assessment of existing services is accomplished, the comparison with the market segmentation is done.

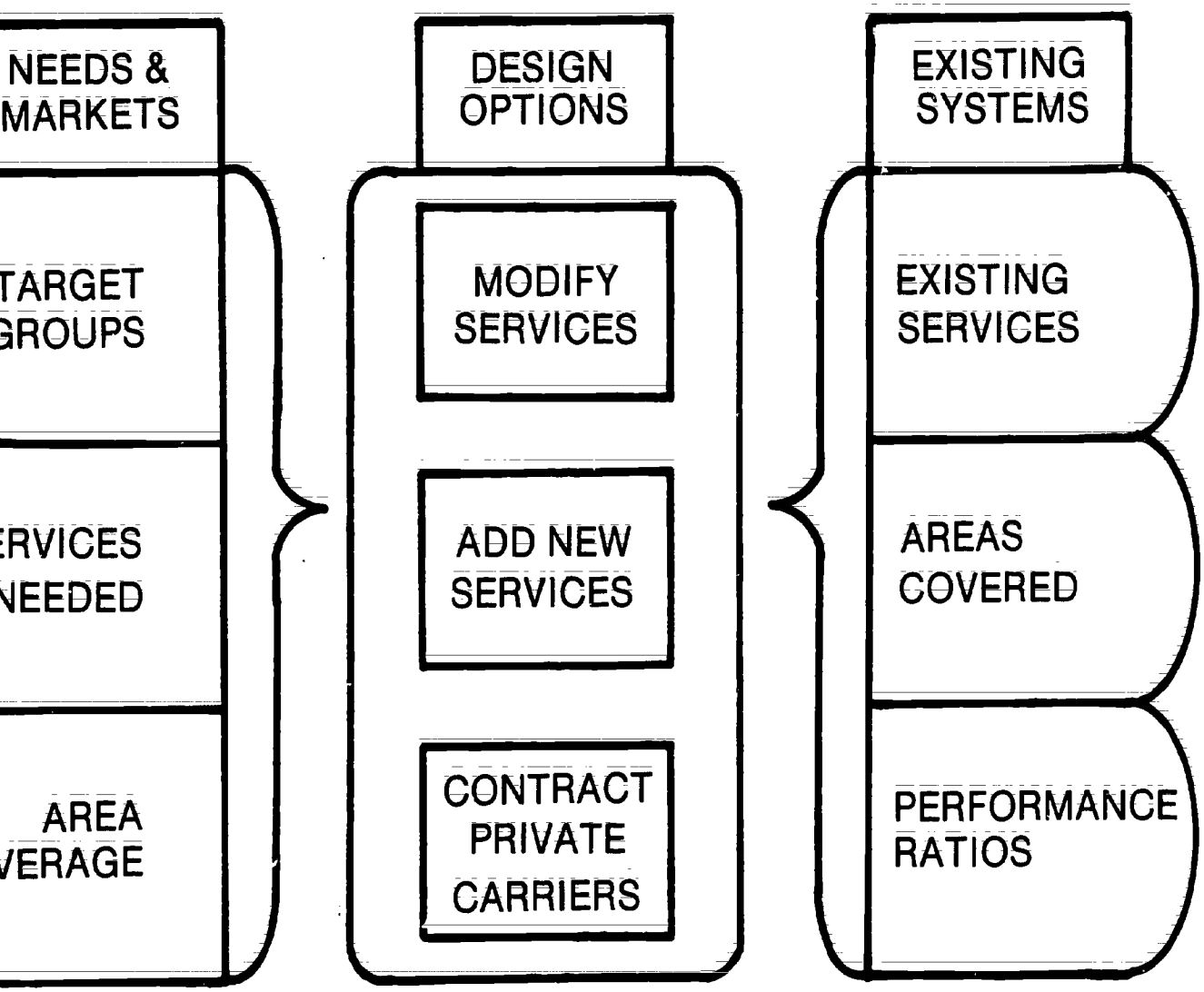
Analysis of Unmet Needs

A comparison of the data from the market segmentation analysis and the assessment of existing services will reveal the unmet needs of the people in the area. Service gaps can appear in several forms or combinations which include specific trip demand, special user groups' needs, and unserved geographic locations. (See Illustration 9 entitled Utilization of Assessment Plan.)

An example of transportation service gaps among special user groups is recognized by human service agencies. These agencies have typically supplied the only means of transportation to the elderly and persons with disabilities. Such service, if available, is infrequent and geared to specific agency programs. Due to financial restrictions, the service commonly extends only to those specific programs, and not to the multitude of other travel needs. Service of this type can help to diminish the feelings of isolation expressed by some residents of rural areas. However, not all persons living in rural areas qualify for these services.

Determining unmet needs requires analysis of market segments and of existing system data. Possible service

tration 9. Utilization of Assessment Plan.



gaps are examined to determine how they can be met by re-designing existing services, designing new services, or a combination of the two.

Targeted Design

The fourth step in market segmentation is designing a system which fits the intended user. Targeted design is a two-phase process. The planner(s) first design or redesign appropriate transportation options based on the needs of the people and with their continuous input. At the same time, the political and fiscal environments must be continuously assessed to determine the feasibility of implementing the resulting design.

As with the previous three steps, this is best accomplished with the input from those for which the system is intended. It has been proven time and again that systems designed <u>for</u> potential users and not <u>with</u> these users are destined to fail.

The Rural Planner's Role

Needs-based planning provides parameters for new systems and the criteria for improving any existing systems. The factors which most influence a design are:

- The needs of the people;
- The size of the groups;

- The location of unserved groups; and
- The economic feasibility and characteristics of modes and vehicles.

In designing a transportation system for use in rural areas consideration must be given to the logistic, technical, economic, and social factors.

Logistics such as coordinating services to meet the most needs; technical factors like special needs modifications such as lift chairs; economics such as capital and start up costs; and social impacts like what groups will benefit from a certain service are all considerations in designing or redesigning transportation systems in rural areas.

The political and fiscal environment for rural transportation planners is constantly changing. This demands that a planner be aware of changes affecting the decision-making process. Sensitivity to changing conditions and flexibility in response are also required. The planner must be able to competently define the problem and approach the problem-solving process in an appropriate manner. Open communication with people in the area is an important part of this process.

The successful rural transportation planner must maintain current information about federal and state regulations which affect the program. For instance, Section 105(f) of the Surface Transportation Act of 1982

requires public transportation systems to commit 10 percent of all contractural opportunities to disadvantaged minority-owned business enterprises (DBE's) and one percent to women-owned business (WBE's). Such regulations are of importance to transportation planners, particularly those contracting for service. Illustration 10 portrays the transportation planning process.

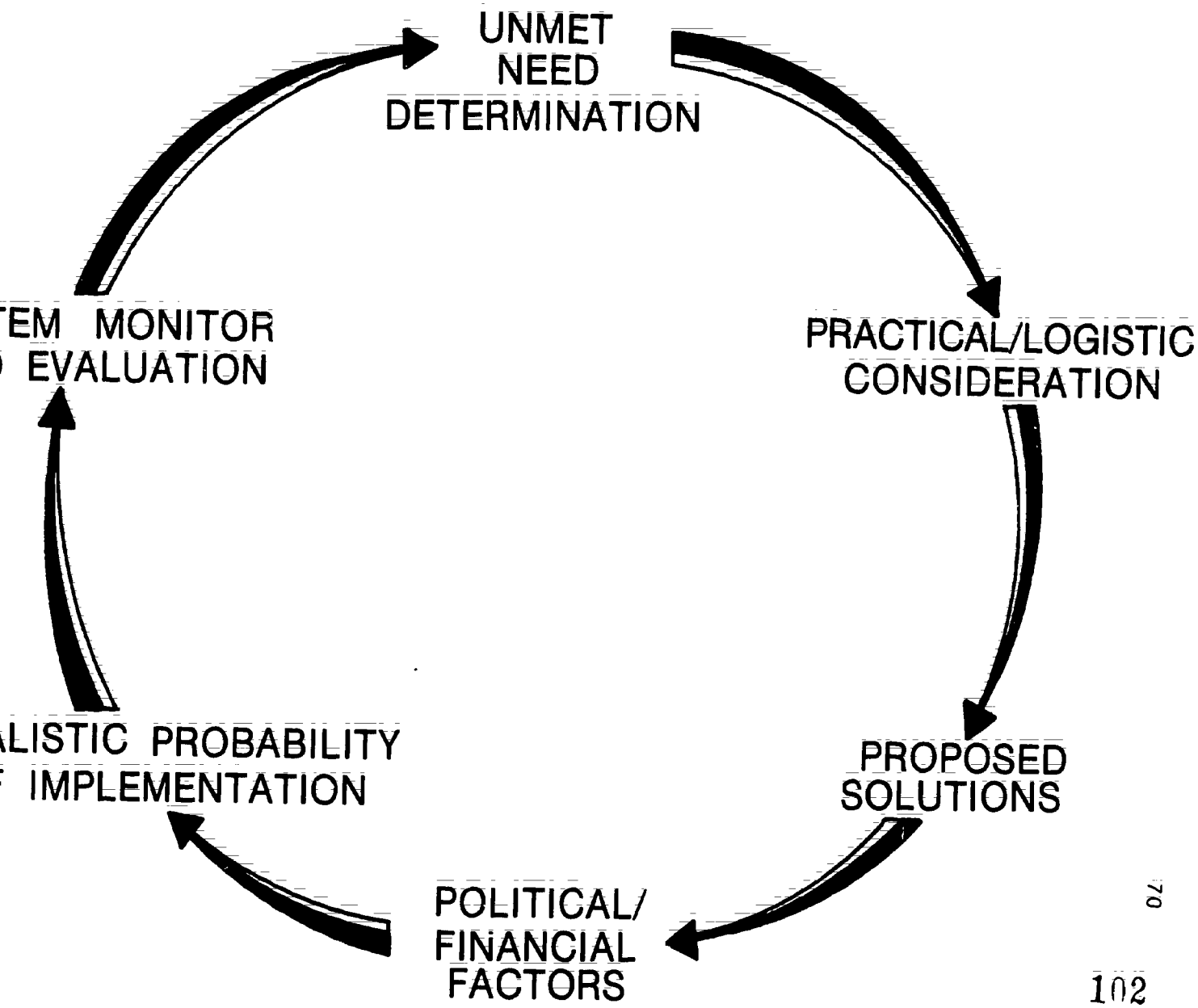
Planning Rural Transportation Service: An Example

Although transportation planning, especially in rural areas, is a complex process, it can be done by professional planners and lay people alike. In fact, many rural operations were started as local efforts. One example of community based planning which grew to a large, successful system is the organization called OATS.

OATS, Inc., located in Missouri, is a not-for-profit transportation company specializing in service to elderly and disabled persons. In 1982 OATS had 145 vehicles on the road which travelled some 3 million miles, providing 550,000 one way trips.

The origins of what is now known as OATS began in 1970's when a small group of older persons in central Missouri recognized the unserved needs of an increasingly elderly population in the state. With intial funding from the state's Office on Aging and technical assistance from

Illustration 10. Transportation Planning Process.



the University of Missouri's Extension Division, CTS purchased three vehicles, hired a paid staff of five including a director, a part time secretary and three drivers.

The following section will describe some of the factors considered when designing a rural public transportation for implementation. The various techniques necessary to help ensure the system's success will also be discussed.

Summary

Through the use of the four steps of market segmentation analysis, the travel needs of the people in the area can be more competently met. By (1) assessing the needs, (2) assessing the existing services, (3) comparing these to determine where the gaps occur, (4) and designing a system which is targeted to meet the needs and is feasible to implement, transportation service can be planned which is appropriate for the various user groups living in a specific location.

STUDENT REVIEW

1. Discuss the positive and negative qualities of meeting rural transportation needs with innovative solutions.

2. describe the skills which are critical to transportation planners who choose the mobility-based approach to planning.

3. Discuss the general characteristics of the needs-based approach to transportation planning.

4. Discuss the objectives and activities related to each of the four basic steps in the needs-based approach to planning.

5. Construct a transit needs assessment survey or questionnaire aimed at students of your university or people in your community which would reveal groups that need regular transit service.

6. Discuss the possible barriers to the development and implementation of the mobility club concept.

Please refer to the Activities section of this unit for more comprehensive work in rural public transportation.

GUIDELINES FOR STUDENT REVIEW

1. Open ended discussion.

2. See pp. 55-57.

3. See pp. 57-59.

4. See pp. 61-62.

5. Open ended question.

6. See pp. 43-46

DESIGNING FOR IMPLEMENTATION

The purposes of this section are:

- To describe factors to be considered in the design and implementation of Rural Public Transportation.
- To familiarize the student with techniques for ensuring the successful implementation of a rural transportation operation.
- To illustrate how selected operations have achieved varying degrees of success.

Transportation planners should have a thorough understanding of the diverse groups of people and the institutions which make up the rural environment. Planning optimal transportation service does not ensure implementation. The implementation phase involves planning factors related to the legal, regulatory, political, attitudinal, financial and technical components of a system. These planning factors affect the implementation of any transit plan.

Similarly, operational factors, such as the role of vehicle drivers, efficient management of information and marketing, can enhance the implementation process.

Basic Design Considerations

Financial

The average rural community has no public transportation because:

1. Costs to set up and implement a program are considerable. These include organizational costs of planning and administrative costs of management.
2. Revenues are insufficient to cover the high initial cost of start-up, and in many cases longterm ridership would be so low that the farebox revenue would cover only a small portion of the operating costs.
3. Subsidies are not available and many states have no program to provide operating assistance to rural areas. The federal Section 18 funds average about 2 million dollars per state, and consequently cannot be expected to serve the majority of rural communities.
4. The tax base revenue in rural areas is less than urban areas, so there is a lower amount of revenue coming in from fewer people.

Cutbacks in federal funding as well as the inability of local communities to support organized transit systems are considerations of utmost importance in implementing a system. Cost constants which apply to the implementation

of any transit system are operating costs, capital costs, and start-up costs. Actual figures differ because each community is unique. However, developing a budget for the operation must be done in order to ensure the viability of the system. Figure 4 is a sample budget from one service in a rural area in the middle Atlantic U.S.

