A tribute to Dr. Charles N. Kimball on the coincidence of the 100th lecture in the Midcontinent Perspectives and Dr. Kimball's 81st birthday

Charles Kimball conceived this enduring and inspiring series of talks as a means of bringing voices from the heartland to a broader audience of thoughtful people. From the Midwest, these comments often reflect the independent spirit and fundamental values of those who live here. On the occasion of this centenary presentation, we thank Dr. Kimball for his gift to all of us, as we look forward to carrying his inspirations into the next millennium. Happy birthday.

– Landon H. Rowland

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Racing, Shuffling, or Stumbling Into the Millennium: Surface Transportation After 2000

In the fall of 1991, when Dr. Kimball and I first discussed some of the ideas I will present today, he emphasized the need for "fresh thinking." What was fresh thinking then already has become commonplace – perhaps "old hat" – to those of you who are concerned about our topic. It is now undisputed, if poorly understood, that we have an enormous infrastructure deficit, that it is growing, that this deficit matches in importance our national financial deficit, and that this deficit drastically affects our ability to compete in world markets. For all these reasons, our infrastructure deficit has been transformed into an infrastructure crisis. Less obvious, even mysterious perhaps, are the elements of the crisis and the possibilities for addressing it. Today we will explore these ingredients and possibilities.

Infrastructure as a word is bad enough, but its reach as a concept applied to the necessary physical structures and networks of our economy is truly daunting. It covers the known world from electronics to people and everything in between. However defined, and even as limited for our purposes today, this infrastructure is the foundation and driver for a vigorous market-based economy. The problems of converting state-planned "control" economies of the old East Bloc and Third World to market-based systems without such facilities demonstrate their indispensability.

For example, in the several "Dragon" or "Tiger" economies of Southeast Asia, the failure to build infrastructure as they built manufacturing capacity is now recognized as having retarded their further expansion. Of course, such an infrastructure deficiency is more easily addressed where saving rates are greater – China, 30 percent of Gross Domestic Product (GDP); Singapore, 42 percent than in the Organization for Economic Cooperation & Development (DECD), where it is 19 percent. Japan's saving rate is reported to be 14.1 percent versus 5.1 percent for the United States.

A recent article in the *Washington Post* noted that the transfer of a sophisticated network of the sort developed and operated by United Parcel Service or Federal Express into a new and relatively developed marketplace, such as Europe or Asia, has been frustrated by deficiencies in the local surface transport scheme. UPS, in particular, because of its growing use of rail in the United States, is especially harmed by the obsolete character of European railroad operations.

Whatever the present condition of our total infrastructure, its superiority to anything else, and its role in gaining and keeping our position as the largest open market in the world – speaking in terms of value, geography, and population is undisputed. The U.S. GDP of $4.8

trillion greatly surpasses the combined GDP of $913 billion for the European Economic Community. If we think in terms of a North American Free Trade Zone and combined U.S.-Canadian-Mexican GDP of $5.5 trillion, the gap is still impressive. These markets function over geographic spaces that are enormous compared to our competitors.

A brief word about some elements of this "underpinning" is in order. Our communications infrastructure – the means by which we move information electronically – is still the world standard for low cost, widely available, and technologically superior facilities. Worldwide, everyone admires the communication industry's ability to generate new capacity at higher levels of technology and service.

Our power generation and transmission facilities are also in excellent condition. That industry's flexibility in meeting the nation's constantly growing power needs is remarkable.

At the same time that investor-owned utilities are facing the prospect of reorganization and integration, they must also meet the challenge of independent power producers as new entrants to the industry. Pipelines are also a vital part of our infrastructure. This web of underground tubes and valves moves many of our important energy and chemical raw materials and finished products.

Waterways for commercial traffic are a story unto themselves. They are impacted by growing recreational demands for water, which reduce the flow necessary for commercial use, and by the deterioration of our lock and dam system. This waterway system has a formidable advocate in the Corps of Engineers, which somehow manages to generate support for projects which might not otherwise be economically justified. These waterways are part of a larger issue – our entire water and sewage plant for consumer and industrial uses is in serious trouble. This important subject must await another speaker on another day.

I will not discuss these or other parts of the total U.S. infrastructure to any great extent. This omission is not intended to downplay their importance, but only to permit time to address some pressing issues affecting surface transportation. Indeed, each of them, and the separate networks they form, teach lessons to those concerned with other kinds of surface transport facilities. Altogether, they make up a rich environment for transactions in goods and service – an environment which allows for and promotes change, which permits "bypass" to technologically and economically better solutions, and which is unequaled in our history.

The focus today is the surface transportation of materials and goods, not people. There are advocates of surface transport options for people, but the refusal of people to use them except in limited situations, the hidden subsidies for autos (free and employer-provided parking, low fuel taxes), the real and disguised high cost of mass transit, and the ready and relatively low-cost availability of airline travel makes pursuit of such options expensive, financially and environmentally. According to yesterday's *Investor's Business Daily*, the actual cost per trip in selected cities is Portland, $9.49; Washington, D.C., $11.97; Baltimore, $13.56; Atlanta, $29.47; and Pittsburgh, $34.64. As one might expect, the fares in each city are considerably less and still the facilities are underused.

