

Local Financing Opportunities for Urban Highway Transportation Improvements

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Highways in the United States are at a turning point because of their condition and the cost to repair or replace them. Local public funds for highway construction and repair are not keeping pace with inflation due to reduced purchases of fuel and in some cases constraints on state and local funding, e.g., property tax limits. This paper addresses the funding dilemma by focusing on local financing, including sources of funding, the use of such funds, the range of opportunities for additional sources, and an evaluation of their merits. Based on a review of funding sources and their advantages and disadvantages, we conclude that while there are newly emerging sources such as toll financing, private financing, severance taxes, and others, the suitability of a specific source will necessarily vary. This is because each area has a unique financing philosophy and unique physical characteristics.

The U.S. Interstate highway system is deteriorating at a rate that requires reconstruction of 2000 miles of road per year (1). More than 4000 miles of the Interstate system and 13 percent of its bridges are beyond their designed life (2, pp. 2-3). In this decade and beyond, \$47 billion will be needed to resurface, restore, rehabilitate, and reconstruct (the so-called 4R needs) the Interstate system. (This estimate by the Federal Highway Administration is based on combined estimates of 3R needs between 1980 and 1989, work shifted to 4R by the 1981 Federal-Aid Highway Act, and other needs indicated by state highway departments.) In addition, as much as \$39 billion will be needed to complete the remaining 1289 miles of the system (3, Table 5).

The financial need is also felt by local areas. Older municipalities are experiencing a great need as well as growing municipalities. The problems of many cities or counties in financing their highway transportation system may be a result of tax structures that have not responded or cannot respond to capital, operating, or maintenance needs. Inflation is also a factor in the inability of local areas to keep pace with transportation needs. The general role of inflation is to reduce the purchasing power of expenditures.

HISTORICAL DEVELOPMENT: FINANCING HIGHWAY IMPROVEMENTS

In the recent history of highway construction, states have been relying heavily on fuel taxes, registration fees, and bonding. For example, in 1950, 74 percent of all revenue received by states came from user fees (46 percent from motor fuel taxes, 26 percent from motor vehicle taxes, and 2 percent from tolls) (4). In 1980, the same mix of financing sources constituted 52 percent of all state revenues (30 percent from fuel taxes, 17 percent from registration fees, and 5 percent from tolls) (5). In the same period, the amount of federal aid increased from 12 percent (1950) to 34 percent (1980). This reflects the increased importance placed on the Interstate system.

In contrast to the states, municipalities collect most of their local highway revenue from general fund appropriations and property taxes. In the 1970s the main sources of local revenue for municipal highways--the general fund appropriations and the property tax--have not changed. In both 1970 and 1979, nearly 70 percent of the revenue raised came from these two traditional sources. The remainder of the local revenue for both 1970 and 1979 came from miscellaneous receipts and bond proceeds.

In 1970, municipalities spent \$3.4 billion on highway functions, or about 16 percent of the \$20.8 billion spent by all levels of government. In 1979, they spent \$7.7 billion on highway functions, or about 21 percent of the \$37.5 billion spent by all levels of government. The maintenance function was the largest expenditure item; it made up a little less than 40 percent of the total municipal expenditure on highways in both 1970 and 1979. In municipal highway finance, the maintenance expenditure function increased 2 percent throughout the 1970s; in contrast, the percentage of money spent on capital outlay activities decreased 2 percent. On administration, the percentage remained constant; on debt service, it declined; and on law enforcement and safety, it increased.

In addition to municipalities, states also spent money on municipal highways. The main areas of expenditures were capital improvement and maintenance. The states spent most of this money on capital improvements as compared with maintenance functions. Thus the states' role in municipal highway finance is primarily in the area of capital improvements. The main role of the municipalities is primarily in the area of maintenance of local roads and streets.

Inflation in the 1970s eroded the spending dollar in the United States and in particular the expenditure on highways. In a comparison of the actual and constant dollar expenditures on highways in the areas of capital outlay and maintenance, actual spending on capital outlay increased through the decade (from \$4 billion in 1970 to \$6.5 billion in 1979); real spending in constant 1977 dollars declined significantly (from \$7.5 billion to \$4.5 billion). In the maintenance areas, actual spending doubled in the 1970s from \$1.5 to \$3.5 billion, whereas real spending in constant 1977 dollars remained relatively constant--about \$3.0 billion. Today, public funds for highway construction and repair are also not keeping pace with inflation and reduced fuel purchases. Alternative funding mechanisms for local areas are needed.

