State Highway Finance Trends

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The decade of the 1970s witnessed a marked decline in the fortunes of state highway finances. From a position of strength, if not affluence in the early 1970s, the fiscal condition deteriorated to near crisis proportions. But, as the decade ended, the finance outlook began to improve, and the 1980s may see the financial condition of state highway programs on a more solid and equitable basis.

The causes of the recent state highway financial plight are well documented. The energy crises of 1973-1974 and 1979 altered the public's consumption and travel patterns and introduced a more fuel-efficient motor vehicle. These events led to a leveling of fuel consumption that directly affected highway tax revenue dollars. The decade also witnessed an unprecedented inflationary spiral. These two elements, plus the increasing share of highway programs allocated to noncapital functions, reduced highway investment programs to a fraction of past performance.

STATE HIGHWAY FINANCE BACKGROUND

The 1981 National Highway Needs Report (1) documented the fiscal and physical condition of the nation's highways. In fact, the last two reports, 1977 and 1981, state that highway capital outlay has been declining relative to the collective highway program. This trend is expected to continue. Noncapital costs, led primarily by highway maintenance, command more than half of all highway dollars, and it is unlikely that this trend will change in the near future—that is, unless significant changes occur in state highway financing.

MOTOR FUEL TAXATION

Traditionally, motor fuel tax revenue has been the keystone to state highway finance. This remains true, although certain shifts are in evidence. Early in the 1970s, motor fuel tax revenue supplied 63 percent of all state user tax revenue and 56 percent of total state tax revenue for highways. But today, oil price changes and curtailments have propelled other tax sources into more prominent roles. For 1980, motor fuel tax revenues dropped to 55 percent of total highway-user revenue collected by the states. The relative decline of motor fuel tax revenue is due to the failure of the states to increase motor fuel tax rates sufficiently to maintain motor fuel taxation's share of the total highway tax burden.

Over the long term, the weighted average state motor fuel tax rate for the nation increases by one cent a decade. Therefore, for the most part, increased revenue has been achieved through increased motor fuel consumption. Based on Table 1 data, motor fuel consumption declined by 7 billion gal in 1980 (5.7 percent). Consequently, to realize the same 1979 real dollars for highways in 1980, the average state tax rate for the nation must at least match the inflation rate. With 1980's inflation rate

Table 1. State motor fuel tax yield, 1970-1980.

Year	Average Tax Rate[a] (¢)	Motor Fuel Consumption (billions of gallons)	Receipts ($ millions)	Constant Dollars[b] (millions)
1970	7.01	93.0	6477	5157
1971	7.09	98.1	6901	5240
1972	7.32	105.7	7611	5507
1973	7.53	111.0	8353	5417
1974	7.57	106.1	8124	4026
1975	7.65	108.8	8353	4099
1976	7.71	115.7	8891	4461
1977	7.79	119.7	9319	4306
1978	7.83	125.0	9716	3668
1979	8.01	121.7	9784	3174
1980	8.26	114.8	9578	2753

Source: Tables MF-1 and MF-2, *Highway Statistics* (assorted years).

[a]Weighted average state tax.

[b]Based on FHWA bid price index (1967 = 100).

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Table 2. State motor vehicle revenue, 1970-1979.

Year	Registration Fees			Titling Taxes ($ millions)
	Receipts ($ millions)	Vehicles (millions)	Fee per Vehicle ($)	
1970	2872	108.4	26.49	226
1971	3010	113.0	26.64	291
1972	3213	118.8	27.05	368
1973	3451	125.7	27.45	431
1974	3661	129.9	28.18	411
1975	3699	132.9	27.83	444
1976	4403	138.5	30.64	579
1977	4426	143.7	30.80	708
1978	4749	148.8	31.92	827
1979	5012	154.1	32.52	834

Source: Tables MV-1 and MV-2, ***Highway Statistics*** (assorted years).

around 14 percent, the average state tax must increase by, at least, one cent per gallon to keep pace. Obviously, the historic pattern of averaging one cent per decade will not do, and more importantly, without an automatic adjustment mechanism, state highway officials must return to the legislature every year to obtain an increase in the state motor fuel tax rate just to stay even with inflation.