Turning to surface transportation – primarily roadways and railways which move goods and raw materials throughout this varied continent – concern about the complementary transportation systems and networks to support a national market has a long history. Not quite 170 years ago, on April 29, 1822, Congress passed the Cumberland Road bill to repair and

finance the National Road (or Turnpike) and to establish tolls and tollgates. A week later, it was vetoed by James Monroe, who said Congress did not have the power to build a national road system. He nonetheless proceeded to recommend a constitutional amendment which would authorize a national system of internal improvements.

A national plan for internal improvements – the means of communication and transportation envisioned to open up and unite the interior and seaboard of the continent and to create a national economic system – had actually been conceived in Jefferson's presidency. In February 1807, Congress asked that Secretary of the Treasury Albert Gallatin prepare such a plan with specific recommendations for making roads and canals. Gallatin's extraordinary report on April 4, 1808, was the result. His report guided "infrastructure" thinkers for the balance of the 19th century, but its comprehensive proposals for roads and canals were never implemented because of disputes over public financing and the emergence of a powerful new technology – railways. Only in the 20th century, when another new transportation technology with appeal and access to the citizen consumer-user appeared, in the form of automobiles and trucks, did substantial investment in public roadways begin.

The current scope of the infrastructure crisis is revealed in the debate surrounding the passage in late 1991 of the Intermodal Surface Transportation Efficiency Act (ISTEA). This law contemplates that $151 billion (or $18 billion a year) will be spent between now and the end of the century to address our needs for highways, bridges, and tunnels. But that sum is only a drop in the bucket and does little to address our true needs. Investment in public transportation infrastructure since 1970 is 65 percent of that between 1950 and 1970. Authorities have shown that the fall in infrastructure investment has been a major contributor to our declining economic performance.

The Congressional Budget Office (CBO) has estimated that we need to spend $800 billion between now and 2000. (Nothing is said about our harbors and ports and their rundown condition and congestion. These facilities are more important than ever in a world economy.) That $800 billion estimate is consistent with the Joint Economic Committee and the Association of General Contractors' estimates of annual needs between $64 billion and $118 billion per year. The cumulative cost of deferred spending and maintenance at these levels will certainly be greater. As each year passes, the gap between needs and funds available grows, and intensifies the problems and dangers of crumbling structures. That, in a nutshell, is the scope of the infrastructure deficit. Failure to spend at least $100 billion a year imperils our economic gains and stability. But funding on this scale is not available. And there is nothing for "catch up."

In addition to these financial estimates of the infrastructure deficit, there are other, more subtle, factors which expand the scope of the crisis and which will influence our transportation planning and spending. These factors are pervasive and beyond our ability to control them.

For example, congestion is receiving more and more attention. The Federal Highway Administration has warned that demands on our highway system are exceeding not only the supply available at a reasonable level of service, but the very capacity of the transport system itself. Models have recently been developed that estimate current and future levels of urban freeway delay, ranking our cities by the severity of their present and prospective congestion problems and quantifying national economic effects in terms of wasted fuel and time. The model does not measure relevant social costs attendant to congestion, including pollution and

environmental costs, increased costs of doing business, loss and damage claims, and the costs of political, police, and health care systems that are increased by highway congestion.

Using this model, urban highway congestion rose in peak hours from 54 percent in 1983 to 65 percent in 1987. By 1991 this figure had risen to 69 percent. These data, incidentally, show why recent expansion of unregulated "commercial zones" for trucking around large cities, such as Kansas City, is misguided and counterproductive. According to the Federal Highway Administration, if nothing is done, and the estimated 50 percent increase in vehicle miles by 2005 occurs, total vehicle hour delays will rocket to 436 percent, generate excess fuel consumption of 7.3 billion gallons, and cost $50 billion annually in user time.

The delay cost of congestion can be calculated. These costs rise dramatically as the congestion rises. At low levels of congestion, delay costs are modest. However, they rise from 1.6 cents per mile to 14.4 cents per mile when 50 percent of the road's capacity is consumed, increase to 31.7 cents at a 70 percent capacity utilization, and to $1.79 per mile when the highway is "fully congested." These values also fluctuate as the terrain changes; hilly or mountainous congestion effects are greater. These calculations are based on the "Green Fields" equation, which is the most widely used traffic flow formula. This formula attempts to calculate marginal changes in traffic speed resulting from a one percent increase in "passenger car equivalents" (PCEs) at various traffic levels. PCEs are the standard engineering gauge of a vehicle's effect on highway capacity. These figures can also be translated into a travel time delay for all other users at a value of $14 per hour per vehicle.

In much the same way, the environment will impact transportation planning and spending. There is a conscious effort in many political and regulatory bodies to encourage and to impose the least environmentally intrusive and harmful solution to transportation problems.