LOCAL FUNDING TECHNIQUES

Two general categories of opportunities for local financing of highway projects are considered: user and nonuser mechanisms. As the name of the category implies, the user category includes mechanisms that are directly associated with the use of the highway system. The underlying principle here is that the users bear the main financing responsibility for highway improvements. In contrast, the financing responsibility for nonuser mechanisms is shared by the population at large. User mechanisms include motor fuel tax, motor vehicle fees and taxes, parking taxes, and toll financing. Nonuser mechanisms include property taxes, sales taxes, local payroll or income taxes, bonds, private funding, special-benefit assessments, value capture taxes, and severance taxes.

User Pay Mechanisms

Motor Fuel Tax

In 1981, state rates ranged from 5 to 14 cents/gal

(6). During the last couple of years, many states increased their tax rates and increased the amount they distribute to their local areas. Some areas also have an additional motor fuel tax added to the state tax. For example, a recent California law allows counties to piggyback a 5-cent local tax on the state gasoline tax for highway and transit purposes.

Some states have variable motor fuel taxes, which reduce the impact of inflation. Some states have a percentage tax, such as that in Northern Virginia. With a 2 percent tax increase on the retail sales value of a gallon of gas for jurisdictions within the Northern Virginia Transportation District, the increased tax is expected to generate \$9.5 million. This tax requires state legislative approval, however.

Motor Vehicle Fees and Taxes

Motor vehicle fees and taxes can take many forms. Fees include registration, driver's license, certification of title, etc. Taxes include sales taxes on motor vehicle parts, gross receipts taxes, and ton-mile and passenger-mile taxes. Iowa places a 3 percent sales tax on new and used motor vehicles (7).

Tolls

In the Tidewater area of Virginia, tolls had been paid since the 17th century for crossing the Hampton Roads Channel (8). Today, many areas are considering tolls as a source of additional revenue. One such city is Charleston, South Carolina (9). Charleston is in need of major improvements on bridges leading into the city and possibly several new facilities that will provide access to outlying areas. The 1916 Federal-Aid Highway Act stipulated that all roads be free of tolls. In 1956, with the commencement of the Interstate system, Congress adjusted its long-standing policy and allowed federal-aid funds to be spent on approaches to toll roads that were designated part of the Interstate system. However, tolls were to be eliminated as soon as the capital cost was repaid and the debt retired. Congress authorizes payback of the federal funds used for facility construction in those exceptional cases when Congress has permitted tolls on federal-aid highways.

Nonuser Pay Mechanisms

Property Tax

Property taxes are of major significance to local governments. In 1976, local governments received 82 percent of their highway-related tax revenue from this source.

In general, a property tax can be placed on all tangible objects from homes to motor vehicles. Property taxes are based on the value of the object. They can be levied by the state, the local area, or a special authority. In many states, the revenue received from the property tax on motor vehicles is used for highways. The additional revenue can easily be calculated by reviewing motor vehicle registrations and the proposed tax rate. The rate can be adjusted until the desired level is reached. Recent referendums have placed limits on the property tax rate. Proposition 13 in California and 2 1/2 in Massachusetts are two examples.

Sales Tax

The majority of states (46) levy a retail sales tax and/or give the authority to levy such a tax. After

the property tax, the sales tax has become the largest source of local revenue. Most statewide rates fall between 2 and 6 percent. The items on which a sales tax is paid vary among states. For example, in some states a sales tax must be paid on food purchases and in others it does not.

Twenty-four states allow local governments to levy a local sales tax that can be combined with the state rate and collected by the state governments for local use (10). For example, New York has a state rate of 4 percent, and New York City also has a rate of 4 percent; thus in New York City an 8 percent sales tax is collected. Many areas subsidize public transit through a regional sales tax. In 1982, Atlanta estimated their sales tax revenue to be \$110 million.

Bond Financing

Bonds are an excellent source of revenue for a local area. They must be backed by a reliable revenue source to be sellable at favorable interest rates. This may be accomplished in several ways: (a) pledge revenue of an earmarked tax, (b) pledge surplus revenues of other public revenues, and (c) pledge the good faith of a state or local government. One example of where bond financing has worked well is in the Houston urbanized area. Between August 1978 and September 1979, Harris County raised \$338 million, of which \$175 million was earmarked for major thoroughfare improvements, and the City of Houston raised \$395 million, of which \$185 million was allocated for street improvements (11).

