The built environment can be as fragile as the natural one, as disasters such as last August's collapse of the I-35W Bridge in Minneapolis show.

The Secret Is the System

The United States has settled for a patchwork approach to infrastructure. To stay ahead in the global economy, it needs to build adaptable networks like the 1956 Interstate Highway System.

BY BRUCE SEELY

The deaths of 13 people in last summer's dramatic collapse of the I-35W bridge in Minneapolis propelled the news media into one of their periodic examinations of the nation's infrastructure. State and municipal highway engineers across the country scurried to inspect suspect bridges, while pundits bemoaned the state of these key technical systems. But such eruptions of interest and activity seldom last much longer than the latest disaster bulletin. Mayor Michael Bloomberg of New York, criticizing his fellow politicians for letting the nation's transportation systems fall apart, stated a simple truth: "Infrastructure isn't sexy or glamorous, and it doesn't make for great headlines, but it is one of the most important issues facing our country. And make no mistake about it, we have an infrastructure crisis."

For more than 25 years, reports and studies have repeatedly warned about shortcomings in the nation's networks of bridges, roads, airports, docks, and rail lines; deficiencies in its public-transit networks; and potential failures in the water supply, sewerage, gas, and electric power utilities. A 2005 infrastructure "report card" by the American Society of Civil Engineers makes for horrifying reading, documenting the continuing decay in 15 different forms of infrastructure. The best grade it awarded was a meager C+, for landfills. It put the price of needed improvements at some $1.6 trillion. Conservatives have fired back by denying there is a problem—*Crying Wolf* was the title of a 1996 study by the Surface Transportation Policy Project—and touting privatization and more emphasis on user fees (tolls) to avoid spending tax dollars on infrastructure.

It is fitting in a way that our debates over infrastructure have been so long and drawn out. The undertakings themselves are by definition large, expensive, and protracted. The latest effort to ensure an adequate water supply for New York City, for example, has already stretched through the administrations of six mayors. The project was conceived

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in 1954, but construction did not begin until 1970, and fiscal crises halted work several times. The city completed excavation for the $1.75 billion second phase in 2006, leaving two more stages still to be done. Work will go on until at least 2020.

CHANGING ATTITUDES toward the environment, growing skepticism about big government, and cost overruns all led to a decline of trust in expert judgment.

Like virtually all undertakings of this kind, New York's tunnel is little remarked but essential. It will double the volume of fresh water reaching the city and allow the inspection and repair of two older tunnels for the first time since they opened, in 1917 and 1936, respectively. Hurricane Katrina brutally reminded us not only how vulnerable such complex systems are to natural disasters and terrorism, but how important they are to our daily lives and the smooth functioning of the economy. Yet still the bridges collapse.

There is nothing new about our reluctance to spend money on infrastructure. It is impossible to imagine San Francisco without its Golden Gate Bridge, but that iconic span was debated for decades before workers broke ground. It often takes special circumstances to end the financial and political inertia. That's what the Great Depression did, adding demand for job creation and economic stimulus to the existing arguments and sparking construction of many of the nation's most impressive public works, from the Golden Gate to Hoover Dam and the Tennessee Valley Authority. Many less glamorous jobs got done too: thousands of railroad grade crossings, parkways, trails in the national parks. Public-works relief funding from the federal government finally broke fiscal logjams.

Still, there is something significantly different about the way we build now. The political and financial environments have become much more difficult to navigate. Numerous reviews, rapidly rising costs, and blizzards of litigation are among the well-known symptoms. And there has been a subtler but very far-reaching change: the decline of respect for expertise. Americans once accepted with little question the views of experts such as highway engineers and dam builders at the Army Corps of Engineers. The experts tended to speak with one voice, and they enjoyed a reputation as neutral specialists and servants of the general welfare. Their authority made it easier for the public and Congress to accept the arguments, costs, and even the dislocations associated with such projects as the inevitable price of progress.

The decline of trust in expert judgment has its roots in the 1960s. During that decade, projects grew in scale and cost, affecting more people in more dramatic ways (see, for instance, urban renewal). Changing public attitudes toward the environment, as well as growing skepticism toward big government and authority generally, also contributed. And, for the first time, experts themselves disagreed publicly about the merits of big projects.

