

Deciding on the number of vehicles needed is also relatively simple in a rural context. Routes are fewer, distances greater, and budgets often smaller. In most cases, a vehicle will be dedicated to, and be able to serve, only one—or, at the most, two—long-distance routes in a day's operation. Fleet size is usually determined by the size of the service area, the level of service the budget permits, and backup vehicle requirements.

The emphasis on inputs to equipment selection from the planning process for a rural system is somewhat different from what it is for an urban system. The interest often shifts from mode selection and the scope of operations (because those factors may be determined very early by the nature of the area to be serviced) to site-specific and client-specific research. It is clearly important in terms of vehicle selection, for example, to have daily estimates of vehicle distance traveled and information on difficult terrain, to take into account fueling locations and the location of maintenance and service facilities, and to get information on the nearest dealerships for some types of equipment and for the availability and delivery of spare parts.

It can be presumed that a rural system will serve a high percentage of elderly passengers. Rural operators that work with small fleets need to get from the planning process an indication of the number and, if possible, the locations of the elderly and the handicapped and which equipment accommodations will be required to give them access to the vehicles and comfort and safety on the road. As Table 1 indicates, trade-offs between passenger comfort, operating economy, and durability must be made in vehicle selection in every vehicle size range.

One of the most important passenger-related factors to be examined during the planning stage is how many vehicles need to be equipped with a level-change mechanism to serve wheelchair passengers. Lifts or ramps are costly in terms of both overall budgeting and the amount of passenger space they absorb. To make reasonable judgments on such equipment, rural planners need to examine carefully not only the number of handicapped persons to be served but also their locations and categories of disability.

Will shopping trips be an important function of the system? Then package racks may be required. Is the area subject to extremes of temperature? Then

extra heating and air conditioning may be essential to serve the frail elderly. The questions can clearly go on forever, but the point is that, even for a very small system, there are choices to be made on equipment, and the time to research and evaluate the alternatives is in the planning stage.

A major fly in the ointment is the length of time it takes to get delivery on many vehicles and the additional time required to get modifications completed. In our experience, there is always great local pressure to short-circuit the planning stage on equipment and get the orders placed. Such pressure should be resisted if possible so that the most important equipment-related problems get resolved on paper—not worked out at heavy cost in operations.

LEARNING FROM EXPERIENCE

Experienced operators of rural transportation systems make the following suggestions:

1. Before ordering equipment, check out all funding agency, federal, state, and local requirements that may relate to equipment, whether for safety or design characteristics.
2. Draw up careful specifications. Other systems will usually be willing to provide guidance.
3. Deal with conversion shops that are experienced in configuring standard vehicles for group transportation.
4. Get agreements in writing. Notify suppliers of defects in writing. Keep funding agencies informed.
5. Try to develop a uniform fleet. Identical equipment makes it possible to cannibalize parts when necessary and perhaps order some parts in bulk for discount and also cuts down on maintenance time.
6. Build a preventive maintenance schedule into system operations.
7. Keep in active touch with developments. What one learns can improve system equipment and operations and perhaps make a contribution to improving what is generally available.

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Abridgment

Role of the Intercity Bus in Rural Public Transportation

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In the past, the attention of transportation planners has been focused primarily on transportation problems within urban areas—and on grandiose and expensive schemes such as Amtrak. Little has been done to solve the transportation crisis within rural America.

The American taxpayer is rebelling against costly and ineffective public policy, which leads to the proliferation of government-sponsored programs that have no

discernible benefit to our citizens. It is time to step back and analyze where we are and where we are going in the formulation of national transportation policies. The story of the intercity bus industry is one of an important transportation system that has grown and prospered over the years without the aid of national transportation policy, without the interest of national transportation policy makers, and with resources provided

almost exclusively by the private sector. In fact, until recently there has not been a major government study of the intercity bus industry in this country since 1952.

The intercity bus industry provides a unique and crucial service to rural America. The industry blankets the entire country and serves more than 15 000 cities and communities—over 14 000 of which have no alternative form of common carrier intercity transportation. Alternatively, airlines serve some 700 points, and Amtrak serves about 500 points. Thirty-one percent of the industry's traffic comes from rural areas and small communities. This compares to 18 percent for Amtrak and 12 percent for airlines. Only the private automobile provides a more pervasive rural service than the intercity bus.

