

Policy Analysis

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Routing

Liberating the Roads Reforming U.S. Highway Policy

by Gabriel Roth

Executive Summary

Deliberations on reauthorizing the federal fuel tax dragged on through the summer of 2004 and were not completed in the 108th Congress. Whether the fuel tax and the transportation programs it funds should be renewed is the central question of this paper.

A federal role may have been necessary to finance the Interstate Highway System in 1956—the year the federal fuel tax was enacted—but the system is now complete. The Federal Highway Trust Fund was established specifically as a means to finance highway construction. It is now a slush fund for Congress to fund programs aimed at appeasing special interests and financing nonhighway projects. The power of Congress

to finance road projects was supposed to sunset in 1972 but instead continues to this day. In addition, federal regulations increase construction costs and stifle innovative policy experiments in the states.

Before the federal government took on the role of financing highways in 20th century, that role was assumed entirely by state governments and, before that, the private sector. This study makes the case that there is no longer any role for the federal government in the construction and financing of roads. Significant reform must include phasing down the federal fuel tax and giving back to the states full responsibility for highway programs.

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Introduction

The most recent congressional reauthorization of the federal fuel tax and the federal transportation programs it funds expired in September 2003. Currently, Congress decides the financing and allocation of federal capital spending on highways (consisting, at present, of 39 percent of all such spending nationally), and enacts many of the regulations governing expenditures financed by various federal agencies.¹ Deliberations on reauthorizing the federal transportation programs dragged on through the summer of 2004 and were not completed in the 108th Congress. Whether the federal fuel tax and the programs it funds should be renewed is the central question of this paper.

There may have been good reasons to choose such a federal system to finance the Interstate Highway System in 1956—when the federal fuel tax and the federal highway system legislation was enacted—but the IHS is now complete. What was established as a trust fund fed by fuel taxes to be spent on roads for the mutual benefit of road users has now become a mechanism for the exercise of political power and for distributing favors to individual members of Congress.

The congressional deliberations on reauthorizing the federal financing of roads that took place in 2004 were mainly about how much to spend—not about policy. As Robert Puentes of the Brookings Institution noted:

The differences are not arguments over policy. As far as Washington is concerned, transportation is all about money—how much and who gets it. . . . The sad fact is that the national transportation system is broken and in dire need of fundamental reform. That is why billions and billions of dollars of additional federal investments, without significant reform, will do precious little to ameliorate the transportation problems of the modern metropolis.²

This study makes the case that the com-

pletion of the IHS removed any argument there might be to maintain federal control and financing of roads; that market pricing and investment principles, which govern the provision of most goods and services in free societies, could usefully be applied also to roads; and that significant reform should start with phasing out the federal role in road finance. This would require a phase-down of the federal fuel tax and would effectively turn back to the states full financial responsibility for their roads, allowing them to manage and finance highways and the transportation sector as they deem appropriate.

Paying for Roads: A Historical Perspective

In a market economy, people generally pay for what they use, and get what they pay for. But until recent technological developments—like electronic tolling—it was impossible to charge directly for road use without requiring vehicles to stop at pay tolls. Most drivers today probably assume that fuel taxes coupled with an occasional toll is the way roads have always been financed.

However, government use of fuel taxes as the primary funding mechanism for building and maintaining roads is a relatively new invention that has its roots in the 20th century. During the late 18th and most of the 19th century, intercity roads in the United States and the United Kingdom were primarily toll roads financed by private capital.

In the beginning of the 19th century, hundreds of turnpike companies operated thousands of miles of toll roads in the United Kingdom and the United States. In 1830 there were, in Great Britain, 1,116 turnpike trusts maintaining 22,000 miles of toll roads, which accounted for about one-fifth of the total road system.³ Those companies were financed almost entirely by private capital.

Toll road companies in the United States followed the British example. The first turnpike road to operate in the United States, connecting Philadelphia and Lancaster, was built by a pri-

vate company chartered by the Pennsylvania government in 1792. The road opened in 1794. Other roads quickly followed and, by 1800, a total of 69 companies had been chartered in New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Virginia, and Maryland.⁴ Ohio, Pennsylvania, and Virginia were the only states that subsidized their turnpike companies.⁵ The total length of these roads exceeded 10,000 miles, and they comprised a substantial part of the economy at that time. Their comparative magnitude exceeded the public-sector investments in the Interstate Highway System after the Second World War.⁶

Most of the toll road companies were put out of business in the 19th century by a mode of transportation technically superior to animal-drawn vehicles—the railroad. At the turn of the 20th century, when the railroads were, in their turn, challenged by motorized road transport, the intellectual climate in the United States was dominated by the Progressive movement, which advocated a larger role for government in many areas, including transportation. As tolls were generally unpopular, it was politically easy to abolish them and finance “free” roads (some of which came to be called “freeways”) out of the proceeds of taxation. Some toll facilities remain, but most roads in the 20th and 21st centuries were, and are, provided outside the market system on the basis of what are essentially political decisions. Thus, to this day, roads, together with education, health, and pension services, constitute major socialistic elements even in free-market economies.

The Evolution of Dedicated Road Funds

The advent of the automobile not only highlighted the road-financing problem but also suggested a solution: Unlike the hay consumed by horses, motor-vehicle fuel could be easily taxed. So, in the United Kingdom, the establishment of a Road Improvement Fund, to be fed from the proceeds of taxes on motor vehicle ownership and use, was included in the 1909

budget of the Chancellor of the Exchequer David Lloyd George. Sir Edgar Harper, economist and chief valuer to the Inland Revenue (the UK tax authority), explained that the Road Improvement Fund “is not fed by taxation in the strict sense. It provides machinery by which the owners of motor vehicles in combination and under State guidance are enabled to spend money on roads for their mutual benefit.”⁷

The concept of dedicated road funds soon crossed the Atlantic. The first in the United States was established in Oregon in 1919, and there are now more than 30 states with such dedicated funds.

Fuel taxes are easy to collect, but they suffer from three drawbacks:

- First, they are not responsive to costs imposed on the road system; diesel-powered vehicles typically use half the fuel consumed by gasoline-powered ones, but can impose the same or greater costs on road maintenance.
- Second, the costs imposed by road users on one another under conditions of congestion—costs which should be charged to users if road systems are to be used efficiently—are not adequately reflected in increased fuel consumption.
- Third, as vehicles become more fuel-efficient, revenues proportional to fuel consumption decline in value and cannot keep up with the costs of providing roads.

In addition, dedicated road funds are often used by governments for nonroad purposes. The first to suffer this fate was the British road fund, which was raided by Chancellor of the Exchequer Winston Churchill in 1929.⁸ As we will see later, the same fate overtook the U.S. Federal Highway Trust Fund.

A Brief History of the Federal Role in the Provision of Roads

Section 8 of Article I of the U.S. Constitution gives Congress explicit power “to estab-

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lish Post Offices and post Roads.” In 1802, Congress authorized funds for the construction of the “National Road” to link Maryland to the Appalachian Mountains and eventually to Illinois. It was completed in 1840. But there were doubts about the use of this power, as transportation was regarded as an “internal improvement” that the Constitution did not enumerate as a federal responsibility. President Jefferson favored the federal financing of roads but considered it to be unconstitutional.⁹ Respecting his opinion, Presidents Madison, Monroe, Jackson, Tyler, Polk, Pierce, and Buchanan all vetoed transportation bills on the grounds that they were unconstitutional. After 1860, however, Congress passed hundreds of laws providing federal funds for roads. The amounts spent were comparatively small, totaling \$17 million by 1891. In 1914, even this trickle was stopped by a House rule prohibiting consideration of legislation funding specific roads. That rule was reworded in 1946 to state: “It shall not be in order for any bill providing general legislation in relation to roads to contain any provision for any specific road.”¹⁰ The latter wording appears to have still been in force in 2004.¹¹

The federally assisted highway system finds its origins in laws passed in 1916 and 1921, which authorized the federal-aid highway program and established the Federal Bureau of Public Roads (the predecessor of the Federal Highway Administration). The laws also defined a cooperative relationship between the state and federal governments that remains in effect today: “The States retained the initiative in constructing roads and highway improvements while the Federal role was to review and approve work done with the assistance of Federal funds.”¹² In other words, the states bear the responsibility for their roads, but the financing power is shared with the federal government, which also has the responsibility to review and approve work done with the assistance of federal funds. However, the review and approval processes are lax, as federal officials are generally keen to support state officials.

