

# Highway Financing Alternatives

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## INTRODUCTION

Today, I want to discuss the issue of highway finance from the perspective of the local road agency. Earlier, Harold Michael discussed the prospects for future federal aid funding for highways. I want to expand on this information and, hopefully, put this information into perspective for those of you concerned with highway finance at the State and local level. Although the early part of my career was spent with the Federal Highway Administration, a majority of my experience has been at the local government level attempting to bring safer and more efficient transportation service to the citizens I served.

My discussion will cover three primary areas. First, I mean to propose that we need more funding to build and rebuild our highways. Second, I want to suggest that even if the Federal Aid Funding for highways is doubled — and it seems unlikely that it will be — there will still be a backlog of unmet needs. We cannot expect Congress to provide the level of funding required to solve the problems we face. Third, I will outline some funding mechanisms that may be used by local highway agencies.

## THE NEED FOR HIGHWAY INVESTMENT

As a nation we have been under-investing in public infrastructure — particularly highways — since the 1970s. In the report to Congress, titled *Fragile Foundations*, the National Council on Public Works Improvement pointed out that the proportion of Gross National Product (GNP) invested in public infrastructure has declined from 2.3 percent in 1960 to just 1.1 percent in 1985. Council member Peter Goldmark, former executive director of the Port Authority of New York and New Jersey stated, “We need a national commitment, shared by all levels of government, the private sector and the public to vastly improve America’s infrastructure. Such a commitment may require an increase of 100 percent in public works investment.”

It is important that we make the connection between highway investments and economic growth and development. Merrill Lynch economists have concluded, “The bottom line is clear, if we are concerned about our living standards and our ability to compete internationally, we should also be concerned about the nation’s infrastructure.” David Aschauer, an economist at the Federal Reserve Bank in Chicago, has found a strong and consistent correlation between GNP growth and public investment. His study suggests that our failure to maintain adequate funding for highways, bridges and other public infrastructure may underlie the slowdown in what economists call total factor productivity. This is the amount of output produced by given amounts of labor and private capital.

National productivity grew at a healthy 1.8 percent annual rate between 1950 and 1970, but has sagged to 0.8 percent between 1970 and 1985. Similarly, public infrastructure expanded at a 4.3 percent annual rate between 1950 and 1970, but at only a 1.5 percent rate from 1970 to 1985. The association is clearly strong. A coincidence? Hardly. Consider that among the leading industrial nations, the United States had both the slowest rate of productivity growth and a lowest ratio of public investment from 1973 to 1985. Meanwhile, Japan led in both criteria.

A recent Merrill Lynch report, titled *Our Crumbling Infrastructure*, noted that the total public spending for the Country's infrastructure dropped from 3.5 percent of GNP to 2.5 percent of GNP between 1960 and 1985. Federal, state and local governments together devoted 6.8 percent of their budgets to public works in 1984 down from 19 percent in 1950. Federal outlays for infrastructure dropped from 10.9 percent of total non-defense spending in 1962 to 4.5 percent in 1987. Capital outlays for public works as a percentage of GNP have fallen from 2.2 percent in 1964 to about 1 percent today.

Economists at the University of Rochester have produced results similar to Aschauer's, concluding, "Our analysis lends support to the view that the productivity slowdown could, in fact, have been caused by the decline in public capital." Business economist, David Hale, of Kemper Financial Services, wrote in a recent report, "The deterioration of the nation's infrastructure, especially highways and bridges, has generated new awareness among economists that there are supply side constraints on growth which can be corrected only through public expenditure." Princeton economist, Alan Blinder, warns, "We are letting ourselves become an underdeveloped country in terms of public capital."

To bring the sweeping national trends into a more local perspective, consider that the state of Michigan now has a program that relates transportation improvements to economic development. Recent legislation established a Transportation Economic Development Fund, which provides a source of funding for highway projects that enhance economic growth. Approximately \$53 million per year are provided in six fund categories to use for immediate highway needs. Specifically, the fund goes for projects that add new jobs or retain existing jobs for the state of Michigan. Although this is not the only state program that relates highway improvements to economic development, it is the largest one. While the program is a good one, it is woefully under funded. The dollar volume of funding applications is about eight times the funds available.

At the local level, I can tell you from my experience with the City of Troy, Michigan, that there is a definite correlation between transportation improvement and economic growth. I can think of at least three roadway projects where property values doubled within two years after the completion of the project.