Political

Local political interests frequently support particular groups, systems, or neighborhoods. These interests are important to consider when planning transportation programs. By including as many of these persons in the planning stage, their interests can be considered at a stage of the planning process where their input is valuable and usable.

Legislative

Transportation planners must be aware of the changes in the legislature which effects their decisions. For example, conflicts between service providers can occur where conventional transit service is competitively challenged by paratransit or pooling arrangements. Although this situation is generally uncommon in rural areas, transit workers must be consulted in accordance with the Urban Mass Transit Act of 1964. Section 13(c) of that

Figure 4: Sample System Operating Budget

FY 86 PROJECT BUDGET

(1) TOTAL NON-OPERATING EXPENSES (Itemized)

Manager's Salary	$ 22,102
Secretary's Salary	-0-
Staff Salary Other	15,435
Fringe Benefits	13,873
Audit Costs	3,500
Board Expenses	975
Contractual Services	5,300
Garage/Storage Costs	5,500
General and Administrative	275
Insurance - Other (Specify)	1,605
Marketing	9,000
Office Equipment	-0-
Office Maintenance	290
Office Supplies	1,400
Printing/Copying	1,500
Rent	3,750
Taxes	380
Telephone Services	3,600
Travel	5,100
Utilities	4,000
Vehicle Insurance	30,000
Other (Specify)	1,250
TOTAL NON-OPERATING EXPENSES	$ 128,835 (1)

(2) TOTAL OPERATING EXPENSES (Itemized)

Drivers Salaries	$ 143,911
Dispatcher' Salary	-0-
Mechanics Salaries	29,135
Fringe Benefits	51,493
Contracted Vehicle Maint. Svcs.	-0-
Fuel	71,000
Hand Tools	600
Licenses	-0-
Oil	1,350
Replacement Parts	20,000
TOTAL OPERATING EXPENSES	$ 317,489 (2)

(3) TOTAL PROJECT COST (Line 1 plus Line 2) $ 446,324 (3)

(4) LESS FAREBOX AND OTHER REVENUE (i.e., CONTRACTS WITH OTHER AGENCIES AND OPERATORS

REVENUES

Farebox Cash	$ 99,623
Farebox Tickets	8,820
Contracted Revenue	4,184
Other (Specify)	453

TOTAL FAREBOX AND OTHER REVENUE APPLIED AGAINST ELIGIBLE EXPENSES $ 113,080 (4)

(5) NET PROJECT COST (Line 3 minus Line 4) $ 333,244 (5)

(6) TOTAL NET PROJECT COST FOR SECTION 18 PROGRAM $ 333,244

(7) FEDERAL SHARE (Section 18; 50% of Line 6) $ 166,622

(8) LOCAL SHARE (50% OF Line 6)

A. CASH MATCH

a. Local Cash	$ 19,622
b. Charter Profit	2,000
c. Advertising Profit	5,760
d. Other (please specify) Interest Income	1,200

B. LOCAL CASH
a. State Funds: $138,000
b. Local Government: $ 19,622 + b + c + d = $ 28,582

Source: State of West Virginia, Public Transportation Division

act states that any new system which might adversely affect transit workers' jobs must include provisions to ensure that no worker be displaced.

Jurisdictional

Private carrier groups such as taxi and bus operators own franchise rights to certain jurisdictions. Yet demand-responsive transportation and user-subsidy programs may require that cross-jurisdictional services be provided to be effective. The planners of transportation programs must respect the rights of private carriers and assure them that their participation in the service might actually increase ridership and will not harm existing programs. Similarly, in the case where both the county and the city offer service to an area, some crossover may be experienced. In many cases agreement can be reached between the providers to cooperatively work schedules so that the area is serviced.

Technical

Some persons with disabilities and elderly persons may have special transportation needs. In designing a transportation service, these special needs must be recognized as they relate to vehicle selection or adaptation and to the local geographic conditions. Proper

needs-based planning can avoid inappropriate system designs, whether rural or urban.

Attitudinal

Respect for the attitudes of the various groups in the community can enhance the development of the operation. For example, understanding the social factors inherent in the informal networks of various groups can be critical to the design of systems. For instance, when designing a multiple use program like a school bus which also carries the general public, the parents of the children should be consulted with regard to their attitudes about the program.

Legal

Attempts to help close the gap between transportation services and mobility needs are sometimes blocked by the interpretation of existing laws. For example, the use of non-traditional transit vehicles, such as vans, revealed problems in the interpretation of insurance rate categories. In many states, vanpools were originally classed by law in the same high-risk category as private business vehicles. This was necessary as virtually no experience with vanpools was available for the prediction of risk.

Progress in this area has occurred throughout the country in the past decade. From the experience in large part provided by the UMTA-sponsored demonstration projects, the insurance industry has been able to more accurately predict risk factors. Consequently, many states have reformed laws to permit a separate insurance rate category for vanpools.

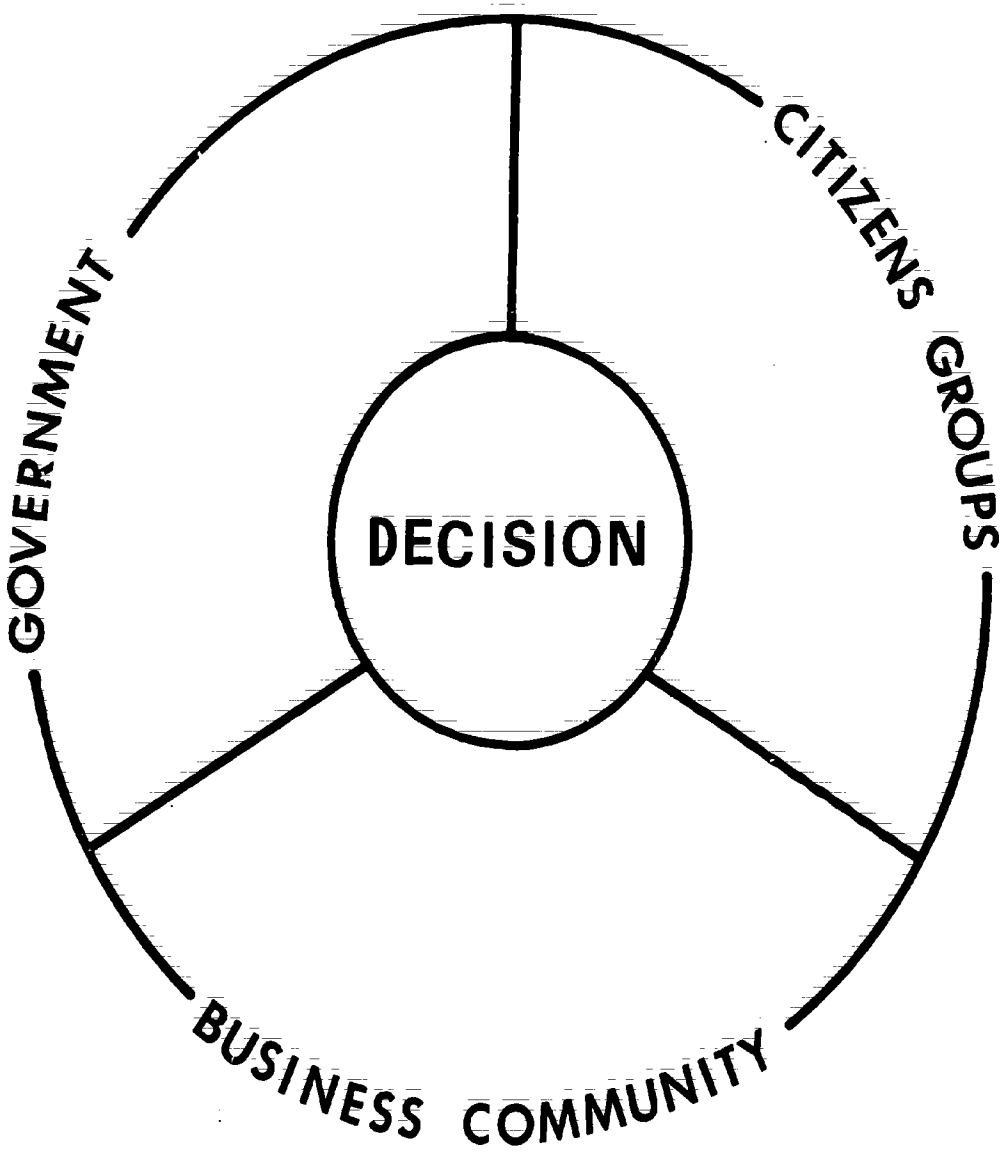
These factors effect the implementation of transportation service in any area. Planners must work with the various members of the community in order to avoid unneccessary difficulties and to design service that is appropriate to the needs of the community. Illustration 11 and Figure 5 describe some of the individuals from the community who should be involved in designing transportation service.

The Role of Vehicle Drivers

The drivers of the vehicles are frequently the only contact riders have with the rural transportation service. Driver sensitivity to the needs of the users is critical to successful service. The benefits of driver training include:

- reduced likelihood of injury;
- improved efficiency in operation;
- increased confidence of the user in the system;

Illustration 11. Principal Groups Involved in the Transportation Decision-Making Process.



Source: Technology Sharing, 1978, p. 29.

Figure 5. Principal Groups Involved in the Transportation Decision-Making Process.

GOVERNMENT	CITIZEN GROUPS	BUSINESS COMMUNITY
Local	Advisory Boards	Chamber of Commerce
County	Fraternal Organizations	Developers
Metropolitan	Howmowners	Labor Unions
Regional	Individuals	Merchants
Special District	League of Women Voters	Newspapers
Transportation Authority	Neighborhood Groups	Taxi Companies
State Department of Transportation	Parent Teacher Associations	Transit Operators
Other State A-95 Agencies	Peace Groups	
Federal Department of Transportation	Religious Groups	
Other Federal Agencies	School Groups	
Law Enforcement	Service Clubs	
Public Safety Agencies		
Welfare		
Health Agencies		

SOURCE: Technology Sharing, 1978, p. 29.

- reduced liability suits; and
- reduced scheduling difficulties.

Some driver sensitivity training uses role-playing as a technique. Drivers of special transportation services are either blindfolded or confined to a wheelchair for a matter of hours. They are then asked to use the transportation service. This role-playing technique provides the driver with a sense of how the user experiences transportation service being provided. It not only sensitizes the drivers to the special needs of the user, but also helps them become aware of how they might aid disabled or elderly persons in using the transportation services in a more effective manner.

This sensitivity enables the driver to perform acts of assistance, therefore decreasing the risk of injury to the user. Sensitivity to the amount of time needed for the manipulation of wheelchairs improves efficiency in scheduling.

Consolidation and coordination of transportation services are frequently done to eliminate duplication of services. This effort in eliminating duplication of services can sometimes create problems in equitable allocation of funds among the agencies or operators providing the services.

Likewise, in cases where service is being provided to populations with special mobility needs, such as the elderly and handicapped, the human service agencies, who are most familiar with their client's needs, question whether the service being provided is adequate. Driver training can help in this situation. Training which increases the sensitivity of drivers to the riders special needs should relieve doubts the agency may have about the adequacy of the service.

One example of training designed for drivers is the Passenger Assistance Techniques (PAT). PAT is a training program developed and operated by the Transportation Management Associates based in Fort Worth, Texas. This program was initiated by William Henderson, a man who uses a wheelchair who was concerned with the quality of service available to handicapped individuals.

Individuals from state public transportation divisions and various transportation operations throughout the nation travel to Fort Worth to participate in the training. The Transportation Manangement Associates train these people who are then certified as PAT trainers. The trainers return to their state and then conduct training sessions.

Although driver sensitivity training is critical when providing specialized transportation, it is helpful in other situations as well. In any case where individuals are more aware of their environment, they are better able

to cope with the unusual and unexpected events which occur in even the most well-organized systems.

Management of Information

In order to maintain an operation which is appropriate to the needs of the community, continuous monitoring and evaluation is required. Efficient record-keeping and evaluation are critical to this process. A small informal volunteer program may keep few or no records but with any organizational effort information management can become a major task.

Computerized management of information is becoming increasingly popular, particularly in programs which are demand-responsive. Computer-based management information systems (MIS) in rural applications provide various operational, managerial, and statistical reports. Additionally, an MIS could handle the billing and payment system to support various fare collection alternatives, such as that of a demand-responsive system which wishes to implement monthly billing. (Refer to Illustration 6, p. 35, entitled Communication Pattern for Demand Responsive Systems.)

An example of computer application in a rather large region follows. The Cape Cod Regional Transit Authority

(CCRTA) uses a computer-based MIS. The MIS is sufficient to handle up to 7500 clients and 40,000 trips/month.

This MIS itself can be broken down into four major functions or components:

1. File maintenance and inquiry routines,
2. Scheduling and trip-related data entry,
3. Monthly and annual routines, and
4. Client billing.

The following was adapted from work of Robert Stammer funded by UMTA. Computer applications on less grand scales can also prove to be effective and efficient in handling information. Because bookeeping and operational analysis is usually done manually in most rural settings, interest in microcomputers is growing.

The Upper Cumberland Area Regional Transportation System (UCARTS) in Algood, Tennessee typically provides between 17-18,000 client trips monthly with thirty-eight vehicles serving a 14-county rural area. The 1500-2000 clients typically served during any month require services to many different destinations throughout Middle Tennessee.

UCARTS was selected to investigate the role of microcomputers in rural transit operations. The researchers observed that the lack of computer skills and experience plus a general apprehension of computers by rural agency personnel generally seemed to be the norm.

By starting the orientation process gradually and using a variety of games and very basic programs, the natural inherent fears of a person unfamiliar and very apprehensive about microcomputers can be overcome, and were overcome in this instance. Advancement to more complex activities proceeded smoothly once the initial anxieties and natural inertia of resistance to change were dispelled.