MOTOR VEHICLE TAXATION

In contrast with motor fuel revenue trends, the motor vehicle tax revenue performance has displayed a steady growth pattern. Total state motor vehicle registration revenue recorded a healthy increase during the last decade from $2.9 billion in 1970 to $5 billion for 1979—a gain of 72 percent as shown on Table 2. However, certain ad valorem fees grew much faster. Special motor vehicle titling tax revenue—much like the state sales tax, which is based on a percentage of the purchase price—increased from $226 million to $834 million for the nine states reporting titling fees in 1979. That equals a 269 percent gain, while revenue from motor vehicle registration fees increased by 83 percent. Except for North Dakota, states classifying titling taxes as highway-user revenue report that the titling tax accounts for one-third to nearly two-thirds of all motor vehicle revenue for the nine states (see Table 3). Moreover, these titling taxes have outpaced price increases in highway construction and maintenance, as shown below:

1. FHWA bid price index went up 2.44 times, 1970-1979;
2. Maintenance index went up 2.05 times, 1970-1979;
3. Motor vehicle registration revenue went up 1.75 times, 1970-1979; and
4. Motor vehicle titling revenue went up 3.70 times, 1970-1979.

Clearly, only motor vehicle titling revenues kept pace with inflation and, in fact, exceeded the rise in the key price indices affecting highways (2).

These facts clearly support the call for increased motor fuel taxation and, more importantly, suggest mechanisms that automatically adjust rates to keep pace with highway costs and to maintain equilibrium in overall highway-user taxation. One method of achieving these goals is the variable gasoline tax methodology found in various forms in an increasing number of states. The following describes the nature of several of these systems.

STATE VARIABLE MOTOR FUEL TAXATION

As of the end of 1980, five states had enacted variable motor fuel tax mechanisms. Two of these state variable motor fuel tax laws are found in Indiana and Massachusetts. In addition to these motor fuel taxes, two other examples of ad valorem motor fuel tax funding systems for highways are cited. Nebraska enacted a supplemental motor fuel tax of 2 percent of the selling price that will be used to cover the shortfall in highway revenue. This measure requires expanded funding in order to set it in motion, whereas Illinois earmarks a portion of all sales tax revenue for highways. This allocation, purportedly

Table 3. Selected motor vehicle revenues, 1979.

Area	Total Motor Vehicle Revenue ($000s)	Titling Taxes ($000s)	Percent Titling Taxes (%)	Total Highway User Revenue ($000s)	Percent Titling Taxes (%)
Delaware	25 007	8 836	35.3	53 641	16.5
District of Columbia	31 529	12 004	38.1	51 867	23.1
Kentucky	172 221	108 272	62.9	361 911	29.9
Maryland	231 106	133 068	57.6	422 329	31.5
North Dakota	30 796	2 289	7.4	65 263	3.5
Texas	790 099	431 101	54.6	1 273 912	33.8
Vermont	33 167	11 445	34.5	56 413	20.3
Virginia	189 041	70 228	37.1	478 618	14.7
West Virginia	107 218	56 560	52.8	214 967	26.3
Total	1 610 184	833 803	51.8	2 978 921	28.0

Source: Tables MV-2 and DF, ***Highway Statistics, 1979.***

equivalent to the amount derived from motor fuel sales, effectively establishes a second motor fuel tax for highways that will correspond with price increases. These actions add Illinois and Nebraska to the growing list of states employing de facto variable motor fuel tax mechanisms. The following passages describe some of the features of the motor fuel tax laws in effect in Illinois, Indiana, Massachusetts, and Nebraska.

INDIANA

In 1980, Indiana enacted a comprehensive transportation finance law that addresses many of the fiscal issues of the day, including (a) an inflation-sensitive highway and public transit funding mechanism, (b) tax equity, and (c) energy conservation. Probably the most important element of the 1980 legislation is the change in the method of taxing highway motor fuel. Previously, the state motor fuel tax rate was 8 cents/gal. Beginning July 1, 1980, the motor fuel tax rate is computed at 8 percent of the distributor's price as determined by formula. This ad valorem tax scheme adjusts the rate twice a year and is stated in the nearest tenth of a cent. Maximum tax limits are established. For 1980, the rate could not exceed 12 cents/gal. The maximum rate for 1981 is 14 cents, and for 1982 and thereafter, the rate cannot exceed 16 cents/gal, which is double the rate in effect at the beginning of 1980. The intent of the legislation is that the motor fuel tax will be added to the selling price so that the motor fuel tax will bear the burden of the tax.

