

4. The elderly, handicapped, and those without automobiles are the ones who really suffer in the complete automobile-oriented society that characterizes rural and small communities.

POSSIBLE STATE ACTIONS

The states can take actions to correct the lack of resource coordination and the lack of funding. The states must take action in the area of coordination. State agencies administering the federal programs can greatly affect the operations of local transportation systems through their funding decisions. First, state agencies need to recognize this power and, second, they must use it to the best extent possible to encourage maximum or efficient use of all resources.

Currently, local providers have taken little action to coordinate their transportation with other local agencies, especially when they are able to serve their own clients sufficiently. There is much the state can do to provide the appropriate incentives. First, the state can educate local agencies on the benefits of coordination, including potential cost savings and the ability to serve more clients. States should also work closely with local elected officials, who may be providing the local match for the federal grants. If the elected officials can be shown the benefits of coordination, then they can encourage the local agencies through their funding decisions.

All state agencies can require prior planning as part of the application process. For example, the development of a TDP by local agencies should bring about a realization of the true amount and extent of available public and private resources. The process will result in a plan of operation that accounts for efficient use of all available resources. Thus, the preparation of a TDP should enlighten the local agencies, should give them a plan of action based on coordination, and should give the state funding agency a sound basis for making its funding decision.

The state can also coordinate its own transportation funding process—perhaps the most important action. Currently, the various state funding agencies make their decisions unilaterally. These independent decisions often impact on one another because a local agency may apply to one state agency for capital funds and another for operating funds. Negative impact could be greatly

lessened, if not totally avoided, by coordinating the state decision process. Furthermore, the current situation in which a multiplicity of funding agencies exists does little to encourage local providers to coordinate their own transportation systems. If the state coordinates its funding process and has good knowledge of the available local transportation resources through the TDP or some other source, then it can encourage the efficient and full use of current resources before funding any new resources.

There are several methods by which the state can coordinate the funding process, including giving funding authority to one state agency or using an interagency committee to review all program applications. Examples of states that implemented coordinated approaches have been cited earlier in this paper. States can adopt one of these approaches or an approach based upon a combination of methods. A coordinated approach to the funding decision process at the state level should lead to more coordination of resources at the local level.

States can also have a great impact on funding. For the most part, states help match federal grants. Only a few states, as described above, have chosen to provide significant state funding programs. Nevertheless, these states lead in innovative rural transportation programs. Local governments are often hard pressed to fund services such as water and sewer, and would find it even more difficult to fund rural transportation. If the states want to see innovative rural programs, then they must be willing to provide operating funds. However, the advent of the new federal rural transportation program should improve the overall funding situation.

The states have a great deal of flexibility in the manner in which they administer federal programs. Each action discussed here is within the capabilities of the states. It is a state decision to determine what role it wants to play in rural transportation.

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Rural Development Policy and Rural Public Transportation

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The transportation systems that serve rural people and their communities continue to dwindle. Local communities affected by the diminution of these transportation resources are under pressure to raise local money to subsidize, almost simultaneously, air service, rail service, and intercity bus lines, to maintain their off-system roads and bridges in usable condition, and to provide whatever forms of public transit may be achievable. The competition for local funds is among the problems to be faced if a small-town and rural-area public transit program is, as seems likely, at last obtained from Congress. Because the lack of accessibility

to jobs, training, and other essential services will continue to be a major obstacle to a rational rural development policy, comprehensive planning and the maximum feasible coordination of transportation resources must be given high priority.

Recent developments in rural America require closer analysis than they have received. The steady migration of people from rural areas to the cities that has char-

acterized 20th century America has apparently halted. Population growth in nonmetropolitan areas has exceeded that in metropolitan areas during this decade. This phenomenon includes both counties beyond the commuting range of metropolitan areas and those within commuting range. However, these trends are not universal. Rural counties that are predominantly agricultural, black, or dependent on manufacturing alone continue to decline or have below-average growth.

The extent and full implication of this population change has yet to be studied or fully understood. The fossil fuel crisis and its impact on energy costs could inhibit it (1). But, in any case, there are now rural areas where populations are rapidly increasing as well as those of continued decline. It is beginning to be apparent to rural communities that population growth poses as many subtly complicated problems as does chronic decline. It should be obvious that the rationale for the neglect of rural development issues, including transportation, that has been common is no longer valid. There is a growing number of persons who must be served if we are not to be overwhelmed by the problems in the closing decades of this century.

