Integration of Paratransit and Conventional Transit: Problems and Positive Directions

Workshop 1 Resource Paper
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Public transportation systems are consuming larger and larger amounts of federal, state, and local funds for capital and operating assistance. To date, any significant impact on reductions in energy requirements, elimination of urban congestion and pollution, or increased mobility for the transportation disadvantaged has been slight. The following analysis suggests why that has resulted and recommends major changes in organization of public transportation. Such changes will greatly improve the integration of paratransit and conventional transit alternatives.

The most appropriate place to begin such a discussion is with a major dilemma facing urban transit today: peak capacity subsidies.

On November 26, President Ford signed into law the National Mass Transportation Assistance Act of 1974. This law provides $11.8 billion federal money during the next 6 years to urban transit systems. It makes available $7.8 million on an 80 percent federal government and 20 percent local government basis for capital construction and improvements, such as new garages and vehicles. Another $3.9 billion is earmarked for operating subsidies on a 50 percent-50 percent matching basis. Proponents reason that subsidies will lead to increased transit use, better service, and lower fares and thus permit operators to develop better urban transit systems. Unfortunately, this reasoning is economically unsound for the short run.

Public transit might become economically self-sufficient if the federal subsidy received could be used to generate increased ridership during off-peak hours. However, a study (1) has shown that even if public transit were free only 13.8 percent of automobile work trips could be diverted to public transit and practically no automobile shopping trips would be diverted.

Another aim of the federal program is to reduce traffic congestion and conserve energy by increasing the diversion of automobile trips to transit during peak periods. Increases in peak-hour ridership can be accomplished only by increasing peak-hour capacity, which, at present fares, will not be remunerative. Using peak-capacity operation subsidies to provide additional traditional transit service will cause a further deficit and necessitate further subsidies, and the downward spiral of urban transportation fiscal viability will continue. The thought of increased comfort, i.e., a seat for everyone, during peak-hour ridership is also impractical at present fares; this too would require increased capacity.

An argument could be made that subsidies should be large enough to provide for peak capacity and a seat for everyone as a means to attract patrons to existing systems. However, expected costs would be enormous. In essence, large sums of capital would be used to achieve minimal savings in national energy requirements. Given the competitive needs of other sectors of the national economy, such as education and

social programs, such large expenditures should be avoided if possible.

Another area that should be included in this discussion is the organization of conventional transit systems. Many transit systems are organized to serve an urban environment that no longer exists. They are organized primarily to serve home-to-work trips and shopping trips that are assumed to be made linearly from suburbs to the central business district. Many studies show that much of the movement is no longer in these linear corridors but on crosstown routes, where public transit is not readily adaptable (2). Transit managers continue their present organizational structure because they believe

1. That their transit systems are in the bus or rail business and must act accordingly;
2. That patronage has declined because of the comfort and convenience of the private automobile and that as soon as gasoline prices become high enough patronage will return;
3. That union influence, through restrictive work rules, prevents them from using part-time labor and other innovative approaches to providing urban transportation; and
4. That new buses or rail cars will increase patronage and thus they should be provided financial assistance to purchase new vehicles. (Although this view is becoming less prevalent, it is being used in capital grants and acquisitions to provide municipalities with ever larger fleets of new buses that travel the same fixed schedule and service that drove passengers away from transit.)

And, finally, a discussion is needed of the federal role in conventional transportation. The federal role in urban public transportation operations is a paradoxical one. No one can argue that urban public transportation systems need to be saved or maintained in most large urban areas. For a significant portion of the urban population, no other transport alternative exists. Consequently, the federal legislation is well meaning. The conditions that have arisen as a result of federal aid, however, are quite controversial. In salvaging many transit systems, the federal government is aiding those systems to continue services and practices that led the public to abandon public transportation.

PRESENT CONSIDERATIONS

Transit Management

Conventional transit managers are currently optimistic. Through the use of federal, state, and local tax funds, they have the opportunity to prove the worth of fixed-route, fixed-schedule service, no matter how expensive the operation may become. Conventional transit managers truly believe this is the best kind of service. They have been involved in it for nearly 30 years and are not familiar with other public transportation alternatives. Many managers consider their ridership endangered by competition from paratransit alternatives. Consequently, most paratransit activities are viewed as a major potential competitor, not as an ally of conventional transit operations.

No market-oriented decision process is reflected in the homogeneous service offerings and fare structures of most urban public transportation systems. Conventional transit managers approach their markets from a homogeneous viewpoint. They feel that most riders, irrespective of their socioeconomic background, want transportation from origins to destinations. They give little thought to other important variables in an individual's decision to use a particular transport mode and offer few alternative services.