Other provisions of the law (P.L. 10, 1980) include (a) mass transportation funding, (b) imposition of the state sales tax on motor fuel, (c) increased motor vehicle taxes, (d) authorizations for local governments to levy road-user taxes, and (e) the creation of a general transportation fund to even out the flow of highway funds during the fiscal year.

MASSACHUSETTS

In 1980, state transportation funding in Massachusetts was overhauled. First, effective August 1, 1980, the 8.5 cents unit tax on gasoline was changed to a 10 percent tax of the wholesale price of gasoline. Special fuels and diesel would be treated as before, i.e., taxed at the rate of 10 cents/gal. The disposition of motor fuel revenue was also changed. Beginning in August 1980, 15 percent of net gasoline tax revenue is paid into the state general fund for mass transportation purposes. Another 15/100 of 1 percent is dedicated for inland fisheries and the game fund, and the remainder is deposited in the state highway fund (15 percent of these revenues is dedicated for local roads and streets). Revenue from special fuels, etc., would be distributed 11.76 percent to cities and towns for road and street purposes, and the remainder to the state highway fund.

Second, the state highway fund is now in receipt of a share of the state cigarette tax. Prior to July 1, 1980, 2 mills of the 8-mill tax on cigarettes was used for mass transit subsidies. The practice was discontinued in 1980, that is, the 8-mill tax now goes unencumbered to the state general fund. The 1980 legislation, however, added 2.5 mills to the excise cigarette tax and dedicated the proceeds to the state highway fund.

In a 2-year span, state motor fuel taxation changed from a unit base to a percentage base. Its disposition initially included non-highway use, which was later repealed; then reversing itself, the state again earmarked a portion of the motor fuel tax revenue for mass transit, and, finally, lost highway funds are recaptured by a tax source unrelated to highway use.

NEBRASKA

Nebraska enacted a motor fuel tax increase that incorporates unit and variable tax changes. First, the 1980 measure raised the base motor fuel tax rate from 10.5 to 11.5 cents/gal. Second, it imposed an additional variable tax of 2 percent of the price on motor fuel.

The percentage tax will be levied based on the average price that Nebraska pays for a gallon of motor fuel (less federal and state taxes). The variable tax will be levied on distributors to be added to the unit tax. The average statewide price of motor fuel has been established at 90 cents/gal until such time that information is available to set the computed average price.

The variable tax was enacted to ensure that the highway cash fund has sufficient revenue to meet the level of authorizations set by the state legislature. Any shortfall will be supplied from the variable motor fuel excise tax. For the period beginning October 1, 1980, and until adjusted by the Board of Equalization and Assessment, the excise tax is set at 2 percent of the prescribed 90 cents/gal average statewide cost, or 1.8 cents/gal. During the ensuing fiscal year, if the revenue generated proves too low or too high—that is, if outside the limits of 90 percent and 110 percent of targeted income—adjustments will be made.

These examples describe automatic motor fuel tax rate indexing schemes. For Indiana and Massachusetts, the entire motor fuel tax rate is tied to some specific commodity price. Nebraska is a hybrid. It retains the basic per gallon tax but provides a flexible/supplemental tax that responds to motor fuel price changes and budget factors. In Illinois, the basic motor fuel tax system is unaffected. Instead, a share of the state sales tax revenue is earmarked for highways that is similar to a supplemental variable gasoline tax.

ILLINOIS

The purpose of the Transportation Finance and Administration Act of 1979 was to enact an integrated and comprehensive highway and public transportation finance program for the state (3). The enacted legislation called for a series of interrelated actions affecting several state funds and tax sources. For highways, there are two basic changes. First, existing diversions from the state road

fund would be eliminated. The 1979 legislation gradually reduces allocations of road fund monies to state agencies other than the department of transportation. For example, the road fund allocation to the state police budget will be reduced to 40 percent for FY 1983 and zero for FY 1984.

