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TRANSPORTATION



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WASHINGTON, D. C. 20590

THE CASE FOR BUSES

Remarks of Federal Highway Administrator F. C. Turner
Before the Metropolitan Section, American Society of
Civil Engineers, February 9, 1971, in New York City

Thank you for inviting me here today. It is a pleasure to participate in this discussion of the bus rapid transit concept -- something that long has been of great interest to me.

Like everyone else, I suppose, I have been following very closely the exploits of the Apollo 14 mission. This is a tremendous achievement, and something in which every American can take great pride. However, I am sure that it won't be long before we again hear that question that has been asked before: If we can put men on the moon, why can't we do something about urban traffic congestion?

Well, I think we can do something, and we are doing something.

But before I discuss that, let's first consider the problem we are trying to solve. What most people are thinking about when they speak of urban traffic congestion is actually the daily morning and evening rush hour movement in and out of the downtown area.

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In terms of total urban travel this is a relatively minor portion, since all downtown-oriented trips together represent only five to 15 percent of total urban trips, depending on the particular area. The remaining 85 to 95 percent of all trips are scattered throughout the length and breadth of the area and throughout all hours of the day and night. By their very nature the overwhelming bulk of these trips involve the use of the private automobile. They no doubt will continue to depend on the auto. A large majority of our fellow citizens have demonstrated emphatically and repeatedly that they prefer the convenience and personal mobility of individual automobile travel. And what with the continuing growth and spread of our urban areas, the Federal-State highway program will be concentrating increasingly on meeting this portion of urban transportation demand.

Meanwhile, the rush-hour commuter travel presents a special problem, one that is separate and distinct to a large degree from the other portion of urban transportation demand. This arises from the peak-hour loading of the transportation corridors leading into and out of the downtown.

In most of our metropolitan areas this problem will not be resolved by building enough freeway lanes to fully handle these periods of peak demand. This kind of solution would not be economically feasible, and even if it were, it would not be socially acceptable.

So, we have to approach the problem from another angle. The most immediate and practical solution, therefore, is to increase the

people-moving efficiency, or "productivity," of our existing urban highway system through the greater use of higher capacity vehicles, particularly buses and also car pools.

Now, public officials certainly have to be mindful of what our customers want, and as I said, they prefer the kind of flexibility that comes from personal rather than large group transportation. However, where large numbers of individual trips coincide with one another in both time and space, as they do in rush-hour traffic, then buses, using the same accessible and versatile highway network, can reasonably duplicate the services of a portion of private transportation.

I know you are familiar with the mathematics of the situation: The average occupancy of private automobiles on urban freeways during rush hours is 1.5 persons. Since the capacity of a freeway lane is about 2,000 cars an hour, this means that one lane usually transports, at most, 3,000 persons in that time period.

On the other hand, most buses are capable of carrying 50 to 60 passengers -- and often do in rush hours -- so it requires only 50 to 60 buses to transport the same number of commuters as do these 2,000 cars.

Obviously, if one bus keeps 30 vehicles off the freeways, or if 60 buses keep 2,000 vehicles parked at home, this is going to make a significant contribution in reducing congestion. All traffic will flow more freely, commuting time will be cut, safety will be enhanced, and there will be fewer frayed tempers.

Now, if any significant number of commuters are going to be persuaded to leave their cars at home the alternative form of transportation will have to be attractive, which means it must be both fast and convenient.

I am convinced that in the great majority of urban areas around the country this alternative will have to be bus rapid transit.

Of course, there are a number of situations where rail rapid transit makes important contributions, such as in Chicago, Philadelphia, Boston, Cleveland and eventually San Francisco and Washington, not to mention New York, where the subway is absolutely essential in moving people. But these situations are virtually in a special category when viewed in the context of the practical needs and resources of our urban areas generally.

Even in these rail transit cities, you still need an excellent bus transit system. Think of what things would be like here in New York if suddenly all the buses were put out of service. It is not a happy thought.

And in cities like Omaha, Nebraska; Phoenix, Arizona; San Diego, California; Milwaukee, Wisconsin; Rochester, New York -- in fact in practically all of our metropolitan areas, buses will have to do the complete job. It simply is not economically feasible to build subways except in the largest cities -- and only those with special characteristics that make them adaptable to rail rapid transit, such as high density population corridors, etc.