Many conventional transit managers demand that regulators enforce the monopoly power granted to the existing mass transit agency by the exclusive franchise agreements signed many years earlier. What is often forgotten or neglected is that exclusive franchises were given by the city in order to provide better transport services

and financial remuneration for the city. Consequently, the reasons for the exclusive franchise and accompanying monopoly power are no longer valid. Urban mass transportation systems are no longer an asset to a city's finances; to the contrary, they present a considerable drain on many city resources. A growing body of evidence indicates that the exclusive franchise restricts more than it aids citizen mobility.

Many conventional transit managers cannot give up the concept that they should primarily provide peak-time transit service. However, an analysis may reveal that conventional transit is the most costly and inefficient method to provide peak-time services. Studies of cost of public transport in urban areas show that peak-time services can be more efficiently and effectively performed at lower cost by subscription bus, van pools, car pools, and jitney services. As suppliers of public transportation, which is supported more from the tax roll than from the fare box, transit managers should see their role as being primarily one of providing those services that are not remunerative to private enterprise. In some urban areas, this would be restricted to mainly supervising an off-peak service transit system, with special emphasis on handicapped and other transportation disadvantaged individuals who could not readily participate in other transit alternatives.

Public Transit Officials

Most public transit systems do not cross state lines and are regulated solely by state and local governments. The regulatory agency at the state level is typically a public service commission. The local regulatory body is usually a metropolitan transit authority. The views that these regulatory bodies take may often inhibit or facilitate the integration of conventional transit systems with paratransit alternatives. Unfortunately, many state public service commissions consider it their role to regulate local transit operations so that they conform to existing statutes set forth by state legislators. The regulation they practice is one of passive compliance with existing laws. More hope lies with local transit authorities being able to broaden their regulatory mandate to one of active participation in developing new transportation alternatives for their citizenry.

Local transit authority membership is often a constraining factor in the development of transportation alternatives. Many members are selected because of political friendships, professional business connections, or minority representation. Few are selected because of their expertise in urban transportation. Transit authority members are often reluctant to admit their own lack of knowledge about transportation alternatives and can easily be convinced that the only alternative is the preservation and, in fact, expansion of the existing transit system. Such a decision once made is almost impossible to change. Thus, large expenditures will continue to be made in areas that do not improve urban transportation.

Existing Private Transport Suppliers

Existing transportation suppliers in urban areas such as taxicab operators, airport limousine operators, and subscription bus owners have no motivation to change the present systems. In most cases, their strong motivation is to maintain the status quo or, better, to restrict the use of their major competition, the private automobile (3). Under the present regulation, their environment is secure. If costs are increased dramatically, they can petition the regulatory body for fare increases and consequently their profit margin will remain relatively the same. Taxi operators achieve the same equilibrium in their environment by restricting the number of cabs legally permitted on the streets (4). Integration with other paratransit activities is feared because of the unknown results and a fear of undue competition resulting in a reduction of profits. In essense, to incorporate the existing transport supplier into any integrated system, certain amounts of security will have to be provided. Present suppliers must be shown how they may benefit from integration or, at a minimum, that they will not suffer as a result of integration.

Public Transit User

The tremendous decline in ridership on conventional transit systems indicates that the public has little desire for this form of transportation. Taxicabs operate nearly twice as many revenue passenger-miles as transit does in most urban areas (5). The public obviously desires characteristics of the private automobile.

Conventional transit users would like for the existing transit services to be expanded and enlarged, for they would be the primary beneficiaries. Although their level of satisfaction would perhaps be greater, they would not likely use the system any more and few benefits would occur from such large expenditures. Present nonusers of transit would not be attracted in sufficient numbers during off-peak times to justify the cost of additional peak-time services.

INTERIM SUMMARY

There is a critical need to recognize that existing conventional transit systems alone will not provide the benefits desired from urban public transportation systems. Through this recognition present transit management, public officials, and planners alike will turn to paratransit alternatives as a method to achieve those objectives desired from public transportation. Although this paper has presented up to this point a highly pessimistic view concerning urban public transportation, the remaining sections present constructive suggestions for improvement of planning, organization, regulation, and policy making.