The construction of nuclear power plants probably aroused the greatest controversy during the 1960s, but attempts to build new urban expressways directly touched the lives of more people. For decades after the inception of the federal highway program in 1916, highway engineers at the state and federal levels enjoyed a remarkable degree of public confidence, and that trust translated into unparalleled political autonomy. Decisions about highway location and priorities stirred political passions, but to an amazing extent Congress and the public deferred to the engineers on technical, financial, and other policy options, so long as they produced a growing network of roads. This faith in expertise reached its apogee with the authorization

A front-end loader is lowered into a huge water tunnel hundreds of feet below the New York City streets. Begun in 1970, construction will continue until 2020.

Whose Road Is It, Anyway?

Indiana has worked a miracle. States everywhere are scraping the bottom of the barrel to build and maintain roads, but lawmakers in Indianapolis are flush with funds. Having leased out the 157-mile Indiana Toll Road for a cool $3.85 billion, they've got cash to fund some 200 transportation projects.

Indiana's bounty may look great from afar, but on the ground, Republican governor Mitch Daniels is feeling the heat. The deal squeaked by in the state legislature in 2006. Since then, Daniels's party has lost control of the statehouse, and his current poll ratings portend trouble for his reelection campaign in the fall. The governor is incredulous. "We took a toll road that was losing money and turned it into $4 billion of cold, hard cash." Within months, the up-front lease payment earned more in interest than the road itself had brought in over the previous 50 years, *Governing* magazine reported.

The contract for the Indiana Toll Road is 285 pages long and covers everything from the rate at which the tolls can increase to how quickly roadkill must be removed. On its face, $4 billion for a road that ran in the red year after year seems like a great deal. After all, Indiana's entire state budget is $13 billion.

But critics argue that the state gave away too much for too little. Indiana won't see any more money from the road until 2081, when the lease expires.

Privatization of state toll roads started attracting attention in 2005, when the city of Chicago leased the Chicago Skyway, which links the city to Indiana, to a joint venture between Cintra, a Spanish company, and Australia's Macquarie Bank—the same two firms that later sealed the deal in Indianapolis. The 99-year agreement netted Chicago $1.8 billion.

State and local governments are facing significant costs to maintain and improve infrastructure of all kinds. The U.S. Chamber of Commerce projects that by 2015, investment will fall short by $1 trillion. The numbers are daunting for many states. A recent study by Pennsylvania's Transportation Funding and Reform Commission notes that the average state-owned bridge is 50 years old. Twenty-three percent of the state's bridges—nearly 6,000 crossings—are structurally deficient. The commission said that more than 6,000 miles of state-owned roads are in "poor" condition. It predicted a future funding gap of $965 million annually for highways and bridges, and $760 million for transit. Governor Ed Rendell is exploring plans to lease the Pennsylvania Turnpike, which could bring as much as $1.6 billion annually—just about covering the estimated needs.

The crisis in funding both the maintenance and expansion of transportation infrastructure at the state level stems in large part from the decline in revenue from motor fuel taxes. Forty-five percent of the money states spend on their roads comes from the federal government, funded mostly by the federal gas tax. However, Congress has left the tax rate untouched at 18.4 cents per gallon since 1993, even as the market has pushed prices at the pump over $3 per gallon. In the last 10 years, the purchasing power of the revenue has dropped by nearly a third. And the income, once devoted exclusively to roads, is now also used to fund mass transit. The states have been reluctant to raise their own gas taxes. The rising cost of materials such as petroleum and steel, meanwhile, has contributed to ever-larger price tags. With huge tabs for Medicaid, prisons, and schools eating up most of their budgets, states have to find innovative ways to fund their transportation needs.

In lieu of leasing out whole stretches of road, some states are meeting new needs by working with private firms to develop dedicated lanes on congested roads. These lanes use variable tolls to regulate volume and allow cars to maintain higher speeds. In December, Virginia reached an agreement to build such high-occupancy toll (HOT) lanes along a 14-mile stretch of the traffic-choked beltway around Washington, D.C. Drivers will be able to pay a fee (estimated at no more than $6) to leave the daily rush-hour slog

behind. Critics deride the new roads as "Lexus lanes." Proponents counter that studies show commuters of all economic levels use such lanes—though presumably less affluent drivers use them only in emergencies. Cars with two or more occupants will be able to use the HOT lanes at no charge. Moreover, the revenue could fund transit projects that benefit everyone.

Financed through a public-private partnership (referred to as a P3 by those in the know), the new lanes will cost Virginia only $400 million of the estimated $1.4 billion total price tag. Most of the rest will come from Texas-based Fluor Transurban. Minnesota, California, and Colorado already have HOT lanes in places, and several other states are considering proposals.