Energy policy is in the same category. Issues of transportation infrastructure are bound up with issues of energy and environmental policy. There is an increasing pressure at both state and federal levels to identify, in many public policy matters, the full range of costs associated with supply and demand for energy. The goal is to use energy policy to reduce environmental damage. In California, where many of our policies on these matters are thought to originate, regulators have begun to consider imposition of "environmental adders" in utility rate-making. In transportation, such approaches have led the California Air Resources Board (GARB) to focus on vehicle emission control to limit air pollution and global warming. Gasoline and diesel engines also have received their share of attention. In the case of railway locomotives, the CARB goal is to electrify all operations or require the use of natural gas or methanol as a fuel.

Finally, intensifying demand for accelerated distribution places great pressure on surface transportation networks to ensure service levels that would have been fantasies even a few years ago. The attention given to "Just in Time" manufacturing and inventory systems masks a more significant development in the growing focus on logistics management throughout the enterprise. The use of such techniques is already widespread in the United States and in the European Community. One analyst put it this way: "No one wants any inventory, but they want 100 percent service levels." (See "Here, There, Everywhere," CIO, 1 May 1991, pp. 53, 54)

There is no ready solution for our infrastructure crisis, but it should be evident that the crisis and the deficit which goes with it exist almost solely in the public sector. Those parts of the infrastructure that were mentioned, but omitted from this discussion, are in private hands and "self-financing."

Where is the money to address this crisis coming from? It is increasingly unlikely to come from federal, state, and local governments. ISTEA, the 1991 law previously discussed, recognizes this situation. While sums authorized by ISTEA are inadequate to the task, it makes a significant change in the financing and planning of the transportation plant. For the first time in modern experience, private ownership of highways, bridges, and tunnels is encouraged and assisted. To encourage private action, major federal subsidies are available, and the imposition of tolls and user charges is permitted, not only for construction and maintenance, but also to ensure a return to investors. This law will effect a fundamental change in the allocation of public and private resources to the essentials of surface transportation. But it is only a part of a worldwide attempt to address, in a sensible manner, the real costs of infrastructure and to determine how and by whom those costs are to be paid.

For example, toll roads are more common in Europe and the Pacific Rim than in the United States. Most of the foreign road networks, including bridges and tunnels, comparable to our interstate system are financed and maintained by tolls. More importantly, these facilities are *privately* developed, owned and operated. These owners seek and adopt new technology, including electronic tolling and Automatic Vehicle Identification, to keep track of vehicle use and its impact on their systems. Moreover, consideration of privatization of state-owned railways is proceeding in many countries. The prevailing state-owned systems are acknowledged failures in meeting the needs of shippers in a world economy. As one observer said, “They lack a commercial attitude.”

Privatization is quite far along in the United Kingdom, but there is unlikely to be any action on the plan to privatize British Rail until after implications of the recent general election are clear. The complexity of the British task is suggested by the possibility that privatizing British coal may damage prospects for selling British Rail’s bulk freight operation. In early March, the Port of Tilbury at the east end of the Thames in the United Kingdom was privatized through sale of its facilities to its management and private investors. It was recently announced that with improved financial performance, the corporation was preparing to sell shares to the public.

In North America, Mexico also wants to finance a massive expansion of its transportation network by awarding toll concessions to private companies or by selling its existing roads and using revenues to build new highways. Argentina, Malaysia, and Thailand are also privatizing their highways.

I have spoken of the crisis in surface transportation infrastructure in general terms, but the crisis is not general. It is limited to the public sector, and to the highways, bridges, and harbors built and maintained – at public expense. The notable exceptions to the general situation are the surface pathways owned and run by the railroads. Here it is worth considering what has happened to railways in this country since 1980.

In the mid-’70s, 22 percent of America’s rail mileage was being operated under the gavel of bankruptcy courts. The term “standing derailment,” which was added then to railroad jargon, was all too symbolic of the physical plant and the financial underpinnings of the industry itself. Shippers fled to competing forms of transportation – barge and truck lines – as a result of deteriorating rail service and subsidized alternative pathways. There was rapid “disintermediation” from rail to highways, especially since commercial users paid next to nothing for their use.

On the edge of extinction, the industry fought hard in the '70s for even partial deregulation. The passage of the Staggers Act in 1980 to start deregulation was nearly too little, too late. But with deregulation under the Staggers Act, railroads got quickly down to the business of increasing productivity, managing their resources more efficiently as a matter of survival, and addressing the real needs of their customers. In the decade following deregulation, the industry invested cash and constant effort to incorporate technological advances into track, signals, and equipment. There has been a substantial reduction in unneeded workers, elimination of unprofitable routes, and rebuilding of plant and modernization of locomotives, other equipment, and communications.

The capital investment tied to this undertaking was substantial. During the '80s, railroads invested more than $30 billion in improved rail, ties, ballast, signals, computers, new-generation locomotives, and innovative rolling stock, and another $100 billion in maintenance.[1] There has been no letup in outlay for roadway and track programs, despite the recession of 1991.[2]

An immediate result was improved service and safety – a 61 percent reduction in loss and damage claims and a 64 percent decline in train accidents.[3] Today there are approximately 1,324 fatalities per billion ton-miles on the railroads, compared to 4,370 fatalities per billion ton-miles of truck traffic on intercity highways. Useful lives of rail assets have also been extended. Since 1984, better maintenance has resulted in a 33 percent improvement in rail life.[4]

Other measurements reflect the application of new technology and better operating practices to this industry. Freightcar utilization rose 13 percent during the 1980s, while train operating efficiency rose 51 percent and fuel efficiency increased 36 percent.[5] Pooling agreements, more unit trains, contract and rate incentives, reduced back-haul rates, and automated fleet control procedures – all helped improve fleet utilization.

