The Law of Intermodal Transportation: What It Was, What It Is, What It Should Be

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I. INTRODUCTION

The United States has assumed a position of world leadership in its efforts to reduce or eliminate tariff barriers, trade inhibitions, and investment restrictions, enabling goods, technology, services, and capital to move freely between States in the international arena.[1] As a part of this effort, the United States has sought to reduce, to the extent practicable, domestic impediments in the field of transportation so as to optimize the unobstructed transit of commodities between inland origins and overseas destinations and between overseas origins and inland destinations. The U. S. also has concluded formal and informal bilateral and multilateral

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1. The foreign policy of the United States on this issue has been based upon the assumption that world output would be maintained at its optimum level if the movement of capital was unimpeded or uninhibited. Dempsey, *Legal and Economic Incentives for Foreign Direct Investment in the Southeastern United States*, 9 Vand. J. Transnat'l L. 247, 252-53 (1976).

agreements designed to minimize the barriers which obstruct the free flow of commerce between nations, and to minimize domestic restraints on transnational commercial activity. As a result of these efforts, we are witnessing a spectacular increase in the importation and exportation of goods.

These overwhelming increases in foreign trade have been brought about, in part, by a diminution in transport inhibitions. In a circular fashion, the present reexamination of the existing legal framework in the field of transportation is, to a certain extent, attributable to these massive increases in foreign commercial activity and the concomitant demands for an efficient and economical transportation network which have inevitably arisen therefrom.[2] It is this contemporary evaluation of traditional legal and technological concepts in the field of international transportation to which this essay is addressed.

In our era of rapidly diminishing impediments to the free flow of capital, goods, technology, and services between nations, transnational commercial activity has become extremely important to our national economy. New frontiers are being broken as raw materials and manufactured products move more freely between nations which have heretofore shared little in culture, history, religion, race, or economic and political philosophy. Certainly, governmental initiatives designed to eliminate trade inhibitions are responsible for much of this growth. Tariff walls are crumbling. The world economy is prospering. The interdependencies that flourish between members of the world community as a result of bilateral and multilateral trade agreements enhance the possibility of achieving long-term political stability, economic growth, and global peace. It has become the position of the United States that increased international economic cooperation will inevitably lead to increased political toleration and peaceful coexistence.

Innovations in the field of transportation have made possible increased commercial activity promoting greater interdependency between nations. Intermodal transport innovation in the United States has been of essentially two kinds: (1) technological innovation, enabling commodities and individuals to move with greater speed, efficiency, and economy; and (2) regulatory innovation by Federal agencies responsible for regulating the rates and routes of international carriers.

Of the technological innovations, the "container revolution" is perhaps the most significant, for it has done more to foster the growth of

2. The Uniform Commercial Code has also implicitly recognized the contemporary increase in intermodal transportation. For example, the U.C.C. provides that a valid C.I.F. contract may be consummated which involves an intermodal land-sea movement under a through bill of lading, and that shipment from the specified inland point pursuant thereto is timely despite an inadvertently delayed loading aboard the ocean vessel. U.C.C. § 2-320, Comment 13.

international trade than any other single intermodal breakthrough. Containerization permits individual commodities to be loaded by the consignor at the point of origin without interim handling again until the container arrives at its ultimate destination and is unloaded by the consignee. Between the points of origin and destination, the trailer or container may be transported as a single unit by motor, rail, water, or air carriers with a substantial reduction in transit time, expense, loss, damage, and theft from that experienced under traditional break-bulk carriage.[3] Containerization may also produce greater energy efficiency in

3. In *Berry Transport, Inc., Ex. – Containers*, 124 M.C.C. 328, 337-38 (1976), evidence was adduced demonstrating the following characteristics of containerized movements:

(1) Containerization of ocean cargo provides a faster, safer, more reliable door-to-door service at lower costs. The major economic advantage of containerization lies in its potential to reduce greatly the unit costs. Containerization transforms general cargo into a uniform size and shape which is provided by the container. In terms of unloading costs, containerization saves approximately 1.0 man-hour per ton of cargo, or 19 man-hours per container in handling. At a direct labor rate of $7 per man-hour, containerization saves over $13 on each ton of cargo loaded for labor alone.

(2) U.S. trade in containerable commodities has been increasing steadily in the past 5 years. Containerable imports increased by 49 percent and exports by 38 percent from 1967 to 1970.

(3) Year by year, increasing percentages of liner cargo have been containerized on all major U.S. trade routes. The annual capacity of full containerships in the Pacific Coast-Far East trade route will total 450,000 40-foot container equivalents in each direction by 1975. This capacity is of the order of 5 million long tons in each direction annually.

(4) The large, fast containerships have high daily cost. Therefore, it is especially important to minimize port time through investment in shore-side container handling equipment. Based upon a ship's discharging and loading 780 containers, 2 extra days in port would cost $30 additional per container for just the ship's time, and does not include additional costs for berth rental time.

(5) Containership berths with high productivity are very expensive to equip and require high throughput to achieve economical unit costs. One hundred percent utilization of a two-crane berth results in a cost of $12.50 per container; when utilization is reduced to 50 percent, the handling costs for each container is [sic] increased to $25.

(6) The combination of high containership daily costs and high container terminal throughput requirements makes it economically feasible to transfer cargo overland between nearby ports at lower total cost than by moving the ship. A containership which operates at 25 knots, and which is loaded and unloaded at each terminus in 3 days, completes a trans-Pacific round trip voyage totaling 9,000 miles in 21 days. This totals 17 voyages annually. However, if the time required for loading and unloading is increased to 5 days at each port terminus, the time required for each round trip increases to 25 days, and the number of annual voyages are [sic] reduced to 14.25, a reduction in productivity of 15 percent.

(7) Containerized cargo increases the market for truckers' services for pickup and delivery or for transfer between relatively close ports. Handling costs per ton are reduced for truckers vis-à-vis conventional cargo, but line-haul costs per ton are increased because container dimensions are not optimal for over-the-road movements. Long hauls of containers appear to be unattractive to truckers. The primary role of motor carriers in container operations is the pickup and delivery of container loads at distances from the ports of less than about 400 miles, and the transfer of containers between nearby ports to save costly ship calls. In order to preserve inherent advantages to the shippers of through container movements it is necessary to provide for

transportation and stabilize transport costs.[4] By the late 1970s, containerized trailer-on-flatcar [TOFC] movements represented 7.2 percent of tonnage moved by rail;[5] it was anticipated that air/motor through movements would exceed 6.5 million billion-ton miles during this period, a growth rate of approximately six percent.[6] Moreover, there are a number of recent developments that may cause this trend to accelerate.[7] By the late 1990s, rail intermodal transportation was a $7.3 billion business with an anticipated annual growth rate of between 6-8%.

Intermodal transportation utilizes the inherent advantages of each mode involved, creating synergies and efficiencies not otherwise attainable. The service provided is different from and superior to that available from either mode alone. Carriers joined in intermodal combinations seek to provide a complete, "seamless" intermodal through service from origin to destination. Carriers whose services have historically been restricted to one mode of transportation are transforming into large multi-modal companies through joint ownership[8] or contractual agreement. Whether used to create new types of service, to lower rates to attract more traffic, or to lower costs to increase profitability, these arrangements are reshaping transportation.

Among the more dramatic contemporary shifts in transportation patterns has been the growth of multimodal international movements. For import or export traffic that is originating from or destined to U.S. points, rail/water/motor carrier combinations are often employed. Moreover, the United States has become a "land bridge" for a substantial amount of traffic that neither originates from nor is destined to U.S. shippers, but instead is moving between Europe and the Far East.[9]

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effective and proper coordination between water carriers and motor carriers. Only those carriers with flexible operations dedicated to container carriage can provide this coordinated service.

4. Fox, *Containerization: Present and Future*, Traffic World, June 20, 1977, at 26.

5. D. O'Neal, Intermodalism and Interagency Cooperation 2 (1977) (unpublished speech).

6. V. Brown, Improved Productivity Through Merger and Intermodal Cooperation 5 (1977) (unpublished speech).

7. The largest innovation in intermodal hardware was undoubtedly the switch from break bulk liner cargo service to containerization in the maritime industry. The change is little short of revolutionary. After initial innovations the railroads have operated a standard 89-foot line-haul vehicle for almost 20 years. That industry now appears to be on the brink of major innovations in line-haul piggyback equipment. *Id.* at 7-8.

8. These include combinations of rail/barge/shipping/truck (*e.g.*, CSX now owns American Commercial Barge Lines, Sea-Land, and its own trucking company), truck/air (*e.g.*, Consolidated Freightways now owns Emery Worldwide; Roadway Services now owns Roadway Air), rail/truck (*e.g.*, Norfolk Southern now owns North American Van Lines; Union Pacific Railroad now owns Overnite Trucking), and shipping/truck combinations (American President Companies now owns a trucking company).

9. The introduction of double stack railcars in 1984 propelled this trend. By 1993, there were 130 trains per week dedicated exclusively to containerized traffic moving on double stack railcars eastbound from the U.S. West Coast, for example.

Statutory and regulatory innovation has also contributed to the enormous contemporary growth of transnational commercial activity. This latter type of innovation shall be explored in this essay. After this introduction, the article is divided into three primary sections. In the first, we examine the origins of intermodal law and regulation. In the second, we review the contemporary legal landscape on intermodal transportation. In the third, we recommend several potential improvements in the legal regime.

II. INTERMODAL TRANSPORT LAW: WHAT IT WAS

THE PRE-DEREGULATION DIVISION OF REGULATORY RESPONSIBILITIES: ICC, CAB, & FMC

Prior to deregulation there was a tripartite division of regulatory responsibility over foreign commerce transportation in this nation among three separate Federal administrative agencies: the Interstate Commerce Commission [ICC],[10] the Civil Aeronautics Board [CAB],[11] and the Federal Maritime Commission [FMC].[12] Prior to its sunset in 1996, the ICC was by far the largest of the three, regulating the surface transportation of over 18,000 railroads, motor carriers, pipelines, domestic water carriers, brokers, and freight forwarders. Prior to its sunset in 1985, the CAB had jurisdiction over the transportation of direct air carriers (airlines) and indirect air carriers (e.g., air freight forwarders) operating within, to, and from the United States.[13] More than eighty domestic air carriers were subject to the jurisdiction of the CAB.[14] The FMC regulated all United States flag and foreign flag carriers operating in foreign commerce, and United States carriers serving Alaska and Hawaii. Almost forty domestic

10. Prior to its sunset in 1996, the Interstate Commerce Commission (ICC) regulated domestic common and contract carriers pursuant to the Interstate Commerce Act, 49 U.S.C. §§ 1-27, 301-327, 901-923, and 1001-1022 (1970).

11. Prior to its sunset in 1985, the Civil Aeronautics Board (CAB) regulated air carriers under the Federal Aviation Act of 1958, 49 U.S. C. §§ 1301-1542 (1970). The regulation of air transportation by the CAB was instituted in 1938 under the Civil Aeronautics Act of 1938, ch. 601, 52 Stat. 973. For an excellent analysis of the historical development of the movement to establish Federal regulation of this industry, see Comment, *An Examination of Traditional Arguments on Regulation of Domestic Air Transport*, 42 J. Air L. & Com. 187, 188-201 (1976). *See also* Friendly, *The Federal Administrative Agencies: The Need for Better Definition of Standards*, 75 Harv. L. Rev. 1055, 1072-73 (1962).

12. The Federal Maritime Commission (FMC) regulates ocean carriers pursuant to two statutes: the Shipping Act, 1916, 46 U.S.C. §§ 801-842 (1970), and the Intercoastal Shipping Act, 1933, 46 U.S.C. §§ 843-848 (1970).

13. Paul Dempsey, The Rise and Fall of the Civil Aeronautics Board - Opening Wide the Floodgates of Entry, 11 TRANSPORTATION LAW JOURNAL 91-185 (1979).

14. See Paul Dempsey & Andrew Goetz, Airline Deregulation & Laissez Faire Mythology (Quorum 1991).

maritime carriers were subject to regulation by the FMC.[15] Today, the agency holds jurisdiction over ocean transportation, in domestic-offshore and foreign commerce, by vessel operators, non-vessel operators [NVOs], and independent ocean freight forwarders.[16]

The National Transportation Policy

In 1887 Congress promulgated the Act to Regulate Commerce,[17] creating the ICC and affording to it the primary responsibility to prevent and correct rate discriminations by railroads. It was not until the Transportation Act of 1920,[18] however, that Congress articulated a specific declaration of policy for the agency. That Act required the ICC "to promote, encourage and develop water transportation, service, and facilities in connection with the commerce of the United States, and to foster and preserve in full vigor both rail and water transportation."[19] After 1920, the scope of Interstate and foreign commerce subject to the jurisdiction of the ICC expanded dramatically. For example, the Motor Carrier Act of 1935[20] brought for-hire common and contract motor carriers within the ambit of ICC regulation. The Transportation Act of 1940[21] brought Interstate water carriers within the Commission's jurisdiction. Two years later, freight forwarders were brought within the regulatory scheme.[22]

It was in the 1940 legislation that Congress expressed its most significant declaration of the national transportation policy up to that time. It directed that the ICC shouuld:

> Provide for fair and impartial regulation of all modes of transportation subject to the provisions of this Act . . . so administered as to recognize and preserve the inherent advantages of each; to promote safe, adequate, eco-

15. Davis & Holder, *Does the United States Have a Cohesive National Transportation Policy?—An Analysis*, 41 I.C.C. Prac. J. 332, 338 (1974).

16. 46 U.S.C. §§ 801-842 (1970); 46 U.S.C. §§ 843-848 (1970).

17. Ch. 104, 24 Stat. 379 (1887), *as amended* by 49 U.S.C. §§ 1-27 (1970) (known as part I of the ICA). As originally enacted, it consisted of only nine printed pages. During the intervening years, Congress added over 200 amendments so that the ICA and its index now consist of over 700 printed pages. Moreover, an additional 120 printed pages of regulatory responsibilities were enacted in the Railroad Revitalization and Regulatory Reform Act of 1976, Pub. L. No. 94-210, 90 Stat. 31.

18. Ch. 91, 41 Stat. 456.

19. Ch. 91, § 500, 41 Stat. 499 (49 U.S.C. § 142 (1970)).

20. Ch. 498, 49 Stat. 543 (49 U.S.C. §§ 301-327 (1970)).

21. Ch. 722, 54 Stat. 898 (49 U.S.C. §§ 901-923 (1970)).

22. Part IV of the Interstate Commerce Act, ch. 318, 56 Stat. 284 (1942) (49 U.S.C. §§ 1001-1022 (1970)). Not only has the enormous regulatory responsibility conferred by Congress upon the ICC grown dramatically since 1920, but this nation's transportation requirements have also become increasingly sophisticated and complex. The ICC today regulates over 18,000 transportation entities engaged in Interstate and foreign commerce. *See* I.C.C. 89th Ann. Rep. 120 (1975).

> nomical, and efficient service and foster sound economic conditions in transportation and among the several carriers; to encourage establishment and maintenance of reasonable charges for transportation services, without unjust discriminations, undue preferences or advantages, or unfair or destructive competitive practices; to cooperate with the several States and the duly authorized officials thereof; and to encourage fair wages and equitable working conditions – all to the end of developing, coordinating, and preserving a national transportation system by water, highway, and rail, as well as other means, adequate to meet the needs of the commerce of the United States, of the Postal Service, and of the national defense.[23]

This expression of policy delegated to the ICC the responsibility for coordinating *all* modes of transportation, including those not subject to its regulation.

