1. A recent updating of the AoA state-of-the-art report;
2. A transportation coordination study for the Urban Mass Transportation Administration;
3. A special study of the transportation problems of the disabled for the Office of the Assistant Secretary of Planning and Evaluation of HEW; and
4. A series of three workshops on service and funding coordination sponsored by HEW and DOT.

REFERENCES

1. Transportation for Older Americans: A State-of-the-Art Report. Institute of Public Administration, Washington, DC, April 1975.
2. Transportation for Older Americans: 1976, Progress, Prospects, and Potentials. Institute of Public Administration, Washington, DC, Nov. 1976.
3. Senior Transportation: Ticket to Dignity. House of Representatives Select Committee on Aging, Rept., May 20, 1976, p. 24.
4. Developments in Aging: 1975 and January-May 1976. U.S. Senate Special Committee on Aging, Pt. 1, June 26, 1976, p. 73.
5. D. Cutler. Interagency Cooperation—A Federal Perspective. Proc., 1st National Conference on Rural Transportation, North Carolina A&T Univ., Greensboro, June 7-9, 1976.
6. Transportation Authorities in Federal Human Service Programs. Office of the Regional Director, Region 4, U.S. Department of Health, Education, and Welfare; Southeastern Federal Regional Council, Jan. 1976.
7. Demand-Responsive Transportation: State-of-the-Art Overview. Urban Mass Transportation Administration, Aug. 1974.
8. R. F. Kirby, K. U. Bhatt, M. A. Kemp, R. G. McGillivray, and M. Wohl. Paratransit: Neglected Options for Urban Mobility. Urban Institute, Washington, DC, Rept. UI-171-4800-8-4, 1974.

Coordination of Human Service Agency Transportation: Evaluation Method

V. Clayton Weaver, Northeastern Illinois Regional Transportation Authority, Chicago

The topic of the coordination of transportation services among human service agencies has become very popular in the past few years. The involvement of these agencies, whose initial mandates probably did not include transportation, creates the potential for such problems as duplication of services, higher than necessary costs, and equipment maintenance difficulties. While transportation service coordination is desirable, it is a difficult task. One of the major problems is the lack of experience in analyzing agency transportation programs. This paper presents an analytical methodology that should assist in service evaluation and, therefore, the development of coordination plans. Two fundamental questions that must be considered before any coordination plan is developed are addressed. First, how much coordination is good for any particular agency? Criteria were developed to assist in the determination of which agencies would benefit from service coordination and which would not. Agencies were found to vary greatly in the degree of coordination that is useful to them. Second, just what is meant by service coordination? Is it a motor pool of vehicles? Is it a centralized maintenance facility? Or is it a coordinated transportation service with especially designed vehicles and professional drivers? A method is presented for matching the needs of the agencies with the services provided through the concept of a transportation support center that can be developed in phases and offer a range of services to be purchased by agencies according to their need.

If Mr. Smith were to open a rail line between Chicago and Detroit and a month later Mr. Jones were to open a parallel line, most people would probably agree that the resulting competition would be a good thing. But what if Mr. Smith and Mr. Jones had both used federal funds to build their rail lines? Instead of the praise for competition, there might be an outcry against the duplication of services and the waste of taxpayers' dollars. To some extent, such an outcry is now being heard with respect to social service transportation programs. But are such programs really duplicating services and wasting taxpayers' dollars?

BACKGROUND

In recent years, most major cities have invested significant resources in the provision of public transportation services. These investments have largely emphasized programs useful for the average citizen, that is, for the greatest number of people.

However, because the specific needs of individuals can be so varied, this approach does not fulfill all transportation needs. In response to this situation, agencies such as those associated with human services have also entered the transportation service field. Moreover, this response has been partly stimulated by the availability of funds through state and federal programs that allow these agencies to purchase vehicles and provide services.

The result is that many of these agencies are now in the transportation business to serve persons who, because of physical and mental conditions, cannot make use of general public transportation. The involvement of these agencies, whose initial mandate probably did not include transportation, creates the potential for such problems as higher than necessary service costs and duplication of services.