Bonds are not so attractive today as they were in the past. To spur private saving and investment, recent tax-law changes have provided special tax-exempt investment schemes such as all-savers certificates and have broadened the scope of individual retirement accounts. This has reduced the attractiveness of long-term tax-exempt municipal bonds. To reflect changing times, short-term borrowing instruments have been developed, such as unsecured tax-exempt commercial paper (12).

Impact Taxes or Fees

Impact taxes and fees are mechanisms by which a private developer pays a local jurisdiction for the abatement of effects caused by a proposed residential, commercial, or industrial development on the jurisdiction's services. Most often, the impetus for the tax or fee can include local zoning ordinances or proffer requirements to obtain a planning board's approval or specific site-plan and specification approvals.

These mechanisms are quite common to development and construction of residential, industrial, and commercial complexes. For an example, we draw on a commercial project, the Hickory Point Mall in the Village of Forsyth, Illinois. In order to facilitate the free flow of traffic and to ensure safety to the motoring public when the mall is in operation, the developer paid the State of Illinois \$1 331 300 to reimburse the state for widening a 0.75-mile segment of US-51 and providing four through traffic lanes, auxiliary right-turn lanes, a 36-ft median with left-turn lanes, entrances to the shopping center, storm sewers, and traffic signal installation. As a consequence, the Village of Forsyth approved the developer's plans.

Severance Tax

A severance tax is a tax placed on a commodity that leaves the indigenous geographical area. Several states have severance taxes. Arkansas places a sev-

Table 1. Comparison of revenue sources.

Revenue Source	Issue						
	Generate Revenue?	Sensitive to Inflation?	Expensive to Administer?	Independent of Gasoline Price?	Independent of Market?	Acceptable to Public?	Equitable?
User mechanism							
Motor fuel tax	+	0	-	-	+	0	+
Motor vehicle fee and tax	0	-	-	0	+	0	+
Toll	+	-	+	-	0	+	+
Nonuser mechanism							
Property tax	+	+	0	+	-	-	-
Sales tax	+	+	0	+	-	-	-
Bond financing	+	+	0	+	0	+	+
Impact tax or fee	0	+	0	+	0	+	+
Severance tax	0	+	0	+	-	+	+

erance tax on natural resources and turns back 12.5 percent of the gross receipts to the county's highway fund. Kentucky's coal severance tax goes to the state road fund, whereas its mineral severance tax goes to local governments' economic assistance funds. New Mexico, Oklahoma, and Wyoming also have similar taxes (7).

Analysis of Mechanisms

Several criteria can be used as the means of appraising the many local opportunities for raising revenue for highway projects. These include

1. Ability to generate revenue,
2. Sensitivity to inflation,
3. Ease and cost of administration,
4. Independence from gasoline price fluctuations,
5. Minimum interference with efficient markets,
6. Public acceptance, and
7. Equity.

A comparison of the revenue sources reviewed in the last section is shown in Table 1. The revenue sources are divided into two categories--user-derived and non-user-derived sources. Each source is then evaluated subjectively according to each criterion: a plus sign indicates that the source has a positive effect on the criteria, a minus sign indicates a negative effect, and a zero indicates either that there is a balance of effects or that the effect is unknown.

From Table 1, it can be seen why user mechanisms have been attractive: They generate revenue well, have generally low administrative cost, are generally independent of the market, have been accepted by the public, and are equitable. They are generally equitable because the users of the highway system are tapped for money to build or repair the system. The two greatest disadvantages of the user mechanisms are that they are not sensitive to inflation and they are not independent of changes in consumption.

In contrast, it can be seen that nonuser mechanisms as a group may generally complement existing sources by generating more money, as bonding has for Houston, Texas. They are sensitive to inflation, generally independent of gasoline price increases, and administratively inexpensive to implement. There are, however, clear disadvantages. They generally interfere with the market, are not readily accepted by the public, and are inequitable.

Perhaps one of the key criteria that local areas may have to consider is whether the specific mechanism is acceptable to the public. A recent survey sponsored by the Advisory Commission on Intergovernmental Relations (13) can provide some insight. In response to a question on the least fair tax, close

to a third of the respondents cited the federal income tax or the local property tax. This response is repeated in another question, which asks for the best way to raise revenue. In this question, respondents named the following in order of preference: charges for specific services, local sales taxes, local income taxes, and local property taxes.