In contrast, however, the Federal Aviation Act of 1958[24] confined its policy declaration to air transportation and directed the CAB to coordinate transportation between air carriers. More specifically, it required:

> (a) The encouragement and development of an air-transportation system properly adapted to the present and future needs of the foreign and domestic commerce of the United States, of the Postal Service, and of the national defense.
>
> (b) The regulation of air transportation in such a manner as to recognize and preserve the inherent advantages of, assure the highest degree of safety in, and foster sound economic conditions in, such transportation, and to improve the relations between and coordinate transportation by, air carriers;
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> (c) The promotion of adequate, economical, and efficient service by air carriers at reasonable charges, without unjust discriminations, undue preferences or advantages, or unfair or destructive competitive practices;
>
> (d) Competition to the extent necessary to assure the sound development of an air-transportation system properly adapted to the needs of the foreign and domestic commerce of the United States, of the Postal Service, and of the national defense;
>
> (e) The promotion of safety in air commerce; and
>
> (f) The promotion, encouragement, and development of civil aeronautics.[25]

Similarly, the Merchant Marine Act of 1936[26] emphasized that the FMC should concern itself with but a single mode of transportation:

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23. National Transportation Policy, 49 U.S.C. *preceding* § 1 (1970) (emphasis added). The need for coordination of the various transport agencies has long been recognized in this nation. As early as 1933, the Federal government took concerted action to effectuate coordination of the several transport modes. Aitchison, *The Evolution of the Interstate Commerce Act: 1887-1937*, 5 Geo. Wash. L. Rev. 289, 384-90 (1937).

24. 49 U.S.C. §§ 1301-1542 (1970).

25. *Id.* § 1302.

26. 46 U.S.C. §§ 1101-1294 (1970).

> It is necessary for the national defense and development of its foreign and domestic commerce that the United States shall have a merchant marine (a) sufficient to carry its domestic water-borne commerce and substantial portion of the water-borne export and import foreign commerce of the United States and to provide shipping service essential for maintaining the flow of such domestic and foreign water-borne commerce at all times, (b) capable of serving as a naval and military auxiliary in time of war or national emergency, (c) owned and operated under the United States flag by citizens of the United States, insofar as may be practicable, (d) composed of the best-equipped, safest, and most suitable types of vessels, constructed in the United States and manned with a trained and efficient citizen personnel. It is declared to be the policy of the United States to foster the development and encourage the maintenance of such a merchant marine, and (e) supplemented by efficient facilities for shipbuilding and ship repair.[27]

As can be seen, the ICC was given a unique responsibility to foster the coordination of a national transportation system by all modes. Of the several regulatory agencies, the ICC alone was charged with the duty to consider all transportation modes in the exercise of its regulatory functions, and not only those within its jurisdictional ambit. The ICC recognized that the "development of a truly coordinated transportation system must, within the terms of [its] statutory mandate, take precedence over the more narrow interests of those carriers directly subject to the Interstate Commerce Act."[28] The ICC recognized that "[t]he shipping public must have available not only a ready choice of all modes of carriage, but also a workable flexibility which will enable them to utilize to the fullest the inherent advantages of each mode in coordinated movements of single shipments."[29] The ICC was subject to a unique statutory directive to protect the competition among the different modes of transportation subject to its regulation. It could maintain the rates of one carrier to protect the traffic of another if necessary to protect an "inherent advantage" of the latter.[30]

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27. *Id.* § 1101.

28. Emery Air Freight Corp., 339 I.C.C. 17, 35 (1971) (freight forwarder application).

29. Investigation into Limitations of Carrier Service on C.O.D. and Freight-Collect Shipments, 343 I.C.C. 692, 729 (1973).

30. Baumol & Walton, *Full Costing, Competition and Regulatory Practice*, 82 Yale L.J. 639, 653 (1973). *See generally* State Corp. Comm'n v. United States, 184 F. Supp. 691 (D. Kan. 1959); United States v. Garner, 134 F. Supp. 16 (E.D.N.C. 1955); City of Harrisonburg v. Chesapeake & O. Ry., 34 F. Supp. 640 (W.D. Va. 1940); Anchor Coal Co. v. United States, 25 F.2d 462 (S.D.W. Va. 1928); Akron, C. & Y. Ry. v. United States, 22 F.2d 199 (W.D.N.Y. 1927); Jefferson Island Salt Mining Co. v. United States, 6 F.2d 315 (N.D. Ohio 1925); Friendly, *The Federal Administrative Agencies: The Need for Better Definition of Standards* (pt. 3), 75 Harv. L. Rev. 1263 (1962); Rose, *Regulation of Rates and Intermodal Transport Competition*, 33 I.C.C. Prac. J. 11 (1965).

Under its power to establish minimum rates, the ICC could disapprove non-compensatory rates so as to avoid rate wars or destructive competition. Missouri Pac. R.R. v. United States, 203 F. Supp. 629, 635 (E.D. Mo. 1962). However, the ICC was prohibited from nullifying the

Within this multi-agency network, the emergence of the container revolution and the growth of foreign trade created a need for efficiency and cooperation among the Federal regulatory bodies.[31]

FACILITATING THE CONTAINER REVOLUTION

Containerization, which has undergone an enormous growth in recent decades, represents an expeditious, economical, and efficient means of facilitating intermodal transportation. In its simplest form, it involves the shipment of freight as a unit from origin to ultimate destination in vans or boxes.[32] The typical containerized export movement, for example, might involve (a) the loading of widgets by their manufacturer into a single van-type container, (b) the movement of the container by motor carrier from the manufacturer's inland domicile to the port facilities of

"inherent advantages" of one mode of transportation by increasing the rates of carriers having such advantages. Malone Freight Lines, Inc. v. United States, 143 F. Supp. 913 (N.D. Ala. 1956).

31. Schmeltzer & Peavy, *Prospects and Problems of the Container Revolution*, 1 J. Mar. L. & Com. 203, 205 (1970). In contrast to its "open door" policy with respect to international investment in most industries, the United States Congress has promulgated legislation specifically designed to prohibit or inhibit foreign investment in the field of transportation. Pursuant to the Jones Act, 1920, 46 U.S.C. §§ 861-889 (1970), the coastal and fresh water shipment of commodities or passengers between points in the United States or its territories must be accomplished in vessels which are constructed and registered in the United States, and which are owned by citizens of the United States. Before a corporation will be permitted to register a ship in the United States, the corporation's principal officer and chairman of the board must be U.S. citizens and 75% of its stock must be held by U.S. citizens. 46 U.S.C. §§ 802, 833a, 888 (1970). Exemptions exist with respect to shipments incidental to the principal business of a foreign-controlled corporation which is engaged in mining or manufacturing within the United States, and with respect to the intercoastal transport of empty containers where the nation of the vessel's registry grants reciprocal privileges to U.S. vessels. 46 U.S.C. § 883 (1970).

Foreign ownership is similarly restricted in the field of air transportation. Thus, a foreign air carrier is prohibited from acquiring control of a company engaged in any phase of aeronautics within the United States unless approval is obtained from the CAB. Ownership of 10% or more of the voting securities gives rise to a presumption of control, and aggregate foreign ownership is limited to 25%. 49 U.S.C. §§ 1301, 1378(f) (1970). A foreign air carrier is generally prohibited from performing domestic air transportation within the United States. 49 U.S.C. §§ 1371, 1401(b), 1508 (1970). Such domestic transportation is limited to domestically registered aircraft. Eligibility to register such aircraft is limited to (a) U.S. citizens, (b) partnerships in which all members are U.S. citizens, or (c) U.S. corporations in which the president and at least two-thirds of the board of directors and other officers are U.S. citizens, and at least 75% of the voting stock is owned by U.S. citizens. The Conference Board, Foreign Investment in the United States: Policy, Problems and Obstacles 15 (1974); The Institute for International and Foreign Trade Law, Georgetown University Law Center, Legal Environment for Direct Investment in the United States 28 (1972). *But see* Dempsey, Economic Aggression & Self-Defense in International Law: The Arab Oil Weapon and Alternative American Responses Thereto, 9 Case W. Res. J. Int'l L. 253, 294 (1977); Dempsey, Legal and Economic Incentives for Foreign Direct Investment in the Southeastern United States, 9 Vand. J. Transnat'l L. 247, 254-55 (1976).

32. *Compare* H. Mertins, National Transportation Policy in Transition 162 (1972) *with* Angus, *Legal Implications of "The Container Revolution" in International Carriage of Goods*, 14 McGill L.J. 395 (1968).

Savannah, (c) the placement at Savannah of the container aboard a maritime vessel destined for Hamburg, (d) the movement at Hamburg of the container from the maritime vessel to a rail flatcar destined for Stuttgart, and (e) the unloading at Stuttgart of the container's contents by the consignee. Had the widgets in the above example not moved via container, their transport would have necessitated individual loading and unloading at each of the aforementioned points, thereby increasing labor costs, time consumption, and damage and loss claims.[33] Containerized transportation, in contrast, obviates the need for individualized handling of commodities at points other than the ultimate origin and destination. Containerization thereby substantially reduces transit time, handling and export packaging expenditures, and the possibility of damage and pilferage.[34] It permits freight to be loaded at inland origins and remain untouched throughout the journey until the containers arrive at inland destinations. Its utilization promises predictability of overall transportation costs, improved control and coordination of intermodal shipments, and rate reductions.[35]

Although containerization has heretofore had its greatest impact in the maritime industry, an increasing volume of United States foreign trade is now transported by air. The loading and handling efficiency of containerized shipments is a natural complement to the speed of air transportation. New jumbo jets are capable of handling even the bulky containers, and are therefore able to provide coordinated movements in conjunction with surface carriers.[36]

Containerization has had a profound impact, not only upon the technology of transportation and facilitation of international trade, but also upon the procedures of those governmental entities charged with regulating and coordinating foreign commerce movements. Moreover, its full potential has not yet been realized. It is estimated that eighty percent of all general freight cargo in foreign commerce is containerizable.[37]

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33. *See generally* Hern, *Limitations on Liability of International Carriers*, 13 N.Y.L.F. 522 (1967); Sassoon, *Liability for the International Carriage of Goods by Sea, Land and Air: Some Comparisons*, 3 J. Mar. L. & Com. 759 (1972); Skulina, *Liability of Carrier for Loss or Damage to International Shipments*, 19 Clev. St. L. Rev. 146 (1970); Zamora, *Carrier Liability for Damage or Loss to Cargo in International Transport*, 23 Am. J. Comp. L. 391 (1975).

34. *See* Larner, *Public Policy in the Ocean Freight Industry*, in Promoting Competition in Regulated Markets 113 (A. Phillips ed. 1975).

35. Schmeltzer & Peavy, *Prospects and Problems of the Container Revolution*, 1 J. Mar. L. & Com. 203, 211 (1970).

36. Lang, *Demand and Supply: The Technology of Transportation*, in The Future of American Transportation 54 (E. Williams, ed. 1971).

37. Note, *Legal and Regulatory Aspects of the Container Revolution*, 57 Geo. L. J. 553, 535-37 (1969).

For a succinct examination of the myriad problems the container revolution and the recently increased utilization of intermodal transportation have posed for the traditional international

With the growth of TOFC operations,[38] the ICC acquired some measure of regulatory expertise in the coordination of containerized intermodal shipments. TOFC transportation, more popularly known as "piggyback" service, is a bimodal operation involving the movement of commodities, trailers, or semi-trailers of motor carriers and on the flatcars of rail carriers.[39] Such transportation combines the expeditious and economically advantages associated with rail transport with the versatility of motor carriage.[40] The Interstate Commerce Act[41] authorized the voluntary establishment of just and reasonable through routes and joint rates,[42] charges and classifications between motor and rail carriers, or between motor and water carriers (including FMC regulated ocean carriers transporting commodities between Alaska and Hawaii and the contiguous forty-eight States). The ICC readily approved such arrangements, and its regulatory efforts were a substantial contribution to the expansion of innovative concepts in surface transportation.[43]

The ICC frequently acknowledged that containerization is a progressive innovation which facilitates the intermodal coordination of operations and the efficiency and economy of transportation, and should therefore be encouraged.[44] Thus, where a public need existed which can-

legal framework and its terminology, see D. Sassoon, 5 British Shipping Laws 20-21 (2d ed 1975). *See also* Sassoon, *Trade Terms and the Container Revolution*, 1 J. Mar. L. & Com. 73, 78-84 (1969).

38. TOFC transportation is not a recently developed form of carriage, but has been in existence since the inception of motor carrier regulation. *See, e.g.*, Trucks on Flat Cars Between Chicago and Twin Cities, 216 I.C.C. 435 (1936).

39. *See* Substituted Service—Charges and Practices of For-Hire Carriers and Freight Forwarders, 322 I.C.C. 301, 326-27 (1964), *aff'd sub nom.* American Trucking Ass'ns v. Atchison T. & S.F. Ry., 387 U.S. 397 (1967), *rehearing denied*, 389 U.S. 889 (1967). The initiation of TOFC service constituted, in the opinion of the ICC, probably the most significant recent development in transportation. Atchison T & S.F. Ry. v. United States, 244 F. Supp. 955, 958 (N.D. Ill. 1965).

40. Note, *Coordination of Intermodal Transportation*, 69 Colum. L. Rev. 247, 248 (1969).

41. 49 U.S.C. § 316(c) (1970).

42. A through or joint rate has been defined as a total combined charge for the entire journey of a shipment from point of origin to the ultimate consignee. Such transportation involves the performance of several carriers, frequently of different modes, and ordinarily constitutes a lesser charge than the sum of the single line rates. McLean Trucking Co. v. United States, 346 F. Supp. 349 351 (M.D.N.C. 1972), *aff'd*, 409 U.S. 1121 (1973).

43. *In re* Tariffs Containing Joint Rates and Through Routes for the Transportation of Property Between Points in the United States and Points in Foreign Countries, 341 I.C.C. 246, 254 (1972). The voluntary nature of the establishment of such joint rates was emphasized and the ICC was prohibited from requiring their institution. *See* Great Western Packers Express, Inc. v. United States, 246 F. Supp. 151, 154-55 (D. Colo. 1965). However, once two or more carriers have voluntarily entered into through routes and joint rates and have filed such rates and charges with the ICC, neither carrier could subsequently terminate the routes or cancel the rates without demonstrating that the proposed change would be just and reasonable. T.I.M.E.—DC, Inc. v. United States, 352 F. Supp. 1238 (N.D. Tex. 1972).

44. AAA Transfer, Inc., 120 M.C.C. 803, 820 (1974) (extension–cargo containers). *See generally* Marine Stevedoring Corp., 119 M.C.C. 514, 521 (1974) (common carrier application); Ser-

not adequately be satisfied by existing transportation services, authority was granted for the transportation of empty containers between port cities and inland points.[45] The grant of authority to transport empty containers along with loaded containers obviated the necessity of deadheading containers in return movements to seaports and maximized the efficiency and economy of such operations by permitting the free transfer of containers from interior breakbulk to stuffing points.[46] The grant of authority in such circumstances frequently had the effect of advancing the development of intermodal maritime-land operations consonant with the Commission's declared policies.

In summary, prior to deregulation U.S. economic regulation of transportation in foreign commerce was divided among three separate regulatory agencies. The ICC had jurisdiction over some 18,000 rail, motor, and water carriers, brokers, and freight forwarders. By far the largest of the three "sister" agencies, it performed its regulatory responsibilities pursuant to the Interstate Commerce Act [ICA].[47] The Civil Aeronautics

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vice Transfer, Inc., 117 M.C.C. 506, 514 (1972) (contract carrier application); Moran Towing & Transp. Co., 314 I.C.C. 287, 291 (1961), *rev'd*, 315 I.C.C. 591 (1962).

In Zirbel Transp., Inc., 125 M.C.C. 663, 677 (1976) (extension-containers), the benefits accruing from increased utilization of containerized transportation were set forth with particularity:

> [I]t has always been the policy of this Commission to encourage the development of intermodal transportation, and we believe that containerization is a useful, innovative tool in that development. The services proposed in this and other recent applications offer numerous benefits directly to the shipping public. Among these benefits are: a reduction in packaging requirements; increased shipment integrity resulting in a reduction in loss, damage, and pilferage; less handling and warehousing; avoidance of terminal congestion and interchange delays; faster transit times; energy conservation; and more efficient use of equipment. The bottom-line benefit is, of course, less costly transportation of goods for the public at large.