Because of these potential problems, many funding agencies are now asking, "How well are you spending our money?" and "Are you duplicating your neighbors' transportation programs?" and as a result, many regions are beginning to undertake the coordination of transportation services offered by human service agencies. This was the case in Rochester, New York, where the Rochester-Genesee Regional Transportation Authority and the United Community Chest of Greater Rochester jointly commissioned a study to formulate a plan for service coordination.

HISTORY OF ROCHESTER STUDY

While the initial emphasis of the Rochester study was to develop a program for coordinating the transportation services of the many human service agencies, it soon

Table 1. Example of service evaluation.

Type of Agency	Transportation Services Provided	Major Problems	Coordination Opportunities	Service Expansion
Neighborhood centers and settlement houses	Wide variety of program transportation; little transportation to and from centers; emergency transportation very important; heavy reliance on staff as drivers; much service on individual basis for social services and medical purposes	Lack of equipment; vehicle maintenance; need for large vehicles during summer months; emergency or unplanned travel that frequently ties up staff members for extended periods	Some centers would be able to share equipment; a maintenance pool would benefit all; true service coordination opportunities appear rather limited, although senior programs offer some potential; costs are fairly low (due to use of staff) and, therefore, cost reductions will be difficult	Nutrition programs and day-care transportation only areas cited for much expansion
Physically handicapped clients	Daily commuting (8:00 a.m. to 4:00 p.m.) to and from facility; vehicle with wheelchair lift needed; attendant usually required; service must be door-to-door; same clients every day; some program transportation between 10:00 a.m. and 2:00 p.m.	Sharp peaks in demand caused by commuting needs of clients; high cost of vehicle maintenance; lack of vehicle reliability due to maintenance problems; some clients required to spend long periods of time in vehicle (up to 2 h); vehicle replacement	Service coordination appears feasible and desirable for commuting trips; use of taxi service to supplement agency transportation appears possible; maintenance and motor pool appears desirable; cost-effectiveness may be improved (because of use of paid drivers)	Demand fairly stable
Day-care centers	All transportation is for programs; little, at present time, to move children to and from centers; buses needed because of group size; staff members used as bus drivers; expanded services in summer months	Vehicle replacement	Little potential for service coordination; little opportunity to improve cost-effectiveness (because staff used for drivers)	Little growth in demand; few additional programs anticipated

became clear that this was a complicated problem that was significantly more than one of simply coordinating routes and schedules. One of the major problems was a lack of experience in assessing agency transportation activities. This required that a great deal of effort be spent in developing a methodology for carrying out the study.

Two basic issues seemed to be ever present as the methodology was developed. First, "What really is service coordination?" and second, "How much coordination is good for any particular agency?" Service coordination can mean anything from a motor pool of vehicles to a special service with professional drivers or a simple information-and-referral system. Developing ideas for coordination was the easy part of the study. What was difficult was deciding how much, or what level of service coordination, would be useful for a particular agency.

STUDY METHODOLOGY

The methodology used had two basic parts. The first part was an inventory of the agency services available. This inventory was broadly defined to include not only transportation, but also other agency services, client needs, and overall agency objectives. This broad understanding of the agencies was essential if the transportation improvements were to meet agency needs.

The second part was a more detailed analysis of service efficiency and effectiveness. During this detailed analysis, several evaluation criteria were developed to assist in determining the proper levels of service coordination for individual agencies. The use of these criteria provided a quick way to assess the needs of a particular agency and to match those needs with transportation improvements.

Inventory

The 25 study agencies represented a broad spectrum of human service activities. They provided services to clients in the areas of physical and mental rehabilitation; family counseling; day care; youth programs; job training; senior citizen programs; and emergency needs such as food, shelter, and clothing.

The transportation programs offered by the agencies varied as widely as did the agencies themselves. Of the 25 agencies, 19 provided transportation with their own equipment and personnel, while the remainder contracted for services. The 19 agencies had a combined total of 104 vehicles and a 1975/1976 fiscal year expenditure for transportation of about $620 000 (although many hidden costs, such as overhead and management were not included).

In-depth interviews conducted with the agencies proved to be an essential element of the study. Only by spending considerable time and effort could one become familiar enough with the agencies, their programs, and their transportation needs to identify ways in which their services could be coordinated.

