Regulatory Developments in the U.S.: History and Philosophy

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U.S. regulatory experience is fully documented and, I believe, relevant to China. The three broad topics are:

a. The growth of transport **regulation** in the U.S., and why.

b. The results of regulation up to 1980, when the regulatory equation was changed.

c. The **deregulatory** experience in the U.S.

The Growth Of Transport Regulation In The U.S.

A brief history of railways and regulation in the U.S. is useful because: "The current situation of railways is only intelligible in the context of its history" (T.G. Moore, *Freight Transport Regulation,* American Enterprise Institute, Washington, DC, 1972, p 3).

"Regulation" in this discussion means "economic regulation," that is, public intervention in the rates or services offered by an entity which sells goods or services to the public. To the extent that the distinction can be made, this definition excludes public interventions for reasons of health, safety, or "fair" working conditions, although these have obvious economic implications. Also, as will be discussed below, the definition should not be viewed statically: in fact, the definition of regulation has changed considerably over time, as has the ability of economists to define the objectives and measure the impact of economic regulation.

The first nationwide regulation of transportation in the U.S. was intervention in railways: interestingly, it came about because of a belief that there was **too much** competition. In the 1830 to 1880 period, railways had been over-built in many areas of the country -- especially the Northeast -- mainly because of financial speculation in the creation of railway companies. The perceived "high fixed cost, low variable cost" structure of railways tended to generate severe rate cutting and tariff instability whenever railways directly competed for traffic. The railways did not favor this sort of competition, for obvious reasons: not so obvious is the fact that many of the major shippers did not like it either because, in a period of monopolies or monopsonies by the producer/shipper companies, the objective of many producers was <u>not</u> to minimize the costs of transportation but, instead, to factor uncontrollable competitive factors, including transport charges, out of the competitive equation. Both shipper and railway wanted rail rates to be public, and they wanted them to be averaged over the large and small shippers. Another major thrust was "locational" (regional) interests--farmers who wanted rates averaged and stabilized so that more distant markets would see the same transport costs as the "more fortunate", closer farms, and so that ports could be "equalized." To all of these shippers, controlling competitive instability was often just as important as equalization.

The first piece of regulatory legislation, The Interstate Commerce Act of 1887, deserves some discussion because it set the stage for nearly a century of regulation. It is especially important to understand the political philosophy which led to adoption of the Act. This Act provided:

1. All rail charges should be "reasonable and just".

2. There should be no ratemaking discrimination between persons, and concealed rebates of tariffs were prohibited.

3. Geographic discrimination was prohibited (i.e. rates which "favored" one port over the other).

4. "Long Hauls" were not allowed to be charged at rates less than "Short Hauls".

5. Pooling of traffic was barred. (railroads were forbidden from pooling together traffic an particular markets and then sharing the profits).

6. All rates should be public and should be charged as published (i.e. no secret rebating).

7. The Interstate Commerce Commission (ICC) was created to oversee the regulations and to collect and publish information.

An important characteristic of this legislation is the nature of the language of the objectives: **much of the thrust is aimed at non-economic, or even anti-economic considerations.** For example, the basis for the "reasonable and just" phraseology was “equity”, and not economic efficiency. Also, the emphasis on geographic equalization, for example, was an explicit attempt at reaching political objectives, with the knowledge (at least later, if not at the beginning) that the result would be clear inefficiency in transport operations. This is not to mention, of course, the hopes of the railways and certain shippers that competition would be suppressed, along with the perceived "ruinously low" rates. Although there was a crude sense of the economic rationale for the legislation, the overwhelming motivating force was political perception, and those perceptions exist today. In a report for the Bank written by Eric Beshers (Eric W. Beshers, *Conrail: Government Creation and Privatization of an American Railroad*, The World Bank, INU 38, March, 1989, p 1), he called this the myth of the miraculous railroad -- the belief that the railroads were rich, powerful and unscrupulous, and that they were probably earning exorbitant profits from their monopoly position, so they could always afford a little more of a social burden if they were protected by regulation from undue competition. (This is a familiar phenomenon in many of the Bank's borrowers).

It is important to realize that the complementary pressure to do exactly the same things came simultaneously from the railroads, some of their major shippers, and from a part of the public at large, although for very different reasons. The railroads wanted to conspire and increase rates, many shippers wanted to equalize rates, no matter what their level, in order to control competition, and a number of politically powerful interests were encouraged to think that they were getting something for free (even though the overall impact was bound to be adverse). This is the wonder of politics,

and it is not confined to the U.S.

I emphasis this commonality of interests, if not of objectives, because I disagree to some extent with those who argue that the "history of regulation clearly indicates that it was established mainly to reduce the competitiveness of railroads...to maintain cartel pricing and increase the profitability of railroads." (Moore, op cit, p 93) Surely this was at least one of the objectives of the **railroads**, but it is only a partial explanation. The real power of the idea came from the fact that major shippers also supported the law, and, however paradoxically, it was consistent as well with a powerful strain of populist politics. I do not believe that any one of the supporters, acting alone, could have gotten the original legislation passed.

Not to be ignored also in understanding why railroad regulation occurred and endured is the role of railroads in song and story; images such as John Henry, or Casey Jones are matched with "Let the public be damned" (Commodore Vanderbilt, in 1883) as expressions of the impact of railways, or their financiers, on the public's consciousness. On this is built the strength of the myth, and I do not think it is unique to the U.S. Myths, like songs and stories, perhaps especially **because** of songs and stories, endure long after the words were written.

Transport regulation, as in many other areas, is also an illustration of the phenomenon that political or economic models can be more appealing than reality: when something isn't working "right" (i.e., when people stubbornly persist in pursuing their own interest rather than the interest of the interest group which wrote the legislation in the first place) there is a tendency to try to fix reality rather than adjust the model. Mostly in this spirit, the law needed "fixing" a number of times over the years.

The first fix was the Elkins Act (U.S. laws are often given the names of the politicians who sponsor them) of 1903, which :

1. Made it a punishable offense for railway corporations, as well as railway officials, to offer or engage in rebates or concessions;

2. Made it unlawful for **shippers** to solicit or receive rebates;

3. Made it unlawful to depart from published rates.

It is clear that this was a **shipper** bill (although the railroads did not oppose it). The prior, shipper participants in the newly prohibited practices were the **beneficiaries** of the prohibition. They were opposed to the practices because they were more concerned with limiting the competition they faced than with lowering their own costs, a strain of thought which frequently affected regulatory practice -- even if it did not figure large in public justifications of the need for regulatory change.

Next is the Hepburn Act (1906) which:

1. Permitted the ICC to set maximum rates (i.e., establish a quantitative definition of unjust and unreasonably **high**);

2. Required 30 day notice of rate changes;

3. Prohibited railroads from shipping commodities they produced (the "commodities clause"), in order to prevent the railways from gaining a competitive advantage on products they, or their subsidiaries, produced;

4. Extended ICC jurisdiction to pipelines and express companies;

5. Permitted the ICC to set through rates and joint rates for shipments that traversed two or more railroads;

6. Increased the penalty for illegal rebating;

The objectives of the Act were a continuation of the general thrust of reducing competition and stabilizing rates.

The process continues with the Mann-Elkins Act of 1910. It:

1. Permitted the ICC to suspend the implementation of proposed changes in rates for up to 6 months (a measure which restrained railroad competition as much as it protected shippers, because railroads were often the protesting parties demanding that rates be suspended);

2. Gave the ICC control over the classification of commodities, in order to remove another degree of railroad pricing freedom;

3. Allowed shippers to designate the route to be taken by the shipment, a measure which was intended to increase competition, and;

4. Reinvigorated the "long haul/short haul" clause.

World War I was an interesting interlude in the story. During WWI, the Federal Government actually took over the direction of the operation of the railroads, in the name of promoting the war effort. The result was that, in a time of booming traffic, a $568 million pre-war profit in 1917 was turned into a loss of $1.5 billion by 1920.

The next step was the Transportation Act of 1920. Somewhat traumatized by the experience, and the cost, of the ill-fated venture into railway management, the Congressional emphasis was on making the railroads financially sound and stable again. The provisions were:

1. The ICC should set "just and reasonable" rates such that the railroads could earn roughly a 6 percent rate of return on assets;

2. Railroads which, under the general ratemaking umbrella, earned in excess of the target 6 percent rate of return, would have to pay half of the excess into a recapture fund which would be paid to the weaker railroads in an attempt to keep them alive;

3. In deciding on the division of joint rates, the ICC should take into consideration the revenue "need" of the weaker railways (a provision which worked all too well because it became another method of providing internal cross subsidy for inefficient operations and services);

4. The ICC gained the authority to establish **minimum** rates (i.e. to define and prohibit rates which were "too low");

5. The ICC was given authority over intrastate rates under certain conditions, and was given control over entry and exit (including the abandonment of branch lines) in the railroad business;

6. The ICC could approve of traffic and rate pooling;

7. The ICC was to develop a plan for consolidating the "weak" and "strong" railway lines in order to keep as much mileage in operation as possible. This was not a mandatory authority, but could be used in approving merger cases (an authority which eventually was used to force inclusion of weak lines into the mergers of stronger carriers).

Then came the Emergency Transportation Act of 1933, which provided:

1. A new "rule of ratemaking" which required consideration of the impact of the rate being set on the movement of the traffic, the need for adequate transportation at the lowest cost, and the need for revenues sufficient to provide the required services.

2. A Federal Coordinator of Transportation who would improve coordination of routings and movements among the competing railroads, facilitate the setting up of traffic pools, and identify gaps in regulatory authority.

This Act, although it was never implemented as the proponents hoped, deserves discussion because of its intent. In effect, the U.S. Congress was still exploring the idea, initiated in the Transportation Act of 1920, of increased Federal intervention into the management of the railroads. The role of the private sector was actually diminishing, even though ownership of the railroads remained in private hands.

A vital next step was the Motor Carrier Act of 1935. This was one of the more important regulatory initiatives because it brought trucking under the full regulatory framework which had applied to the railroads. It was a natural response to the great Depression of the 1930's which nearly destroyed the railroads (many went into bankruptcy, and several never really emerged from bankruptcy, surviving in their weakened state into the 60's and 70's). The general thrust in trucking was the same as it had been for the railroads--reduce competition and stabilize rates. The Act had three broad thrusts, Entry, Rates and Service, and it created three types of trucking carriage:

	TYPE OF CARRIAGE		
	COMMON	CONTRACT	EXEMPT
ENTRY	Operated under a "certificate of Public Convenience and Necessity (PC&N)". "Grandfather Clause"	Needed a "Permit of PC&N." Less restrictive.	Unrestricted. (Safety Regulation)
RATES	"Just & Reasonable" All published.	Publish Minimum Tariffs only.	Not regulated.
SERVICE	Specified routes, commodities and end points. Very specific and restrictive.	"Specialized service" Limited number of customers, distinct needs.	Private carriage, local, fish, agricultural products.

Much of this basic structure continues today. Unlike railroads, the control over entry, especially the "grandfather clause", was extremely important because barriers to entry in trucking are sufficiently low as to permit relatively easy entry in the absence of controls. The stability of membership and lack of free entry created very large economic rents, which made the possession of a trucking certificate a financeable commodity. Also important is the fact that the "exempt" commodities were significant, amounting to more than 60 percent of intercity ton-km. The "contract" status, which created a direct and productive relationship between shipper and carrier, did not exist for railroads. The primary proponents of the legislation were railways, large ("grandfathered") truckers, and the ICC (and a slowly growing force, big labor, both in trucking and railroads). Opponents were larger shippers and the smaller trucking companies.

Congress took several steps to try to close the final "gaps". The first was the Transportation Act of 1940 (which brought inland water carriers under regulation--but exempted about 85 percent of their traffic, and which stated a new declaration of transportation policy which was aimed at "preserving the inherent advantages" of each of the modes). Freight forwarders were brought under regulation in 1942 (entry similar to contract trucking status, rates like common carriers). The Reed-Bulwinkle Act of 1948 legalized rate bureaus (railroad rate-setting cartels) under ICC control. The Transportation Act of 1958 was a final attempted patch in the regulatory balloon. It tried, somewhat tentatively, to free up the ability of railroads to compete with (unregulated) water transport, but was ignored by the ICC.