Critics contend that bringing private equity into the management of America's roads threatens the public's long-term control over transportation infrastructure. Safety is also at issue. A study by two economists, Peter F. Swan of Pennsylvania State University and Michael H. Belzer of Wayne State University, found that privatizing a toll road in Ohio would likely result in more car crashes, as trucks seeking to avoid tolls shifted from the large highways to county roads not sufficiently lit or wide enough to handle the increased volume.

But the fundamental concern is whether privatization will actually help address the underlying budgetary problems or prove to be only a Band-Aid. Private firms will prefer to cherry-pick the potentially most profitable, underperforming assets, leaving the states responsible for roads and bridges that cost more than they can bring in. In the end, someone needs to raise the tolls, or transportation infrastructure will become increasingly inadequate. The key question is, who's going to be the bad guy? If state governments don't want to incur voters' wrath by raising tolls, they can pass the buck to private companies—although that approach didn't spare Governor Daniels.

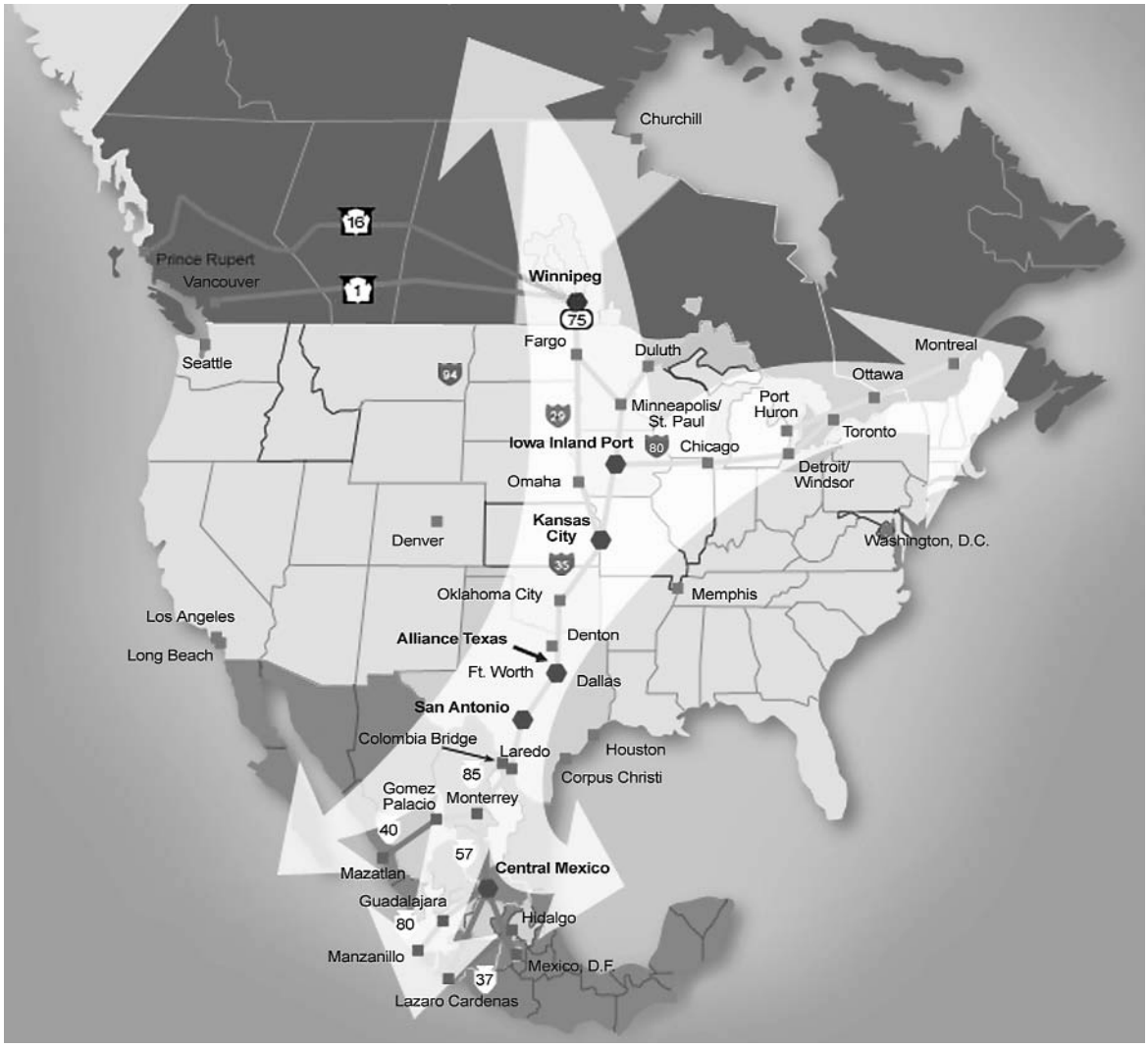
New Jersey governor Jon Corzine originally considered leasing some of the state's major toll roads, including the iconic New Jersey Turnpike, but backed off last summer. "We're working on a proposal where the public will continue to own and operate our toll roads that will give us some of the financial benefits that other states have achieved through privatization," he promised, "We're not going to privatize." Instead, the Democratic governor is pushing an unpopular plan to raise the tolls by 50 percent every four years from 2010 to 2022, an increase of up to 700 percent overall (the tolls will also be adjusted for inflation). In February, 700 people rallied outside the New Jersey statehouse singing "We're Not Gonna Take It." But, as drivers will discover, you can't have it both ways.