The Interstate Highway System and the Highway Trust Fund

The origins of the Interstate Highway System can be traced to the presidency of Franklin Roosevelt. The Federal-Aid Highway Act of 1938 directed the chief of the Bureau of Public Roads to study the feasibility of a six-route toll network. Part I of the resulting 1939 report asserted that the amount of transcontinental traffic was insufficient to support a network of toll superhighways. Some routes could be self-supporting as toll roads, but most highways in a national toll network could not. The second part of the report—“A Master Plan for Free Highway Development”—recommended “a 43,000-kilometer non-toll interregional highway network. The interregional highways would follow existing roads wherever possible (thereby preserving the investment in earlier stages of improvement).”¹³ Yet, the federal government did not undertake the process of building a national highway network until the Eisenhower administration.

Since his early army days, Dwight Eisenhower had shown a keen interest in roads. In 1919 he participated in the U.S. Army’s first transcontinental motor convoy, which traveled from Washington, DC, to San Francisco in 62 days. Twenty-five years later, as commander of allied troops in World War II, he saw—and was impressed by—the German autobahn network. After he became president, Eisenhower strongly supported the plans for a network of U.S. highways that had been proposed during Roosevelt’s administration. In 1954, Vice President Nixon unveiled an administration proposal for a \$50 billion program to provide a national highway network within a 10-year period.¹⁴ General Lucius Clay, an engineer and confidant of the president since their wartime days, was appointed to chair a committee to recommend a financing mechanism.¹⁵

Since road tolls had been rejected by the 1939 study, the Committee recommended the creation of a Federal Highway Corporation which would issue 30-year bonds worth \$25

billion and retire them with the proceeds of dedicated taxes on gasoline and diesel fuel.¹⁶ This recommendation was defeated in the Senate, because of objections to further federal borrowing. In its place, the Highway Revenue Act of 1956 created the Federal Highway Trust Fund as a source of funding for highway construction, without the federal government having to borrow the money required. The financial arrangements having been agreed to, President Eisenhower signed the Federal-Aid Highway Act of 1956 into law on June 29. It stated that, among other things,

- The program would fund a national 41,250-mile “Interstate and Defense Highways System,”¹⁷
- \$25 billion would be authorized to finance the 90 percent federal share of the cost;
- The system would be completed by fiscal year 1969;
- The powers under the 1956 act would expire in 1972; and
- Disbursement to the states would be based on a formula that would take into account factors such as the geographical area, length of the road network, and number of motor vehicles.

As is the case with many government powers over the course of history, the powers of the 1956 law did not sunset when originally supposed. Instead, they were renewed and changed several times after 1972. The length of the designated Interstate Highway System was increased to 46,726 miles.¹⁸ Its construction was completed in 1996, but federal financing was then allocated for a brand new 160,000-mile “National Highway System.”¹⁹

Since the inception of the FHTRF, the composition of the taxes dedicated to it has changed, but the main sources of funds, accounting for about 85 percent of receipts, are still the taxes on motor fuels. The federal gasoline tax was 3 cents a gallon in 1956 and 4 cents in 1959. It is now 18.4 cents a gallon for unleaded gasoline, and 24.4 cents for diesel fuel.

The financing system introduced by the 1956 act supported and thus strengthened

the concept of the dedicated road fund. In the United States, there was a broad understanding that the proceeds of gasoline taxes should be dedicated to road construction and maintenance.²⁰ Indeed, this understanding persists today in public opinion. A national poll conducted in 2002 by Andrews McKenna Research, showed that 89 per cent of Americans still believe it important that fuel taxes and other highway fees should go to highway improvement.²¹

However, since 1982 this has not been the case. The Surface Transportation Assistance Act of 1982 raised the federal gas tax by five cents. One-fifth of the proceeds of that gasoline tax increase was dedicated to transit and placed in a new Mass Transit Account in the highway trust fund. By definition, this money was to go to mass transit programs in urban areas, not highway maintenance.

The 1991 Intermodal Surface Transportation Efficiency Act, spearheaded by Sen. Daniel Patrick Moynihan and supported by environmental and transit advocacy groups, went further. It substituted “flexibility” and “intermodalism” for the “dedication” to highway funding of fuel tax revenues. The change of policy focus from highways specifically to transportation generally indicated that, from then on, any political group could lay claim to federal highway money for any purpose related to transportation in a broad sense.

The Advantages of Federal Highway Financing

The main advantage of the 1956 legislation was the virtual completion, at a comparatively small cost to road users, of the Interstate Highway System, probably the greatest public works achievement since the fall of the Roman Empire.²² Those familiar with the difficulty of getting any government project achieved will be particularly appreciative of the success of the men and women involved in getting this magnificent road network completed. In view of the inherent weaknesses of the structure of the FHTRF, its success might be attributed to the skills of

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the people concerned with making it work. As transportation expert Alan Pisarski wrote, “Engineers and public officials . . . generally operated with care and good judgment within a process almost entirely dependent on those qualities.”²³

However, it is not easy to discern the advantages to road users of keeping the old system of federal financing. Some federal highway activities—research into safety issues, for example, or development of better tolling systems—could well be beneficial, but they do not involve the federal financing of infrastructure.

The Disadvantages of Federal Financing

There are major disadvantages to the federal financing of roads. Before discussing them it is relevant to point out that the FHTF is not, and never was, a trust fund in any meaningful sense, and that its custodians are under no obligation to spend its revenues for the benefit of road users. Legally, the FHTF is a separate account, maintained in the U.S. Treasury, from which the FHWA can draw amounts determined annually by Congress. The FHWA uses these revenues to reimburse state governments for the federal share of expenditures previously made by the states. Congress is free to attach any conditions it wishes to the appropriation of FHTF revenues, and is also free to decline to appropriate them, so that they can accumulate to reduce the overall budget deficit.

The Current System Encourages Low-Priority and Unnecessary Projects

Decisions regarding federally financed highways—for which federal contributions range from 75 percent to 90 percent—require the involvement of both federal and state administrations. The states retain formal responsibility for their highways but do not have to meet more than a small percentage of the bills. This allows them to fund low-priority projects at the expense of road users in other states. The federal funding of state roads

results in excessive demands for expensive facilities, because, to the states, federal funds are almost costless, and state officials are accountable to their voters only for state funds. Thus, the system encourages the construction of expensive road projects, such as Boston’s Central Artery and Tunnel project (popularly known as “The Big Dig”), for which local funding would have never been considered. Initially estimated to cost \$3.3 billion, the cost is now more than \$14.6 billion.²⁴ Speaker of the House of Representatives “Tip” O’Neill, who represented a Boston district, led the push for the use of federal funds.

Fuel Taxes Are Used to Fund All Sorts of Nonhighway Spending

The large-scale diversion of money from the FHTF started in 1982 with the opening in the FHTF of the Mass Transit Account, and accelerated with the 1991 Intermodal Surface Transportation Efficiency Act.

It is not easy to quantify these diversions, but the expenditures authorized for the last highway bill—the 1998 “Transportation Equity Act for the 21st Century” (TEA-21)—offer a fair assessment of them. Items authorized for what were clearly nonroad purposes are listed in Table 1. This shows, for each nonroad item, the total for fiscal years 1998–2003 and the percentage that each item comprises in the total \$217.8 billion TEA-21 program for those six years.