The interviews were helpful in identifying the types of services the agencies were providing, what their problems were, the areas in which they felt service coordination could be useful, and the additional services they felt needed to be provided. Table 1 presents an example of this evaluation.

On the basis of the interviews, seven recurring problems were identified.

1. Information dissemination: There was no effective way to disseminate information among the various agencies. Therefore, many agencies were duplicating services without even knowing it.
2. Record keeping: The existing record keeping systems of the agencies were not adequate. This presented a major problem for the evaluation of operations.
3. Program: Transportation is often a vital part of the agency programs being offered. The separation of transportation and program may not be possible for some agencies.
4. Vehicles: Maintenance and the purchase of equipment was both expensive and a problem for most agencies.
5. Drivers: There was a need to retain the use of volunteer and staff drivers whenever possible. Driver training was almost nonexistent.
6. Demand peaks: Sharp peaks in demand caused by the need to move clients from their homes to agencies caused a problem that is similar to the transit industry's peak-to-base problem.
7. Funding: Financial resources were limited and frequently restricted. There was a need to develop a more permanent funding source for special services.

Table 2. Productivity measures.

Type of Agency	Vehicle Fleet	Annual One-Way Person Trips	Daily Productivity
Neighborhood centers and settlement houses			
Action for a Better Community	8 automobiles and 8 vans or buses	14 000	3.4
Baden Street Settlement	2 automobiles and 2 vans or buses	7 200	6.9
Lewis Street Center	1 van	7 500	28.8
Total	10 automobiles and 11 vans or buses	28 700	5.3
Physically handicapped clients			
Rochester Area Multiple Sclerosis	1 automobile and 1 van	4 936	9.5
Association for the Blind	2 vans or buses	24 424	47.0
United Cerebral Palsy	2 buses	14 946	28.7
Total	1 automobile and 5 vans or buses	44 306	28.4
Mentally handicapped clients			
Association for Retarded Citizens	1 automobile and 3 vans	14 560	14.0
Monroe Development Service	7 automobiles and 23 vans	46 800	8.7[a]
Total	8 automobiles and 26 vans	61 360	9.3
General assistance: Salvation Army	2 automobiles and 3 vans or buses	56 000	43.1
Senior citizens: Jewish Family Services	1 van	3 500	13.5
Other medical services: Medical Motors			
General	5 automobiles	16 406	12.6
Radiation	2 automobiles	6 025	11.6
Vans	5 vans	25 826	19.9
Total	7 automobiles and 5 vans	48 257	15.5

[a]Based on 180 d of operation.

In a more positive sense, the inventory of agency activities helped to identify coordination opportunities. Although the agencies could have benefited from a wide range of improvements, the areas with the most potential for multiagency applicability were (a) the vehicle fleet, (b) coordination of routes and schedules, and (c) the sharing of support facilities.

Several opportunities for coordination were identified that dealt with the vehicle fleet. One such opportunity was a systemwide maintenance program. Most servicing could be conducted at contract maintenance facilities; such centralization should lead to a better maintained and, therefore, more reliable vehicle fleet. Another opportunity was a leasing pool from which individual agencies could lease vehicles. The pool would be responsible for purchase and maintenance of vehicles, including spares, and insurance. The use of a spare vehicle from the pool would allow the individual agencies to have constant service that was not interrupted by the need for maintenance.

Another significant area for coordination was that of actual routes and schedules. Several of the agencies had surges in service demand between 7:00 and 9:00 a.m. and between 2:00 and 4:30 p.m. These surges or peaking effects were caused by the need to transport clients from their homes to the service centers. Once at the service center, there was a need for midday transportation related to agency programs, but this was normally at a lower level of demand in terms of vehicle requirements. In contrast, there were other agencies with higher midday travel demands—such as the senior programs at the settlement houses and the nutrition programs. Because of these time differentials, it appears that there is a realistic opportunity to coordinate the services provided by these two types of agencies (high morning and evening peak movements and high midday demand). The key benefits of such coordination are improved vehicle productivity (passengers per day per vehicle) and more effective use of salaried drivers.