This recognition, that containerization is a progressive and innovative development offering more efficient and economical transportation, also was articulated in decisions in which authority to transport outbound containerized commodities and inbound empty containers was denied. *Compare* Five Transp. Co., 125 M.C.C. 381, 387 (1976) (extension—Savannah, Ga.) *with* Moran Towing & Transp. Co., 314 I.C.C. 287, 291 (1961) (extension—Great Lakes), *rev'd*, 315 I.C.C. 591 (1962). For an earlier expression of the same concepts see Iron or Steel, In Containers—Central Territory, 54 M.C.C. 139, 153 (1952).

45. *See, e.g.,* Berry Transp., Inc., 124 M.C.C. 328 (1976) (extension–containers); Air-Land Transp., Inc. 120 M.C.C. 530 (1974) (common carrier application).

46. Brooks, The Interstate Commerce Commission and Expanding Opportunities in Foreign Commerce 7 (May 26, 1976) (unpublished speech delivered at Shipper's Dialogue—Mid-America, in Cleveland, Ohio); *see* Daily Express, Inc., 123 M.C.C. 343 (1974) (extension–intermodal container traffic).

47. The ICC regulated domestic and foreign for-hire common and contract carriers pursuant to the Interstate Commerce Act of 1877, 49 U.S.C. §§ 1-27, 301-27, 901-23 and 1001-22 (1970) & Supp. V 1975) [hereinafter cited as ICA]. The ICA was divided into four parts, each corresponding to a different mode of transportation subject to ICC regulation: part I concerned railroads, ICA §§ 1-27, 49 U.S.C. §§ 1-27 (1970 & Supp. V 1975); part II dealt with motor carriers, ICA §§ 201-27, 49 U.S.C. §§ 301-27 (1970 & Supp. V 1975); part III concerned domestic

Board regulated domestic and international direct air carriers (airlines) and indirect air carriers (e.g., air freight forwarders).[48] Then as now, the Federal Maritime Commission had jurisdiction over common carriers operating United States and foreign flag vessels [VOs, or maritime carriers] and non-vessel operators [NVOs, or ocean freight forwarders].[49] The inevitable legal problems that arose as a result of this overlapping jurisdiction stimulated quasi-judicial and quasi-legislative activity in each of the three agencies.

Of these three agencies, the ICC was charged by Congress with a unique statutory directive to promote the coordination of all modes of transportation, even those not subject to its jurisdiction.[50] Thus, it was recognized that the development of a coordinated system of transportation must take precedence over the more narrow interests of those carriers directly subject to ICC jurisdiction.[51] Similarly, the ICC noted that

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water carriers, ICA §§ 301-23, 49 U.S.C. §§ 901-23 (1970 & Supp. V 1975); and part IV involved freight forwarders, ICA §§ 401-22, 49 U.S.C. §§ 1001-22 (1970 & Supp. V 1975).

48. The CAB regulated air carriers pursuant to the Federal Aviation Act of 1958, 49 U.S.C. §§ 1301-1542 (1970 & Supp. V 1975). The regulation of air transportation by the CAB was instituted in 1938 under the Civil Aeronautics Act of 1938, ch. 601, 52 Stat. 973 (codified at 49 U.S.C. §§ 1301-1542). For an excellent analysis of the historical development of air regulation, see Keplinger, *An Examination of Traditional Arguments on Regulation of Domestic Air Transport*, 42 J. Air L. & Com. 187, 188-201 (1976). *See also* Friendly, *The Federal Administrative Agencies: The Need for Better Definition of Standards*, 75 Harv. L. Rev. 1055, 1072-73 (1962).

The CAB held jurisdiction over both domestic and foreign air carriers. An "air carrier" is defined by section 101(3) of the Federal Aviation Act of 1958 [hereinafter FAAct], 49 U.S.C. § 1301(3) (1970), as one who engages, either directly or indirectly, in air transportation. *See also* FAAct § 101(19), 49 U.S.C. § 1301(9) (1970). A "direct air carrier" is generally defined as a person engaged in the operation of aircraft. *See, e.g.,* 14 C.F.R. § 296.1(d) (1977). This definition embraces a United States–flag air carrier holding a certificate of public convenience and necessity issued pursuant to FAAct § 401, 49 U.S.C. § 1371 (1970), a foreign air carrier operating pursuant to a permit issued under FAAct § 402, 49 U.S.C. § 1372 (1970), or an air carrier operating pursuant to authority conferred by any applicable regulation or order of the CAB. *See* FAAct § 416(b), 49 U.S.C. § 1386(b) (1970); *cf.* 14 C.F.R. Part 298 (1977). The term "indirect air carrier" is generally defined as one who, although engaged in air transportation, is not engaged directly in the operation of aircraft, 14 C.F.R. § 296.1(e) (1977). Included within the classification of indirect air carriers are air freight forwarders and cooperative shipping associations subject to 14 C.F.R. Part 296 (1977), international air freight forwarders subject to 49 C.F.R. Part 297 (1976) and 14 C.F.R. § 287.1(a) (1977), domestic and foreign tour operators, 14 C.F.R. § 378.2(d), (d-1) (1977), and charter organizers and operators, 14 C.F.R. §§ 371.2, 372.2, 372a.2, 373.2 (1977). *See* Diederich, *Protection of Consumer Interests Under the Federal Aviation Act*, 40 J. Air L. & Com. 1, 3-8 (1974).

49. The FMC regulates ocean carriers pursuant to two statutes; the Shipping Act of 1916, 46 U.S.C. §§ 801-42 (1970 & Supp. V 1975); and the Intercoastal Shipping Act of 1933, 46 U.S.C. §§ 843-48 (1970 & Supp. V 1975).

50. *See* 49 U.S.C. preceding § 1. *Compare* 49 U.S.C. § 1302 (1970) *with* 46 U.S.C. § 1302 (1970). *See also* Dempsey, *Foreign Commerce Regulation Under the Interstate Commerce Act: An Analysis of Intermodal Coordination of International Transportation in the United States*, 5 Syracuse J. Int'l L. & Com. 53 (1977).

51. Emery Air Freight, Freight Forwarder Applic., 339 I.C.C. 17, 35 (1971).

the public must have available not only a multiplicity of transport modes from which to choose, but also a working flexibility that permits an optimum utilization of each mode of transportation in coordinated through movements.[52] Moreover, the ICC further recognized that it is in the public interest to adopt regulatory policies that promote the free flow of international commerce between the United States and its neighbors.[53]

As noted, the ICC developed great regulatory expertise in intermodal transportation even before the advent of the "container revolution," for it had regulated trailer-on-flatcar or "piggy-back" service for a considerable period. TOFC essentially involves the bimodal transportation of trailers on rail flatcars for a portion of a through movement, and the movement of the trailers attached to the tractors of motor carriers for the remainder thereof.[54]

The ICC frequently acknowledged the innovative nature of containerization, which permitted the efficient and economical coordination of intermodal operations.[55] In *Zirbel Transport, Inc., Ext.—Containers*[56] the Commission emphasized, with particularity, the benefits to be derived from increased employment of containerized operations:

> [I]t has always been the policy of this Commission to encourage the development of intermodal transportation, and we believe that containerization is a useful, innovative tool in that development. The services proposed in this and other recent applications offer numerous benefits directly to the shipping public. Among these benefits are: a reduction in packaging requirements; increased shipment integrity resulting in a reduction in loss, damage, and pilferage; less handling and warehousing; avoidance of terminal congestion and interchange delays; faster transit times; energy conservation; and more efficient use of equipment. The bottom-line benefit is, of course, less costly transportation of goods for the public at large.[57]

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52. C.O.D. and Freight-Collect Shipments, 343 I.C.C. 692, 729 (1973).

53. *See* Transfer of Equipment or Traffic at or near ports of entry on the United States-Canadian and the United States-Mexican International Boundary Lines, 110 M.C.C. 730, 742 (1969) [hereinafter cited as International Boundary Lines].

54. *See* Substituted Service-Piggyback, 322 I.C.C. 301 (1964), *aff'd sub nom.*, Atchison, T. & S.F. Ry. v. United States, 244 F. Supp. 955 (1965), *rev'd sub nom.* American Trucking Ass'ns, Inc. v. Atchison T. & S.F. Ry., 387 U.S. 397 (1967); Trucks on Flat Cars Between Chicago and Twin Cities, 216 I.C.C. 435 (1936); Note, *Piggyback Transportation and the I.C.C.*, 41 S. Cal. L. Rev. 377 (1968). *See also* Containerized Freight, From and to Pacific Coast, 340 I.C.C. 388, 391 (1971); Ext.–Ex-Rail, 111 M.C.C. 251, 267 (1970) Mutrie Motor Transp., Inc.

55. *See, e.g.,* Moran Towing & Transp. Co., Ext.–Great Lakes, 314 I.C.C. 287, 291 (1961); Berry Transp., Inc.–Ext.–Containers, 124 M.C.C. 328 (1976); AAA Transfer, Inc., Ext.–Cargo Containers, 120 M.C.C. 803, 820 (1974); Iron or Steel, In Containers–Central Territory, 54 M.C.C. 139, 153 (1952). *Cf.* Five Transp. Co. Ext.–Savannah, Ga., 125 M.C.C. 381, 387 (1976) (ICC denied applicant motor carrier operating authority to transport containerized commodities but explicitly affirmed the principle of fostering intermodal containerized services).

56. 125 M.C.C. 663 (1976).

57. *Id.* at 677.

Similarly, in *AAA Transfer, Inc., Ext. – Cargo Containers*,[58] the ICC recognized the following characteristics of containerized transportation:

> The benefits to be derived from the utilization of intermodal transportation of freight in containers include reduced (1) costs, (2) transit time, (3) in-transit damage to lading, (4) difficulty in affixing responsibility for loss and damage, and (5) incidence of components becoming separated from concurrently shipped base commodities. Successful containership service depends to a substantial degree upon rapid operation of vessels between ports and concomitantly, reduction of the time consumed in port for unloading and loading cargo. Containerships now generally call only at the largest of ports, and often hundreds of containers are unloaded at one time from a single vessel. Offloaded containers must promptly be removed from the port facilities, and arriving containers must be delivered according to the water carrier's loading schedule if they are to make the intended sailing. Coordination of movements is also required in the repositioning of empty containers and of chassis and flat-bed trailers. In addition, certain receivers of freight require timed pickups or deliveries in order to facilitate the unloading or loading of shipments and to prevent disruption of plant production. Without expeditious motor common carrier service the full potential benefits of intermodal containerized freight service cannot be realized.[59]

This regulatory philosophy facilitated a tremendous increase in the employment of containers in through intermodal carriage. Moreover, the ICC explicitly emphasized its policy of promoting containerization, intermodal coordination, and cooperation in transportation.[60] Operating authority was granted for the movement of empty containers between port facilities and inland points,[61] thus maximizing efficiency by permitting the freer transfer of containers between break-bulk and stuffing points. Authority was not required for the return movement of empty containers to the point of origin when the containers have been utilized in authorized outbound transportation.[62] Operating authority was required, however, for the transportation of empty containers to a point other than the origin of the initial loaded container shipment.[63]

58. 120 M.C.C. 803 (1974).

59. *Id.* at 818.

60. Brown Transport Corp. Ext.–General Commodities in Containers, 126 M.C.C. 684, 712 (1977); Holt Motor Express, Inc., Ext.–Baltimore, Md., 120 M.C.C. 323, 329-30 (1974); IML Freight, Inc., Ext.–Containerized Freight, 118 M.C.C. 31, 32 (1973).

61. *See, e.g.,* Berry Transport, Inc., Ext.–Containers, 124 M.C.C. 328 (1976); Air Land Transport, Inc., Common Carrier Applic., 120 M.C.C. 530 (1974).

62. Eastern States Transp. Pa., Inc., A Delaware Corp., Ext.–Malt Beverages, 123 M.C.C. 725, 737-38 (1975); P.B. Mutrie Motor Transp., Inc., Ext.–Benzyl Chloride, 83 M.C.C. 123, 131 (1960).

63. Daily Express, Inc., Ext.-Intermodal Container Traffic, 123 M.C.C. 343 (1974).

FOREIGN COMMERCE REGULATION AND THE LAND BRIDGE EXEMPTION

Pursuant to the Interstate Commerce Act,[64] the ICC had jurisdiction over the transportation of passengers and property by motor carriers engaged in foreign commerce. Foreign commerce was defined by section 203(a)(11) of the ICA as

> Commerce, whether such commerce moves wholly by motor vehicle, or partly by motor vehicle and partly by rail, express, or water, (A) between any place in the United States and any place in a foreign country, or between places in the United States through a foreign country; or (B) between any place in the United States and any place in a Territory or possession of the United States insofar as such transportation takes place within the United States.[65]

This statutory definition created the land bridge exemption, which exempted commerce moving from a foreign country in a continuous movement through the United States to another foreign country from economic regulation by the ICC.[66] For example, commodities originating in London and destined for Toronto could be transported from the port of New York to points on the international boundary line between the United States and Canada as an exempt motor carrier movement. The exemption might also encompass a much more lengthy segment of surface transportation. Thus, for example, commodities manufactured in Hong Kong might be transported by an FMC regulated ocean vessel to Oakland, thence across the United States by motor carrier to Norfolk in

64. 49 U.S.C. § 302(a) (1970).

65. 49 U.S.C. § 303(a)(11) (1970). The term "foreign commerce" is also defined to include transportation between points in a foreign country, or between points in two foreign countries, insofar as such transportation takes place within the United States. Such movements are, however, subject to regulation for purposes of insurance, designation of an agent for service of process, qualification and working hours of employees, and safety. *Id.* Motor carriers operating in foreign commerce were also required to file with the ICC a certificate of insurance, surety bond, proof of qualification as a self-insurer, or other securities or agreement to pay final judgment for bodily injuries or for the loss or damage of property. 49 C.F.R. 1043.11 (1976).

Although Puerto Rico is not a foreign nation, it is a place outside the United States within the purview of part III of the ICA. It was declared by specific legislative enactment that the ICA is inapplicable to Puerto Rico. 48 U.S.C. § 751 (1970). Thus, the issue of whether a public need exists for transportation to and from points in Puerto Rico is beyond the jurisdiction of the ICC. Trans-Caribbean Motor Transport, Inc., Common Carrier Applic., 66 M.C.C. 593, 596 (1956). However, transport operations performed between points in the continental United States and points in Puerto Rico appear to fall within the definition of "foreign commerce" contained in ICA § 303(a)(11), 49 U.S.C. 303(a)(11), to the extent that such operations are performed within the United States. Moreover, through transport movements between Puerto Rico and foreign nations which traverse the continental United States appear to fall within the land bridge exemption, although no ICC decisions have specifically so held.

66. Melburn Truck Lines (Toronto) Co., Ltd., Common Carrier Applic., 124 M.C.C. 39, 49 (1975).

an unregulated exempt movement, and then by FMC carrier to Rotterdam.

The land bridge exemption was consistent with article V of the General Agreement on Tariff and Trade [GATT],[67] which provides, inter alia, that "[t]here shall be freedom of transit through the territory of each contracting party, via the routes most convenient for international transit, for traffic in transit to or from the territory of other contracting parties." The exemption was also alluded to in most treatise of friendship, commerce, and navigation [FCN], into which the United States has entered with numerous nations. The FCN treaty between the United States and Japan,[68] for example, includes the typical provision regarding freedom of transit. Article XX provided:

> There shall be freedom of transit through the territories of each Party by the routes most convenient for international transit . . . for products of any origin en route to or from the territories of such other party. Such persons and things in transit . . . shall be free from unnecessary delays and restrictions.[69]

INTERMODAL MERGERS & ACQUISITIONS

The Interstate Commerce Commission authorized numerous intermodal acquisitions[70] that have created integrated transportation companies.[71]

Acquisitions of Motor Carriers. The Interstate Commerce Act stated that the ICC "may approve. . .[a rail application to acquire a motor carrier] only if it found that the transaction was consistent with the public interest, would enable the rail carrier to use motor carrier transportation to public advantage in its operations, and would not unreasonably restrain competition."[72] Traditionally, the ICC interpreted this provision to allow only the acquisition of motor carriers providing operations "auxiliary and supplemental" to rail services, and not to authorize the approval of a motor carrier having unrestricted operating rights in the absence of "special circumstances."[73]

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67. Oct. 30, 1947, 61 Stat. A3, T.I.A.S. No. 1700, 55 U.N.T.S. 187.