The Results Of Regulation

During the time that the regulatory framework was being erected and developed, the economy under regulation was very much a moving target. The following charts profile the changes in the positions of the various carriers during the period of the development and elaboration of transport regulation.

Figures One and Two profile the growth and changing role of the railroad industry in the U.S. The dominant role of the railway at the beginning of the regulatory period is clear (Figure One): as late as 1929, railways carried about 74 percent of the intercity freight ton-km (the major competition being Great Lakes carriage, a source of traffic which is no longer significant). If Great Lakes carriage is excluded, the railways were carrying about 90 percent of intercity freight ton-km in 1929. By 1988, this share had fallen to only 37 percent (which was, incidentally, only 9.6 percent of total freight transport revenues for all modes – trucks generate over 90 percent of freight transport revenues). A similar picture emerges in the passenger field (Figure Two): in 1929, railroads carried over 77 percent of intercity, public carrier passenger-km (and over 15 percent of all passenger-km, including the private auto). By 1987 this had fallen to only 3.4 percent (only 0.7 percent when private auto traffic is counted) and to about two percent by 1998. The trends in traffic after World War II accentuated the shift; a dramatic loss of the passenger business, and a clear decline in relative position in the freight business. Profitability followed the same trend. Although harder to illustrate clearly (Figure Three), many railroads were in extremely shaky financial condition by the end of the 70's, following a period of near financial disaster in the early 70's beginning with the Penn Central bankruptcy and followed by the collapse of several of the Midwestern farm railroads. Figures Four and Five show something of the physical state of the railway industry measured in Km of line and employees. The length of railroad lines actually peaked about 1910, after which the system continually shrank.

Figure One again, and Figure Six profile the same issues for trucks, barges and pipelines, Figure One in percentage terms, Figure Six in absolute terms. A major beneficiary of the loss of railway position was trucking, a result both of the changes in the structure of the economy which placed a premium on the quality of service which trucks could deliver, and of the massive Federally funded highway construction program, especially the Interstate Highway System (after WWII, over $230 billion in **Federal** funding has gone into the national highway system, about $82 billion for the Federal Aviation Administration, and around $22 billion for railroads, about $22billion of which was for Amtrak). Business was booming for the freight modes other than railways. To the extent that we can show it, which is limited, there is evidence that these favorable traffic trends were accompanied by financial health. The other modes did not suffer from regulation, if at all, to anywhere the same degree as railways. The trends in Figure Six also lead to another interesting conclusion: there was no "crisis" in trucking or water which was driving the need for changes in regulation in these modes.

Why was regulatory change necessary at the beginning of the 1980's?

First, based on the data presented, there was a clear shift in the nature of the market for freight (and passenger) transport, and of the roles of each of the carriers. Passengers had voted with their feet (or, perhaps, another part of the anatomy would be a more appropriate metaphor). Freight, and related business health, had long since shifted away from rail. Although the myth died hard, there was an emerging realization that the fable of the bountiful railway would have to be reexamined.

There were two significant precursors to general regulatory reform, the formation of Amtrak and the reorganization of the Penn Central Railroad. A short discussion of each is important to an understanding both of the power of the myth, and of the way in which change was approached.

The Amtrak experience offers significant lessons. As the traffic charts (Figure Two) show,

intercity rail passenger service had rapidly declined after WWII (when gasoline was rationed and highway travel tightly restricted). By 1970, industry experts were estimating that the railroads were losing over $300 million per year (almost $900 million in 1988 dollars) on passenger service (i.e., about half of their potential net income) and the financial viability of many individual carriers, and thus of the entire industry was threatened. Equally important, at least in the minds of the proponents of rail passenger service, was the belief that the quality of rail service had drastically declined, and that the predominant attention to freight by the existing private railway companies ensured that passengers would never receive adequate attention. The response was the creation of the National Railroad Passenger Corporation, better known as Amtrak, to assume the responsibility, and the financial burden, for providing intercity rail passenger service. Amtrak is a wholly-owned (by the Federal Government), "as-if-for profit" corporation. In theory, it is managed exactly as private corporations are managed and, significantly, is entirely free of all of the regulatory constraints, including pricing and service frequency, which had burdened the formerly private sector passenger operations. Amtrak has clearly achieved its objective of lifting the burden of passenger losses from the freight railways: it has also been an expensive proposition for the Federal Government, costing a total of about $23 billion since its founding in 1971 (including operating subsidies, capital payments, and the cost of the Northeast Corridor Improvement Project). A continuing dilemma for Amtrak is that, because its budget eventually comes from the U.S. Congress, it remains subject to significant interference in decision-making.

Amtrak was the first major break in the prevailing belief that the railroads could, or should, be forced to carry all of the historical burdens to which their supposed "monopoly" status entitled them. The establishment of Amtrak is also significant because the Congress, when confronted with the need to pay the actual cost of destructive rate and service regulation (as opposed to being able to bury it in the accounts of a private sector corporation), chose to eliminate it entirely. It was an important precedent.

The Penn Central experience was also of direct relevance in creating the environment for regulatory change. In 1970, the Penn Central railroad, a major freight railroad which had been created from the merger of several large, Eastern U.S. railroads (the Pennsylvania Railroad, the New York Central Railroad, and the New Haven Railroad), entered bankruptcy--only 3 years after the merger had been hailed as the genesis of a powerful Eastern carrier which would have the ability to survive the shrinking rail traffic conditions of the Northeast. At first, the Congress ducked its head and hoped the problem would go away. Next, confronted with the necessity to act, or watch the railroad be liquidated with the attendant loss of jobs and rail service and impacts on the regional economy, operating subsidies were provided while the Secretary of Transportation was asked to think about the problem (again in hopes that more drastic action would not be necessary). Next, the Congress decided, in effect, to nationalize the railroad, by now called Conrail, and an intensive analysis and restructuring effort was initiated.

The result of the planning process was a set of projections, including network reductions, which were simply too optimistic. As Conrail continued to founder, it became clear that a number of major actions, **including a significant change in the regulatory regime**, would be necessary if Conrail were not to continue to be a major financial millstone around the neck of the Federal Government (other necessary changes, especially devolution of local rail commuter services to local governments and flexibility to reduce redundant labor, were completed in 1982). In a very direct and painful way, the Conrail dilemma confronted the Federal Government with another aspect of the real

cost of adverse regulation, and even more painful, made the bill direct and transparent. The overall cost of the Conrail experience was not low -- about $7.8 billion before the privatization sale which netted about $2 billion. In my opinion, the importance of the Amtrak and Conrail experiences is often understated when judgments are formed as to why deregulation occurred, and why it took the form it eventually assumed. Amtrak and Conrail dramatized, in a very concrete way, the costs of inefficient and destructive regulatory policies, and forced explicit action to be taken.

The Deregulatory Experience In The U.S.

The response, long delayed, was thorough regulatory reform. The year 1980 saw a pair of dramatic legislative initiatives which have changed the face of transport regulation (and of the health of the carriers) in the U.S. The first was the Staggers Act of 1980, the second was the Motor Carrier Act of 1980.

The Staggers Act radically changed the ability of railroads to market their product, both in terms of pricing and in their ability to provide to their customers the quality of transport for which the customers were willing to pay. Its most important provisions were:

1. Rate-making regulation was substantially relaxed, subject to findings concerning the relationship of the rate in question to its variable cost, the degree of "market dominance" (i.e. monopoly position) of the carrier for the commodity and geographic service involved, and the overall adequacy of the carrier's revenues;

2. Contract ratemaking was explicitly legalized;

3. Abandonments were liberalized, and;

4. Antitrust limitations were substituted for certain prior ratemaking restrictions.

The Motor Carrier Act was, if anything, an even more radical change than the Staggers Act. It:

1. Largely deregulated entry into the contract and common carrier trucking business--whoever, whatever, wherever. Among other factors, this change essentially permitted "exempt" carriers to compete fully with "regulated" carriers for otherwise empty "back" haulage.

2. Essentially deregulated rates, although there is still a requirement that rates be public, and that the published rates be adhered to.

3. As in the Staggers Act, reimposed antitrust restrictions in place of the prior regulatory controls.

The results were astounding, both for rail and trucking. For rail, Figures Six and Seven show that traffic grew reasonably well after 1980 while productivity of labor and physical assets increased dramatically (though not shown, accident rates have fallen by over 60 percent). As another indicator

of the change, recent estimates are that more than 60 percent of rail business now travels under contract rates which permit rail and customer to enter mutually advantageous, longer-term relationships. At the same time, as shown in Figure Eight, average freight rates have fallen **every** year after deregulation, in **current** as well as constant terms. And, going back to Figure Three, profitability after deregulation has reached levels not seen in living memory. A recent paper by Winston (Winston, et al, *The Economic Effects of Surface Freight Deregulation*, concluded) that rail shipper benefits increased by $5 billion as a result of better service quality, offset by a $1 billion increase in rail rates over what they would otherwise have been, leading to a net benefit to the economy of over $4 billion. This is one of the lower estimates of the net benefits of rail deregulation.

There is good news and bad news in the trucking area. As Figure Six showed, physical outputs are at an all time high, as was net income in Figure Nine (at least, on a current $ basis). The initial wave of carrier financial failures in the deregulatory environment may have run its course, and is headed down. In Figure Ten, the number of carriers has more than doubled since 1980 as a result of the ease of entry, although the growth (Figure Eleven) has actually come in the ranks of the small, Class III carriers (Class I and II carriers have actually decreased). There is evidence that there has been a shakeout in the ranks of Less Than Truckload (LTL) carriers, with an increase in concentration in this market segment (LTL amounts to about 5 percent of Intercity Tonne-Km, but about twice that in revenue). It appears that the Teamster's Union may have lost membership, by as much as 120,000 members, but the total driver labor force has grown by about 800,000 (to 2.6 million) since 1980, and average hourly earnings have continued to increase in current terms. The Winston paper referenced above estimates that the economy has benefited by about $8.1 billion from trucking deregulation, of which $3 billion is in reduced private carriage costs, $4.3 billion is in lower rates to shippers (primarily in the LTL area), and the value of better service is about $0.8 billion.

There will never be a precise quantification of the benefits to the economy of regulatory reform. There may well have been some losers (primarily LTL truckers and labor interests) as well as winners. What does not seem in doubt is that the experience overall has been a resounding success, and this is a conclusion which would find support from almost all carriers **and** almost all significant shippers. This consensus holds for all of the areas of reform, and is based on a general agreement that the quality of service has improved far faster that rates. There remains some sniping around the edges, especially by electric utilities which would like lower rail rates on coal, and by organized labor interests who preferred the good old days, but the Congress and the President have so far turned back all proposed changes. There are few who would turn back the clock.

Given the enormous inertia which had built up in the system, and the power of certain of the entrenched interests, how was it possible to bring change about, why did it happen in 1980, rather than later, and why was it successful? This is an area of even deeper speculation, but there are several reasons which I believe all would accept, although different weights would certainly be assigned by different observers. These have obvious applications for the Bank's borrowers, although the mix of reasons, and weights, will almost always be unique to the country involved.

Possibly most important, at least in the rail area, was the fact that the "do nothing" alternative was no longer very tenable. The bankruptcies of Penn Central and the Midwestern railroads had made some regulatory reform imperative if broad-scale Federal subsidies were to be avoided. This was not true, of course, in the trucking area, but the validity and impact of the deregulatory

arguments were seen to have the same general force and positive value, if not the same critical importance.

Next, a wave of political thought, based on concern about inflation, the emergence of "consumerism", and a disaffection with the status quo was available for reformers to ride. This created what has been called "issue entrepreneurs" who attached themselves to the general idea of deregulation, even when their normal constituencies would have dictated otherwise. At least partly because of this phenomenon, the so called "elite opinions" converged on the idea of deregulation (see Martha Derthick and Paul J. Quirk, *The Politics Of Deregulation*, The Brookings Institution, Washington, DC, 1985). Also, a "success model" had emerged at the Civil Aeronautics Board, where hitherto invincible dragons had been slain, and the benefits were immediately tangible.