A third coordination opportunity may exist for those agencies that can share support facilities, such as administration, scheduling, dispatching, accounting, and purchasing. This would be compatible with both maintenance pooling and vehicle sharing.

Service Efficiency and Effectiveness

The second step in the methodology was a review of the efficiency and effectiveness of existing agency transportation programs. Several measures of system efficiency were defined. These measures were grouped into two categories: vehicle productivity and cost of service. The first category attempts to define how much and what type of service is provided, and the second defines the cost of providing that service.

Vehicle Productivity

The study agencies had a fleet of more than 100 assorted vehicles. The use of these vehicles varied widely among the agencies. Table 2 summarizes the vehicle productivities of the 11 agencies that operated their own vehicles and had adequate ridership records. Vehicle productivity varied from 3.4 to 47 one-way person trips/vehicle/d.

To a large extent, vehicle productivity was directly related to the nature of agency activities. Agencies that provided a variety of programs for a variety of clients (such as the neighborhood centers) had a lower productivity than those (such as the Salvation Army) that focused on large group activities. The Association for the Blind had a high vehicle productivity due in large part to the fact that they provided transportation to nutrition sites.

Thus, this analysis seemed to indicate that gains in vehicle productivity were likely to result from service coordination. However, there is a group of agencies for whom service coordination may not produce productivity gains because of the nature of the agency activities. Efforts toward productivity improvements should be focused on those agencies with clients who make repetitive trips (such as home-to-agency trips for rehabilitation) or that have groups traveling together. Finally, significant gains may be produced by matching agencies that have travel demands at different hours of the day.

Cost of Service

The next major factor reviewed was the cost of service. Table 3 presents a summary of the base costs (defined as direct operating expenses plus insurance, but not including wages, administration, or general overhead) and total costs. Examination of the base costs showed a

Table 3. Transportation operating statistics.

Type of Agency	Annual One-Way Person Trips	Base Cost (operating + insurance) ($)			Total Cost ($)		
		Annual	Annual/ Vehicle	Per Person Trip	Annual	Annual/ Vehicle	Per Person Trip
Neighborhood centers and settlement houses							
Action for a Better Community	14 000	18 000	1125	1.29	48 000	3 000	3.43
Baden Street Settlement	7 200	5 978	1495	0.83	16 460	4 115	2.29
Lewis Street Center	7 500	2 365	2365	0.32	3 565	3 565	0.48
Total	28 700	26 343	1254	0.92	68 025	3 239	2.37
Physically handicapped clients							
Rochester Area Multiple Sclerosis	4 936	3 692	1846	0.75	27 629	13 815	5.60
Association for the Blind	24 424	8 180	4090	0.33	71 830	35 915	2.94
United Cerebral Palsy	14 946	14 205	7103	0.95	24 662	12 331	1.65
Total	44 306	26 077	4346	0.59	124 121	20 687	2.80
Mentally handicapped clients							
Association for Retarded Citizens	14 560	12 023	3006	0.83	46 688	11 672	3.21
Monroe Development Services	46 800	26 500	883	0.57	100 500	3 350	2.15
Total	61 360	38 523	1133	0.63	147 188	4 329	2.40
General assistance: Salvation Army	56 000	11 837	2368	0.21	12 605	2 521	0.23
Senior Citizens: Jewish Family Services	3 500	1 612	1612	0.46	17 764	17 624	5.08
Other medical services: Medical Motors							
General	16 406	11 742	2348	0.72	89 771	17 954	5.47
Radiation	6 025	4 697	2348	0.78	35 911	17 956	5.96
Vans	25 826	11 393	2279	0.44	90 827	18 165	3.52
Total	48 257	27 832	2319	0.58	216 509	18 042	4.49
Grand total	242 123	132 224	1674	0.55	586 212	7 420	2.42

surprising unanimity in unit costs. Generally, it costs about $1500 to $2000/year to operate each vehicle (although this varied from $883 to $7103).

Higher than average base costs usually indicated one of two things—either a high cost for maintenance or an extensively used vehicle (which results in larger direct costs for items such as fuel). For example, the Association for the Blind had a base cost of $4090/vehicle. While this was about twice the norm, their vehicle productivity of 47 trips/d was the highest of any. On the other hand, United Cerebral Palsy had a base cost of $7103/vehicle that could not be attributed to high vehicle use, but rather reflected an unusually high cost of maintenance.