The main diversions are

- **Transit—18.83 percent.** This diversion results from 2.86 cents per gallon of motor fuel being taken for the Mass Transit account of the FHTF. The funds are used to subsidize transit services that have so little appeal to passengers that users are unwilling to pay even the operating costs. Passenger-mile costs for light rail average \$1.20, and for bus transit \$0.75—both well in excess of the cost of travel by car, which averages \$0.34 per vehicle-mile.²⁵ Transit use is concentrated in a few places—73 percent of the ridership in 2001 took place in seven met-

Table 1
Nonhighway Programs in TEA-21

Program	Total Authorized for Program (\$ billions)	Program Percentage of TEA-21
Federal Transit Administration programs	41.00	18.83
Congestion mitigation/air quality improvement	8.12	3.73
Surface Transportation Program (one-tenth)	3.33	1.53
MAGLEV Transportation Technology Deployment Program (subject to appropriation)	0.95	0.44
Puerto Rico Highway Program	0.66	0.30
Recreational Trails Program	0.27	0.12
National Scenic Byways Program	0.15	0.07
MAGLEV Transportation Technology Deployment Program	0.06	0.03
Total	54.54	25.05

Source: TEA-21 Authorization Table, available at <http://www.fhwa.dot.gov/tea21/sumauth.htm>.

ropolitan areas: Boston; Chicago; Los Angeles; New York; Philadelphia; San Francisco; and Washington, DC.²⁶ It is by no means clear why farmers in Kansas should subsidize local travel in Washington, DC.

- **Congestion Mitigation and Air Quality provisions—3.73 percent.** The CMAQ program is intended to assist states to improve air quality. These funds are not used to finance road improvement, despite the fact that some increases in road capacity might actually reduce traffic congestion and thus improve air quality.
- **Surface Transportation Programs—1.53 percent.** Since 1991, one-tenth of the Surface Transportation program has to be spent on nonroad “enhancements” to address projects, such as bicycle and pedestrian facilities, historic preservation, and scenic easements.²⁷

The other items need no explanation, except perhaps the \$660 million for the Puerto Rico Highway Program. These funds are definitely for roads, but not for roads traveled by those who pay into the FHTF, as Puerto Rico road users do not pay fuel taxes into the fund.

The total of all the “nonroad” items comes to 25.05 per cent—it comprises about a quarter of the expenditure from the FHTF. In other words, at least a quarter of every fuel tax dollar goes to something other than highways. Other estimates have shown that the leakage from the trust fund is as high as 38.5 percent.²⁸

Federal Regulations and Programs Increase the Costs of Building Roads

Federal regulations and programs make building roads more expensive.

- First, federal specifications for road construction can be higher, and therefore more expensive, than state standards.
- Second, states are required to adopt federal regulations, such as the Davis-Bacon and ‘Buy America’ provisions, which can raise highway costs substantially. Davis-Bacon rules, by themselves, can increase project costs by anywhere between 5 and 38 percent.²⁹
- Third, there are significant administrative costs to sending tax money from the states to the federal government and then back to the states. According to published FHWA data assembled by transportation economist John Semmens and updated for this paper, total expenditures (federal,

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**Table 2
Federal Highway Trust Fund Receipts and Apportionments/Allocations
Fiscal Years 1957-2003**

State	Payments into the Fund			Apportionments/Allocations from the Fund			Ratios of Apportionments/ Allocations to Payments		
	Fiscal Year 2003	Percent of Total	Accumulated Since 1956	Fiscal Year 2003	Percent of Total	Accumulated Since 1956	Fiscal Year 2003	Percent of Total	Accumulated Since 1956
Alabama	\$550,028	1.899	\$10,194,620	\$592,424	1.974	\$11,194,893	1.983	1.08	1.10
Alaska	\$64,553	0.223	\$1,051,223	\$346,434	1.155	\$6,930,899	1.228	5.37	6.59
Arizona	\$576,955	1.992	\$8,162,669	\$485,738	1.619	\$8,722,132	1.545	0.84	1.07
Arkansas	\$374,442	1.293	\$6,812,315	\$429,022	1.430	\$6,965,823	1.234	1.15	1.02
California	\$2,980,123	10.290	\$52,501,417	\$2,679,828	8.931	\$50,123,399	8.880	0.90	0.95
Colorado	\$410,877	1.419	\$6,677,627	\$382,607	1.275	\$7,927,066	1.404	0.93	1.19
Connecticut	\$305,528	1.055	\$5,730,391	\$422,798	1.409	\$9,674,778	1.714	1.38	1.69
Delaware	\$79,323	0.274	\$1,466,140	\$129,087	0.430	\$2,284,896	0.405	1.63	1.56
District of Columbia	\$28,927	0.100	\$783,778	\$99,661	0.332	\$3,175,482	0.563	3.45	4.05
Florida	\$1,551,004	5.355	\$24,277,138	\$1,347,246	4.490	\$21,720,750	3.848	0.87	0.89
Georgia	\$1,137,122	3.926	\$17,815,532	\$1,002,786	3.342	\$16,309,633	2.890	0.88	0.92
Hawaii	\$76,662	0.265	\$1,298,435	\$138,256	0.461	\$4,260,136	0.755	1.80	3.28
Idaho	\$159,348	0.550	\$2,640,874	\$227,195	0.757	\$4,340,735	0.769	1.43	1.64
Illinois	\$983,408	3.396	\$19,823,364	\$945,800	3.152	\$21,367,176	3.786	0.96	1.08
Indiana	\$820,355	2.833	\$13,672,225	\$659,684	2.198	\$12,108,282	2.145	0.80	0.89
Iowa	\$321,792	1.111	\$6,524,844	\$349,636	1.165	\$7,339,628	1.300	1.09	1.12
Kansas	\$306,319	1.058	\$6,139,621	\$330,706	1.102	\$6,702,218	1.187	1.08	1.09
Kentucky	\$531,524	1.835	\$9,123,046	\$548,675	1.828	\$9,431,020	1.671	1.03	1.03
Louisiana	\$484,437	1.673	\$9,168,718	\$470,639	1.568	\$10,420,816	1.846	0.97	1.14
Maine	\$152,806	0.528	\$2,745,144	\$149,940	0.500	\$3,054,863	0.541	0.98	1.11
Maryland	\$521,067	1.799	\$8,982,848	\$605,101	2.017	\$11,746,618	2.081	1.16	1.31
Massachusetts	\$533,120	1.841	\$9,986,549	\$531,612	1.772	\$14,917,274	2.643	1.00	1.49
Michigan	\$963,480	3.327	\$18,443,213	\$875,358	2.917	\$16,735,800	2.965	0.91	0.91
Minnesota	\$435,020	1.502	\$8,264,531	\$449,931	1.499	\$10,126,573	1.794	1.03	1.23
Mississippi	\$388,306	1.341	\$6,652,099	\$378,559	1.262	\$6,659,957	1.180	0.97	1.00
Missouri	\$691,481	2.388	\$13,160,657	\$681,025	2.270	\$12,559,537	2.225	0.98	0.95
Montana	\$128,682	0.444	\$2,420,929	\$282,286	0.941	\$5,698,783	1.010	2.19	2.35
Nebraska	\$214,331	0.740	\$4,081,101	\$222,713	0.742	\$4,505,656	0.798	1.04	1.10