Indeed, beginning in FY 1984, no road funds will be paid to state agencies other than the department of transportation. Second, additional revenue would be earmarked for highways. These revenues would come from the state sales tax that the legislature considered roughly equivalent to the amount of sales tax revenue derived from motor fuel sales. Specifically, the two-part revenue allocation plan includes (a) an amount equal to 2.5 percent of sales tax revenue would be deposited in the motor fuel tax fund and (b) an amount equal to 3 percent of sales tax revenue would be deposited in the road fund. Both funds restrict expenditures to highway purposes.

The 1979 law restricts highway-user revenues to highway purposes by eliminating transfers to other agencies. The measure restores a substantial sum of money to the state's highway program. In addition, the Act earmarks motor fuel sales tax revenue for the highway program. For highway taxation purposes, Illinois now has a unit tax and a variable tax on motor fuel.

SUMMARY: 1979-1980

The years of 1979 and 1980 witnessed the maturing of state motor fuel tax indexing. By the end of 1980, nine states had a de facto variable gasoline tax (4). In Illinois and Nebraska, the unit tax is retained but is supplemented with an ad valorem tax that adjusts with price changes. Indiana and Massachusetts tax fortunes correspond with gasoline prices, which have been somewhat disappointing—witness (a) the recent drop in the tax rate for Massachusetts (from 11.4 to 11.2 cents, October 1, 1981), and (b) the need to raise the minimum gasoline tax to 10.5 cents/gal in Indiana.

Other states have also encountered disappointment due to the limitations in their automatic systems. The system in New Mexico is actually a schedule that corresponds to increments of gasoline price changes; however, the gasoline tax rate cannot increase more than one cent per year. Such a pace hardly matches inflation in highway construction. Washington State reached its maximum rate in 1979. These shortcomings and others suggested that new and expanded mechanisms are needed to meet the challenge of the 1980s.

CURRENT STATE LEGISLATIVE ACTION

In 1979 and 1980, the state tax picture reversed the tax-cutting mood prevalent in earlier years. State legislatures seemed to be taking a hard look at ways to raise state taxes. In 1979, 10 states increased motor fuel tax rates, and, in 1980, 12 states did so. However, the most striking difference between the 1979 and 1980 laws is the type of tax mechanism imposed. For the most part, the 1979 increases were additions of a penny or two to the existing unit rate with no provision for automatic future adjustments. In 1980, the variable motor fuel tax mechanism received widespread attention—witness the measures enacted in Indiana, Kentucky, Massachusetts, and New Mexico. The trend toward increased motor fuel tax rates, in general, and automatic variable rates, in particular, carried over into 1981.

According to one survey, more than 40 states sought ways to raise motor fuel tax revenue in 1981 (5). The only states not looking to increase motor fuel tax rates were Alabama, Georgia, Kentucky, Louisiana, Nebraska, Texas, and Virginia. Four of these received tax boosts in 1979 or 1980 and two states have access to general revenues (Louisiana and Texas) for highway purposes, which reduces the urgency to raise user tax rates in order to increase funds for highways.

Twenty-six states requested increases in gasoline and diesel fuel taxes. Of particular interest is the trend toward obtaining variable or percentage taxes on motor fuel. The survey notes that 35 states sought a variable tax and 16 states considered both a hike in the unit (cents per gallon) tax and a variable tax. Further, six states (Arkansas, California, Florida, Hawaii, Utah, and Wyoming) sought repeal of the motor fuel sales tax exemption.

By October 1, 1981, the number of states approving motor fuel tax rate increases is sufficient to make 1981 the high-water mark for boosts in state motor fuel tax rates. In fact, 27 states increased motor fuel tax rates. The measures enacted include (a) simple increases in the cents-per-gallon levy, (b) variable tax methodologies that supplement or replace existing mechanisms, (c) expanded ceilings and floors of existing variable taxes, and (d) new systems employing innovative automatic adjustment systems. More specifically, 16 states increased rates via the legislated tax rate adjustment process, ranging from 1 cent/gal (South Dakota) to 4.5 cents effective in 1981 and 6 cents for 1982 (Nevada). Most states in this category raised the rates by 2 cents/gal. The ranks of the states with variable motor fuel tax mechanisms increased by five in 1981, and another received new life. Arizona, Ohio, Rhode Island, Pennsylvania, and the District of Columbia authorized automatic rate adjustment systems, and Washington updated its system by providing a new rate ceiling of 16 cents/gal. The District of Columbia plan uses the consumer price index for its indexing criteria, whereas Ohio's "added motor fuel tax" employs a formula that looks to motor fuel consumption and FHWA's highway maintenance and operations cost trend index to determine rate increases for the years 1982 through 1984. The Ohio motor fuel tax immediately boosted the rate by 3.3 cents to 10.3 cents/gal. Pennsylvania enacted an oil company franchise tax of 35 mills per dollar of petroleum product sales. The levy applies only to highway motor fuel, and the revenue therefrom is earmarked for highway construction and maintenance. Indiana raised its minimum tax to 10.5 cents/gal and