The average total cost per one-way person trip was about $2.50, and the range varied from $0.23 (Salvation Army) to $5.96 (Medical Motors). Although it is not always the case, improvements in cost-effectiveness may be easier to achieve for agencies with high unit costs.

To assess the general characteristics of the study agencies, productivity and unit-cost analyses were also carried out for the functional categories of agencies (Table 3). Some rather interesting differences were apparent among the types of agencies. For example, three types of agencies—neighborhood centers and settlement houses, those with physically handicapped clients, and those with mentally handicapped clients—all had unit costs of about $2.50/passenger, but different factors were involved. The neighborhood centers tended to have rather low vehicle productivities, but also rather low expenditures for drivers' wages and overhead. The agencies with physically handicapped clients had high annual costs per vehicle (both base and total), but also high vehicle productivities that kept their unit costs per passenger about the same as those of the neighborhood centers. The agencies with mentally handicapped clients had a combination of rather low costs of operation and also low rates of productivity.

One group of agencies—the general assistance group—had a very low unit cost per trip. This was because of a combination of high productivity, few costs other than those of gasoline, oil, and maintenance (of course, some labor and administrative costs were hidden), and high vehicle productivity that resulted from group trips. This review of operations provided a great deal of insight into agency activities, their needs, and opportunities for service improvements. It indicated the importance of improved vehicle productivity, the continued use of staff and volunteer drivers, and the desirability of avoiding the establishment of another formal structure and its subsequent administrative and overhead expenses.

EVALUATION CRITERIA

To assist in the development of a program that would match the needs of the agencies with the services provided by a coordinated system, several criteria were developed. These criteria provided a simple way to quickly examine a group of agencies to see what type of coordination might be needed. Remember that the real question to be addressed was how much service coordination is good for a particular agency.

The end product of this analysis, a summary of evaluation criteria, is given in Table 4. The first criterion is the ratio of base cost to total cost. This is an index of the salary, administrative, and overhead costs. An index of 1.0 indicates that all costs are base costs (direct operation and insurance). It may be difficult to lower the expenditures of agencies with a very high ratio of base cost to total cost (such as Hillside Children's Center, St. Joseph's Early Childhood Program, the Salvation Army, and Children's Nursery). Therefore, those agencies may benefit most not from coordinated routings and scheduling with professional drivers, but rather from support services such as purchasing, maintenance, and record keeping.

The second criterion is the use of paid drivers. If volunteers or staff members are now used as vehicle drivers, change to paid drivers may increase costs (although it may also improve service reliability and quality). Agencies with unpaid drivers are likely candidates for support services and possibly vehicle pooling.

A third criterion is the unit cost per person trip. It is only logical to expect that improvements in operating efficiencies may be easier for those with large unit costs of operation. However, care must be taken to analyze high operating costs and determine the underlying reasons for them and then to develop service improvements

Table 4. Evaluation criteria.

Agency	Base Cost/ Total Cost	Paid Drivers	Cost per Trip ($)	Time Compatibility			Total Cost ($)
				Commuting Peaks	Midday Program	Nutrition Program	
Action for a Better Community	0.38	X	3.43	–	X	–	48 000
Baden Street Settlement	0.36	X	2.29	–	X	X	16 460
Eastside Community Center	0.31	–	–	–	X	X	4 572
Lewis Street Center	0.66	–	0.48	–	X	–	3 565
Montgomery Day Care Nursery	0.65	–	–	–	X	X	3 237
Charles Settlement House	0.40	–	–	–	X	X	2 003
Hillside Children's Center	0.95	–	–	–	X	–	6 958
St. Joseph's Early Childhood Program	1.00	–	0.22	–	X	–	2 673
Rochester Area Multiple Sclerosis	0.13	X	5.60	X	X	–	27 629
Association for the Blind	0.11	X	2.94	X	X	–	71 830
United Cerebral Palsy	0.58	X	1.65	X	–	–	24 662
Monroe Development Service	0.26	X	2.15	X	X	–	100 500
Association for Retarded Citizens	0.26	X	3.21	X	X	–	46 688
Convalescent Hospital	0.24	–	–	–	X	–	31 418
Salvation Army	0.94	–	0.23	–	X	–	12 605
Children's Nursery	1.00	–	–	–	X	–	3 563
Jewish Family Service	0.09	X	5.08	–	X	–	17 764
Medical Motors Services							
General	0.13	X	5.47	X	–	–	89 771
Radiation	0.13	X	5.96	X	–	–	35 911
Vans	0.13	X	3.52	X	–	–	90 827

that match the problems.