## URBAN TRAFFIC CONGESTION

Traffic congestion in our urban areas is increasing. The frustration of motorists is also increasing, and local elected officials are becoming aware that traffic congestion is perhaps the most important problem facing our urban areas. However, the public financing needed to address this problem is not currently available. Federally aided highway funding to address problems on urban system streets is at the same level that it was in the mid-1970s, and it appears that the United States Congress is unlikely to allocate more funding for urban system

problems. The problem of urban traffic congestion was echoed frequently at the 2020 hearing sponsored by the American Association of State Highway and Transportation Officials (AASHTO). The reasons for the increase in urban traffic congestion go back to the reasons behind increasing travel demand.

The growth in travel demand was documented in the Eno Foundation Report entitled *Commuting in America*. This report suggested that there are three major factors influencing the increase in travel demand. First, there has been an increase in employment, sometimes called the Worker Boom. There have been dramatic increases in the number of workers, and therefore in the numbers of work-trip commuters. This has occurred to a much larger extent than population growth would indicate. One of the phenomena apparent in the last decade is the increasing participation in the work force by women. The increase in employment means an increased demand for work trips.

The second reason for increased travel demand is the dispersion of work places, referred to as the Suburban Commuting Boom. Increasingly, employment has moved to suburban areas so the destination of work trips has become increasingly diverse. Suburb to suburb commuting is now the dominant commuting pattern. This dispersion increases vehicle miles of travel and travel demand. Of course, the dispersed employment pattern is difficult to serve through public transportation service.

The third factor in increased travel demand is the increase in the number of vehicles or vehicle availability, referred to as the Private Vehicle Boom. When automobiles are available for travel, they are used. The predominance of private vehicles as the means of travel to work has expanded. These three factors mean that travel demand is increasing faster than the increase in population. The Buffalo area, with almost an 8 percent loss in population, managed to generate a meager but positive 1 percent overall worker growth, yet sustained a vigorous 7 percent increase in suburban workers. In Buffalo, travel demand is increasing faster than population, because of the three factors cited above.

## UNMET LOCAL HIGHWAY NEEDS

One example of unmet highway needs in the suburban environment is Oakland County, Michigan. This county has experienced rapid growth in the past decade. Approximately two out of each three new office employment opportunities in the state of Michigan created in that time period, were within Oakland County. The County has documented needs for highway funding of approximately \$1 billion over the next ten years. The Federal-aid highway money available to Oakland County for the urban arterials having these needs is approximately \$4 million per year. This \$4 million is obviously far below the documented needs. This suggests that even if the Federal-aid Urban System program were doubled in the new highway bill, the citizens of Oakland County would have to find most of their highway funds elsewhere.

## FEND FOR YOURSELF FEDERALISM

Although AASHTO has gathered public input for the new highway program, and the Secretary of Transportation has had a series of public hearings to develop his new transportation policy for the future, it appears unlikely that the U.S. Congress will provide the money to address these documented transportation

problems. Congress appears to be so preoccupied with deficit problems, which, of course, are partially masked by the surplus in the Highway Trust Fund, that they are unable or unwilling to provide the funding needed to increase investment and transportation.

Although the AASHTO proposal for the new highway bill mentions the need for urban mobility, most of their work has been in developing “highways of national significance.” This system of highways would exclude most of the urban arterials that are experiencing traffic congestion. AASHTO and the Federal Highway Administration seem to be saying that urban arterials are a “local” problem to be solved with local dollars. Of course, even if the Federal-aid funding for urban system type projects — that is, projects on urban arterials — were doubled from its current level, there would still be a huge backlog of unmet needs. Congress does not appear to be ready to make the investment in public infrastructure consistent with improved productivity, economic growth, and international competitiveness. We are not even spending all of the federal dollars we now collect for highways.

The program that seems to be emerging from the Federal Highway Administration, which calls for a new partnership and increased state and local participation, has been referred to by some as “fend for yourself federalism.” In other words, the amount of federal money coming to state and local areas will be virtually the same, but the Federal Government would like to encourage more state and local investment in highways. The implication that state and local governments must increasingly “fend for themselves” leads me to my third discussion area of alternative highway financing mechanisms.

## LOCAL FUNDING MECHANISMS

Because it appears likely that local governments will have to play a larger role in funding future transportation improvements, I have identified three funding mechanisms under consideration in the Detroit Metropolitan Area. These three funding mechanisms for incorporating private financing into the public street system. Two of these methods are currently available for use by Michigan municipalities, and a third is being considered but will probably require State enabling legislation before it can be applied. The three methods are negotiation, traffic impact fees, and special assessment.

