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Impacts of Allegheny County's Access Program

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Access is a countywide door-to-door transportation system for the elderly and handicapped in the Pittsburgh, Pennsylvania, area that is conducted under the Service and Methods Demonstrations Program of the Urban Mass Transportation Administration (UMTA). Access is managed for UMTA and the Port Authority of Allegheny County (PAT) by Multisystems, Inc., a private company that acts as central broker of transportation for human service agencies and for individual elderly and handicapped persons. The service is provided under contract through the use of vehicles operated by a mixture of existing private for-profit carriers and nonprofit agencies. Each provider is assigned a specific service area, and all requests for service in that area are normally handled by that provider. The broker can also arrange backup service whenever necessary. The Access program, including a description of the service, the delivery network, and implementation issues, is discussed. The fare system is described, including the zone structure, the use of scrip coupons to pay for service, the agency billing system, and the user-side subsidy program sponsored by PAT for those who cannot use the fixed-route transit system. The broker's role in managing funds to pay for service on a vehicle-hour basis is also described. Impacts on agencies, individuals, carriers, and the quality and cost of service are discussed. Service statistics for the first eight months of service are presented.

Access is a countywide transportation program in the Pittsburgh area that has been established to improve mobility for the elderly and handicapped and to provide benefits to social service agencies through coordination. It is funded as a two-year demonstration program under the Service and Methods Demonstration (SMD) program and is currently entering its second year.

Access is a door-to-door, advance-reservation, shared-ride service for persons 60 years of age or over and for persons who are handicapped regardless of age. The service is provided through the use of vehicles operated by existing private for-profit carriers and nonprofit agencies. Service costs are borne by social service agencies, by individual riders, and by the Port Authority of Allegheny County. Access services are managed by a "broker," Access Transportation Systems, Inc., a wholly owned subsidiary of Multisystems, Inc., which is charged with the responsibilities of organizing and managing service delivery and of coordinating the demands of individuals and agencies for this service.

Access offers a uniform system of fares that can be predetermined, a comprehensive countywide delivery network of lift-equipped and other paratransit vehicles, and a convenient, easily monitored scrip system that facilitates the application of user-side subsidies.

Access officially began offering service on March 14, 1979. By October 1979, monthly ridership exceeded 6000 passenger trips.

PROGRAM DESCRIPTION

This section provides brief descriptions of the key design and operating components of the Access system.

Coordination

In its original conception, Access was primarily geared toward coordination of human social service agencies. Because of the multiplicity of agencies that provide services directly or through contracts with for-profit carriers (mostly cab companies), a principal design feature of the Access system was a coordinated, nonduplicative delivery network. This had to be accomplished in an environment in which for-profit carriers had "turf" rights, firmly established by tradition and often (but not always) confirmed by regulatory approval.

Also, nonprofit agencies provided services directly to their clients in many portions of the county. Needless to say, this often met with a degree of resistance from the cab companies. To confuse matters, the authority to regulate service and similar issues was disputed between the state Public Utilities Commission (PUC) and the regional Port Authority of Allegheny County (PAT).

Delivery Network

In this environment, we decided to establish a comprehensive delivery network that produced the benefits of the competitive marketplace through a contract bidding process. At the same time, we decided that contract awards would give each of nine sections of the county [total area 1866 km² (729 miles²)] exclusively to one carrier. This was intended to maximize the capability for ridesharing in any location despite potentially low demand densities.

The service is currently provided by a network of eight carriers, including four taxicab companies, one nonprofit chair carrier, and three nonprofit human service agencies. Despite the original intent to give exclusive responsibility for each area to only one carrier, cooperative arrangements were eventually negotiated in several areas to allow better distribution of resources.

Communication

Because of the unique correspondence of a single carrier to any given geographic area, there was no necessity for central dispatching. Each carrier could handle all calls for its area. Access installed a Centrex system that linked all contracted carriers with each other and with the central Access office. Thus, if consumers called the wrong number or needed to be referred to a different carrier or to the central office for any reason, they could be transferred without redialing. The Centrex system was part of a systematic effort to make the service as simple as possible to the user.

The direct scheduling through carriers also achieved this by maintaining the status quo for many individuals and agencies whose traditional carrier became part of the Access system.

To date most nonsponsored trips have been scheduled directly by the rider with the appropriate Access carrier, whereas all agency-sponsored trips have been scheduled through the central Access office. As a test for the efficacy of centralized scheduling, all Saturday trips are also being scheduled through the central office.