APPROACHES TO PUBLIC TRANSPORTATION PLANNING

Many of the abuses in public transportation have their origin in the planning process. The traditional transportation planner considers the urban environment to be relatively homogeneous, and thus individual trips (work, shopping, school) are aggregated from origin-destination studies to form travel patterns (Figure 1). Through a modal-split analysis, estimates are made for the demand for transit services. Market segmentation is not used. All transit trips are considered a homogeneous market. Given these demand levels, i.e., travel patterns, alternative facilities are evaluated. In highway planning such a framework is more acceptable because the market is relatively homogeneous, i.e., the demand for a highway is based on a standard vehicle—not multiple vehicles, all requiring differing system attributes. However, in transit planning, the market is heterogeneous, and this traditional framework proved unacceptable by a lack of demand for public transportation services. Market segments have been reluctant to aggregate into a total market and use a common transit system.

To more accurately serve these potential target markets with public transportation, the framework shown in Figure 2 is needed. Target markets must be segmented in a clearly identified sector. Transit alternatives must match the needs of the target markets. In addition, cost and community benefit analyses must be made on transit system alternatives to aid in the selection of the more appropriate alternatives and pricing of the service to the individual user. Finally, continued monitoring of the chosen system for each segmented target market is necessary to (a) ensure proper attainment of community goals and (b) evaluate public resources being used to serve urban transportation markets. The change to market-oriented public transportation will necessitate a basic alteration of the organizational structure for public transportation administration in many urban areas.

ORGANIZATION FOR REGIONAL PUBLIC TRANSPORTATION

Traditional transit systems have been heavily product oriented and have tended to view themselves as being a regulated utility in a monopolistic situation. The regulated

Figure 1. Traditional urban transportation planning process.

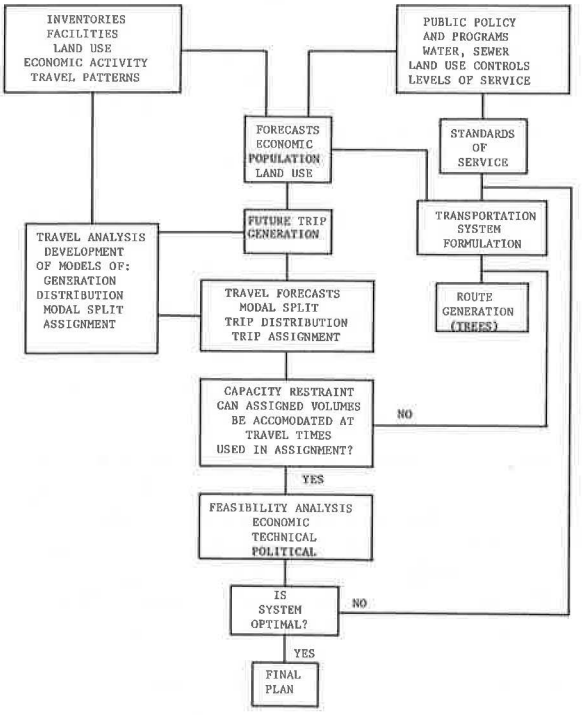
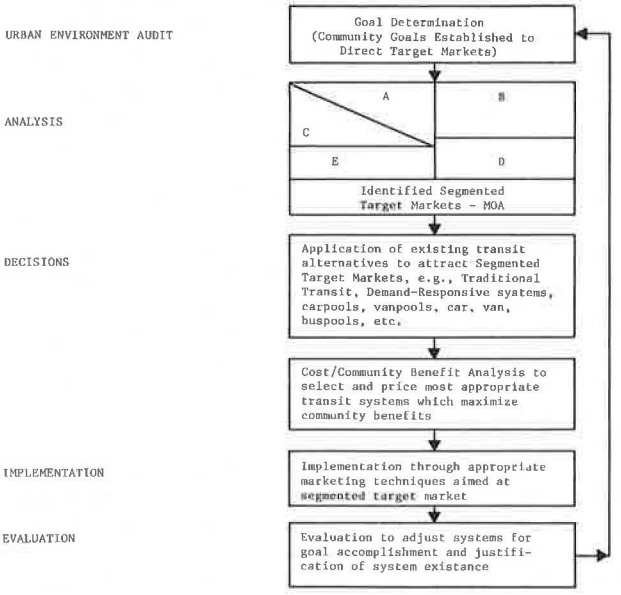


Figure 2. Target market approach to urban transportation planning.



utility orientation was perhaps correct in the sense that fares, routes, and service offerings were heavily regulated. The monopolistic orientation, however, is far from realistic. The private automobile has taken substantial markets away from public transportation; thus, the monopolistic situation applies only to the captive sector of the urban community that has no other economic alternative than that of the existing public transportation system. If public transit systems are to be successful in the future, many more alternatives will have to be made available to the public. Alternatives include car pools, van pools, shared-ride systems, and other forms of paratransit.