## NEGOTIATION

In Michigan, “contract zoning” is prohibited by state law. Developers cannot offer or be required to contribute public improvements in exchange for rezoning. However, public improvements can be required as a condition of site plan approval, even when no rezoning is required to accommodate the development. Therefore, during the review of a site plan for a new development, it is not unusual for Michigan municipalities to specify road improvements required to accommodate the development.

The city of Troy uses a contract for municipal improvements, sometimes referred to as a “private agreement,” to formalize the developer’s commitment to provide certain transportation improvements in conjunction with site development. These improvements may range from simple turning and passing lanes on two-lane highways to the construction of a new multi-lane road. The execution of

a “private agreement” with suitable financial guarantees (cash deposit, certificate of deposit, or letter of credit) must precede the issuance of a building permit for the new development. This method of financing has been used to facilitate improvements on both city streets and county primary highways within the city of Troy.

## TRAFFIC IMPACT FEES

Traffic impact fees have been employed in Florida, California, and other parts of the United States. These fees are similar to fees paid for water or sewer taps. You pay a fixed fee depending on the size of your development for access to the transportation system. However, the consensus of legal opinion in Oakland County, Michigan appears to be that state enabling legislation will be required to permit the use of traffic impact fees in Michigan.

Traffic impact fees are an exercise of police power. They can be used to finance a development’s fair share of improvements that benefit the total community. They can also be used to provide for a variety of on-site or off-site improvements. Fees are paid at the time of building permit issuance, and they are fixed rather than negotiated. The fees can apply to already platted or non-platted parcels. They are an alternative or supplement to dedications.

Some of the issues involved in establishing a traffic impact fee ordinance for a community are the linkage with the comprehensive planning in the area, definition of service areas, evaluation of facility adequacy, the measurement of unit impacts, the pricing of unit impacts, the administration of revenues (trust funds) and the administration of expenditures.

The linkage with comprehensive planning should include decisions on inventories, data bases, facility and service level standards and the future roadway network plan. The inventories must, of course, include a good picture of the existing road network. A study group of several communities in Oakland County, Michigan concluded that facility and service level standards should include a requirement for peak hour level of “D” service. Communities in other parts of the country have adopted a service level standard based on daily traffic.

The traffic impact fee ordinance should define the service area. This is essential in assigning project impacts against the backdrop of a future roadway network plan. Automated traffic modeling is extremely helpful in assigning project impacts within a service area. Some of the decisions to be made in evaluating facility adequacy are recouping of prior governmental expenditures and the impact of the project on existing facilities. Some impact fee ordinances ask that new development buy into existing equity or make a contribution to the existing roadway system. The impact on existing capacity must be evaluated for adequacy and this evaluation must show existing capacity is inadequate to have a fee rather than a tax.

In pricing unit impacts, the ordinance should avoid the potential for criticism as “double taxation.” Impact fees and other revenues should not exceed 100 percent of the facility expansion cost. Determining an individual site’s “fair share” requires credible estimates of improvement costs. Total impact fees should be less than the total cost, and a “common denominator” must be developed to apportion costs (for example, peak hour trips or daily trips). Because of the developer’s desire to be sure that the impact fee he pays will benefit his property directly, some

arrangement should be made for an alternative fee which would permit the developer to build a portion of the future road network adjacent to his site.

## SPECIAL ASSESSMENT

A third method of private financing for public road improvements is the special assessment district. This funding mechanism is not new in municipal practice, but a unique application of this method has recently been used in Troy, Michigan.

Northfield Hills Corporate Center is a 394 acre master planned office/research center in Troy, Michigan. The area offers direct highway access to downtown Detroit (twenty-five minutes driving time), Southfield (twenty-five minutes driving time), and the Detroit Metropolitan Airport (forty-five minutes driving time). The area currently has office or research buildings totaling 1.5 million square feet of gross floor area. When the development is complete, it is expected that the building area will total 5.7 million square feet and support more than 25,000 employees. This development will, of course, have significant traffic impact, particularly during peak travel periods. It has been estimated that the development will add 12,800 peak hour trips to the roadway system in this area adjacent to I-75.

The center has access to Interstate 75, a regional freeway serving the greater Detroit area. In the vicinity of the site it is a six lane facility carrying approximately 70,000 vehicles per day. An interchange that connects I-75 to Crooks Road is located north of Long Lake Road.