Next, however theoretical their arguments, the proponents were promising direct benefits (lower rates and/or better service) to the consumer and to the shipper. The coalition in favor was thus promising benefits, and not asking for sacrifices. At the same time, the opponents were divided, and were not able to control the outcome, especially because their arguments were so directly related to the protection of their own self-interest, and so clearly at the expense of the consumer. Some likely opponents, e.g. rail labor, were sufficiently preoccupied with other issues, such as the labor sacrifices necessary to save Conrail, that they may not have fully understood the potential adverse impacts of deregulation on rail employment until it was too late: some of the rail unions may also have understood that a healthy rail industry, even if this meant continuing pressures for improved labor productivity, was their best hope of longer range employment stability.

The impact of the "restructuring" in the rail area which preceded deregulation was also significant. Before 1970, U.S. private sector railways were expected to provide intercity passenger services, along with a significant amount of rail commuter service, "as a public service." To some extent, this cross subsidy was manageable so long as there was no competition: after WWII, the emergence of the highway system and the dramatic growth of air travel destroyed the market for intercity rail passenger service. What was left were the losses but not the passengers. Commuter services had generated losses for many years, but had never constituted a large enough problem to make a solution imperative. The creation of Amtrak (and its complete deregulation) clarified the role of the freight railways in the intercity passenger business. Getting Conrail out of the commuter business, and transferring the burden to local authorities, was a major contribution to Conrail's financial success and a major relief of a managerial burden which Conrail was ill equipped to carry.

Unfortunately for the railways, the story does not end here. Since deregulation, a number of rail mergers have occurred: in 1982 there were about 32 Class I railroads in the U.S., plus two in Canada; by 1999 this had fallen to 6 Class I systems (UP and BN in the West, IC and KCS in the middle (though IC is owned by CN and KCS is allied with CN and IC), and NS and CSX in the East) plus two in Canada (Canadian National and Canadian Pacific). See Figures 11 through 17 for maps of the U.S. and Canadian Railroads. As can be seen in Figure 18, though there are many areas in the U.S. which are served by two, competing carriers, many other areas are now served by only one carrier and it has been calculated that the percentage of rail tonnage that uses two or more carriers has fallen for about 60 percent in 1980 to under 50 percent today. Even when the impact of competitive access to tracks through trackage rights (see Figures 19 and 20), there remain a large number of shippers who feel that rail versus rail competition is not adequate to constrain rail transport tariffs.

At the end of 1999, one of the U.S. carriers, the Burlington Northern has proposed to merge with the Canadian National, creating the largest railroad in North America. This seems likely to touch off at least one more merger (Union Pacific with Canadian Pacific), and it could cause merger proposals between the Eastern and Western carriers as well. The threat is that the U.S. could end up with only two railroads.

It is virtually certain that the U.S. Congress and the Department of Transportation will act to oppose any mergers beyond the BN/CN and UP/CP (if proposed). In fact, because of the threat of reduced competition and because the latest large mergers (UP/SP and the NS/CSX split up of Conrail) have been near-disasters in operational and financial terms, it is not clear that even the BN/CN merger will be allowed. Alternatively, it is possible that the Surface Transportation Board (STB) will require the granting of large amounts of trackage rights in order to protect some of the competition that now exists.

Believing that this will not go far enough, many U.S. shipper groups are now advocating that rail infrastructure be separated from operations so that competition can be enhanced. It is unlikely that this will occur in the near future; but, if the merger trend continues and if service is hindered by poor performance or the emergence of monopolistic behavior in pricing, it is quite possible that the U.S. Congress could order more drastic solutions.

Figure 1

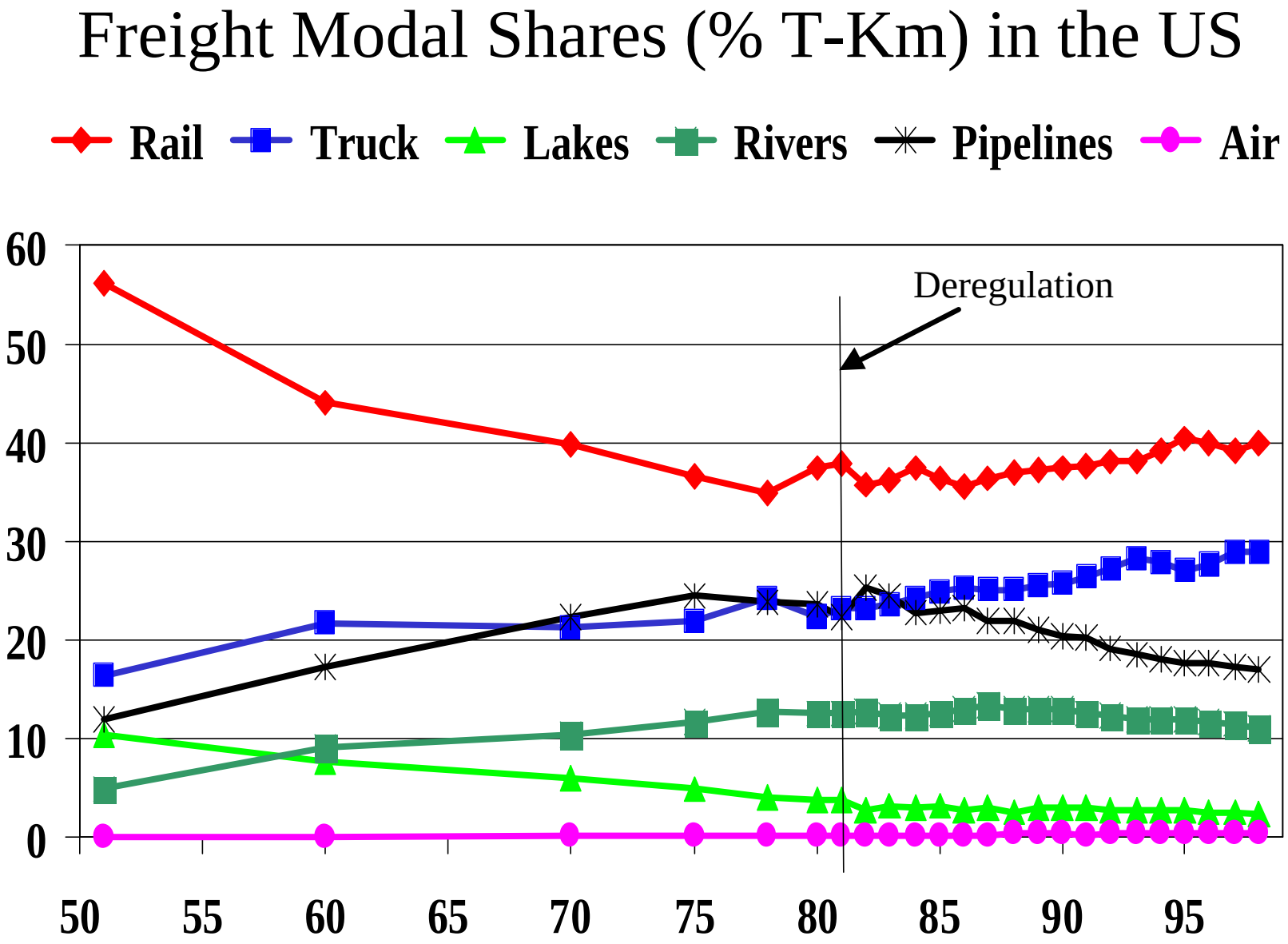

Freight Modal Shares (% T-Km) in the US
Rail
Truck
Lakes
Rivers
Pipelines
Air
60
50
40
30
20
10
0
Deregulation
50
55
60
65
70
75
80
85
90
95

Figure 2

Modal Share (% P-Km) of Intercity Public Carriers in the US -- Autos Excluded

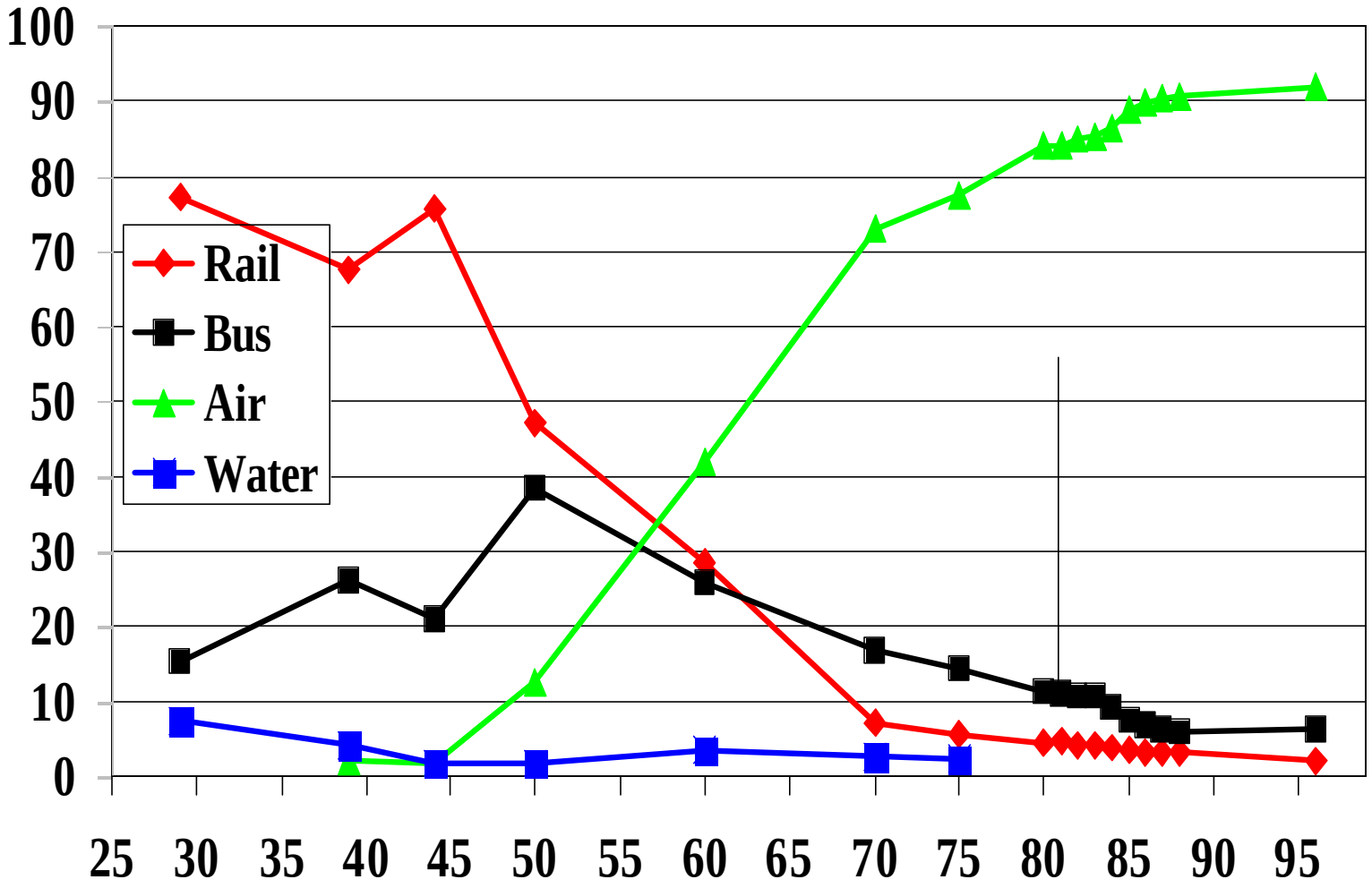


Figure 3

Rate of Return in US Railroads

(Net Railway Operating Income as % of Asset Value)