68. Treaty of Friendship, Commerce & Navigation, April 2, 1953, United States–Japan, 4 U.S.T. 2063, T.I.A.S. No. 2863.

69. *Id.* at 2078, T.I.A.S. No. 2863.

70. Paul Dempsey, Antitrust Law & Policy in Transportation: Monopoly I$ the Name of the Game, 21 GEORGIA LAW REVIEW 505-99 (1987)

71. For example, the Commission approved the CSX's proposals to purchase American Commercial Lines (one of the nation's largest barge operators) and Sea-Land (one of the largest carriers of oceanborne, containerized freight).

72. 49 U.S.C. § 11344(C) (1982).

73. Pennsylvania Truck Lines, Inc., Acquisition of Control of Barker Motor Freight, Inc., 5

Hence, the ICC traditionally viewed the Interstate Commerce Act as permitting rail carriers to hold non-rail-related motor carrier operating authority only when warranted by compelling public need for service not offered by existing motor carriers.[74] The purpose of Congress' general prohibition on dual authority, as upheld by the Supreme Court,[75] was to protect motor carriers from domination by their more powerful competitors, the railroads.[76] As the ICC explained: "The main purpose for the policy. . .was to prevent the railroads from acquiring motor operations through affiliates and using them in such an manner as to unduly restrain competition of independently operated motor carriers."[77]

In 1982, the ICC abandoned the special circumstances doctrine in the issuance of unrestricted operating authority to motor carrier subsidiaries of railroads.[78] In 1983, the Denver & Rio Grande became the first rail carrier to receive unrestricted operating rights for its trucking subsidiary.[79] In 1986, Burlington Northern, Inc., a railroad holding company, received ICC approval to acquire six motor carriers.[80] That same year,

M.C.C. 9, 11 (1937). For an excellent analysis of these principles, *see* Erenberg & Kasson, *Railroad-Motor Carrier Intermodal Ownership,* 12 TRANSP. L.J. 75, 82-91 (1981).

74. *See, e.g.,* Rock Island Motor Transit Co.-Purchase-White Line Motor Freight Co., 40 M.C.C. 457 (1946) (granting motor carrier permit to railroad subsidiary on condition that carrier only perform service auxiliary to rail transport), *rev'd sub nom.* Rock Island Motor Transit Co. v. United States, 90 F. Supp. 516 (N.D. Ill. 1949), *rev'd,* 340 U.S. 419 (1951); Kansas City S. Transp. Co., Common Carrier Application, 10 M.C.C. 221 (1938) (denying motor carrier permit to company that made agreement with railway to share facilities, customers, and revenue with railway), *modified,* 28 M.C.C. 5 (1941); Pennsylvania Truck Lines, Inc.,-Acquisition of Control of Barker Motor Freight Lines, Inc., 1 M.C.C. 101 (1936) (denying authorization of rail carrier's purchase of motor freight company); *cf.* 49 U.S.C. § 11344(c) (1982) (ICC may approve and authorize rail carrier's application for transaction involving motor carrier only if transaction is consistent with public interest, will enable rail carrier to use motor carrier transportation to public advantage, and will not unreasonably restrain competition).

75. *See* American Trucking Ass'ns v. United States, 364 U.S. 1 (1960) (upholding National Transportation Policy goal of preventing railroads from invading trucking industry); American Trucking Ass'ns v. United States, 355 U.s. 141 (1957) (affirming ICC's authority to impose restrictions on railroad operation of motor carriers but finding it to be merely policy and not a rigid limitation).

76. *See,* Beardsley, *Integrated ownership of Transportation Companies and the Public Interest,* 31 GEO. WASH. L. REV. 85, 92-96 (1962) (discussing development of congressional policy concerning railroad ownership of non-rail carrier authority).

77. Rock Island Motor Transit Co. Common Carrier application, 63 M.C.C. 91, 102 (1954).

78. *See* Applications for Motor Carrier Operating Authority by Railroads and Rail Affiliates, 132 M.C.C. 978 (1982).

79. *See* Johnson, *Seven Transportation Megatrends for the late '980s,* 58 TRANSP. PRAC. J. 164, 177-78 (1986).

80. *See* ICC, STAFF REPORT NO. 10, at 15 (1986). In August 1986, BN received approval to acquire Stoops Express Inc., Wingate Trucking Co., Inc., and Taylor-Maid Transportation, Inc. through its subsidiary , Burlington Northern Motor carriers, Inc. It had already acquired Monkem co., Inc., Monroe Trucking Inc., and Victory Freightway System. *See Three More BN Truck Buys Authorized by Commission Without Formal Scrutiny,* TRAFFIC WORLD, Aug. 4, 1986, at 36.

the ICC approved the Norfolk/Southern Railway's $370 million acquisition of North American Van Lines, the nation's largest household goods carrier.[81] In 1986, Union Pacific Corporation announced an agreement to acquire the nation's fifth largest motor carrier, Overnite Transportation Co., for $1.2 billion.[82]

In an important opinion rendered in the fall of 1986, *International Brotherhood of Teamsters v. ICC (Teamsters I),*[83] the Court of Appeals for the District of Columbia Circuit held the ICC's eradication of the special circumstances doctrine inconsistent with the provisions of the Interstate Commerce Act governing rail acquisition of motor carriers.[84] The Act imposed a tripartite test upon such transactions: (1) they must be in the "public interest"; (2) they must "enable the rail carriers to use motor carrier transportation to public advantage in its operations"; (3) they must "not unreasonably restrain competition."[85] The second prong of that test led the court to remand the ICC's approval of Norfolk/Southern's acquisition of North American Van Lines.[86]

Applying the methodology announced earlier by the Supreme Court in *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.,*[87] the District of Columbia Circuit found the first and third criteria sufficiently ambiguous that it could rely on the ICC's interpretation.[88] However, the court deemed the second criterion precise enough to reflect a clear congressional intent regarding the question at issue: that "rail carriers. . .be allowed to acquire only motor carriers that would be useful in rail operations."[89] In its 1984 policy statement, the ICC had erroneously concluded that the statutory requirement would be satisfied if the acquired motor carriers would be used in its "overall transportation operations."[90] Because many of North American's operations were, and would continue to be, unrelated to supplementing rail services, the rail acquisition violated the statute's requirement that railroads may acquire motor carriers only for purposes of improving rail operations.[91]

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81. *See* D. SWEENEY, C. McCARTHY, S. KALISH & J. CUTLER, JR., TRANSPORTATION DEREGULATION: WHAT'S REGULATED AND WHAT ISN'S 25-26 (1986).

82. *See* Machalaba & Williams, *Union Pacific To Buy Overnite for $1.2 Billion,* Wall St. J., Sept 19, 1986, at 3, col. 1; McGinley & Machalaba, *ICC Clears Union {Pacific's Plan To Buy Overnite Transportation for $1.2 Billion,* Wall St. J., Sept. 16, 1987, at 5, col. 1.

83. 801 F.2d 1423 (D.C. Cir. 1986).

84. *See id.* at 1430-31.

85. 49 U.S.C. §11344(c) (1982).

86. International Bhd. of Teamsters v. ICC, 801 F2d at 1427.

87. 467 U.S. 837 (1984).

88. International Bhd. of Teamsters v. ICC, 801 F.2d at 1423-26.

89. *Id.* at 1427.

90. Acquisition of motor carriers by Railroads, Ex parte No. 438, slip op. (I.C.C. July 27, 1984).

91. International Bhd. of Teamsters v. ICC, 801 F.2d at 1430. For discussion of the reaction

After remand, a curious rider was attached to anti-drug legislation in the closing days of the ninety-ninth Congress. The rider effectively grandfathered approval of any acquisition of a motor carrier by a railroad agreed to before the District of Columbia Circuit's opinion in *Teamsters I*.[92] Apparently the several railroads that had such acquisitions pending utilized their political power to open the window wide enough for them to pass through.

Shortly thereafter, the ICC sought withdrawal of the *Teamsters I* opinion on grounds that the legislation had turned it into a mere advisory opinion, the acquisition issue was moot, and the question was nonjusticiable. In *International Brotherhood of Teamsters v. United States (Teamsters II),*[93] the court declined to withdraw its prior opinion, on grounds that there were other unresolved issues appropriate for remand. But in light of the supervening legislation, it reversed those portions of its decision relevant to section 11344 (c).[94] Nonetheless, the two decisions appear to revive the "special circumstances" doctrine, at least for rail acquisition not shielded by the 1987 anti-drug legislation.[95]

Acquisitions of Water Carriers. Two sections of the Interstate Commerce Act governed ICC jurisdiction over rail acquisitions of water carriers. The first was the general provision applicable to all mergers or acquisitions of control not involving two class I railroads. The ICC was required to approve the transaction unless it concluded that:

1. As a result of the transaction, there is likely to be a substantial lessening of competition, creation of a monopoly, or restraint of trade in freight surface transportation in any region of the United States: and
2. the anticompetitive effects of the transaction outweigh the public interest in meeting significant transportation needs.[96]

The second section was more specifically directed to water carrier acquisitions. No carrier could acquire a competing water carrier unless, with respect to carriers that do not operate via the Panama Canal, the

to this ruling, *see* McGinley, *Norfolk Southern Pact with Trucker Faces Rehearing,* Wall St. J., Oct. 1, 1986, at 15, col. 1.

92. Anti-Drug Abuse Act of 1986, Pub. L. No. 99-570, § 3403, 100 Stat. 3207, 3309.

93. 818 F. 2d 87 (D.C. Cir. 1987).

94. Footnote 2, however, appears to embrace a restrictive interpretation of the statute, limiting the acquisition of motor carriers to those to be used 'only as an adjunct to rail movements." *Id.* at 89 n.2. For an excellent review of this area of the law, and a strong argument that the statute should not be so interpreted, *see* Andrews, *Intermodal Acquisitions After* BN *and* Teamsters: *A Case Study in Judicial Re-Regulation,* 37 YOUR LETTER OF THE LAW 9 (1987).

95. In an opinion highly critical of the Interstate Commerce Commission, the District of Columbia Circuit also circumscribed the ICC's ability to approve intermodal acquisitions through the exemption mechanism. *See* Regular Common Carrier Conference v. United States, 820 F.2d 1323 (D.C. Cir. 1987).

96. 49 U.S.C. § 11344 (d) (1982 & Supp. III 1985).

ICC concluded that such acquisition "will still allow that water common carrier or vessel to be operated in the public interest advantageously to interstate commerce and that it will still allow competition, without reduction, on the water route in question."[97]

In 1984, the ICC approved CSX's $725 million acquisition of American Commercial Lines, Inc., which had as a subsidiary the nation's largest inland water carrier, notwithstanding the fact that there was extensive intermodal competition between the two.[98] In June of 1986, CSX acquired Sea-Land Corporation for $800 million.

EXEMPTIONS

The Staggers Rail Act of 1980 conferred broad exemption authority upon the Interstate Commerce Commission. Commodities and services that have been exempted include all traffic moving in boxcars or in "piggyback" (trailer-on-flatcar/container-on-flatcar, or TOFC/COFC) service,[99] and a long list of individual commodities, such as motor vehicles, fresh fruits and vegetables, lumber, furniture, poultry and meats, butter and cheese, sand and gravel, and most manufactured products.[100] Thus, intrastate movements made by an Interstate railroad on railroad-owned trucks have been exempted from regulation.[101] The Commission also extended its approval of an agreement among various rail carriers for the pooling of intermodal cars.[102] However, the Congress has denied the STB authority to exempt carriers from the intermodal ownership prohibitions, from "full liability" terms in cargo loss and damage, or from labor protection obligations in line sales, mergers or acquisitions.[103]

RATE REGULATION

The existence of intermodal competition became an important threshold factor in determining whether the ICC would exert regulatory oversight of railroad rates. The Staggers Rail Act of 1980 reduced the ICC's jurisdiction over rates significantly by providing that the Commission had jurisdiction over them only if the traffic was "market dominant"

97. *Id.* § 11321 (a), (b).

98. *See* Crounse Corp. v. ICC, 781 F.2d 1176 (6th Cir.) (affirming the ICC's decision), *cert. denied,* 197 S. Ct. 290 (1986); D. SWEENEY, C. McCARTHY, S. KALISH & J. CUTLER, JR., *supra* at 26-27.

99. 49 CFR 1039.13; 49 CFR Part 1090.

100. 49 CFR §1039.

101. Interstate Commerce Commission v. Texas, 479 U.S. 450 (1987).

102. TTX Co., *et al.* - Application for Approval of the Pooling of Car Service With Respect to Flat Cars, Finance Docket No. 27590 (Sub-No. 2) (ICC served Aug. 31, 1994).

103. 49 U.S.C. §10505(e),(f),(g).

and the proposed rates were more than 170% of variable costs.[104] Railroads were free to raise or lower rates at well unless, with respect to an increase, the carrier had market dominance over the traffic, or with respect to a decrease, the rates would be lowered below a "reasonable minimum" (if the rate was above the variable costs of providing the service, it was conclusively presumed to contribute to "going concern value" and therefore be above a reasonable minimum). Staggers also frees railroads to enter into contracts with shippers covering rates and levels of service.

The ICC defined "market dominance" in such a way that it was rarely deemed to exist. According to the Commission's interpretation, it did not exist if there was intermodal competition, intramodal competition, product competition, or geographic competition.[105] The Commission also took the position that carriers should be generally free to raise rates until they either become "revenue adequate" or "stand alone costs" are achieved.[106] Stand alone costs are essentially what it might cost an electric utility, for example, to lay its own rail line to a coal mine. The net result was that, in the vast majority of cases, shippers could obtain no relief from what they believed were onerous rail rates.[107] Producers of coal and electric utilities called for legislative relief from this administrative deregulation or, failing that, a sunset of the Interstate Commerce Commission.

SUNSET OF THE INTERSTATE COMMERCE COMMISSION; EMERGENCE OF THE SURFACE TRANSPORTATION BOARD

Several pieces of legislation whittled away at the jurisdiction of the Interstate Commerce Commission, ultimately leading to its sunset. The Motor Carrier Act of 1980, the Staggers Rail Act of 1980, and the Bus Regulatory Reform Act of 1982, all diminished the ICC's jurisdiction. The Surface Freight Forwarder Deregulation Act of 1986 deregulated freight forwarders other than those handling household goods. Freight forwarders are central to many intermodal movements. The Negotiated Rates Act of 1993 [NRA] addressed problems arising out of outdated regulatory requirements in the trucking industry. The Trucking Industry Regulatory Reform Act of 1994 [TIRRA] further reduced Federal regu-

104. 49 U.S.C. § 10707 (2000).