Since buses can make use of existing and planned urban freeways, a marked increase in the use of bus transit will not require the heavy capital outlays needed to provide some totally new system. Not only that, but the type of bus rapid transit service I am talking about can be provided very quickly in any urban area in the country -- certainly within a period of two or three years, at most.

For the past several years, we in the Federal Highway Administration have been exploring this area, seeking ways in which the highway program can help spur bus transit development -- and particularly through preferential treatment for buses. In the early 1960's we determined that Federal-aid highway funds could be used in the development of exclusive bus lanes under certain conditions -- and we later re-emphasized this position in urging our regional administrators to "seek out opportunities to participate in improving transit service and to aid in any way possible in bringing it about."

We've since approved separate or preferential bus lanes, and even busways on their own separate rights-of-way -- and I will briefly describe the projects a little bit later.

There is more to it, of course, than just providing the special roadways that enable the buses to provide truly rapid transit, and thus making them appealing to commuters who see them whiz by as they are crawling along in bumper-to-bumper traffic. The buses must also be modern, clean and comfortable. There must be enough

of them so that there is frequency of operation and that schedules are met, and that routes are located close to both ends of the trip without transferring.

That is where the Urban Mass Transportation Administration, our sister agency at the Department of Transportation, comes in, since it is the agency that provides the grants to buy the fleets of new buses that will be required to make bus transit successful. And, we work very closely, on a continuing basis, with UMTA. Providing improved rapid transit can't be done on a unilateral basis. It has to be a joint venture -- both in the Federal Government, and in the local community.

We now have the necessary legislation to make this bus rapid transit program a successful one -- in the Urban Mass Transportation Assistance Act, which contains the authority to assist in acquisition of transit vehicles and their servicing facilities, and in the Federal-Aid Highway Act of 1970, which contains the authority to construct the required roadway facilities and many other appurtenances.

The two acts are complementary to one another, and should supply center city transportation needs for both the present and 20 years hence.

There is no doubt in my mind that a few years from now we will look back on this 1970 legislation as a landmark in the development of modern urban transit, just as we now look back on the Federal-Aid

Highway Act of 1956, with its program for the Interstate System, as a landmark in highway development.

Let me say just a few words about the 1970 Highway Act's provision for urban highway public transportation.

The Act provides funds to finance the Federal share of the costs of projects for the construction of exclusive or preferential bus lanes, highway traffic control devices, bus passenger loading areas and facilities, including shelters, and fringe and transportation corridor parking facilities to serve bus and other public mass transportation passengers.

The Act sets forth some stipulations regarding Federal participation which are intended to assure that projects serve as an alternative to additional highway construction by providing increased capacity for the movement of persons.

The Act also provides: "No project authorized by this section shall be approved unless the Secretary of Transportation has received assurances satisfactory to him from the State that public mass transportation systems will have adequate capability to fully utilize the proposed project."

So now we have the legislative tools to implement this bus rapid transit program. And as a result of our earlier efforts we already are moving ahead on this in a variety of ways, trying several different approaches, in experimental programs in different parts of the country.

There are other speakers here today who will explain more fully some of these projects, so I will just touch on them rather briefly.

The first one we implemented, of course, which has received considerable national attention, was the exclusive bus lane on Shirley Highway (I-95) in the suburban Virginia area of Washington, D. C. This freeway is undergoing extensive reconstruction, and all the agencies concerned agreed that this would be a good opportunity to test the concept of an exclusive bus lane. Two reversible lanes running a total of four miles have been used exclusively by inbound buses during the morning rush hours. The first, limited test was so successful that it was decided to construct a temporary bus roadway the remaining four miles to the new 14th Street Bridge spanning the Potomac River. A mile and a half of this has already been opened, with the remainder to be put in service on April 1. So far, commuters using this bus service are saving 12 to 18 minutes each morning. When the exclusive bus roadway is completed into Washington this Spring, it is expected they will save up to 30 minutes. At that time the exclusive bus lane will be reversed for outgoing buses during the afternoon rush hours. It should be noted, too, that since this fast bus service was initiated, the patronage has increased by 35 percent.

The additional construction costs estimated to provide the bus roadway total \$3.42 million. This is a bargain, because even if the busway is used only three years, the economic benefits are expected to reach an estimated \$12.24 million.

There is a side benefit, here, too -- typical of the many we receive from our investment in the highway plant. The exclusive bus lane can also be used by emergency vehicles such as ambulances, police cars or fire trucks -- so that even during the height of the rush hours, when congestion is heaviest, these emergency vehicles can move quickly when needed.

