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*Dept of
Transportation*

THE WHITE HOUSE

WASHINGTON

March 29, 1982

BRIEFING

DEPARTMENT OF TRANSPORTATION -- March 30, 1982 -- Room 10200

GASOLINE USERS FEE

Dick Holwill
Heritage Foundation

Don Todd
ACU

Jim Lacy
YAF

Alan Ryskind
Human Events

Huck Walther
U.S. Defense Comm.

Edgar Vash
ALEC

Ron Robertson
CFTR-General Counsel

Brad Stone
The National Congressional Club

Paul Weyrich
Committee for the Survival of
a Free Congress

Ed Staples
Accuracy in Media

Roy Jones
The Moral Majority

Rhonda Stahlman
Conservatives Against Liberal
Legislation

Larry Pratt
Gun Owners of America

John Snyder
Committee for the Right to Keep
and Bear Arms

Bill Billings
National Christian Action
Coalition

Connie Marshner
Pro-Family Coalition

Noreen Barr
Eagle Forum

THE WHITE HOUSE

WASHINGTON

INVITEES UNABLE TO ATTEND BRIEFING

Terry Dolan
NCPAC

Richard Viguerie
RAVCO

Howard Phillips
The Conservative Caucus

Stan Evans
ACU Education and Research
Foundation

Reed Larson
National Right to Work
Committee

Gary Jarmin
The Christian Voice

John Lofton
The Conservative Digest

Tom Bethel
American Spectator

Lyn Nofziger
Nofziger and Bragg Communications

John McLaughlin
National Review

*Dept of
Transportation*

FACT SHEET

USER FEES AND SURFACE TRANSPORTATION

Highway Trust Fund

- o The Highway Trust fund was established in 1956 as a wholly user-supported trust fund to finance highway development.
- o Primary revenue sources for the Highway Trust Fund are the motor vehicle user fee, truck use taxes, and other highway user fees.
- o The highway user fee, four cents per gallon on motor fuel, has not been increased since 1959.
- o The four cent fee is worth less than a penny today.
- o Constuction costs in that time have increased 300 percent.

The Principle

- o User fees are consistent with Reagan Administration policy.
- o Those who benefit should help pay the costs.
- o For example, airline passengers and general aviation operators have long paid modest user fees, levied on air carrier tickets and aviation gasoline, to help fund improvements to the nation's airports and airways.
- o The FY 1983 budget proposal projects \$2.5 billion in cost recovery from user fees for more than a dozen Federal programs, including \$1.2 billion from the users of government-furnished aviation services, and \$200 million from Coast Guard services.

The Proposal

- o Increase highway user fees:
 - Approximately four billion dollars from an additional motor fuel user fee of four cents per gallon.
 - Another \$1 billion or more (the equivalent of one cent per gallon on motor fuel) will be generated from other user fees. The fees will be allocated among the classes of highway users so that each class pays its fair share of the costs.
- o Together would generate \$5 to \$6 billion/year in new revenues.
- o \$1 billion of the total would be dedicated to mass transit capital investments.
- o Proposal being considered by Cabinet Council on Economic Affairs.
- o This proposal would have a near-term positive impact on the Federal deficit.

The Issues

- o Portions of Interstate system are now 25 years old.
- o Ten percent of the Interstate system in use needs immediate resurfacing.

- o Half of the Interstate system will need major repairs by 1995.
- o Bridge costs for replacement or reconstruction are now approaching \$60 billion. Forty percent of bridges are now judged deficient.
- o More than 50 percent of Primary system will reach the end of design life during the 1980's. A 10-fold increase in deteriorated pavement since 1978.
- o Older subway systems are decaying, and some subway cars are better suited for museums than for daily transit service.
- o Unless transit facilities are maintained, the economic health of many large cities may be severely damaged.

Federalism

- o Current Federalism proposal calls for returning two cents of the present highway user fee to states (January 1984).
- o This proposal enhances the transportation aspects of New Federalism by assuring that programs returned to states are accompanied by adequate revenues, generated by user fees, not general tax increases.

<u>Highway needs and Revenues: (In billions)</u>	<u>FY 1984</u>	<u>FY 1985</u>	<u>FY 1986</u>	<u>84-86</u>
Interstate Program (construction and 4-R)	6.4	6.8	7.1	20.3
Other Programs	6.4	6.7	7.3	20.4
Total	12.8	13.5	14.4	40.7
Estimated Revenues	<u>7.9</u>	<u>7.7</u>	<u>7.8</u>	<u>23.4</u>
Shortfall	4.9	5.8	6.6	17.3

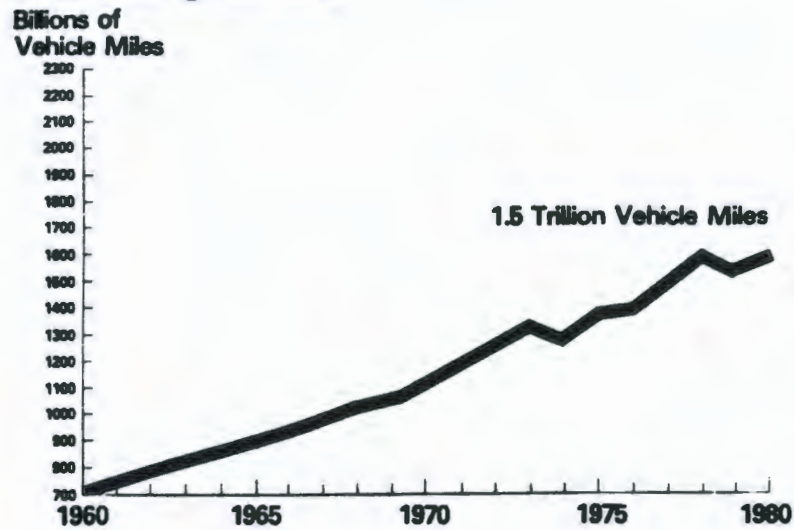
Objectives

- o Turn those non-Interstate highway programs which should be state and local responsibilities over to the states, as proposed in the President's Federalism initiative, with adequate revenues to meet needed expenditures.
- o Assure the completion and preservation of our Interstate highway system.
- o Assure that highways and transit systems complement each other to produce greater and less costly urban transportation networks.
- o Stop the serious deterioration of our capital investment in the nation's transportation infrastructure at a time when such investments must be addressed.

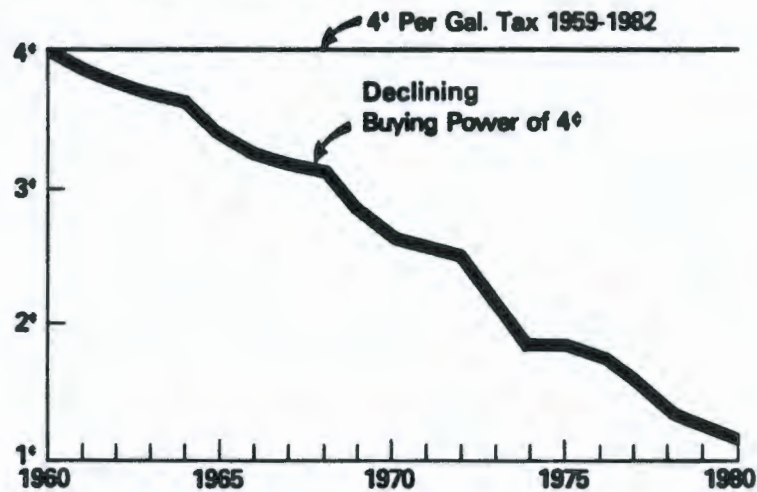
file ~~Transportation~~ Department

I The Problem:

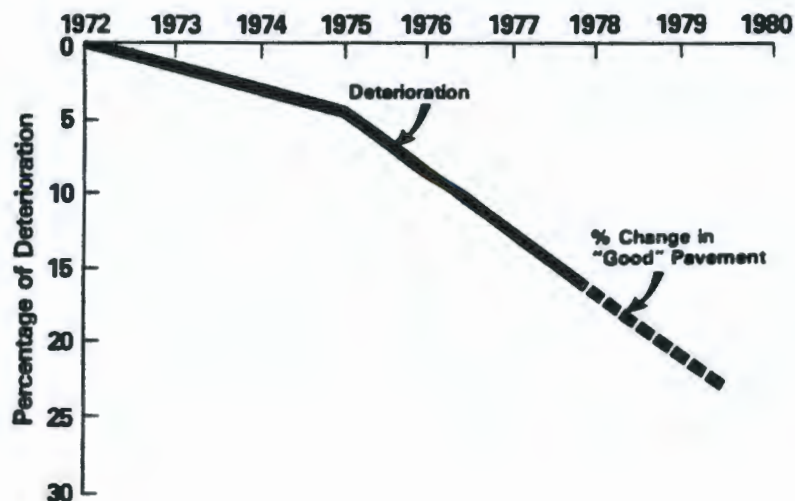
a. Increasing Demand



b. Decreasing Revenues



c. Deteriorating System



II The Proposal

- **5-Year Highway-Transit Bill**
- **Increase Highway Trust Fund User Charges**
- **Fuel, Truck Charges Raised \$5 Billion Per Year**
- **\$4 Billion for Highway Program Increases**
- **\$1 Billion for Transit in Urban Areas**
- **Total Revenue \$13 Billion, All Paid by Highway Users**
- **Can Be Administered Within President's New Federalism Proposal With Various Programs and Their Revenues Transferred to States**

III The Benefits

- **Complete Interstate Within 10 Years**
- **Upgrade, Restore Existing Interstate**
- **Protect Other Arterial Routes,
Urban and Rural**
- **Rebuild, Replace Deficient Bridges**
- **Finance Justified Transit Projects**
- **160,000 New Jobs Per Year,
Including 64,000 Construction Jobs**
- **Decreases Average Highway
Vehicle Operating Costs by 20%**
- **Reduce Federal Budget Deficit \$4
Billion Per Year in 1983, 1984**
- **Support Expected From**
 - States
 - Cities
 - Counties, Rural Interests
 - Highway Users
 - Transit Supporters
 - Construction Industry
 - Congress
- **Enhances Federalism Initiative**

U.S. News & World Report

AUGUST 31, 1981 \$1.50

U.S. and Libya—Heading for a Showdown?

Tax-Free Ways to Save for Retirement

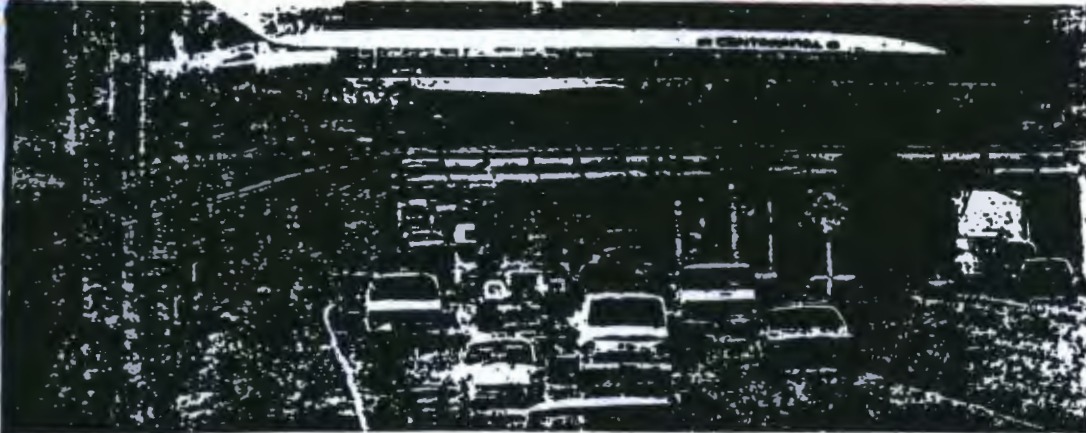
The Great American Transportation Mess

16.7
DEPT. OF
TRANSPORTATION

17
AUG 25 1981

PERIODICALS UNIT
TAD-450





Whether it's by car or air, travel is becoming a bigger hassle.

The Great American Transportation Mess

Getting around is no snap any more—not with an air-traffic controllers' strike, crumbling highways and crowded bus and train systems. A special report looks at the problems—and some solutions.

For a public addicted to travel, the disruptions created by the air-traffic controllers' strike vividly demonstrate the vulnerability of the fragile transportation system that holds this country together.

Snafus in air travel are only the latest in a series of developments making it harder to get from home to places of work, study or play.

Highways and urban streets are falling into disrepair, sometimes dangerously so. City buses—even the newest ones—break down with startling regularity. Older subways are crumbling, and new systems are so costly that governments don't want to spend the money any more.

Passenger-train routes are skeletal remnants of what existed only two decades ago, and airlines, with their anemic profits, are hard pressed to replace aging, fuel-hungry fleets with modern equipment.

"Chronic shortage of funds is frequently blamed, but the fact remains that we have too often naively expected the future to take care of itself," says a "Transport Tomorrow" study sponsored by the Chamber of Commerce of the U.S.

The future hasn't taken care of itself, though, and each day brings new cracks in the nation's travel network. Just how deep does the damage run and what must be done to patch things up? From experts comes the following picture of a transportation system that is still one of the best in the world but whose future is in serious jeopardy.

Airlines: Cloudy Skies

Even before the air controllers' strike, travelers were plagued by higher fares, reduced service and crowded airports. The cost of jet fuel—up 900 percent in the past decade—has devastated airline-price policies.

Despite all the hoopla over discounts and price wars among airlines, the average plane fare has risen 30 percent in the past year, according to the Airline Passengers Association. In most routes, discounts are overshadowed by the

big jumps in regular fares. For example, despite a discount fare as low as \$149 from New York to Los Angeles—\$10 less than the best discount five years ago—regular fares have skyrocketed from \$198 to \$438 over the same period.

Deregulation of airlines, begun by the Carter administration, has brought both benefits and problems. It has created more competition in popular routes, and many transportation authorities argue it makes economic sense for major trunk airlines to shift out of smaller cities, leaving those markets to commuter carriers.

Says Transportation Secretary Drew Lewis: "There are enormous amounts of fuel conserved when commuter lines

expand because these firms are less dependent on large planes." One commuter airline advertises that its 150-mile flights burn less fuel than a Boeing 727 uses to warm up on the runway.

Still, for many passengers flying to or from these smaller cities, deregulation has led to delays, poorer service and additional connecting flights. Says John D. Kramer, Illinois secretary of transportation: "The number of airline seats available to downstate communities such as Springfield, Peoria and Champaign has declined 20 percent." In California, United Airlines and others used to offer \$28 service from Bakersfield to San Francisco. But when United dropped that route after deregulation, a commuter airline ran the same service for \$48, using smaller planes with fewer amenities.

Commuter airlines have been hit particularly hard by the strike, with traffic down 25 to 30 percent—a drop that analysts trace to the public's confusion over flight schedules and fears of delays and other problems.

Although the strike has reduced some of the crush, customers report that air travel has become increasingly tiring. The wait for baggage is longer in many cities, and as big-city airports expand, so do the distances that passengers must trudge to baggage areas or to airline gates. In addition, the growing number of short-distance flights has led to crowding and traffic delays in the busier airports. Flights in and out of Atlanta's airport, for example, rose from 556,992 in 1978 to 612,552 in 1980. The curtailed flight schedules imposed because of the strike have reduced the crowds, but there still is talk of expansion at massive O'Hare Airport in Chicago and of new airports in such cities as Denver and Los Angeles.

