregulated water carriers were allowed to be competitive with railroads, or if some water carriers were regulated and others were not, the regulated carriers would be at a competitive disadvantage in that the

unregulated carriers would then be free to charge whatever rates might be current. (2:753) The same reasoning would apply to the motor and air carriers.

Water transportation is composed of almost 93 percent exempt carriers and are therefore not subject to ICC regulation. For this reason, the water mode is practically removed from the "thick of the fray" relative to the vigorous bid for cargoes amongst the motor and rail carriers.

The advantages of water transportation over other modes is its low cost, particularly on large tonnage and long haul. It is adaptable to almost any type cargo and has the capacity for handling tremendous tonnages. The slowness of inland water carriers provides a substitute for storage facilities, and the energy use per ton-mile is the most economical of all modes of transportation at 500 BTU.

Water carriers are normally slower than rail transportation. This is not always the case, but for the most part, water transportation cannot effectively vie for service on the basis of speed. The service is seasonal in that transportation is impossible during the winter months through the northern parts of the country. During periods of droughts or floods, water transportation must, of necessity, be interrupted. When freight traffic originates at points not on the waterways, a transfer from truck or freight cars is required if inland water transportation is to be used. This often absorbs any lower transportation savings which might otherwise be realized through

use of water transportation. The same difficulty is encountered if industries are not located on the water front and must haul cargoes to and from the waterway. Rail and truck services can, and do, extend to the industrial plant. Under the Harbor Act of 1893, the liability for loss and damage by water mode is not as extensive as for the other modes. This is overcome, to some extent, by some water carriers who provide full insurance from their own resources in order to compete more effectively with other transportation carriers.

Railroads have opposed the development of waterways almost from the beginning. They have, from time to time, engaged in rather nefarious practices hoping to limit that development, such as failure to establish facilities for the interchange of traffic with water carriers, refusal to establish through and joint rates with the water lines, and discriminatory rate cutting. Legislation has, for the most part, corrected these issues, however, there remains enmity between the two transportation modes. This may create difficulties for future possibilities of innovative changes which might assist both modes.

Waterway advocates have encouraged further improvements to water transportation facilities. The railroads have opposed further expenditures for expansion of the waterway system.

The advocates of waterways argue that developing waterways affords cheaper transportation than can be provided by railroads. Water transportation is cheap on natural waterways

because the way is a gift of nature. There is no capital investment and little maintenance is required, so say the advocates. However, waterways are largely man-made, requiring large investment and maintenance expenditures. Waterways are considered a public good and as a matter of policy, have been constructed and funded by federal expenditures. If these costs are considered, then water transportation often proves to be more expensive than rail.

Waterways which can be expected to provide cheaper transportation than other modes, should be justified and developed regardless of the influence exerted to prevent expansion in this direction. However, historically the real (full) costs to operate and maintain a given waterway has never been developed. Records have not been kept which would provide some insight into costing of a given way. Therefore, in the absence of any sort of reliable data, there is little likelihood the government will entertain additional construction of waterways.

Arguments have been advanced that waterways should be expanded to relieve the railroad congestion. While this may have been a tenable argument in years past, currently the country's railroads suffer from a dirth of cargo and are burdened with overcapacity. Rail delays are a fact of life in many instances, although such may be a matter more of management and planning, they are nevertheless real, but not necessarily based on overuse of existing facilities.

Lastly, arguments have been advanced that waterways should be expanded and developed in order to insure railroad rates remain competitive. Although it would certainly not be unfair to develop a waterway and thereby force the rail rates to the level of water rates, when the water rates cover the full cost of service, it would smack of sheer economic folly to force railroads to meet water rates when the latter does not cover the full cost of service because then the taxpayer is paying part of it. (2:734-737)

Another area of interest is the current energy problem. Energy costs for the waterway user has, and will, continue to rise as fossil fuels become more scarce. The same is true of the other modes of transportation. Should costs continue to increase with the development of alternative sources of energy, water transportation may be viewed in a different context by the shipper.

2. Inland Waterway Monopoly versus Competition

The principal concern in domestic water transportation has been to protect it against competition from railroads. The industry has not been plagued with much of the competitive abuses such as caused long-term difficulties with the rail carrier and, to a lesser extent, motor carriers. Competition has prevailed to a considerable degree, since the carriers make use of natural waterways, or waterways constructed, improved, and maintained by the government. Common carriers can compete over

the same routes as well as compete with contract and private carriers. Thus the conditions for the development of a monopoly has not been present. (2:750, 3:181) Water carriers do not have the large fixed costs such as those integral to the railways, therefore, the conditions for the ruinous competition which characterized the railroads is, for the most part, absent.

Waterway transportation has been developed on the theory that it is proper for the public to pay part of the cost of transportation, since the benefits are so widely diffused. This same thinking, to a considerable extent, applies also to the motor carrier and air carrier industries. Railroads, on the other hand, developed on the theory that the user should pay the costs.

D. AIR TRANSPORTATION REGULATION

1. Regulatory History, Problems, and Economic Factors

Air transport is the most recent mode of transportation and is also the fastest growing. The first airplane flight was made less than 75 years ago and today the industry is a colossus with assets far into the billions of dollars. Currently, the air carrier industry transports very few commodities with the exception of some high value cargoes. It is almost exclusively a people mover, and probably has been the single most important impetus to internationalizing the planet. The industry has transported what was once long, and many times arduous, trips

into pleasant, relaxing jaunts of hours, and oftentimes, minutes. (5:116-137)

Air transport requires a complicated system of aids to flying known as the airway system. This system serves much the same as the interstate highway system for the motor carrier, or rail, or water system to the railroad industry or the inland water carrier industry. The airway system is under the control of the Federal Aviation Agency, now a part of the U. S. Department of Transportation, as is the Federal Railway Agency, and the Highway Safety Agency.