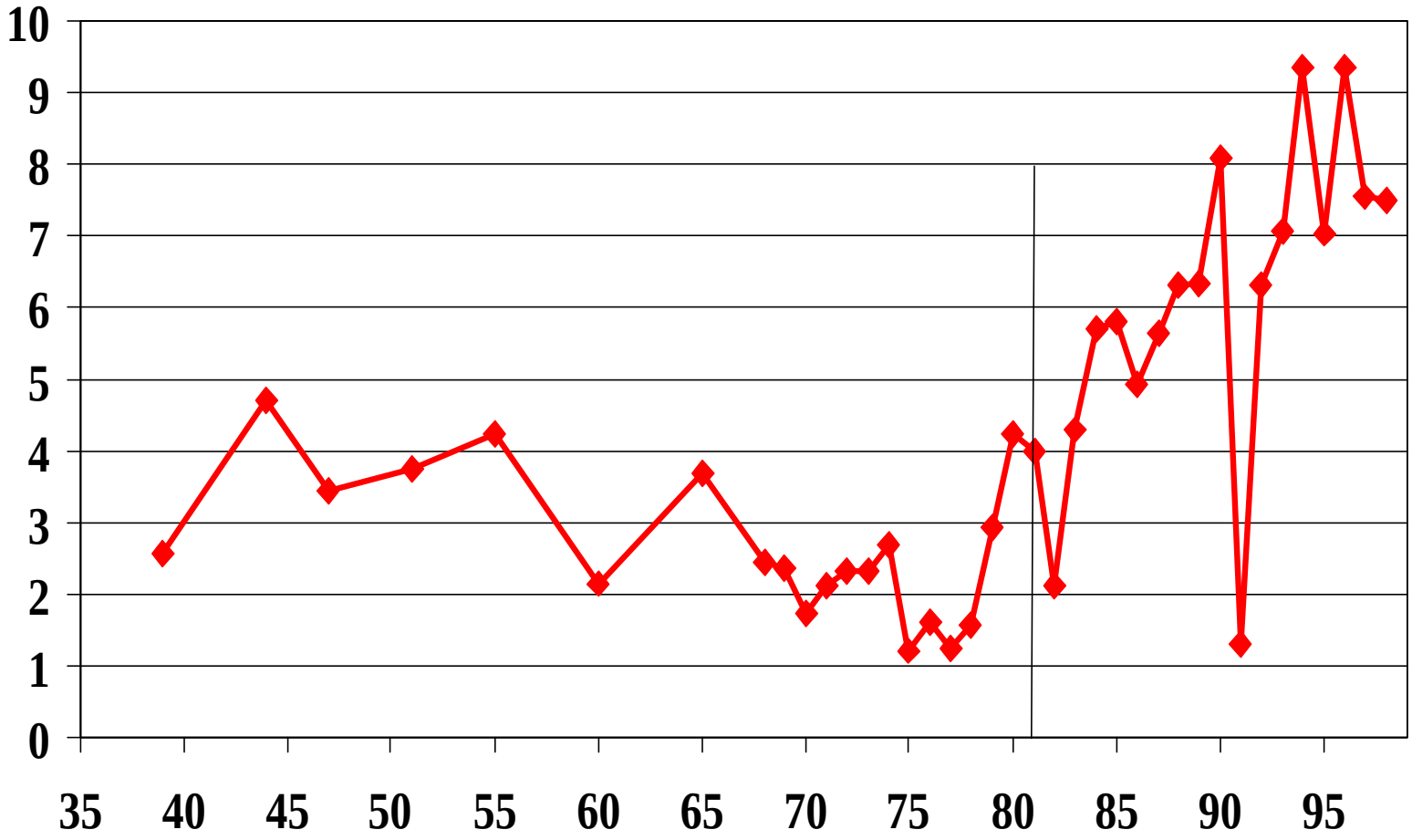


Figure 4

Km of Rail Line in the US

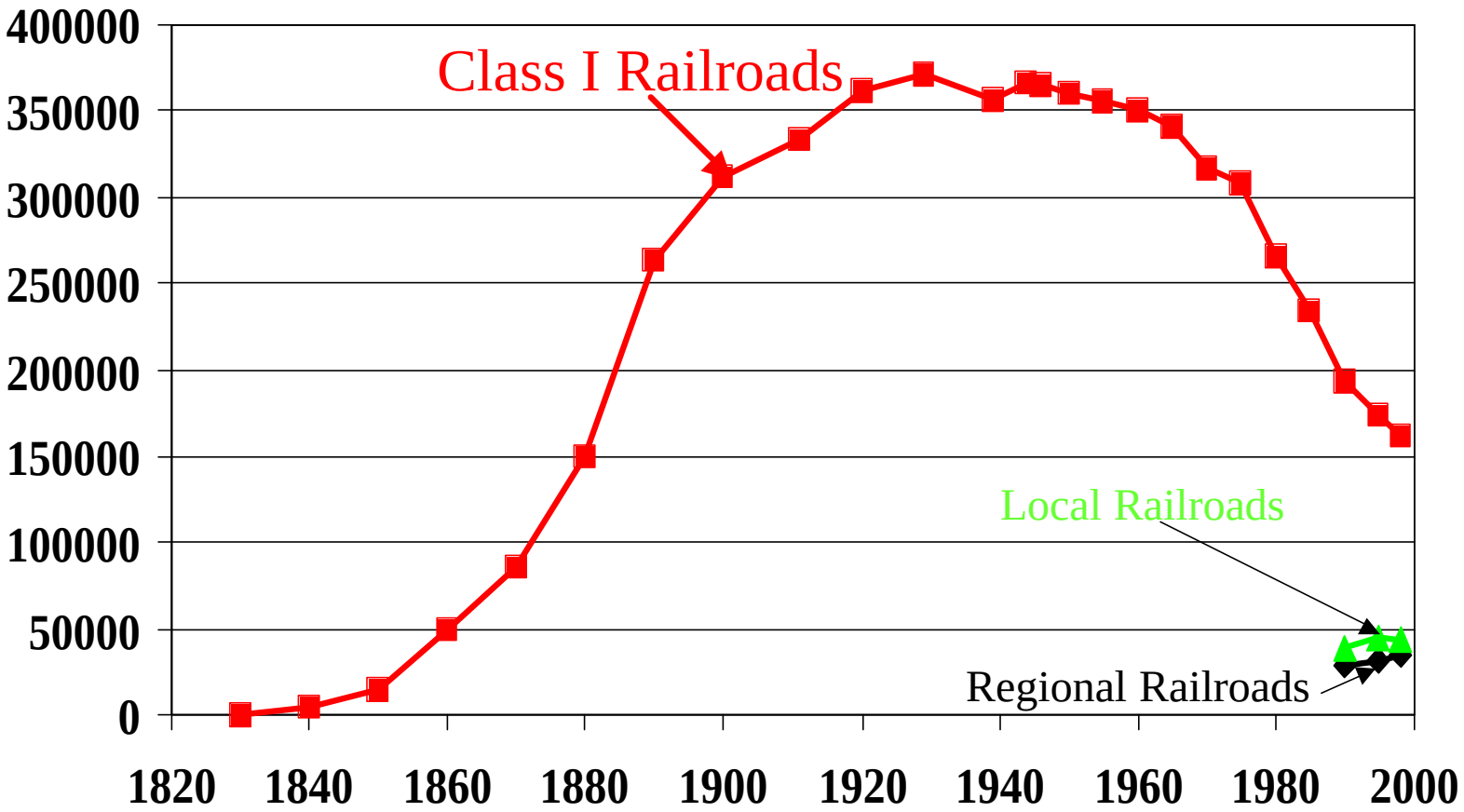
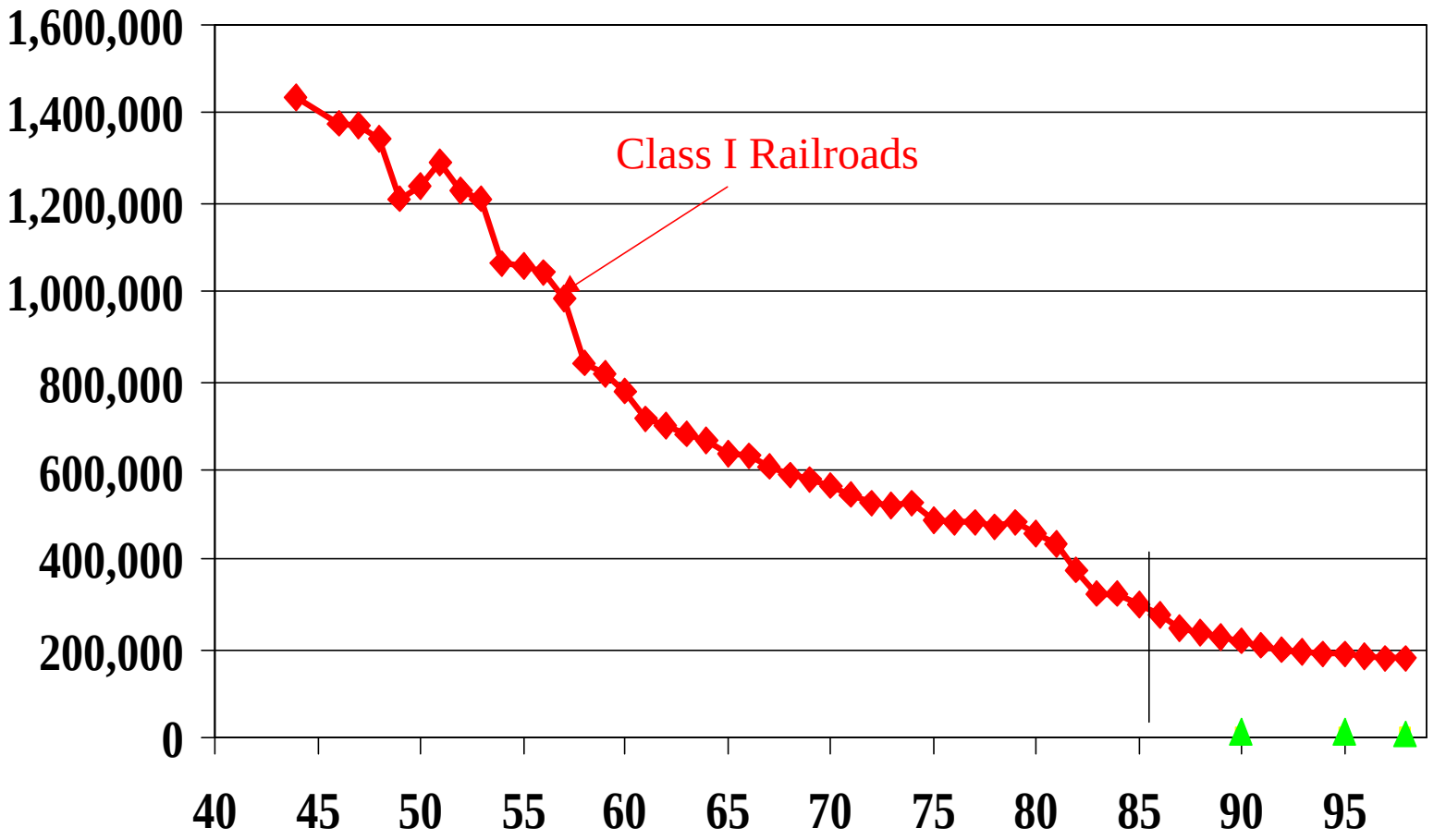


Figure 5

Employees of US Railroads



Because of scale, Regional and Local Railroads cannot be shown properly. In 1998 Regional Railroads had 10,995 employees and Local Railroads had 11,741 employees

Figure 6

Ton-Km in the US By Mode

(000,000 Ton-Km)