I am sure you are well aware of the exclusive bus lane inbound on I-495 across the Hudson in New Jersey, which enables buses to save more than 15 minutes between the New Jersey Turnpike and the Lincoln Tunnel. More than 800 buses carrying approximately 35,000 commuters each morning are using this exclusive lane, and from all reports we get it is an unqualified success. In fact, I understand that about the only complaint is that of the commuter who said that his bus is getting him to work at his Manhattan office so much earlier that he doesn't know what to do with himself. I feel confident that this will not be a general complaint from most of the bus riders who are spending 15 minutes less aboard each morning.

There is an interesting thing about this program, which again takes advantage of the versatility of our highways. This exclusive lane, which extends for two-and-a-half miles, actually goes against traffic in one of the outbound lanes, thereby increasing the "productivity" of an available highway facility.

In Seattle, there is the so-called "Blue Streak" demonstration

project. Here special "Blue Streak" express buses travel six miles between a 550-car parking lot in a residential area to the heart of downtown on Interstate 5. At the downtown end, buses use an exclusive on-off ramp, and for pickups in the afternoon rush hours, an exclusive wrong-way lane on a one-way street. Again, the reports on this program are most encouraging. Bus commuters are saving around 20 minutes per trip, and the response has been so favorable that the parking lot is overflowing by 8:30 each morning.

You will note that this project varies from both the Shirley Highway and I-495 programs -- attesting once more to the versatility of highways and the wide number of options available to the planners and engineers.

In California, plans are being rushed for an 11-mile exclusive bus highway -- or busway -- between downtown Los Angeles and the City of El Monte. It will be located partly within the median of and partly adjacent to the San Bernardino Freeway (I-10). Included in this project will be two grade-separated bus lanes, two stations, two fringe parking areas, and the relocation of a railroad line. It has been estimated that passenger volume will be 4,000 persons per hour in the peak hour direction -- which is equivalent to two lanes of freeway widening in each direction. To handle the increased patronage, 100 new buses will be purchased. The average bus speed and travel time on this facility will be approximately 40 miles per hour and 18 minutes,

respectively, and the two fringe parking lots will have space for 1,950 vehicles.

During the first two years, these exclusive lanes will be open to general traffic during off-peak hours and on weekends for the heavy recreational traffic they have there. This recreational travel, of course, depends almost entirely on private vehicles. In fact, because of this recreational traffic, traffic on weekends on the San Bernardino Freeway is heavier than any other time -- so the exclusive busway will be providing a bonus for motorists: two additional lanes when they need them the most. Again, another example of the benefits that accrue from our highway investment. Obviously, this is unique to highways. The same type of return is not possible on fixed-rail types of transportation.

The following three years of this program, it is planned to let car pools use this busway in the peak hours -- but on a metered basis so as not to impede the flow of buses.

It is noteworthy that California highway officials figure that this is one project they can't lose on; even if the bus experiment should not come up to expectations -- and no one believes this will happen -- they would still have two additional traffic lanes, which certainly would not be wasted!

In Milwaukee County, a feasibility study is being conducted involving a proposed bus roadway as part of a bus rapid transit

system there. Under the planned system, buses would circulate in residential areas to pick up commuters, use a network of freeways in outlying areas, then enter an exclusive bus roadway approximately five miles in length into the Milwaukee central business district.

In Pittsburgh, final design work is underway on two exclusive bus highways, making use of existing streetcar and railroad rights-of-way -- this funded by our sister agency, UMTA.

In Cleveland, a detailed feasibility study is under way on reserving one lane of I-94 for buses and car pools.

And there is another study under way on the feasibility of reserving a lane for buses and car pools on the Oakland-San Francisco Bay Bridge.

So, as you can see, much is already being done to implement the concept of bus rapid transit. Believe me, much more will be soon coming. For I am convinced that this is the wave of the future in handling metropolitan commuter transportation needs -- at least for as long a future as we can now foresee.

But this is a new concept and it must be promoted. The American public must be convinced. In selling this worthwhile program we can use all the help we can get.

Thoreau said, "It is not enough to be busy; so are the ants. The question is: What are we busy about?"

Well, I think this bus rapid transit program is something that

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is worthy of the time and effort of all of us because it can help solve one of the most pressing urban problems of our times.

I appreciate your having invited me here today. It has been a pleasure for me to participate in this program.

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