The commuting peaks, midday programs, and nutrition programs indicate the time compatibilities of the various agencies. By fitting together peak and midday programs, an overall increase in vehicle productivity may be developed. This, then, was the fourth criterion.

Finally, the total cost was important. To be effective in achieving better overall financial performance or an increase in service quality, one must address those agencies that contribute most to the overall financial requirements.

COORDINATION PROGRAM

As a result of application of the methodology presented here, a coordination program is being developed by the boards of directors of the Rochester-Genesee Regional Transportation Authority and the United Community Chest of Greater Rochester. The program recognizes the need for several levels of coordination and has the following components that can be developed in phases:

1. Establish a transportation support center (TSC) for human service agencies: The TSC will function as the major focal point for agency transportation in Rochester. It will not initially own or operate vehicles, but will carry out other important functions from a centralized facility—including serving as a clearinghouse for transportation information, centralizing purchases of equipment and supplies, developing a driver training program, and implementing and monitoring a transportation service information system. These support services will be useful to nearly all of the study agencies.

The TSC will develop a user and agency information clearinghouse. What this really means is that the center will maintain a file on "who is doing what." An inventory of community transportation resources that will include data on not only member human service agencies, but a also on day-care centers, churches, schools, taxis, charter buses, and public transportation services will be a key element of the clearinghouse. The TSC will assist agencies in meeting their short-term vehicle needs through borrowing or leasing.

The coordination and centralization of purchasing will be another major TSC activity. The use of centralized purchasing can assist individual agencies to take advantage of the economies associated with large-volume purchases. Because the purchase of vehicles is particularly important, the TSC should seek their standardization through the development of vehicle specifications. The centralized purchasing of parts, tires, and even office equipment should also result in savings for member agencies. The TSC will act as a broker or middleman in the purchasing activities, acting on requests for capital purchases by member agencies by aggregating like requests and asking for bids from vendors.

A third major area in which the TSC will provide assistance will be driver training. In conjunction with the transportation authority, the TSC will conduct driver training programs for agency drivers.

The fourth major group of activities of the TSC will be the development of an information system that should satisfy the following objectives: (a) collect, store, manipulate, and report data on the operations of the organization; (b) meet legal requirements for record keeping and reporting; and (c) account for all assets and prevent loss by error or fraud.

2. Develop a vehicle-leasing program: A program to own, insure, maintain, and lease vehicles will be developed. The lease program will offer agencies more flexibility in the size of their vehicle fleet and will allow agencies to provide any type of driver they wish—staff, volunteer, or paid. This flexibility in type of driver is critical because many of the agencies have staff or volunteers available.

This second level of coordination will benefit many of the agencies, but will be most beneficial to those with high maintenance costs (as identified by the cost analysis) and those with small fleets. At present, many routine maintenance items are ignored because the vehicle is too busy to be serviced. The development of a vehicle leasing program will allow the agencies to obtain well-maintained vehicles while routine maintenance is conducted.

3. Form a small transportation operating group within the TSC: The analysis of existing conditions indicated that the need for actual provision of transportation operations by the TSC was rather limited as the majority of the agencies were providing service in a reasonably cost-effective manner. Any attempt at widespread use of a specialized transit service by these agencies would probably result in higher costs. On the other hand, there were some agencies that would benefit from the availability of a special agency-related service. Initially, the need appears to be the greatest for two types of service: (a) commuter services for those agencies that

need to move their clients to and from their agency center on a daily basis and (b) midday nutrition programs. Therefore, it is recommended that the TSC initiate this type of service on a trial basis (probably by purchase from an existing operator).