This comprehensive service is provided by 1000 independent bus companies operating in every state and every region of the nation. These companies include Greyhound and Trailways, of course, but another essential characteristic is that the industry is composed of a large number of small carriers.

Fundamentally, the common carrier caters to the personal travel market, providing greater mobility to the less affluent, the handicapped, the elderly, and the young. In 1976 more than 340 million people rode the bus—more than the number of passengers on the nation's airlines and Amtrak combined.

With this contribution in service, its relatively low cost, high degree of safety, and great fuel efficiency, one might expect that the industry holds a secure position in the marketplace. Ironically, this is not the case today.

For the past year the American Bus Association has been discussing the problems of the intercity bus industry. The story has been pieced together from the accounts of the 450 bus operator members.

The Interstate Commerce Commission (ICC) recently released its comprehensive preliminary study on the intercity bus industry, prepared by the Bureau of Economics. This study basically substantiates the problems that the association and the industry have been outlining (1):

General growth and prosperity of the industry has in recent years been dimmed by a shrinkage of passenger demand and certain reduced profitability, particularly on regular route passenger service.

As the industry has noted, one reason for this is the trend toward urbanization, which has reduced the population of rural communities where intercity bus service is the only form of common carrier transportation available. This has resulted, for more and more bus schedules in rural areas, in operating at very low load factors and at a loss. Again quoting (1):

The bus passenger market is somewhat unusual compared to that of other common carrier modes. Bus passengers tend to be drawn from the low-income and nonprofessional occupational groups. The relatively young and the old, students, military personnel, and retirees are heavy users. Moreover a high proportion of trips taken are nonbusiness oriented and are for relatively short distances. . . . State financial assistance to bus service is relatively limited. However, a major effort in the state of Michigan to provide service demonstration subsidized programs in the state has resulted in the services being continued following the termination of subsidy.

Again, continuing with the ICC report (1):

Difficulty in generating sufficient revenues to replace equipment under conditions of inflation and in upgrading or relocating terminals suggests the possibility of the need for policy revision.

The fuel efficiency of the equipment and the flexibility of service also suggest that the bus has a potential beyond the traditional view. The subsidized experiments in Michigan indicate that demonstration programs may provide some incentive to consider options for social benefit. . . . It may well be that the bus industry deserves to be viewed with new respect for the special market it serves. Clearly, the industry is confronted with a number of concerns which deserve to be addressed.

In the conclusions and recommendations, the ICC report states (1):

Government policy also needs to be considered in the light of current economic, environmental, energy, social, and other goals. Certainly the industry's position in serving the passenger (and freight) needs of the nation in the context of resources expended and the balance of federal support given to competitive services deserves to be reviewed.

An industry and government analysis of the current and future role of bus transport might well result in the industry being viewed differently than it has been in the past. Clearly, the bus industry offers certain unique services not available from other carriers. It should be given the opportunity to operate in the framework of a balanced transportation policy so that as a healthy industry it may serve effectively.

Compare this examination of the intercity bus industry with the massive government involvement and support of Amtrak, totally irrespective of the impact of that system on the health and welfare of competing modes of common carrier transportation. Amtrak does not serve many rural communities, but it has had a detrimental impact in those areas nonetheless.

1. Only through subsidies has Amtrak been able to price its service at or below the prices charged for intercity bus transportation.

2. This subsidy-financed predatory competition has occurred on the more heavily traveled, profitable corridor routes, which has made it difficult for the intercity bus industry to cross-subsidize the many thinly traveled, rural routes, those with no alternative form of public intercity transportation.

In the past 8 years, almost 1800 rural communities have lost intercity bus service. In view of our energy problems today, can rural America afford to be totally dependent on the automobile?

The need for operating and capital assistance for transportation in rural areas cannot be ignored. For thousands of citizens, intercity bus service is essential in providing their only alternative to rural isolation. The intercity bus industry, and our nation's rural population, have a great deal in common. Both have been orphans in the nation's transportation policy planning.

The last U.S. Congress considered legislation that for the first time provides a potential remedy for the rural, intercity transportation crisis. The House Public Works Committee approved H.R.11733, the Highway and Mass Transit Bill. The bill contains a provision for specific designation of \$50 million annually over 4 years to be used to subsidize operations for the initiation, improvement, or continuation of intercity bus service in small urban and rural areas. State and local authorities would determine the need for intercity bus service under the recommended program and would be responsible for applying for federal funds.