105. Western Coal Traffic League v. United States, 719 F.2d 772 (5th Cir. 1983), cert. denied, 466 U.S. 953 (1984).

106. Potomac Electric Power Co. v. ICC, 744 F.2d 185 (D.C. Cir. 1984).

107. See Paul Dempsey, The Interstate Commerce Commission: Disintegration of An American Legal Institution," 34 AMERICAN UNIVERSITY LAW REVIEW 1-51 (1984); Paul Dempsey, Rate Regulation and Antitrust Immunity in Transportation: The Genesis and Evolution of This Endangered Species, 32 AMERICAN UNIVERSITY LAW REVIEW 335-375 (1983); Paul Dempsey, Congressional Intent and Agency Discretion - Never the Twain Shall Meet: The Motor Carrier Act of 1980, 58 CHICAGO KENT LAW REVIEW 1-58 (1982).

lation of the trucking industry. Moreover, TIRRA expanded the ICC's exemption authority to embrace many aspects of trucking regulation. The ICC Termination Act of 1996 sunset the Interstate Commerce Commission, deregulated and amended certain functions, and transferred jurisdiction over rail, motor, bus, broker, freight forwarder and pipeline services to the newly created Surface Transportation Board [STB] and the DOT office of Motor Carrier Information analysis [MCIA]. The STB is a three-member quasi-independent panel within the U.S. Department of Transportation. The MCIA was a part of the DOT's Federal Highway Administration. Jurisdiction over railroads and pipelines is now vested in the STB. Jurisdiction over motor carriers, water carriers, brokers and freight forwarders is now vested in the Secretary of Transportation.

Creation of the U.S. Department of Transportation

Discussions about creating a Federal Department of Transportation [DOT] began as early as 1940.[108] In the 1960s, the Landis Report[109] cited the need for an office to coordinate and develop a national transportation policy. In 1961, the Doyle Report recommended not only creation of a Department of Transportation but also the merger of all transportation regulatory functions into a unified, fully intermodal regulatory body.[110] This led President Kennedy to ask his aides to offer suggestions concerning transport policy. Legislation passed by Kennedy in 1961 provided the first Federal program of urban transit support.[111] With Kennedy's assassination, the task force on transportation advised President Lyndon Johnson that no focal point for transportation existed in the Executive Branch, and that therefore a cabinet-level Department of Transportation should be created.[112] The bill creating the DOT was signed on October 15, 1966, and the agency was established on April 1, 1967, with Alan S. Boyd as the first Secretary of Transportation.[113]

The DOT essentially was created from an amalgamation of several

108. Donald Witnah, U.S. Department of Transportation: A Reference History 6 (Greenwood 1998).

109. Report on Regulatory Agencies To the President Elect (1960).

110. *See* "Report of the Committee on Commerce by its Special Study Group on Transportation Policies in the United States," S. Rept. No. 445, 87th Cong., 1st Sess. (1961).

111. Congress created a comprehensive program of transit assistance in the Urban Mass Transit Act of 1964. H.R. Rep. No. 204, 88th Cong., 1st Sess. (1963). The first long-term commitment for transit was the Urban Mass Transportation Assistance Act of 1970. The Federal Highway Act of 1973 opened the highway trust fund to transit, while the National Mass Transportation Assistance Act of 1974 made operating expenses eligible for Federal funding.

112. Donald Witnah, U.S. Department of Transportation: A Reference History 9-10 (Greenwood 1998).

113. Donald Witnah, U.S. Department of Transportation: A Reference History 11 (Greenwood 1998).

pre-existing governmental agencies. From the Interstate Commerce Commission was transferred the Bureau of Railroad Safety (which formed a part of the Federal Railroad Administration [FRA]), and the Bureau of Vehicle Safety (which formed a part of the Federal Highway Administration [FHWA]). The independent Federal Aviation Agency (which had earlier been split off from the Civil Aeronautics Board) became DOT's Federal Aviation Administration. The Commerce Department gave DOT the St. Lawrence Seaway Development Corporation, surrendered to the FHWA the National Highway Safety Bureau, and gave the FRA the Office of Groundspeed Transportation. The Treasury Department gave it the Coast Guard. The Department of Interior gave the FRA the Alaska Railroad. A new quasi-independent agency, the National Transportation Safety Board, was also housed within DOT.[114]

III. Intermodal Transport Law: What It Is

The Intermodal Surface Transportation Efficiency Act of 1991

As noted above, in the Transportation Act of 1940, Congress set forth a Statement of national transportation policy, which included an obligation that the Interstate Commerce Commission [ICC] (which regulated the surface modes of transportation) shall "provide for a fair and impartial regulation of all modes of transportation . . . all to the end of developing, coordinating, and preserving a national transportation system by water, highway, and rail, as well as other means, adequate to meet the needs of the commerce of the United States . . . ."[115] Though Congress would embrace intermodal facilitation as an important policy goal in several subsequent legislative acts, several decades would pass before intermodalism would take center stage in national policy.[116]

As the Interstate Highway System neared completion in the early 1990s, the focus in transportation priorities shifted away from new highway construction. Congressional attention turned instead to alternatives to the single-occupancy vehicle [SOV] to satiate the public's desire for mobility. Concerns over congestion, sprawl and pollution, all of which defied political jurisdictional boundaries, emerged as political issues.

114. Donald Witnah, U.S. Department of Transportation: A Reference History 11 (Greenwood 1998).

115. 49 U.S.C. § 13101(a)(2). See Paul Dempsey, Foreign Commerce Regulation Under the Interstate Commerce Act: An Analysis of Intermodal Coordination of International Transportation in the United States, 5 Syracuse J. Int'l L. & Com. 53, 57-59 (1977).

116. An Interagency Committee on Intermodal Cargo was created in 1973 to coordinate the activities of the DOT, ICC, CAB, and FMC on intermodal issues. See Paul Dempsey, The Contemporary Evolution of Intermodal and International Transport Regulation Under the Interstate Commerce Act, 10 Vanderbilt J. Transnat'l L. 505, 555 (1977).

Congress also recognized that the separate and isolated modal networks were not linked together well. Seamless connectivity between modes might well allow Americans to enjoy the inherent advantages of all modes.

The Intermodal Surface Transportation Efficiency Act of 1991 [ISTEA] established new national priorities in areas of economic progress, cleaner air, energy conservation and social equity, requiring that the intermodal transportation system be "economically efficient and environmentally sound . . ." as well as "energy efficient . . . ."[117] In the legislation, Congress declared that it is in the "national interest to encourage and promote the development of transportation systems embracing various modes of transportation in a manner which will efficiently maximize mobility of people and goods within and through urbanized areas and minimize transportation-related fuel consumption and air pollution."[118]

Significantly, the Intermodal Surface Transportation Efficiency Act of 1991 was the first highway bill in the nation's history to have expunged the word "highway" from its title. This legislation provided enhanced flexibility for State and local governments to redirect highway funds to accommodate other modes and modal connections.[119] In ISTEA's legislative history, Congress concluded:

> An intermodal transportation system . . . to enhance efficiency will be the key to meeting the economic, energy and environmental challenges of the coming decades. The nation will not be able to meet all of those demands through continued reliance on separate, isolated modes of transportation.
>
> Development of an intermodal transportation system will result in increased productivity growth the nation needs to compete in the global economy of the 21st Century. We can no longer rely on a transportation system designed for the 1950s to provide the support for American industry to compete in the international marketplace.[120]

By placing the word "intermodal" (as opposed to the historical "highway" term) in the title of the bill, Congress sought "to bring the need for intermodalism to the forefront of the nation's transportation and

117. 49 U.S.C § 101. See Joseph Thompson, ISTEA Reauthorization and the National Transportation Policy, 25 Transp. L.J. 87, 99 (1997).

118. 23 U.S.C. § 134(a).

119. Though ISTEA emphasized a national policy of promoting a seamless system of intermodal transportation, facilitation of intermodalism may be proceeding sluggishly in certain regions.

120. Intermodal Surface Transportation Efficiency Act of 1991, Conference Report, H.R. No. 102-404, 102nd Cong., (Nov. 27, 1991).

economic debate.[121] ISTEA authorized $156 billion for fiscal years 1992-1997, but not just for highways. It shifted Federal transportation policy from traditional highway funding for automobiles to a system which creates intermodal systems that include highways, rail and mass transit in a comprehensive system, with seamless connectivity between modes.[122] ISTEA enhanced State and local governmental flexibility in redirecting highway funds to accommodate other modes and pay for transit and carpool projects, as well as bicycle and pedestrian facilities, research and development, and wetland loss mitigation.[123] It created flexible guidelines that cut across traditional boundaries in allowing expenditures on highways, transit and non-traditional areas (e.g., vehicle emission inspection and maintenance).[124] According to DOT, "This flexibility will help State and local officials to choose the best mix of projects to address air quality without being influenced by rigid Federal funding categories or different matching ratios that favor one mode over the other."[125]

ISTEA discouraged continued reliance on the automobile and expanded highways while encouraging the seamless movement of people and goods between modes of transportation.[126] For example, the Federal match for new or expanded facilities to be available for single-occupancy vehicles is reduced to 75% (compared with an 80% Federal match on other highway projects).[127] The transit match is increased to 80% to achieve parity in matching ratios between the modes.[128]

ISTEA also gave Metropolitan Planning Organizations [MPOs] expanded funding for planning purposes and authority to select projects for funding, thereby significantly expanding their jurisdiction by authorizing MPOs to allocate Federal highway funds. Under ISTEA, the MPO, in consultation with the State, selects all Federal highway, transit and alternative transportation projects to be implemented within its boundaries,

121. Intermodal Surface Transportation Efficiency Act of 1991, Conference Report, H.R. No. 102-404, 102nd Cong., (Nov. 27, 1991).

122. Jayne Daly, Transportation and Clean Air: Making the Land Use Connection, 1995 Pace L. Rev. 141, 148 (1995).

123. Penny Mintz, Transportation Alternatives Within the Clean Air Act: A History of Congressional Failure to Effectuate and Recommendations for the Future, 3 N.Y.U. Env'tl. L.J. 156, 180 (1994).

124. U.S. Federal Highway Administration, A Guide to the Congestion Mitigation and Air Quality Improvement Program 1 (1994).

125. U.S. Federal Highway Administration: Air Quality Programs and Provisions of the Intermodal Surface Transportation Efficiency Act of 1991 6 (1992).

126. Theodore Taub & Katherine Castor, ISTEA—Too Soon To Evaluate Its Impact, ALI-ABA Land Use Institute (Aug. 16, 1995).

127. Intermodal Surface Transportation Efficiency Act of 1991, Conference Report, H.R. No. 102-404, 102nd Cong., (Nov. 27, 1991).

128. U.S. Federal Highway Administration: Air Quality Programs and Provisions of the Intermodal Surface Transportation Efficiency Act of 1991 9-10 (1992).

except for projects undertaken on the National Highway System and pursuant to the Bridge and Interstate Maintenance programs. Projects on the National Highway System and pursuant to the Bridge and Interstate Maintenance Program are selected by the State in cooperation with the MPO. ISTEA also required MPOs to "begin serious, formal transportation planning", and to "fiscally constrain" their long-range plans and short-term Transportation Improvement Programs [TIPs], requiring MPOs to create realistic, multi-year agendas of projects which could be completed with available funds.[129] An opportunity for public comment must be provided in preparation of both the long-rang plan and the TIP.[130] Prepared in cooperation with the State and the local transit operator, and updated every two years, TIPs must include all projects in the metro area to be funded under a Title 23[131] and the Federal Transit Act, and be consistent with the long-range plan and the Statewide Transportation Improvement Program [STIP]. The STIP usually covers a time frame of about three years and describes specific projects or project segments, as well as their scope and estimated cost. States must also prepare a long-range transportation plan which identifies the State's transportation needs and proposed projects over a period of 20 years.[132] Under ISTEA, the MPO's planning process, at minimum, had to consider the following factors:

- efficient use of existing transportation facilities
- energy conservation goals;
- methods to reduce and prevent traffic congestion;
- effect on land use and land development;
- programming of expenditures for transportation enhancement activities;
- effects of all transportation projects regardless of sources of funds;
- international border crossings and access to major traffic generators such as ports, airports, *intermodal transportation facilities*, and major freight distribution routes;
- connectivity of roads within the metropolitan area with roads outside the metropolitan area;
- transportation needs identified by management systems;
- preservation of transportation corridors;
- methods to enhance efficient movement of commercial vehicles;

129. Mark Solof, History of Metropolitan Planning Organizations – Part IV 5 (1998).

130. U.S. Federal Highway Administration: Air Quality Programs and Provisions of the Intermodal Surface Transportation Efficiency Act of 1991 14 (1992).

131. 23 U.S.C. § 134.

132. U.S. General Accounting Office, Transportation Infrastructure: Managing the Costs of Large-Dollar Highway Projects 14-15 (Feb. 1997).

- life cycle costs in design and engineering of bridges, tunnels, and pavement;
- social, economic and environmental effects.[133]

The Transportation Equity Act for the 21st Century of 1998 [TEA-21][134] reaffirms and retains the planning provisions and MPO structure of ISTEA, with its emphasis on Federal-State-local cooperation and pubic participation, though significant changes were made in funding levels.[135] TEA-21 replaced ISTEA's fifteen factors to be considered in TIP preparation with seven:

1. Support the economic vitality of the metropolitan area, particularly by enhancing global competitiveness, productivity, and efficiency;
2. Increase the safety and security of the transportation system for motorized and nonmotorized users;
3. Increase the accessibility and mobility options available to people and freight;
4. Protect and enhance the environment, promote energy conservation, and improve the quality of life;
5. *Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight*;
6. Promote efficient system management and operation; and
7. Emphasize the preservation of the existing system.[136]

Federal Policies Promoting Intermodal Transportation

Congress has declared that among the transportation policies of the United States is "to encourage and promote development of a national intermodal transportation system . . . to move people and goods in an energy-efficient manner, provide the foundation for improved productivity growth, strengthen the Nation's ability to compete in the global economy, and obtain the optimum yield from the Nation's transportation resources."[137] Congress created the U.S. Department of Transportation to "make easier the development and improvement of coordinated trans-

133. Intermodal Surface Transportation Efficiency Act of 1991, Conference Report, H.R. No. 102-404, 102nd Cong., (Nov. 27, 1991) [emphasis supplied].

134. Pub. L. No. 105-178.

135. William Vantuono, TEA 21: Uncomplicated Answers for Complicated Questions, Railway Age (Sept. 1, 1998), at 16; American Public Transit Ass'n, TEA 21: A Summary of Transit Related Provisions 6 (1998). For example, under the $217 billion authorization bill (the largest infrastructure bill in U.S. history), funding was significantly increased for the Congestion Mitigation and Air Quality Program (by 35%) as well as for transit (by 50%). Bud Shuster, Shuster Applauds Gore's "Better America Bonds", Press Release (Jan. 11, 1999).