However, none of these investments are really meaningful unless productivity improves. Since 1979, railroads have led the entire transportation industry in gains in output per hour. Indeed, a recent Bureau of Labor Statistics report shows that railroads have led all service industries in such productivity gains by a considerable margin (8.3 percent annual growth in output per year versus 3.0 percent for intercity trucking and 6.7 percent for radio, television, and music).

These gains were achieved before completion of the recent federally mandated labor negotiations with those employees who actually operate our trains. The financial results of these negotiations will vary from railroad to railroad, but a uniform result will be to reduce manning of trains to the level which technology and safety have permitted for more than three decades. All railroads will be able to run with two-person crews, except where management concludes that

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[1] Railroad Facts (Washington, D.C.: Economics and Finance Department, Association of American Railroads, 1990) pp. 15, 55. Maintenance expenditures may be viewed as an investment and not a consumer of resources. Paul H. Banner and Francis D. Brosnan, Labor Productivity in Rail Transport (Washington, D.C.: Transportation Research Board, 1983).

[2] "M/W Stays on a Fast Track," *Railway Age* (March 1991).

[3] Between 1980 and year-end 1989, freight loss and damage claims fell from $285 million to $111 million. Railroad Ten-Year Trends, vol. 7 (Washington, D.C.: Economics and Finance Department, Association of American Railroads, 1990), p. 134.

[4] William E. Glavin, "Quality Now Railroads'Religion," *Progressive Railroading* (March 1991).

[5] Railroad Ten-Year Trends, vol. 7, p. 137.

larger crews are needed, and not the four or five previously required. There is a significant one-time cost of these additional gains, but it has already been reflected in the financial reports of the industry. The outcome of lengthy labor negotiations with the train and enginemen caps a period of steady improvement in the railroad operating environment.

The railroads' most exciting growth has been in intermodal traffic, where improvements in technology and service provide rail carriers with long arms into world trade corridors and transfer container and trailer traffic from highways to railways. These improvements now allow a container of goods from Tokyo to utilize the rail "land bridge" to reach New York in 13 to 17 days, compared with 23 to 31 days by water through the Panama Canal.[6] According to data from the National Motor Transportation Data Base, such changes in technology and service have resulted in a decline in truck traffic in the major doublestack rail corridors of almost 20 percent between 1987 and 1989.[7]

One interesting aspect of railway deregulation relates to the number and character of operating railroads. There are currently (as of 1990) 530 freight railroads operating in the United States. While this number of carriers represents an increase over the recent past, it in no way comprises the greatest number of railroad companies ever to have operated in this country. (For purposes of this discussion, an "operating freight railroad" is an active rail transporter of freight that has been recognized as such by either the ICC – in earlier years – or the AAR. Excursion companies, passenger and commuter railways, and non-interlining and infra-company railroads are excluded by the AAR.)

Always dynamic with regard to the number of companies, the U.S. rail industry has experienced continual change brought about by various factors – new rail trackage, formations of new companies, consolidations and mergers, failures, abandonments, line sales, and so forth. Initial physical growth of the national rail network took place from 1830 to 1920, when a peak of approximately 250,000 miles of road was owned. Since that time, rail mileage has been progressively reduced to its 1990 level of about 145,000 miles. Similarly, the number of railroad companies reached a maximum of more than 2,000 around the turn of the century and has declined consistently during the 1900s to approximately 530 in 1990.

An upward trend during the 1980s is observable, however. This phenomenon apparently marks the first significant expansion in the number of rail carriers since the cessation of track building in the early 1890s. From 1981 through 1990, 240 railroads were formed that were still operating as of 1990. The preponderance of these carriers were formed from former Class I trackage that had been determined by the Class I owner to be unprofitable or marginal. These new carriers are creating new traffic and customers at lower costs for this industry.

All of these private investments in a competitive industry have produced lower costs and lower rates for our customers. The most current ICC information on just how much rail rates have dropped since Congress partially deregulated the industry in 1980 takes us only through

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[6] Iver Peterson, "Imports by Rail Cut in Half Amount of Cargo Arriving at Region Docks," *New York Times* (13 January 1992).

[7] Annual sample, Transportation Research and Marketing (TRAM) of Challis, Idaho. Data are collected through interviews with truck drivers at 20 survey sites located in major long-haul corridors throughout the United States.

1989. Even those numbers are impressive: an inflation-adjusted rate decline of 24.5 percent in the first eight years of deregulation.[8]

One national consumer group – Citizens for a Sound Economy – concluded recently that, in this first decade of rail deregulation, shippers (and therefore consumers) are saving between $3.5 billion and $5 billion annually in lower rates and an additional $5 to $10 billion annually in reduced inventory costs brought about by improved railroad service.[9] The Brookings Institute expressed it this way in a report issued in June of 1990: "Conservatively estimated, (deregulation of railroads and motor carriers) has generated $20 billion (1988 dollars) in annual benefits to shippers and their customers. The benefits grow directly out of the correction of distortions caused by regulation."