Nevada	\$206,533	0.713	\$2,986,775	0.583	\$210,136	0.700	\$4,036,555	0.715	1.02	1.35
New Hampshire	\$134,115	0.463	\$2,118,517	0.413	\$145,642	0.485	\$2,757,589	0.489	1.09	1.30
New Jersey	\$840,634	2.903	\$14,884,677	2.905	\$802,972	2.676	\$14,664,792	2.598	0.96	0.99
New Mexico	\$251,758	0.869	\$4,221,866	0.824	\$286,384	0.954	\$5,431,485	0.962	1.14	1.29
New York	\$1,223,902	4.226	\$23,809,379	4.647	\$1,615,540	5.384	\$29,608,952	5.246	1.32	1.24
North Carolina	\$887,793	3.065	\$15,185,779	2.964	\$791,108	2.636	\$13,469,805	2.386	0.89	0.89
North Dakota	\$88,718	0.306	\$1,794,969	0.350	\$194,023	0.647	\$3,700,698	0.656	2.19	2.06
Ohio	\$488,085	1.685	\$21,462,088	4.189	\$983,401	3.277	\$19,781,644	3.505	0.89	0.92
Oklahoma	\$338,407	1.168	\$8,722,856	1.702	\$451,191	1.504	\$7,692,544	1.363	0.92	0.88
Oregon	\$1,158,945	4.002	\$6,575,852	1.283	\$358,720	1.195	\$7,660,360	1.357	1.06	1.16
Pennsylvania	\$74,209	0.256	\$22,323,567	4.357	\$1,392,021	4.639	\$26,210,504	4.644	1.20	1.17
Rhode Island	\$21,977	1.802	\$1,540,016	0.301	\$183,975	0.613	\$3,468,055	0.614	2.48	2.25
South Carolina	\$96,331	0.333	\$8,470,393	1.653	\$475,236	1.584	\$7,627,626	1.351	0.91	0.90
South Dakota	\$713,388	2.463	\$1,884,298	0.368	\$212,422	0.708	\$3,944,519	0.699	2.21	2.09
Tennessee	\$2,576,091	8.895	\$12,184,337	2.378	\$640,382	2.134	\$11,794,370	2.090	0.90	0.97
Texas	\$249,767	0.862	\$41,123,238	8.026	\$2,287,543	7.623	\$35,553,571	6.299	0.89	0.86
Utah	\$69,072	0.238	\$3,871,264	0.756	\$230,716	0.769	\$5,411,183	0.959	1.40	1.40
Vermont	\$815,808	2.817	\$1,277,003	0.249	\$129,596	0.432	\$2,627,072	0.465	1.88	2.06
Virginia	\$527,772	1.822	\$13,585,078	2.651	\$1,005,746	3.352	\$14,864,217	2.634	1.23	1.09
Washington	\$191,160	0.660	\$9,454,555	1.845	\$546,263	1.820	\$13,040,514	2.310	1.04	1.38
West Virginia	\$499,833	1.726	\$3,985,759	0.778	\$376,896	1.256	\$7,718,110	1.367	1.97	1.94
Wisconsin	\$136,737	0.472	\$10,024,779	1.957	\$623,615	2.078	\$9,750,967	1.728	1.25	0.97
Wyoming	\$28,961,689	100.000	\$2,289,622	0.447	\$205,256	0.684	\$4,008,134	0.710	1.50	1.75
Total			\$512,377,715	100.000	\$29,913,531	99.688	\$561,828,089	99.540	1.03	1.10
American Samoa	\$0	-	\$0	-	\$4,848	0.016	\$87,573	0.016	0.00	0.00
Guam	\$0	-	\$0	-	\$20,513	0.068	\$264,814	0.047	0.00	0.00
N. Marianas	\$0	-	\$0	-	\$4,215	0.014	\$67,036	0.012	0.00	0.00
Puerto Rico	\$0	-	\$0	-	\$48,893	0.163	\$1,921,630	0.340	0.00	0.00
Virgin Islands	\$0	-	\$0	-	\$15,265	0.051	\$258,134	0.046	0.00	0.00
Grand Total	\$28,961,689	100.000	\$512,377,715	100.000	\$30,007,265	100.000	\$564,427,276	100.000	1.04	1.10

Source: Federal Highway Administration, *Highway Statistics 2003*, Table FE-221.

Note: Payments into the fund include only the net highway user tax receipts and fines and penalties deposited in the Highway Account of the Federal Highway Trust fund. Excluded are motor fuel tax amounts transferred to the Mass Transit Account of the Highway Trust Fund, the Leaking Underground Storage Tank Trust Fund, and the General Fund for deficit reduction. In addition, amounts representing motor-boat use of gasoline are transferred to the Aquatic Resources Trust Fund and the Land and Water Conservation Fund. Total Federal Highway Trust Fund receipts (for apportionment purposes only) are reported by the U.S. Department of the Treasury. Payments into the Highway Trust Fund attributable to highway users in each state are estimated by the Federal Highway Administration. Includes all funds apportioned or allocated from the Highway Trust Fund, except where FHWA does not directly allocate the funds to the states, e.g., portions of Indian Reservation Roads and safety programs.

**At least a quarter
of every fuel tax
dollar goes to
something other
than highways.**

state and local) on “Administration and Research” at the establishment of the Highway Trust Fund in 1956 were 6.8 percent of construction costs, and in 2002 they were 17.0 percent.³⁰ This suggests that federal financing increased these expenditures by about 10 percent of construction costs. Furthermore, in the period 1956–2002, construction expenditures (not adjusted for inflation) increased 12-fold, but administration and research expenditures increased 35-fold.

These factors are difficult to quantify and vary from state to state. Ralph Stanley, the entrepreneur who conceived and launched the Dulles Greenway—a 14-mile privately provided toll road from Dulles airport to Leesburg in Northern Virginia—estimated that federal regulations increased project costs by 20 percent.³¹ Robert Farris, who was commissioner of the Tennessee Department of Transportation (1981–1985) and Federal Highway Administrator (1987–1989) suggested that federal regulations increase costs by 30 percent.³²

Congress can also impose burdensome regulations, such as 55-mile-per-hour speed limits, car-pooling, and vehicle-testing requirements as conditions for receiving federal money. The fuel tax revenue that states submit to the federal government always has strings attached when it returns to the states.

The Current System Allows Congress to Allocate Funds between States by Political Fiat

A major inequity is that some states (called “recipient states”) persistently get more from the FHTF than they pay into it. The data on the amounts paid into and received from the fund, each year by each state, are published in the Federal Highway Administration’s *Highway Statistics* (see Table 2).

Because supporters of the federal highway programs use these types of figures to show how beneficial the current system is to all states, these figures merit considerable scrutiny. The ratios at the far right of the table divide the dollar amounts of the appor-

tionments and allocations for each state by the amount of revenue paid into the fund by each state. This sounds like a reasonable way to present the data, but because of failure to adjust for various peculiarities in the way the money is distributed, this table overstates the benefits of the federal highway system to individual states.

For starters, careful observers notice that the amounts taken out of the Fund exceed the amounts paid in—in other words, the grand total ratio exceeds 1. For the whole period 1956–2003, the excess was around 10 percent, and for FY 2003 it was 4 percent. This excess was 19 percent in 2002.³³ This was not because of any money-creating powers possessed by the FHWA. The cumulative excess was the result of interest earned on the Fund’s balances. However, this interest would have been earned on invested balances even without the FHTF—say, for instance, if the states had kept the fuel tax money and invested it themselves. To say that this accumulated interest is a benefit of keeping a centralized federal financing system is disingenuous.

There is a further complication. The 1998 TEA-21 reauthorization included a “minimum guarantee” provision that no state would receive less than 90.5 percent of the amount it pays into the fund. To implement this guarantee, \$35 billion—16 percent of the total authorized—was set aside to increase the shares of those states that, under the traditional formulas, received less than 90.5 percent of what they paid into the Fund. Yet some of this money also went to states that were already receiving more than they paid into the fund, thereby doing very little to remedy the disparity between donor and recipient states. As there was no such guarantee before 1998, this rule’s effect on total distributions over time cannot be gauged from the data in Table 2.