Americans have a particular attachment to their roads. In *The New York Times Magazine,* writer Ann Patchett observed, "Ours is a country of wide-open spaces, and to cross those spaces with complete freedom is the modern cornerstone of our national identity."

Perhaps leasing America's roads to foreign investors in Spain and Australia violates some deeply held idea of what it means to be American. But America's infrastructure—its roads, bridges, and tunnels—has always been created by combinations of private and public investment. In 1792, Pennsylvania chartered a company to build the first private turnpike, winding the 62 miles from Philadelphia to Lancaster. The nation's railroads, the feat of engineering that stitched the nation together following the Civil War, were built by private companies subsidized by the federal government. In New York and other cities, investors cooperated with municipalities to construct subways and operate bus lines. And private ownership is not uncommon abroad. Cintra, for example, has a portfolio of roads in Spain, Canada, and other countries.

Perhaps HOT lanes and 75-year leases will pull the states out of their budgetary black holes. But if these experiments in private financing fail, 75 years will be a long wait to get those roads back into the public's hands. Private investment is only one road to building and maintaining America's infrastructure. There are lots of other roads out there—and they don't all lead to the same place.

—Rebecca J. Rosen



Thinking big: A proposed North American Super Corridor would create a road, rail, and shipping system built around the existing spine of U.S. Interstate 35. Designed to stimulate trade with Mexico and Canada, the corridor is anathema to critics concerned about the effects of immigration and free trade.

of the Interstate Highway System in 1956, which eliminated annual battles over road-building budgets by creating the Highway Trust Fund, a revenue source that would be fed by dedicated federal gasoline taxes. It certainly helped that Americans were unambiguously enthusiastic about cars—historian John C. Burnham called the gas levy the only popular tax in American history. Now, highway engineers assumed, their charge was simply to build a nationwide system of limited-access, high-speed roads as quickly as possible.

Alas, while the engineers' full-speed-ahead approach worked well in rural areas, it ran into increasingly angry public resistance when interstate expressways began to push into urban neighborhoods, threatening to displace thousands of people and wipe out entire neighborhoods. The Embarcadero Freeway in San Francisco (once Interstate 480) became the poster child for troubled urban highway projects when the city's Board of Supervisors voted to stop construction in 1959. The route was withdrawn from the California interstate map six years later. Protest later stopped road construction in Philadelphia, Miami, Washington, and other cities.

New laws such as the 1970 National Environmen-

tal Policy Act, which required environmental impact statements and public hearings for any project using federal funds, drastically altered the landscape of infrastructure planning and construction. Politicians responded to the public outcry against urban expressways by throttling back their enthusiasm for new roads and removing engineers from control of the nation's road-building programs. The man who had spearheaded the fight against Boston's inner road ring became head of the Massachusetts Department of Transportation in the early 1970s, while a journalist assumed control of the Mississippi highway program. At the federal level, political appointees replaced engineers as the key policymakers in the Federal Highway Administration.

These changes produced road programs that seemed more responsive to the wishes of citizens and to environmental considerations. Mass transit got more money and attention. It now claims about 20 percent of all federal expenditures on transportation, much of it for operating expenses and subsidies.