Implementation of a Computerized MIS

UCARTS existing mainframe computer contract was not cancelled immediately upon adoption of the inhouse microcomputer. Many rural transportation operations' compile data manually and these existing methods should not be totally abandoned until the microcomputer programs are refined and fully operational. Even then it is necessary to have backup data and an emergency contingency plan.

The entire process of converting the present data processing procedures of UCARTS to a microcomputer has been successful. The only remaining question pertains to input time requirements. How much time is required to enter all of the trip data for the operation? The underestimation of 2-3 hours each day proved in actuality to be 4-5 hours per day.

The reported benefits of the addition of the microcomputer to UCARTS include:

- increased availability of different management reports,
- practically instantaneous generation of management reports,
- better understanding of total operational procedures and data needs because of internal processing, and
- improved data collection and monitoring procedures.

Other possible benefits are:

- financial savings,
- potential networking from additional terminals,
- data management of other agency programs besides transportation by the UCARTS umbrella agency, and
- increased marketing and funding potentials.

This latter expected benefit represents the fact that the operation will have better and more accurate records of the clients transported and the trips provided in each county, thereby identifying those counties with unmet needs. A generic version of the tailored UCARTS program is available. This program is distributed by the U.S.D.O.T. Transportation Systems Center on a national basis and is public domain software.

Marketing the System

A successful marketing program can be a key to building and maintaining a high level of ridership. Because marketing both gives and receives information, it is a critical communication process. Market research determines who needs which services where and when. Useful information can be provided by market research to determine how and when the system will be promoted, in other words, how the people for which the service is intended can find out about the system.

Promotion can be in the form of public information, customer relations, and advertising. The use of items such as logos and distinctive color schemes has proven effective in promoting systems. Illustration 12 is an example of a promotional brochure for a ridesharing program.

The rural transportation operators must provide clear information to the riders, particularly in the case where changes are made in the system. A good example of a marketing campaign is the one designed by the West Virginia Public Transportation Division. The Get on the Bus and Ride campaign was created to promote the various transportation services in West Virginia, a rural state. The West Virginia PTD developed and distributes a marketing handbook that contains the official collection of materials from the Division. It was created as an aid to operators

throughout the state in producing marketing campaigns for their operations.

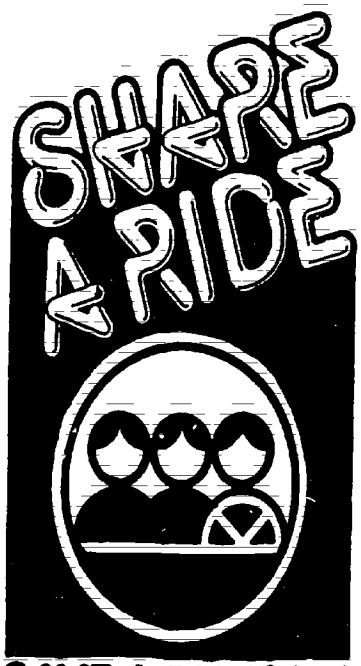
Included in the handbook are ready-to-use newspaper and radio advertisements with suggestions on how to use certain elements to prepare original ads. The budget planning section suggests how to best spend the operation's advertising budget to purchase media time and space.

Another section deals with ideas for public relations activities which generally require more expenditure of effort than cash. This section is based on the idea that good public relations can be invaluable in promoting good will and a positive image in the community.

The handbook also gives suggestions for deciding how an operator could plan a year long promotional campaign. The idea is to start with the total annual advertising budget and subtract any pre-allocated expenditures, such as Yellow Pages listings. The total budget for media expenses is then divided into percentages for specific promotions during the year.

Any successful marketing program must have a method of collecting and analyzing the feedback from the user groups in the area. This feedback should be reflected in changes made to the operation to accomodate the needs of the people using the system. Rider surveys are an inexpensive and easily implemented means of obtaining feedback as are the

Illustration 12. Sample Ridesharing Promotional Brochure.



SAVE A BUNDLE!

you can save
$575 a year
...just by changing
the way you
ride to work!

We're "Share a Ride", and the $575 is approximately what you can save if you don't drive your own car to work alone everyday.

Now, before you go stiff in your chair over the thought of not having your very own car sitting out there in the Company parking lot all day everyday, consider some of the advantages of sharing a ride to work.

You're going to save a lot of money...real, spendable, tax free income just because not driving will cost you less.

Depending on the car you're driving, you may save a little more or a little less than our $575. If you're driving a '39 Volks powered by a rubber band, chances are you've beat the system. If you're fooling to work in a '78 Mercedes 450 SEL, we're about to save you a bundle.

Most days you'll be driven to work, and that's easier on you. Parking gets easier because there are fewer cars on the lot.

If you're a one car household, leaving the car at home will help others in your family get around.

And Share a Ride is a neat way to meet some new folks.

There are three ways to "Share a Ride". Which one interests you most?

CAR POOLING
We do all the work... supply you with the names, addresses and phone numbers of people in your area going to the same work location. We'll even suggest how you split the expenses. All you folks do is get together. And, it's flexible... you don't have to ride everyday. Plus the fact that car pooling may qualify you for a discount on your auto insurance.

VAN POOLING
This is different, but so are the benefits. You could wind up driving a nifty Dodge or Plymouth Van for free. Use it for your personal needs, too. How about that! Or, at the very least, you wind up being chauffered to work in style & comfort... with time to read the morning paper. Once again, we do all the work, and all the organization... all you have to do to get started is indicate your interest.

REGULAR BUSES
We provide the schedules, pick out the best route for you to ride, and sell you the MTC "All you can ride" monthly pass. You just climb aboard, and start saving that $575.

Source: Evaluation of the Minneapolis Ridesharing Commuter Services Demonstration, 1980, p. A-3

careful records kept from phone calls of people requesting information, registering complaints, and making suggestions.

Summary

The most effective way of being sensitive to the factors described above is to involve the residents of the community for which the transportation service is being designed. In this way, factors critical to the success of the service will be dealt with in the planning process, thereby eliminating the chance of additional problems. Driver sensitivity training, management of information, and marketing the system are all efforts to ensure the success of the program after implementation.

ISSUES IN RURAL PUBLIC TRANSPORTATION

The purpose of this section is:

- To describe the directions for rural public transportation in the future.

According to Jim Bautz of UMTA, a number of observers have noted a basic change in what people expect government, especially at the Federal level, to be able to do or afford to do. Because of this change, the manner in which public services, including transportation, are delivered will not be the same in the future as in the past. There will probably be less money available for public services, and the emphasis in the coming years will be on more efficient utilization of existing resources, self help, public/private partnerships and a more market oriented delivery of public service.

The need for public transportation will continue to grow in the years ahead due to the growth of rural areas and the fact that the rural population contains large numbers of elderly and persons with lower than average incomes. However, just as rural populations are

experiencing unprecedented growth, the amount of funding available for meeting rural transportation needs has been reduced.

Directions for the Future

This situation implies several directions for the design of rural public transportation operations. One important form of new service will come from improvements in existing resources. The result will be a diverse set of organizational and service arrangements, many of them rather informal in nature. It is not likely that the need for service will diminish in the foreseeable future; thus virtually every rural area will be faced with the challenge of how to efficiently meet the basic needs of its residents. Some of the directions for improving rural public transportation include:

- increasing coordination among existing providers where possible;
- increasing the use of existing resources for multiple use such as postal buses and school buses for public transportation purposes;
- increasing the use of volunteers for driving and dispatching vehicles; and
- creating more information sharing networks among existing transportation providers to increase efficiency and effectiveness.

The most appropriate mix of these and other options will depend on many factors. Some of the factors include the nature of existing services, the availability of continuing funding, the nature of transportation needs and travel patterns, and the attitudes of the local people.

Nationally significant progress has been made in rural transportation in the past five years. This has occurred primarily where local officials, transportation providers, business persons, and citizens have addressed the problem collectively. They have learned how to become involved in the transportation planning process, where to obtain technical information and assistance, and how to exchange their experiences. It has been proven that successful rural transportation programs are initiated at the local level and local officials are the most effective in demonstrating:

- need for improving or establishing local transportation systems;
- the importance of coordinating existing programs to provide a system tailored to the needs of a specific community serving everyone; and
- the cost effective use of planning, operating, and financial resources.

Funding

The diminished federal role in funding rural public transportation has given the state and local governments increased responsibility for financial assistance. In most places this will require the development of new funding sources. Some of these sources are tax levies and reallocation of other funds. However, many states and localities are experiencing severe fiscal problems of their own. Thus, the levels of new transportation funding which can be generated, and allocated to rural transportation programs, will be limited in these cases. This will create significant problems for many of the people living in rural areas. Although a high percentage of the families moving to rural areas will own at least one auto, the total number of individuals without access to an auto is not likely to decline from the current total of over 20 million.

Summary

The future success of rural transportation services depends on the cooperative efforts of federal, state, and local officials and the use of imaginative, creative, and productive approaches such as those demonstrated by people in various areas throughout the country.

The challenge to the planners of transportation service in the 1980's is to work with limited public resources to provide for the equitable distribution of transportation services throughout urban and rural areas. The situation implies that new coalitions of support be built at the local level and new institutional arrangements constructed to manage transportation operations. There will be no one solution to transportation problems. The planner will be confronted by a need to analyze a number of different services affected by a variety of institutional structures. The development of services will not be based on public policy statements but on the actual needs of the community.

STUDENT REVIEW

1. Describe the financial considerations of implementing transportation service in rural areas.

2. Describe other considerations for designing transportation service.

3. Discuss the role UMTA has played in rural public transportation.

4. Discuss the role of vehicle drivers in rural transportation systems.

5. Describe how computers can be used for management of information in transportation operations.

6. Discuss examples from your area that illustrate how a transportation system is marketed to the community.

7. Discuss how an effective marketing or promotional campaign has influenced your transportation choices.

8. Speculate on how the transportation needs of people in rural areas will be met in the future.

Please refer to the Activities section of this unit for more comprehensive work in rural public transportation.

GUIDELINES FOR STUDENT REVIEW

1. See p. 75.
2. Open ended discussion.
3. Open ended discussion.
4. See pp. 81 & 84.
5. See pp. 86-89.
6. Open ended discussion.
7. Open ended discussion.
8. Open ended discussion.

ACTIVITIES

The following activities have been designed to aid individuals desiring a better understanding of Rural Public Transportation. They can be experienced by any or all of the readers of this instructional unit. When participating in an activity which takes place in the community, care should be taken to maintain respect for the people with whom one comes in contact. A simple explanation and introduction of oneself and ones purpose for being in the area can help to create an atmosphere of trust.

Discuss the various funding programs and how they have shaped rural public transportation today.

Contact a rural transit operator in your area. Meet with the director to discuss the history of their specific operation and determine how it receives funding.

Discuss the various factors which may be involved when a private human service agency opens its transportation service to the general public.

Discuss the issue of the equitable distribution of transportation service in relation to equal access to economic opportunity.

By observing the rural areas near you, determine the conditions which contribute to the difficulty in meeting the travel needs of people who live in those locations.

In small groups of two or three, or singly, arrange to be dropped off in a nearby rural area with the objective to travel back to a predetermined spot. The amount of money each person is allowed to spend should be established ahead of time. After regrouping, discuss the experience and the transportation means available to each person.

In small groups of two or three, drive around in a rural area. Observe the conditions in that area. If possible, talk to some of the people from the area to determine their travel needs and their access to transportation service in the area.

Together in a large group, brainstorm ways in which people living in rural areas can surmount the difficulties in meeting their transportation needs.

Discuss why the general characteristics of people in rural areas inhibits the use of more conventional means of transportation.

Discuss how funding trends have affected the development of transportation services in rural areas.

Describe how local people have contributed to rural public transportation. Determine the reasons these efforts have been/ have not been successful.

Survey a rural area near you to determine the available types of transportation providers.

Locate a transportation service in your area that uses volunteer drivers or dispatchers. Volunteer your services. Meet afterward to discuss the experience.

Design and implement a ridesharing program among the people with which you associate. An informal survey could help in determining how the travel needs compare with available services or drivers.

Arrange to use as many of each of the transit and paratransit modes available; if possible include demand-responsive, fixed route service, jitney service, and ridesharing. Afterward, discuss the various experiences with others.

Using a blindfold, crutches, or a wheelchair, take turns roleplaying the driver of a service and the disabled persons using the service.

Contact local government officials to meet and discuss their policy on providing transportation to the people of the area.

Observe the various marketing and promotional schemes of the transportation services in your region. Critique the effectiveness of each campaign.

Contact a small transit operation near you. Meet with the marketing personnel to discuss their approach to marketing the system. If possible, volunteer to design a promotional brochure or radio announcment for the service.

Contact a demand-responsive or other transportation service which manages information by use of computers. Arrange to visit the site for observation.

Write a scenario describing rural public transportation in the future. Read the scenario to the group and discuss the implications.

Meet with a group of young people to talk about rural public transportation. Ask them questions such as, What if you lived in a rural area and did not have a car? The answers to this and other questions can prove inspirational to persons interested in designing transit services.

Design and participate in other activities to achieve a better understanding of Rural Public Transportation.

A Citizen's Guide

The following guide was designed to help local people design and implement needed local transportation services. It was adapted from the work of Peter Schauer, a consultant who has helped design many UMTA funded rural systems. It

is intended here as an illustration of one approach to designing transportation systems from the grassroots level.

In the event that readers of this unit choose to actually design transit service in a local rural area, this guide could serve as a beginning.

The steps outlined below indicate how interested persons could legitimately take greater control of meeting the mobility needs of their community. It coincides with the previous discussion in this unit of the market segmentation/needs-based approach to design.