The major challenge facing public transportation officials is integrating those alternatives. A most obvious way is through a regional transportation authority. The functional area that should be largely responsible for this coordination would be the marketing department of the regional transportation authority. Reporting to this regional transportation authority marketing department would be the traditional transportation services, such as conventional transit rail or bus operators, taxicab operators, airport limousine services, and charter services. A tentative organizational structure for top administration of a regional transportation authority emphasizing the marketing function is shown in Figure 3.

This organizational plan seeks to integrate the various transportation services for an urban area. It does not necessarily suggest that all facilities are housed in or are coordinated by one operating body. In fact, it is rational to think of a transportation authority as having no actual ownership of any public transportation alternatives. As will be shown, this agency must be free to select among several transport suppliers, both private and public, if it is to perform its functions properly. A regional public transportation authority should act in the best interests of the consuming public and the taxpayers. In essence, a regional public transportation authority should endeavor to provide the necessary services that the consumer needs or wants at the least cost. Such an idea has been termed the "transportation brokerage" concept (5).

The brokerage concept suggests that a regional transportation authority purchases the transportation services from the least cost bidder willing to provide services. Care is taken, of course, to ensure that the minimum safety levels and operational characteristics are met by the individual suppliers and that they are properly registered and licensed to provide such services. However, beyond this, the choice is based on the economic criteria. The private entreprenuer is given the right to provide transport services. In all probability, the brokerage approach reduces the number of full-time employees required for expanding public transportation services. Such a mechanism also allows for the elimination of restrictive work rules that primarily raise the cost of providing transportation services without any correlating increase in the transportation service offered.

Organization for the specific marketing duties of a regional transportation authority can be on a product or on a functional basis. For example, in a product-oriented marketing department, one section of the department is responsible for marketing the traditional transit service (Figure 4). It determines the appropriateness of routes, schedules, and the packaging and physical distribution of this service to the public. It decides on the specific promotional techniques that would be used in informing the public of the attributes and availability of the transportation service. Finally, this group evaluates the transit operations and suggests corrective action to improve future performance if needed. A similar functional sector can be set up for van pooling, car pooling, or special services such as charters.

The primary difficulty with such a product approach is the potential lack of integration that is necessary to bring about the accomplishment of the overall service mission of the public transportation system. An alternative approach is a functional orientation (Figure 5). The functional organization emphasizes the generic functions of marketing; that is, one group is primarily responsible for product services and encompasses all available forms of public transportation, including traditional transit, car pooling, van pooling, charters, taxicabs, and limousines. Another group is responsible for pricing and conducts elasticity research to make sure that prices charged reflect appropriate levels of satisfaction and that transportation services are priced at a level that meets

Figure 3. Organization of metropolitan regional transportation authority.

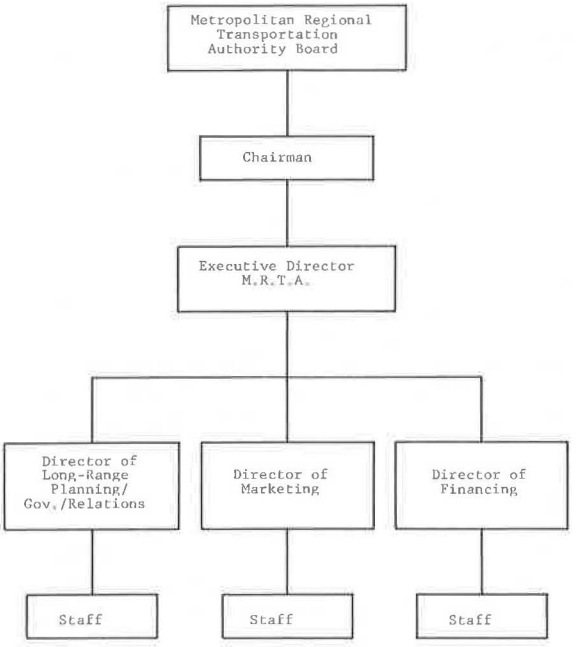


Figure 4. Product orientation of marketing department of a regional transportation authority.