The north-south arterial street serving the site is Crooks Road, an area-wide thoroughfare with several miles of continuity both north and south of the site. It has an interchange with the M-59 freeway approximately three miles north of the site. It was primarily a two-lane facility except along the existing Northfield development. In this area it had been widened to a four-lane divided roadway with separate turning lanes. Crooks Road is carried over I-75 on a two-lane structure. Crooks has a two-way volume of approximately 22,000 vehicles per day at Square Lake Road and at the I-75 ramp connection. The two-way volume decreases to 18,000 vehicles per day at Long Lake Road. Congestion and delay were evident at signalized intersections along the two-lane sections. Traffic signals are located at the Crooks/Square Lake, Crooks/I-75 Ramp, and Crooks/Long Lake intersections. The intersection of Crooks Road and Square Lake Road has been widened and relocated approximately 200 feet to the north to provide improved sight distance for northbound Crooks motorists crossing over I-75. The improved intersection provides two through lanes in each direction plus three separate turning lanes. Left turns from northbound Crooks and westbound Square Lake are prohibited. These left turn maneuvers must be made indirectly through the Crooks Road median opening north of Square Lake.

Square Lake Road is a two-lane City street carrying a daily traffic volume of eighty-three hundred. It has east-west continuity across the County and serves the developing residential area northeast and northwest of the site. The intersection with Crooks Road has been widened and channelized.

The east-west arterial street serving the site is Long Lake Road, a roadway under the jurisdiction of the Oakland County Road Commission. Long Lake Road had a two-way volume of approximately 19,000 vehicles per day, and it also

has good east-west continuity across the County. The roadway passed under I-75 and has fifty-two feet of clearance face-to-face between bridge piers. Approaches to the intersection of Long Lake and Crooks Roads have been widened to provide one through lane in each direction plus a separate lane for left turning vehicles.

The I-75 Ramp at Crooks Road is a four-lane divided roadway. Each directional roadway splits into one-lane ramps which provide access both north and south to I-75. The roadway accommodates twenty-one hundred vehicles during the morning peak traffic hour and two thousand vehicles during the evening peak hour. The two-way daily traffic volume is 21,000. Approximately two-thirds of the traffic comes from or goes to the south. The west leg of the I-75 Connector at Crooks Road has been named Corporate Drive, and it provides access to a major part of the Northfield Hills Corporate Center.

The Crooks/Square Lake, Crooks/I-75 Ramp/Corporate, and Crooks/Long Lake intersections all currently operate at capacity during the morning and afternoon peak traffic periods. Additional roadway capacity is clearly needed to accommodate the planned development of the area.

The proponents of significant developments in the city of Troy are required to prepare an environmental impact statement, including a traffic study. The traffic impact study for the site recommended the following improvements:

1. Widen Crooks Road to a six-lane cross section.
2. Widen Long Lake Road to a six-lane cross section.
3. Widen the Crooks Road Bridge over I-75.
4. Provide additional ramp capacity for access to and from I-75.
5. Construct Tower Drive to a five-lane cross section to provide local circulation in the area east of Crooks.
6. Construct Corporate Drive, west to Crooks, to a five-lane cross section to form a circulation loop road with direct access to the I-75 ramp, one-half mile north of Long Lake.

To provide for the roadway needs in this area, a cooperative effort of state government, local government, and developer participation was needed. The Michigan Department of Transportation agreed to widen the Crooks Road bridge over I-75 from its existing two-lane cross section to a minimum four-lane configuration. Although all of the roadway improvements in this area would qualify for Federal-aid Urban System funds, there was not sufficient Federal funding available to finance this level of investment in roadway infrastructure. The estimated cost of required improvements was approximately \$13 million, but the allocation of Federal-aid Urban System funds available for all of Oakland County is less than \$4 million annually. Long Lake Road and Crooks Road are under the jurisdiction of the Oakland County Road Commission, but the County Road Commission had no funding available to finance road widening in this area. A method of equitably distributing road widening costs among developers was needed.

The dilemma of significant roadway needs and inadequate public funding for roads in this area led the city of Troy to develop a special assessment district to meet the needs in this area. This financing mechanism will provide road improvements, street lighting, sidewalks, and storm drains at a total estimated cost of \$12 million. The City share of this project will be \$3 million. This is the cost estimated to rebuild the existing two-lane pavements on Crooks Road and Long Lake Road.

The cost of providing additional lanes of pavement, sidewalks, street lighting, and storm drains was borne by private property owners in the area. This cost will be assessed over the life of the improvements (an estimated fifteen years), and construction began in April 1987. Because much of the land in this area has not yet been developed, the property owners can easily build the special assessment cost for roads into their project cost. The Troy City Assessor estimated that the impact of the special assessment district cost will be an addition of only twenty cents per square foot in annual rental rates.