Most of the improvement in profitability under deregulation has so far come from cost-cutting, not growth in market shares. Those gains were achieved during the years of economic growth between 1982 and 1989, and now are affected by the recession in 1991. Easy gains in productivity have been made, but further improvements will be tougher.

Railroads also face higher taxes during the 1990s. Income taxes are higher, and for the first time railroads are paying a fuel tax of 2.5 cents per gallon, which is dedicated toward deficit reduction. This is in contrast to the early and mid-1980s, when tax reform bestowed upon the railroads a one-time windfall of $2.5 billion. The Economic Recovery Tax Act of 1981 changed the manner of depreciating certain railroad capital improvement to a more traditional method. Although the long-term effect of this tax change was higher taxes for railroads, the short-term effect was an estimated net gain in cash flow of $2.5 billion.

With all this progress, America's railways carry no more than two-fifths of the nation's freight (compared to one-tenth in Europe), and it has been said that on any given day no more than 35 percent of our rail system's capacity is employed. The rate of return (8.1 percent in 1990) still lags the cost of capital.

More than a century ago, railroads became the first major U.S. industry subject to economic regulation. Despite the loosening of regulation that occurred as a result of the Staggers Act, railroads remain subject to more economic regulation than other industries. These problems were described in a recent report to Congress on railroad competitiveness by the U.S. General Accounting Office (GAO).[10] This study is most important, but I will only summarize it here. Details are in the appendix.

The GAO study examined a variety of factors influencing railroad competitiveness and, hence, shipping rates. Labor laws were highlighted as a cost factor that was uniquely higher for railroads than other industries. Together with subsidized rights-of-way for its main competitors, labor laws put railroads at an economic disadvantage. GAO's results in brief: "If all modes operated under the same labor laws and were equally responsible for their rights-of-way, relative

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[8] ICC News (Washington, D.C.: Interstate Commerce Commission, 14 May 1991).

[9] Michael Becker, Jerome Ellig, and Nancy Oliver, "Railroad Regulation and Consumer Interests," Economic Perspective (Washington, D.C.: Citizens for a Sound Economy Foundation, 1990).

[10] Report to the Committee on Commerce, Science, and Transportation, U.S. Senate, "Railroad Competitiveness: Federal Laws and Policies Affect Railroad Competitiveness" (Washington, D.C.: United States General Accounting Office, November 1991).

costs would change and rail rates could become increasingly attractive compared with truck or barge rates."

GAO's analysis suggests that gross railroad revenues could increase by $438 million to $1.4 billion if rail-competitive truck companies paid fully compensatory highway-user fees and such costs were reflected in higher truck rates. Barge industry analysts agreed that, if barges bore all costs associated with inland waterways, a substantial amount of traffic would move to the railways because of more attractive rail rates.

The linked, overlapping, and mutually supporting networks of the nation's total infrastructure are essential to our markets and shared prosperity. These networks are individually and collectively too complex and varied for state or government management. Private systems work the best, economically, in response to changes in technology and market demand.

Earlier I asked, "Where is the money to pay our infrastructure deficit?" The answer here may be easier than if we were trying to deal with the national debt. If we see the issue solely in terms of attracting capital to our failing surface transportation network, we can offer some possibilities. Mainly, we must find ways to convert much of our public infrastructure to private ownership and management.

First, we need a new or refreshed sense of the context for these matters. We can learn from our foreign colleagues' example, and from our own history, to rely on private initiatives and ownership of all infrastructure, but especially of highways, harbors, and bridges. We should defer to the market where such initiatives arise and flourish, and look to existing self-financing facilities in transportation, communications, utilities, and pipelines.

Second, the means of this transfer, or privatizing, will present opportunities for creative financing and investment. The growing success – believe it or not – of the Resolution Trust Company in packaging, "securitizing," and selling the distressed properties it received from failed banks and thrifts is an excellent example of what can be done. Transfer of existing distressed transportation properties "owned" by the governments will be more difficult because of the shared state/federal responsibility for many highways. The states own rights-of-way, but the federal government controls their use through the various financing schemes employed to build and maintain them. Nonetheless, sale or long-term lease of these facilities could be used to repay the federal government for its original investment. Such repayment could be devoted in a disciplined way to reduction of our national debt or to a growing agenda of educational and training needs.

Not surprisingly, Peter Drucker has anticipated nearly all of the matters discussed in this presentation. He sees the infrastructure shortfall as a long-term investment opportunity, especially when combined with a demographic demand for new investment products. He uses two examples of "the privatization of infrastructure markets": Germany's cleanup of the Ruhr, its most polluted river, by making it profitable for business not to pollute, and the new markets for trading the water allotments of individual farmers in California's Central Valley.

Third, the pricing of these facilities, old and new, will be user specific and direct, and will encourage new technology. Again, we can learn from recent foreign experience and from our own history. Improvements in "tolling" technology are proceeding at a rapid rate. Some of you are familiar with the approach to tolls and highways access control developed in Singapore years ago. Electronic tolling is now actively pursued in Europe and is being considered in this country.