- The first step is to conduct a survey to determine the mobility needs of the people in the specified rural area. This survey could be an informal phone survey to the social-service agencies in the area to determine if they perceive a service need.
- The second step is to contact local government officials (e.g. county commissioner, mayor, state legislator, congresspeople, etc.) and explain the situation. Ask them how they can help you and get a feel for how they will respond to suggestions.
- The third step is to contact the state government. Call the public transportation division to ask for help and to identify other transportation projects they have funded. If trouble is experienced at getting help at this level, contact can be made to

a land-grant college extension office. At least all of the following should be contacted:

- Local and state elected officials such as the county commissioner, mayor, and congresspeople.
- The public transportation division of the state department of transportation
- Local social-service agencies, such as area agencies on aging and community action agencies.
- The local voluntary action center.
- Churches and religious leaders in the community.
- The local community development specialist or the small business extension agent at the local land-grant college.
- Private transportation operators, like buses and taxis (listed in the yellow pages.)
- The local planning commission.

Once an interested person contacts the members of the community, it can more easily be decided which approach to designing a transportation system should be taken.

- The fourth step, which could be done earlier, is to form a task force to involve more people. Professional people can become involved as they are usually accustomed to cutting through the red tape that can delay transportaion planning efforts.

Other individuals who have proven to be useful are retired teachers and ministers. Additionally, members of the groups for whom the service is intended can be forceful in speaking out for the need for the service.

- The final step in planning rural transportation systems is to devlop the plan. Look at the plans of the agencies and organizations contacted previously. If they are supposed to be providing transportation and sre not doing, the task force can encourage them to do so. Most communities in the U.S. are covered by some county, regional, or state transit plan. These can be obtained through the state department of transportation. One suggestion when planning rural transit systems is to start small; organize car and vanpools or create other volunteer networks to help meet the mobility needs of the people in the community.

APPENDIX A

Rural Transit Network

American Association of State Highway and Transportation Officials (AASHTO)

American Public Transportation Association (APTA)
1225 Connecticut Ave., N.W.
Suite 200
Washington, D.C. 20036
(202)828-2870

Ed Beimborn
Center for Urban Transportation Studies
University of Wisconsin at Milwaukee
Milwaukee, WI 52201

Judy Byman
ARROWHEAD Transit of Minnesota
(218) 749-2912
(for information about their program)

Peter Canga
Texas Association for Coordinated Trabsportation (TACT)
(512) 835-6868

Michael Couture and David Damm
Transportation Systems Center
(617) 494-2247 or 2465
(for newsletter E-1microScoopE-0)

Ira Doom, Coordinator
Public Transportation
Dept. of Transportation
City of Huntsville
100 Church St., S.W.
Huntsville, AL 35801-0308
(205) 532-7440
(for info. about Huntsville van program)

FHWA Rural Technical Assistance Program (RTAP) Centers

- St, Michael's College (Winooski, VT)
- Pennsylvania State University (University Park)
- Georgia Institute of Technology (Auburn, AL)
- Purdue University (Lafayette, IN)
- Iowa State University (Ames)
- Oklahoma State University (Stillwater)
- Montana State University (Boseman)
- University of California at Berkley

Cindy Fish
West Virginia Public Transportation Division
(304) 348-0428
(for information about West Virginia's rural operations)

Bob Goble
Carter-Goble Associates, Inc.
Columbia, S.C. 29211
(803) 765-2833
(He is active in Rural Public Transportation.)

Betty Green
RIDES of Southern Illlinois
(618) 287-3621
(for information about their program and its use of volunteers)

David Griffiths
LISTS Brokerage Operation
50 North Duke Street
Lancaster, PA
17603
(717) 291-1234

Lynn Leidersdorff
Watauga County Transportation Authority (WCTA)
Boone, NC
(The transportation director for WTCA and an organic farmer doing research in alcohol fuels.)

Douglas J. McKelvey
Community Planner
FHWA US DOT
Rural and Small Urban Transportation Management Branch
400 7th Street, S.W.
HHP-11
Washington, D.C. 20590
(202) 426-0153

Michael Meyer
MA Department of Public Works
(617) 973-7310

James H. Miller, Director
Public Transportation Program
PA Transportation Institute
Pennsylvania State University
Research Building B
University Park, PA 16802
(814) 863-1909

Louise Morris, Executive Director
Women's Transportation Seminar
P.O. Box 7753
Ben Franklin Station
Washington, D.C. 20044
(703) 256-5258

National Association for Specialized Transportation (NASTA).
Randy Issacs, President
(615) 331-5173
Board of Directors:
Betty Newell (804) 581-3271
Linda Wilson (804) 296-3184
Glenn Lemasters (804) 358-3376
Don Thorne (703) 343-1721

National Ridesharing Infromation Center
Contact Bob Redmond, FHWA
(202) 426-0210

Avram Patt, Co-director
CVTA Brokerage Operation
15 Ayers Street
Barre, VT 05641
(802) 479-1071

Norm Paulhus
Technology Sharing Program (I-30SR)
Office of the Assistant Secretary for Governmental Affairs
400 7th Street, S.W.
Washington, D.C. 20590
(for publications)

Pat Piras
(415) 464-7744
(She is the coordinator for the planning committee for the Rural Transit Financing Panel Workshop, 7th national Conference, Rural PublicTransportation.)

Public Trasportation Network
Anita Winkler
%Crain and Associates
343 2nd Street, Suite A
Los Altos, CA 94022
(415) 949-1472

Rensselaer Polytechnic Institute
Troy, NY 12182
(518) 270-6227
(for E-1TIMEE-O, Transit Industry Microcomputer Exchange)

Resource Center on Transit Pricing
Ecosometrics
4715 Cordell Ave.
Bethesda, MD 20814
Contact Sue Knapp or Patrick Mayworm
(301) 652-2414

Rural America
1302 18th Street, N.W.
Suite 302
Washington, D.C. 20036
(202) 659-2800

Barbara Price, Editor of the Rural Transportation Reporter
George Rucker
Gail Weston
Dave Raphael

Peter Schauer, Principal
Peter Schauer Associates
Hwy 179 Rt. 2
Booneville, MO 65233
(816) 882-7388

Bob Schmitt
Division of Urban Outreach
Office of Statewide Transportation Programs
P.O. Box 413
Milwaukee, WI 53201
(414) 963-4891
(for information about needs assessment questionnaire)

Charlene Schofield
Rural Technical Assistance Program (RTAP)
Special Programs Branch, HHP-11
FHWA
400 Seventh Street, S.W.
Washington, D.C. 20590
(202) 426-0153

Robert L. Smith, Jr.
University of Wisconsin
Dept. C & EE
2044 Energy Building
Madison, WI 53706
(608) 262-3649

Robert E. Stammer, Jr.
Box 90 Station B
Vanderbuilt University
Nashville, TN 37235
(615) 322-3435
(for information about microcomputers in Rural Public Transportation)

Ruth Stone, Administrative Assistant
OATS, Inc.
(314) 443-4516
(for information about Missouri's program)

Technology Information Clearinghouse for Local Elderly and Handicapped Transportation Options
Transportation Systems Center
Kendall Square
Cambridge, MA 02142
Contact Bud Giangrande
(617) 494-2486

Mitzi Teel
West Virginia Public Transportation Division
Building 5 Capitol Complex
Charleston, WV 25305
(304) 348-0428

Wendy Thomas
WV Dept. of Human Services
Area Office #3
P.O. Box 800
High Street
Morgantown, WV 26505
(for information about the TRIP program)

Transportation Systems Center
Research and Special Programs Administration
Kendall Square
Cambridge, MA 02142
Contact: Bud Giangrande or Jim Dumke (DTS-31)
(800) 225-1612 or
(617)494-2486

TR News
Nancy A. Ackerman,Editor
Transportation Research Board
2101 Constitution Avenue, N.W.
Washington, D.C. 20418
(202) 334-2972

UPTRAN
Bus Transit Division of Northern Michigan
State Transportation Division
425 West Ottawa Street
P.O. Box 30050
Lansing, MI 48909
(for films about their program)

Urban Mass Transportation Administration (UMTA)
Lynn Sahaj
(202) 426-7182
(for grants and regulations information)

Judy Mead
(202) 426-4984

Larry Bruno
(202) 426-4984

Roger Tate
(202) 426-4984

Transit research Information Center (TRIC)
UMTA
Contact Marina Drancsak or Winnie Muse (URT-7)
(202) 426-9157

UMTA Centers for Transit Research and Management Development

- University of California at Irvine
- New York Institute of Technology
- Portland (Oregon) State University
- Wharton School, University of Pennsylvania (Philadelphia)
- Florida A6M University (Tallahassee)
- Texas Southern University (Houston)
- University of Michigan at Ann Arbor
- Indiana University (Bloomington)

Urban Mass Transportation Research Information Service (UMTRIS)
Transportation Research Board
National Research Council
2101 Constitution Ave., N.W.
Washington, D.C. 20418
contact Fred Houser
(202) 334-3256

Urban Transportation Planning System Support Center (UTPS)
COMIS Corp.
11501 Georgia Ave.
Wheaton, MD 20902
(for batch computer planning tools)

GLOSSARY OF TERMS

Broker

The function of the broker is to identify the transportation needs of various market segments and then match these with the most appropriate transportation resources available.

Brokerage

A management technique which brings people in need of transportation together with a provider.

Carpool

Rides shared in private automobiles by two or more people, on a continuing basis, regardless of their relationship to each other or of cost sharing arrangements.

Community Action Program

This program, which began under the Office of Economic Opportunity in the late 1960's and was later absorbed by the Community Services Administration, has been responsible for funding many rural transportation services.

Coordination (of transportation)

A cooperative arrangement among transportation providers and purchasers aimed at realizing increased transportation benefits through the joint development and operation of one or more transportation functions.

Demand-Responsive Paratransit

A public transportation service characterized by the flexible routing and scheduling of relatively small vehicles to provide shared-occupancy, door-to-door personalized transportation on demand for a modest fare.

Fixed-Route Service

Scheduled fixed-route service in nonurbanized areas is characterized by higher density and higher demand corridors, fixed schedules, and fixed routes.

Headway

The time required for successive vehicles travelling at the same speed and direction to pass the same point.

Intercity Buses

Although intercitybus service is not a practical alternative in terms of providing a total transportation service for a nonurbanized area, such service can be utilized to form an integral element of a total transportation system. Intercity buses can provide service from a central transfer point in a nonurbanized area to an urban area within the region.

Jitney

A vehicle travels along a fixed route with predetermined schedule but may make pick-ups or drop-offs anywhere along the route. This type of fixed route service is characterized by generally smaller vehicles and short headways.

Market Segmentation

The key to the market-segmentation approach is the identification of groups in the target market that are homogeneous with respect to important criteria that influence their travel choices.

Mobility Club

This is a cooperative form of the volunteer driver framework, in which the club consists of rider-members who have frequent need for transportation and driver members who are willing to provide transportation to others in their own car in return for payment.

Paratransit

Those types of public transportation on the continuum betwee the private automobile and conventional transit. These flexible services are operated publicly or privately and are typically small scale operations using low-capacity vehicles.

Point Deviation

A point deviation system is one in which vehicles stop at specific locations on a regular schedule, but do not have to follow a set route between those stops. Passengers may request to be picked up at any location (e.g., at their homes) within a certain distance of the general "routes." The actual route is determined, on a run-by-run basis, by the locations of the individual requests, as well as the scheduled stops.

Postal Bus

This concept involves the transportation of passengers in privately operated vehicles also engaged in the distribution and collection of mail along designated routes.

Ridesharing

The utilization of transportation resources of small urban and ruralareas can be enhanced through the introduction of the ridesharing concept. Ridesharing involves the sharing of a transportation vehicle by patrons of two or more different agencies or groups. Applications of the ridesharing concept can improve vehicle utilization and therefore the costeffectiveness of the transportation service.

Route Deviation

A route deviation system is one which vehicles proceed along a fixed route, making scheduled stops along the way; however, the vehicles are allowed to deviate from the route on demand to pick-up or drop-off passengers. The vehicle returns to the original route at the same point at which it left.

Section 8

The Planning and Technical Assistance Program that provides for planning grants in rural and urban areas.

Section 13(c)

This is a provision of the UMT Act of 1964 which requires that the position of existing transit workers "not be diminished" through projects initiated with UMTA funds.

Section 16(b)(2)

The program that provides capital assistance to private, non-profit organizaitons for services for the elderly and for persons with disabilities who live in rural and urbanized areas.

Section 18

Section 18, created through the Surface Transportation Act of 1978, authorized the Non-Urbanized Area Transit Assistance Program, which povides funding to cover up to 50% of the transit operating (and up to 80% of capital) deficits incurred in eligible areas. Funds have been allocated to states on a formula basis, based on non-urbanized area population.

Section 147

Section 147 of the Federal Aid Highway Act of 1973 authorized funding for the Rural Transit Demonstration Program. This program led to the initiation of over 100 demonstrations throughout the country and was the forerunner of Section 18.

Subscription Bus (Buspool, Custom Bus)

Words used interchangeably to refer to express bus service with limited pickup and destination stops, guaranteed seats, and advance ticket purchase.

Subscription Service

Individuals or groups within the service area may subscribe to a transportation service on a daily basis. These patrons generally travel either to or from a single location.

Taxis

Many urbanized areas throughout the country have been utilizing taxis to provide transportation service to the elderly and persons with disabilities. In nonurbanizedareas, however, taxis are not as prevalent and, therfore, have not been extensively used in providing a public transportation service. Taxis are a particularly good user-side subsidy transit option.

Transportation Cooperative

A transportation cooperative is an organization which operates a transportation service, the users of which are members of the organization and are involved (either directly or through representation) in the management of the service.

Transportation Providers Cooperative

A transportation providers cooperative is an organization which operates a service, the users of which are transportation providers and are directly involved in sharing information, pooling resources, purchasing parts as a group, and establishing joint training sessions.

Vanpool

Prearranged membership in a group whose members are picked up at specific points to be taken to common or nearby sites, usually employment sites, then returned to the pickup points after the end of the workday.

Volunteer Driver Program

This as an arrangement in which volunteers, using their own automobiles, transport clients of participating agencies. Volunteers are reimbursed for mileage and other operating expenses.

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assessment of existing services is accomplished, the comparison with the market segmentation is done.