Without the analysis of efficiency and effectiveness, it is probable that a much more ambitious program of actual transportation operations would have been attempted. This could have resulted in a substantial increase in the total costs of services provided.

SUMMARY

The approach outlined in this paper should help to establish a framework for coordination of agency transportation. The underlying philosophy is the need to identify how much coordination is good for a given agency. If the available financial resources are to be used in the most efficient manner, care must be taken not to overcoordinate. The analytical tools presented here will provide decision makers with at least some factual data with which to answer the questions of "How much coordination?" and "For which agencies?"

ACKNOWLEDGMENT

This paper is based on a study (1) that was jointly sponsored by the Rochester-Genesee Regional Transportation Authority and the United Community Chest of Greater Rochester.

REFERENCE

1. Human Service Agency Transportation Study. Barton-Aschman Associates, Evanston, IL, April 1977.

Paratransit and the Journey to Work: Status Report

James P. Womack, Center for Transportation Studies, Massachusetts Institute of Technology

Work-trip paratransit will flourish if the time and money costs of competing modes increase, whether due to price increases or taxation policies. It will also prosper if its time, money, and flexibility costs decrease as a result of operational economies or subsidies. In the short run, it appears that the competing modes will suffer only modest price inflation and largely escape the effects of energy taxation. It also appears that paratransit will receive little subsidization; it has only a weak institutional base and public officials are currently reluctant to embark on new spending programs. It follows that the growth of work-trip paratransit in the near term depends on the development of suitable, low-cost provider arrangements and on price reductions deriving from decreased insurance costs and improved vehicle operating efficiency for van pools. If successful adoption of these techniques produces significant market penetration at present price levels, public officials may find additional ride-sharing initiatives, in the form of price incentives or subsidies, both cost-effective and politically feasible as means of conserving energy, reducing emissions, and alleviating congestion.

None of the modes grouped under the rubric of commuter paratransit is exactly new. In fact, the shared use of automobiles was much more common in the early days of the motor age, and the various shared-ride-taxi and commuter-jitney options discussed in the past few years were well-known by the 1920s. However, in the period between the end of World War II and mid-1973, neither the commuting public nor the American government at any level showed much interest in these modes, and they were for the most part forgotten. Commuters were busily switching from transit and shared automobiles to driving alone, and governments were attempting to ensure adequate road space for the burgeoning drive-alone commuter force.

Suddenly, at the end of 1973, two circumstances—the energy crisis and the approaching deadlines of the Clean Air Act Amendments of 1970 (set for 1975)—created the widespread expectation that this was all about to change. Under the twin spurs of the energy embargo and court orders to develop transportation control plans (TCPs) for air-quality improvements, public officials busily sought alternatives to drive-alone commuting. Ride sharing in particular attracted interest because of all the options available, including rationing, fuel taxes, and expansion of mass transit, it alone combined immediate availability, low public and user costs, and expansion rather than constriction of commuter options. Within a short period, four federal agencies—the Federal Highway Administration (FHWA), the Federal Energy Administration (FEA), the Environmental Protection Agency (EPA), and the Urban Mass Transportation Administration (UMTA)—were actively promoting ride sharing, and parallel efforts were under way in many states and localities and among many major employers. In addition, a new and promising variant of ride sharing, the van pool, had just been invented and initially tested. To many observers of the urban transportation scene, it appeared that a major transformation in commuting habits might be just ahead.

In reexamining the scene 4 years later, it seems fair to say that events have not evolved as many expected. After increasing 40.2 percent between September 1973 and July 1974, gasoline prices have increased only 13.8 percent in the following 3 years. (Price data are from various issues of the Consumer Price Index: Detailed Report of the U.S. Department of Labor, Bureau of Labor Statistics.) By contrast, the general price level in the 1974 to 1977 interval rose 23.4 percent. At the same time, the perceived threat of an oil embargo has receded, the price demands have moderated, world supplies have increased with the opening of new fields in Alaska, the North Sea, and Mexico, and the U.S. Congress has proved reluctant to deregulate gasoline prices or impose energy conservation taxes. As a result, energy prices will probably remain roughly constant (in real dollars) into the 1980s.

Paradoxically for work-trip paratransit, the specter of energy shortages and additional price increases has