The airway system was financed by the federal government from 1925 through 1967 for the establishment, maintenance, and operation of the system. A first step was taken in 1961 to develop and implement a method of taxation to affect some of these costs by taxing air fare tickets. The Airport and Airway Development Act of 1970 imposed a tax on air freight, domestic passenger tickets, a "head tax" on overseas flights, and a registration fee on all aircraft and aircraft fuel. The proceeds go to an "Airway and Airport Trust Fund" to be used to finance planning, development, construction, operation, and maintenance of the airway system.

Airports are not owned by the federal government with the exception of those which serve Washington D. C. (Dulles and Washington International), but are instead owned by municipalities or other governmental units. There are three reasons for this development: First, benefits derived by the business interests,

direct and indirect, have desired access to airports. Second, federal aid had been available for financing of publicly-owned airports, and third, airports are not ordinarily profitable enterprises, therefore private investment is not attracted to this type of financial consideration. This last reason has arisen primarily because the income from landing fees, rentals, sale of fuel and concessions is insufficient in all cases to affect costs of operation, depreciation, and interest on investment. It remains a matter for future development as to whether a given community will be willing to subsidize their airport or insist it be managed on a profitable basis, whatever difficulties that may bring.

The CAB "certifies" route carriers and classifies them into domestic trunk lines, local-service, helicopter, intra-Alaska, intra-Hawaii, domestic all-cargo, and international and territorial carriers. The most obvious advantage of air transportation over the other modes is that of speed. The industry possesses the ability to overcome natural obstacles or barriers which might limit other modes or require transfer between modes.

Some of the disadvantages are, of course, the high cost, particularly on short movements, the lack of reliability due to weather interference, facilities deficiencies such as size and location of airports and traffic control. Structural design modifications are required to permit optimum utilization of cargo space and lift capability of planes, therefore much of the

so-called air freight is, in fact, limited to parcel size shipments. Energy efficiency is the worst for all modes at 63,000 BTU per ton-mile. The air carrier economic characteristics are exemplified by relatively high fixed costs and very high variable costs when compared with the other modes of transportation.

The current system of federal regulation of air transportation was established by the Civil Aeronautics Act of 1938. Prior to 1938, the Air Commerce Act of 1926 provided for the construction, maintenance and operation of the federal airways system which included research and development relating to aeronautics. This, for the first time in the transportation industry as a whole, marked a turning point for the general system of federal regulation, from one of regulation of transport modes only, to one of regulation and promotion. To date, however, the concept of regulatory promotion of a transportation mode applies only to the air carrier industry. (8:149-150)

The Civil Aeronautics Act further established the Civil Aeronautics Authority (CAA). The Authority was empowered to determine compensation to be received by airlines for the transportation of mail, and the Act relieved the ICC of such powers. In 1940, the CAA was renamed the Civil Aeronautics Board (CAB), concerned with the economic regulation of business: transporting persons, property, and mail by air. (2:770-806)

The Federal Aviation Act of 1958 created the Federal Aviation Agency (FAA) which was to concern itself with functions

related with safety and the development and implementation of regulations administering those functions.

The major differences between air and rail regulation is that the CAB may exempt any carrier or class of carriers from the economic regulations. The ICC does not have equal authority to make such broad exemptions. The Federal Aviation Act does not contain any long-short haul clauses (the carrier cannot charge more for a short haul than for a long haul; over the same line, same distance, the shorter haul being included in the longer haul). The CAB does not control the issuance of securities of air carriers (to prevent development of weak capital structures), and the CAB does not have the power to award reparations to shippers for injury resulting from the charging of unlawful rates. (2:807)

The CAB has shown some tendency to favor the building up or expansion of smaller air carriers in an effort to strengthen their financial base. The Board believed its responsibilities included a conscious effort to narrow rather than widen the relative sizes of the bigger carriers and smaller trunk lines. One difficulty with the attempt by the Board to cut in the weaker lines on the more profitable lines is that the bigger carriers do not, for obvious reasons, willingly provide room. In fact, there is some evidence which shows that the larger carriers, from time to time, overscheduled routes in order to make it more difficult for the small carrier to gain entry. (2:817-818)

The CAB has had considerable difficulty in attempting to

resolve the issue of air carrier promotional rates such as "Discover America" fares, military discount fares, youth standby fares, and family fares. The air carriers use this advertising technique to attract more passengers, however, other competing passenger carriers such as bus lines have objected to these reductions in rates as being unjustly discriminatory. In 1970, the CAB, after much deliberation, found the promotional fares not unjustly discriminatory, but did require changes and limitations in the use of fares. The issue remains close to the surface as a source of conflict between competing modes.