Such technological solutions linked to private ownership of facilities are encouraged for the first time in recent U.S. history by ISTEA. Technological obsolescence is a typical feature of publicly owned surface transport facilities. As with other state-owned and -operated agencies, there is no market-driven incentive for change or adaptation, and their obsolete functions and means become a growing burden on the balance of the economy and culture.

Naturally, I believe railways will benefit from all these changes. We have made enormous progress in this industry since deregulation. The railroads of today are by and large financially sound and profitable. They have invested and are investing large sums in the improvement of their physical plants and in the technologies which allow the productivity improvement we have described. They are more creative and versatile in serving the complex needs of their industrial customers, and they have a great amount of unused capacity. Moreover, they are less environmentally intrusive than their competitors. By contrast, cars and trucks – and the highways they use – are now a larger consumer of land than agriculture. The 1991 GAO study shows that, given a level playing field, the nation's railways will easily and fairly assume a major part of the burden of our infrastructure deficit.

The essence of this particular Midcontinent Perspectives lecture is that our infrastructure deficit and crisis are over stated. Only one part of that complex array of mutually supportive and interactive elements is in crisis. We have brought that crisis on ourselves, largely through a failure to acknowledge the real and long-term costs of a "public highway" system. We have encouraged a variety of free riders in this system that none of the other infrastructure partners in telecommunications, electric power transmission, or pipelines would tolerate. But we are on our way to a more rational system, and we should encourage that process. Some subsidies may remain, but there will be a sharp reduction in the claims made on public resources through a transfer of costs of surface transportation to its direct users and beneficiaries. These public resources can then be applied to other more pressing domestic policy responsibilities.

Commitment to a fair and ongoing analysis of the benefits and burdens of the public infrastructure will be hard to achieve. It will be harder still to transform the analysis into meaningful practice and to sustain that practice over time. The incentives and the needs for this approach, however, should be so evident, and the alternative uses for public funds so pressing, that a common commitment to its realization should be forthcoming. With such a commitment, we will at least be "running," if not "racing" to the millennium.

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QUESTIONS AND ANSWERS

QUESTION: I heard today that the price of gasoline in Russia has gone up to $75 a gallon. Does that impact on your thinking about infrastructure crisis and meeting the infrastructure deficit?

ANSWER: Yes, we are woefully behind in appropriately taxing fuel usage in this country. And there is no question that if we did so, demands on our surface transportation

infrastructure would be entirely different. I don't mean to suggest to you that railroads should not participate in any increases in fuel tax. In fact, when we had this last go around, and we ended up with this penny-ante, nickel-a-gallon tax at the federal level, there was a significant movement among the railroads to say, let's be more realistic about this, because of all the things I mentioned. Of course, the rail industry's relative fuel efficiency makes a fuel tax increase less burdensome to us. But yes, if we were bold enough, and if we were smart enough, to really look at all of these complexities and impose a realistic tax, perhaps we would have enough money for highways, and there would be enough riders on these mass transit systems.

But low cost gasoline is part of the American way of life. Someone told me that it had a lot to do with keeping the refineries output up, but that seems entirely too cynical. We are far behind in having appropriate fuel charges imposed on our usage of automobiles, trucks, buses, and locomotives. It is an act of faith in this country that everyone is entitled to an automobile, even if they don't have a license to drive it. They are entitled to operate it at any time that they want to, the highways are to be free, and the gasoline as close to free as possible. So we are fighting a great number of obstacles in getting acceptance of a different apporoach. If we turn over much of this infrastructure to private interests, they will find a way. The same ingenuity found in other elements of our infrastructure plant will find ways to get the money to build and keep that plant and make money at it.

QUESTION: Comment on the central role, if there is one, for Kansas City in a national rail system.

ANSWER: Yes, it has a central role. If you believe this wonderful prospect for railroads is in the offing, and if you believe there will be an inevitable shift to this mode of transport, the role of Kansas City as the second largest rail gateway and interchange in the nation will grow. That enlarged role will be important to the businesses located here, it will be important to the people who work on those properties, and it will be important to our sense of the shared infrastructure that makes this economy function. It is very likely to increase Kansas City's importance, but it will probably take 50 years.

QUESTION: Would you please reinstitute service on the Southern Bell to New Orleans?

ANSWER: The Southern Bell was a fine service, but unfortunately we could not justify continuing the passenger service. There is a long history, which I won't go into, but unless there is a change in our energy policy, there will not be a return of passenger service on the Kansas City Southern. When I came to the property, I found that one of the great achievements of Bill Deramus, I.O. Hockaday, and Tom Carter was, in effect, to make us focus on the freight business that was our bread and butter. The freight business kept us out of bankruptcy. We had abandoned much of the track that was inefficient, and we had abandoned services that had lost us money, including passenger service. Regrettably, the time is far off for the resumption of the Southern Bell.

QUESTION: Are you being fair to the trucking industry?

ANSWER: It should be obvious from what I said that railways and trucks are interdependent. The railroads don't mean anything in this complicated economy without the fabulous improvements in trucking service and trucking networks that have been developed since 1950. It is a key part of the prosperity that we have enjoyed. I look forward to cooperating with our trucking partners.