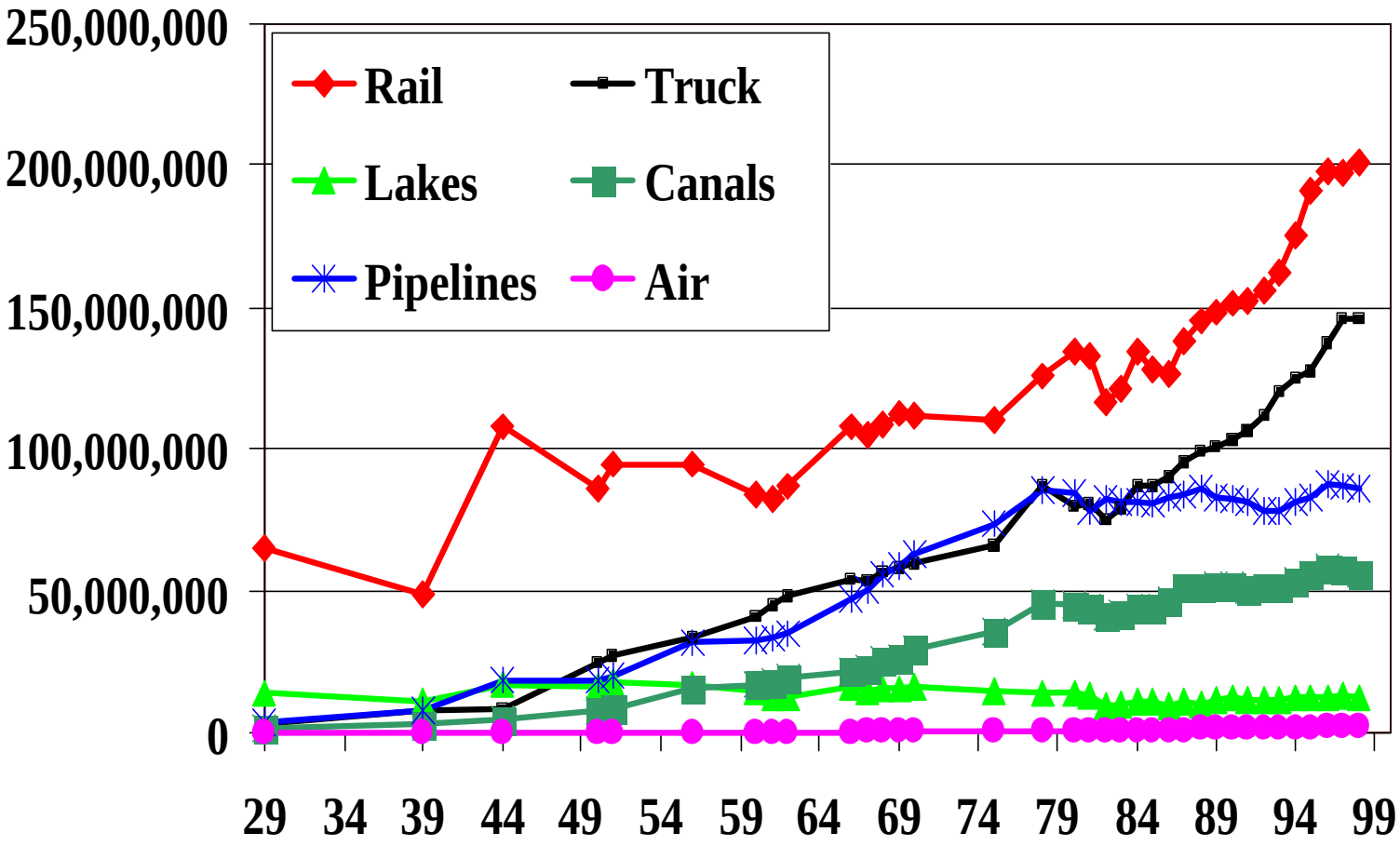


Figure 7

Productivity in US Railroads:

Index: 1982=100

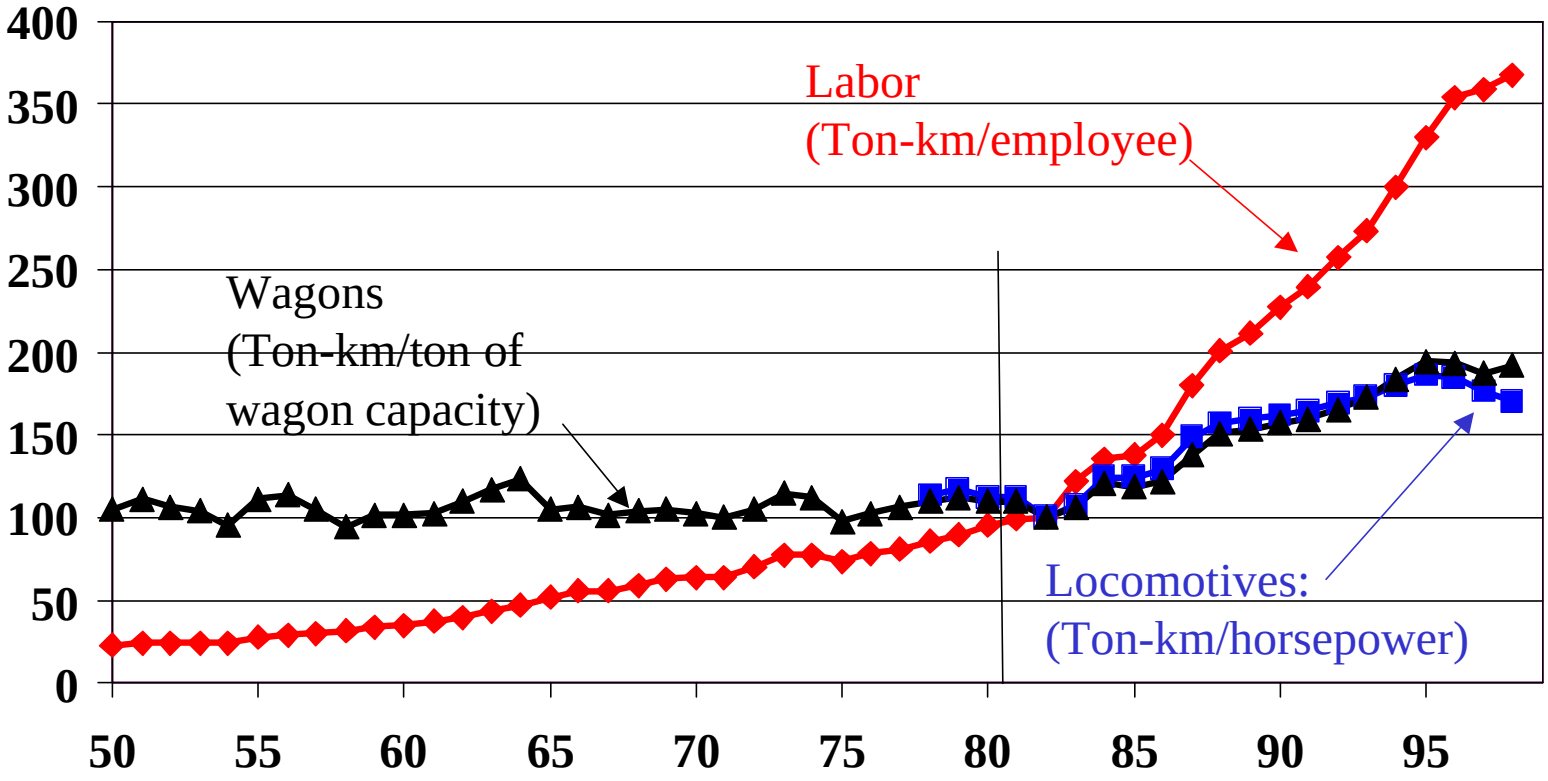


Figure 8

US Rail Freight Revenue

(US cents/ton-km)

