

IN THESE days, when motor vehicles and highways are blamed by some for a large share of everything wrong in our contemporary society, it may be appropriate to recall that we had nearly three million miles of roads and streets in this country in 1916. Then we had only 102 million people and 3.6 million motor vehicles. That was the year when federal aid for highways was first authorized. Since then, this total has increased by only about 700 thousand miles—to some 3.7 million miles of roads and streets of all kinds.

Most of the investment in highways during this period has been committed, not to new routes but to improvements of an existing system. In other words, the joint effort by the federal and state governments has been directed largely toward improving—in terms of capacity, utility and safety—the basic network that we have had since horse and buggy days.

The new mileage which has been added to the highway network in this past half-century has been in response to a demand for mobility which becomes greater every year. And there is no end to this demand in sight, especially in the urban areas. There the majority of our people already live and there this majority will increase to dimensions that will become truly awesome in the later years of this century. When I use the word "awesome," I am not referring to the right of people to live where they choose, but to the problems which the continuing urban gravitation means in terms of moving them around, to and from the places where they wish to go.

Some of those people, who propose mass transit as the easy and instant solution to all of these problems, either don't know about, or deliberately ignore, the nature of these daily movements by our urban population. The great mass of urban area travel is entirely separate from the home-to-job commuting pattern, which is the only part of travel these mass transit planners are considering. As much as 95 per-

Fact or Fiction— The Challenge

cent of all travel in the largest cities is concerned with trips which are almost entirely dependent on the private automobile or taxi, since they are of a type which neither rail nor bus transit can accommodate.

But even more to the point is the indisputable preference of the American people for transportation by automobile. If there was ever any question about this, it was resolved in two opinion surveys recently completed for the National Academy of Sciences by professional poll-takers. The surveys covered more than 5,000 households, and the great majority of respondents reported that they consider the automobile as much closer to the "ideal mode of transportation" for all trips except business trips over 500 miles. Public transportation of all kinds—air, train, bus, rail transit and taxi—was considered closer to the ideal mode by only 12 percent of those responding to the poll.

Despite this overwhelming preference for the private car, and the flexibility it affords, there have been loud critics against highways and the internal combustion engine, particularly in the urban areas and, more particularly, in relation to freeways. We have a whole new breed of amateur instant experts who would do away with highways altogether, and they would force everyone to ride a subway, or some kind of

magic carpet that exists only in the minds of dreamers.

I would like to digress a minute, if that is the word, to mention the situation in Washington, D.C. because it illustrates all of the elements of the problem. A subway system is moving toward the construction stage, and work has been halted on freeways planned for as long as 10 years in cooperation with the states of Maryland and Virginia.

I am not contending that the subway is impractical or unneeded, merely that it is no substitute for the planned expressways. The opposition to the freeway program has come from various interests and groups, particularly from the poorer elements of the population who fear displacement and who also contend that freeways are rich men's corridors. Their criticism overlooks the fact that both the freeway and subway systems were jointly planned to complement each other, and the major change in the plans for either mode will require complete revision of the whole transportation plan.

There are two significant points in this connection. First, the problem of dislocation has certainly not gone unnoticed in the District of Columbia. For instance, the entire design of a freeway was scrapped by the D.C. Highway Department to move the location over the Baltimore and Ohio Railroad, and thereby to reduce the

ge to Highways



By Francis C. Turner
Director of Public Roads
Federal Highway Administration
U.S. Department of Transportation



placements by 75 percent after a public hearing was held on the proposed plan.

Second, the cost per person per trip for the subway system is considerably more than the freeway-bus-street combination. Official projections indicate that in 1990 the \$2.5 billion D.C. transit system will handle only 22 percent of the peak-hour work trip movement of people. But the cost of all of the proposed freeway system, plus other new highway and street needs over the next 20 years, is estimated at about \$2 billion. And this will handle 78 percent of the peak-hour work trip load, including 47 percent of the load in the central business district.

Bear in mind that this is only the peak-hour work trips, and not the total daily load.

Good transportation is for all segments of society, including the underprivileged, and a lack of efficient transportation especially hurts the poor. The bus-freeway-street combination provides the greatest flexibility at the lowest cost to answer the so-called "poor man's" transportation need.