In the light of this situation, what is the broad profile of transportation in rural America today? Both air and land transportation services affecting commodities and people are disappearing. In the next few years, almost 37 000 km (23 000 miles) of rail may be abandoned or discontinued because of rail reorganization legislation (2). No one knows how many additional lines will be so affected by railroad bankruptcies or technological advances in hardware that may make additional lines uneconomical, in the classical sense, to operate. Almost all of these lines are in rural areas and serve rural communities and small towns. Grain-producing states are particularly severely affected. South Dakota will lose close to 50 percent of its 1976 rail kilometers, and Wisconsin, Minnesota, and Iowa will lose 25, 23, and 20 percent respectively. At the same time, the realignment of the secondary (rural) road system required by federal-aid highway legislation has resulted in the discontinuance of federal assistance for more than 320 000 km (200 000 miles) of such roads (3). This is approximately one-third of such roads in existence in 1973. Thus, South Dakota has lost federal support for 21 percent of its secondary roads, and Wisconsin, Minnesota, Michigan, and Iowa have lost 35, 46, 32, and 60 percent respectively. This loss of assistance means an increased repair and maintenance bill for rural communities, and it can also mean greatly increased local costs for the replacement and rehabilitation of bridges and culverts if the roads happen to be located in communities impacted by rail abandonment (because the roads must then accommodate sharply increased truck traffic and weight loads). A recent study (4) by the National Association of Counties found that one-third of all bridges under county jurisdiction are structurally deficient, 38 percent are functionally obsolete, 9 percent are collapsed, and 24 percent are posted against excessive weight.

At the same time, a large and growing number of small towns and rural areas face the loss of air service. Since 1965, 114 small cities have lost service and 189 have faced suspension of their service (5). In broad terms, this has come about because certificated air carriers have used their federal subsidies and their full-journey ticket fares to replace their smaller propeller planes by jets. However, jets can land on only relatively large airfields. As propeller planes are phased out, the carriers have been authorized to discontinue service to those communities that lack jet facilities. Those towns may then fall back on air taxi or com-

muter service to a jet airport. But an air taxi or commuter service is not certificated. Because it receives no federal subsidy or share of the total trip fare, it often requires a local subsidy to stay in business.

Bus service presents just as serious a problem for rural people and their communities. Intercity bus lines yearly reduce their service to rural communities. They rarely serve a community too distant from an Interstate highway (6). As noted in the Interstate Commerce Commission News, April 4, 1978, for the last several years, although their operating revenues have increased, their ridership has declined about 6 percent/year. The number of points served has declined, and the amount of service has been reduced. In a study by Iowa State University, the intercity bus problem has been described (7):

1. Public transportation travel within rural regions is almost nonexistent.
2. Public transportation person travel to points beyond the boundaries of a region is subject to long schedule and terminal-transfer-point delays.
3. Rural regions need intraregional public transportation systems to provide people with access to essential services, many of which are dispersed on a regional basis.
4. An integrated system of local-service and express-service public transportation routes would increase the accessibility from rural regions of major metropolitan centers.

In more specific terms, the study points out that, in 1950, 21 different companies were operating a dense network of routes throughout Iowa but, by 1960, the route structure had shrunk to 14 companies operating a much lower density network. Primarily because of the reduction in bus service, the number of revenue passengers carried decreased from 19 million in 1950 to 1.4 million in 1960, and then to 1.1 million in 1970.

The number of public transit operations in small towns and rural areas has dwindled to the point where, of 20 000 towns having 50 000 or fewer people, only 313 still have a public transit system. In many states, a growing percentage of rural counties lack even a taxicab. The National Mass Transportation Assistance Act of 1974 that provided for a \$500 million capital assistance program to nonurban communities was expected to alleviate this situation but, thus far, only \$23 million has been obligated. Grants have been made in only 26 states (the majority in California, New York, and Wisconsin) and have assisted the grantees to acquire 379 buses (8).