The CAB is continuously involved in attempting to arrive at establishing what percentage of profit is considered a fair rate of return. In 1971, a decision by the Board made 12 percent for the trunk line, and 12.35 percent for local-service lines the "fair rate of return maximum." The issue, however, is still very much active as the airlines contend that it is impossible to established a fixed rate of return because earnings vary widely from year to year, therefore, the fair rates of return criteria should be established over an extended period of time. (10)

Probably the most severe criticism of air carrier regulation is the problems surrounding market entry. Part of that criticism has been directed at CAB policy of awarding additional routes to existing carriers instead of certificating new airlines. On the other hand, existing airlines have criticized the Board for certificating too much competitive service, thereby enticing the industry to overcapacity and thence

to financial problems. (10, 11, 12)

The air carriers, of all the modes of transportation, are the highest consumers of energy per BTU/ton-mile, therefore, any increase in costs of fossil fuels (and there is every reason to forsee future increases as this source of energy becomes scarcer) will force a commensurate increase in passenger and cargo fares. If in fact the industry currently suffers from overcapacity, energy costs will have a decided effect on given carrier's ability to remain solvent. Any increase in fares to support increase in energy costs will undoubtedly cause decreases in consumer utilization, thus compounding financial stress. (10)

There is no doubt that the CAB, together with the industry, must review the market as a whole with some consideration given to relaxing the regulatory restrictions relative to abandonment of unprofitable routes, pricing, and other economic limitations. If controls to entry are removed, in all probability overcapacity would develop, rate cutting would appear, and earnings would likely sink below a survival level. Competition, in this instance would, in all likelihood, give way to some type of monopolistic control. If the subsidies to those airlines which are unprofitable, but thought to be a public necessity were removed, the general U. S. transportation policy of providing transportation to the citizens at fair and reasonable rates (however fair and reasonable may be defined), would require a change. Competitive services between traffic points would still be available, but air service at smaller cities, and some routes,

would probably disappear. (11, 12)

2. Air Carrier Monopoly versus Competition

> The airlines compete for customers by offering more and more frequent flights, attractive flight attendants, gourmet meals, free drinks, first-run movies, and comfort. All of these increase the airlines' cost of operation, but not their efficiency, nor necessarily the total number of customers.

and concerning the frequency of flights:

> . . . there is evidence to support the airlines' belief that increasing the number of flights in a market often results in a more than proportionate increase in passengers, according to CAB officials.

These comments were entered into the Congressional Record, Proceeding and Debates of the 95th Congress, First Session, by Carole Shifirh, January 18,1977, relative to proposed legislation to deregulate the airlines industry. The comments are strong indications that competition, as originally envisioned by the Civil Aeronautics Act of 1938, is not what is happening in today's market.

The direction in which the CAB has moved in the past was geared to developing and protecting an infant industry through traditional public utility-type regulation such as control of entry to the market, control over routes, and control of rates. Even so, there appears to be an excess of capacity. Airlines are currently circumventing CAB price controls through fierce service competition, thus the circumstances of flying aircraft with half-empty seats but loaded galleys with delicacies and fine wines.

Current regulation has not controlled competition of this nature, rather, regulatory control of rates may have actually caused it. Proponents of some or all economic deregulation have suggested that the airlines' current unhealthy financial condition may, in fact, be caused by being protected from the clearing function of the marketplace. (10)

The CAB maintains that from a strictly economic standpoint, the question of whether competition or monopoly should prevail rests on the relation between size and cost in the industry. If unit cost declines as the volume of traffic increases, then service can be provided at the lowest cost if one carrier is allowed to carry all the traffic over the route. If unit costs do not decline as volume of traffic increases, there is no justification for excluding other carriers. The CAB's charter includes the doctrine of insuring competition to the extent necessary to assure sound development of air transportation system in the public interest, and in accordance with the public convenience and necessity. Thus, the CAB cannot afford to face the possibility of monopoly throughout the industry should all economic controls be removed, or take the chance on the reverse occuring, ruinous competition. (2:811-816)

Since the air transportation industry, as opposed to the modes of rail and motor, has been regulated almost from birth, monopolistic conditions have not historically occurred. Whether or not this condition might eventuate is a chance that the CAB cannot take. There is, however, recent indications that the CAB

is liberalizing route award policies. The Board has placed special emphasis on new route proposals by airlines which have included innovative low fare plans. The Agency is also beginning to grant new routes to airlines on a "permissive" basis, that is, an airline may come into the market when, and if, it chooses, and to drop out of the market as freely. On these new routes, back-up airlines are being named which could start flying should the first carrier selected decide to forego the service. (13:17)

The CAB cautions, however, that restraint is a must, and that headlong efforts in this direction could lead to financial difficulties in the long term for some carriers. Too many uneconomical fares or routes could drive some carriers out of the market, reduce competition, and eventually bring higher prices to the consumer. (14:74-75) The CAB feels that regulatory change is a must in order to prevent industry financial "feast or famine." Fares will continue to rise, putting a damper on traffic growth and the airlines will increasingly turn to the federal government for financial aid.

E. REGULATORY AGENCIES

1. Interstate Commerce Commission (ICC)

a. History

The ICC was a by-product of the first attempts by the government to regulate commerce, specifically the railroads, as a result of the Granger cases of the early 1870's. The Granger

laws in the 1870's and 80's created a transportation regulatory structure at the state level, but did little to stabilize control across the nation. Monopolistic abuses by the railroads continued and resulted in widespread publicity, thus creating increased agitation by groups representing shipper and merchant interests for federal control of railroads.

On April 5, 1887, the Interstate Commerce Act became effective, and still serves as the corner-stone for transportation regulation in the United States. Much of the substance of the Act was aimed at the prevention of monopoly abuses and control of discriminatory abuses. It contained regulation dealing with Reasonableness of Rates, Personal Discrimination, Undue Preference, Long and Short Haul, Pooling, Publication of Rates, and created an Interstate Commerce Commission to administer these new regulations. (15:209-212)

The ICC originally consisted of five members, each serving a six-year term, appointed by the President with the advice and consent of the Senate. The membership has expanded to 11 members and the term of office extended to seven years. The make-up of the membership is bipartisan, and no more than six members may be from the same political party. The ICC reports directly to Congress, while the chairman may be called to report directly to the President. Complaints may be submitted by injured parties to the ICC either formally or informally.

