

FINANCING STATE HIGHWAYS IN THE 1980s

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Public-policy questions have begun to emerge about the financing of state highways, particularly as highway revenues in many states are increasingly being derived from general tax sources (income, sales, property taxes) instead of road-user taxes. User-financed programs have traditionally been the primary source of tax revenues for financing state highways. However, although states have adjusted their road-user taxes, these adjustments have not always kept pace with inflation or needs.

Traditional road-user taxes must be examined in order to implement changes to make them more equitable, responsive, and productive in a user-financed program. Recent trends in financing state highways are evaluated in this article, and it is suggested that state road-user taxes are underpriced.

State highway taxation can be grouped in two categories: traditional and nontraditional. Traditional state highway taxation includes a group of taxes and fees commonly called highway user imposts: the motor fuel gallonage tax, the motor vehicle registration and weight fees, and an assortment of allied fees such as driver licenses, trip permits, oversized permits, and in some cases the truck weight-distance tax. For

the most part, these traditional imposts are widely accepted. However, in recent years a supplemental group of taxes and fees has gained favor in state highway finance. Nontraditional taxation involves the allocation of general revenues for highways; these levies are considered general revenues because they are common to most levels of government and form the basic sources of tax revenue in public finance. Nontraditional highway revenues include income, sales, and property taxes.

Traditional State Highway Revenues

Traditional state road-user taxation is undergoing significant changes. Fundamental taxation assumptions and strategies are being reexamined and in many cases are being realigned. States are seeking to incorporate increased equity and responsiveness into these mechanisms to compensate for such factors as inflation and energy conservation. Some of these innovations are discussed below.

Motor Fuel Taxation

Historically, increases in state motor fuel taxes have been infrequent and seldom more than one cent; such increases have been incremental and modest. But this pattern has changed in recent years. In 1979, 10 states increased motor fuel taxes, and in 1980, 12 states increased rates. Most of these were increases of 1 or 2 cents a gallon. In 1981 the states adjusted rates at an unprecedented rate: 19 states levied higher motor fuel taxes; these tax hikes were predominantly 2 or

3 cents; and one state levied an increase of 4 cents. The pace of change slowed in 1982 when only five states successfully increased taxes on motor fuel.

In 1983, 27 states adjusted motor fuel tax rates. Approximately three-quarters of these increases (20) resulted from legislation enacted during the year, but others were changed because of the prior year's legislation or by means of automatic, self-actuating mechanisms. The size of the tax hikes in 1983 is also noteworthy. Two-thirds (12) of these states levied a tax increase of 3 or more cents and 6 states increased taxes by 5 or more cents a gallon. Many of these states scheduled additional increases for 1984, and two states adjusted rates for 1985.

Variable Motor Fuel Taxation

Another feature of contemporary highway finance is the greater use of ad valorem taxation. In 1983, 15 states had variable motor fuel tax mechanisms. Motor fuel indexing mechanisms are designed to provide administrative adjustment authority to tax systems to make them more inflation responsive and timely and to add greater certainty to highway improvement programs.

In 10 states, motor fuel taxes are linked to the price of fuel. However, the price of fuel does not always correspond with inflation in highway construction. During the 1970–1982 period, gasoline prices increased 262 percent while highway construction prices increased 108 percent. Since 1980 the price of gasoline has been on a roller-coaster ride, increasing from about \$1.00 a gallon to \$1.35 (or higher), and then back to about \$1.00, while the FHWA highway construction index declined by 10 percent (through 1983). Today the price of oil is dropping dramatically, yet highway construction costs increased by 10 percent in 1985. Clearly, the price of fuel is not the best determinant to index highway revenues at the present time.

Although several states enacted variable mechanisms in 1983, one state—Washington, which started the practice—discontinued it in preference to a fixed rate tax. This may signal a trend back to more legislative control and oversight in highway taxation inasmuch

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as the remaining five of the "original six" states (Indiana, Kentucky, Massachusetts, Nebraska, and New Mexico) fared no better than states using fixed rates.

This is not to say that a tax system based on a more appropriate variable has no value. The more recent systems are based on variables that better relate to inflation in highway costs and to other factors affecting highway revenues, such as declining consumption of motor fuel. Three midwestern states (Ohio, Michigan, and Wisconsin) have adopted mechanisms that adjust tax rates based on the FHWA maintenance index and inversely with consumption of motor fuel. The two remaining states with a variable motor fuel tax (Pennsylvania and Virginia) levy a gross-receipts tax on oil companies. However, because this tax is targeted exclusively to highway use, it is in fact a highway motor fuel tax.