CONCLUSION

A number of local opportunities for generating revenue have been suggested in this paper; they include user and nonuser mechanisms. User mechanisms have been generally found to be more acceptable to the public and more equitable. However, user mechanisms may have mixed blessings, since they have a limited ability to keep pace with inflation or fuel price increases and to maintain a steady revenue level in times of reduced motor fuel consumption. In contrast, nonuser mechanisms generally have the reverse effect.

The choice of specific funding mechanisms must reflect an urban area's unique philosophy and goals regarding the highway system and who should pay. The magnitude of financial need and the existence of natural resources will necessarily influence their decision. For example, the magnitude of financial need may be large enough to require a package of mechanisms, both user and nonuser.

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Abridgment

Private Funds for Highway Improvements

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Public works finance has become a topic of increasing concern to officials at all levels of government. Fiscal restraint has become a national objective that has severely affected the ability of government to finance improvements from tax revenues. A review of the expenditures for highway projects indicates that increases in construction and maintenance costs have substantially diminished the purchasing power of current funding levels. There is general agreement that current funds from traditional sources are much less than the amount needed to even preserve existing performance levels in the future. One potential source of new or additional funds for highway improvements is the private sector. A number of techniques have been employed, primarily by local governments, to obtain private financial assistance for highway projects. These techniques and their success in securing private funds have varied widely. Several approaches are linked to land use regulation and the approval process for new development. Other mechanisms are based on innovative tax proposals. A brief description is provided of a number of examples of the use of private funds for highway improvements. A preliminary evaluation of techniques to obtain private funds indicates that incentive zoning, special-benefit assessments, and dedicated property taxes may offer the greatest potential for widespread application. Obstacles to the wider use of private funds may include legal restrictions and the financial burden imposed on developers. Several conclusions on the current status of private funding of highway improvements are offered. Although it is clear that a significant volume of private participation already occurs, there is little or no attempt to account for it. Thus, it is difficult to estimate the contribution that private funding can make to highway finance. The strength of the development market is a key factor in the private sector's willingness to pay for public works improvements. More research is needed to identify the opportunities for increased use of private funding sources in the future.

In the past decade, highway finance in the United States was severely buffeted by the twin forces of inflation and the general movement to stabilize or reduce taxes of all kinds. Although revenues for highways increased during the period, their growth rate did not begin to match the rapid increase in construction costs, which substantially outpaced the consumer price index.

As suggested in the following quotation, taken from a recent study of public works needs for the 1980s (1), the response to rising costs and lagging revenues has been to find new ways to finance highway improvements: "The deteriorated condition of basic facilities that underpin the economy will prove a critical bottleneck to national economic renewal during this decade unless we can find new ways to finance public works." For some highway officials, particularly in local government, a new way to finance improvements has been the use of private funds. Working primarily through discretionary

powers in local land use regulations, transportation officials in many areas have negotiated for improvements to public highways at the initial expense of real estate developers.

In many cases, the use of these techniques has been successful in significantly reducing the amount of funding required for roadway improvements. Because of this success, there is an emerging interest in expanding the application of the concept.

The increased use of private funds for highway improvements will be accomplished by extending involvement to more local and state governments and more effective use of these mechanisms by communities in which they are already in use. To achieve this extension and increased effectiveness, better information on these mechanisms is required. There is a particular need to document and consolidate existing experience in order to illustrate the full range of techniques available and highlight methods to overcome obstacles to their use.

This paper takes the first steps toward meeting this need. The purpose is to identify some of the innovative mechanisms used to negotiate the commitment of private funds for highway improvements, describe some ways in which they have been applied, and assess their potential for widespread application in the future.

NEED FOR ADDITIONAL FUNDING

There is substantial evidence that the United States is not investing enough money in its streets and highways. For that matter, we are not investing enough in any public facilities. In the introduction to *America in Ruins* (1), the situation is described in these words:

America's public facilities are wearing out faster than they are being replaced. Under the exigencies of tight budgets and inflation, the maintenance of public facilities essential to national economic renewal has been deferred. Replacement of obsolescent public works has been postponed. New construction has been cancelled.... The costs of rehabilitation and new construction necessary to maintain existing levels of service on non-urban highways will exceed \$700 billion during the 1980's.