In the early days of the ICC, the Commission was authorized to order carriers to prepare reports and accounts, it

could conduct investigations into carrier affairs, and issue cease and desist orders. The ICC was empowered to determine awards of damages caused by carrier violations, but there was no penalty for failure to obey an ICC order. If a carrier did not comply with a directive, the ICC's only recourse was appeal to a federal court. In 1896 and 1897, the Supreme Court ruled that the ICC did not have authority to determine actual or maximum rates for a carrier. Minimum rates were, however, within ICC jurisdiction.

Much of the authority of the ICC has been restored in the years since its early difficulties, and in many instances, even broadened. The Rail Regulation Act of 1910-1920 restored most of the ICC jurisdiction over rates and the Transportation Act of 1920 strengthened their authority in this area while endowing the Commission with control over entry to the industry, as well as abandonment of rail lines. The Act of 1920 also gave the Commission control over the regulation of rail securities, rail consolidations, sharing of terminals, car service rules, and utilization of rail equipment during national emergencies. (15:213-220)

The 1920's saw the tremendous growth of bus and truck operations which emerged as strong competitors with the railroads. This led to greater and greater pressure for control of trucking as a hedge against further financial losses by the rail industry. The depression of the early 30's created excess capacity in all modes of transport with attendant discriminatory

pricing and service practices by the trucking industry since it was not operating under the same regulatory controls as the railroads. In 1935, the control of interstate motor carriage was given to the ICC and was incorporated into the Interstate Commerce Act as Part II, and in 1940, its jurisdiction was widened to include inland water carriers. Regulation of the water carriers became Part III of the Interstate Commerce Act. The ICC has never been empowered with regulatory jurisdiction over intrastate commerce, either by trucking or rail except when intrastate rates are determined to be so low relative to interstate rates as to cause an undue burden on interstate commerce. (15:254)

b. Strengths

The most important feature of the ICC as well as the other federal regulatory agencies, is its independence. This independence minimizes the likelihood of political interference, it does not however, eliminate that interference. The Commission exercises legislative, executive, and judicial powers. When aiding in the enforcement of a statute, the ICC is acting in an executive capacity. When determining reasonableness of a rate on part shipments, it exercises judicial power, and when prescribing a rate for the future, it acts in a legislative capacity. (3:288-289)

The primary purpose of the ICC is to prevent discrimination and to enforce equality of treatment by common carriers for the purpose of providing consumer protection. The

Commission has had a history filled with political and judicial setbacks and will, in all probability, continue along a rough and rocky road depending upon the political, budgetary, and legislative climate at the time. Regardless, the Commission, for the most part, has attempted to judiciously and fairly carry out its duties. There are some difficulties under which the Commission must labor and which will probably not significantly alter in the foreseeable future.

c. Weakness

The President appoints, with the advice and consent of the Senate, the members of the ICC, and once appointed, cannot be removed by him during the member's term of office. This does remove much of the "spoils of office" from the appointment, but even so, cannot remove all sense of obligation from a given appointee to the appointor. Members of office selected by the President of the United States carry somewhat more prestige than those of more mundane calling, and therefore carry somewhat more of an obligation to the appointor. Obviously then, questions have arisen from time to time concerning the qualifications of the agency appointees being based on professional or political reasons for appointment.

There is some criticism that the ICC has fallen under the control of the industry that they regulate and have become more concerned with protection of carrier interests than consumer welfare. It has been noted that following the expiration of a term of office, many former regulators assume executive positions

in the industries which they were, at one time, regulating. Whether this is a natural evolution because the agency regulator, during his term in office, came to know the industry and federal regulatory policy very well and is therefore exceptionally well qualified to fill an industry position and need, or is a reward on the part of the industry for services rendered while serving as an agency member, is debatable. Considering the current financial difficulties of the rail industry, it would appear that members of the ICC have not had the industry's financial well-being uppermost while serving with the agency. (15:289)

There is some evidence to support a claim that the ICC has been overly concerned with regulating and not sufficiently concerned with promoting the rail and motor carrier industry. Too much concern over rates, control of rates, determination of rates, abandonment of non-profitable routes, and merger policies, particularly with respect to the railroads has led the industry to the point of financial collapse. The railroads are quick to point out results of the ICC's past financial constrictive policies by the fact that there were over 7,000 derailments nationwide in 1977, (16:12) because the industry has not been allowed to raise rates which would provide sufficient funds for proper maintenance and track replacement.

The ICC has been criticized for frustrating railroad mergers by making them more difficult or for lessening their value by forcing the inclusion of an entire marginal road in the consolidated system planned by two or more roads. The Commission

has been overly concerned with the preservation of service, not of companies or railroad systems, so says the industry. (17:15)

2. Civil Aeronautics Board

a. History

The Civil Aeronautics Authority was commissioned to promote adequate, efficient, and economical air service and to regulate air transportation. (8:98-99) It was established by the Civil Aeronautics Act of 1938 to provide for the regulation of air carriers comparable to that provided for railroads and motor carriers. The Act authorized the authority to regulate safety, the construction, maintenance, and operation of federal airways as well as the determination of compensation to be received by the airlines for the transportation of mail.