Lastly, payments that are transferred to the Mass Transit Account and to other non-road uses are excluded from this data. As these comprise over 25 percent of fuel tax revenues, the ratios in the right-hand side of the chart again overstate the benefits of the fed-

Table 3
Highway Trust Fund Return Ratio (per dollar contributed)

State	2003 Ratio	State	2003 Ratio
Alaska	5.18	Washington	1.00
D.C.	3.33	Minnesota	1.00
Rhode Island	2.39	Kentucky	1.00
South Dakota	2.13	Nevada	0.98
Montana	2.12	Massachusetts	0.96
North Dakota	2.11	Missouri	0.95
West Virginia	1.90	Maine	0.95
Vermont	1.81	Mississippi	0.94
Hawaii	1.74	Louisiana	0.94
Delaware	1.57	Illinois	0.93
Wyoming	1.45	New Jersey	0.92
Idaho	1.38	Colorado	0.90
Connecticut	1.34	Oklahoma	0.89
New York	1.27	Utah	0.89
Wisconsin	1.20	South Carolina	0.88
Virginia	1.19	Michigan	0.88
Pennsylvania	1.16	California	0.87
Maryland	1.12	Tennessee	0.87
Arkansas	1.11	Ohio	0.86
New Mexico	1.10	North Carolina	0.86
Iowa	1.05	Texas	0.86
New Hampshire	1.05	Georgia	0.85
Kansas	1.04	Florida	0.84
Alabama	1.04	Arizona	0.81
Oregon	1.02	Indiana	0.78
Nebraska	1.00		

Source: Author's calculations based on data from the Federal Highway Administration, *Highway Statistics 2003*, Table FE-221.

eral highway program. These complications, and the inevitable variations in the amounts paid out to individual states from one year to the next, make it impossible to estimate from the data in Table 2 which are the true donor states and which are the recipient states.

A better way of showing the inequities between the states is to compare each state's *share* of money taken out of the FHTRF as a ratio of the *share* it paid in.³⁴ Therefore, if a state's receipts were 3 percent of the whole, and its contribution 2 percent, the share ratio would be 3 percent divided by 2 percent, or 1.5 percent. The share ratios for all the states in 2003 are reproduced in Table 3, which shows the tendency for the southern states to

subsidize those in the northeast. Since 1982, this has been exacerbated by the diversion of payments by road users to transit programs, many of which are also in the northeast.

These figures do not take into account the diversion from the trust fund listed above, the increased costs in each state due to federal standards and regulations, or the added administrative costs. If these were taken into account, it is dubious whether road users in any state other than Alaska, Rhode Island, the Dakotas, Montana, West Virginia, Vermont, Hawaii, Delaware, Wyoming, Idaho, Connecticut, New York, and Wisconsin derive any substantial financial benefit from federal highway financing.

The fuel tax revenue that states submit to the federal government always has strings attached when it returns to the states.

A major inequity is that some states (called “recipient states”) persistently get more from the FHTRF than they pay into it.

The Current System Encourages Politicians to Load Transportation Bills with Earmarks

In 1982, the prohibition on appropriations for specific roads in effect since 1914 was broken by the funding of 10 “demonstration projects” costing \$362 million. In 1987, Congress funded 1,850 such projects to the tune of \$9.4 billion. The growth of these “earmarks” (projects funded out of the FHTRF to reflect the priorities of individual House or Senate members, but not subject to normal project selection criteria) can be seen in Figures 1 and 2.

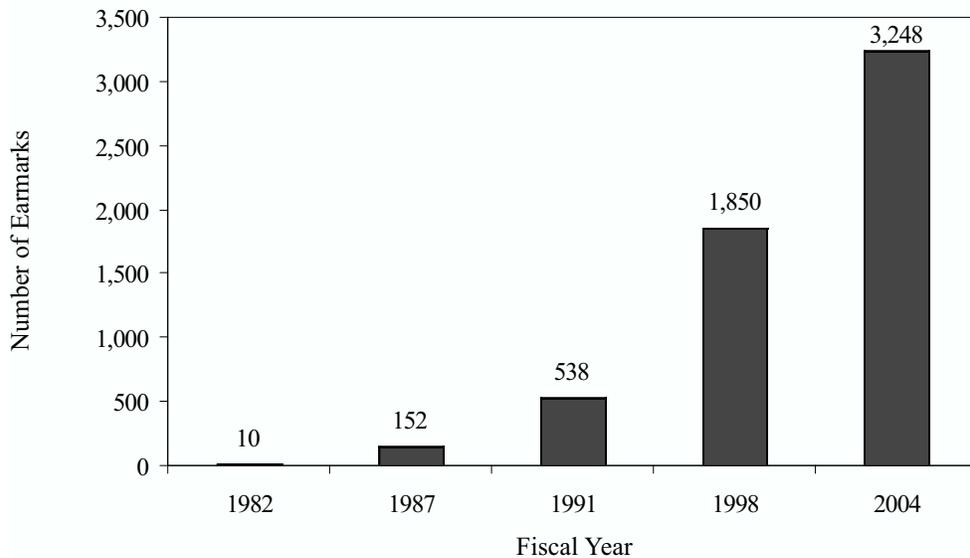
Traditionally, earmarks were used to help members of Congress get reelected but, during the 2004 deliberations on reauthorization, they were also used to get the bill passed. Members were offered, on average, \$14 millions worth of earmarks if they supported the bill.³⁵ Members of the House Transportation and Infrastructure Committee got at least \$35 million each.³⁶ The chairman got \$590 million for his home state of Alaska,³⁷ and the ranking minority member got \$90 million for 46 projects in Minnesota’s 8th Congressional

District.³⁸ The House Speaker (\$163 million³⁹) and minority leader (\$120 million⁴⁰) were not forgotten. Only South Dakota got nothing—possibly because its representative was in jail and not available to claim its share.

The list of House earmarks includes

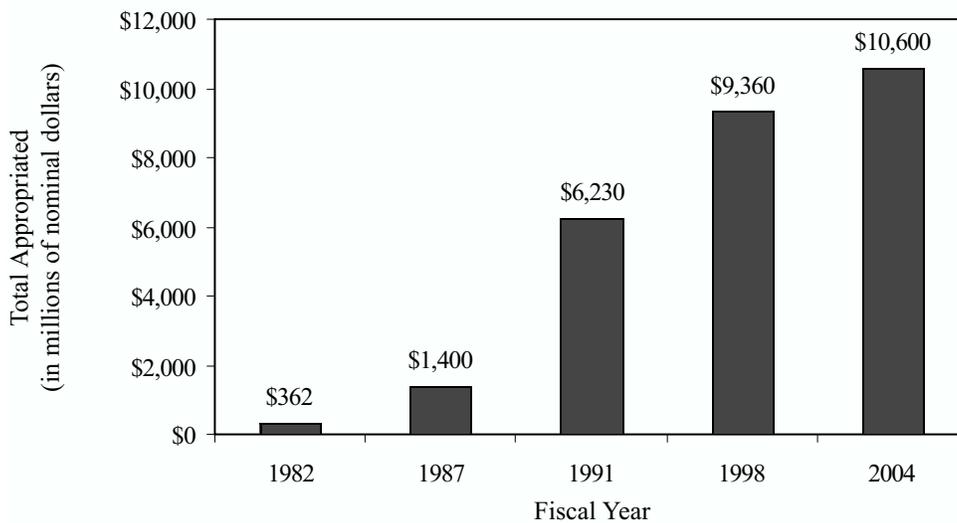
- \$125 million for a bridge to link Ketchikan (Alaska) to a sparsely inhabited island;
- \$1.5 million for High Knob horse trails in Virginia;
- \$1 million to improve an I-8 off-ramp to the Desert Farming Institute in Imperial County;
- \$4.5 million for rail grade separation projects located in the Third Congressional District of Nebraska;
- \$1.5 million for the Henry Ford Museum in Dearborn, MI;
- \$593,175 for a sidewalk revitalization project in Eastman, GA;
- \$1 million for “citywide pavement rehabilitation in the City of North Pole”;
- \$5 million for a parking garage in Bozeman, MT;

**Figure 1
Number of Earmarks in Highway Bills Since 1982**



Source: Author’s calculations.
Note: 2004 amount is an estimate that includes only House earmarks.

Figure 2
Total Appropriated for Earmarks since 1982



Source: Author's calculations.

Note: 2004 amount is an estimate that includes only House earmarks.