Fares

As part of the demonstration grant, contingency funds were made available to offset initial shortfalls in revenue and to permit some experimentation with fares and carrier payment mechanisms. Revenues were fixed on the basis of the Access fare system and charges accrued on the basis of hours or miles of service provided. The Access fare system is based on a zone fare schedule that incorporates 195 zones and a computer-calculated fare schedule that with some modification (for geographic barriers such as rivers) uses the airline distance between zone centroids as its basis.

Access estimated the carrier costs that would result from the bid process (in passengers per vehicle hour), and the typical trip length (in miles per passenger). From this an average revenue per passenger and per mile were determined and used to calibrate the fare schedule. The resulting fares were equivalent to approximately \$0.48/km of road distance (\$0.77/road mile). Although the savings varied depending on trip length, Access shared-ride fares were typically expected to be 20 percent lower than if the service were purchased from the certified carriers at their exclusive-ride rates.

Payment

The Access system allows payment for service in one of two ways. Individuals may buy scrip tickets by mail from Access, redeemable for service by giving the tickets to the driver. Agencies may set up billing accounts with Access for trips arranged by agency staff. Trips are then documented and billed to the agency at the end of the month.

In a program closely related to the SMD project, Access sells special scrip for which PAT subsidizes 75 percent of the face value. Eligibility to use this scrip is limited to those who are unable to board a PAT bus.

Service Hours

Access was originally offered from 6:30 a.m. to 10:30 p.m., Monday through Friday. After four months of service, Saturday service was offered during the same hours. The service nominally requires 24-h advance notice, but immediate requests will be handled in emergencies if possible. Return trips from medical appointments are scheduled on a demand-responsive basis.

Policy Formulation

Major project policy decisions are reviewed by the Southwestern Pennsylvania Regional Planning Commission's Handicapped and Elderly Transportation Advisory Committee at its monthly meetings and by a small technical advisory task force of consumers and other interested parties.

PROJECT RESULTS

In many ways the Access program has already proved

highly successful. In other respects, the value of the project will take longer to assess, and in some ways the program has clearly left an opportunity to accomplish greater things in the second year of the project! The assessment of results to date will focus on five basic impact areas: impacts on consumers, impacts on agencies, impacts on service quality, impacts on carriers, and public subsidy costs.

Impacts on Consumers

Although the service is available to all elderly and handicapped persons, severely physically disabled persons who ride without agency sponsorship have been the primary beneficiaries because of a 75 percent fare subsidy provided by PAT. Individuals eligible for the PAT subsidy thus realize far greater economic savings than result from the shared-ride cost savings alone. The use of the Access system to meet PAT's accessibility requirements (prior to Section 504 regulation) was documented in the area's transportation improvement program (TIP).

Under the PAT program, users are certified through a simple yet definitive interview conducted by a physical therapist. A mock-up of a PAT bus entrance is provided and those who can climb the steps are not certified. In direct contrast to many programs, statements by the individual's own physician are given only marginal consideration. At the recommendation of consumers themselves, PAT maintains strict eligibility restrictions but sets no limits on travel within the Access system by those who are certified.

In the first eight months of operation, Access had certified more than 1100 persons for PAT's subsidy program. Of these, about 60 percent use wheelchairs. To put this in perspective, a 1976 study by the regional metropolitan planning organization (MPO) estimated that there were 6000 persons in Allegheny County who were unable to use a bus (and who were not homebound). By October, ridership among PAT-certified persons was running at 3200 passenger trips/month or 2.9 trips/person certified. Those eligible for the PAT subsidy incurred an average of out-of-pocket cost of \$0.88/trip, compared with the base PAT bus fare of \$0.50.

Ridership by ambulatory individuals who are not eligible for the PAT subsidy and who ride Access at their own expense has been disappointing, totaling only 400 rides in October. Apparently, the inconvenience of mail-order scrip purchase and 24-h notice outweigh the potential cost savings for these riders.

Impacts on Agencies

It was originally expected that the Adult Services/Area Agency on Aging (AS/AAA) would form the backbone of the Access program at about 5000 trips/month. In fact, many design features were incorporated with an eye to accommodating the largest single purchaser of special services in the county.

Fortunately or unfortunately, things did not work out as had been planned. At the time Access began operation, AS/AAA was just beginning to recover from a severe cutback in its transportation budget. For a variety of reasons, they decided it would not be expedient for them to joint the Access program at the outset. On the minus side, this lowered achievable productivities and resulted in lower total ridership figures than had been projected. On the plus side, this gave the Access program some

breathing room to work out the bugs in its service and also forced the program to focus more on smaller agencies that stood to gain more from the economies of scale.