Expansion could be stalled, however, because of lack of funds. The federal government wants to cut its subsidies and make airports take on more of the load of new construction. It also wants Congress to boost the tax on fuel used by general aviation despite protests from owners of the nation's 208,000 private aircraft.

For the airline industry, the strike follows months of troubles. Major carriers lost a record 225 million dollars in 1980 as travel fell 3 percent and 41 percent of the seats went unsold. Some airlines blame price wars caused by deregulation for the earnings slump. All have been affected

by the slump in the economy, which reduced both business and vacation travel. "In addition, lots of airlines were caught with gas-guzzling planes and found there was a lag time in getting equipment," remarks economist George E. Kroon of the First Interstate Bank of California.

The strike, though causing initial disruptions, could turn out to be a blessing for the airlines. It will be at least 21 months before enough new traffic controllers come on line to get air travel—now running at about 80 percent of pre-strike levels—back to normal. In the meantime, planes will carry fuller passenger loads, and airlines will drop unprofitable routes. Discount fares will be scarcer, too. Says one airline executive: "If people are banging on the doors to get tickets, there's no reason to offer big discounts."

Still, profits aren't expected to rise fast enough to allow carriers to make much progress in replacing aging fleets with new models, such as the fuel-efficient Boeing 767 unveiled August 4.

The estimated cost of revamping the fleet over the next five years is at least 4 billion dollars annually. Warns George James of the Air Transport Association: "If there are no new planes, airlines will have to reduce the size of the system and cut back service."

Highways: Potholes Galore

People who travel by car—and that's most Americans—can expect soaring expenses and crumbling pavements for years to come. The American Automobile Association figures that it now costs 24.8 cents per mile to own and operate a medium-sized car. In future years, damage inflicted by deteriorating streets and highways could rival high gasoline prices as a cause of spiraling car-ownership costs.

Consider these signs of the times—

- Truckers on Interstate 70 from Ohio to southwest Pennsylvania complain that potholes are so big they ruin their tires.

- Officials in Yuma County, Ariz., ripped up 250 miles of pavement and replaced it with gravel roads because it was cheaper than filling the potholes.

- New York City's Brooklyn Bridge had to be closed to traffic briefly in June after a cable snapped and killed a pedestrian.



Experts see more buses as a solution to mass-transit woes, but many money-starved cities have trouble keeping them on the road.

- An Interstate 95 bridge outside Washington, D.C., is worn through so badly that it is possible to see the Potomac River through some of the cracks.

- San Francisco will need 1,000 years to fix its aging streets at the rate that they are now being rebuilt.

- Mackinac County, Mich., officials have stopped repairing roads entirely and are saving sparse funds for cleaning up snow during the winter.

Similar examples can be found almost anywhere, because America has built more roads and bridges than it can afford to keep. Streets in the typical urban area are so rippled and potholed that they make the highways seem like satin sheets. Finding funds to battle this deterioration may be next to impossible.

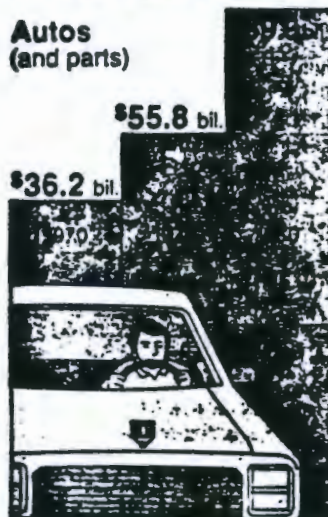
"There's very sad evidence that we're not taking care of our roads as rapidly as they deteriorate," says Tom Larson, Pennsylvania's secretary of transportation. "Our road systems have a life of 20 to 30 years, and many now have to be rebuilt."

As matters stand, the situation can only get worse, because roads will get a bigger beating than ever. Despite rising fuel prices, the National Transportation Policy Commission predicts a 69 percent rise in auto travel and a 142 percent increase in truck travel by the year 2000.

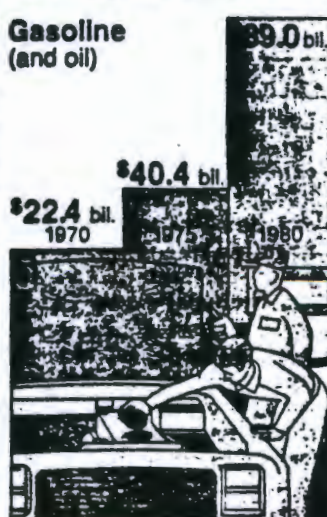
For the federal government, the biggest worry is the interstate-highway system, the 40,253-mile network of highways that was begun in 1956 to permit long-distance travel without stoplights and intersections. Construction expenses have gone up so much that it will

What Americans Spend to Travel

Autos (and parts)



Gasoline (and oil)



Transport Services (planes, trains, buses, cabs, insurance, repairs)

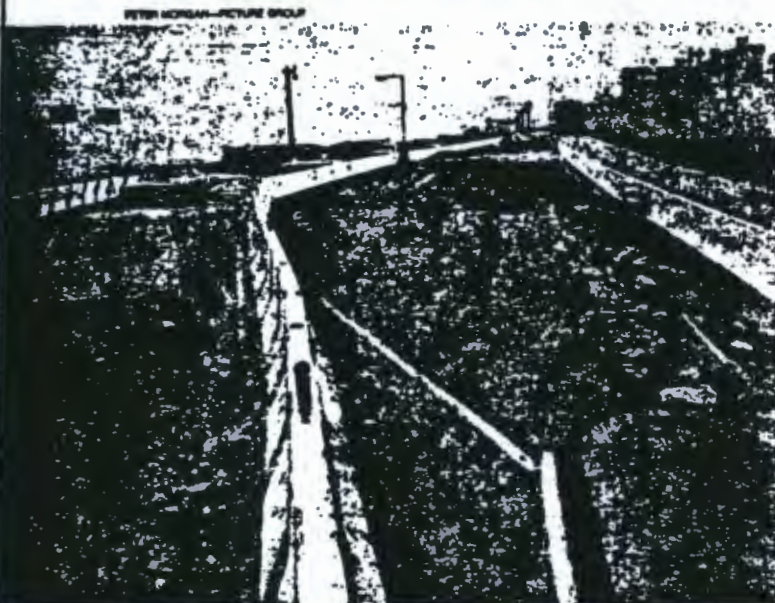


cost nearly as much to complete construction of the final 5 percent of the system as it did to build the first 95 percent—65 billion dollars.

Maintaining the interstate highways will cost many times more. The highways were designed to go only 20 years without repairs, and few expected the beating they would take from heavy traffic. The backlog of immediate repairs needed in the system grew from 2.3 billion dollars in 1976 to 6.1 billion in 1980.

To make the interstate-highway surfaces adequate again and to keep abreast of the wear and tear will cost 16.8 billion dollars in the next decade, says the Transportation Department. However, Washington's highway spending is skewed to building new roads, and state governments are not budgeting nearly enough money to meet maintenance needs. As a result, estimates are that 9 percent of the interstate system is in serious disrepair, versus only 4 percent in 1975.

States cannot be expected to handle all of the cost. Says Donald J. Marttila, supervising highway engineer of the Federal Highway Administration: "If you're a state official and you're suddenly faced with 90 miles of four-lane road



New York's crumbling West Side Highway. The nation's roads are deteriorating more rapidly than they can be repaired.

to maintain, it's not likely you'll get an automatic increase in your budget to maintain it."