We are entitled, however, to something closer to a level playing field. Private ownership of the interstates should be given a try, not withstanding what ISTEA did. That statute was very forthright and a productive and constructive first step, and I continue to believe that privatizing the interstate system would be very useful. Incidentally, the American Truckers Association recently said it wanted to buy the Massachusetts Turnpike from Boston west. I thought they had a very sensible idea, because they wanted their own pathway. I can't fault that – let them have it. We will be happy to compete with them. They can maintain their pathway, and we will maintain ours. We will haul a lot more freight to the profit of our owners, the prosperity of the families that work on the property, and the peace of mind of those who are in charge.

QUESTION: You mentioned safety and various improvements in your talks. I disagree with your measurements with respect to trucks. Trucks have a better record than your statistics show.

ANSWER: I can't fault your reaction, and I think that you are correct in saying that companies like Yellow Freight, who go to extraordinary lengths to demonstrate professionalism in the service they offer, have a good record. I am speaking primarily of the owner-operated community with which you have nothing to do. This segment of the industry is always going to cause problems for those who set the standards, such as Yellow Freight. The fact is there are more trucks on the highways carrying lighter loads at what I believe to be an unrealistically low price for the service involved. Whether Yellow Freight is hauling less than carload or less than trailer-load, I don't know.

Keep in mind that the condition of the pathway bears on safety. I am proud of Kansas City Southern because in the period from 1980 to 1991, as we have produced significant improvements in our system, we have spent roughly $350 million dollars bringing this railroad to the state of the art in railroad technology. When Dr. Kimball asked me for slides, I said that I wouldn't bring any because of the lights going up and down. However, someone prepared this graph for me that shows that investing in rail plant produces reduced derailments and better safety (see Figure 1), so I will show it here.

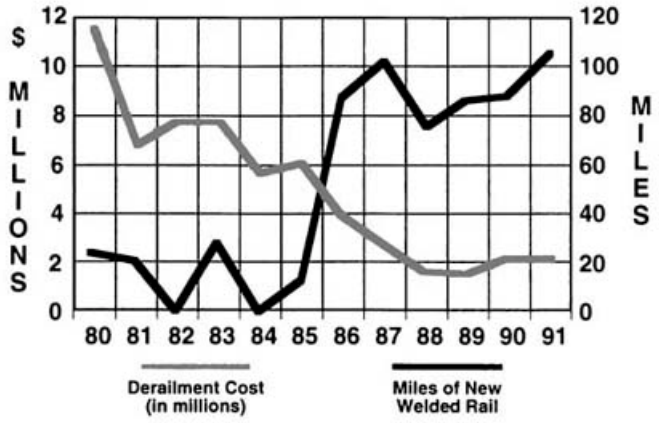

Figure 1. New rail laid versus derailments.

The black line represents miles of new rail laid from 1980 to 1991 on the Kansas City Southern, and the gray line is derailments. This graph illustrates that as you improve the physical plant, you reduce accidents and injuries. Not every derailment produces a personal injury, but we

still have situations where trains rock off at low speed – not in the same league as standing derailments, I am quick to say. But the benefits of additional investment by private industry in rail plant is undeniable, and such a program is something that neither government nor the truckers can do, day in and day out, on our highway and bridge system.

And I didn't even talk about harbors today. In a world economy more and more dependent upon shipping between continents, our harbors are totally congested. They are obsolete in facilities and operations and nothing is being done about them. They are the "stepchildren," so to speak, in this whole affair.

Yes, companies like Yellow Freight set the standards for accident prevention, for professionalism in driving and service, but unfortunately, they are not the people that we necessarily compete with. We compete with the truckload operator who, when he retired from a company and got his profit sharing or pension contribution, bought a big rig and took "Mama" on the road. The big question remains, "How do we deal with deterioration in the highways?" Truck companies, because they don't own the highways, can't do anything about this.

QUESTION: Is there anything we can do to correct this situation, and is there any likelihood we will see a changed situation?

ANSWER: Well, I like to think there is, but we have so far to go to effect a rationalization of the systems and structures, and that distance will carry us well into the millennium. So, in that sense, we are still stumbling on these issues because it is very hard to make the adjustments that you as a principal observer of these issues would recommend.

We do need a more sensible gas tax, but do you think that there is any possibility that we will increase the gas tax in this country a dollar a gallon, which would still bring us well below any world standard for gasoline taxes. We are paying less today for gas and diesel fuel, after inflation, than we did in 1952. Yes, our infrastructure can improve, but I don't know if it will be in my lifetime, and I don't know if we are disciplined enough as a nation to make the changes that will get us there. We need to have a way to let self-financing institutions play a role in this part of our infrastructure. If they do, it will be financially attractive to start train service and the Southern Bell may ride again!

Epilogue

Three days after this talk, on April 24, President Bush announced his intention to adopt rules allowing state and local governments more flexibility in selling government facilities. One of the issues mentioned in connection with the announcement was the division of proceeds from any sale. The federal government is entitled by law to 60 percent of such proceeds, and the President's statement appears to anticipate waiver of this right, in whole or part. Such a waiver might be required to induce transfer to private owners of facilities which are "run down" and in need of rehabilitation. (See *New York Times*, 25 April 1992.)