By October 1979, 25 agencies were purchasing service through Access. Their combined ridership was about 2600 trips/month, or 42 percent of total ridership. The general level of satisfaction among these agency participants has been encouraging. Many have cited the reduction in the administrative burden of trip scheduling and monitoring as the primary benefit. In addition, agencies are benefiting from the lower fares made possible by the increased ridesharing.

Impact on the Quality of Service

Access has initiated several programs to improve service quality for all system users. These include better insurance protection, better-trained drivers, safer vehicles, better service reliability standards, and an ombudsman service.

Prior to Access, many carriers carried the bare minimum of coverage required by the PUC (\$25 000/person, \$100 000/occurrence). Indeed, some carriers provided more, but a passenger could not be guaranteed of this. Access raised all its carriers' limits substantially and also purchased an excess liability policy that covered itself and the Port Authority well beyond the increased limits.

To make sure that the likelihood of passengers ever invoking those policies was minimized, Access supervised the development and administration of a half-day driver training program that all regular Access drivers were required to complete. The program puts heavy emphasis on understanding the nature of handicapped consumers' disabilities and on empathy training. Drivers are "handicapped" with blindfolds, crutches, and/or wheelchairs and are then forced to negotiate an obstacle course, to go out on a downtown street (where they typically report feeling extremely self-conscious), and to board and ride a van. Many drivers have commented very favorably on this course, regardless of the number of years of experience they have had in driving the handicapped.

A related program that Access has conducted is a vehicle inspection program. Access carrier contracts stipulate minimum standards for vehicles, and these standards are being enforced by on-site inspections and detailed follow-up efforts.

Access has developed what is undoubtedly the most comprehensive data-collection and analysis program of its kind in the country. The Access management information service (MIS) system is based on the premise that maximum information is obtained by recognizing the inherent data-collection limitations of private operators and by requesting no more than can reasonably be expected accurately and completely. The resulting information is analyzed to detect trends, weaknesses, and strengths of each carrier and of the Access system as a whole. This data base has provided valuable information for negotiating with carriers, both as a tool for constructive change and occasionally as a weapon against unsatisfactory performance.

Tied in to this is one of Access' strongest benefits. Of all the services that Access performs, one of the most important on a day-to-day basis for the individual consumer is the ombudsman role. The Access central phone receives many calls, particularly in the late afternoon, from persons who have been stranded because of a delay at the clinic, a "lost" return pickup by the carrier, or some other unforeseen circumstance. Access serves these persons in a way that no other entity could by articulating

their needs to the appropriate carrier and by getting emergency backup service arranged as necessary. All who have handled the phone on such occasions can attest to the importance of such services for these persons.

Access has also assumed a broader role than originally anticipated in providing elderly and handicapped consumers with information about transportation (and other) services available to them in the community. For example, many callers are referred to agencies that provide transportation at no cost to their clients. From this activity has evolved a comprehensive guide to transportation services that are available to elderly and handicapped persons in the county.

Access has taken its responsibility to its clients very seriously. All service-related complaints are documented and followed up by telephone and/or in writing, both with the carrier involved and with the complainant, and pursued until there is a satisfactory resolution. In some cases, there is no satisfactory resolution in the short run (e.g., capacity constraint), but even this is communicated to the client.

Impact on Carriers

Clearly, one of the impacts on carriers has been that they have had to respond to a single, persistent voice nagging them to do better. Seat belts have been put in vehicles, circuitous routing has been minimized, and complaints have been cut back significantly despite the increasing volume of service.

As a growing business, Access has spurred new investments in vans and lift equipment. Despite a steadily declining budget within the major social service agency (AS/AAA), Access business has helped to keep the special services segment of the private for-profit sector healthy. After eight months of service, Access was spending more than \$46 000/month on this sector alone and a total of more than \$59 000/month among all certified carriers (including the nonprofit chair carrier). Thus, the Access program is clearly benefiting the traditional providers of service.

Of course, some of the Access carriers are nonprofit social service agencies. Although their contribution is invaluable in the specific areas in which they have been chosen, these carriers provide barely 10 percent of all Access trips.

Public Cost of Service

Access was originally intended to break even on provision of service; the SMD grant was to pay for development, startup, and administrative overhead costs. As explained earlier, several important assumptions were critical in meeting the objective that revenues should equal costs. In fact, several of these assumptions were incorrect:

1. Average trip lengths were longer than expected.
2. The heavy predominance of wheelchair patrons coupled with the failure to attract the AS/AAA business and the unattractiveness of the service for ambulatory individuals led to lower demand densities and lower vehicle productivities than expected.
3. Carrier costs rose quickly because of escalating gasoline costs and the general inflation.