To pay for repairs, states count on the gasoline tax, but revenues are going down rather than up. Don Ivey of the Texas Transportation Institute explains why: "Gasoline taxes are at a given rate per gallon. The actual number of gallons sold in the past few years has been declining because individuals are curbing their driving and driving vehicles that get better mileage. Therefore, gasoline taxes have not risen proportionately to the number of vehicles."

To catch up, 40 states are trying to raise fuel taxes. In Ohio, officials hope to end a two-year freeze on construction of new roads by boosting the tax from 7 cents to 10.3 cents this year and to 12 cents by March, 1983.

Also haunting cities and states is the 41-billion-dollar price tag for fixing obsolete and deficient bridges. The government reports that 4 out of every 10 highway bridges are deficient—restricted to light vehicles, closed to traffic or needing immediate repair.

Officials note that bridges are closed before they are dangerous, but that step creates other problems. Because

the Sewickley Bridge across the Ohio River in southwestern Pennsylvania has been closed, fire equipment has been unable to cross the bridge, and ambulances have had to make a 10-mile detour. A bridge over the Mississippi River between Prairie du Chien, Wis., and Marquette, Iowa, reopened August 12 after being out of service for seven months. While the bridge was closed, residents had their choice of a 67-mile detour to the next bridge or ferry service for which waits often ran 2 hours.

Amtrak: Is It Here to Stay?

A decade after the government assumed responsibility for running passenger trains, the trains themselves are much improved. But Amtrak, as the National Railroad Passenger Corporation is known, is inundated by red ink.

This year Amtrak is costing the federal government 881 million dollars in subsidies—roughly \$44 for each of the 20 million people buying tickets. Since its beginning in 1971, Amtrak has spent nearly 7 billion of government money to stay afloat and to replace its run-down fleet of cars and locomotives. But the price of these subsidies has been to make the passenger train a political football for both its proponents and critics.

Time after time, Congress has vacillated. One year it will appropriate money to add new routes; the next it will take the money away. Its subsidy has made Amtrak the target of budget cutters in every administration since its creation. Twice before and again this year, Presidents sought vast reductions in Amtrak's 24,000-mile route structure. Each time they largely failed, partly because of opportune gasoline shortages and partly because the people who depend on passenger trains made their voices heard in Washington.

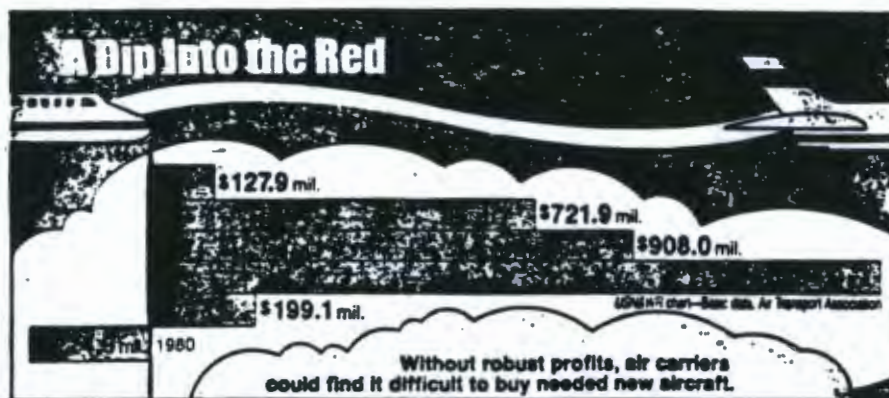
Attempts to cut Amtrak back to just a few high-density routes are certain to continue so long as the public corporation is so heavily dependent on government. "On some routes, the government would save money if it were to discontinue service and simply purchase air-coach-fare tickets for passengers," says the Chamber of Commerce's transport study.

Those wanting to slim down Amtrak say that intercity buses are a good alternative, serving 15,000 communities instead of Amtrak's 500 and not depending upon Washington for direct operating subsidies. Ridership on intercity buses rose 4 percent last year, with many small charter lines reporting booming business. But further deregulation of buses, should it occur, could mean reduced service for smaller communities. "Greyhound and Trailways are posturing themselves to become mainline carriers and drop smaller, unprofitable lines," observes Pennsylvania transportation chief Larson.

Railroad advocates argue that buses and airlines are subsidized by the government, too, though indirectly. "We're the only country in the world that asks our passenger rail system to make a profit," says Barry Williams, assistant director of the National Association of Railroad Passengers, a rail-consumer group.

Even with its problems, Amtrak is better off today in several respects. Equipment is either new—built since 1975—or completely rebuilt. With new cars and new engines up front, Amtrak's on-time record regularly approaches 90 percent. Ridership is up, too. Since 1972, Amtrak's first full year, passenger-miles—one passenger carried 1 mile—have risen 50 percent. People are now being turned away.

That's what happened to thousands of would-be air travelers who phoned Amtrak for tickets after the air controllers walked out. Those who could get through to jammed reservation centers were told that most long-distance trains were booked solid, and had been for weeks and sometimes



planned for Los Angeles and Houston, where populations are growing far more rapidly than their transit systems. Los Angeles-area officials counted on the federal government to pay 80 percent of the cost of an 18.6-mile rail line linking central Los Angeles with the San Fernando Valley, but now they are gloomy about the system's future. Clogged traffic on the region's freeways and streets makes rapid transit essential, says Los Angeles transit official Barry Engelberg. "Buses cannot take it any more," he says.

In Atlanta, 12 miles of a new subway are operating, but officials say it may

months. "Our problem isn't having enough passengers to fill the seats; it's having enough equipment to satisfy the demand," says Amtrak President Alan S. Boyd. "During peak periods, Amtrak could easily fill the seats of another 300 rail cars a day."

While others predict Amtrak's demise, Boyd contends that passenger trains are headed for a renaissance. "Air travel is becoming increasingly expensive and inconvenient," he says. "Smaller automobiles are uncomfortable for long trips, and gasoline will be more and more expensive."

Mass Transit: Money Squeeze

Traveling across town without a car is becoming harder than ever as transit fares keep climbing and buses and subways fall into disrepair.

In cities everywhere, cash-starved governments can't keep up with demands by travelers for frequent, well-routed service. This summer, fares in Atlanta, Baltimore, Orange County, Calif., Minneapolis, Oklahoma City and Phoenix rose from 50 to 60 cents. In Chicago, transit prices rose from 80 to 90 cents and in San Jose from 35 to 50 cents. Rush-hour fares in Denver soared from 50 to 70 cents.

Financing problems are reaching such proportions that systems in several cities are in danger of bankruptcy, and new projects are at a standstill.

The biggest casualty is the modern subway system, hailed only two decades ago as the answer to urban transportation problems. "I have a feeling that because of the cost of things, large, new subway systems in the next 20 years will become a thing of the past," predicts Transportation Secretary Lewis.

Huge cost overruns in the two biggest new systems have made planners in other cities leery. In Washington, D.C., what started as a 2.5-billion-dollar subway network is mushrooming into what may be an 8.3-billion project. The San Francisco-Oakland system ended up costing 1.7 billion, more than double the original estimate.

There also are nagging technical problems. The San Francisco system is described as "overautomated" by Brian Cudahy of the Urban Mass Transit Administration. When a subway breaks down at one station, it can stall other trains miles away. In that city and in Washington, the computerized fare-card systems are causing trouble. Tourists and commuters are often baffled by a set of card-dispensing machines—which frequently malfunction—that they must go through to pay their fares.

What's more, the Reagan administration refuses to boost funds for transit systems from the 3.9-billion-dollar level that prevailed in the fiscal year ending September 30. Most of the money will go to bus and trolley systems and to subway projects already under way. Federal budget planners say they won't pay operating costs for any system.