Then on April 30, the President signed an executive order, "Infrastructure Privatization," directing federal agencies to assist state and local officials in selling publicly owned assets, adjusting financial terms of present ownership to allow state and local governments to keep more of the proceeds of such sales, and ensuring that facilities involved would continue to be used for their "originally authorized purpose" with supervision of user fees.

This executive order, together with the provisions of ISTEA, will bring the United States in line with progressive foreign experience. But these recent developments raise questions of

government policy for other substantial federal assets which could be treated similarly. Such assets must be collected and administered by one agency devoted to privatization and maximizing returns to the federal taxpayer. Again, the RTC experience and success will be helpful.

Appendix

Railroads came under the Railway Labor Act (RLA) long before other industries became subject to the National Labor Relations Act. The essential difference between the two laws is that striking railway and airline employees are permitted under the RLA to engage in secondary boycotts.

An absurd situation developed three years ago that illustrates the need to eliminate anomalies such as secondary boycott threats. Members of one union striking Eastern Airlines threatened to engage in a secondary boycott that would shut down railroads. They threatened this, not because railroads were somehow involved, but only to create a crisis that would force the federal government to settle their dispute.

Also worth eliminating is a feature in the Railroad Unemployment Insurance Act (RUIA). We are the only industry in the United States required to subsidize strikes against itself. Under the RUIA, railroad employees in an authorized strike are entitled to unemployment benefits – benefits paid for solely by the employer. Rather than encouraging compromise, that provision encourages one side to remain obdurate.

The Railroad Retirement System predates the Social Security System and provides a second tier of benefits that in other industries are subject to collective bargaining. Two years ago, a commission studying the Railroad Retirement System proposed a partial privatization plan that would gradually reduce costs while still protecting existing employees.

The current system is enormously expensive for railroads. Our competitors in the trucking industry pay only Social Security taxes. Railroads pay the equivalent of Social Security taxes in Tier I Railroad Retirement payments, but then we pay an additional sum – 16.1 percent last year – to Tier II. In 1990, Tier II cost railroads an additional $1.6 billion in benefits exceeding normal Social Security costs paid by our competitors.

One of the most egregious of the labor laws under which railroads operate is the Federal Employers' Liability Act, better known as FELA. It is the system enacted in 1908 under which railroad workers are compensated for job-related injuries through litigation and not in a Workmen's Compensation scheme, and it has sustained a pervasive, unjustified epidemic of costly lawsuits. Overall, FELA costs the industry at least $1.2 billion annually.

From 1981 through 1988, railroad employment declined 41 percent. Injuries to railroad employees dropped 53 percent. Yet the number of FELA cases resulting in lawsuits more than doubled, and annual payouts under FELA soared from $398 million to over $800 million. The portion of every $100 paid by American shippers, which is diverted to legal fees and FELA awards alone, rose from $1.23 to more than $2.50. By contrast, as noted in *The Facts About FELA*, Canada's railroads pay less than one percent of their revenues under Workers' Compensation. Injuries to railroad employees dropped 53 percent.

Additional Reading

David Osborne and Ted Gaebler. *Reinventing Government.* Redding, MA: Addison Wesley, 1992

Martin Dickson. “America’s Sale of the Century.” *Financial Times* (1 June 1992).

Alexander Nicoll. “Building for Asia’s Future.” *Financial Times Survey* (1 May 1992).

“The Railway Bazaar.” *Financial Times* (11 May 1992).

“Why America Has So Many Pot Holes.” *Time* (4 May 1992).

“Work, Learn and Don’t Procreate.” *Financial Times* (28 April 1992) p. 30.

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Top

MIDCONTINENT PERSPECTIVES was a lecture series sponsored by the Midwest Research Institute as a public service to the midcontinent region. Its purpose was to present new viewpoints on economic, political, social, and scientific issues that affect the Midwest and the nation.

Midcontinent Perspectives was financed by the Kimball Fund, named for Charles N. Kimball, President of MRI from 1950 to 1975, Chairman of its Board of Trustees from 1975 to 1979, and President Emeritus until his death in 1994. Initiated in 1970, the Fund has been supported by annual contributions from individuals, corporations, and foundations. Today it is the primary source of endowment income for MRI. It provides “front-end” money to start high-quality projects that might generate future research contracts of importance. It also funds public-interest projects focusing on civic or regional matters of interest.

Initiated in 1974 and continuing until 1994, the sessions of the Midcontinent Perspectives were arranged and convened by Dr. Kimball at four- to six-week intervals. Attendance was by invitation, and the audience consisted of leaders in the Kansas City metropolitan area. The lectures, in monograph form, were later distributed to several thousand individuals and institutions throughout the country who were interested in MRI and in the topics addressed.

The Western Historical Manuscript Collection-Kansas City, in cooperation with MRI, has reissued the Midcontinent Perspectives Lectures in electronic format in order to make the valuable information which they contain newly accessible and to honor the creator of the series, Dr. Charles N. Kimball.