Recently, I attended a seminar on technology and urban transportation. The speaker was a young man full of big words and bright ideas about urban transportation, but if you analyze them, the ideas are long on imagination but short on accuracy

and practicality. Some of his general statements may be of interest, along with my reaction to them.

One of his key theses is that highways are subsidized and that this gives them a competitive advantage over other transport modes while they create no benefits to urban areas.

Highways are not subsidized. They are paid for by the people who use them and who pay their various use taxes for the privilege, plus about a 25 percent average surcharge which is diverted to general government purposes. Highways are beneficial in that the transportation they afford is a human and social value of a high order, serving to substantially create many other fine values which our society demands and enjoys. Highways serve many other human values, especially in urban areas. We are encouraging their use as instruments of general social progress, provided these sets of values can be made compatible with the principal purpose of highways, *which is to move people and goods.*

The Bureau of Public Roads, in cooperation with state highway departments, is encouraging the joint development concept, under which highways serve a multi-purpose function. They can be used, for example, to provide the "package" development of desirable non-highway needs—such as housing, business, parking and

recreational facilities above, below or alongside the urban highway. One of the most important social aspects of the joint development concept is the opportunity which it frequently affords for replacement housing of better quality for those persons displaced by the highway project. It also makes the most efficient use of both funds and space in urban areas.

Joint development is the answer in many areas to social and economic problems but we have found to our dismay that the foot-draggers in these projects are usually the other "jointees," rather than the highway people. So the highway official is often blamed for inaction of others who are largely responsible for the plight of displaced persons. In any case, the opportunities which highways afford to rebuild cities far exceed the damage and dislocation which they sometimes necessarily cause, and which are more subject to publicity.

We have hundreds of studies which show the economic benefits of highways. A case in point is Route 128, a circumferential highway around Boston. Opened in 1951, over \$137 million had been invested by 1959 in new plants employing some 27,500 workers along the route. Although some of this activity involved relocation, the net gain to the metropolitan area represented an estimated \$129 million, and

It is not really a question of either/or—either public transportation or private cars. It is a question of complementing both modes of travel so that all people can get to where they want to go, how they want to go, and when they want to go.



added 19,000 new employees to the area's payrolls.

In Cook County, Illinois, commercial land along the Edens Expressway rose in value as much as 750 to 1,000 percent over an eight-year period. The value of land along the New York Thruway near Syracuse increased tenfold in a very few years after the expressway was opened.

The argument is made that the automobile and the highway have contributed to various social problems in the cities and that this has caused the mass flight to the suburbs.

People move to the suburbs for the positive values they find there—not to escape the negatives of the inner city. The ghetto dweller also aspires to move to the suburbs—again because of positive values. We strive for the luxuries of life, something more than the minimum. We all want two cars, dessert at dinner, an extra suit of clothes, presents for the kids—things beyond the basics. The automobile did not cause the flight to the suburbs, but it made it possible, and obviously this is what the people wanted.

Presently, 67 percent of American families in metropolitan areas live in single family houses, a proportion that is rising. Present trends, and the results of surveys, suggest that the preference of families for their own private homes in a suburban-type setting is deeply rooted. The metropolitan form of urban development has also allowed industries and businesses a wider freedom of location choice. The expectation is

that in the future the growth of jobs will occur mostly in the suburban areas, with little change or a moderate rate of increase in the central city.

It is largely for this reason that mass transit—neither rail nor rubber-tired—cannot substitute for the private automobile. Transportation is an infinite number of personalized trips, some of which overlap each other. But most of these trips begin and end at the doors of our homes. There will always be an irreducible minimum of passenger car traffic, made up of trips that cannot be accommodated by any other means of transportation.

The charge is frequently made that freeways "chew up" tremendous amounts of scarce urban land needed for other purposes.

Urban freeways presently planned will require less than three percent of the land in the cities. In Los Angeles—sometimes considered a horrible example—the proposed 800 miles of freeways that will weave through the metropolitan area by 1980 will occupy only about two percent of the available land.