136. Emphasis supplied.

137. 49 U.S.C. § 302(e) (2000).

portation service . . . ."[138] The Secretary of Transportation is required to coordinate Federal policy on intermodal transportation, and promote creation and maintenance of an efficient U.S. intermodal transportation system.[139] He is also obliged to consult with the heads of other Federal agencies to establish policies "consistent with maintaining a coordinated transportation system . . . ."[140] The Secretary is required to "encourage the development and use of intermodal transport, using containers constructed to facilitate economical, safe, and expeditious handling of containerized cargo without intermediate reloading which such cargo is transported over land, air and sea areas."[141]

Among the aviation statutes is a recognition that it is the policy of the United States "to develop a national intermodal transportation system that transports passengers and property in an efficient manner."[142] Congress has declared that "A national intermodal transportation system is a coordinated, flexible network of diverse but complimentary forms of transportation that transport passengers and property in the most efficient manner. By reducing transportation costs, these intermodal systems will enhance the ability of the industry of the United States to compete in the global marketplace."[143] Further, Congress has recognized that, "An intermodal transportation system consists of transportation hubs that connect different forms of appropriate transportation and provides users with the most efficient means of transportation and with access to commercial centers, business locations, population centers, and the vast rural areas of the United States, as well as providing links to other forms of transportation and intercity connections."[144] The Wendell H. Ford Aviation Investment and Reform Act for the 21st Century amended this provision to provide for the encouragement and development "of intermodal connections on airport property between aeronautical and other transportation modes to serve air transportation passengers and cargo efficiently and effectively and promote economic development."[145] Congress also has decided that the U.S. "must make a national commitment to rebuild its infrastructure through development of a national intermodal transportation system."[146]

In ISTEA, Congress set forth a detailed national policy to establish a National Intermodal Transportation System "that is economically effi-

138. 49 U.S.C. § 101(b)(2) (2000).
139. 49 U.S.C. § 301(3) (2000).
140. 49 U.S.C. § 301(7) (2000).
141. 46 U.S.C. § 1503(e) (2000).
142. 49 U.S.C. § 47101(b)(1) (2000).
143. 49 U.S.C. § 47101(b)(3) (2000).
144. 49 U.S.C. § 47101(b)(5) (2000).
145. 106 Pub. L. 181; 114 Stat. 61 (Apr. 5, 2000).
146. 49 U.S.C. § 47171(b)(8) (2000).

cient and environmentally sound, provides the foundation for the United States to compete in the global economy, and will move individuals and property in an energy efficient way."[147] The National Intermodal Transportation System shall:

- "consist of all forms of transportation in a unified, interconnected manner . . . to reduce energy consumption and air pollution while promoting economic development and supporting the United States' preeminent position in international commerce";[148]
- include the Interstate highway system and the principal arterial roads;[149]
- include public transportation;[150]
- provide improved access to seaports and airports;[151]
- give special emphasis to the role of transportation in increasing productivity growth;[152]
- give "increased attention to the concepts of innovation, competition, energy efficiency, productivity, growth and accountability";[153]
- be adapted to new technologies wherever feasible and economical, giving special emphasis to safety considerations;[154] and
- be the centerpiece of a national investment commitment to create new national wealth.[155]

All DOT employees are required to be given a copy of the National Intermodal Transportation System Policy, and it is required to be posted prominently in all offices of the Department.[156]

In the Amtrak Reform and Accountability Act of 1997, Congress declared that "intercity rail passenger service is an essential component of a national intermodal passenger transportation system" and that Amtrak and intercity bus providers should work together to "develop coordinated intermodal relationships promoting seamless transportation services which enhance travel options and increase operating efficiencies."[157]

Congressional policies governing the Surface Transportation Board require that it "ensure the development, coordination, and preservation of a transportation system that meets the transportation needs of the United States . . . ."[158] In overseeing these modes, the STB must "recog-

147. 49 U.S.C. § 5501(a) (2000).
148. 49 U.S.C. § 5501(b)(1) (2000).
149. 49 U.S.C. § 5501(b)(2) (2000).
150. 49 U.S.C. § 5501(b)(3) (2000).
151. 49 U.S.C. § 5501(b)(4) (2000).
152. 49 U.S.C. § 5501(b)(5) (2000).
153. 49 U.S.C. § 5501(b)(6) (2000).
154. 49 U.S.C. § 5501(b)(7) (2000).
155. 49 U.S.C. § 5501(b)(8) (2000).
156. 49 U.S.C. § 5501(c) (2000).
157. Pub. L. 105-134, 111 Stat. 2571 (Dec. 2, 1997).
158. 49 U.S.C. § 13101(a) (2000).

nize and preserve the inherent advantages of each mode of transportation",[159] and must "promote intermodal transportation."[160]

The U.S. Postal Service has also been given freedom to contract with carriers by any mode it deems appropriate for carriage of the mail.[161]

TRANSPORTATION PLANNING

ISTEA significantly enhanced the role of Metropolitan Planning Organizations [MPOs] in transportation planning by giving the larger MPOs[162] principal authority to select projects for certain "pots" of Federal money in consultation with the State, while requiring the State to cooperate with the MPO on allocating Federal money in those "pots" over which the State had primary jurisdiction, and the local transit provider to do the same.[163] The MPO has responsibility for allocating STP-metro, and in some States, CMAQ,[164] and enhancement (e.g., bicycle, pedestrian) funds in "consultation" with the State DOT; the State has jurisdiction over the National Highway System, Bridge, and Interstate Maintenance funds, which it selects in "cooperation" with the MPO. The MPO was required to engage in formalized planning of two types — a 20-year long-range plan, and a short-term Transportation Improvement Program, covering transportation projects to be implemented over at least a three-year period.[165] The TIP must be updated at least every two years.

Thus, beginning in 1991, MPOs were transformed from advisory institutions, into institutions that actually have direct influence over the distribution of money — from voluntary planning organizations, to organizations that have their fingers on some of the purse strings. In IS-

159. 49 U.S.C. § 13101(a)(1)(A) (2000). See also 49 U.S.C. § 15101 (2000) (pipeline transportation).

160. 49 U.S.C. § 13101(a)(2)(K) (2000).

161. 39 U.S.C. § 5210 (2000).

162. Those classified as Transportation Management Areas, or generally, those with a population of 200,000 or more.

163. Two important structural changes were added by ISTEA. First, it required MPOs to include several new types of stakeholders (including transportation providers and the public) in the planning process. Second, it required an expansion of the boundaries of the planning area to include space for the next 20 years of expected urban growth, and to encompass the area in the air quality region (if the region experiences air quality problems).

164. CMAQ fund allocation is the responsibility of the State DOT. Project selection should occur cooperatively between the MPO and the State DOT.

165. The LRP and the TIP must be financially constrained (meaning they should only include projects for which full funding can reasonably be expected). They must also include public participation in their preparation, including participation by citizens and transportation providers. In air quality non-attainment areas, the LRP and TIP must conform with the State's air quality implementation plan. The TIP incorporates all Federally-supported projects in the metropolitan area, including those for which the State has primary responsibility. Once the TIP is approved by the MPO, it must be approved by the State Governor, and incorporated into the State Transportation Improvement Program [STIP].

TEA, and expanded in TEA-21, MPOs were empowered with the ability to directly designate projects for the Federal dollars under their primary jurisdiction. Though the "pots" of Federal money over which the MPOs exercise jurisdiction are small relative to those controlled by the State, it is clear that such empowerment over money caused many local jurisdictions to take the MPO process and their participation therein far more seriously than they had theretofore.

All this gave transportation planning a new perspective. The Interstate and inter-regional "top-down" highway planning process of the Federal and State governments, respectively, and the localized "bottom-up" street and road planning process of the cities and counties, would now be coupled with a third regional process which was a bit of both, expanded beyond highways, streets and roads into a comprehensive transportation planning process that took into account all modes, as well as a number of related social, economic, and environmental issues.

Metropolitan planning organizations are required to develop transportation systems and facilities "that will function as an intermodal transportation system for the metropolitan area and as an integral part of the intermodal transportation system for the State and the United States."[166] State plans and programs must do the same.[167] In developing transportation plans, MPOs must consider several factors, including access to intermodal transportation facilities.[168] Federal regulations require that the metropolitan transportation planning process include a long-term transportation plan addressing at least a 20-year planning horizon including both short- and long-range strategies leading to the development of an integrated intermodal system which facilitates the efficient movement of goods and people.[169] The MPO's long-range plan must include an identification of transportation facilities, including intermodal facilities, that should function as an integrated metropolitan transportation system, emphasizing those facilities that serve important national and regional transportation functions. Federal regulations provide that MPO boundaries shall, at minimum, include the UZA(s) and contiguous geographic area(s) likely to become urbanized within the 20-year forecast period

166. 23 U.S.C. § 134(a)(3), 49 U.S.C. §5303(a)(2) (2000).

167. 23 U.S.C. § 135(a)(3) (2000).

168. 23 U.S.C. § 134(f)(7) (2000).

169. The plan should be reviewed and updated at least triennially in nonattainment areas, and every five years in attainment areas to confirm its validity and its consistency with current and projected transportation and land use conditions and trends during the forecast period. After an adequate opportunity for public official and citizen involvement in the development of the plan, it must be approved by the MPO. 23 CFR § 450.322(c); 23 CFR § 450.322(a). In nonattainment and maintenance areas for transportation related pollutants, the MPO, FWHA and FTA must make a Clean Air Act conformity determination of any new or revised plan. 23 CFR § 450.322(d); see 40 CFR Part 51.

covered by the transportation plan. Before determining the MPO's boundaries, the planning areas in use for all transport modes shall be reviewed, and adjustments made to foster an effective planning process that assures intermodal connectivity, reduces modal disadvantages, and promotes efficient transportation investment strategies.[170] The content of the plans and programs for each metropolitan area must provide for the development, integration, and management of all forms of transportation, allowing the metropolitan transportation system to function as an integral part of an intermodal transportation system serving the metropolitan area, the State, and the United States.[171]

The States' long-range 20-year transportation plan must provide for the development and implementation of the intermodal transportation system of the State.[172] The Secretary of Transportation shall make grants to the States to develop model State intermodal transportation plans, which shall include systems for collecting data related to intermodal transportation.[173] States are required to 2% of Federal highway appropriations to planning and research of, inter alia, "highway, public transportation, and intermodal transportation systems."[174] Emphasizing the importance of highway, public transport and intermodal systems, Congress mandated that not less than 25% of such funds shall be expended by the State shall be devoted to research and development of these systems.[175] In ISTEA, Congress also required DOT to promulgate regulation for State development, establishment and implementation of a system for managing its intermodal transportation facilities and systems.[176] A State's intermodal management system "shall provide for improvement and integration of all of a State's transportation systems and shall include methods of achieving the optimum yield from such systems, methods for increasing productivity in the State, methods for increasing use of advanced technologies, and methods to encourage the use of innovative marketing techniques, such as just-in-time deliveries.[177]

The Secretary of Defense is required to ensure that all of the Department of Defenses's studies and reports concerning sealift and related intermodal transportation requirements take into account the full range of transportation and distribution resources available to U.S.-flag merchant vessels.[178] Emergency Preparedness statutes and Executive Orders is-

170. 23 CFR § 450.308(c).
171. 23 U.S.C. §§ 134 (a)(3), 217 (g)(1); 49 U.S.C. § 5303 (a)(2) (2000).
172. 23 U.S.C. § 135 (2000).
173. 49 U.S.C. § 5504(a) (2000).
174. 23 U.S.C. § 505 (2000).
175. 23 U.S.C. § 505(b)(1) (2000).
176. 23 U.S.C. § 303(a) (2000).
177. 23 U.S.C. § 303(e) (2000).
178. 10 U.S.C. § 2631a(a) (2000).

sued thereunder require the Secretary of Transportation to be prepared to provide direction to all modes of transport in national security emergencies, including intermodal transportation systems.[179] Working with the Secretary of Defense, the Secretary of Transportation is required to establish an Emergency Preparedness Program. The transportation resources to be made available thereunder include "intermodal systems and equipment", as well as "intermodal and management services".[180]

Infrastructure to Facilitate Intermodalism

The National Highway System is required to "serve major population centers, international border crossings, ports, airports, public transportation facilities, and other intermodal transportation facilities . . . ."[181] Intermodal surface freight transfer facilities, other than seaports or airports, which are located on or adjacent to the National Highway System or connections thereto are explicitly eligible for Federal funding.[182]

Equipment or a facility for an intermodal transfer facility is explicitly included within the term "capital project" for which Federal money may be spent for mass transportation.[183]

ISTEA allocated resources for Federal funding of up to 80% of at least three demonstration projects for conversion of rail passenger terminals into intermodal transportation terminals.[184] To be eligible for Federal funding, such facilities needed to include, as appropriate, facilities to handle motorbus transportation, mass transit, and airline ticket offices and passenger terminals providing direct access to area airports.[185] The Secretary is also instructed to encourage various governmental and private institutions to develop plans to convert rail passenger terminals into intermodal transportation terminals.[186] Grants may also be made to preserve an existing rail terminal may also be made if such facilities are reasonable capable of conversion to intermodal facilities.[187] DOT may provide financial assistance to States seeking to build rail intermodal freight terminals.[188] Loans and loan guarantees may be made by DOT to finance the acquisition, improvement, rehabilitation, development or establishment of intermodal equipment or facilities,[189] or to preserve or en-

179. 42 U.S.C. § 5195, Executive Order 12472 (Apr. 3, 1984).
180. 46 U.S.C. § 1187b(b) (2000).
181. 23 U.S.C. § 103(b)(1)(A) (2000).
182. 23 U.S.C. § 181(8)(D) (2000).
183. 49 U.S.C. § 5302 (2000).
184. 49 U.S.C. § 5562(a)(1) (2000).
185. 49 U.S.C. § 5563(a)(1) (2000).
186. 49 U.S.C. § 5562(a)(4) (2000).
187. 49 U.S.C. § 5564(c)(1)(A) (2000).
188. 49 U.S.C. § 22101(a)(3) (2000).
189. 45 U.S.C. § 822(b)(1) (2000).

hance intermodal service to small communities or rural areas.[190]

DOT may provide up to 50% of the costs incurred by a public agency for high-speed rail corridor planning.[191] Among the eligible corridor planning activities are intermodal terminals.[192] Amtrak was given eminent domain power to build an intermodal transportation terminal at Washington, D.C.'s Union Station.[193]

The Federal Aviation Act requires that public airports accepting AIP funding agree that all revenue generated by the airport be used exclusively for the capital or operating costs of the airport, the local airport system, or facilities owned or operated by the airport directly and substantially related to the air transportation of persons or property.[194] The question has arisen whether airport funds spent on building or operating transit or rail lines or stations are to be owned or operated by the airport and directly and substantially related to the air transportation of passengers.

Federal Aviation Administration regulations provide that airport access projects must preserve or enhance the capacity, safety or security of the national air transportation system, reduce noise, or provide an opportunity for enhanced competition between carriers.[195] Such projects must also be for exclusive use of the airport patrons and employees, be constructed on airport-owned land or rights of way, and be connected to the nearest public access of sufficient capacity.[196] The Federal Aviation Administration [FAA] insisted that AIP funds be limited to landside expenditures, "which encompasses the area from the airport boundary where the general public enters the airport property to the point where the public leaves the terminal building to board the aircraft. Typical eligible landside development items include such things as terminal buildings, entrance roadways and pedestrian walkways."[197] As we shall see, more recent interpretations by the FAA have liberalized this rather constricted view of the types of landside projects which are appropriate for Federal airport funding.

In 1996, the FAA approved the request of the Port Authority of New York and New Jersey to use PFC funds to extend Newark Airport's light-rail line 4,400 feet to an Amtrak/New Jersey Transit station off airport

190. 45 U.S.C. § 822(c)(6) (2000).
191. 49 U.S.C. § 26101(a) (2000).
192. 49 U.S.C. § 26101(b)(1)(J) (2000).
193. 49 U.S.C. § 24311(a)(1)(B) (2000).
194. 49 U.S.C. § 47107(b).
195. 14 C.F.R. Part 158.
196. FAA Order 5100.3A, para. 553(a), AIP Handbook (Oct. 24, 1989).
197. Quoted in U.S. Dep't of Transportation, Intermodal Ground Access To Airports: A Planning Guide 16, 202 (Dec. 1996).

grounds.[198] Among the largest intermodal projects approved by the FAA for PFC funding was in 1998 for a $1.5 billion rail line linking New York's John F. Kennedy International Airport with the Long Island Rail Road and the E, J and Z subway lines to Manhattan at Jamaica Station, and to Howard Beach.[199] The FAA concluded that PFC expenditures on the JFK rail link would satisfy the statutory and regulatory requirements by alleviating ground congestion on airport roadways and terminal frontages, by enhancing the efficient movement of airport employees, by freeing up capacity on the roadways for additional passengers, and by improving the airport's connection to the regional transportation network. It found, "Where ground access is shown to be a limiting factor to an airport's growth, a project to enhance ground access may qualify as preserving or enhancing capacity of the national air transportation system."[200] The FAA found that the rail line would enable an additional 3.35 million passengers to use JFK annually by the year 2013, and "therefore must be construed to have a substantial capacity enhancement effect on JFK, as measured in air passengers accommodated by the airport."[201] The FAA concluded that the rail link would "serve to preserve or enhance the capacity of JFK and the national air transportation system . . . ."[202] The $3 per ticket Passenger Facility Charge would generate about $45-50 million a year, enabling the airport to pay off the cost of the line in 20 years.[203]

Rail lines at Atlanta, Chicago, Cleveland and Washington, D.C., have been financed by transit systems rather than airports. The ISTEA legislation included a special appropriation for extension of the Bay Area Rapid Transit System [BART] to San Francisco International Airport [SFO]. The Federal Transit Administration committed $750 million, or about 64% of the $1.2 billion project. The remaining $417 will come from

198. Stalled Train to Kennedy Airport, N.Y. Times, Jan. 30, 1998, at A20. Letter from FAA Associate Administrator Susan Kurland to Port Authority Executive Director George Marlin (Nov. 6, 1996).