Nor is ownership of private automobiles so extensive in rural America as is generally believed. This is particularly true in poverty areas or in those areas that have a higher than average population of minority or elderly residents. By either the standard of the number of households that do not have access to an automobile or the standard that 75 percent of households have access to zero or one automobile, the southern and southwestern states are severely disadvantaged. Thirty-three percent of the counties in Texas and 73 percent of the counties in Mississippi fall into such a designation (9).

Thus far, the federal response to this condition in effect has been to shift the problem to the states and local communities. A modified triage approach is used that forces the state and local communities to choose not only among modes of transportation and interests to be served but also among communities. Sometimes, as with the state and local assistance section of the Regional Rail Reorganization Act of 1973, the federal government provides a disappearing subsidy that covers part of the

costs of state-selected lines. Sometimes federal assistance takes the form of an 80:20 match for capital equipment but the local community has to bear the burden of operating expenses. Sometimes the total cost of saving a mode rests with the state or the local community.

The number and extent of local shares that a rural community must commit presupposes fierce competition among several interests for such support. How will the new kid on the block, rural public transit, fare under this situation? A recent observation by the recipient of a grant under Section 147 of the Federal-Aid Highway Act of 1973 is pertinent:

To keep things in proper perspective, the funding for our 147 project for two counties for 2 years would be enough to resurface 1 mile [1.6 km] of blacktop highway, if one started before the price of asphalt goes up again. . . . It is hard to make inroads with the idea of transportation as moving people, when the dominant orientation has always been surfaces over which wheeled vehicles can move.

Because competition for the necessary state and local share is so intense, the initial task of those seeking funds for any sort of public transit in rural areas is the building of a case for it. Local community leaders and the general public have to be convinced of the important relationship between public transit and the development of their community. What is perceived at present is a categorical crisis response. Do the elderly need transportation to a nutrition program or a health clinic? Let's get a van and some volunteer drivers. Do workers being trained by the Comprehensive Employment Training Administration (CETA) need a ride to a vocational education institute? Maybe the U.S. Department of Labor has some funds with which we can rent a vehicle and provide a ride for those trainees conveniently located along the way. And thus, we can go down the list of 114 federal programs identified by the General Accounting Office (GAO) as providing or supporting rural public transportation (10). The 1970 census showed that 70 percent of the rural poor and 49 percent of the rural elderly did not own automobiles (11). What that means relative to rural development is found in scattered unrelated studies. There is hardly a program involving the quality of life, the delivery of services, or the participation in human resources development in rural America where the anticipated results have been achieved. Lack of transportation is widely recognized as a major obstacle to the delivery of health care. Training programs (including the current CETA program) are underused because those who should be reached have no consistent transportation. Vocational and adult education opportunities affect mostly those residing close to the urban centers of rural areas. More than 95 percent of the U.S. Department of Agriculture administered summer food-service program for children went to urban areas because rural sponsors lacked the resources to transport hungry or malnourished rural youngsters to feeding centers. Limitations on spending make it virtually impossible in many rural areas to provide the network necessary for transporting the rural elderly to food programs (12).

This situation also prevails in traditional economic development programs. An Economic Development Administration (EDA) study (13) published in February 1972 indicates that

EDA's experience in funding projects in economic-development centers has not yet proven that the growth-center strategy outlined in the agency's legislation and clarified in EDA policy statements is workable. The agency's approach in assisting distressed areas through projects in

growth centers has resulted in minimal employment and service benefits to residents of depressed counties. . . . only 14 percent of the jobs resulting from growth-center projects were filled by present or former residents of redevelopment areas (depressed counties). This compares with 87 percent for projects located directly in distressed areas.

Case studies accompanying the report noted the lack of transportation in areas where the work force of the new industries were largely made up of growth-center residents.

For example, in Oklahoma, inadequate transportation in the redevelopment counties surrounding the growth centers (Ada, Ardmore, and Durant), aggravated the failure to provide employment opportunities for rural residents. It was noted that, in the required positive-action programs, when unemployed or economically underprivileged members are mentioned, the references are usually to the center's own residents. In Ada, two large, new industrial activities that employed several hundred people employed no residents of the surrounding depressed rural county and a third employed nine. The vocational-technical school in Ardmore, the backbone of the training needed by the new industries, mainly served the residents of the growth center; the majority of the 600 students came from places other than distressed rural counties and were not economically disadvantaged. In Corpus Christi, Texas, the major center of a development district, only 2 out of 2100 employees of a major plant live in the rural county closest to the growth center. Participation in skill training in the local technical institute by rural residents was minimal.