1984 Motor Fuel Tax Action

Only seven states increased tax rates in 1984, but these increases were significant. Louisiana and Texas doubled their motor fuel tax rates (8 and 5 cents, respectively); Alabama, Oklahoma, and Utah added 2, 2.5, and 3 cents, respectively; and New Jersey imposed a 3-cent diesel differential tax. Connecticut scheduled annual increases of 1 cent a gallon per year, or an increase of 9 cents a gallon to a total of 23 cents a gallon. Equally significant for highway finance is that these revenues (and other road-user taxes) will henceforth be placed in a transportation trust fund. New Jersey also earmarked a portion of its motor fuel tax (2.5 cents) for highways.

1985 Motor Fuel Tax Action

Eleven states enacted legislation to increase motor fuel taxes in 1985. Arkansas added 4 cents a gallon for gasoline and 2 cents for diesel (totaling 13.5 and 12.5 cents, respectively). Indiana dropped its indexed mechanism and raised the gasoline tax by 2.9 cents and the diesel tax by 3.9 cents a gallon along with an 8-cent surcharge for commercial vehicles.

Variable tax systems also experienced changes. Kansas raised its percentage

rate, and Wisconsin's tax increased by 0.5 cents because increased maintenance costs and fuel consumption drive the mechanism. Rhode Island approved a second variable tax (2 percent of wholesale price) equaling 2 cents a gallon. The District of Columbia and New Mexico repealed tax indexing, leaving 12 states with variable motor fuel tax systems. Other states that raised motor fuel taxes were: Arizona, 3 cents (with another 1 cent increase to come in 1990); Hawaii, 2.5 cents; Iowa, 2 cents (with another 1 cent increase to come in 1986); Oklahoma, 1 cent; Oregon, 1 cent (with another 1 cent increase to come in 1987); Nebraska, 1 cent (to fixed rate); Nevada, 1 cent; and Tennessee, 3 cents.

Additional features that affect motor fuel taxation and revenue yield include diesel differentials that target a greater financial burden on heavier trucks and the phasing out of gasohol exemptions.

Motor Vehicle Taxation

The first highway user charge, the motor vehicle registration fee, is a significant source of income for state highways. In 1984, 167 million automobiles, trucks, and buses in the United States generated \$6.9 billion for the states, averaging \$41.56 per vehicle (Table 1). Although the average fee masks wide variances in fee schedules among the states, it can provide a useful measure of the adequacy of motor vehicle charges.

The average state registration fee has increased by \$20 since 1965. But in *real* dollars, the rate has actually declined by

\$9.40 for 1984, a loss of 41 percent in purchasing power. To sensitize registration fees to inflation, Michigan indexed its passenger car fee to the change in personal income (for pre-1984 automobiles). For all 1984 and later automobiles, the registration fee will equal 0.4 percent of the retail price of the vehicle [Official Statement, State of Michigan Trunk-line Bonds (\$135 million), Series 1983].

Another more widely used ad valorem tax applied to motor vehicles is the special titling tax. In 1984 the motor vehicle titling tax raised \$1.4 billion for the 11 states that imposed the tax. Since 1965 the total amount of revenue from titling taxes has increased nearly 14-fold, while registration revenue has tripled. In constant dollars, total registration revenue for 1984 increased by only 8.6 percent over that for 1965, while the titling tax increased 415 percent during the same period (Table 2).

Motor Carrier Taxation

The weight-distance tax is one of a group of diverse road-user taxes imposed on truck transportation and identified as "third structure taxes." In 1984, 17 states levied some form of weight-distance tax; that is, a ton-mile or passenger-mile tax. However, in only 9 states was the yield significant (\$10 million or more), ranging from \$13 million in Wyoming to \$73 million in Arizona and Oregon. In 1982 Arizona converted its motor carrier tax from a gross-receipts to a ton-mile basis, yielding \$73 million in 1984, or more than triple the

TABLE 1 State Motor Vehicle Revenue^a

Year	Vehicle Registrations (millions)	Registration Revenue (\$ billions)	Average Fee (\$)	CPI ^b (%)	Average Fee (\$ 1967)	Index
1965	90	1.941	21.56	94.5	22.81	100
1970	108	2.870	26.57	116.5	22.85	100
1975	133	3.699	27.81	161.2	17.25	76
1980	156	5.159	33.07	246.8	13.40	59
1982	159	5.926	37.27	289.3	12.88	57
1983	164	6.354	38.74	301.4	12.85	56
1984	167	6.940	41.56	311.0	13.40	59

^a For selected years in current and constant dollars.

^b Consumer Price Index (1967 = 100 percent).

Source: Tables MV-1, MV-2, *Highway Statistics*, various years.