Especially hard hit by the cutbacks are subway projects

take until 1990 to build two extensions because of the federal cutbacks.

Systems built years ago are having troubles as well. The Regional Transportation Authority in Chicago came close to bankruptcy at midsummer, but continues to limp along with stopgap funds. At one point in June, the entire subway and bus system nearly shut down for lack of funds.

In New York, fares have risen from 35 to 75 cents in the past six years, but costs are only part of the problem. The real reason subway ridership is declining is the deteriorating cars and tracks. The number of breakdowns rose from 43,683 in 1979 to 71,773 in 1980, according to the city's Permanent Citizens Advisory Committee. "The picture which emerges is one of a system in physical collapse," says committee chairman Michael Gerrard.

Bus systems in smaller cities also are having trouble making ends meet. Officials in Birmingham, Ala., closed the entire bus system for three months last winter when they could not get local, state or federal aid. In Memphis, \$500,000 thought to be earmarked by the Legislature for mass transit is being spent by the city to repair streets, while bus service deteriorates.

Looking ahead, the administration is casting a more favorable eye on light-rail systems, or long-distance trolleys, such as the one that opened in July in San Diego. Dubbed the "Tijuana Trolley," the line runs along railroad right of way from San Diego to the Mexican border. The system cost 86 million dollars to build, funded entirely by the state gasoline tax and a local sales tax. At 5 million dollars a mile, it was far cheaper than the 34 million per mile spent in San Francisco or the 43 million in Washington.

More experts are looking at the bus as the most efficient form of mass transit, especially when used on special lanes to avoid tie-ups with auto traffic. Says Randall Pozdena of the Federal Reserve Bank of San Francisco: "Even if a special lane must be built to accommodate express buses, its cost would be far lower than rail transit." Among the cities experimenting with new bus routes is Pittsburgh, which opened a 4.5-mile separated busway in 1977 and will open another 6.8-mile route next year. Not only do commuters get to their destinations quicker, but the city saves money by carrying more people with fewer buses in a fraction of the time it took when the buses traveled on the same streets as cars.

Experts predict, however, that projects like the Pittsburgh busways will be tougher to fund, since an important financial partner—the federal government—will be stingier with its aid. As with an increasing number of essential services, the burden will fall on private companies, local authorities—and the general public—to find new ways to ease the nation's transit ills. □

By MICHAEL DOAN with the magazine's domestic bureau

Time to Repair and Restore

Neglected streets and sewers, plus aged bridges and byways, hinder growth

From the rusting spans of its once proud bridges to the leaking sewers beneath its streets, America is structurally unsound. Highways are crumbling. Avenues are cracking. Trains jump their worn-out tracks. Coal ships languish outside overburdened ports. While the U.S. has the technological prowess to blast a magnificent space shuttle into orbit and land it gently back on earth, it has failed to care properly for its most important public works.

One morning two weeks ago, some New York City commuters living north of Manhattan awoke to a radio traffic bulletin even more dismal than usual. Because of a turbine breakdown at a Conrail power station, their trains into the city would be half an hour behind schedule. Fearing that the delays could be much longer, thousands of travelers took to their cars. But just as rush hour reached its bumper-to-bumper peak, a 4-sq.-ft. section of cement roadbed in the southbound lane of Manhattan's elevated West Side Highway suddenly collapsed and tumbled to the ground below. While a repair crew patched the hole with a metal plate, traffic backed up for three hours. Said one fatigued driver who reached his office at noon: "It's like Berlin after the war. Nothing works."

Every school-day morning on the Lilly Bridge near Altoona, Pa., children go through a poignant ritual that matches the plight of those commuters. A yellow bus parks just short of the decrepit 57-year-old structure, the doors swing open and its young passengers troop across the bridge on foot. Then the driver follows—slowly—to pick them up again, knowing that even if the bridge gives way under the weight of the bus the children will be safe.

These conditions are neither isolated nor unrelated. Urban planners and a growing number of politicians are worried about the bridges and byways, streets and sewers that make up the infrastructure of the U.S. economy. After decades of neglect by all levels of government, much of that foundation is now in an advanced state of decay.

During the lean years of the 1970s, many financially strapped states and depressed older cities were hard put to find money either for maintenance or for new construction. With teachers, welfare recipients, garbage collectors and senior citizens all expecting higher salaries or more services, government priorities tipped toward meeting social demands. Since

1965, the percentage of the U.S.'s gross national product devoted to investment in public works has dropped from 3.6% to 1.7%, a 52.8% decline. Like a pensioner gradually spending his lifetime's savings, the U.S. is living off its public capital, and little by little exhausting it.

This situation is felt most acutely in the declining cities of the Northeast and Midwest, and the old Southern river towns like New Orleans. But tight budgets are also threatening the infrastructure in the West. The effect of California's Proposition 13, which slashed property taxes by an average of 57%, has already shown up in the deteriorating condition of that state's streets and highways.

Ronald Reagan has presented Congress with a program to renew American business by encouraging savings and promoting private investment, but the productivity of business rests on the quality of its infrastructure—its network of roads,

State Planning Agencies in a disturbing new report entitled *America in Ruins*: "The deteriorated condition of basic facilities that underpin the economy will prove a critical bottleneck to national economic renewal during this decade unless we can find ways to finance public works."

The worst infrastructure ills:

Highways. In 1956 Congress launched what President Dwight Eisenhower proclaimed to be "the greatest public works program in history": the interstate highway system. Now in its silver anniversary year, the 42,500-mi. network is only 94% finished, but 8,000 miles of pavement are so badly worn that they must be rebuilt. Though the U.S. Government has picked up 90% of the \$79 billion tab for interstate construction so far, it has given the states almost no money for maintenance, and state legislatures have been slow to provide funds to keep up the highways.



Heavy traffic on the rusted and crumbled West Side Highway in New York City

rails, ports and other vital public services. If trains and trucks are slowed by poor tracks and roads, farmers and manufacturers cannot get their products to market on time, and the delay shows up in the prices of everything from soybeans to stereo sets. If city sewers and subways are already strained beyond their limits, companies may be reluctant to expand and hire new workers, since they may not be able to get to work. Warns the Council of

To make matters worse, Congress in 1974 lifted the truck weight limit on federal highways from 73,280 lbs. to a concrete-crushing 80,000 lbs. On part of Interstate 90 near Erie, Pa., motorists bouncing over ripples and dodging chuckholes wisely ignore the posted speed limit of 55 m.p.h. in favor of a more sensible 30 m.p.h.

Secondary roads off the interstates are often in much worse shape. In eastern Kentucky, where pockmarked roads suf-



A spectacular derailment at Auburndale, Fla.

Crossing a decrepit bridge near Altoona, Pa.



for a relentless pounding from overloaded coal trucks, drivers bitterly complain that most of their tires blow out before they wear out. The main road between Baton Rouge and Shreveport, La., is so bumpy that freight haulers avoid it by going some 130 miles out of their way through eastern Texas. Says Trucker John Wooley, a former rodeo cowboy: "That road just tears a rig apart. It's like riding a bucking bronco." In California, Highway 101 outside San Jose is full of holes. Says Jon Carroll, a senior editor at *New West* magazine: "There are many blood alleys in California, but this one leads the parade. An absolutely terrifying driving experience."

Most states rely upon gasoline taxes for maintenance funds but, as the surging price of fuel has forced people to drive less, those revenues have decreased. In Ohio, for example, state officials predict that their gas tax receipts will be \$15 million less this year than in 1980. Meanwhile, the cost of rebuilding a road is 166% higher than it was only a decade ago. Inevitably, repairs are put off. Maine's original 1980 budget called for repaving 1,250 miles of highway; because of inflation and a decline in revenues, only 524 miles were actually restored.