The rural subsidy program would be funded through the Urban Mass Transportation Administration, and subsidies could not exceed 50 percent of the net cost of the operating expense. In addition, private intercity operators were made eligible for participation in the \$125 million annual program to provide local trans-

portation, which could be between communities, as well as within them, in rural areas.

In the Senate, the Senate Banking, Housing, and Urban Affairs Committee adopted S. 2441. It provides for the first time that the private intercity bus industry would be eligible for participation in the \$100 million annual assistance program for rural and small urban areas.

Obviously, we have a long way to go as these provisions proceed through the legislative process. And eventually they will have to be reconciled in House-Senate conference.

Meanwhile, transportation planners should investigate the feasibility of using the potential of the 1000 or so private bus companies that are already operating in all regions of the nation in solving some intracommunity transportation problems on a subcontracting basis. The demand of the marketplace can no longer be the sole

criterion for evaluation of the need to continue existing service, or for implementation of new service in rural communities. Indeed, there are private needs to be met that transcend the ability of the private sector to provide socially necessary service without outside assistance.

The ultimate beneficiaries will not be just the hundreds of intercity bus companies across the nation, but rather, they will be the 340 million passengers (31 percent of whom come from rural areas) who will be the ultimate recipients of improved transportation at the least cost to the American taxpayer.

REFERENCE

1. The Intercity Bus Industry: A Preliminary Study. Bureau of Economics, U.S. Interstate Commerce Commission, s/n 026-000-01112-4, May 1978.

Abridgment

Small Bus Market

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The small bus market in America today is in a precarious position. Mercedes and Grumman have stopped making small buses (i.e., 10- to 25-passenger vehicles). General Motors will no longer produce motor homes, which have been used successfully as small buses. In the van conversion market, Travel Equipment Corporation and Recreational Industries are temporarily not manufacturing vans and TRAVCO has permanently stopped production. Argosy is considering ending production. This apparent unstable in-and-out phenomenon can be attributed to two major factors.

In relation to total U.S. production of automobiles, trucks, and vans, the small bus market is very small. Thus the major automobile manufacturers do not yet see this area as an economically sound market. All small bus manufacturing is, therefore, carried out by school bus and recreational vehicle companies by converting a van or by building on a truck or recreational vehicle chassis. Individually these companies cannot afford to do the research and engineering design necessary to produce a better bus. Although some improvements have been made (such as wider doors, improved lift technology, and some esthetic improvements), the small bus, in general,

1. Has excessive downtime because it is a converted, added-on, or built-up vehicle;
2. Has relatively short life expectancy [241 400 km (150 000 miles) at most]; and
3. Takes 4 to 6 months to be delivered.

Social issues combined with government standards also contribute to the instability of this market. The accessibility issue is a good example. Michigan took 1.5 years to decide which buses should be lift-equipped. While the Michigan legislature decided the issue, no new buses were purchased, which built a backlog of over 500 small buses alone. The legislation requires 100 percent lifts in line-haul buses and approval by the Michigan De-

partment of State Highways and Transportation of an accessibility plan for demand-response buses. It is no wonder that manufacturers are uncertain as to the potential market when it is a feast or famine situation. Michigan is still unable to purchase a significant number of vehicles because capital funding is tied to the transportation package that has not passed the legislature and will not pass until after November 1978.

Given this context, how can the situation be improved to start moving toward that better bus? One can improve the purchasing process and make some short-term improvements in the life expectancy of the vehicle.

THE PURCHASING PROCESS

Some efforts are under way to use life-cycle costing (LCC) to evaluate bids. By determining a vehicle's total cost, including the initial capital costs and ongoing operating costs projected over the potential life of the vehicle, one can determine the real cost of the vehicle. The low bidder, therefore, may not be the low bidder on the capital cost of the bus. The obvious drawback is the need for good, sound operating data on the bidder's vehicles.

Road testing of the first vehicles off the line, combined with detailed final inspection, can be used to set a standard for the rest of the purchase order. Otherwise a lot of buses will be sent back to the factory or dealer. Quality control verification and regular visits to the factory are a must. Complete operating manuals and warranties for the chassis, body conversion, and accessory equipment, such as air conditioning or fare box, should be included. The location and reliability of manufacturer or dealer outlets are also critical. Quick service time is essential.

Specifications for the vehicle should be simple and concise. They should not include features that the manufacturer cannot supply or unnecessary frills (just one more item to break down). Tell the manufacturer about