199. The Port Authority of New York and New Jersey alleged that the line would create "a more efficient vehicular flow at the airport by removing buses, shuttle vans, and private autos currently used by air passengers, airport visitors, and airport employees at JFK . . .", and that without the line, "ground access congestion would constrain projected O&D passenger growth at JFK and adversely affect the national air transportation system." Letter from FAA Associate Administrator Susan Kurland to Port Authority Executive Director Robert Boyle of Feb. 9, 1998, at 20.

200. Id. at 21.

201. Id. at 24.

202. Id.

203. Matthew Wald, U.S. Approves Plan for Rail Link to Kennedy Airport, N.Y. Times, Feb. 19, 1998.

State and local funding sources.[204] The FAA approved airport funding for construction of a BART station at SFO.[205] The 8.7-mile extension, the largest since BART was built in the early 1970s, will have four stations. About 68,000 riders a day are expected to use the line when it opens in 2001.[206]

The Federal Transit Administration has also committed to contribute 72% of the construction costs of the $399 million extension of the St. Louis Metrolink to Mid-America Airport in St. Clair County, Illinois. This light rail system already connects to St. Louis Lambert International Airport.[207]

The ISTEA legislation provided for flexible funding (up to $70 billion of Federal highway funds and $10 billion of Federal transit funds over six years) to support multimodal planning and project development. Though only $6 million was transferred from the highway trust funds to transit in the year preceding promulgation of ISTEA, by 1995, more than $802 million was being transferred annually.[208] Flexible funding allowed the various Federal, State and local transportation units to coordinate development of the Miami Intermodal Center, for example, which seeks to facilitate seamless passenger connections between air, rail, bus and ferry modes.[209]

The Federal Highway Administration is financing 80% of the $11.6 billion 7.5-mile highway/tunnel extension of the Interstate highway link to Boston Logan International Airport.[210] Federal and State highway departments have partnered successfully with airport authorities to connect road networks with airports at many cities, including Las Vegas and Pittsburgh. More than $300 million in PFC funding was approved for building an access road and tunnel at Las Vegas McCarran International Airport, while National Highway System funds were used to construct the highways outside the airport property.[211]

In summary, Federal funding of an airport with the surrounding

204. U.S. General Accounting Office, Surface Infrastructure: Costs, Financing and Schedules for Large-Dollar Transportation Projects 18 (Feb. 1998).

205. Letter from FAA Associate Administrator Susan Kurland to SFO Airport Director John Martin (Oct. 18, 1996).

206. Benjamin Pimentel, BART's 4-Year Trip to SFO Starts Today, San Francisco Examiner, Nov. 3, 1997, at 1.

207. U.S. General Accounting Office, Surface Infrastructure: Costs, Financing and Schedules for Large-Dollar Transportation Projects 40 (Feb. 1998).

208. U.S. Dep't of Transportation, Intermodal Surface Transportation Efficiency Act: Flexible Funding Opportunities for Transportation Investments 4 (1996).

209. Id. at 13.

210. U.S. General Accounting Office, Surface Infrastructure: Costs, Financing and Schedules for Large-Dollar Transportation Projects 57 (Feb. 1998).

211. U.S. Dep't of Transportation, Intermodal Ground Access to Airports: A Planning Guide 16, 203 (Dec. 1996).

highway, rail or transit networks can come from the FAA, FHWA, or the FTA. ISTEA's effort to foster more cooperation between these agencies has had limited, but significant, success.

The President of the United States is authorized to provide financial assistance to the independent States of the former Soviet Union, inter alia, for "improving intermodal transportation systems for the safe and efficient movement of people, products and materials."[212]

INTERMODAL RESEARCH

Developing partnerships with public and private sectors, the Secretary of Transportation must develop an advance research program that shows the potential benefits for improving the durability, efficiency, environmental impact, productivity and safety of the intermodal transportation system.[213]

The coordination of U.S. government research on intermodal transportation is to be done by the Director of the DOT Office of Intermodalism. He is also required to provide technical assistance to States and MPOs in collecting data related to intermodal transportation.[214] The Secretary of Transportation may also give the Administrator of the DOT's Research and Special Programs Administration additional duties, "including such multimodal and intermodal duties as are appropriate."[215]

The DOT's Bureau of Transportation Statistics is required to compile a comprehensive set of statistics suitable for conducting cost-benefit studies, including comparisons of individual transport modes and intermodal transportation systems.[216] DOT is required to assess the relative efficiency of the various modes of transportation.[217] The Bureau must establish and maintain an intermodal transportation data base which includes information on the volume and pattern on the movement of people by all modes and intermodal combinations, information on the location and connectivity of transportation facilities and services, and expenditures and capital stocks of each mode and intermodal combinations.[218] The data bases prepared by the Bureau must be able to support intermodal network analysis.[219]

Under Chapter 55 "Intermodal Transportation", of Title 49, Congress created several University transportation research centers. Among

212. 22 U.S.C. § 2296(11) (2000).
213. 23 U.S.C. § 502(d)(1) (2000).
214. 49 U.S.C. § 5503(d) (2000).
215. 49 U.S.C. § 112(d)(4) (2000).
216. 49 U.S.C. § 111 (c) (2000).
217. 49 U.S.C. § 305(b)(1)(B) (2000).
218. 49 U.S.C. § 111 (d) (2000).
219. 49 U.S.C. § 111 (e)(2) (2000).

the requirements for selection are the recipient's "establishment of a surface transportation program encompassing several modes of transportation."[220] Among the centers created by TEA-21 was the National Center for Intermodal Transportation, a cooperative venture of the University of Denver and Mississippi State University.[221]

Several specific intermodal studies have been required by Congress:

- The DOT Secretary is required to investigate railroad spurs and switches which connect with water terminals in order to develop the types most appropriate for transferring passengers and property between rail and water carriers more expeditiously and economically, and to investigate inland water carriers to determine the extent to which they are interchanging traffic with railroads.[222]
- In granting research and development contracts on maglev or high-speed rail technology, the Secretary must consider the extent to which a proposal includes the "integration of high-speed ground transportation with other modes of transportation.[223]
- In its advanced vehicle technologies program, the Secretary is to encourage and promote the research, development and deployment of technologies that will use technological advances in multimodal vehicles.[224]
- Within 60 days of promulgation of ISTEA in 1991, the Secretary of Transportation was required to commission a study by the National Academy of Public Administration to study options for organizing DOT to improve intermodal coordination among surface-related agencies.[225]
- Congress also mandated a study assessing existing data and data collection needs with respect to the movement of loaded containers and trailers in intermodal transportation in violation of Federal and State vehicle weight laws, and how those intermodal movements compare with other overweight domestic highway freight movements.[226]
- Within 180 days after promulgation of the National Highway System Designation Act of 1995, the Secretary of Transportation was required to submit modifications to the National Highway System proposed by a State that consist of connectors to major ports, airports, international border crossings, public transit facilities, Inter-

220. 49 U.S.C. § 5505(c)(2)(DP (2000).
221. 49 U.S.C. § 5504(j)(2)(A).
222. 49 U.S.C. § 303(a)(c)(2), (4) (2000).
223. 49 U.S.C. § 309(b)(2)(B)(ii)(VII) (2000).
224. 49 U.S.C. § 5506(a) (2000).
225. Pub. L. 102-240, 105 Stat. 2160 (Dec. 18, 1991).
226. Pub. L. 102-548, 102 Stat. 3549 (Oct. 28, 1992).

state bus terminals, and rail and other intermodal transportation facilities.[227]

- Within two years of the enactment of the requirement for an intermodal freight connectors study in 1998,[228] the Secretary of Transportation was to have reviewed the conditions of connectors in the National Highway System that serve airports, seaports and other intermodal freight facilities designed to facilitate the efficient movement of freight between transport modes, to identify impediments to improving connectors serving intermodal facilities, and make recommendations for improvement thereof.
- The Secretary is also directed to conduct a comprehensive program to accelerate the integration of intelligent transportation systems, funding projects, inter alia, that will serve as models to improve and increase the flow of intermodal travel at ports of entry.[229]
- Research on automotive propulsion also focuses on "intermodal adaptability", defined as the characteristics of an automobile which enable it to be operated or carried by or on an alternative mode of transportation.[230]
- The Secretary is required to evaluate whether modifications should be made to the loss and damage provisions of the Interstate Commerce Act, and in so doing, consider international and intermodal harmony.[231]
- A comprehensive study on waterway improvements by the Army Corps of Engineers including an appraisal of improvements needed to optimize the system and its intermodal characteristics.[232]

The Federal Maritime Commission is required to investigate whether any laws or activities of foreign governments or foreign carriers providing maritime-related services (including intermodal operations) in a foreign country adversely affects U.S. carriers in oceanborne trade.[233]

REGULATION

Under the Interstate Commerce Act, the Surface Transportation Board (formerly the Interstate Commerce Commission) is authorized to exempt transportation provided by a rail carrier that is part of a continu-

227. 23 U.S.C. § 103(7)(A) (2000).
228. Pub. L. 105-178, 112 Stat. 136 (June 9, 1998).
229. Sec. 5028, Pub. L. 105-178, 112 Stat. 445 (June 9, 1998).
230. 15 U.S.C. § 2702(5) (2000).
231. 49 U.S.C. § 14706(g)(2)(B) (2000).
232. Pub. L. 94-587, 90 Stat. 2933 (Oct. 22, 1976).
233. 46 U.S.C. § 1710a (a)(4), (b) (2000).

ous intermodal movement.[234] The term "intermodal" is defined as "of or relating to the connection between rail service and other modes of transportation, including all parts of facilities at which such connection is made."[235] A "railroad" is defined to include intermodal equipment used by or in connection with it.[236] Similarly, "maritime-related services" includes intermodal operations.[237]

The transportation of empty intermodal cargo containers is specifically exempted from regulation.[238] One who tenders an intermodal container in excess of 29,000 pounds is required to notify the receiver of the gross cargo weight and provide a reasonable description of its contents.[239] Intermodal freight containers are also included under the definition of "equipment" in the Geneva Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be used for Such Carriage of 1970.[240] The Secretary of Transportation may make grants to States to enforce of their commercial motor vehicle size and weight restrictions at ports where intermodal shipping containers enter or leave the United States.[241]

The Federal Maritime Commission is authorized to promulgate rules and regulation affecting shipping in foreign trade in order deal with conditions unfavorable to its facilitation, including those in intermodal transportation.[242]

Nothwithstanding any other provision of law (including the antitrust laws) Amtrak and motor carriers have been freed "to coordinate schedules, routes, rates, reservations, and ticketing to provide for enhanced intermodal surface transportation."[243]

IV. Intermodal Transport Law: What It Should Be

ISTEA created a solid foundation on which to build a comprehensive intermodal system. But more should be done, particularly in two areas: (1) consolidating governmental functions and institutions along two broad lines — passenger and freight; (2) harmonizing laws among modes, particularly liability and labor laws; and (3) requiring intermodal planning for all large transportation projects.

234. 49 U.S.C. § 10502(f) (2000).
235. 45 U.S.C. § 821(5) (2000).
236. 49 U.S.C. § 10102(6) (2000).
237. 46 U.S.C. § 1710a(a)(4) (2000).
238. 49 U.S.C. § 13506 (a)(11) (2000).
239. 49 U.S.C. § 5902(b)(2000).
240. 7 U.S.C. § 4402(3) (2000).
241. 59 U.S.C. § 31120(c)(1) (2000).
242. 46 U.S.C. § 876(a)(2) (2000).
243. Pub. L. 105-134; 111 Stat. 2574 (Dec. 2, 1997).

THE NEED FOR CONSOLIDATION OF GOVERNMENTAL FUNCTIONS AND INSTITUTIONS

All modes of transportation (i.e., air, rail, highway, transit, and maritime), and their corresponding Federal institutions, tend to jealously guard their independent source of infrastructure financing. The segregation of funding along modal lines inherently creates institutional roadblocks to the facilitation of intermodal connections, as the Federal Aviation Administration seeks to have airport trust funds dedicated to airport infrastructure, the Federal Highway Administration seeks to have highway trust funds dedicated to highway construction, and the Federal Transit Administration seeks to build transit. All three agencies are subsidiaries of the U.S. Department of Transportation, which should have the foresight and ability to facilitate seamless transportation between modes, among the fundamental purposes of the institution as set forth in its statutory charter. As the following table reveals, transport infrastructure and regulatory responsibilities remains fragmented among public and private sectors, and among federal agencies and Congressional committees:

The DOT has estabished a special unit within the Office of the Secretary to facilitate intermodal connections. Congress in 1991 passed the Intermodal Surface Transportation Efficiency Act to facilitate intermodal transportation, requiring the establishment of an Office of Intermodalism within DOT,[244] as well as an Intermodal Transportation Advisory Board consisting of the Secretary and the Administrators of the FHWA, FAA, Maritime Administration, FRA, and FTA.[245] ISTEA also created funding flexibility enabling more highway dollars to be allocated to non-highway projects. In the Clinton Administration, the Department created a "One DOT" policy and logo in an effort to better focus the agency on its central mission – to create a unified, seamless, efficient, economical and environmentally benign intermodal system.

But creating a unified approach to transportation issues was among the principal reasons for creation of the DOT in 1966. More than three decades later, it remains largely an unfulfilled dream. Jurisdictional turf battles and bureaucratic inertia inevitably inhibit seamless connections. If DOT is to fulfill its promise to build a seamless intermodal system, it could begin by dividing itself into two divisions — a passenger division, and a freight division — for these are more appropriate distinctions than modal distinctions. Ideally, Congress would divide its oversight and appropriations committees along similar lines. Undoubtedly, this would require coordination between the passenger and freight divisions in areas of

244. 49 U.S.C. § 5503 (2000).
245. 49 U.S.C. § 5502 (2000).

TRANSPORTATION MODES AND GOVERNMENT AGENCIES

Regulatory Functions		Infrastructure or Service Provider	
Federal Agency	Private Sector	Public Sector	Federal Agency
Surface Transportation Board	Freight Rail Carriers & Rail Rights of Way	Rail Passenger Operations	Amtrak
Department of Transportation	Motor Carriers	Highways, Postal Service	Federal Highway Administration, U.S. Postal Service
Department of Transportation	Airlines	Airports, Small Community Service, Research & Development	Federal Aviation Administration, Department of Transportation, National Aeronautics & Space Administration
		Transit	Federal Transit Administration
Federal Maritime Commission	Ocean Carriers	Sea Ports	Army Corps of Engineers, Federal Maritime Administration
Surface Transportation Board	Inland Water Carriers	Canals, Inland Waterways	Army Corps of Engineers
Federal Energy Regulatory Commission	Pipelines		

highway, airport and rail infrastructure planning and development, so the divisions would have to work together on these issues. But the movement of a passenger from an automobile to an airport to a train to a transit vehicle is an intermodal movement which requires seamlessness; a container movement from a truck to an ocean vessel, to a rail car, to a truck requires the same. Unified funding and planning would encourage the creation of such seamlessness. Moreover, all regulatory functions now held by DOT, the STB, and the FMC should be consolidated in an independent Intermodal Transportation Commission so that the legal and regulatory requirements remain uniform between modes.