Legislators in many states, including South Dakota, Virginia and Alabama, have recently admitted their problems and hiked gasoline taxes by as much as 4¢ per gal. Other states will surely follow. Says David Finley, of the Ohio de-

partment of transportation: "We haven't raised our gas taxes in more than two decades, but we will have to now. The condition of the roads has me very worried."

Bridges. One of every five bridges in the U.S. needs major rehabilitation. Fortunately, those on the brink of breakdown are usually closed to traffic. In Ohio, 605 bridges have been blocked off, but 4,000 others that show ominous signs of de-

terioration are still in use. More than half of Louisiana's 14,800 bridges do not meet federal and state standards. Some of the nation's worst bridges are also heavily traveled ones. In River Rouge, Mich., the Miller Road Bridge links a huge Ford Motor factory with Interstate 94. A city engineer describes it as "utterly dangerous and in bad need of repair."

The cost of fixing U.S. bridges could run as high as \$33 billion, but states and cities can spend just a small fraction of that amount. Federal aid for bridge repairs is only \$1.3 billion this year. Admits Daniel Hines, an engineer for the State of Michigan: "Bridges are falling down faster than we can rebuild them."

City Streets, Sewers and Subways. Old age is catching up with many American cities. Cleveland's antiquated sewer system overflows during heavy rains. Says City Budget Director Phillip Allen: "We always have flooded basements throughout Cleveland. It wouldn't be so bad if it were just storm water, but it's combined with sewage water." In St. Louis, about 15% of the water supply leaks out of the city's aged pipes. In Newark, 90% of the streets need patching, resurfacing or complete reconstruction.



Coal ships pick up their cargo from the overburdened terminals at Hampton Roads, Va.

New York City is in a class by itself. Last year the metropolis had \$47 water-main breaks that cost \$60 million to repair. Potholes and other road defects prompted 1,941 property damage

claims totaling \$20.9 million. The ramshackle subway system is notoriously unreliable. Three weeks ago, a train bound for Manhattan from Queens broke down, stranding 1,500 passengers in a tunnel under the East River for more than an hour. Concerned New York businessmen are banding together to lobby for change. One group called Business for Mass Transit has taken advertisements in the *New York Times* to de-

liver a warning to city and state officials: "The impending collapse of our subways, bus lines and commuter railroads threatens our businesses and the jobs of millions of workers."

The cost of reversing this kind of urban decay is too high for many city treasuries. Officials in New Orleans believe that it would take \$200 million to repair the city's crumbling streets, but only \$32 million is now available for the job. One estimate of the cost of modernizing Baltimore's sewer system comes to \$1,880 for every man, woman and child in the city.

With municipal budgets under severe strain, some cities are risking even further deterioration. Since 1973, Buffalo has reduced the number of its water-system workers by more than 40%. In the past two years, Boston has cut its mass-transit engineering and maintenance work force by 16%. Oakland, Calif., has trimmed its street-repair crew by 18%.

Some elected officials have concluded, however, that restoring infrastructure can be good politics. Cleveland Mayor George Voinovich persuaded voters to approve a 25% hike in their income taxes by promising that half of the money would go for capital improvements, including bridge and street repair. New York City now uses about 50% of its capital budget for rehabilitation rather than new construction,

compared with just over 20% in 1970. Says Mayor Edward Koch: "Discussion at a city council meeting will not be about what building we're putting up, but whether sewer A will be finished before sewer B. We're not interested in the old political system of show them something on top if what you need is something below ground."

Railroads and Ports. Spending for train and track maintenance and new equipment has more than doubled, from \$7.1 billion in 1975 to \$14.9 billion last year, and once deplorable conditions are improving. But 6,468 trains were still derailed in 1980. These incidents caused property damages amounting to more than \$200 million.

The most serious problems are on branch lines, which are often unprofitable. In many areas of Kansas and Illinois, grain shipments creep along on trains that can safely travel only at 10 m.p.h. Overall, an estimated 30% of total U.S. track mileage needs major repair.

Efforts to rebuild the railroads should be buoyed by the deregulation law passed by Congress last year, which directed the Interstate Commerce Commission to give the railroads more freedom to raise their freight rates. Rail executives hope that they can make many branch lines prof-

itable and restore their tracks and roadbeds. Otherwise, they argue, the lines should simply be abandoned.

The railroads are counting on future profits from a boom in coal transport now that nations around the world are seeking a substitute for high-priced oil. But the U.S. will never fulfill its potential as a coal exporter until action is taken to upgrade and expand its ports.

Hampton Roads, Va., is the nation's busiest coal port and also its most notorious bottleneck. On an average day before the start of the current coal miners' strike, an armada of 150 ships was anchored offshore. Reason: the two loading terminals are so inadequate that the colliers usually must wait in line a month or more to pick up their cargoes.

Coal companies are planning to build new terminals at Hampton Roads and other ports, but a more serious problem will remain. No Eastern or Gulf Coast harbor is deep enough to accommodate so-called supercolliers: giant vessels that can carry more than 125,000 tons of coal, which is at least twice the load of standard ships. Many American ports, including Hampton Roads, Baltimore, New Orleans and Mobile, need to be dredged to the 55-ft. depth required by the supercolliers. But congressional appropriations for these projects have been held up for years,

A City That Still Works

When it comes to smooth efficiency, neither Rome under Mussolini nor Richard Daley's Chicago could outshine modern day Dallas. Potholes are filled within three days; a clogged sewer is usually cleared within 40 minutes; streets, sidewalks, bridges and water and sanitation systems are kept in superb condition. Indeed, the Urban Institute in Washington proclaims that Dallas' management of its public facilities could stand as a model for large cities all over the U.S.

While many other towns and cities are slowly crumbling, Dallas has established its reputation as a city that works. The reasons include a favorable climate, a booming local economy, an encyclopedic computerized maintenance schedule, and a government that abhors the idea of deferring scheduled repairs to keep its current expenses low. In addition, it is the largest city in the U.S. run by a professional administrator answering to the city council. In most of the largest cities, the day-to-day operations are in the hands of the mayor. Says Dallas City Manager George Schrader: "A city government is like GM or U.S. Steel, and the infrastructure is our assembly line."

The city executes its maintenance work with a precision similar to that of the Dallas Cowboys on a pass pat-

tern. Dallas keeps a computerized inventory of all street surfaces, curbs, gutters, sidewalks and stop lights. Water-main breaks and cracks in the pavement are rigorously recorded, as are the costs of repairing them. The city, for example, annually cleans out 26% of its sewers, and trouble-prone stretches of underground pipe are inspected by subterranean television cameras.

Equally important is Dallas' system of user fees, which specifically charge people for services. When streets are improved, for instance, the people who own houses or businesses on them are assessed part of the cost.

Another major reason for Dallas' success is its tradition of joint private-public ventures. The city and Oilman Ray Hunt, the half brother of Silver Baron Bunker Hunt, combined to develop a hotel and sports complex in a section of Dallas' west side that had been stagnant for 50 years. Hunt and the city shared the cost of building new roads and Hunt paid for railroad underpasses in the area.

Dallas, of course, has its share of urban shortcomings. Its mass-transit system, which consists of only 490 buses, is plainly inadequate, and a referendum on a new public-transportation system may be held soon. But, as City Councilman Lee Simpson says, "we've put our infrastructure in the hands of high-quality professionals, and our citizens have little tolerance for failure. That's why any weaknesses stand out."



Dallas digs a new sewer to prevent overloads

while lawmakers wrangle about which port should be first and worry about the multibillion-dollar price tag.