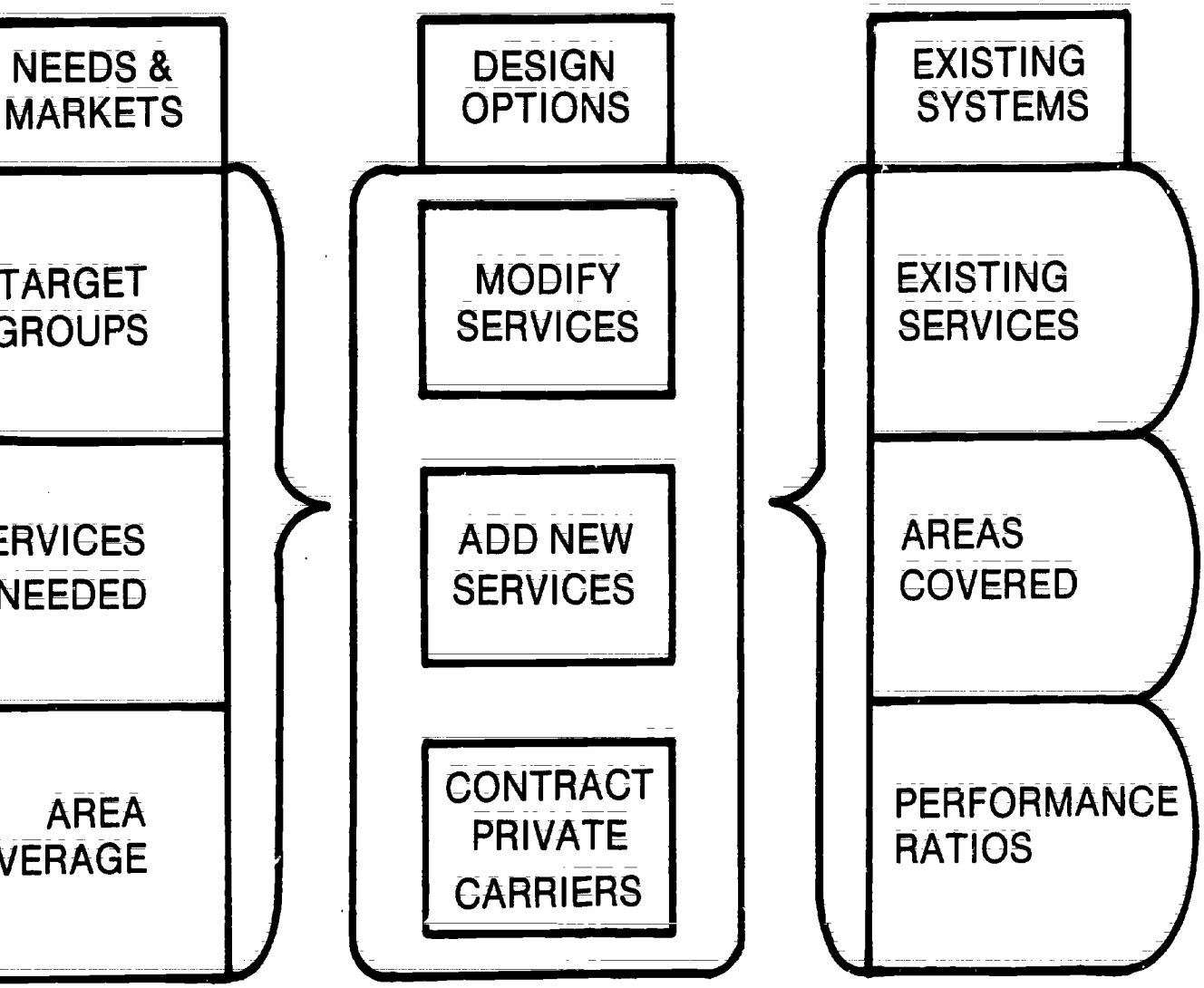
Analysis of Unmet Needs

A comparison of the data from the market segmentation analysis and the assessment of existing services will reveal the unmet needs of the people in the area. Service gaps can appear in several forms or combinations which include specific trip demand, special user groups' needs, and unserved geographic locations. (See Illustration 9 entitled Utilization of Assessment Plan.)

An example of transportation service gaps among special user groups is recognized by human service agencies. These agencies have typically supplied the only means of transportation to the elderly and persons with disabilities. Such service, if available, is infrequent and geared to specific agency programs. Due to financial restrictions, the service commonly extends only to those specific programs, and not to the multitude of other travel needs. Service of this type can help to diminish the feelings of isolation expressed by some residents of rural areas. However, not all persons living in rural areas qualify for these services.

Determining unmet needs requires analysis of market segments and of existing system data. Possible service

tration 9. Utilization of Assessment Plan.



gaps are examined to determine how they can be met by re-designing existing services, designing new services, or a combination of the two.

Targeted Design

The fourth step in market segmentation is designing a system which fits the intended user. Targeted design is a two-phase process. The planner(s) first design or redesign appropriate transportation options based on the needs of the people and with their continuous input. At the same time, the political and fiscal environments must be continuously assessed to determine the feasibility of implementing the resulting design.

As with the previous three steps, this is best accomplished with the input from those for which the system is intended. It has been proven time and again that systems designed <u>for</u> potential users and not <u>with</u> these users are destined to fail.

The Rural Planner's Role

Needs-based planning provides parameters for new systems and the criteria for improving any existing systems. The factors which most influence a design are:

- The needs of the people;
- The size of the groups;

- The location of unserved groups; and
- The economic feasibility and characteristics of modes and vehicles.

In designing a transportation system for use in rural areas consideration must be given to the logistic, technical, economic, and social factors.

Logistics such as coordinating services to meet the most needs; technical factors like special needs modifications such as lift chairs; economics such as capital and start up costs; and social impacts like what groups will benefit from a certain service are all considerations in designing or redesigning transportation systems in rural areas.

The political and fiscal environment for rural transportation planners is constantly changing. This demands that a planner be aware of changes affecting the decision-making process. Sensitivity to changing conditions and flexibility in response are also required. The planner must be able to competently define the problem and approach the problem-solving process in an appropriate manner. Open communication with people in the area is an important part of this process.

The successful rural transportation planner must maintain current information about federal and state regulations which affect the program. For instance, Section 105(f) of the Surface Transportation Act of 1982

requires public transportation systems to commit 10 percent of all contractural opportunities to disadvantaged minority-owned business enterprises (DBE's) and one percent to women-owned business (WBE's). Such regulations are of importance to transportation planners, particularly those contracting for service. Illustration 10 portrays the transportation planning process.

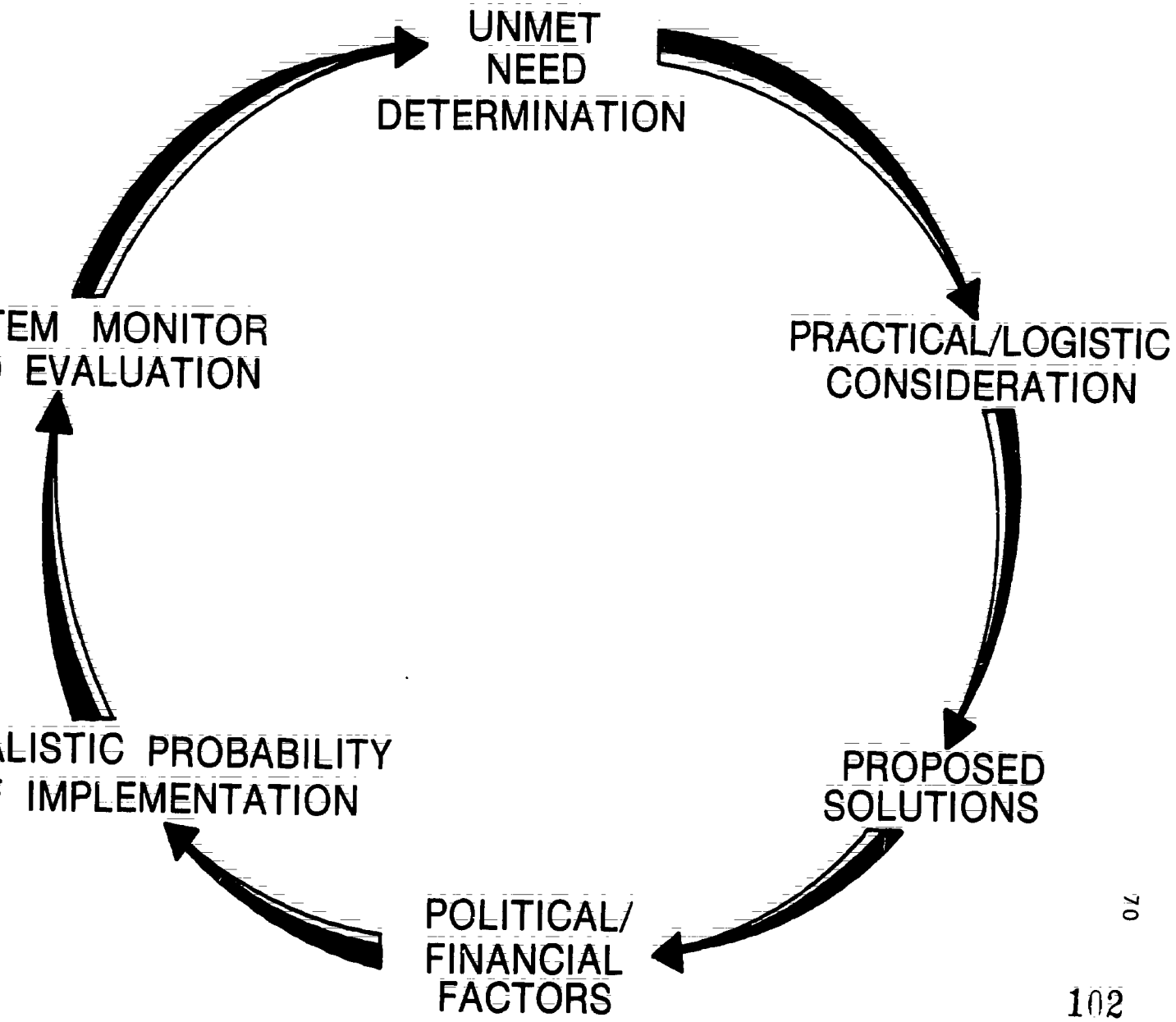
Planning Rural Transportation Service: An Example

Although transportation planning, especially in rural areas, is a complex process, it can be done by professional planners and lay people alike. In fact, many rural operations were started as local efforts. One example of community based planning which grew to a large, successful system is the organization called OATS.

OATS, Inc., located in Missouri, is a not-for-profit transportation company specializing in service to elderly and disabled persons. In 1982 OATS had 145 vehicles on the road which travelled some 3 million miles, providing 550,000 one way trips.

The origins of what is now known as OATS began in 1970's when a small group of older persons in central Missouri recognized the unserved needs of an increasingly elderly population in the state. With intial funding from the state's Office on Aging and technical assistance from

Illustration 10. Transportation Planning Process.



the University of Missouri's Extension Division, CTS purchased three vehicles, hired a paid staff of five including a director, a part time secretary and three drivers.

The following section will describe some of the factors considered when designing a rural public transportation for implementation. The various techniques necessary to help ensure the system's success will also be discussed.

Summary

Through the use of the four steps of market segmentation analysis, the travel needs of the people in the area can be more competently met. By (1) assessing the needs, (2) assessing the existing services, (3) comparing these to determine where the gaps occur, (4) and designing a system which is targeted to meet the needs and is feasible to implement, transportation service can be planned which is appropriate for the various user groups living in a specific location.

STUDENT REVIEW

1. Discuss the positive and negative qualities of meeting rural transportation needs with innovative solutions.

2. describe the skills which are critical to transportation planners who choose the mobility-based approach to planning.

3. Discuss the general characteristics of the needs-based approach to transportation planning.

4. Discuss the objectives and activities related to each of the four basic steps in the needs-based approach to planning.

5. Construct a transit needs assessment survey or questionnaire aimed at students of your university or people in your community which would reveal groups that need regular transit service.

6. Discuss the possible barriers to the development and implementation of the mobility club concept.

Please refer to the Activities section of this unit for more comprehensive work in rural public transportation.

GUIDELINES FOR STUDENT REVIEW

1. Open ended discussion.

2. See pp. 56-57.

3. See pp. 57-59.

4. See pp. 61-62.

5. Open ended question.

6. See pp. 43-46

DESIGNING FOR IMPLEMENTATION

The purposes of this section are:

- To describe factors to be considered in the design and implementation of Rural Public Transportation.
- To familiarize the student with techniques for ensuring the successful implementation of a rural transportation operation.
- To illustrate how selected operations have achieved varying degrees of success.

Transportation planners should have a thorough understanding of the diverse groups of people and the institutions which make up the rural environment. Planning optimal transportation service does not ensure implementation. The implementation phase involves planning factors related to the legal, regulatory, political, attitudinal, financial and technical components of a system. These planning factors affect the implementation of any transit plan.

Similarly, operational factors, such as the role of vehicle drivers, efficient management of information and marketing, can enhance the implementation process.

Basic Design Considerations

Financial

The average rural community has no public transportation because:

1. Costs to set up and implement a program are considerable. These include organizational costs of planning and administrative costs of management.
2. Revenues are insufficient to cover the high initial cost of start-up, and in many cases longterm ridership would be so low that the farebox revenue would cover only a small portion of the operating costs.
3. Subsidies are not available and many states have no program to provide operating assistance to rural areas. The federal Section 18 funds average about 2 million dollars per state, and consequently cannot be expected to serve the majority of rural communities.
4. The tax base revenue in rural areas is less than urban areas, so there is a lower amount of revenue coming in from fewer people.

Cutbacks in federal funding as well as the inability of local communities to support organized transit systems are considerations of utmost importance in implementing a system. Cost constants which apply to the implementation

of any transit system are operating costs, capital costs, and start-up costs. Actual figures differ because each community is unique. However, developing a budget for the operation must be done in order to ensure the viability of the system. Figure 4 is a sample budget from one service in a rural area in the middle Atlantic U.S.