As a result, the Access fare schedule, which had been developed by using cost and productivity estimates from recent contracts between cab companies and nonprofit agencies, produced inadequate revenue from the start. The deficit per passenger in October

Figure 1. Access system ridership.

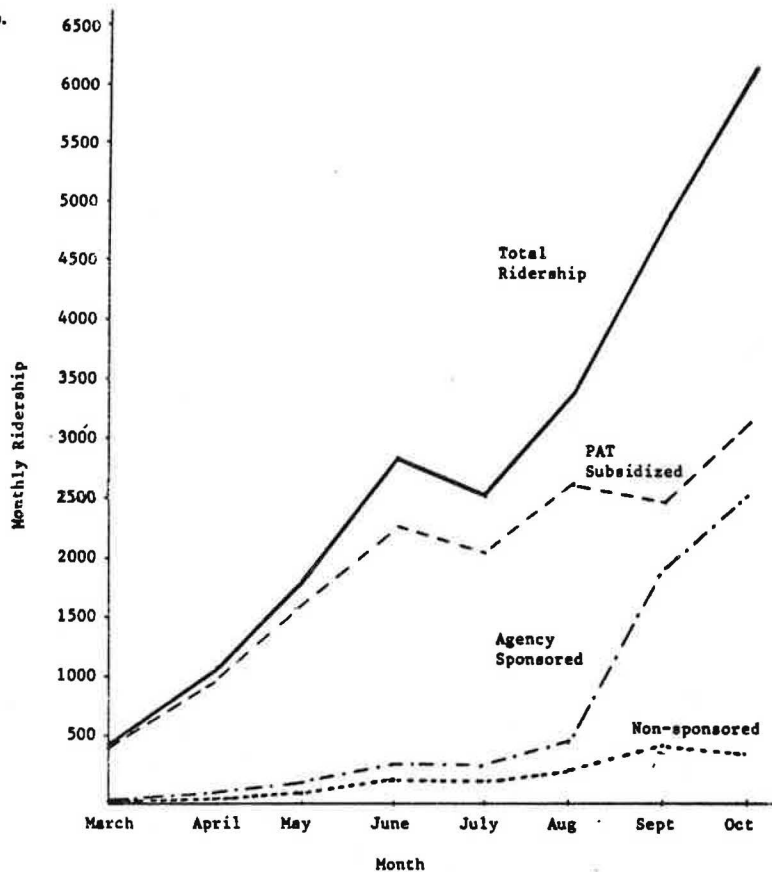
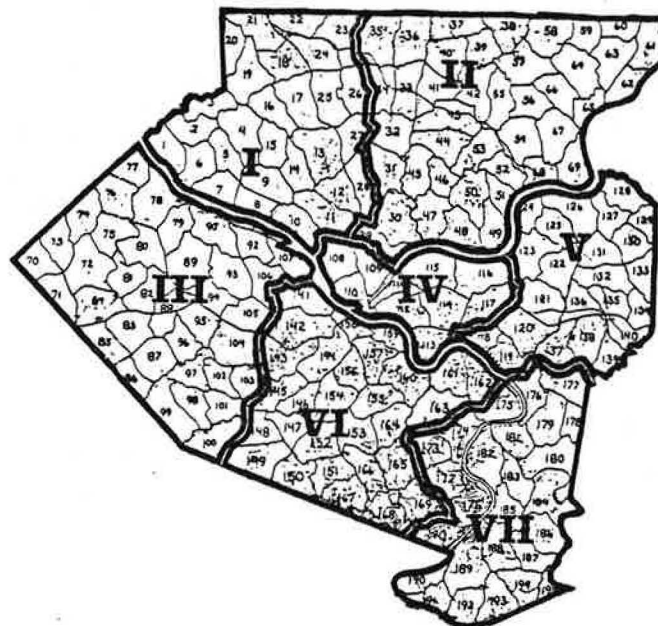


Table 1. Trip origin and destination patterns.

Trip Origin	Destination (%)			Total
	Intra-area Trip	CBD	Other Areas	
Area I	1.0	0.8	0.5	2.3
Area II	0.0	1.1	0.2	1.3
Area III	5.2	0.2	0.3	5.7
Area IV (except CBD)	14.7	11.5	2.1	28.3
CBD	-	9.4	25.1	34.5
Area V	0.7	0.4	1.0	2.1
Area VI	12.6	10.5	1.7	24.8
Area VII	0.4	0.3	0.3	1.0
Total	34.6	34.2	31.2	100.0

Figure 2. Access service areas and fare zones.