No one knows how much it would cost to modernize the entire infrastructure of the U.S. economy. Pat Choate, co-author of the *America in Ruins* study, estimates that the task could take as much as \$3 trillion, roughly the amount of the annual gross national product at present. Amitai Etzioni, director of the Center for Policy Research, believes that more than \$400 billion should be invested over the next decade on railroads, highways and bridges. The total value of all government-sponsored construction on those projects last year was \$23.4 billion.

President Reagan does not intend to launch a major new public works spending program. In fact, as part of his budget-cut plans, he hopes to carve \$31 billion out of federal spending on transportation over the next five years. The highway program would lose \$11.2 billion, and mass-transit aid would be trimmed by \$12 billion. Though Congress is expected to approve a large portion of the Reagan cuts, some lawmakers argue that the reductions are shortsighted. Says Democratic Congressman Henry Reuss of Wisconsin, the chairman of the Joint Economic Committee: "The whole thrust of the Reagan program is to downgrade the infrastructure. What has been a serious worry will now become a disaster."

Administration officials argue in response that the problems can be solved most efficiently by state and local governments. Says Secretary of Transportation Drew Lewis: "It's a question of whether we collect a dollar in taxes, skim 15c or 20c off through our bureaucratic regime in Washington and send 80c back to the states, or whether we cut federal taxes and let the states handle it locally."

Moreover, many urban planners are concerned that states and cities have become federal-aid junkies. U.S. Government contributions to state and local public works expenditures have jumped from 10% in 1957 to about 40% now. Concludes George Peterson, a public finance specialist at Washington's Urban Institute: "State and local governments must stop lobbying for more federal assistance and get about the job of setting their own priorities, reassessing their needs and collecting funds at the local level to pay for them."

At a time when taxes are already painfully high, it will not be easy to raise money to rebuild roads, enlarge ports or repair bridges. But neither can the U.S. continue its past policy of "build it and forget it." The longer that needed restoration is postponed, the more costly it becomes. America cannot afford to starve vital parts of its infrastructure—that network of arteries that nourish the heart of the economy.

—By Charles Alexander.

Reported by Gisela Bahr/Washington and Denise Worrell/New York with other U.S. bureaus



authorities are not doing nearly enough about it

by Jack Harrison
Pollack

BRIDGES

Brooklyn
Bridge,
completed
in 1883

former chairman, told a Senate subcommittee on transportation in April 1980.

"If guardrails are included, the figure is closer to 2000," adds the board's safety specialist, Lynne Smith.

For example, on Feb. 18, 1981, a bus veered across I-95 near Triangle, Va., jumped a guardrail, struck a bridge parapet and fell into a creek 25 feet below. The driver and 10 passengers were killed, and 13 were injured.

On other bridges, inadequate lanes, narrow clearances, faulty approaches or outmoded alignment make passage dangerous. Locally, some are known as "suicide bridges," especially after cars, buses and trucks collide on them and kill people. This is no surprise. A study 10 years ago by M.H. Hilton of the University of Virginia, now a senior engineer with the Virginia Highway and Transportation Research Council, found that when a 23-foot bridge was widened to 40 feet, accidents were reduced by up to 95 percent.

One rarely hears about near-misses on bridges. Last July, on the Woodrow Wilson Bridge that crosses the Potomac between Maryland and Virginia on I-95—which this writer found to be patched up like an old quilt—a large deck hole from eroded concrete revealed the water below through an open support pillar, forcing the bridge's temporary closing. The concrete had also loosened on a bridge that takes U.S. 50 over the highly traveled Baltimore-Washington Parkway. Falling debris

damaged moving cars before that bridge was temporarily closed.

"Today, about a third of the nation's bridges are closed or posted for reduced vehicle weights, and all require



Schoolchildren walk across weight-restricted bridge in Lilly, Pa., and reboard bus on other side.

extensive rehabilitation or replacement," reports TRIP.

Bridge closings, of course, have disruptive side effects. The resulting detours often create traffic jams, impeding travel for ambulances, fire trucks and other emergency vehicles. Disgruntled residents have even been known to sue authorities over the inconvenience (to them) of a bridge closure. But in Louisiana, Illinois and elsewhere, officials have ordered unsafe bridges torn down.

Even people who don't use bridges are affected. When delivery trucks are required to make long detours around

closed or weight-restricted spans, the extra gasoline and employee time costs are generally passed on to the consumer. "The prices of local goods and services have been boosted as much as 25 percent by bridge closings and weight postings," says TRIP's Donald Knight.

U.S. Steel estimates that the 5-ton weight limit of the weak Thompson Run Bridge in Duquesne, Pa., near one of its plants, compels the company's 350 trucks to detour 18 miles daily one way, boosting its operating costs by \$1.2 million annually in extra fuel and labor expenses.

Inadequate or irregular inspections and enforcement are probably the greatest causes of sudden bridge failure, even though check-ups have increased somewhat in recent years. Inspection can now be far more scientific than in the old days, when local politicians merely walked on the ice during the winter freeze to gaze at a bridge's understructure. Today, there are sophisticated portable devices—including acoustic crack detectors, magnetic crack finders, "electronic black boxes," "snoopers" and others—that help to uncover hidden defects.

Unfortunately, such equipment isn't being used widely or often enough. "Some states and local governments are not inspecting their bridges at least every two years as required, and some local governments not at all," Milton J. Socolar, Special Assistant to the U.S. Comptroller General, reported last year.

New York City's elevated West Side Highway, before it was closed in 1973 after a truck went through the deck,

had gone without an intensive inspection of its eroding main girders for a generation.

"The inspection problem is aggravated by a longtime shortage of trained, qualified inspectors," observes John C. Grant, president of the nonprofit Ocean Learning Institute in Palm Beach, Fla. Less than half of the nation's counties have qualified staff personnel to inspect their bridges thoroughly. Often they must hire outside consultants. A crash training program for local bridge inspectors is now being offered by the Federal Highway Association. Probably the best-inspected bridges are operated by independent or semi-autonomous bodies that can spend their toll revenues on frequent inspections and repairs.

Enormous funds are needed to safeguard our more than 200,000 deficient or obsolete bridges. To replace or rehabilitate all of them, the government estimates, would cost \$41.1 billion, half of it for those on the federal-aid system.

Congress has made a modest start in aiding states under its Highway Bridge Replacement and Rehabilitation Program, launched after the 1967 collapse of the Silver Bridge over the Ohio River, which claimed 46 lives. Renewed in 1978 as the Surface Transportation Assistance Act, which expires next Oct. 1, it authorizes about \$1 billion a year in federal funds for bridge correction. At least 65 percent must be spent for bridges on the federal-aid system, and 15-35 percent for those off of it. This is the first time that Uncle Sam has appropriated money for local bridges. Although the federal matching share was raised to 80 percent, many states and local governments have been reluctant or unable to pay the other 20 percent. And

continued

and more of them hazardous. The total repair cost: \$41 billion.

President Reagan's recent recommendation that the federal bridge program be turned back to the states could, if approved by Congress, lead to even tighter pinches in state budgets.

In addition, the Secretary of Transportation has \$200 million available annually in "discretionary funds" for bridge replacement or rehabilitation. Through Dec. 31, 1980, 45 bridge projects were selected for federal financing, including 27 recommended by Congress.

Many deteriorated bridges are not federally financed, the government says, because they lack a "legislative history"—that is, they were never specifically named in earlier Congressional appropriations.

By contrast, two months ago, Congress appropri-

ated \$60 million—the full agency-recommended amount—to repair the Woodrow Wilson Bridge in Washington, D.C., which is the only bridge owned by Uncle Sam on the interstate highway system. Many lawmakers drive across it to and from the Capitol.