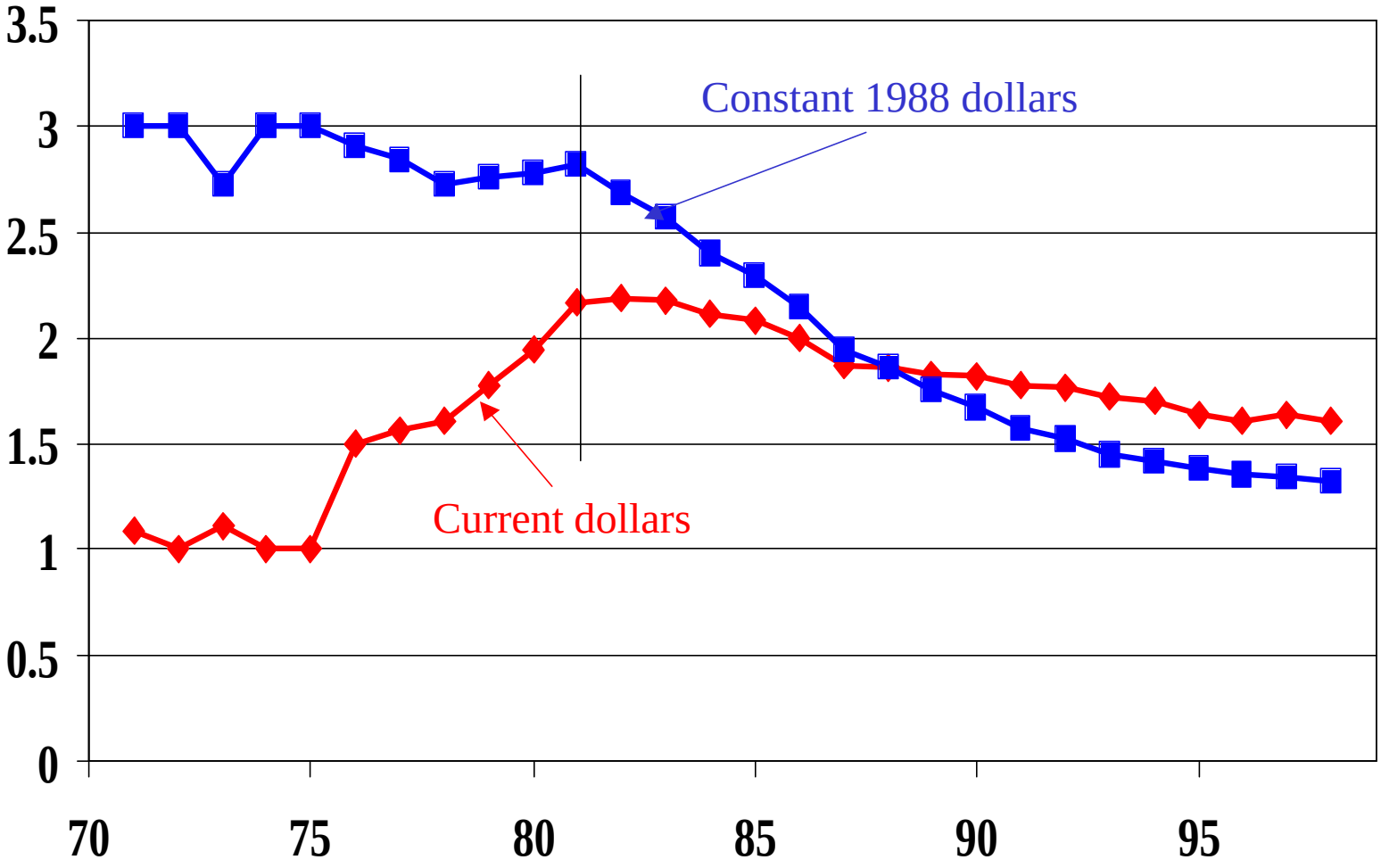


Figure 9

Trucking Profitability in the US

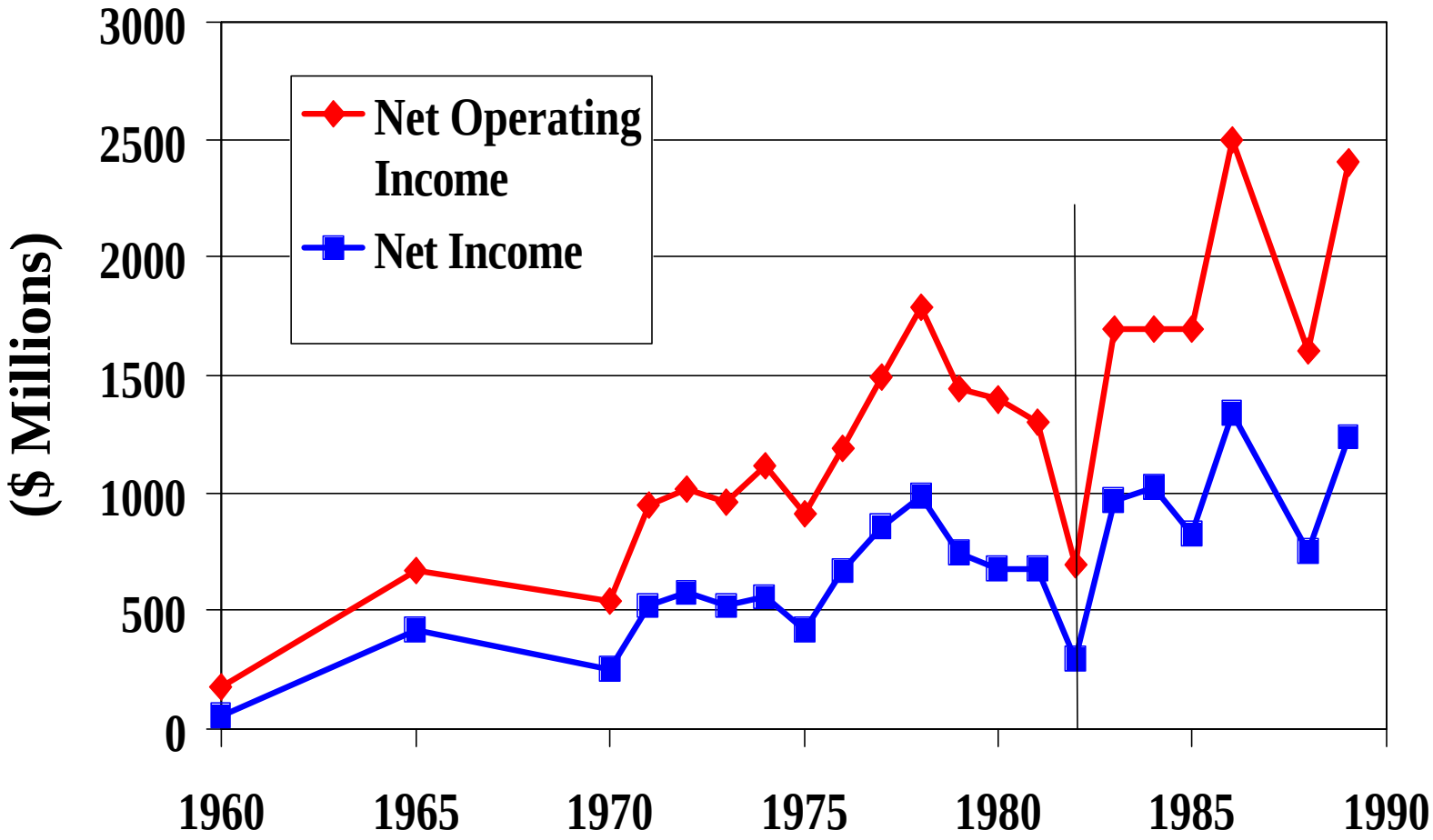


Figure 10

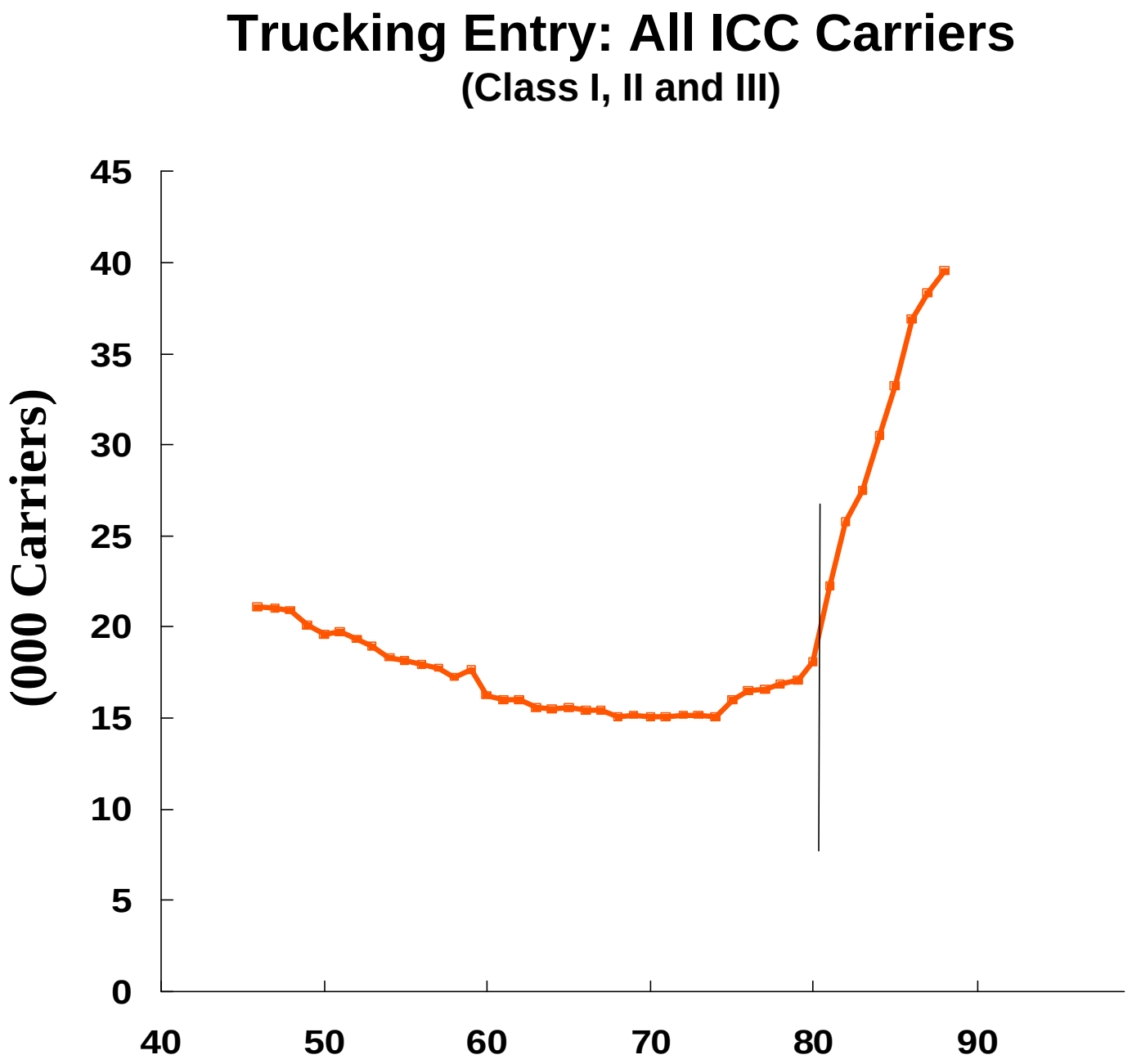

Trucking Entry: All ICC Carriers
(Class I, II and III)
(000 Carriers)
45
40
35
30
25
20
15
10
5
0
40
50
60
70
80
90

Figure 11

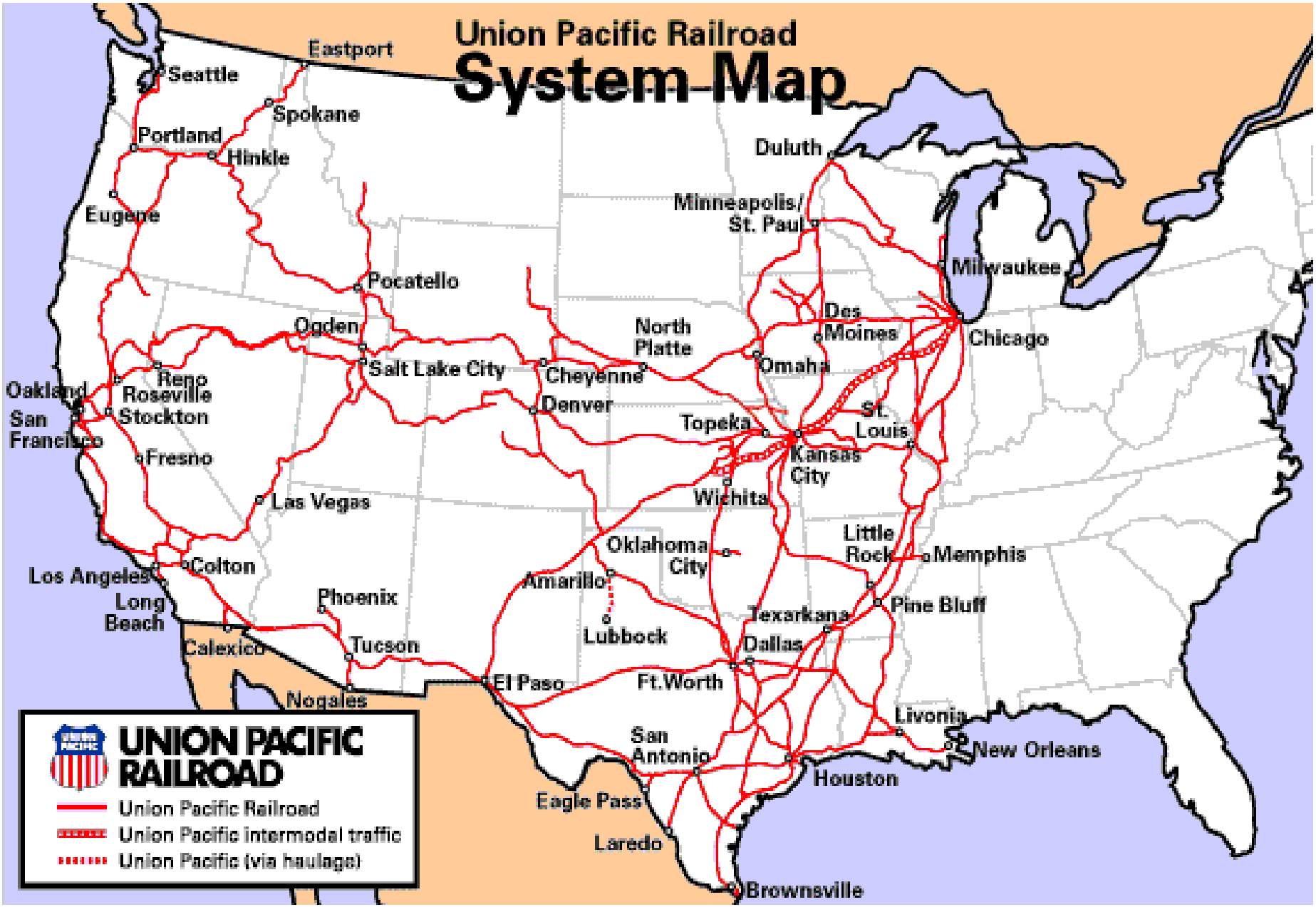

Union Pacific Railroad
System Map
Eastport
Seattle
Spokane
Portland
Hinkle
Eugene
Duluth
Minneapolis/
St. Paul
Milwaukee
Pocatello
Ogden
North
Platte
Des
Moines
Chicago
Salt Lake City
Cheyenne
Omaha
Oakland
Reno
Roseville
San
Francisco
Stockton
Denver
Topeka
St.
Louis
Fresno
Kansas
City
Las Vegas
Wichita
Little
Rock
Memphis
Oklahoma
City
Los Angeles
Colton
Amarillo
Phoenix
Long
Beach
Texarkana
Pine Bluff
Lubbock
Calexico
Tucson
Dallas
El Paso
Ft.Worth
Nogales
Livonia
San
Antonio
New Orleans
Houston
Eagle Pass
Laredo
Brownsville
UNION PACIFIC
RAILROAD
Union Pacific Railroad
Union Pacific intermodal traffic
Union Pacific (via haulage)