TABLE 2 Selected State Motor Vehicle Revenue, 1965–1984^a

Year	Total Motor Vehicle Registration Revenues (\$)		Motor Vehicle Titling Taxes (\$)		CPI ^b (%)
	Current	Constant	Current	Constant	
1965	1,941	2,054	101	107	94.5
1970	2,870	2,468	226	194	116.3
1975	3,699	2,295	444	275	161.2
1980	5,159	2,090	795	322	246.8
1981	5,508	2,022	940	345	272.4
1982	5,926	2,048	972	336	289.3
1983	6,354	2,108	1,115	370	301.4
1984	6,940	2,232	1,381	444	311.0

^a Current and constant dollars (millions).^b Consumer Price Index (1967 = 100 percent).Source: Table MV-2, *Highway Statistics*, various years.

revenue from the gross-receipts tax for 1981.

Kentucky also approved a weight-distance tax in 1982: 2.85 cents per mile on all commercial trucks of 60,000 pounds and more gross vehicle weight. For 1984 this tax generated \$29.5 million. This weight-distance tax is in addition to the motor fuel surtax of 2 percent on motor carriers with 3 or more axles, which yielded \$5.2 million for 1984.

Nontraditional Highway Revenues

Nontraditional taxes for highways play an important role in some states. In many cases, nonuser tax revenues rival the yield of traditional taxes. The most common practice is to apply the state sales tax to motor vehicles and, more recently, to motor fuel.

Nearly all of the states levy a retail sales tax and 20 states currently assign all or a portion of the motor vehicle sales tax revenue to highways. Eleven states, as previously discussed, impose a motor vehicle titling tax, an ad valorem tax applied at the point of purchase or upon initial registration in the state. Montana and Texas have recently earmarked titling taxes for highways.

In 1985 Texas applied one-tenth of these revenues plus an amount equal to one-eighth of motor fuel revenue to the highway fund. The earmarking of the sales tax on motor vehicles is a recent

event in Arizona, Kansas, and Minnesota. In 1984 these motor vehicle ad valorem taxes raised \$1.7 billion for these states, which equals 90 percent of the revenue raised from traditional motor vehicle taxes (Table 3).

A revenue source largely untapped in

public finance is the sales tax on motor fuel. To date, only nine states levy a sales tax on motor fuel (in addition to the excise tax). In five of these states, the revenue is earmarked for highways, three states dedicate the dollars to mass transit, and one state does not dedicate any of the revenue (Mississippi). Most of these actions have occurred since 1980 with West Virginia the most recent state to levy motor fuel sales taxes (Table 4).

Another popular state nonuser levy dedicated for highways is energy taxes. Seven states earmark revenue from taxes on energy extraction for highways. Arkansas, Kentucky, Louisiana, and Oklahoma distribute funds from these taxes to counties for roads. Severance tax revenues are retained in Alabama, Kentucky, New Mexico, and Wyoming. Alabama auctioned off-shore oil rights in 1982 and the receipts were placed in escrow to pay the principal and interest on \$300 million of state bonds issued for highways. Kentucky utilizes its toll road authority to issue bonds for energy

TABLE 3 Selected State Motor Vehicle Ad Valorem Taxes, 1984

State	Total Motor Vehicle Revenues ^a (\$ millions)	Motor Vehicle Titling or Sales Tax Revenues ^b (\$ millions)	Motor Vehicle Revenues (%)
Arizona	62.2	7.8 ^c	13
Colorado	67.8	70.3	104
Delaware	19.2	15.7	82
District of Columbia	23.5	21.8	93
Iowa	218.6	80.8	37
Kansas	83.0	7.7 ^c	9
Kentucky	87.2	140.2	161
Maryland	114.5	242.6	212
Missouri	150.1	102.7	68
Montana	30.6	5.8	19
Mississippi	68.2	44.9 ^d	66
Nebraska	57.0	38.2	67
North Dakota	46.7	2.7	6
New Mexico	31.8	27.7	87
South Dakota	29.1	13.1	45
Texas	569.4	710.9	125
Vermont	28.9	21.5	74
Virginia	181.7	124.9	69
West Virginia	59.5	67.8	114
TOTALS	1,929.0	1,747.1	90

^a Excludes titling revenue and motor carrier weight-distance taxes.^b Titling or sales tax revenue dedicated for highways.^c Estimated.^d Sales tax revenues not linked to 3 percent motor vehicle tax; excludes 6 percent sales tax on motor fuel of 50 million.Source: Tables MV-2, SF-1, *Highway Statistics*, 1984.

impact roads, and coal severance taxes supply part of the debt service funds. New Mexico also uses severance taxes to pay highway bond debt service. Wyoming deposits severance taxes directly into the state highway account as well as building a reserve account for future needs. Montana will join this group in 1986 at which time revenue from state severance taxes will be transferred to the state highway fund.