Political

Local political interests frequently support particular groups, systems, or neighborhoods. These interests are important to consider when planning transportation programs. By including as many of these persons in the planning stage, their interests can be considered at a stage of the planning process where their input is valuable and usable.

Legislative

Transportation planners must be aware of the changes in the legislature which effects their decisions. For example, conflicts between service providers can occur where conventional transit service is competitively challenged by paratransit or pooling arrangements. Although this situation is generally uncommon in rural areas, transit workers must be consulted in accordance with the Urban Mass Transit Act of 1964. Section 13(c) of that

Figure 4: Sample System Operating Budget

FY 86 PROJECT BUDGET

(1) TOTAL NON-OPERATING EXPENSES (Itemized)

Manager's Salary	$ 22,102
Secretary's Salary	-0-
Staff Salary Other	15,435
Fringe Benefits	13,873
Audit Costs	3,500
Board Expenses	975
Contractual Services	5,300
Garage/Storage Costs	5,500
General and Administrative	275
Insurance - Other (Specify)	1,605
Marketing	9,000
Office Equipment	-0-
Office Maintenance	290
Office Supplies	1,400
Printing/Copying	1,500
Rent	3,750
Taxes	380
Telephone Services	3,600
Travel	5,100
Utilities	4,000
Vehicle Insurance	30,000
Other (Specify)	1,250
TOTAL NON-OPERATING EXPENSES	$ 128,835 (1)

(2) TOTAL OPERATING EXPENSES (Itemized)

Drivers Salaries	$ 143,911
Dispatcher' Salary	-0-
Mechanics Salaries	29,135
Fringe Benefits	51,493
Contracted Vehicle Maint. Svcs.	-0-
Fuel	71,000
Hand Tools	600
Licenses	-0-
Oil	1,350
Replacement Parts	20,000
TOTAL OPERATING EXPENSES	$ 317,489 (2)

(3) TOTAL PROJECT COST (Line 1 plus Line 2) $ 446,324 (3)

(4) LESS FAREBOX AND OTHER REVENUE (i.e., CONTRACTS WITH OTHER AGENCIES AND OPERATORS

REVENUES

Farebox Cash	$ 99,623
Farebox Tickets	8,820
Contracted Revenue	4,184
Other (Specify)	453

TOTAL FAREBOX AND OTHER REVENUE APPLIED AGAINST ELIGIBLE EXPENSES $ 113,080 (4)

(5) NET PROJECT COST (Line 3 minus Line 4) $ 333,244 (5)

(6) TOTAL NET PROJECT COST FOR SECTION 18 PROGRAM $ 333,244

(7) FEDERAL SHARE (Section 18; 50% of Line 6) $ 166,622

(8) LOCAL SHARE (50% OF Line 6)

A. CASH MATCH

a. Local Cash	$ 19,622
b. Charter Profit	2,000
c. Advertising Profit	5,760
d. Other (please specify) Interest Income	1,200

B. LOCAL CASH
a. State Funds: $138,000
b. Local Government: $ 19,622 + b + c + d = $ 28,582

Source: State of West Virginia, Public Transportation Division

act states that any new system which might adversely affect transit workers' jobs must include provisions to ensure that no worker be displaced.

Jurisdictional

Private carrier groups such as taxi and bus operators own franchise rights to certain jurisdictions. Yet demand-responsive transportation and user-subsidy programs may require that cross-jurisdictional services be provided to be effective. The planners of transportation programs must respect the rights of private carriers and assure them that their participation in the service might actually increase ridership and will not harm existing programs. Similarly, in the case where both the county and the city offer service to an area, some crossover may be experienced. In many cases agreement can be reached between the providers to cooperatively work schedules so that the area is serviced.

Technical

Some persons with disabilities and elderly persons may have special transportation needs. In designing a transportation service, these special needs must be recognized as they relate to vehicle selection or adaptation and to the local geographic conditions. Proper

needs-based planning can avoid inappropriate system designs, whether rural or urban.

Attitudinal

Respect for the attitudes of the various groups in the community can enhance the development of the operation. For example, understanding the social factors inherent in the informal networks of various groups can be critical to the design of systems. For instance, when designing a multiple use program like a school bus which also carries the general public, the parents of the children should be consulted with regard to their attitudes about the program.

Legal

Attempts to help close the gap between transportation services and mobility needs are sometimes blocked by the interpretation of existing laws. For example, the use of non-traditional transit vehicles, such as vans, revealed problems in the interpretation of insurance rate categories. In many states, vanpools were originally classed by law in the same high-risk category as private business vehicles. This was necessary as virtually no experience with vanpools was available for the prediction of risk.

Progress in this area has occurred throughout the country in the past decade. From the experience in large part provided by the UMTA-sponsored demonstration projects, the insurance industry has been able to more accurately predict risk factors. Consequently, many states have reformed laws to permit a separate insurance rate category for vanpools.

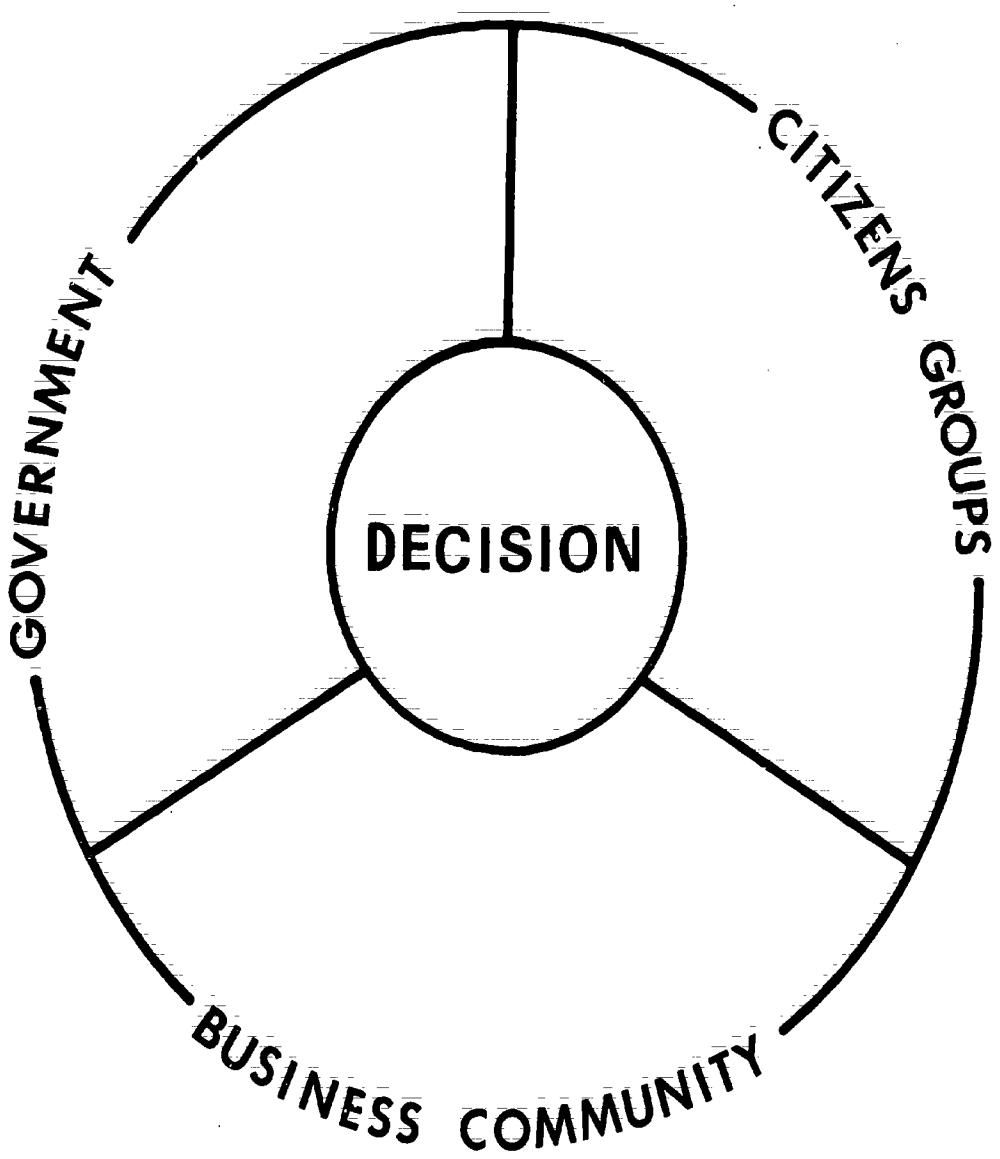
These factors effect the implementation of transportation service in any area. Planners must work with the various members of the community in order to avoid unneccessary difficulties and to design service that is appropriate to the needs of the community. Illustration 11 and Figure 5 describe some of the individuals from the community who should be involved in designing transportation service.

The Role of Vehicle Drivers

The drivers of the vehicles are frequently the only contact riders have with the rural transportation service. Driver sensitivity to the needs of the users is critical to successful service. The benefits of driver training include:

- reduced likelihood of injury;
- improved efficiency in operation;
- increased confidence of the user in the system;

Illustration 11. Principal Groups Involved in the Transportation Decision-Making Process.



Source: Technology Sharing, 1978, p. 29.

Figure 5. Principal Groups Involved in the Transportation Decision-Making Process.

GOVERNMENT	CITIZEN GROUPS	BUSINESS COMMUNITY
Local	Advisory Boards	Chamber of Commerce
County	Fraternal Organizations	Developers
Metropolitan	Howmowners	Labor Unions
Regional	Individuals	Merchants
Special District	League of Women Voters	Newspapers
Transportation Authority	Neighborhood Groups	Taxi Companies
State Department of Transportation	Parent Teacher Associations	Transit Operators
Other State A-95 Agencies	Peace Groups	
Federal Department of Transportation	Religious Groups	
Other Federal Agencies	School Groups	
Law Enforcement	Service Clubs	
Public Safety Agencies		
Welfare		
Health Agencies		

SOURCE: Technology Sharing, 1978, p. 29.

- reduced liability suits; and
- reduced scheduling difficulties.

Some driver sensitivity training uses role-playing as a technique. Drivers of special transportation services are either blindfolded or confined to a wheelchair for a matter of hours. They are then asked to use the transportation service. This role-playing technique provides the driver with a sense of how the user experiences transportation service being provided. It not only sensitizes the drivers to the special needs of the user, but also helps them become aware of how they might aid disabled or elderly persons in using the transportation services in a more effective manner.

This sensitivity enables the driver to perform acts of assistance, therefore decreasing the risk of injury to the user. Sensitivity to the amount of time needed for the manipulation of wheelchairs improves efficiency in scheduling.

Consolidation and coordination of transportation services are frequently done to eliminate duplication of services. This effort in eliminating duplication of services can sometimes create problems in equitable allocation of funds among the agencies or operators providing the services.

Likewise, in cases where service is being provided to populations with special mobility needs, such as the elderly and handicapped, the human service agencies, who are most familiar with their client's needs, question whether the service being provided is adequate. Driver training can help in this situation. Training which increases the sensitivity of drivers to the riders special needs should relieve doubts the agency may have about the adequacy of the service.

One example of training designed for drivers is the Passenger Assistance Techniques (PAT). PAT is a training program developed and operated by the Transportation Management Associates based in Fort Worth, Texas. This program was initiated by William Henderson, a man who uses a wheelchair who was concerned with the quality of service available to handicapped individuals.

Individuals from state public transportation divisions and various transportation operations throughout the nation travel to Fort Worth to participate in the training. The Transportation Manangement Associates train these people who are then certified as PAT trainers. The trainers return to their state and then conduct training sessions.

Although driver sensitivity training is critical when providing specialized transportation, it is helpful in other situations as well. In any case where individuals are more aware of their environment, they are better able

to cope with the unusual and unexpected events which occur in even the most well-organized systems.

Management of Information

In order to maintain an operation which is appropriate to the needs of the community, continuous monitoring and evaluation is required. Efficient record-keeping and evaluation are critical to this process. A small informal volunteer program may keep few or no records but with any organizational effort information management can become a major task.

Computerized management of information is becoming increasingly popular, particularly in programs which are demand-responsive. Computer-based management information systems (MIS) in rural applications provide various operational, managerial, and statistical reports. Additionally, an MIS could handle the billing and payment system to support various fare collection alternatives, such as that of a demand-responsive system which wishes to implement monthly billing. (Refer to Illustration 6, p. 35, entitled Communication Pattern for Demand Responsive Systems.)

An example of computer application in a rather large region follows. The Cape Cod Regional Transit Authority

(CCRTA) uses a computer-based MIS. The MIS is sufficient to handle up to 7500 clients and 40,000 trips/month.

This MIS itself can be broken down into four major functions or components:

1. File maintenance and inquiry routines,
2. Scheduling and trip-related data entry,
3. Monthly and annual routines, and
4. Client billing.

The following was adapted from work of Robert Stammer funded by UMTA. Computer applications on less grand scales can also prove to be effective and efficient in handling information. Because bookeeping and operational analysis is usually done manually in most rural settings, interest in microcomputers is growing.

The Upper Cumberland Area Regional Transportation System (UCARTS) in Algood, Tennessee typically provides between 17-18,000 client trips monthly with thirty-eight vehicles serving a 14-county rural area. The 1500-2000 clients typically served during any month require services to many different destinations throughout Middle Tennessee.

UCARTS was selected to investigate the role of microcomputers in rural transit operations. The researchers observed that the lack of computer skills and experience plus a general apprehension of computers by rural agency personnel generally seemed to be the norm.

By starting the orientation process gradually and using a variety of games and very basic programs, the natural inherent fears of a person unfamiliar and very apprehensive about microcomputers can be overcome, and were overcome in this instance. Advancement to more complex activities proceeded smoothly once the initial anxieties and natural inertia of resistance to change were dispelled.