Many younger highway engineers adapted to this new world of alternatives, scrutiny, and review, and considered later interstate projects, such as the section of Interstate 70 through Glenwood Canyon in Colorado (completed in 1992), much better designs because of their sensitivity to environmental and social considerations. But the engineers did not take well to the fact that money from the Highway Trust Fund could be "diverted" to the construction of bicycle paths, sound barriers, or environmental remediation projects. And older engineers resented the longer planning process and higher costs of the new regime. Most believed that the interstates could not have been built under the new rules.

As technical experts were removed from positions of administrative and policy authority, political figures came to play an increasingly dominant role in transportation policy decisions. Of course, politicians had often weighed in when big construction contracts were awarded and locations of new interchanges were picked, but federal officials always sought to minimize overt political interference. With Washington's blessing, during the 1950s many states adopted rating systems that relied on "sufficiency formulas" to direct highway dollars to areas of greatest need, relatively free of political meddling.

By the 1970s and '80s, these approaches gave way to a more traditional political calculus. Witness Boston's $14.8 billion Central Artery/Tunnel Project (the "Big Dig"), the product of a feat of political logrolling masterminded by Representative Thomas (Tip) O'Neill, a Boston Democrat who served in the U.S. House of Representatives as majority leader and later as Speaker of the House. Members of Congress increasingly used earmarks to direct Highway Trust Fund money to favored projects in their districts. In the 2005 transportation bill, the Senate version included more than 6,300 earmarks totaling $24.2 billion of the $244 billion authorized for work between 2005 and 2009. Often the favored projects meet local needs, but these may not be the most urgent priorities from a national or systems perspective.

EVEN AS TRANSPORTATION became more politicized, public opinion shifted against taxes and government spending.

Even as transportation became more politicized, the tide of public opinion shifted against taxes and government spending, and against government itself as an authoritative institution capable of accomplishing public ends. The change affected spending much more in the states than at the federal level. By the 1990s few politicians anywhere could effectively advocate higher taxes of any kind. Congress has not increased the federal levy (18.4 cents per gallon) since 1993, and most states, with taxes now ranging from 7.5 cents per gallon in Georgia to 32.1 cents in Wisconsin, have been equally reluctant to act. Yet the purchasing power of

those pennies has steadily declined. As a result, Highway Trust Fund expenditures may exceed current balances sometime between 2010 and 2012, raising the specter of a return to the annual political battles over highways that were common before 1956.

A report earlier this year by the National Surface Transportation Policy and Revenue Study Commission proposes to tackle that and other challenges of the next five decades by increasing the federal gas tax by as much as 40 cents over five years. Secretary of Transportation Mary Peters and two other commission members dissented, but, somewhat surprisingly, Paul Weyrich, a conservative activist with long involvement in transportation, broke ranks to join the majority. Responding to the report, John Engler, a former Republican governor of Michigan who is now CEO of the National Association of Manufacturers, did not take sides, but warned that transportation bottlenecks now cost industry nearly $8 billion annually. The United States, he said, "will soon be facing a competitive disadvantage if we don't develop a national plan to improve the quality of our infrastructure system."

The commissioners confronted some uncomfortable facts: Traffic in the United States has nearly doubled since 1980, but highway capacity is virtually unchanged. (In technical terms, vehicle-miles traveled are up nearly 100 percent, while lane-miles are virtually the same.) And the decades-long trend of two to three percent annual growth in traffic seems likely to continue unabated.

Most opponents of higher gas taxes find the answer in alternative financing mechanisms such as public-private partnerships for roads and other infrastructure (see sidebar, pp. 50–51). In Dallas and a few other metropolitan areas, for example, corporations are eager to pay for the right to build privately operated toll highways that state governments have not been able or willing to finance. Technologies such as EZ Pass that make it possible to collect tolls and implement congestion-pricing fees without disrupting traffic are also part of the emerging paradigm.

These approaches can play a useful role, but they

In Singapore, the world's busiest container port is almost completely automated, one product of a global boom in infrastructure investment.

also raise fresh questions. If user fees pay for one-shot solutions for the worst urban and suburban chokepoints, where will the money come from for lightly traveled roads, especially in rural areas? Will a public that pays stiff user fees in order to see its traffic snarls eased support the higher gas taxes needed to build and maintain roads in distant areas?