- \$500,000 to provide transportation infrastructure for visitors to Jamestown Island;
- \$3.2 million for a pedestrian walkway at Coney Island;
- \$4 million for transit improvements at Eastlake Stadium, a minor league baseball team stadium;
- \$10 million to construct a new interchange on I-85 between the Greenville Spartanburg Airport and SC Highway 101 interchanges;
- \$5 million for Home Furnishing Market for Terminals and Parking in High Point, NC; and
- \$6 million for Highway Reforestation in Houston, TX.⁴¹

Historically, most earmarks rank low on the list of priorities of state highway officials. A 1991 General Accounting Office review reported:

Generally, demonstration projects we reviewed were not considered by state and regional transportation officials as critical to their transportation needs.

In slightly over half the cases, the projects were not included in regional and state plans.⁴²

Toll Roads and Privately Provided Roads Are Discouraged

By providing “free” roads, federal financing discourages toll roads and privately financed roads, although users of those facilities pay into the FHTF all the mandated charges such as fuel taxes. For example, the Dulles Greenway, the privately financed road in Northern Virginia, has to compete against “free” state roads. Typical users of the Greenway pay about 28 cents in gasoline tax for their 14-mile trip, in addition to the \$1.90 toll.⁴³ The private investors in the Greenway have yet to receive any profit on their investment and are, of course, not entitled to any state or federal funding. If the Greenway were credited the amounts paid into state and federal highway funds, its toll could be lowered and more traffic would be attracted to it, thus making better use of its capacity and relieving congestion on other roads.

Historically, most earmarks rank low on the list of priorities of state highway officials.

Oregon's Innovative Toll Proposal

In 1919, Oregon was the first state to finance its roads by means of a dedicated fuel tax. Later, it was the first state to introduce mileage charges for trucks, using a system that takes account of axle configurations and encourages the use of multi-axle vehicles which are least damaging to the roads.⁴⁶

In 2001, Oregon's Legislative Assembly was concerned that increased fuel efficiency would result in declining revenues from fuel taxes. The state legislature addressed this issue by mandating the formation of a Road User Fee Task Force "to develop a design for revenue collection for Oregon's roads and highways that will replace the current system."

In addition to meeting the obvious requirements of reliability, security, and affordability, the selected system would have to meet some special requirements:

- Protection of the privacy of road users;
- Recognition of mileage driven only inside Oregon; and
- A seamless transition to the new system.

In March 2003, the task force presented a plan that included the following elements:

- Mileage traveled within Oregon would be recorded on an on-vehicle device (O-VD), using signals from an odometer-based unit to measure distance and from the global positioning system (GPS) to determine state borders.
- Payment of the mileage fee would occur at service stations, during refueling.
- Operators of vehicles equipped with the O-VD would be charged a fee based on miles traveled since the previous refueling. Transmission of total miles traveled (but not information about where the miles were traveled) would be made by short-range radio signals to readers within the service station. The mileage fee would be added to the cost of the fuel purchased, and a credit given for the amount of state tax included in the price of the fuel.⁴⁷
- Operators of vehicles not equipped with the O-VD would buy taxed fuel, as they do now.
- The two-payment systems—by fuel tax or by mileage fee—would co-exist for a long period—possibly 20 years—until all vehicles became O-VD equipped.

Equipment for this system was successfully demonstrated in May 2004. The GPS equipment is estimated to cost about \$400 if added to existing vehicles, and \$200 if built in during the vehicle manufacturing process. A pilot test on 400 vehicles is planned for 2005.

Innovation and Flexibility in Road Financing Are Discouraged

It is difficult—often impossible—to place tolls on roads constructed with federal funds. This prevents the introduction of one of the most innovative and promising concepts for

urban congestion relief: HOT (High-Occupancy or Toll) networks. These are networks of interconnected limited access lanes to be used by buses and vanpools at no charge and by other vehicles on payment of a variable toll, the toll being collected electronically and

set at levels high enough to ensure free-flow conditions at all times. The first such lanes in the United States were introduced in 1995 on California's State Route 91, as described below.

Following the success of the HOT lanes in Southern California, about a dozen similar projects are being planned.⁴⁴ They are particularly attractive to local authorities because they make use of existing capacity and because the tolls can pay for all or most of the costs.⁴⁵ Such networks offer the prospect of congestion-free expressways (at a premium price) for fast bus service, and for other vehicles. However, because of the prohibition of tolling on federally financed roads, such networks cannot be introduced where they are most needed, e.g., on congested Interstate Route 270, which leads to the Washington Beltway (Interstate Route 495), a federally financed road and a strong candidate for improvement by tolling.

A Viable Alternative: Market Pricing for Roads

Technological advances—such as electronic transponders on vehicle windshields that act as debit cards at toll plazas—have made paying for road services as simple as paying for other sorts of goods. In a world where a fuel tax that is levied on gasoline is an imperfect proxy for measuring how much each driver contributes to wear-and-tear on roads, it's vital to discuss ways of assessing market prices to road use. Before discussing alternatives to the federal financing of state roads, it could be helpful to consider what a modern market pricing system for roads might require.

A market pricing system for roads could include the following elements:

- A standard mileage charge applying to all vehicle travel on all roads. This could be equivalent to the basic unit charge we pay for electricity. Vehicles with heavy axles would pay a heavier mileage

charge, depending on carrying capacity and axle configuration, as is the practice now in Oregon and New Zealand.

- Additional charges—corresponding to peak period electricity charges—would be levied for the use of roads that cost more to drive on, either because of congestion, or (as for some bridges or tunnels) because of exceptionally high construction costs.

Case Study: California's Experiment with Congestion Pricing for Roads

Tolls for the use of road segments subject to peak-period congestion need to be higher in the peak than at other times. Variable tolls encourage road users to shift their trips from more-congested to less-congested periods. To the extent that peak traffic cannot be shifted, high tolls are needed to pay for the facilities required to meet peak demands. The first variable toll lanes in the United States were conceived, designed, constructed, and originally managed by the California Private Transportation Company. Opened in 1995, they consisted of two pairs of "Express Lanes" in the median of a 10-mile stretch of heavily traveled State Route 91, about 30 miles east of Los Angeles. Express Lane users pay toll by means of transponders, with the payments debited electronically from accounts opened with the California Private Transportation Company. Toll rates vary from \$1 at night to \$5.50 at peak travel periods, and are changed periodically to ensure the lanes remain free flowing.

Following the lead of the private sector, California's public sector implemented a similar project on Route I-15 north of San Diego. It, too, has proved popular. The rates charged on the I-15 lanes to ensure free flow are not pre-announced, as they are on the S. R. 91, but are varied automatically in real time—they are changed every six minutes, in response to actual traffic conditions. Road users approaching the Express Lanes can see the current rates on message signs and, once in the lanes, pay no more than the rate in force when they entered.

By providing "free" roads, federal financing discourages toll roads and privately financed roads.

In his 1982 State of the Union address, President Reagan proposed that all highway and transit programs, except the IHS, be “turned back” to the states.

These developments indicate that payments for the use of roads can now be made to vary with road conditions, and be carried out as easily as payments for the use of telephones, without vehicles having to stop, and without even the need for cash. Such changes in payment methods can have profound effects on the management and financing of roads. If federal fuel taxes were no longer a major element in road finance, direct payments for road use could be made to state governments, as is already happening on the toll roads of New York and New Jersey. Furthermore, if payment for road use could be made directly to road providers, a major obstacle to the private provision of roads would be removed.

The mileage fee system developed for Oregon seems to be both practicable and affordable (see box). It is described here not because it is the only such system, or the best, but to show that it is possible to devise feasible methods for charging for road use that do not depend on the payment of fuel taxes.