The General Accounting Office, the government's fiscal watchdog, recently issued a critical report titled "Better Targeting of Federal Funds Needed To Eliminate Unsafe Bridges." It charged that "bridges most in need of attention are not always selected"; that "states and local governments are not fully complying with national standards for bridge inspection"; and that even some government agencies, such as the National Parks Service, Forest Service and Bureau of Land Management, which collectively operate about 14,000 bridges, don't always comply with

their own inspection standards.

Even bridge building requires constant vigilance. A controversy raged over the quality of the steel used on the span over the Mississippi River between McGregor, Iowa, and Prairie du Chien, Wis. The bridge was rebuilt.

At today's rate of rehabilitating about 2000 bridges a year, it could take more than a century to bring all up to standard. Certainly, bridge correction is expensive. But continued inflation at the current rate would more than double the cost in 10 years, experts predict.

"The very least we should do now," urges Dean Morgan of the Highway Users Federation, "is to modernize all bridges on the federal-aid system." One immediate benefit would be thousands of new construction-related jobs.

And safer trips.

What You Can Do

1. To find out if bridges in your area, or an area you plan to visit, are potentially unsafe, write or call the local or state transportation department or automobile club.
2. If you suspect that a bridge is hazardous, write or call your local transportation department. Don't assume that someone else has already done so. You'd be helping more than yourself.
3. Local and state lawmakers must know your feelings about bridge problems to allocate funds for repairs or replacement. Tell them.
4. To receive more information about national bridge problems, write to: Public Affairs Office, U.S. Federal Highway Administration, Dept. P., 400 Seventh St., S.W., Washington, D.C. 20590; or The Road Information Program (TRIP), Dept. P., Suite 401, 1899 L St., N.W., Washington, D.C. 20036.

Our 18 Worst Bridges*

These 18 major bridges (in terms of repair costs) urgently need replacement or rehabilitation, according to state requests. As of mid-January, they were still without government financing, officials of the Federal Highway Administration informed PARADE.

State	Bridge	Total Cost (millions)
Arizona	Little Colorado River Bridge	\$ 9.7
California	Russian River Bridge at Preston	24.1
Colorado	20th Street Viaduct	25.1
Connecticut	Charter Oak Bridge	183.6
District of Columbia	Whitburn Freeway	58.6
Georgia	U.S. 17-SA 25-Savannah	51.4
Illinois	U.S. 67/Mississippi River	80.0
Iowa and Illinois	U.S. 34/Mississippi River	30.0
Kansas	West Kansas Avenue Bridge	31.9
Maryland	U.S. 50 over Choptank at Cambridge	51.0
New York	Brooklyn Bridge	105.0
North Dakota	Four Bear Bridge	23.9
South Carolina	Cooper River and Town Creek Br.	155.4
Texas	State Hwy. 87/Meches River (Rainbow Bridge)	60.0
Texas	State Hwy. 358-Cayo Del Oso	11.6
Washington	Hood Canal Bridge East Half	77.9
Washington	Ebay Slough Bridge	120.8
Wisconsin and Minnesota	St. Vrain Bridge (Route 64)	61.9



OUR UNSAFE

A very real danger is growing worse and

Every other day, a bridge falls, sags or buckles somewhere in the U.S. And many needless deaths and injuries result from crashes on bridges—often the result of unsafe guardrails, say bridge authorities in both the federal government and private industry.

Bridge collapses and accidents are even more serious today than when PARADE spotlighted the nationwide problem three years ago ("Our Bridges Are Falling," Jan. 7, 1979). A combination of inadequate inspection and enforcement, budget-trimming and neglect on the part of Congress and state and local governments continues to aggravate this longstanding (but deteriorating) situation.

There are no reliable national statistics on how many people die or are injured every year in bridge collisions and collapses in the U.S. And only the dramatic bridge accidents make headlines:

● On New York's 99-year-old Brooklyn Bridge last June 28, two steel cables—among the dozens badly needing replacement—suddenly snapped and whipped down. One killed a young man who was strolling across the damaged wooden walkway. The bridge is scheduled to be rehabilitated, and some of the work has begun, using city funds.

● On the Sunshine Skyway in Tampa, Fla., on the stormy morning of May 9, 1980, a 609-foot freighter rammed into a support pier of the bridge, which had suffered three other vessel collisions since 1977. Swiftly, more than half of the concrete roadway's center section crumbled. Eight vehicles plunged 150 feet into Tampa Bay. Five, including a Greyhound bus, sped over the fallen bridge after its collapse, witnesses testified. Thirty-five persons died. The official National Transportation Safety Board report estimated

the damage at \$30 million and blamed the tragedy in part on a "lack of a structural pier protection system" and "lack of a motorist warning system..."

● In a foggy rain, an overcrowded school van slid off an old, one-lane wooden bridge near Hernando, Miss., last Dec. 17. The van plunged into a creek 9½ feet below and burst into flames. Four youngsters and one adult died, and four persons were hospitalized.

School buses, in fact, no longer carry pupils over many such bridges. Children often must walk across them first and wait on the other side to reboard the empty buses.

Of the nation's 524,966 bridges, two in five require major repair or replacement, the Department of Transportation's Federal Highway Administration (FHWA) reported to Congress last year. They range from narrow, old plank bridges over rural creeks to modern steel and concrete spans crossing wide city waterways.

The government estimates that 223,200 bridges are either "structurally deficient" or "functionally obsolete." Of these, only 61,500 are on the federal-aid system; the remaining 161,700 state and local bridges are not.

"The condition of the nation's bridges is bad and getting worse," says engineer Dean L. Morgan of the Highway Users Federation, a national coalition of 450 safety-promoting industries and associations. And while every state has its too-old or too-weak spans, more than half of the nation's failing bridges, according to the federation, are in 10 states: Illinois, Indiana, Iowa, Kansas, Mississippi, Missouri, Nebraska, New York, North Carolina and Texas. Texas has the most unsafe bridges

(15,197 out of 41,454), Missouri the next most (13,813 out of 20,911), and North Carolina has the largest percentage (75.7 percent are unsafe).

Other states with an unusually large

at the end of this article).

Donald S. Knight, executive director of The Road Information Program (TRIP), a highway research organization in Washington, D.C., warns: "From 1982 on, more and more of our aging, deteriorating bridges will have to be closed unless we act now."

Bridges wear out with age. The average useful life of a bridge is 50 years, and three out of four in the U.S. are more than 45 years old. Some 25,000 still in use were built before 1900. Those predating the automobile age and weakened by weather and erosion were designed to serve lighter, slower traffic. Design and construction materials were not standardized until 1935.

Constant usage likewise deteriorates bridges, especially with today's heavy axle loads and high-speed traffic. The salt poured on bridge decks and adjoining roads to melt ice and snow eats through steel beams and breaks even reinforced concrete, as does the acid in pigeon droppings. Oklahoma is now testing on 23 bridges a new de-icing chemical spray that has been used in Germany for 10 years.

Partly because some bridge designers have emphasized esthetics more than safety, two-thirds of bridge guardrails in the U.S. fail to meet recommended safety standards, charges the National Transportation Safety Board. "About 1300 persons die each year in crashes involving bridge barrier systems," James B. King, the board's



Tampa, Fla., bridge after ship hit support pier in 1980. Deaths were blamed in part on safety flaws.

number of unsafe bridges include Pennsylvania, Tennessee, Kentucky, Florida and Washington (because of the 1980 Mount St. Helens eruption), says the American Association of State Highway and Transportation Officials. Its executive director, Francis B. Franco, says that many cities—including Cleveland, Pittsburgh, Kansas City, New York, Milwaukee, Chicago, St. Louis, Rochester, N.Y., Detroit and Boston—face serious bridge problems.

You can—and should—find out about bridge conditions in your locality and, if you're planning a trip, in areas you'll be visiting (see the suggestions offered

Erosion, poor maintenance and obsolete design have made more

(cont'd)