changed the percentage levy. In four states (Kentucky, Massachusetts, Nebraska, and New Mexico), the 1981 rate changes were adjusted by automatic mechanisms.

The highest state tax rate for 1981 is 14.0 cents/gal for New Hampshire followed closely by Nebraska with 13.9 cents. Texas continues to have the lowest gasoline tax at 5 cents/gal. (For more information on state highway taxes, see the FHWA publication on ***Highway Taxes and Fees,*** January 1982.)

Another type of percentage taxation for highways is the sales tax on motor fuel. Before 1981 only three out of the eight states levying a sales tax on all motor fuel earmarked all or a part of the revenue for highways. In 1981, the three states (Georgia, Illinois, and Mississippi) were joined by California and Hawaii. California adopted a plan whereby the general fund is gradually excluded (by 1986) from the tax source. Instead, the proceeds will be split 50-50 between state highway programs and others (mostly public transportation). Hawaii legislation allocates these revenues for highways for a 3-year period extending through FY 1984, which should give the state time to resolve the highway funding issue. It is interesting to note that two other states allocate some of these revenues to transportation—i.e., Indiana and Michigan earmarked a portion of these revenues for public transportation.

CONCLUSION

Although motor fuel revenue still supplies more than half of all state user revenue, its contribution has steadily slipped over the last decade. The foregoing analysis suggests that the traditional method of adjusting motor fuel tax rates is antiquated given today's high inflation and the motor fuel consumption outlook. Future additional motor fuel tax revenue will be derived solely from increased tax rates. The analysis of motor vehicle tax revenue supports the use of tax devices that are sensitive to price changes. Indexing motor fuel tax rates to the appropriate price variable would accomplish the goal of coordinating tax revenue with highway costs. The pace of fuel tax rate changes for 1981 is heartening, but, for the most part, these rate increases only temporarily resolve the issue. If high inflation persists and motor fuel consumption remains static, only an automatic tax adjustment process prevents yearly appeals for legislative action in order to retain the highway tax dollar purchasing power and, indeed, to recapture the tax burden attributable to motor fuel found a decade ago.

FOOTNOTES AND REFERENCES

1. The Status of the Nation's Highways: Conditions and Performance. FHWA, Jan. 1981.
2. Another ad valorem tax, similar to the titling tax, is the sales tax on motor vehicle purchases. These taxes apply to a broad spectrum of commodities including motor vehicles, and the revenue attributed to vehicles may not be earmarked for highways. Although the states identified on Table 3 report motor vehicle titling taxes as highway user revenue, several other states assign a portion of the sales tax revenue to highways, but these are not considered user charges. Some of these are
   a. Colorado earmarks the sales tax revenue derived from motor vehicles to the state highway users tax trend, i.e., 6 percent of total sales tax revenue. For 1979, this amounted to $13 411 000—or 21 percent of all motor vehicle revenue.
   b. Iowa allocates sales tax revenue on motor vehicles to state highways. For 1979, this amounted to $62 million—or 45 percent of state motor vehicle revenue.
   c. Missouri assigns at least one-half of the 3 percent sales tax on motor vehicles to highways, amounting to $17 million for 1979. Nebraska and South Dakota also assign these revenues to highways—$28 million and $14 million, respectively, for 1979.
   d. Other states assigning general sales tax revenue to highway programs in 1979 are Kentucky, $32 million; Mississippi, $75 million; and New Mexico, $18 million.
3. P.L. 81, 2nd Special Session-3, 1979.
4. Includes five states with variable unit tax mechanisms and four states that earmark sales taxes on motor fuel for highways.
5. Highway Users' Federation, Washington, D.C., Jan. 26, 1981.