The Authority was intended to be an independent regulatory agency, and free from executive interference so far as its quasi-legislative and judicial powers were concerned. The Authority did, however, include the office of Administrator and the Air Safety Board, which were responsible to the President. (2:797-800)

The Civil Aeronautics Authority was reorganized in 1940, and changes included the abolishment of the Air Safety Board whose functions were passed to the now designated Civil Aeronautics Board (CAB). The Federal Aviation Act of 1958 created the Federal Aviation Agency (FAA) to assume the functions of air safety regulations, while the CAB continued to perform the

responsibilities for accident investigation. So far as economic regulation was concerned, the CAB continued as the regulatory agency. Economic regulation is contained in Title IV of the Federal Aviation Act of 1958, and is generally patterned on the system of railroads and motor carriers. (2:803)

b. Strengths

The significant difference between the functions of the ICC and those of the CAB is in the policy statements of the two agencies. Therein lies the strength of the CAB, for an examination of the CAB policy declaration makes it clear that regulation of air transportation is not for the purpose of hindering aviation development in the interest of older transportation agencies:

> In the exercise and performance of its powers and duties under this Act, the Authority shall consider the following . . . The encouragement and development of an air transportation system properly adapted to the present and future needs . . . of the commerce of the United States . . . The promotion of adequate, economical, and efficient service by air carriers at reasonable charges . . . The regulation of air commerce in such a manner as to best promote its development and safety, and the encouragement and development of civil aeronautics. (2:805-806)

It is readily apparent from the declaration that the CAB is charged with the provisions of the Act insofar as promoting and regulating air transportation, whereas the ICC responsibilities include only the regulation of rail, motor, and water transportation. The inclusion of the responsibilities for promotion of air transportation may account for much of the differences in how the two agencies have interacted with the

transport modes and why the air transport industry has made significant strides in furthering their industry while continued serious economical difficulties continue to plague other transport modes, particularly the railroads.

c. Weaknesses

Outside of the same political inconsistencies which can and do affect the ICC from time to time, the CAB has been criticized for awarding additional routes to existing carriers instead of certificating new airlines. Further, the CAB has periodically been criticized for certificating too much competitive service, thus fostering overcapacity in the industry.

Be that as it may, there is not doubt that the CAB has succeeded in advancing the air transport industry through many of the economic hurdles that the ICC has not been able to do for the railroads. Part of the rationale for the CAB's success may be the total absence of both social and political stigma from air lines promotion and development which, in fact, still clings to the railroads as a result of past dubious practices of the industry. Perhaps because of the CAB's responsibilities for promotion of the air transport industry, the Board members have a different perspective than those of the ICC. For whatever reason, the Congress should review the Agency's policy declaration and amend that of the ICC to include promotional industry responsibilities.

3. Federal Maritime Commission (FMC)

The FMC basically regulates carriers by water on the high seas, therefore since this paper treats only domestic transportation, any discussion of the functions, background, and purposes of the FMC will be excluded.

4. Department of Transportation

a. History

The federal Department of Transportation (DOT) was established in 1967, and its purpose is to coordinate and effectuate administration of the transportation programs of the federal goverment. It is responsible for:

> . . . facilitating the development and improvement of coordinated transportation service to be provided by private enterprise . . . to stimulate . . . technological advances in transportation . . . to develop and recommend to the President and Congress for approval of national transportation policies . . . (15:291)

The secretary of transportation is a Cabinet member appointed by the President with the advice and consent of the Senate. He reports to Congress. Dot has more than 70,000 full-time employees, and has in excess of 3,000 field officers. (15:291)

DOT's role in regulation of transportation is basically limited to safety through the exercise of the responsibilities of the Federal Aviation Administration, Federal Railroad Administration, and the Federal Highway Administration.

DOT's interface with economic regulation of transportation is primarily one of policy review, critique, and recommendation. DOT dispenses federal funds for transportation projects, and funding research and development efforts relative to the several modes of transportation. Through this funding medium, DOT exercises an indirect influence between administration of funding various projects and the administration of the regulatory statutes.

b. Strengths

The federal government has historically displayed inordinate interest in the means of transportation: waterways, highways, airways, and railroads. The various modes were perceived as separate, complete, and unrelated entities rather than a continuous domestic transportation system. This is evident by the progression of regulatory agencies.

DOT has provided a means for the consolidation and reorganization of dispersed transportation regulatory agencies, insofar as safety is concerned, and it does provide an on-going organization which could ultimately include all federal regulatory and promotional functions including that of coordinated, integrated, long-range transportation planning. (5:446-455)

c. Weaknesses

Early regulatory initiatives of DOT suffered because they were overly ambitious and Congress did not respond well in the face of extensive regulatory change in a relatively short

time period. As a result, DOT experienced difficulties in selling regulatory proposals to Congress and it took several years for DOT to re-establish its credibility.

The Secretary is charged with the duty of developing national transportation policies and for the overall direction of the domestic transportation industry, and yet it cannot dictate policy to the regulatory agencies. This dichotomy of responsibility without authority has done much to water down the effectiveness of DOT, and will continue to impact on the future of the transportation industry. The establishment of a single regulatory agency with control over all modes of interstate transportation would contribute toward the development and implementation of integrated transportation policies.