The boundaries of the special assessment were drawn to include only land zoned for office or research uses. Adjacent land zoned for residential uses was excluded because the City's benefit theory would not support increases in the value of residential land as a result of widening adjacent major roads. Initially, a theory that assessed benefits on the basis of peak hour trip generation was proposed. However, since financing for the project required the sale of bonds, the City's bond counsel was invited to comment on the proposed benefit theory. He advised that, in Michigan, the only bases of assessment which are well supported by law are front-foot, area, or a combination of the two. The City of Troy chose the area basis for assessment because it most nearly matched the assignment of benefits based on peak hour trip generation.

The special assessment method of financing was chosen for the following reasons:

1. This method of financing is currently available under Michigan law whereas other methods, such as traffic impact fees, are not.
2. Cost may be more equitably distributed among property owners and the general public.
3. A more unified, consistent and rational system of roads, drains, sidewalks, and street lights will be possible.
4. Future benefits (special assessments) are more easily and equitably assigned to all parcels.

The total system is built under one program rather than following a "patchwork quilt" approach through negotiated agreements for turning and passing lanes added to the existing roadway system.

For purposes of the special assessment district, the roadway network in the area was regarded as a complete system. Each property owner in the district was expected to contribute to the entire system in proportion to property area. Property owners who had previously contributed to roadway improvements in the area as part of their site development were given credit for their previous contributions. Thus, property owners with previous contributions received a reduced assessment. The value of the previous developer contributions to the system was added to the total cost of the special assessment district and this additional cost was redistributed to all property owners in the district.

The special assessment district also provided some funding to acquire right-of-way for a future project or projects to expand the capacity of the I-75 interchange with Crooks Road. The Michigan Department of Transportation, Oakland County Road Commission, Southeast Michigan Council of Governments, and the city of Troy have initiated a joint study of interchange capacity needs in this area. The study is financed by special assessment proceeds and will develop a conceptual plan for analysis by Michigan Department of Transportation

staff and presentation to the Federal Highway Administration. It seems likely that the plan will require right-of-way acquisition in the southeast and southwest quadrants of I-75 at Long Lake Road, and this right-of-way cost may become a part of the special assessment district.

The use of special assessment districts to finance road improvements is not unique. However, the Northfield Hills Corporate Center project represents a unique application of an existing finance technique. It is unique because of the magnitude of the proposed improvements, and it is unique because assessment of local properties in a municipality will be used to widen county jurisdiction arterial streets. It is also unique because it will allow the roadway system to be built in advance of need. The roadway system to be constructed will be expected to handle traffic when all the office and research space is in place and when all 25,000 employees are working in the area. Having the future roadway system in place will be an obvious marketing advantage for developers hoping to lease office and research space in the Northfield Hills Corporate Center.

## CONCLUSION

Private funding is a new source of funding for public road improvements. However, it is not the total answer to addressing the needs for reducing traffic congestion in our urban areas. Additional public support will also be needed. However, before this support can be obtained from the public, there must be a perception that the new development is paying its fair share to improve the roadway system. Several mechanisms that can be used to incorporate (infuse) private funds into the financing of public road system improvements are: negotiated agreements, special tax districts, traffic impact fees, and special assessments. These mechanisms and others will become more important as state and local governments assume a larger share of the road financing responsibilities. In areas such as Southern California, Northern Virginia, and Florida, the state's role has grown dramatically in the share of the funding they provide. The magnitude of funding that is being provided through local governments and the private sector has also grown dramatically.

A window of opportunity exists for us to work with Congress as they begin the efforts to forge a new Surface Transportation bill in the post Interstate Highway period. This bill needs to be visionary, like the Interstate highway bill, to set the stage for the direction of the Country's transportation system into the next century. We need the leadership and the funding initiative of the Federal Government in particular to address the problem of urban traffic congestion. Hopefully the about to emerge National Transportation Policy will help set some direction for the methods and funding necessary to address the issues facing this nation's transportation system.

If the concept of a new partnership with the Federal Government comes to mean more state dollars for highway improvements but no increase in Federal dollars, then the funding action will be increasingly at the state and local levels. As many of the states come to realize that the money to address transportation needs will not be coming from the Federal Government, we will see more alternative highway financing options being developed and adopted. Some problems are too important to sit back and wait for the U.S. Congress to act. Although we should continue to work with Congress, it is important to recognize that state and local

finance will be important keys to providing the transportation investments needed to alleviate traffic congestion and assure economic growth.