This question points straight to a much larger issue: In order to be fully effective, transportation must be an integrated *system,* not just a patchwork of roads, railroads, and ports. Engler is not alone in arguing that a national plan is needed to keep the United States globally competitive. Other rationales for infrastructure investment, such as military preparedness, have occasionally served as rhetorical justification in Congress, but at bottom, roads have always been seen as a powerful economic engine. That approach has included a commitment to the development of a complete national network of roads, under the logic that the entire country benefits from such a system. For many towns and small cities, new highways have been the breath of life itself, connecting them to the regional and national economies. Federal policy was structured so that densely populated states such as New York helped underwrite highways in Montana and Wyoming. Federal and state highway engineers ensured that the growing web of roads had continuity at state borders. The same logic informed other federal transportation policies, such as subsidies early in the 20th century for a national aviation network. Yet this donor-donee structure has come under increasing attack, and states soon may get back every penny they pay, only one indication of the eroding support for systems thinking.

Worthy though their goals might have been, even the systems builders had their blind spots. They, and the nation generally, rarely viewed their individual efforts as contributing to a larger transportation whole. Just as we think of solving each road or bridge problem in isolation, we tend to think of each mode of transportation—roads, rail, air, water—as discrete and independent, designed to be operated and in some cases regulated without regard to the others. This approach reflects a mindset created in the 19th century, when business owners and the public reacted to what they saw as the stranglehold railroads had on transportation services and rates. Anger at the "monopolistic" railroads helped breed heavy-handed regulation and broad support for government efforts to bolster rival forms of transportation, from inland waterways to aviation, which many people saw as a way to check the railroads' power. The committee structure of Congress, with a different panel assigned to establish policy and funding for each technology, reinforced this compartmentalized approach.

Predictably, the congressional committees backed regulatory policies that gave this vision meaning. Thus, railroads were barred from owning coastal or inland waterborne shipping and restricted from developing truck and bus operations. William W. Atterbury's Pennsylvania Railroad and other rail carriers experimented in the 1920s with trucks and buses to supplement or replace rail operations, especially on lightly traveled branch lines, but eventually were blocked from ownership. When the Interstate Commerce Commission, longtime overseer of the railroads, gained responsibility for regulating buses, trucks, and inland waterways

Shopping for Infrastructure

The American Society of Civil Engineers' *Report Card for America's Infrastructure* (2005) offers a daunting menu of future needs and calls for more than $300 billion in additional annual spending. Among the recommendations:

Aviation: A 52 percent increase in traffic is projected by 2015 at the nation's 510 commercial airports. Funding comes chiefly from airport authority bonds and user fees, mostly channeled through the federal Airport and Airway Trust Fund. Needs are $9 to $15 billion annually. Increased user fees will be needed.

Dams: Of the 79,000 dams in the United States, more than 3,500 are rated unsafe, and real estate development is putting more people in harm's way. Federal dams, only five percent of the total, are in good repair. Needed investment: $840 million annually.

Navigable Waterways: The U.S. Army Corps of Engineers maintains more than 12,000 miles of canals and other waterways, carrying one-sixth of the nation's intercity freight (at only a fraction of the cost of shipping by truck or train). But nearly half the corps' 257 locks are already functionally obsolete. All should be replaced, at a total cost of $125 billion.

Rail: Growing freight traffic has created significant chokepoints for the first time since World War II. The industry will need to spend up to $195 billion by 2025 to maintain and expand the system. Demand for Amtrak passenger service in the Northeast could be met by a $6 billion investment.

Transit: Some 14 million Americans use public transit every weekday; traffic (measured in passenger miles) is growing about two percent annually. Outlays at all levels of government are rising, but investment is still short of the $14.8 billion minimum.

in 1940, it was required by law to preserve the inherent advantages of each mode. Long after their supposed monopoly had vanished, railroads were still the bogeymen. In the 1950s, when they were already ailing shadows of themselves, the interstate highway program was developed by the federal government without any consideration of the impact on railroads. In 1967, Congress united many disparate government agencies in the field under the umbrella of a new U.S. Department of Transportation, but that did virtually nothing to advance policy conceptions of transportation as a whole.

A handful of innovators have nevertheless managed to pioneer new approaches. In the 1950s Malcolm McLean, a successful trucking operator, launched a company able to move sealed containers on oceangoing ships and deliver them to their destinations on trucks or railcars without any intermediate unloading and reloading of the containers' contents. The costs were a fraction of those associated with traditional shipping. McLean succeeded only because he was able to exploit a loophole in the regulatory system: Truckers were barred from owning shipping firms, but shippers were permitted to move truck trailers and containers. So McLean sold his trucking firm and bought a steamship company, which grew into the container pioneer Sea-Land Service. Slowly through the 1960s and '70s container shipping gained ground, eventually transforming the way all freight is carried over the oceans.