Other assorted state taxes yielding revenue for highways include property, income, and cigarette taxes. One of the larger dollar generators is the motor vehicle property tax. Arizona has imposed a 4 percent tax on the assessed value of motor vehicles for many years. However, beginning in 1982, 31.5 percent of these revenues have been earmarked for highways.

In summary, the dedication of non-traditional tax revenues to highways is increasing. The most common practice is to earmark the sales tax on motor vehicles. Another common practice, adding the sales tax to motor fuel (in fact, removing its exempt status), is a recent event, and almost all of the states that do so dedicate the revenue to transportation. Today, more than one-half of the states employ one or both of these measures.

These general taxes (and others) are responsible for the increased share of state highway dollars derived from non-user sources and they may provide a larger share in the future (from 7 percent in 1975 to 13 percent in 1983, *Highway Statistics*). According to the forecast of one state (Arizona), this share is expected to increase from 12 percent (in 1983) to 28 percent of all revenue in 1992. The gain assumes a corresponding drop in the motor fuel share from 43 to 31 percent (Official Statement, State of Arizona Highway Revenue Bonds, Series 1982, December 1, 1982).

Summary and Conclusions

Traditional forms of state road-user taxation continue to undergo fundamental changes. *Motor fuel taxation*, formerly the principal source of revenue for highways, has slipped from 57 percent to less

TABLE 4 1984 Motor Fuel Sales Tax Allocated for Transportation (\$ millions)

State ^a	Highways	Mass Transit
California	0	159
Georgia	103	0
Hawaii	15	0
Indiana	0	11
Illinois	187	0
Michigan	0	36
Mississippi	50	0
North Dakota	6 ^b	0
West Virginia	56	0
TOTALS	417	206

^a Excludes New York.

^b 2 percent tax on special fuels only.

Source: State finance reports, *Highway Statistics*, 1984.

than one-half of all state user revenues, and, consequently, has received a great deal of attention since the late 1970s. To generate new revenues, nearly all of the states have increased tax rates (some repeatedly) and 12 states currently index motor fuel tax rates. After a period of interest in indexing, most states now prefer to adjust rates legislatively rather than administratively. Additional motor fuel tax increases are anticipated and will likely be large (note the doubling of rates in Connecticut, Louisiana, and Texas in 1984 and the uncertain outlook of motor fuel consumption).

Other than periodic rate schedule changes, *motor vehicle taxation* has undergone little change during the last decade, largely because of the uninterrupted expansion of the nation's motor vehicle fleet. Although vehicle registration revenues increase annually, these fees have not raised additional *real* dollars for highways since 1975. Conversely, the motor vehicle titling tax (an ad valorem tax) has outpaced inflation during the same period. Price sensitivity in registration fees is emerging, and a few states are replacing weight-based automobile fees with mechanisms that consider vehicle value and age.

Motor carrier taxation, another form of traditional taxation, is antiquated. Most states base registration fees on the weight of trucks; only nine states impose

a significant weight-distance tax that addresses the cost burden occasioned by the heaviest vehicles. In sum, the total vehicle revenue share of state road-user revenue has increased by 21 percent during the last decade.

Nontraditional taxation for highways plays an important role in some states, and, in many cases, revenues yielded by nonuser sources rival those yielded by traditional taxes. The most common practice is to apply the state sales tax to motor fuel or to motor vehicles; both taxes raise large sums of money. More than one-half of the states utilize at least one of these devices, and the practice is spreading. Indeed, these may be construed as quasi-user taxes because similar taxes, such as the motor vehicle titling tax, are deemed user taxes in some states and several states consider the motor fuel sales tax a road-user tax. Nontraditional taxation also tends to unite highway and mass transportation financing.

Nontraditional taxes dedicated for highways have become sufficiently widespread to raise questions of public policy. Are state user tax schedules realistic? Clearly, states have adjusted road-user taxes and fees in recent years (some have done so repeatedly). Still, state road-user taxes are underpriced and further hikes are warranted. Specifically, average motor vehicle registration fees, expressed in real dollars, are roughly one-half of their earlier levels, and the combined federal and state motor fuel tax is below the 1965 counterpart in purchasing power.

Further, the highway tax share of the overall cost of owning and operating an automobile has steadily declined to about one-half of the 1970 ratio (*Cost of Owning and Operating Automobiles and Vans—1984*, FHWA). Clearly, road-user taxes could be increased, even doubled, and not be inconsistent with what users paid more than a decade ago, which responds to another public-policy question: How can shifting general funds for highways be justified? On the basis of this analysis and the precept of a user-financed program, the use of general revenues for state highways does not appear to be warranted.