Figure 12

Burlington Northern Santa Fe Network

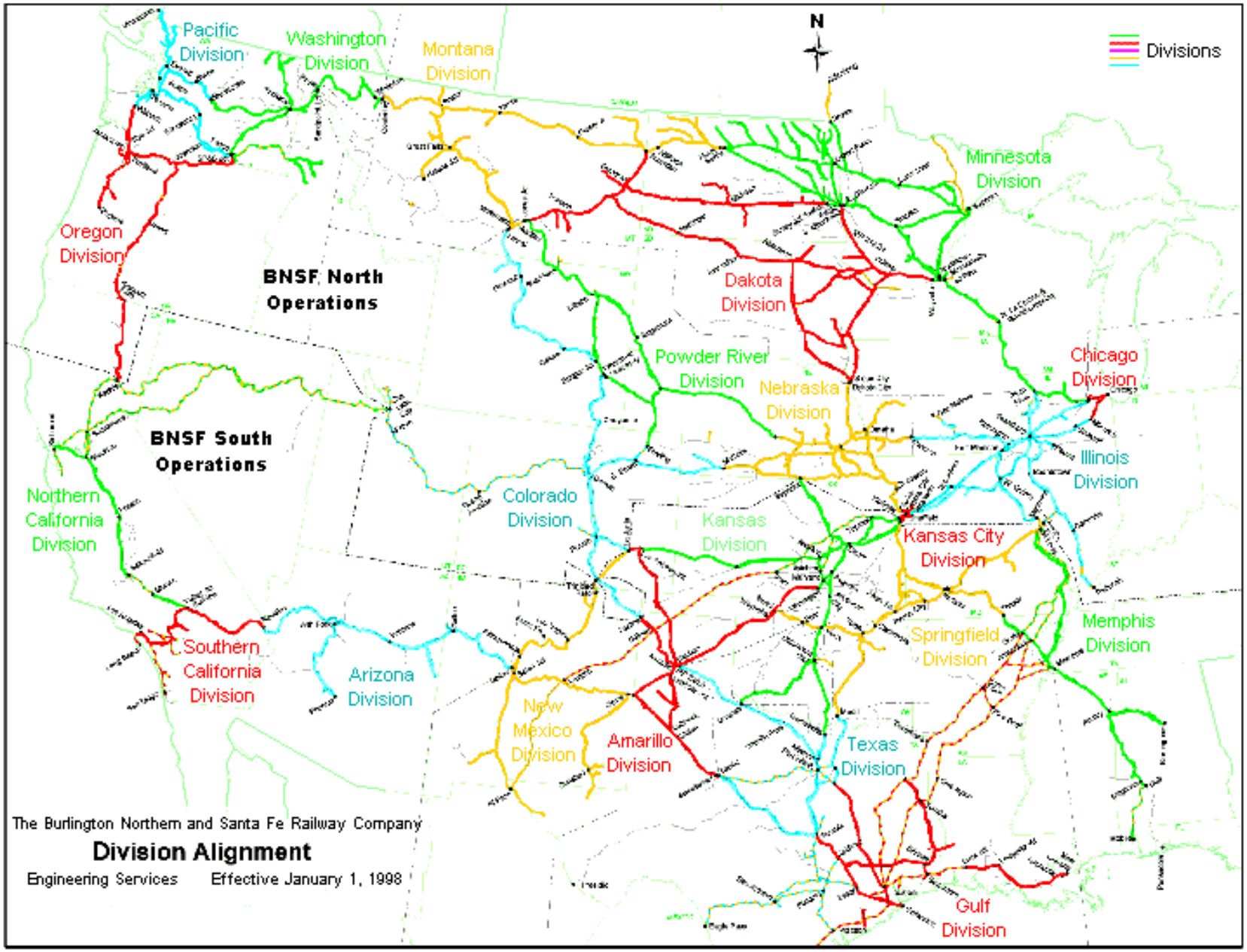


Figure 13

Kansas City Southern and Connections

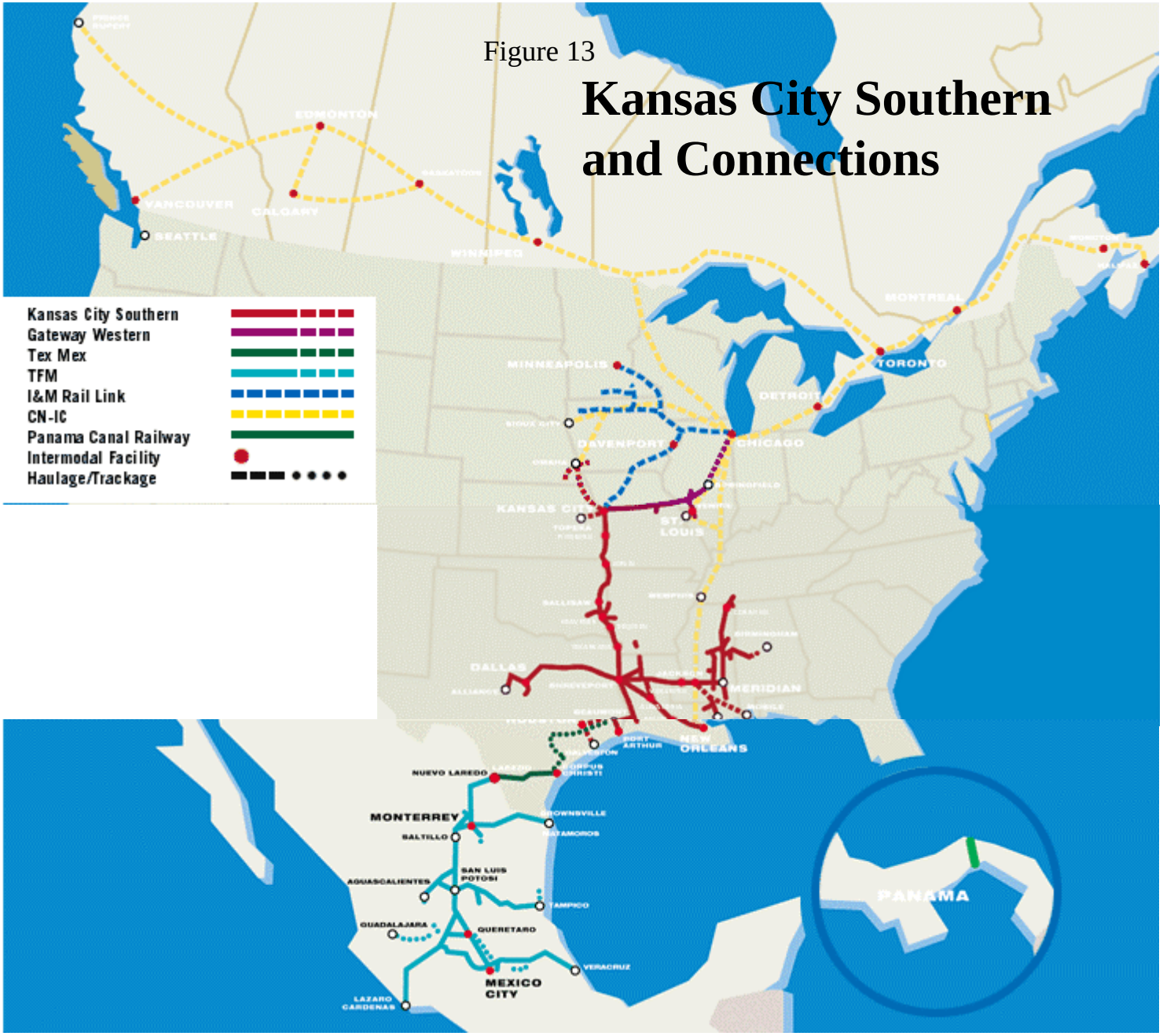
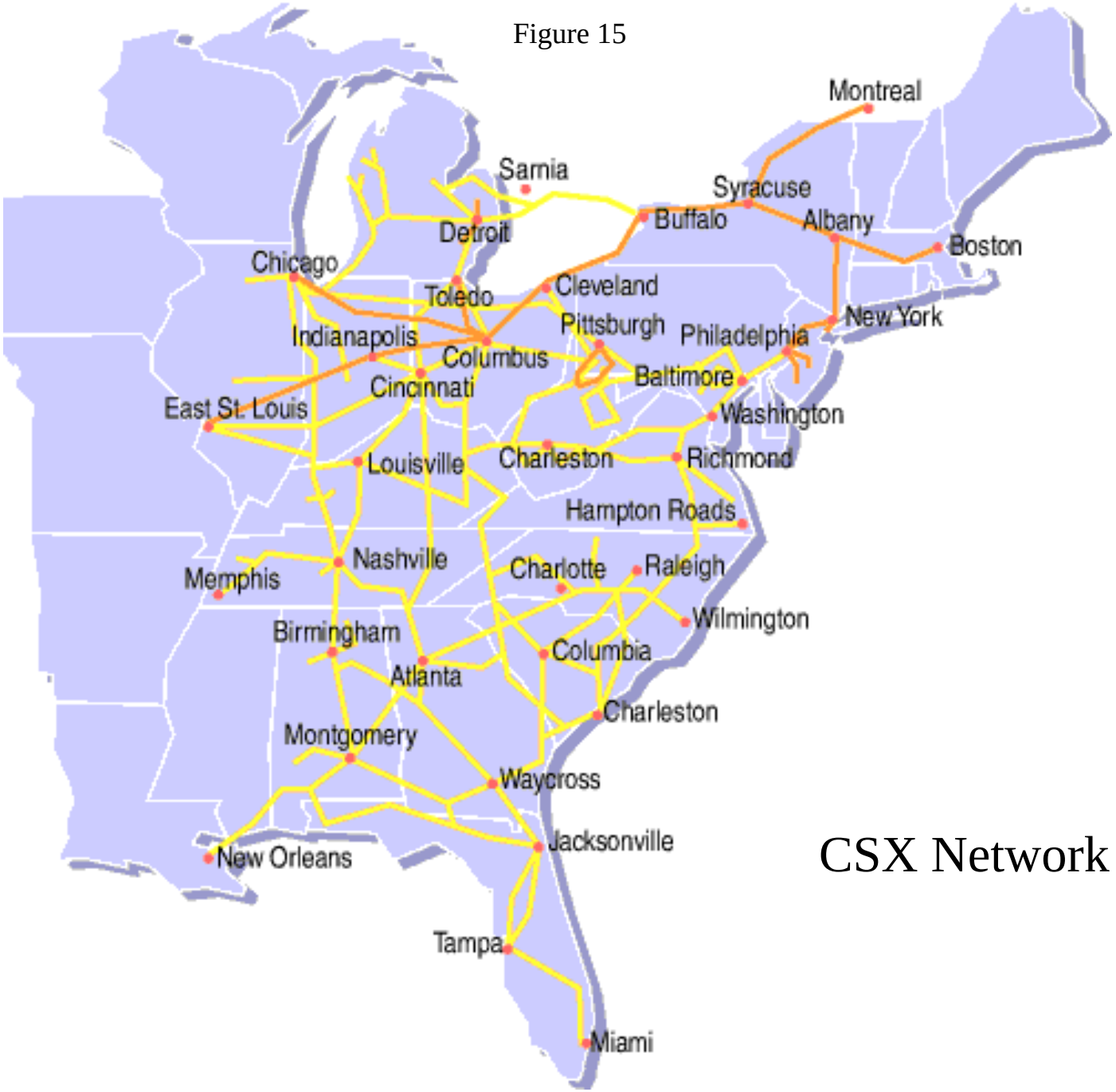


Figure 14


Waterville
Canada
Albany
Ayer
Buffalo
Binghamton
Detroit
Cleveland
Des Moines
Chicago
Altoona
New York/New Jersey
Philadelphia
Harrisburg
Wilmington
Fort Wayne
Pittsburgh
Baltimore
Indianapolis
Charleston
Cincinnati
Kansas City
St. Louis
Louisville
Roanoke
Norfolk/Hampton Roads
Knoxville
Charlotte
Morehead City
Memphis
Chattanooga
Columbia
Atlanta
Birmingham
Charleston
Macon
Meridian
Savannah
Dallas
Brunswick
Jacksonville
New Orleans
Mobile
Port Arthur
Miami
Norfolk Southern Railway System
Norfolk Southern Railway and its Railroad Operating Subsidiaries
NS Trackage/Haulage Rights