Implementation of a Computerized MIS

UCARTS existing mainframe computer contract was not cancelled immediately upon adoption of the inhouse microcomputer. Many rural transportation operations' compile data manually and these existing methods should not be totally abandoned until the microcomputer programs are refined and fully operational. Even then it is necessary to have backup data and an emergency contingency plan.

The entire process of converting the present data processing procedures of UCARTS to a microcomputer has been successful. The only remaining question pertains to input time requirements. How much time is required to enter all of the trip data for the operation? The underestimation of 2-3 hours each day proved in actuality to be 4-5 hours per day.

The reported benefits of the addition of the microcomputer to UCARTS include:

- increased availability of different management reports,
- practically instantaneous generation of management reports,
- better understanding of total operational procedures and data needs because of internal processing, and
- improved data collection and monitoring procedures.

Other possible benefits are:

- financial savings,
- potential networking from additional terminals,
- data management of other agency programs besides transportation by the UCARTS umbrella agency, and
- increased marketing and funding potentials.

This latter expected benefit represents the fact that the operation will have better and more accurate records of the clients transported and the trips provided in each county, thereby identifying those counties with unmet needs. A generic version of the tailored UCARTS program is available. This program is distributed by the U.S.D.O.T. Transportation Systems Center on a national basis and is public domain software.

Marketing the System

A successful marketing program can be a key to building and maintaining a high level of ridership. Because marketing both gives and receives information, it is a critical communication process. Market research determines who needs which services where and when. Useful information can be provided by market research to determine how and when the system will be promoted, in other words, how the people for which the service is intended can find out about the system.

Promotion can be in the form of public information, customer relations, and advertising. The use of items such as logos and distinctive color schemes has proven effective in promoting systems. Illustration 12 is an example of a promotional brochure for a ridesharing program.

The rural transportation operators must provide clear information to the riders, particularly in the case where changes are made in the system. A good example of a marketing campaign is the one designed by the West Virginia Public Transportation Division. The Get on the Bus and Ride campaign was created to promote the various transportation services in West Virginia, a rural state. The West Virginia PTD developed and distributes a marketing handbook that contains the official collection of materials from the Division. It was created as an aid to operators

throughout the state in producing marketing campaigns for their operations.

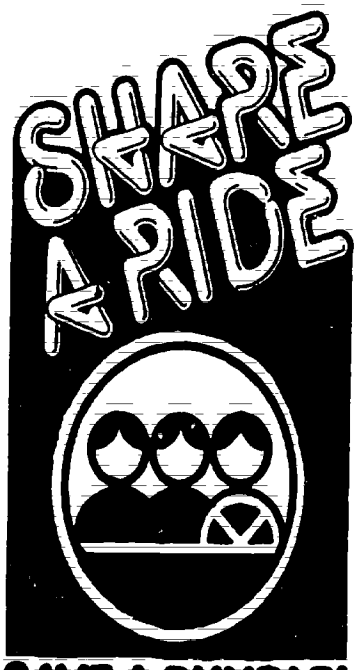
Included in the handbook are ready-to-use newspaper and radio advertisements with suggestions on how to use certain elements to prepare original ads. The budget planning section suggests how to best spend the operation's advertising budget to purchase media time and space.

Another section deals with ideas for public relations activities which generally require more expenditure of effort than cash. This section is based on the idea that good public relations can be invaluable in promoting good will and a positive image in the community.

The handbook also gives suggestions for deciding how an operator could plan a year long promotional campaign. The idea is to start with the total annual advertising budget and subtract any pre-allocated expenditures, such as Yellow Pages listings. The total budget for media expenses is then divided into percentages for specific promotions during the year.

Any successful marketing program must have a method of collecting and analyzing the feedback from the user groups in the area. This feedback should be reflected in changes made to the operation to accomodate the needs of the people using the system. Rider surveys are an inexpensive and easily implemented means of obtaining feedback as are the

stration 12. Sample Ridesharing Promotional Brochure.



SAVE A BUNDLE!

you can save
$575 a year
...just by changing
the way you
ride to work!

We're "Share a Ride", and the $575 is approximately what you can save if you don't drive your own car to work alone everyday.

Now, before you go stiff in your chair over the thought of not having your very own car sitting out there in the Company parking lot all day everyday, consider some of the advantages of sharing a ride to work.

You're going to save a lot of money...real, spendable, tax free income just because not driving will cost you less.

Depending on the car you're driving, you may save a little more or a little less than our $575. If you're driving a '39 Volks powered by a rubber band, chances are you've beat the system. If you're tooling to work in a '78 Mercedes 450 SEL, we're about to save you a bundle.

Most days you'll be driven to work, and that's easier on you. Parking gets easier because there are fewer cars on the lot.

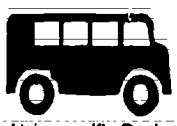
If you're a one car household, leaving the car at home will help others in your family get around.

And Share a Ride is a neat way to meet some new folks.

There are three ways to "Share a Ride". Which one interests you most?

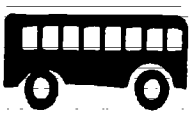
CAR POOLING

We do all the work... supply you with the names, addresses and phone numbers of people in your area going to the same work location. We'll even suggest how you split the expenses. All you folks do is get together. And, it's flexible... you don't have to ride everyday. Plus the fact that car pooling may qualify you for a discount on your auto insurance.



VAN POOLING

This is different, but so are the benefits. You could wind up driving a nifty Dodge or Plymouth Van for free. Use it for your personal needs, too. How about that! Or, at the very least, you wind up being chauffered to work in style & comfort... with time to read the morning paper. Once again, we do all the work, and all the organization... all you have to do to get started is indicate your interest.



REGULAR BUSES

We provide the schedules, pick out the best route for you to ride, and sell you the MTC "All you can ride" monthly pass. You just climb aboard, and start saving that $575.

92

Source: Evaluation of the Minneapolis Ridesharing Commuter Services Demonstration, 1980, p. A-3

careful records kept from phone calls of people requesting information, registering complaints, and making suggestions.

Summary

The most effective way of being sensitive to the factors described above is to involve the residents of the community for which the transportation service is being designed. In this way, factors critical to the success of the service will be dealt with in the planning process, thereby eliminating the chance of additional problems. Driver sensitivity training, management of information, and marketing the system are all efforts to ensure the success of the program after implementation.

ISSUES IN RURAL PUBLIC TRANSPORTATION

The purpose of this section is:

- To describe the directions for rural public transportation in the future.

According to Jim Bautz of UMTA, a number of observers have noted a basic change in what people expect government, especially at the Federal level, to be able to do or afford to do. Because of this change, the manner in which public services, including transportation, are delivered will not be the same in the future as in the past. There will probably be less money available for public services, and the emphasis in the coming years will be on more efficient utilization of existing resources, self help, public/private partnerships and a more market oriented delivery of public service.

The need for public transportation will continue to grow in the years ahead due to the growth of rural areas and the fact that the rural population contains large numbers of elderly and persons with lower than average incomes. However, just as rural populations are

experiencing unprecedented growth, the amount of funding available for meeting rural transportation needs has been reduced.

Directions for the Future

This situation implies several directions for the design of rural public transportation operations. One important form of new service will come from improvements in existing resources. The result will be a diverse set of organizational and service arrangements, many of them rather informal in nature. It is not likely that the need for service will diminish in the foreseeable future; thus virtually every rural area will be faced with the challenge of how to efficiently meet the basic needs of its residents. Some of the directions for improving rural public transportation include:

- increasing coordination among existing providers where possible;
- increasing the use of existing resources for multiple use such as postal buses and school buses for public transportation purposes;
- increasing the use of volunteers for driving and dispatching vehicles; and
- creating more information sharing networks among existing transportation providers to increase efficiency and effectiveness.

The most appropriate mix of these and other options will depend on many factors. Some of the factors include the nature of existing services, the availability of continuing funding, the nature of transportation needs and travel patterns, and the attitudes of the local people.

Nationally significant progress has been made in rural transportation in the past five years. This has occurred primarily where local officials, transportation providers, business persons, and citizens have addressed the problem collectively. They have learned how to become involved in the transportation planning process, where to obtain technical information and assistance, and how to exchange their experiences. It has been proven that successful rural transportation programs are initiated at the local level and local officials are the most effective in demonstrating:

- need for improving or establishing local transportation systems;
- the importance of coordinating existing programs to provide a system tailored to the needs of a specific community serving everyone; and
- the cost effective use of planning, operating, and financial resources.

Funding

The diminished federal role in funding rural public transportation has given the state and local governments increased responsibility for financial assistance. In most places this will require the development of new funding sources. Some of these sources are tax levies and reallocation of other funds. However, many states and localities are experiencing severe fiscal problems of their own. Thus, the levels of new transportation funding which can be generated, and allocated to rural transportation programs, will be limited in these cases. This will create significant problems for many of the people living in rural areas. Although a high percentage of the families moving to rural areas will own at least one auto, the total number of individuals without access to an auto is not likely to decline from the current total of over 20 million.

Summary

The future success of rural transportation services depends on the cooperative efforts of federal, state, and local officials and the use of imaginative, creative, and productive approaches such as those demonstrated by people in various areas throughout the country.

The challenge to the planners of transportation service in the 1980's is to work with limited public resources to provide for the equitable distribution of transportation services throughout urban and rural areas. The situation implies that new coalitions of support be built at the local level and new institutional arrangements constructed to manage transportation operations. There will be no one solution to transportation problems. The planner will be confronted by a need to analyze a number of different services affected by a variety of institutional structures. The development of services will not be based on public policy statements but on the actual needs of the community.

STUDENT REVIEW

1. Describe the financial considerations of implementing transportation service in rural areas.

2. Describe other considerations for designing transportation service

3. Discuss the role UMTA has played in rural public transportation.

4. Discuss the role of vehicle drivers in rural transportation systems.

5. Describe how computers can be used for management of information in transportation operations.

6. Discuss examples from your area that illustrate how a transportation system is marketed to the community.

7. Discuss how an effective marketing or promotional campaign has influenced your transportation choices.

8. Speculate on how the transportation needs of people in rural areas will be met in the future.

Please refer to the Activities section of this unit for more comprehensive work in rural public transportation.

GUIDELINES FOR STUDENT REVIEW

1. See p. 75.

2. Open ended discussion.

3. Open ended discussion.

4. See pp. 81 & 84.

5. See pp. 86-89.

6. Open ended discussion.

7. Open ended discussion.

8. Open ended discussion.

ACTIVITIES

The following activities have been designed to aid individuals desiring a better understanding of Rural Public Transportation. They can be experienced by any or all of the readers of this instructional unit. When participating in an activity which takes place in the community, care should be taken to maintain respect for the people with whom one comes in contact. A simple explanation and introduction of oneself and ones purpose for being in the area can help to create an atmosphere of trust.

Discuss the various funding programs and how they have shaped rural public transportation today.

Contact a rural transit operator in your area. Meet with the director to discuss the history of their specific operation and determine how it receives funding.

Discuss the various factors which may be involved when a private human service agency opens its transportation service to the general public.

Discuss the issue of the equitable distribution of transportation service in relation to equal access to economic opportunity.

By observing the rural areas near you, determine the conditions which contribute to the difficulty in meeting the travel needs of people who live in those locations.

In small groups of two or three, or singly, arrange to be dropped off in a nearby rural area with the objective to travel back to a predetermined spot. The amount of money each person is allowed to spend should be established ahead of time. After regrouping, discuss the experience and the transportation means available to each person.

In small groups of two or three, drive around in a rural area. Observe the conditions in that area. If possible, talk to some of the people from the area to determine their travel needs and their access to transportation service in the area.

Together in a large group, brainstorm ways in which people living in rural areas can surmount the difficulties in meeting their transportation needs.

Discuss why the general characteristics of people in rural areas inhibits the use of more conventional means of transportation.

Discuss how funding trends have affected the development of transportation services in rural areas.

Describe how local people have contributed to rural public transportation. Determine the reasons these efforts have been/ have not been successful.

Survey a rural area near you to determine the available types of transportation providers.

Locate a transportation service in your area that uses volunteer drivers or dispatchers. Volunteer your services. Meet afterward to discuss the experience.

Design and implement a ridesharing program among the people with which you associate. An informal survey could help in determining how the travel needs compare with available services or drivers.

Arrange to use as many of each of the transit and paratransit modes available; if possible include demand-responsive, fixed route service, jitney service, and ridesharing. Afterward, discuss the various experiences with others.

Using a blindfold, crutches, or a wheelchair, take turns roleplaying the driver of a service and the disabled persons using the service.

Contact local government officials to meet and discuss their policy on providing transportation to the people of the area.

Observe the various marketing and promotional schemes of the transportation services in your region. Critique the effectiveness of each campaign.

Contact a small transit operation near you. Meet with the marketing personnel to discuss their approach to marketing the system. If possible, volunteer to design a promotional brochure or radio announcment for the service.

Contact a demand-responsive or other transportation service which manages information by use of computers. Arrange to visit the site for observation.

Write a scenario describing rural public transportation in the future. Read the scenario to the group and discuss the implications.

Meet with a group of young people to talk about rural public transportation. Ask them questions such as, What if you lived in a rural area and did not have a car? The answers to this and other questions can prove inspirational to persons interested in designing transit services.

Design and participate in other activities to achieve a better understanding of Rural Public Transportation.

A Citizen's Guide

The following guide was designed to help local people design and implement needed local transportation services. It was adapted from the work of Peter Schauer, a consultant who has helped design many UMTA funded rural systems. It

is intended here as an illustration of one approach to designing transportation systems from the grassroots level.

In the event that readers of this unit choose to actually design transit service in a local rural area, this guide could serve as a beginning.

The steps outlined below indicate how interested persons could legitimately take greater control of meeting the mobility needs of their community. It coincides with the previous discussion in this unit of the market segmentation/needs-based approach to design.