V. THE CASE FOR REGULATION

1. Economic versus Safety Needs

There is almost universal agreement that regulation of the transportation modes in the United States requires an overhaul. Those within the industry feel that deregulation is the only answer to their financial difficulties, and there is considerable data which substantiates this charge. Regulation has increased prices and rates most probably because of the lack of effective application of rates and pricing controls, through the requirement to carry non-profitable routes, through long-term subsidation and various other cost increasing regulatory requirements. Perhaps the single most significant contribution to the price and rate increases is the oft time uneven, unplanned, and haphazard application of regulatory requirements both between modes and within modes.

If past industry performance can be taken as an example of how the industry performs in a non-regulated atmosphere, then regulation is mandatory. The United States government must ensure that for the benefit of the public, access to all modes of transportation remains a viable endowment. There is little doubt there that regulation and only regulation will continue to provide that access. Because of the intense competition which would result in the long run from removal of all regulatory constraints, some modes of transportation would eventually be

priced out of existence, or at least to a survival level, a level far below a profitable growth minimum which would allow for plant and equipment replacment, thus the removing of any benefit to the using public.

Economic regulation, today, poses some considerable problems to the industry. Rate regulation has not been as well defined and as forward looking as it should have been. Changes to the rate process are far overdue as is the process of consideration of mergers, route abandonment, or development. Entry controls have, at times, been discriminatory in nature and have fostered conflict between industry and government. The regulatory agencies themselves have appeared, at times, to be capricious. There is strong evidence that even with modes, questionable regulatory practices have evolved such as now exists with inland water carriers versus railroads. It does seem that water carriers received a minimum of regulation, only sufficient to keep the railroad industry from showing a blatant case for mode discrimination.

Regulatory agencies are independent of outside influence but do not operate in any coordinated manner with each other. The ICC has been primarily interested only in the regulation of the railroad, motor, and inland water carriers, while the CAB has tended to be more forward looking in that it has promotional as well as regulatory requirements with the air transportation industry.

The public is entitled to safe, economical

transportation. There appears to be a general acceptance that some regulation will be required in the future to insure the public receives such transportation. Economic regulation is in desperate need of revision to bring it into the present and provide for the future of the industry. It is doubtful that economic deregulation will really work. Safety regulation is a must, and will be a continuing requirement, although there is strong evidence to suggest that the overall safety programs are in need of overhaul, as are many of the requirements of mode safety not applied at all, or only on an unequitable basis.

2. Problems

Regulation of the industry is a multi-faceted process because of the constant manipulation by different and opposing interest groups during the regulatory drafting and legislative process. The goals of the public versus those of the carrier, shipper and labor, are not always compatible and are cause for considerable conflict. The carrier is motivated by profit, he wants to eliminate excess capacity, excess labor, and any services to a shipper which are not profitable, and he wants to be able to raise rates whenever reasonable. Labor, on the other hand, wants more workers, job security, steady income, better working conditions, and higher wages for the same or even less productivity. The shipper wants more service, more choice between modes, and firms at lower prices. The public wants sound transportation, that is both economical and safe, it wants to

avoid monopolies, and at the same time, to stimulate competition.

With these groups in a constant process of pushing and pulling the legislative system, there is little wonder that the transportation industry and government have not been very effective.

It cannot be disputed that each mode of transportation basically serves a specific transport need, for private industry and national defense, and for this reason their survivability is a must. Economic as well as safety regulations are the only viable solutions to this survivability. It cannot be disputed, also, that reform is needed within the current legislative, application, and administration of transportation regulation.

VI. THE CASE FOR DEREGULATION

1. Needs

Economic regulation has stifled the development of transportation technology. Particularly the ICC has been overly protective of the status quo and has not been very sympathetic towards innovations which might benefit one mode at the expense of another. This, along with the prospect of long costly hearings with the ICC, are frustrating to management, when if the agency atmosphere were more amenable to new concepts, might consider investment in more research and development.

The regulatory agencies have been accused of sheltering firms already in the field against new competition. Again, this may be a preoccupation by the regulatory bodies with the status quo. Certification policies, particularly with the ICC, have come under attack on many occassions. The ICC has repeatedly emphasized where an existing motor carrier has expended energy and resources in developing new facilities to handle available traffic, that carrier is entitled to protection against competition. (8:188-189)

Current regulatory policies misallocate resources through value-of-service rate structures. This process encourages a carrier to base his rates on the value of the goods transported, rather than on the cost of transportation. Since a carrier charges high rates to transport goods of high value, the shipper

will not object since transportation represents a small percentage of total costs and profits from the transportation of high value commodities allows the carrier to reduce rates on goods of lower value. For shippers of lower value goods, transportation is a much more significant factor, therefore any cost savings by transport mode is a beneficial consideration. However, such rating structures misallocates resources because instances have occurred whereby trucks and barges carried goods for which railroads have the cost advantage and vice-versa.

Regulatory procedures can be resource costing to carriers because of current requirements which mandate the manner in which carriers may haul certain commodities over certain routes. The regulations have become so onerous as to cause carriers to create huge amounts of unnecessary, empty, additional mileage over circuitous routes and idle time. There is a real need to broaden carrier certificates to allow carriers to carry more goods greater distances.

Current regulation tends to stifle managerial efficiency because it assumes many of the functions that management should otherwise perform and does perform in nonregulated industries. Since the regulatory agencies control the maximum and minimum pricing policies, it leaves management without any authority over its most potent competitive weapon. The ICC grants operating priveledges to railroads, motor carriers, pipelines, and barge lines. The CAB grants airline companies operating permission. The regulatory agency, in effect, tells the industry

whom it must service, how, and in what quantity.