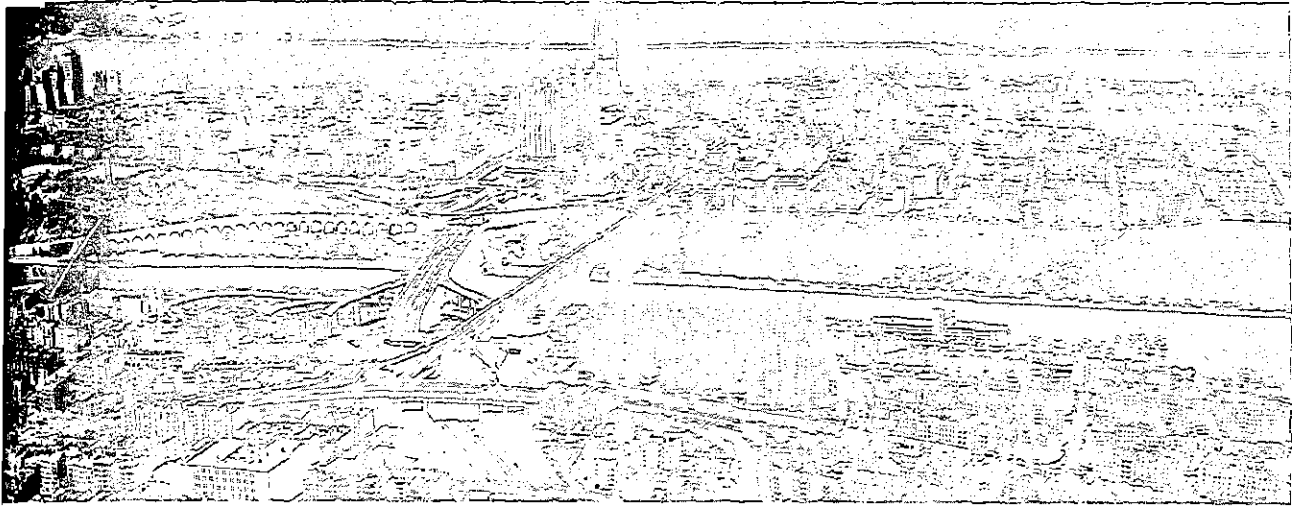
It has been said that half the total area of Los Angeles is devoted to highways, streets and parking—in other words, to the motor vehicle. This is true of the city's central business district, although a large share of parking represents land in a transitional stage while it is being changed by developers into new high-rise office buildings. But 50 years ago, 35 percent of the central business district was devoted to streets,

alleys and sidewalks. So the alleged voracious demands of the automobile have required an additional temporary and diminishing 15 percent, surely not a high price to pay for the speed, convenience and flexibility of the private motor vehicle which makes all the rest of the 50 percent of occupied land as valuable as it is—and which value would not exist without the auto accessibility.

Pierre L'Enfant, the great French planner who laid out the city of Washington, D.C., in 1790, proposed 59 percent of the total area for roads and streets. That history shows us that our current auto-highway transport system has actually permitted us to reduce the area of streets from that felt necessary in horse and buggy days. The changed land use has obviously put land back into high economic use and produced jobs, income, and tax revenues that otherwise would not have existed for the benefit of either Sacramento or Washington.

Another contention is that freeways are inordinately expensive.

Expense is a relative term. Obviously, urban freeways cost more dollars per mile to build than most of the rural connecting routes. But measured in terms of service to vehicles—and thus to people—they are the best bargains available in highways. On the basis of vehicle miles of use or service, they are the cheapest of all. To illustrate, the actual cost per vehicle-mile of urban freeways on the Interstate system is 0.648 cents. The comparable cost for



the lowest type rural roads and streets is about 3.24 cents.

Another point that should be made is that freeways are by no means the private reservation of the passenger car, as some critics would have it. They also serve as main arteries for buses, providing safe, fast service en route, with local service at both trip ends. The place of bus transit in our total transportation system is of tremendous importance. Buses presently carry 70 percent of all transit passengers in urban areas. Bus transit is, and probably will continue to be, the only form of mass transit in at least 95 percent of our urban areas of 50,000 population, and in all smaller communities. I repeat, bus transit provides the greatest flexibility at the lowest cost for those without automobiles.

We are making a special and continuing effort to encourage the greater use of mass transit by bus through the provision of better routes, either on freeways or on regular city streets or a combination of both. This makes sense, obviously, since the purpose of these arteries is to move people and goods, rather than just vehicles. At the same time, it serves the other desirable purpose of enhancing safety and reducing air pollution in the urban areas, as well as easing congestion.