- The first step is to conduct a survey to determine the mobility needs of the people in the specified rural area. This survey could be an informal phone survey to the social-service agencies in the area to determine if they perceive a service need.
- The second step is to contact local government officials (e.g. county commissioner, mayor, state legislator, congresspeople, etc.) and explain the situation. Ask them how they can help you and get a feel for how they will respond to suggestions.
- The third step is to contact the state government. Call the public transportation division to ask for help and to identify other transportation projects they have funded. If trouble is experienced at getting help at this level, contact can be made to

a land-grant college extension office. At least all of the following should be contacted:

- Local and state elected officials such as the county commissioner, mayor, and congresspeople.
- The public transportation division of the state department of transportation
- Local social-service agencies, such as area agencies on aging and community action agencies.
- The local voluntary action center.
- Churches and religious leaders in the community.
- The local community development specialist or the small business extension agent at the local land-grant college.
- Private transportation operators, like buses and taxis (listed in the yellow pages.)
- The local planning commission.

Once an interested person contacts the members of the community, it can more easily be decided which approach to designing a transportation system should be taken.

- The fourth step, which could be done earlier, is to form a task force to involve more people. Professional people can become involved as they are usually accustomed to cutting through the red tape that can delay transportaion planning efforts.

Other individuals who have proven to be useful are retired teachers and ministers. Additionally, members of the groups for whom the service is intended can be forceful in speaking out for the need for the service.

- The final step in planning rural transportation systems is to devlop the plan. Look at the plans of the agencies and organizations contacted previously. If they are supposed to be providing transportation and sre not doing, the task force can encourage them to do so. Most communities in the U.S. are covered by some county, regional, or state transit plan. These can be obtained through the state department of transportation. One suggestion when planning rural transit systems is to start small; organize car and vanpools or create other volunteer networks to help meet the mobility needs of the people in the community.

APPENDIX A

Rural Transit Network

American Association of State Highway and Transportation Officials (AASHTO)

American Public Transportation Association (APTA)
1225 Connecticut Ave., N.W.
Suite 200
Washington, D.C. 20036
(202)828-2870

Ed Beimborn
Center for Urban Transportation Studies
University of Wisconsin at Milwaukee
Milwaukee, WI 52201

Judy Byman
ARROWHEAD Transit of Minnesota
(218) 749-2912
(for information about their program)

Peter Canga
Texas Association for Coordinated Trabsportation (TACT)
(512) 835-6868

Michael Couture and David Damm
Transportation Systems Center
(617) 494-2247 or 2465
(for newsletter E-1microScoopE-0)

Ira Doom, Coordinator
Public Transportation
Dept. of Transportation
City of Huntsville
100 Church St., S.W.
Huntsville, AL 35801-0308
(205) 532-7440
(for info. about Huntsville van program)

FHWA Rural Technical Assistance Program (RTAP) Centers

- St, Michael's College (Winooski, VT)
- Pennsylvania State University (University Park)
- Georgia Institute of Technology (Auburn, AL)
- Purdue University (Lafayette, IN)
- Iowa State University (Ames)
- Oklahoma State University (Stillwater)
- Montana State University (Boseman)
- University of California at Berkley

Cindy Fish
West Virginia Public Transportation Division
(304) 348-0128
(for information about West Virginia's rural operations)

Bob Goble
Carter-Goble Associates, Inc.
Columbia, S.C. 29211
(803) 765-2833
(He is active in Rural Public Transportation.)

Betty Green
RIDES of Southern Illlinois
(618) 287-3621
(for information about their program and its use of volunteers)

David Griffiths
LISTS Brokerage Operation
50 North Duke Street
Lancaster, PA
17603
(717) 291-1234

Lynn Leidersdorff
Watauga County Transportation Authority (WCTA)
Boone, NC
(The transportation director for WTCA and an organic farmer doing research in alcohol fuels.)

Douglas J. McKelvey
Community Planner
FHWA US DOT
Rural and Small Urban Transportation Management Branch
400 7th Street, S.W.
HHP-11
Washington, D.C. 20590
(202) 426-0153

Michael Meyer
MA Department of Public Works
(617) 973-7310

James H. Miller, Director
Public Transportation Program
PA Transportation Institute
Pennsylvania State University
Research Building B
University Park, PA 16802
(814) 863-1909

Louise Morris, Executive Director
Women's Transportation Seminar
P.O. Box 7753
Ben Franklin Station
Washington, D.C. 20044
(703) 256-5258

National Association for Specialized Transportation (NASTA).
Randy Issacs, President
(615) 331-5173
Board of Directors:
Betty Newell (804) 581-3271
Linda Wilson (804) 296-3184
Glenn Lemasters (804) 358-3376
Don Thorne (703) 343-1721

National Ridesharing Infromation Center
Contact Bob Redmond, FHWA
(202) 426-0210

Avram Patt, Co-director
CVTA Brokerage Operation
15 Ayers Street
Barre, VT 05641
(802) 479-1071

Norm Paulhus
Technology Sharing Program (I-30SR)
Office of the Assistant Secretary for Governmental Affairs
400 7th Street, S.W.
Washington, D.C. 20590
(for publications)

Pat Piras
(415) 464-7744
(She is the coordinator for the planning committee for the Rural Transit Financing Panel Workshop, 7th national Conference, Rural PublicTransportation.)

Public Trasportation Network
Anita Winkler
%Crain and Associates
343 2nd Street, Suite A
Los Altos, CA 94022
(415) 949-1472

Rensselaer Polytechnic Institute
Troy, NY 12182
(518) 270-6227
(for E-1TIMEE-O, Transit Industry Microcomputer Exchange)

Resource Center on Transit Pricing
Ecosometrics
4715 Cordell Ave.
Bethesda, MD 20814
Contact Sue Knapp or Patrick Mayworm
(301) 652-2414

Rural America
1302 18th Street, N.W.
Suite 302
Washington, D.C. 20036
(202) 659-2800

Barbara Price, Editor of the Rural Transportation Reporter
George Rucker
Gail Weston
Dave Raphael

Peter Schauer, Principal
Peter Schauer Associates
Hwy 179 Rt. 2
Booneville, MO 65233
(816) 882-7388

Bob Schmitt
Division of Urban Outreach
Office of Statewide Transportation Programs
P.O. Box 413
Milwaukee, WI 53201
(414) 963-4891
(for information about needs assessment questionnaire)

Charlene Schofield
Rural Technical Assistance Program (RTAP)
Special Programs Branch, HHP-11
FHWA
400 Seventh Street, S.W.
Washington, D.C. 20590
(202) 426-0153

Robert L. Smith, Jr.
University of Wisconsin
Dept. C & EE
2044 Energy Building
Madison, WI 53706
(608) 262-3649

Robert E. Stammer, Jr.
Box 90 Station B
Vanderbuilt University
Nashville, TN 37235
(615) 322-3435
(for information about microcomputers in Rural Public Transportation)

Ruth Stone, Administrative Assistant
OATS, Inc.
(314) 443-4516
(for information about Missouri's program)

Technology Information Clearinghouse for Local Elderly and Handicapped Transportation Options
Transportation Systems Center
Kendall Square
Cambridge, MA 02142
Contact Bud Giangrande
(617) 494-2486

Mitzi Teel
West Virginia Public Transportation Division
Building 5 Capitol Complex
Charleston, WV 25305
(304) 348-0428

Wendy Thomas
WV Dept. of Human Services
Area Office #3
P.O. Box 800
High Street
Morgantown, WV 26505
(for information about the TRIP program)

Transportation Systems Center
Research and Special Programs Administration
Kendall Square
Cambridge, MA 02142
Contact: Bud Giangrande or Jim Dumke (DTS-31)
(800) 225-1612 or
(617)494-2486

TR News
Nancy A. Ackerman, Editor
Transportation Research Board
2101 Constitution Avenue, N.W.
Washington, D.C. 20418
(202) 334-2972

UPTRAN
Bus Transit Division of Northern Michigan
State Transportation Division
425 West Ottawa Street
P.O. Box 30050
Lansing, MI 48909
(for films about their program)

Urban Mass Transportation Administration (UMTA)
Lynn Sahaj
(202) 426-7182
(for grants and regulations information)

Judy Mead
(202) 426-4984

Larry Bruno
(202) 426-4984

Roger Tate
(202) 426-4984

Transit research Information Center (TRIC)
UMTA
Contact Marina Drancsak or Winnie Muse (URT-7)
(202) 426-9157

UMTA Centers for Transit Research and Management Development

- University of California at Irvine
- New York Institute of Technology
- Portland (Oregon) State University
- Wharton School, University of Pennsylvania (Philadelphia)
- Florida A6M University (Tallahassee)
- Texas Southern University (Houston)
- University of Michigan at Ann Arbor
- Indiana University (Bloomington)

Urban Mass Transportation Research Information Service (UMTRIS)
Transportation Research Board
National Research Council
2101 Constitution Ave., N.W.
Washington, D.C. 20418
contact Fred Houser
(202) 334-3256

Urban Transportation Planning System Support Center (UTPS)
COMIS Corp.
11501 Georgia Ave.
Wheaton, MD 20902
(for batch computer planning tools)

GLOSSARY OF TERMS

Broker

The function of the broker is to identify the transportation needs of various market segments and then match these with the most appropriate transportation resources available.

Brokerage

A management technique which brings people in need of transportation together with a provider.

Carpool

Rides shared in private automobiles by two or more people, on a continuing basis, regardless of their relationship to each other or of cost sharing arrangements.

Community Action Program

This program, which began under the Office of Economic Opportunity in the late 1960's and was later absorbed by the Community Services Administration, has been responsible for funding many rural transportation services.

Coordination (of transportation)

A cooperative arrangement among transportation providers and purchasers aimed at realizing increased transportation benefits through the joint development and operation of one or more transportation functions.

Demand-Responsive Paratransit

A public transportation service characterized by the flexible routing and scheduling of relatively small vehicles to provide shared-occupancy, door-to-door personalized transportation on demand for a modest fare.

Fixed-Route Service

Scheduled fixed-route service in nonurbanized areas is characterized by higher density and higher demand corridors, fixed schedules, and fixed routes.

Headway

The time required for successive vehicles travelling at the same speed and direction to pass the same point.

Intercity Buses

Although intercitybus service is not a practical alternative in terms of providing a total transportation service for a nonurbanized area, such service can be utilized to form an integral element of a total transportation system. Intercity buses can provide service from a central transfer point in a nonurbanized area to an urban area within the region.

Jitney

A vehicle travels along a fixed route with predetermined schedule but may make pick-ups or drop-offs anywhere along the route. This type of fixed route service is characterized by generally smaller vehicles and short headways.

Market Segmentation

The key to the market-segmentation approach is the identification of g oups in the target market that are homogeneous with respect to important criteria that influence their travel choices.

Mobility Club

This is a cooperative form of the volunteer driver framework, in which the club consists of rider-members who have frequent need for transportation and driver members who are willing to provide transportation to others in their own car in return for payment.

Paratransit

Those types of public transportation on the continuum betwee the private automobile and conventional transit. These flexible services are operated publicly or privately and are typically small scale operations using low-capacity vehicles.

Point Deviation

A point deviation system is one in which vehicles stop at specific locations on a regular schedule, but do not have to follow a set route between those stops. Passengers may request to be picked up at any location (e.g., at their homes) within a certain distance of the general "routes." The actual route is determined, on a run-by-run basis, by the locations of the individual requests, as well as the scheduled stops.

Postal Bus

This concept involves the transportation of passengers in privately operated vehicles also engaged in the distribution and collection of mail along designated routes.

Ridesharing

The utilization of transportation resources of small urban and ruralareas can be enhanced through the introduction of the ridesharing concept. Ridesharing involves the sharing of a transportation vehicle by patrons of two or more different agencies or groups. Applications of the ridesharing concept can improve vehicle utilization and therefore the costeffectiveness of the transportation service.

Route Deviation

A route deviation system is one which vehicles proceed along a fixed route, making scheduled stops along the way; however, the vehicles are allowed to deviate from the route on demand to pick-up or drop-off passengers. The vehicle returns to the original route at the same point at which it left.

Section 8

The Planning and Technical Assistance Program that provides for planning grants in rural and urban areas.

Section 13(c)

This is a provision of the UMT Act of 1964 which requires that the position of existing transit workers "not be diminished" through projects initiated with UMTA funds.

Section 16(b)(2)

The program that provides capital assistance to private, non-profit organizaitons for services for the elderly and for persons with disabilities who live in rural and urbanized areas.

Section 18

Section 18, created through the Surface Transportation Act of 1978, authorized the Non-Urbanized Area Transit Assistance Program, which povides funding to cover up to 50% of the transit operating (and up to 80% of capital) deficits incurred in eligible areas. Funds have been allocated to states on a formula basis, based on non-urbanized area population.

Section 147

Section 147 of the Federal Aid Highway Act of 1973 authorized funding for the Rural Transit Demonstration Program. This program led to the initiation of over 100 demonstrations throughout the country and was the forerunner of Section 18.

Subscription Bus (Buspool, Custom Bus)

Words used interchangeably to refer to express bus service with limited pickup and destination stops, guaranteed seats, and advance ticket purchase.

Subscription Service

Individuals or groups within the service area may subscribe to a transportation service on a daily basis. These patrons generally travel either to or from a single location.

Taxis

Many urbanized areas throughout the country have been utilizing taxis to provide transportation service to the elderly and persons with disabilities. In nonurbanizedareas, however, taxis are not as prevalent and, therfore, have not been extensively used in providing a public transportation service. Taxis are a particularly good user-side subsidy transit option.

Transportation Cooperative

A transportation cooperative is an organization which operates a transportation service, the users of which are members of the organization and are involved (either directly or through representation) in the management of the service.

Transportation Providers Cooperative

A transportation providers cooperative is an organization which operates a service, the users of which are transportation providers and are directly involved in sharing information, pooling resources, purchasing parts as a group, and establishing joint training sessions.

Vanpool

Prearranged membership in a group whose members are picked up at specific points to be taken to common or nearby sites, usually employment sites, then returned to the pickup points after the end of the workday.

Volunteer Driver Program

This as an arrangement in which volunteers, using their own automobiles, transport clients of participating agencies. Volunteers are reimbursed for mileage and other operating expenses.

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