THE NEED FOR LEGAL HARMONIZATION

By definition, intermodal movements involve the movement of passengers or freight from one mode of transportation to another. Freight can be lost or damaged in transit. The question then becomes, what are the legal rules under which liability is assessed? The problem is that the

legal rules governing carrier liability for loss and damage in transit were developed historically on a mode-by-mode basis.[246]

For example, the Harter Act of 1906 governs domestic water transport; the Carriage of Goods by Sea Act (the domestic equivalent of the 1924 Hague Rules) governs international ocean transport to or from U.S. ports; the Warsaw Convention of 1929 governs international air transport; the Carmack Amendment of 1906 governs domestic rail and motor carriage. Though liability rules for the latter two modes were relatively harmonious until promulgation of the Motor Carrier Act of 1980, the Staggers Rail Act of 1980, and the Trucking Industry Regulatory Reform Act of 1994, now the Carmack rules apply differently between rail and motor carriers. Each of these statutes imposes different carrier obligations, has different bases of liability, burdens of proof, limitations of liability, exemptions, defenses, and amounts recoverable. Carriers' and shippers' attorneys vie for the modal regime that most benefits their clients. In circumstances where the identity of the carrier which caused the damage is at issue, one may find the maritime regime more favorable, while the other may argue in favor of the rail regime.[247]

The law can become more complicated still in international transportation. In Europe, international motor carriage is governed by the Convention on the Contract of International Carriage of Goods by Road; rail transport is governed by the Convention Concerning the Carriage of Goods by Rail. A number of countries have adopted updated versions of the Hague Rules (the Visby or Hamburg Rules); while others have adopted updated versions of the Warsaw Convention (the Hague Protocol, or Montreal Convention). The Multimodal Liability Convention of 1980, which sought to harmonize many of these laws, has not been widely adopted.

The net result is a legal Tower of Babel, one which needlessly and wastefully taxes the free flow of commerce. Congress should promulgate one unified domestic liability regime for all modes of transport, while the Executive should attempt to reach a comprehensive unified body of law governing all modes internationally.

Another area which could use harmonization is labor law. Railroads and airlines are governed by the Railway Labor Act. All other modes of transport are governed by the National Labor Relations Act. Each has different rules governing union formation, collective bargaining and dispute resolution, and different governing boards. For example, the National Mediation Board regulates railroad and airline labor-management

246. U.S. Dep't of Transportation, Cargo Liability Study (Aug. 1998).

247. Some of this problem can be, and sometimes is, ameliorated by the insertion of a contractual provision, such as a Himalaya Clause, which identifies the legal regime which will govern the shipment from origin to destination.

disputes; unions are organized along craft lines; agreements continue in effect even after thir expiration date.[248] In contrast, the labor-management relations of other modes are regulated by the National Labor Relations Board; unions are organized geographically.[249] Efficiency would be significantly enhanced if multimodal companies could look to a single set of laws governing labor issues.

The Need for Intermodal Planning in All Large Transportation Projects

In the National Environmental Policy Act of 1969, Congress developed a streamlined process for considering environmental concerns in all major federal projects. In a situation where a federal or federally-funded activity will significantly affect the quality of the human environment, an Environmental Impact Statement must be prepared. Comprehensive federal environmental regulation began with the National Environmental Policy Act of 1969,[250] (signed into law on January 1, 1970), which established the Environmental Protection Agency [EPA], and required that an environmental assessment [EA], and environmental impact statement [EIS] be prepared, the latter for any "major federal action significantly affecting the quality of the human environment." The EA determines whether potential impacts are significant, explores alternatives and mitigation measures, and provides essential information as to whether an EIS must be prepared. The EA focus attention on potential mitigation measures during the planning process, at a time when they can be incorporated without significant disruption.[251] If the governmental agency concludes that there are no significant adverse environmental impacts, or that with appropriate prevention or mitigation efforts they will be minimized, it issues a "finding of no significant impact" [FONSI]. If however, the FAA concludes the impacts are significant (which is sometimes the case in a major airport project), the agency prepares an EIS.[252] The EIS must include an assessment of the environmental impacts, and evaluate reasonable alternatives and suggest appropriate mitigation measures.[253] It must review such issues as the impact of the project on noise, air quality, water quality, endangered species, wetlands and flood plains. How-

248. Paul Dempsey & William Thoms, Law & Economic Regulation In Transportation 297 (Quorum 1986); Paul Dempsey, Robert Hardaway & William Thoms, 2 Aviation Law & Regulation § 15 (Butterworth 1993).

249. Paul Dempsey & William Thoms, Law & Economic Regulation In Transportation 308 (Quorum 1986).

250. 49 U.S.C. § 4321.

251. Federal Aviation Administration, Airport Master Plans 49-50 (1985).

252. James Spensley, Airport Planning, in Airport Regulation, Law & Public Policy 76 (R. Hardaway ed. 1991).

253. 49 U.S.C. § 4332(c).

ever, the thrust of the statute is process; there is no mandatory obligation to implement mitigation measures, even if they are feasible.[254]

Congress has made fostering intermodalism a central policy of the federal government. But as yet, the comprehensive implementation of that goal has remained stubbornly unfulfilled. Many State Departments of Transportation are still effectively State Highway Departments, no matter what they are called. One way to incorporate intermodal considerations into all major transportation projects is to require the preparation of an "Intermodal Impact Statement" in the planning process of all major federal transportation projects. Thus, no major new highways would be built without consideration of access to transit lines, seaports and airports. No new airport projects would be built without consideration of access of modal alternatives other than the automobile. As in environmental regulation, it would not mean that a project could not be built without intermodal facilitation; it would mean that no major project could be built unless intermodal facilitation had been considered. That would require many governmental institutions to plough new, and fertile, ground. In so doing, many more projects would be made intermodal in design.

V. Conclusions

As the gateways to an increasingly global market, transportation corridors are the arteries through which we and everything we consume flow. Transportation networks stimulate trillions of dollars in trade, commerce, and tourism. In a global economy, they enable specialization in the production of goods and services which, under the law of comparative advantage, stimulates broader economic growth.

By shrinking the planet, transportation also facilitates the intermingling and integration of disparate economies and cultures. Cultural interaction enhances international understanding which promotes global peace which, in a thermonuclear world, is essential for survival of our species. It offers hope for the creation of a global village of friends and neighbors rather than enemies and adversaries. Cultural interaction also stimulates intellectual social and artistic creativity, making the world a more interesting and richer place in which to live.

As a fundamental component of the infrastructure upon which economic growth is built—the veins and arteries of commerce, communications, and national defense—a healthy transportation system serving the public's needs for ubiquitous service at reasonable prices is vitally important to region and the nation it serves. It is for this reason that governments the world over have promoted, encouraged, and facilitated its

254. See Stryckers Bay Neighborhood Council v. Karlen, 444 U.S. 223 (1980).

provision by providing essential infrastructure, research and development, protective regulation, subsidies and, on occasion, outright ownership. Historically, government has facilitated transportation by guiding the airports, the seaports, the rail and transit lines, subsidized their operations where necessary, and established the basic codes and rules under which the industry serves the public. If done thoughtfully and well, government planning can facilitate creation of an efficient and productive transportation infrastructure better able to satisfy the broader needs of the public for safe, secure, seamless, expeditious and reasonably priced transportation service.

The tourism and travel business is arguably the world's largest industry. It accounts for 5.5% of the world's GNP, 12.9% of consumer spending, 7.2% of worldwide capital investment, and 127 million jobs, employing one in every 15 workers. The ripple effect of transportation activity—the indirect and induced economic and employment stimulation—is vastly larger than the prices paid directly by passengers or shippers. Transportation creates and transports wealth far in excess of its own facial value. In other words, the tacit benefits of economic stimulation created by transportation networks far exceeds its costs.

In this sense, transportation has profound externalities, both positive and negative. For example, a city with abundant airline, motor carrier and railroad networks radiating from it like the spokes of a wheel, enjoys a wide economic catchment area stimulating trade, commerce and wealth for its citizens. Conversely, a community with poor, declining or deteriorating access to the established and prevailing transportation networks will wither like a human limb or organ starved of oxygen by an artery made impassable by a tenacious blood clot.

On a macroeconomic level, these observations are true for all nations and all regions, and arguably for all time. An expeditious, efficient, and economical transportation network will facilitate the public's need for mobility and will ordinarily advance economic productivity and growth. Conversely, a deteriorating transportation infrastructure will produce sluggishness in overall economic productivity and retard economic growth.

The United States has invested enormous unrecoverable resources in a transportation infrastructure devoted to the wasteful and insatiable demands of highways and automobiles. Though highways can enhance individual mobility, as automobiles become ubiquitous, highways become clogged in congestion, requiring the devotion of greater and greater resources to satiate its insatiable thirst for asphalt. The net result of a profligate dependence on the single occupancy vehicle is that highways become wider and wider as waves of congestion demand more traffic lanes, while suburban sprawl devours more and more real estate. In the

United States, disbursed suburban housing patterns make the automobile indispensable, while denying transit the population densities to support rail service. Land use, congestion, and pollution have become chronic problems in many urbanized areas of the United States.

Moreover, a nation such as the United States, wedded to the automobile, suffers adverse consequences beyond congestion. The automobile not only consumes land insatiably, it pollutes the air. In many of our cities, the automobile has made the air nearly unbreathable. These problems of gridlock and pollution are chronic both in 1st world cities like Los Angeles, and 3rd world cities like Bombay.

The burning of hydrocarbons like gasoline also spews greenhouse gases, trapping the sun's heat, thereby contributing to global warming. During the 20th Century, world energy consumption increased more than 12 times. Fuel consumption by the transportation sector increased at a rate of 2.6% a year. It shows no signs yet of slowing.

Fuel consumption at this rate not only creates environmental hazards, it degenerates national economic wealth for petroleum-importing nations. Given the high cost of oil, a nation's excessive demand can only erode its national wealth by requiring a never-ending devotion of economic resources to the insatiable demands for filling the automobile tank with gasoline.

An external effect of a transaction is a positive or negative impact upon a person not a party to it.[255] The negative externalities of automobiles are felt by other users of finite road and highway resources, and the environment. Garrett Hardin, in his powerful essay, "The Tragedy of the Commons," provides insight as to the economic forces leading a rational wealth maximizer to advance his own economic interests by externalizing his costs:

> Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons. Such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast well below the carrying capacity of the land. Finally, however, comes the day of reckoning, that is, the day when the long-desired goal of social stability becomes a reality. At this point, the inherent logic of the commons remorselessly generates tragedy.
>
> As a rational being, each herdsman seeks to maximize his gain. Explicitly or implicitly, more or less consciously, he asks, "What is the utility to me of adding one more animal to my herd?" This utility has one negative and one positive component.

255. Paul Dempsey, Market Failure & Regulatory Failure As Catalysts for Political Change: The Choice Between Imperfect Regulation and Imperfect Competition, 46 WASHINGTON & LEE L. REV. 1, 17 (1989).

> (1) The positive component is a function of the increment of one animal. Since the herdsman receives all the proceeds from the sale of the additional animal, the positive utility is nearly +1.
>
> (2) The negative component is a function of the additional over-grazing created by one more animal. Since, however, the effects of overgrazing are shared by all the herdsmen, the negative utility for any particular decision-making herdsman is only a fraction of 1.
>
> Adding together the component partial utilities, the rational herdsman concludes that the only sensible course for him to pursue is to add another animal to his herd. And another .... [b]ut that is the conclusion reached by each and every rational herdsman sharing a commons. Therein lies the tragedy. Each man is locked into a system that compels him to increase his herd without limit—in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedoms of the commons. Freedom in a commons brings ruin to all.[256]

The city streets are commons, drivers are herdsmen, and the automobiles themselves are cattle. Every additional automobile on the street brings the owner enhanced satisfaction of his desire for mobility. According to Hardin, "Ruin is the destination toward which all men rush, each pursuing his own best interest in a freedom that believes in the freedoms of the commons."[257]

Hardin's main thesis is not about the economic decline of herdsmen, but of the negative externality of another sort—pollution. He says:

> In a reverse way, the tragedy of the commons reappears in problems of pollution. Here it is not a question of taking something out of the commons, but of putting something in. . . . The calculations of utility are much the same as before .... Since this is true for everyone, we are locked into a system of 'fouling our own nests,' so long as we behave only as independent, rational, free-enterprisers.[258]

A comprehensive plan for an expeditious, efficient and sustainable intermodal transport system for passengers would include high-speed intercity rail linking major cities and their airports, connecting at multimodal terminals with intracity busses, light rail, subway transit networks, and bicycle lanes. For freight, it includes the building of rail and highway networks linking industrial centers with seaports and airports in a way that enhances the smooth and quick movement of containers between trucks, railroads, ocean vessels and aircraft.

Seamlessness must be the goal of an efficient intermodal system. In

256. Garrett Hardin, The Tragedy of the Commons, SCIENCE (Dec. 13, 1968), at 1243.

257. Garrett Hardin, The Tragedy of the Commons, SCIENCE (Dec. 13, 1968), at 1243.

258. Id. See Paul Dempsey, Taxi Industry Regulation, Deregulation & Reregulation: The Paradox of Market Failure, 24 Transportation Law Journal 73-120 (1996).

order to achieve seamlessness, intermodal planning must include what we refer to as the four C's:

1. CONNECTIONS – All modes must be connected with one another to accomplish the convenient, expeditious and efficient movement of commodities and people. Connecting should work well both from geographic and temporal perspectives—that is, the connecting points should be proximate to each other, and timed to facilitate movements from one mode to another.
2. CHOICES – The intermodal network should allow its users to select that mode which can most efficiently satisfy their transportation needs.
3. COORDINATION – Transportation infrastructure must be planned, designed and built in a way that brings the modal networks together within sufficiently close proximity that connections between them are relatively effortless. Transportation providers must coordinate their schedules to reduce dwell time between intermodal movements.
4. COOPERATION – There must be collaboration between transportation providers to ensure that the needs of the users for seamless service is realized.

By integrating the separate transportation modes into a seamless, unified intermodal network, transportation can not only meet the economic and mobility needs of a society, but it can also alleviate the problems of pollution, congestion, safety, and energy consumption. The strengths and weaknesses of each mode should be identified, means must be developed to minimize negative impacts and maximize strengths, and an efficient and integrated transportation system should be established that is consonant with the goal of sustainable development.

Each mode has its inherent advantages in terms of speed, range, efficiency, and energy consumption. Generally speaking, light rail transit works well within a range of about 50 kilometers. Automobiles work well within 100 kilometers. Intercity rail transportation has inherent strengths within a range of approximately 500 kilometers. And air transportation works well at distances beyond that.

To take advantage of the inherent advantages of alternative modes of transportation, each must be available to users, and each should be seamlessly connected to one another. A passenger stepping off an aircraft should be able to proceed to baggage claim, and there catch a bus or train to the central city, or an intercity train to another city. A container offloaded from an ocean vessel should be moved expeditiously and directly to a flat bed truck trailer or rail car for its beyond movement to its ultimate destination.

The inherent advantages of one mode of transportation should not be mutilated by the inefficiencies of another. The primary advantage of air transportation, for example, is speed. It must be remembered that time is man's most important commodity. Yet if the surface modes are

clogged in gridlock, more time can be consumed on the ground than in the air. Surface transit times between Don Muang Airport and central Bangkok, for example, can consume several hours. Transportation movements are from origin-to destination, and are the sum of the time consumed by each mode in the through intermodal movement, plus the dwell time between modes. Time is money. Opportunity costs are the economic costs of lost time. An efficient transportation system in a competitive economic environment requires that each mode moves as expeditiously as possible, that each modal network is seamlessly connected to every other network, and that distance and dwell time between modes are reduced. The comfort and convenience facilitated by intermodal transportation planning will ensure that each mode is used based on its inherent advantages of cost, speed, and environmental attributes by consumers having ample choices and receiving proper pricing signals.

Law and regulation must serve the needs of commerce for predictability of rules which make commercial sense, facilitate efficient transactions, and do not burden commerce. To that end, streamlining of regulatory responsibilities and rules across modes will do much to promote the seamless intermodalism for which the nation should strive. Only in this way can the enlightened policies fostering seamless intermodalism embraced by Congress be implemented.