In a more recent study (14), it was noted:

Many respondents expressed dissatisfaction with employment opportunities in the area and, although they did not wish to move elsewhere, indicated the lack of jobs was likely to force such action. Lack of transportation was a major physical deterrent to employment. Sixty-four percent of those in poverty households. . . three in four households had a mean disposable income of \$2591 in 1970. . . reputed they had no means of getting to work, although major industries were located within 5 to 25 miles [8 to 40 km] of the community.

The second task is to encourage the community to engage in comprehensive planning for rural community development. To be truly comprehensive, the transportation component must be included and, within that component, the accessibility problem must be addressed. The Area Development-Assistance Planning Grant Program administered by the Farmers Home Administration pursuant to section 306a11 of the Consolidated Farm and Rural Development Act of 1973 recognizes this interrelationship. These grants may be used to assist a community engaged in such planning. It will be interesting to discover how many applicants do include public transit planning as an element of their comprehensive plan.

The third task is coordination. In the competition for local-share funding, as well as for federal dollars, there will be increased attention to efforts to achieve a coordinated system. Predictably, this will affect federal, state, and local perceptions. A recent comment from the field put it like this:

In formulating national transportation policy, one other consideration should enter into the deliberations. Local folk trying to operate often unrealistic programs imposed from above are constantly harassed to coordinate with everybody in sight. It is patently obvious to all of us in the middle that the bureaucrats pushing this are not doing it. A little more example and a little less rhetoric would be most welcome.

The present leadership in the U.S. Department of Agriculture (USDA) is conscious both of its role as the

advocate of rural interests in transportation concerns, including public transit, and of the importance of coordination in achieving workable transportation systems. Secretary Robert Bergland has emphasized (15),

mistakenly, and sometimes the Department of Agriculture has perpetuated this misconception, there is a widespread feeling that USDA is interested only in the movement of farm products. People are our concern, as well, and people should be our major consideration.

The Secretary is moving toward the establishment within the department of an Office of Transportation that will combine the several independent transportation divisions. The plans include placing rural public transit activities within the jurisdiction of the office and the study of the relationship of such transit to rural development. The primary emphasis of the office will be the development of long-range transportation policies in agriculture and rural development (areas of expertise to be drawn on include the present sections of transportation research, economics, and regulation).

At the suggestion of Alex P. Mercure, Assistant Secretary of Agriculture for Rural Development, a process has been started toward achieving coordination of rural public transit resources at the highest federal level. By using the Congressional mandate under section 603 of the Rural Development Act of 1972 to coordinate the direction of rural development at the federal level, the working group of assistant secretaries recommended a White House initiative directing the coordination of federally acquired people-moving transportation resources. The General Accounting Office study (10) found that there were no express statutory or regulatory restrictions that specifically prohibit coordination of transportation resources of these programs. But this framed the issue in the negative. To move it onward seems to require framing it in the positive: Not only is there nothing to prohibit coordination, there is a positive requirement to achieve it. Under the direction of Jack H. Watson, Jr., Assistant to the President for Intergovernmental Relations, an inter-agency task force is developing a proposed initiative that would require the following:

1. Any vehicle obtained directly or indirectly through federal funds for purposes of transporting people must be made available to any communitywide effort to achieve a coordinated transportation system.
2. Personnel assigned to any program for transportation-related services whose compensation is provided wholly or in part by federal funds must be made available to serve a coordinated transportation system.
3. Any transportation provider receiving a subsidy paid for wholly or in part from federal funds must undertake to coordinate its system with a communitywide coordinated system.
4. All federal, state, and local auditing agencies shall be encouraged, and in the case of federal agencies directed, to explore the problems of accountability, bookkeeping, and other paperwork involved in the operation of a coordinated system and develop a simplified set of auditing and accounting procedures to overcome these problem areas.