Turnbacks: A Needed Reform of Federal Highway Policy

In his 1982 State of the Union address, President Reagan proposed that all highway and transit programs, except the IHS, be “turned back” to the states, but this received no serious attention in Congress or among interest groups. Eventually, Reagan was forced to accept the Surface Transportation Assistance Act of 1982, which included a five-cent per gallon fuel tax increase, one cent of which went to the newly opened Mass Transit Account within the Highway Trust Fund.⁴⁶

The first focused attempt to phase out the federal financing of state roads was the 1996 proposal for a Transportation Empowerment Act, sponsored by Sen. Connie Mack (R-FL) and Rep. John Kasich (R-OH). This attempt drew negligible support. Sen. James Inhofe (R-OK) introduced a similar bill (S-2861) in July

2002 but did not pursue it after he became chairman of the Senate’s subcommittee on Transport, Infrastructure, and Nuclear Safety. The purpose of both bills was to phase out the federal financing of state roads over a four-year period, allowing the states to reassume full control of their highway financing. Federal fuel taxes dedicated to transportation would have been reduced to two cents a gallon, to be used for research and other activities considered suitable for federal roles.

On September 17, 2003, Rep. Jeff Flake (AZ) introduced a bill, also titled the Transportation Empowerment Act, which had similar objectives.⁴⁷ Flake’s plan did not seek the immediate abolition of the federal highway trust fund. This would not have been possible as federal funding would still be needed for projects in the pipeline—projects that were already authorized but not yet completed. Furthermore, some of the programs financed by the current system—for example, those relating to research, standardization, or innovation, such as the development of national standards for electronic road-pricing systems—were considered worthy of renewal in the Flake proposal. Instead, the Flake bill sought to stop the financing of new projects, to enable those already contracted to be completed, and to reduce the federal taxation accordingly. The bill, which is being revised and will be introduced in the 109th Congress, included the following elements:

1. Reduction of federal fuel duties to two cents a gallon by FY 2007;
2. Elimination of all current programs funded by the FHTF with the exception of the following “core programs” which would continue for at least the four-year transition:
 - Interstate Maintenance Program
 - Interstate and Indian Reservation Bridge Program
 - Federal Lands Highways Program
 - Public Lands Highways
 - Parkways and Park Roads
 - Highway Safety Programs

- Highway Research and Development
3. Alteration of the Interstate Maintenance formula to take account of the rural nature and low population of such states as Alaska, the Dakotas, Delaware, Hawaii, Idaho, Montana, Nevada, New Hampshire, Rhode Island, Vermont, and Wyoming;
 4. Termination of transfers to the Mass Transit account;
 5. Establishment of the “Infrastructure Special Assistance Fund,” which would be a mechanism to flush the system of any remaining balances in the Highway Trust Fund. The money would be distributed to the states based on their contribution to the Highway Trust Fund. Each state would receive at least \$15 million.
 6. Assistance to states and local governments to privatize transportation assets.
 7. At the end of a four-year transition period, after funding the core programs and paying off outstanding bills, the remaining balance will be distributed to the states in the form of block grants.

Some Obstacles to Reform

Reluctance of Federal Officials to Give Up Power

Members of Congress rarely give up power once they are granted it. That’s especially true of the power to fund roads. The present system enables Congress members to buy votes at taxpayer expense, and the seeming popularity of transportation bills in Congress makes it extremely unlikely that members would voluntarily give up their powers to allocate funding for roads and transit.

However, representatives in Congress of the “donor” states—which include powerful southern states such as Arizona, Colorado, Florida, and Texas—could be persuaded to withhold their support for reauthorization of the current system and to encourage reform.

State legislatures can also push their con-

gressional delegations to pursue reform. For example, in 2004, Arizona’s House of Representatives enacted Concurrent Memorial 2003. The resolution encourages “the Congress of the United States to enact legislation that would return to the states full responsibility to formulate and implement their own surface transportation priorities by allowing each state to retain the revenues from the federal fuel tax that is collected within its borders.”⁴⁸

Similarly, the Colorado General Assembly, on May 7, 2003, passed resolution SJR-42, which states that “the federal gasoline tax has outlived its usefulness . . . and that it should therefore be turned back to the several states as a revenue source.”⁴⁹ John Andrews, president of the Colorado Senate, wrote to about 6,500 state legislators across the nation, urging them to enact similar legislation, and has created model legislation for just that purpose. Road users are numerous, and they vote. Their representatives—such as the American Automobile Association, the American Highway Users Alliance, and the American Trucking Associations—can influence their state legislators. Pressure from the large number of states whose road users suffer from the present system could, in time, overcome even this obstacle.

Reluctance of State Officials to Encourage Reform

Some might also wonder why many state officials support federal highway funding and do not lobby for returning to the states the sole responsibility of financing and maintaining roads. The explanation seems to be that life is easier for state officials if the power of taxation and allocation is centralized at the federal level. This reduces the differences between tax levels in different states, differences that could signal inefficiencies and even cause resources to move from high-tax to low-tax jurisdictions. Economist Dwight Lee commented:

In effect, increasing the power of the central government to tax is a way of forming and enforcing a tax cartel

If federal fuel taxes were no longer a major element in road finance, direct payments for road use could be made to state governments, as is already happening on the toll roads of New York and New Jersey.

The Colorado General Assembly passed resolution SJR-42, which states that “the federal gasoline tax . . . should be turned back to the several states as a revenue source.”

allowing government in aggregate to extract more money from the public. Having extracted more revenue, the [federal] government can re-allocate the additional money through revenue-sharing arrangements so that all governments secure more of the taxpayers’ money. . . . With local politicians able to provide projects for constituents who can vote them out of office, projects paid for largely by taxpayers in other jurisdictions who can’t, a constant demand for excessive and inefficient government spending (all of which enhances the power of central authorities) is assured.⁵⁰

Transportation expert Elizabeth Parker confirmed Dwight Lee’s insight. In describing a Ford administration proposal to repeal one cent of fuel tax in any state that increased its tax by one cent, she wrote that “the administration’s proposal had little support at the state and local level because it would have required state and local officials in each state to support enacting taxes to substitute for federal taxes.”⁵¹ Although the preference of politicians for tax-raising cartels is understandable, it conflicts with the interests of taxpayers, and especially with those of road users, many of whom vote. This obstacle, too, can only be overcome by pressure from concerned road users.

Conclusion

Turnback legislation would enable each state to finance its roads in accordance with the wishes of its voters. Some might follow the example of Oregon and develop road-financing methods that do not rely on the taxation of fuel. Some might wish to retain political control of their roads, whereas others might prefer to commercialize them. New approaches to highway concessions could be tested. Electronic road-pricing technology would enable road providers, whether in the public or private sector, to get their roads

paid for directly by road users, without the need to levy fuel surcharges or annual license fees.

States fully responsible for their own roads would have stronger incentives to ensure that funds paid by road users were spent efficiently. For example, in the absence of federal grants for new construction, some states could prefer to better manage and maintain their existing roads rather than build new ones. Others might find ways to encourage the private sector to assume more of the burden of road provision—for example, by contracting with private firms to maintain their roads to designated standards or to provide new roads. Some states might stop discriminating against privately provided roads, most of which are currently ineligible to receive funding from the federal Highway Trust Fund although their users pay the required federal taxes.

New arrangements would be noticed by other states, and those that brought improvements could be copied, while failed reforms could be avoided. In time, road users would get better value for their money, and some would even get the road services they were prepared to pay for, while their states could expend their scarce resources on activities such as public safety, which could not be made commercially viable.

Yet much of this is impossible or discouraged under the current system of federal financing of roads. Instead of haggling over how to tweak a broken system, Congress should let the current transportation authorization expire and liberate the roads by passing turnback legislation.

Notes

1. Alan E. Pisarski, “Reconsidering the FHTRF,” *Regulation* 27, no. 1 (Spring 2004): 12–13.
2. Robert Puentes, “Cement and Pork Don’t Mix,” Brookings Institution, May 10, 2004, http://www.brookings.edu/metro/20040510_metroview.htm.
3. Rees Jeffreys, *The King’s Highway* (London: Batchworth Press, 1949).

4. Daniel B. Klein and Gordon J. ("Pete") Fielding, "Private Toll Roads: Learning from the 19th Century," *Transportation Quarterly* 46, no. 3 (1992): 321-41.