Figure 15



CSX Network

Figure 16

Canadian Pacific Railway Network

Figure 17

The Canadian National Railway Network

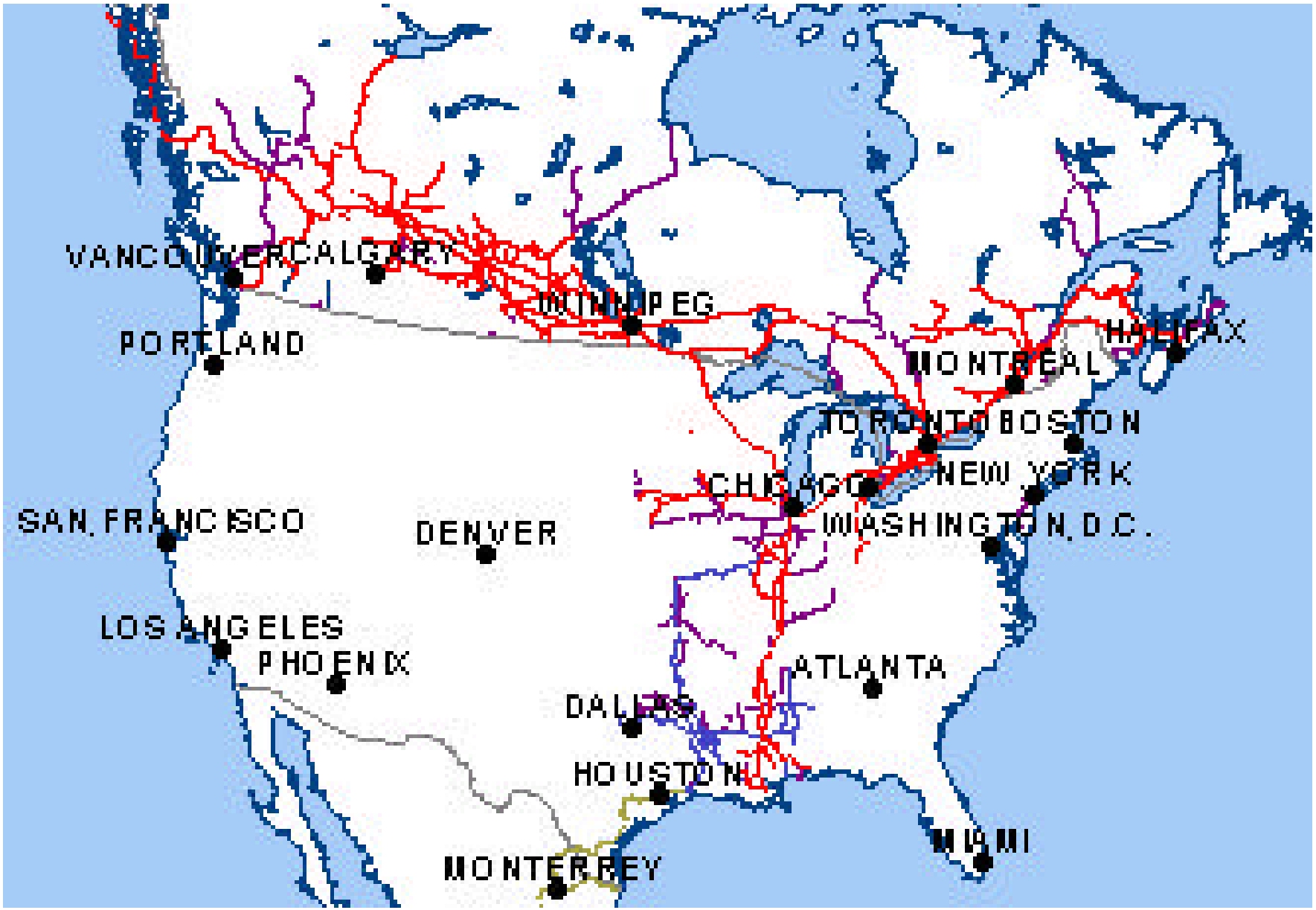


Figure 18

US Rail System Map: Class I Railroads

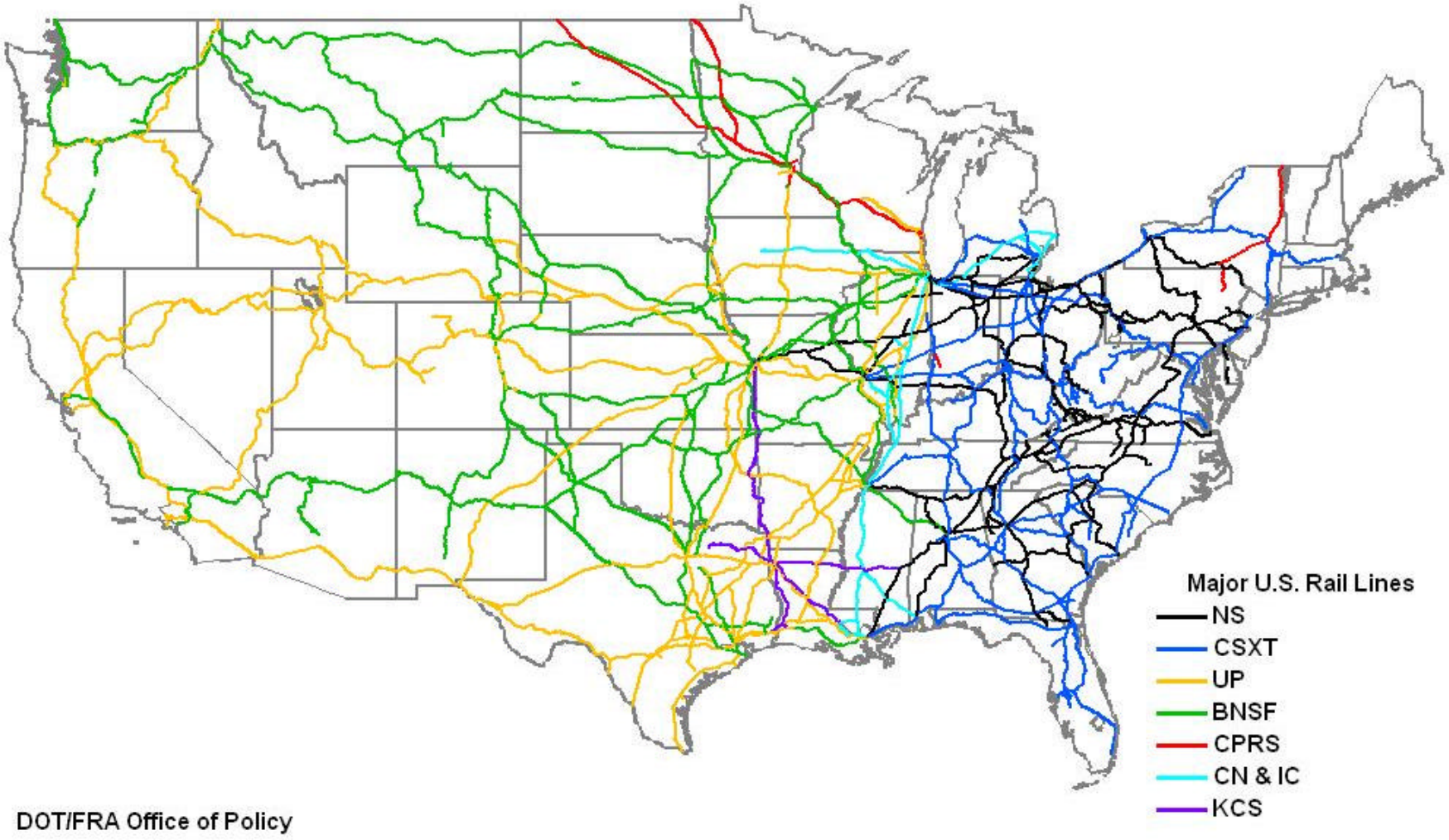


Figure 19

Multiple Use US Tracks (Excluding Amtrak)

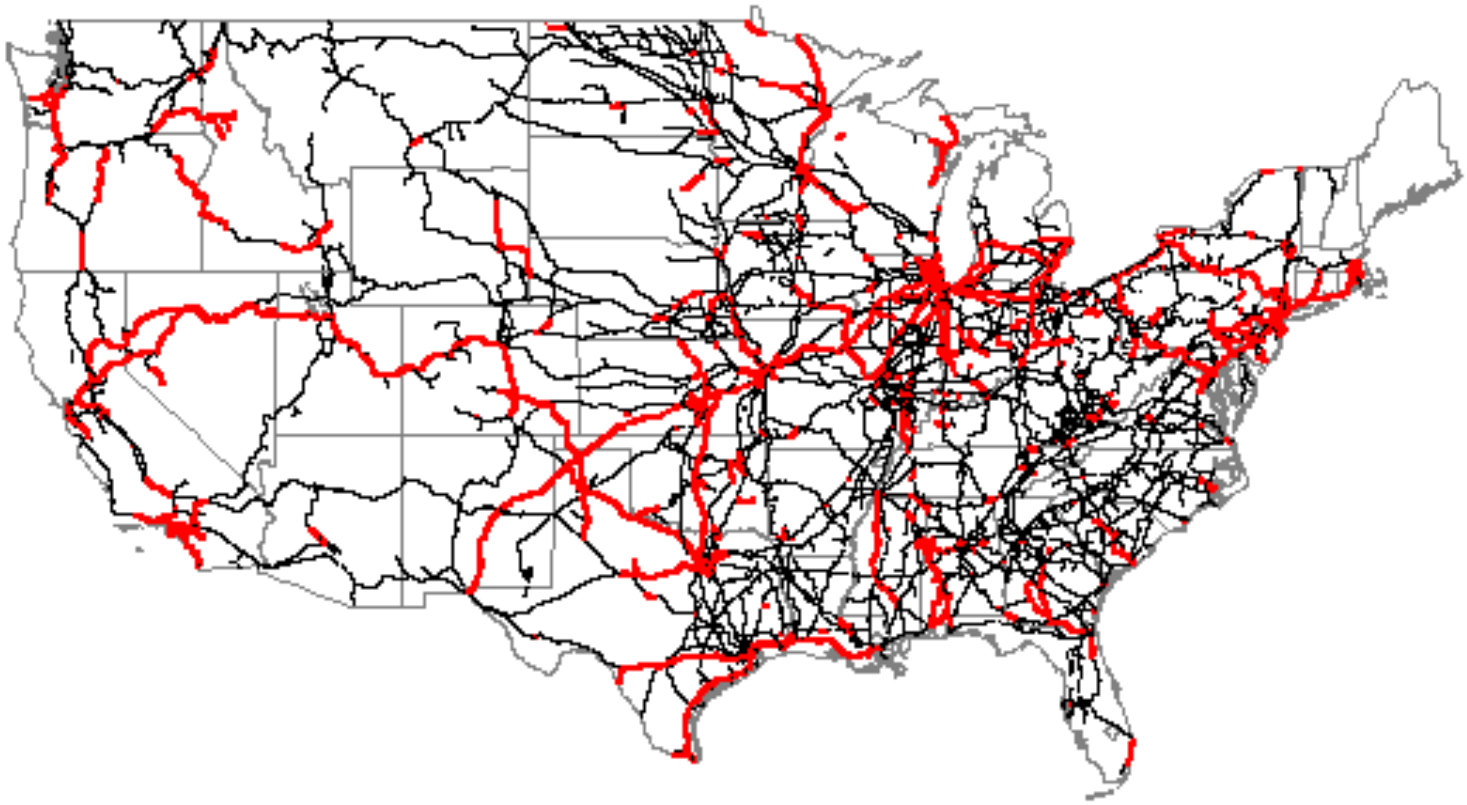


Figure 20

Multiple Use US Tracks
(Including Amtrak)