The Federal Regional Councils in two regions, IV and VII, have already pioneered activities along similar lines, and their ideas have been incorporated into these proposals. The flavor of the recently considered legislation indicates that Congress is interested in the same approach. Although not directly mentioned in the legislative package, it is highly possible that, through

components of legislative actions, Congress will mandate such coordination. Eventually, we may be unable to tell a grandmother needing medical care that she may not ride in a Headstart van going by her doctor's office because the bookkeeper does not know how to account for her.

If we ever achieve a coordination policy at the federal level, there will still be a multitude of related obstacles at the state and local level. The essential of a truly national rural development policy is federal leadership, initiative, and example to the states and the local communities. There are many state and local barriers to overcome: overregulation by public utility commissions, insensitive consideration by insurance commissions, and restrictions on charters and parcel deliveries (some of these are a mixture of federal and state restrictions) and on the use of school buses for transportation resources. Even an advanced state such as Iowa exempts school buses from its coordination requirements. Finally, we may yet test the post-bus concept so that the transportation needed to pick up and deliver such essentials as invitations to buy deodorant or to contribute to a geometrically progressing number of causes or your utility bills can also transport people.

One of the many insightful conclusions of the Iowa State University study (7) found that

The desirability of any rural region as a place of residence is directly related to the degree of accessibility to basic services; not only fundamental human needs such as food, medicine, and clothing but also social interaction, recreation, and governmental services must be provided. When a segment of the population has limited access to these services, they perceive an undesirable aspect in their life style. This same concept of an aspect of local and regional area undesirability may in fact be important to the mobile segment of the population due to their concern for their neighbors. It may be hypothesized, therefore, that rural public transit service enhances a region's suitability as a place to live.

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Overview of Rural Transit Planning and Implementation

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A typical planning and implementation process for rural transit systems is summarized. Specialized rural transit systems usually are initiated when local authorities perceive and define a transportation problem. The next step in the process is a needs and feasibility study in which efforts are made to determine whether or not a system should be started. After financial and political support are obtained, the system must then be designed and implemented. Finally, a continuous evaluation of whether the system is solving the perceived local transportation problems is necessary. The synthesis of the planning and implementation process that is described in this paper was developed from extensive information on special rural transit systems that was gathered by field visits to 12 systems and from data on other operations.

There are few conventional transit operations in low-density areas. Even when there is an urban transit system nearby, it rarely provides mobility for residents of the rural areas that are adjacent. Frequently, there are peak-hour commuter lines to suburban areas, but a person in a rural area who does not have access to an automobile usually has no transit option available.

Human service agencies in rural areas have responded to this access problem by attempting to provide transportation services for their clients. Small and occasionally large transit operations have been established for this purpose. Although not ubiquitous, these special transit services have been initiated by a wide variety of agencies, funded by various federal, state, and local agencies and had a varied degree of success in increasing the mobility of agency clients.

Twelve of these rural transit systems were visited as part of a research project in rural public transportation. The research team attempted to synthesize the steps that had been taken in the conceptualization, planning, and implementation of these systems.

A model of this process was developed that includes the most successful techniques used in each phase. In addition, some of the major areas of operational problems of rural transit systems were identified and ana-

lyzed. A review of the model and its components will be the subject of the remainder of this paper.

SYNTHESIS OF PLANNING AND IMPLEMENTING PROCESS

During the field-site visits to the 12 rural transit systems, data were gathered on the development of each system. Interviews with local agency personnel included discussions of the steps that had been taken to initiate each system. From these interviews and subsequent discussions with others involved in rural transit, a simple model of the process was developed. This model (see Figure 1) shows the planning and implementation sequence for a typical rural transit operation.

In the sections that follow, each of the steps in the planning process will be reviewed. Some insights into the process are given, and recommendations are made about how to make good decisions.

Perception of Problem

The problem is usually perceived by agency personnel who find that their clients have transportation problems. The initiator can be a perceptive agency head or a staff member who is spending too much time driving clients to and from appointments. Stories have also been told of agency clients paying exorbitant prices [e. g., \$25.00 for a 32-km (20-mile) trip to a medical clinic].

Definition of Problem

Logically, defining the problem is the next step. In this phase, the boundaries and extent of the problem should be analyzed. As the first step in the ongoing planning process, a planning group should be established. A set of initial goals and objectives should be formulated, and a clear statement of the mobility problem should be developed.