If the transportation modes are to survive, there is an urgent need to provide a competitive area in which the industry might operate. The public is entitled to a reliable transportation service at reasonable and fair rates. The government, therefore, must hold out to the transportation industry the same priveledges and economic rights that are extended to non-regulated industries within limits to insure safe operation.

2. Problems

There is so much at stake in deregulation that the removal of regulation must proceed cautiously. There are vast amounts of resources invested in agriculture, mining, and manufacturing which would be placed in jeopardy by resulting changes in current transportation regulation. The survival of some of these industries as well as the welfare of some communities would be endangered as well.

The problem of public transportation demands must be addressed when considering deregulation of the industry. For reasons of national or regional development, or for social or political reasons, transport systems and services are demanded which must be supported in part by taxation or by some other noncompetitive price system.

In any event, economic deregulation of the transportation industry will be a difficult task at best, because of the

spill-over into the general economy of the nation. Current and past regulatory processes have created a multi-faceted economic octopus with tentacles reaching into practically every industry. Severing of one of those tentacles will have immediate impact on all others. The deregulation process will be long, and perhaps, at worst, impossible.

VII. ALTERNATIVES

A. DO NOTHING

The government and the transportation industry can proceed as it currently does. The process of pyramidizing regulation with attendant spiraling costs to both the industry and the government will eventually lead to a crisis of serious proportions. The public is, and will continue to be, asked to support these increasing costs for maintenance and construction of ways until such time as the tax burden becomes too unwieldy. In any event, the "do nothing" alternative has an impossible future. The sooner government faces this fact, the sooner the public and industry will benefit.

B. GOVERNMENT OWNERSHIP

If this policy were adopted, it would involve ownership and operation of the transportation modes. Railroads of almost all nations are owned and operated by the government, and in most countries, the governments own the major airlines. (2:901)

One advantage of government ownership of the transportation system, from the public view, is that the system can be operated without regard to which mode is or is not self-supporting.

Another advantage of government ownership and operation of the transportation modes is that the system can be planned as a system, and the plans executed without waste and duplication

inevitable when private ownership, unregulated and uncoordinated, seeks its own individual goals.

This alternative has certain disadvantages such as those associated with public enterprises. Inefficiencies due to lack of the competitive spirit, tendency toward overstaffing, bureaucratic politics in administrative appointments and hiring, and political pressure groups seeking preferential treatment and services, all militate against government ownership and operation of the nation's transportation system. One last consideration, which adds to the fact that government ownership probably will not occur, is the concept of a free enterprise system. Government ownership is just not compatible with a free enterprise system, at least in the collective public mind, and in fact, all government owned railroads currently lose money.

C. COMPLETE DEREGULATION

Advocates of this alternative state that deregulation of the transportation industry would, as it does in nonregulated industries, allow the "marketplace to dictate." The consumer, making his desires known through the purchase of those transportation services most beneficial to him, ultimately decides what modes would survive. Proponents of deregulation admit initial cataclysmic confusion but in the end, the public would have a competitive process with the user paying all the true cost of transporting himself or his goods; resources paid

for benefit received.

The difficulty with this alternative is that it assumes too encompassing a definition of the concept of competition. In the railroad industry, there are many commodities for which motor or water transport are not substitutes, particularly for longer hauls. The presumption being that competition is all pervasive and extends equally to all modes as equal substitutes. This is just not fact. Further, national as well as social and political considerations mandate a transport system which is not strictly economical according to the standards of the marketplace.

D. ADAPTIVE REGULATION

There is little doubt that some regulation of the transportation system is a must for national as well as social and political reasons. This does not mean that current restrictive and limiting economic regulation need continue in its present configuration. If the regulatory process could be developed to take on the form of adapting to changes as they occur, such a policy would involve the least risk of all other alternatives. It would not bar deregulation in certain cases, nor bar the imposition of additional controls if circumstances so dictate. It would allow for the assumption of responsibility for providing transportation service at various governmental levels if the need exists, and yet should take a position of actively promoting the growth of the transportation industry. Such a

regulatory adaptive process would avoid the extremes of other alternatives and assist in the evolution of the system adjusting to the public as well as industry's needs as changes occur.

VIII. CONCLUSION

A comprehensive review of available information reflects that the drafters of transportation regulation have recognized that over-regulation can be a serious detriment to a viable system. It is the opinion of this writer over time, the regulatory process has become less and less restrictive in nature. From the time of the Granger movement in 1870, culminating in the first federal legislation of the rail carriers with the enactment of the Act to Regulate Commerce in 1887, to the Transportation Act of 1966, there has been a steady decline in the passage of economically restrictive regulation.

Rail carriers are 100 percent regulated under Part I of the Interstate Commerce Act. This is so, most likely, because of the over-reaction by the states, courts, and finally, the federal government in the 1870's and 1880's in response to misguided strong farmer pressure groups and because of the sometimes practiced economic abuses of the rail carriers. The legislation was designed to prevent any such abuses in the future, but a side effect prevented any innovation at all by the rail carriers. The result is the present financial chaos of that industry. As with all regulation, once enacted, it becomes much more difficult to rescind or modify.

By the time the motor carrier industry had grown sufficiently to require some form of regulation, considerable modifications were made to the Interstate Commerce Act, Part II (motor carrier)

which were not as restrictive as that imposed on the rail carrier industry. Today, only about 33 percent of the motor carrier industry is regulated, and the industry enjoys far more economical well-being than the railroads. The water carriers (Part III of the Interstate Commerce Act) are even less regulated with only 7 percent of its industry subject to the Act.