5. Ibid.

6. Gerald Gunderson, "Privatization and the 19th Century Turnpike," *Cato Journal* 9, no. 1 (Spring/Summer 1989): 191-200.

7. Quoted in Jeffreys, p. 58.

8. Ranjit S. Teja and Barry Bracewell-Milnes, "The Case for Earmarked Taxes," *Institute of Economic Affairs Research Monograph* 46, London, 1991.

9. Gabriel Roth, "A Road Policy for the Future," *Regulation* 26, no. 1 (Spring 2003): 54-55.

10. Section 17.55 of the Records of the Committee on Roads states:

The Committee on Roads was created in 1913 with jurisdiction over matters relating "to the construction or maintenance of roads, other than appropriations therefor." The statement outlining the committee's jurisdiction contained the proviso that "measures for specific roads could not be included in bills for general legislation, nor could any bill relating to a specific road embrace a provision in relation to any other specific road." Under the Legislative Reorganization Act of 1946, the committee was disbanded and its jurisdiction included in those of the new Committee on Public Works, which changed the wording of the rule to read "it shall not be in order for any bill providing general legislation in relation to roads to contain any provision for any specific road, nor for any bill in relation to a specific road to embrace a provision in relation to any other specific road."

Available at http://www.archives.gov/records_of_congress/house_guide/chapter_17_roads.html

11. http://www.vote-smart.org/committee.php?comm_id=21.

12. Federal Highway Administration, *America on the Move* (Washington: FHWA, 1980).

13. Richard F. Weingroff, "Federal-Aid Highway Act of 1956: Creating the Interstate System," *Public Roads* 60, no. 1 (Summer 1996), <http://www.tfhr.c.gov/pubrds/summer96/p96su10.htm>.

14. Vice President Nixon delivered this speech

because the president was preoccupied with a death in his family.

15. Weingroff, "Federal-Aid Highway Act of 1956."

16. President Eisenhower still favored the toll option but was persuaded by General Clay that tolls would be insufficient to support the lesser-used segments of the system. Road users' organizations, such as the American Automobile Association, were strongly opposed to tolls. General John Bragdon, an adviser to the president, favored toll financing and wrote in a memorandum: "The American people will have a \$27 billion bill for something which they could have gotten for nothing, all because of (a) political feasibility, and (b) the horse-and-buggy anti-toll road sentiment in the Bureau of Public Roads." As quoted in Richard F. Weingroff, "A Partnership That Makes a Difference: An Anniversary Look at 1916 and 1956," *Federal Highway Administration*, 1996 (unpublished).

17. The name of the highway system was later changed to the Dwight D. Eisenhower System of Interstate and National Defense Highways. The word "Defense" in the formal title may have been included to strengthen the constitutional case for federal financing.

18. Federal Highway Administration, "Dwight D. Eisenhower National System of Interstate and Defense Highways," www.fhwa.dot.gov/progradmin/interstate.html.

19. "The National Highway System," www.fhwa.dot.gov/hep10/nhs/.

20. The 1934 Haydon Cartwright Act required Congress to deny federal highway funding to any state that "diverted their own highway revenues to non-highway uses."

21. Statement of William D. Fay, President and CEO of the American Highway Users Alliance, to the U.S. House of Representatives Transportation and Infrastructure Highways and Transit House Subcommittee, August 19, 2002, <http://www.house.gov/transportation/highway/09-19-02/fay.html>.

22. The Roman Empire's road system, which included more than 56,000 miles of main roads, was constructed over a period of more than 500 years.

23. Alan E. Pisarski, "Report on Highways, Streets Roads and Bridges," National Council on Public Works Improvement, Washington, 1987, p. 20.

24. Massachusetts Turnpike Authority, "Project Management Monthly," October 2004, <http://>

www.bigdig.com/thtml/pdf/pmm_oct_04.pdf.

25. John Semmens, "Public Transit: A Bad Product at a Bad Price," Laissez Faire Institute Issue Analysis, Phoenix, Arizona, January 2003.

26. Wendell Cox Consultancy, "Public Transport Boardings by Metropolitan Area: 2001." Calculations based on the National Transit Data Base, *Urban Transit Fact Book*, <http://www.publicpurpose.com/ut-2001ntdb-brdg.htm>.

27. David M. Bearden, "Federal Highway Funding for Air Quality Projects and Transportation Enhancements: How Much, to Whom, and for What?" Congressional Research Service, *Report for Congress*, December 11, 1997.

28. Ronald Utt, using different criteria, calculated that the diversions to nonroad uses comprise 38.5 percent of the monies allocated under TEA-21. Ronald D. Utt, "Reauthorization of TEA-21: A Primer on Reforming the Federal Highway and Transit Programs," Heritage Foundation Backgrounder no. 1643, Washington, April 2003, Table 2, p. 6.

29. Estimates by the Associated Builders and Contractors, a national trade association, indicates the prevailing wage rules mandated by the Davis-Bacon Act inflate the cost of construction by 5-15 percent, and as much as 38 percent in rural areas, http://www.house.gov/musgrave/108th%20Web/op_0308_Davis_Bacon_reform.htm.

30. Communication with the author, October 2004.

31. Ralph Stanley, "Reducing the Federal Role in Highway Assistance" in *Mandate for Leadership III: Policy Strategies for the 1990s* (Washington: Heritage Foundation, 1989), pp. 433-34.

32. Communication with the author, July 21, 2004.

33. See Federal Highway Administration, *Highway Statistics 2002*, Table FE-221.

34. Ronald D. Utt, "The Federal Highway Program Shifts Money from South to North," Heritage Foundation Executive Memorandum no. 938, Washington, July 7, 2004.

35. "Speaker Has \$1.5B in Ill. Pork," *The Hill*, Capitol Hill Publishing, Washington, April 29, 2004.

36. Communication from Keith Ashdown, Taxpayers for Common Sense, to author, December 9, 2004.

37. "Speaker Has \$1.5B in Ill. Pork."

38. "Bill Contains Many Northland Projects," *Duluth News-Tribune*, April 2, 2004.

39. "Speaker has \$1.5B in Ill. Pork."

40. "Transportation Bill Clears House, Could Balloon," *San Francisco Chronicle*, April 3, 2004.

41. See <http://www.taxpayer.net/TCS/PressReleases/2004/4-2TeaLuPassage.htm>. Note particularly the April 2, 2004, Press Statement by Keith Ashdown, "Veto this bill, Mr. President." The webpage also contains a link to the complete list of earmarks.

42. General Accounting Office, "Highway Demonstration Projects," Resources, Community and Economic Development Division, May 28, 1991.

43. Author's calculation. The toll on the Greenway ranges from \$1.35 to \$2.75, depending on the time and location that a driver enters the highway. Toll rates are available at <http://www.dullesgreenway.com/cgi-bin/dgtolls2.cfm?home=#home>.

44. Although the California Private Transportation Company operations were profitable (and remain so), they were bought by Orange County in 2003 to restore to it the legal right to build competing facilities in the same corridor.

45. Robert W. Poole Jr. and C. Kenneth Orski, "HOT Networks: A New Plan for Congestion Relief and Better Transit," Reason Public Policy Institute, Policy Study no. 305, February 2003, <http://www.rppi.org/ps305.pdf>.

46. Elizabeth Parker, "Major Proposals to Restructure the Highway Program," *Transportation Quarterly* 45, no. 1, Eno Transportation Foundation, January 1991, pp. 55-66.

47. This legislation can be viewed at <http://thomas.loc.gov/cgi-bin/query/z?c108:H.R.3113>.

48. This legislation can be viewed at www.azleg.state.az.us/DocumentsForBill.asp?Bill_Number=HCM2003.

49. This legislation can be viewed at http://www.coloradosenate.com/results.php3?news_id=449.

50. Dwight R. Lee, "Reverse Revenue Sharing: A Return to Fiscal Federalism," *Cato Journal* 14, no. 1 (Spring/Summer 1994): 75-85.

51. Elizabeth Parker, p. 59.