1979 was \$5.47. PAT supplied an additional \$3.36/passenger trip in subsidy for certified individuals. All in all, subsidies on nonsponsored trips by persons unable to use the bus amounted to \$8.83/person trip, and total subsidy provided for service to the nonambulatory for these nonsponsored trips is expected to total about \$235 000 through the first year.

SERVICE STATISTICS

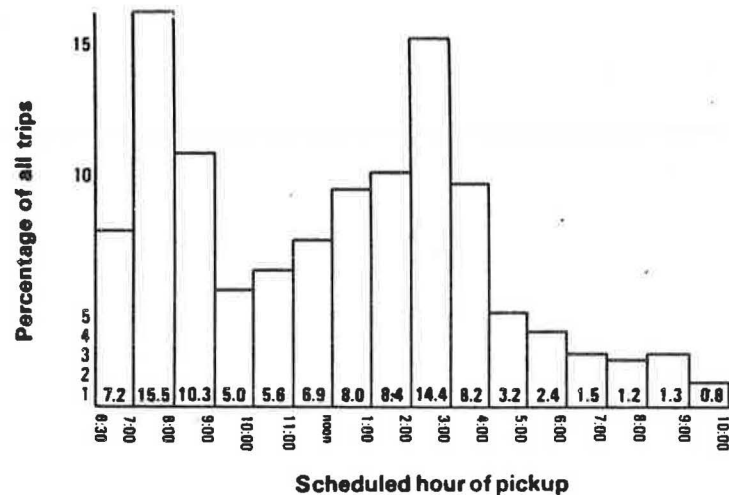
For those who want a slightly more detailed profile to the use of the Access service, the following exhibits and discussion may prove useful.

Ridership Growth

Figure 1 shows the early rate of growth of the Access service. Growth has been steady in all

categories, although penetration of the scrip-users market is more advanced than penetration of the agency market. Eventually, agency ridership is expected to account for 65 to 70 percent of all trips. Escorts are tallied separately and account for roughly 4 percent of all passengers.

Figure 3. Ridership by time of day.



Trip Origins and Destinations

Table 1 shows the distribution of trip origins and destinations related to the areas delineated in Figure 2. Despite the numerous fare zones, much of the travel is concentrated in specific corridors. In particular, 24 percent of trips are destined for the two central business district (CBD) zones, 24 percent return from these two zones, and an additional 9 percent of all trips are taken within these two zones. Thus, almost 60 percent of all trips serve the major activity centers (business and medical centers) in the downtown, North Side, and Oakland areas of the city. Local trips in the eastern neighborhoods of the city or in the heavily populated South Hills suburbs constitute another 26 percent of all trips. Travel that originates in the more rural sections of the county remains extremely low. This reflects not only the smaller number of persons (90 percent of the population lives in 37 percent of the county's area) but also a habitual lack of travel by these more isolated persons.

It is estimated that 32 percent of trips are taken primarily for educational purposes, 30 percent are oriented to paid employment or other work-related activities, 21 percent are taken for medical reasons, and 17 percent are taken for social and recreational reasons.

Distribution of Trips by Time of Day

Figure 3 shows the distribution of trips by time of day. Times are based on scheduled pickup times. The graph displays the normal twin peaks of heavy work-trip patronage. Surprisingly, though, both morning and afternoon peaks are earlier than for the general public. The morning peak may be explained by the concern of riders of a shared-ride service that they not be late for work. However, it is less clear why the afternoon peak is over by 4:00 p.m.

Productivities

By October 1979, vehicle productivities, excluding metered cabs, had reached 1.3 passengers/vehicle-h. Although this figure is lower than that hoped for, it is within range of the vehicle productivity figures of Orange County, California, and Boston, Massachusetts, where similar services are running in the range of 1.5-2.0 passengers/vehicle-h.

CONCLUSIONS

After the first eight months of service, Access has already established itself as a major influence on the mobility of the handicapped. As a mechanism for providing accessibility to the nonambulatory at comparable fares, Access has proved an immediate success to a large number of persons. As a consumer ombudsman and as a powerful market influence on vehicle, driver, and insurance standards, Access has demonstrated that it is a powerful voice for the consumer.

Access has had moderate success in providing coordination benefits to agencies. Its greatest increases in ridership over the coming months are expected to come from this market. For the ambulatory individual, Access has had the least success because of its use of a scrip system and its day-before advance-notice requirement. Finding creative ways of attracting nonhandicapped elderly persons to Access will be a major challenge.

To date, Access has failed to realize the level of productivity gains originally envisioned. Now that the service has been established, this will be a major focus as the program moves into its second year.

ACKNOWLEDGMENT

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