Not until 1991, with the Intermodal Surface Transportation Efficiency Act, did the federal government give priority to a true systems approach to freight movement. The bill allowed the states more authority to spend federal dollars on efforts to link different networks, such as the large intermodal terminal in Charlotte, North Carolina, which serves trucks, trains, and ships (located nearly 200 miles away, in the port of Wilmington).

But it has proven difficult to change traditional ways of thinking. The nation's trucking firms, railroads, and airlines have not been pioneers. The two exceptions, UPS and FedEx, can be described as the first and to some extent only intermodal freight com-

Interconnected power grids carry electricity across the United States from facilities such as this coal-fired West Virginia plant. In 2003, a plant failure in Ohio cascaded into a blackout that affected 50 million people. A key cause: Three overburdened power lines came into contact with untrimmed trees.

panies in the United States. They do not discriminate between different means of moving packages and shipments but seek the fastest and most efficient path—a single parcel may travel by truck, rail, and air before reaching its destination. UPS sorts 300,000 parcels an hour at one of its facilities; at the FedEx hub in Memphis, Tennessee, cargo jets often roar in at 90-second intervals, while packages leave by plane and truck.

FedEx, UPS, and all the elements that make them work are only pieces in what is increasingly a global transportation system. With its "just-in-time" delivery and digitally guided logistics and supply chains, the global economy rests on the ability to move containerized freight on amazingly tight and accurate schedules around the world by a variety of conveyances. America's railroads are jammed with containers that start their journeys in China, enter the United States at Seattle or Los Angeles, move by rail to East Coast ports, and are loaded onto freighters bound for Europe, where they are carried to final destinations by trucks and trains.

Now some advocates are pushing for a North American Super Corridor, with an integrated network of road and rail links built around the spine of America's Interstate 35 and running from Mexico to Canada. It has become a subject of enormous controversy, especially among opponents of the North American Free Trade Agreement, but it is a good example of the kind of carefully planned systems we need to consider. Whether you shop at Wal-Mart or Bloomingdale's, you can thank the new hyperefficient global shipping network for a share of the bargains you see. But if U.S. facilities turn out to be a weak link in global supply chains, business will go elsewhere and the bargains will evaporate.

The global nature of today's transportation structures is a key source of the concern among specialists about the level of U.S. investment in infrastructure. After running at about three percent of gross domestic product (GDP) during the 1950s and '60s, such spending has averaged less than two percent since 1980. India and China, meanwhile, devote between five and nine percent of GDP to infrastructure—roads, power and water treatment plants, airports. Their investments will pay off well into the future, sometimes in ways that are hard to anticipate.

In the United States, the startling success of upstart online retailers such as Amazon.com during the 1990s was linked to the rise of the nation's fiberoptic network, an important new form of infrastructure. But equal credit belonged to the Interstate Highway System, which, in combination with the other pieces of the nation's road network, had the enormous reach and capacity needed to allow the miraculously quick delivery of millions of parcels. None of the people who conceived the interstate network in the 1930s and '40s envisioned anything like Amazon, but the system was complete enough, down to county and municipal streets, and flexible enough to do the job. That system was traceable in part to visions—and funding programs—that met the needs of entire networks.

Inadequate infrastructure has social as well as economic consequences. Lack of full access to vital networks—whether roads or broadband or running water—serves to reinforce existing patterns of economic growth and stagnation. It threatens to create new classes of haves and have-nots. Just as America would suffer if it were to be "unplugged" from the global economy, so individual Americans can be diminished by inadequate access.

We all recognize that building effective, integrated infrastructure systems takes money and political will. But it also takes coordination on a scale that is not often provided by free markets alone. The people at FedEx and UPS, along with managers and entrepreneurs at every level of the American economy, have the luxury of picking and choosing among fundamentally strong transportation systems because of public-policy choices made long ago. We need to ensure that their successors have the same choices. John McQuaid, a Pulitzer Prize–winning journalist who has written about the Hurricane Katrina disaster, asked recently if America is "losing its knack for getting big things done." Our own past suggests that such gloom is unwarranted, that in the end we have mustered the political will and the money when they were most needed. Those long trains of containers hauling goods from China are a good reminder that both the will and the money are needed now. ■