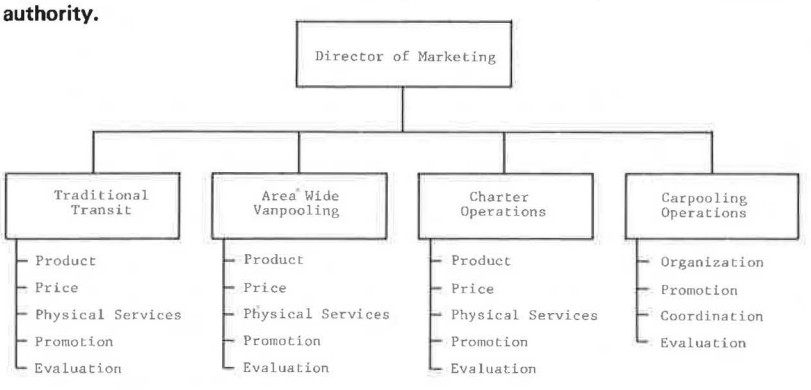
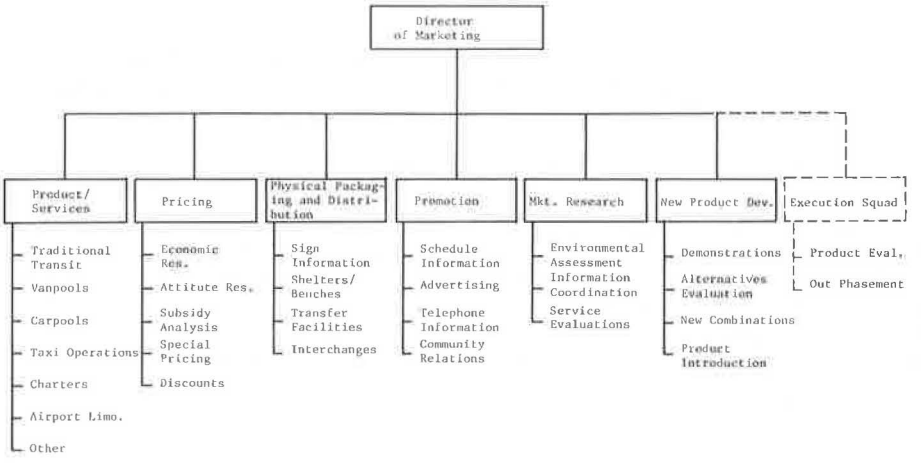


Figure 5. Functional orientation of marketing department of a regional transportation authority.



expectations or are subsidized to the minimal amount necessary to provide the necessary base services or both. Another group is responsible for packaging and distributing transit services, that is, the signing, shelter, and interchange and coordination points. A fourth group is responsible for promotion of all the various services.

Other necessary functions are performed by two additional groups: market research and new product development. The market research group continually assesses the environment for attitudes, impressions, and desires of consumers for public transportation alternatives. It provides accurate and up-to-date information to all of the other functional groups within the regional transportation authority marketing department. The new product development group devises new alternatives by combining various existing alternatives or by developing and testing new operations before they are made an integral part of the overall transportation system. Because of the present inability of transit facilities to compete effectively with the private automobile, this group is essential in the near future. Correct care and handling of new product offerings must be made if their proper introduction is to be made successful. In either form of organization for marketing in a regional transportation authority, these 2 functions will necessarily have to be performed.

A special group may be termed the "execution squad." Its responsibility is to kill and bury sick transportation alternatives that no longer meet a public demand. It is painful for any manufacturing group to eliminate a product—especially a product that has been the mainstay of the firm. Thus, it is suggested that responsibility for this pruning function be maintained at a level above those who are directly connected with any of the operational divisions of a public transportation system.

SUMMARY

The foregoing discussion seeks to convey underlying unsolved problems in integrating conventional and paratransit alternatives in urban areas. Historic legislation provides much of the present-day regulatory framework that acts to severely constrain paratransit innovation. Institutional constraints by existing transport suppliers prevail in many urban areas. The folly of continued expansion of the conventional peak-time transit fleet by traditional methods is clearly evident. It is simply too expensive. A change in urban transportation planning from the homogeneous origin-destination type to a heterogeneous market-oriented process is strongly encouraged. Finally, a restructuring for the administration of an urban public transportation system is advocated.

The major thrust of the arguments presented within should hasten a reconsideration of policy decision making in the field of urban public transportation. Now that existing conventional private transit systems are public responsibilities, the emphasis must be on changing these systems to meet consumer demands for mobility. Integration with paratransit alternatives provides the only possible hope for attracting sufficient ridership to public transportation to permit the achievement of goals desired for urban transportation systems.

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