Highway officials are frequently accused of having blind spots toward the advantages of other means of transport, particularly rail lines. If this was ever true, it is not the case today; there is general realization that both kinds

of facilities serve different components of travel. They are not interchangeable. In some cases, as in that of the Eisenhower Expressway in Chicago, they can co-exist and complement each other.

Although a rail transit line runs down the center median of the Eisenhower Expressway, the great preponderance of potential customers rely on the freeway. Inbound person trips are split 42.5 percent by rail transit and 57.5 percent by freeway during the peak hours. Outbound peak hour trips do not differ greatly—46.8 percent by rail and 53.2 percent by freeway. When you consider a 24-hour day, however, the picture is vastly different. Here we find—on a 24-hour basis—that 71.3 percent of the inbound trips are by the expressway and only 28.7 percent by rail. Outbound trips are almost identical—71.6 percent by freeway and 28.4 percent by rail.

Moreover, the freeway and the city streets also carry the freight traffic of the city for its essential services and cargo movements. They move the garbage and deliver the ice cream, move the firemen, police, doctors, school kids, fuel, groceries and do dozens of other tasks which neither adjacent rail tracks nor any other subway or metro rail line can perform.

In looking ahead, therefore, it is unlikely that any form of mass transit—rail, bus, air, hydrofoil, moving sidewalks or what have you—will eliminate the need for a continuing program of providing substantial additional high-

way facilities in urban areas and in stretching the capacity of those we have or are developing.

The Bureau of Public Roads recently submitted a Report to Congress on the highway needs of the Nation. This was in response to a Congressional directive and was based largely on data and estimates by the states. These data include a preliminary annual cost estimate of road and street needs for the years 1973-85. This comes to an average annual cost of \$17.4 billion, which is more than double the \$8.5 billion per year estimated annual capital accomplishments at the present time.

This is a monetary measurement, but there are others. In 1985, instead of 200 million people, we will have about 265 million. Instead of 100 million motor vehicles, we will have something like 144 million. And instead of 960 billion motor vehicle miles of travel per year, we are expected to have 1.5 trillion.

And these add up to the new challenges facing the highway program in the years ahead. Perhaps if someone can find ways to keep people at home in substantial numbers, then the remainder could be accommodated on the existing system, after a fashion, and make new facilities unnecessary. But how will you choose those to stay at home—and how will you enforce your choice in a free society such as ours? My answer lies in just what we are now doing—responding to the general public demand to provide a good highway network.

STOP

SALES TAX AND USE TAX
vs.
CONSTITUTIONALITY



By John V. Hoelt
Executive Vice President
Minnesota Asphalt Pavement
Association, Inc.

IN THE CLOSING days of Minnesota's special legislative session, when much effort was being directed by the Legislature toward amending and passing Minnesota's first sales tax law, a new paragraph was added. This Subd. 4 is as follows:

"Nothing herein shall exempt the gross receipts from sales of road building materials intended for use in state trunk highway or inter-state highway construction, whether purchased by the state or its contractors."

This removed the exemption heretofore provided in Paragraph "h" of Section 25, which provided an exemption from the sales tax from the sale of, and the storage, use, or consumption of *all materials used or consumed in road building.*

Until Subd. 4 was added, all road building materials were ex-

empt from the tax, as is the case in most states, for the obvious reason that most roads are built with tax money, whether by private assessment against abutting property owners, by cities and villages, by counties, or by highway users' taxes in the case of state trunk highways and interstate highways. Since tax monies for the construction of streets, roads and highways have generally been insufficient to provide adequate quality and safety for the greatly mounting traffic needs, it is logical that a tax on these agencies would reduce the amount available and make the problem even greater in each instance mentioned above.

In the closing days, however, there was a frantic search for every possible source of revenue to provide the many benefits that

this tax relief law was intended to accomplish, and when it was suggested in the final hours that a tax on materials used in trunk and interstate highways might produce 2 to 3 million dollars, and that the Federal Government would be required to share in this due to the fact they contribute substantially to our state highway construction, the committee accepted the suggestion.

Unfortunately, there was no time for this proposition to be thoroughly discussed and the problems and pitfalls analyzed. That this might be unconstitutional may have occurred to some, but it was too late to have the regular, lengthy formal hearings provided during the regular session by the highway and the tax committees. In fact, word of the agreement to add Subd. 4 was