There is some evidence to support the contention by the rail carrier industry that both motor and water carriers were regulated only to the present extent because of the lobbying action by the railroads. If the railroad industry had not voiced strenuous objections on the grounds of discrimination between modes, it is entirely likely that motor and water carriers would not be as economically regulated as they are today.

The regulation of the air carrier industry is an example of an enlightened regulatory process. The industry is the youngest of all modes; the legislators are more inclined to look to the future, and the CAB has shown a tendency to be willing to foster changes when they are found to be economically restrictive. All these forces have promoted the air carrier industry with the results that the air line load-factors which only some few weeks ago were averaging 46-48 percent, are now averaging 95-98 percent. (18:20)

Ownership and maintenance of the way has not been equal among or between modes. Railroads were initially responsible for maintaining track and rail beds. Only recently has the federal government come to realize that maintenance of the way has been

an economic burden not borne by motor, water, or the air carrier industry. Construction and maintenance of highways, canals, and airports and terminals have not been accomplished by the respective industry. In any case, it does appear that financial assistance in the construction and maintenance of the way has been a progressive aid process by the federal government.

Energy factors may play a key role in the determination of which transportation modes may, in the final analysis, continue to survive. It is very doubtful, however, that any single transport mode will disappear from the system. Although one mode may be more energy efficient than another, each is limited in its own way. For example, inland water carriers are far more energy efficient per ton-mile than motor modes (500 versus 2,700 BTU per ton-mile), and yet it is inconceivable that the inland water carrier will ever fill the role of the motor carrier industry. By the same token, for many bulk cargoes, the motor carrier simply cannot compete with the water or rail modes.

Depending upon availability and cost of future energy supplies, pollution of the atmosphere and our cities, countryside beautification, and even noise pollution, perhaps a viable alternative may have to be developed, such as balloons. Considerable research has been done in the past, and more is currently being accomplished in this area to overcome certain stability problems as well as inclement weather sensitivity, but the prospect is exciting. The balloon landing pads can be placed almost anywhere; there is no noise or air pollution, the

system requires no planning of additional highways and by-ways, or airports, and the system's capacity to move cargo is excellent. Viewing some of our current traffic, rail, and airport congestion difficulties, a noiseless, clean process presented by a balloon transport system seems infinitely more attractive. At least, it is worthy of additional research and developments, for the rewards could be astronomical.

Each current transport mode has its own inherent advantages depending upon shipper needs, type of cargo, and speed of delivery. The rail carriers are most advantageous for long-haul shipments, and bulk cargoes; the motor carriers are ideally suited to the short-haul, and door-to-door service. The water carrier has the most economical cost for large tonnages and long-haul, and the air carriers, of course, are particularly advantageous for quick delivery. Each mode has recognized disadvantages as well, but one fact predominates--each mode is particularly suited to singular type of cargo, therefore each must survive.

The transport problem today, and in the forseeable future, is to promote the right economic development of each mode to include coordinated services by two or more modes. Transportation policy can no longer be aimed at initial economic development of the industry, because the industry has reached maturity. Policy must no longer be remedial in its outlook in developing regulation based on past experience. It must be promotional in context and look toward the direction in which the industry is moving.

Regulation must promote workable competition. Where regulation adversely impacts on the achievement of economy and efficiency, it should be abolished. If the scope of regulation is too broad or undefined, then it should be narrowed. If regulation is required to meet new transport needs, then it should be responsive to those needs. Lastly, where regulation is perceived as debilitating and stifling to industry management, to the public, or to the agencies of regulation, then its purpose must be modified or altered to acceptable levels.

The process of coordination of regulation on a national order should be a matter for further study.

IX. RECOMMENDATION

The "do nothing" alternative will become costlier to the public and more and more difficult to administer. This will mean larger and larger bureaucracies such as the ICC, CAB, FMC, and DOT. The industry will continue to suffer from lack of overall policy guidelines as well as unevenly applied regulatory requirements. The prospect for solution to the transportation system problems under this alternative is doomed to failure.

Government ownership of the transport system is certainly a real alternative. Almost every single nation, with the exception of the U.S., owns a part or all of its transportation system. Whether the government-owned systems work because of coordinated, efficient policies, or because the government makes the system work is a moot point. The systems are working, albiet at increased public expense. It is not a feasible alternative in the United States at this point in time and probably will not become a realistic alternative as long as other means of resolving the system difficulties are available.

Complete deregulation is not a viable alternative at this time. First, there are many commodities in the railroad carrier industry for which motor transportation or transportation by water is not a substitute. Secondly the motor carrier and air carriers cannot compete with each other because each is suited to different commodities and or passengers. Public demands for some services are not economical in the literal sense and

for social, political or national reasons are nevertheless required. Further, past industry performance has failed to assure the government that the system will support the nation's needs if left to its own devices. Lastly, the marketplace cannot be the sole indicator of transport requirements when it is determined that not all users have equal access to the system.

The federal government and the transport industry must cease comparing modes. This consistent need to compare one mode against another has led to restrictive economic regulation, because the modes are each different and unique in their own way. There is a need for regulation, but it should properly fall somewhere between total regulation and lassiez fare.

The only forseeable alternative is that of "adaptive regulation." Regulation must be forward looking, and it must plan for a changing transportation environment and provide for a coordinated, reliable, economical and safe system to meet the needs of the nation. The regulatory process must change from a remedial mentality to one of promotion within bounds.

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