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Abridgment

Personalized Approach for Ridesharing Projects: Experience of Share-A-Ride in Silver Spring, Maryland

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Recent research suggests that ridesharing programs could increase their effectiveness if the assistance process were humanized and the behavioral factors that influence ridesharing were taken into account. To test this premise, the Maryland-National Capital Park and Planning Commission has developed a project called Share-A-Ride that uses a personalized approach to overcome the traditional barriers to ridesharing. Initiated in September 1979, this project has experimented with personalized marketing, matching, and follow-ups in the central business district of Silver Spring, Maryland. Early results indicate that Share-A-Ride has (a) provided 93 percent of the applicants with the ridesharing information they seek, (b) influenced 72 percent of matched applicants to telephone other prospective poolers, and (c) helped 43 percent of all applicants to enter new ridesharing arrangements. Share-A-Ride is currently implementing the personalized approach at a cost of about \$130/person who enters a new ridesharing arrangement. Planned personnel adjustments and increases in pool formation rates could drop this cost below \$100/person in upcoming years. Important considerations for applying the personalized approach in other locations include the following: (a) personalized programs should be implemented in moderate-size employment centers and also in special segments of large metropolitan areas; (b) employers and employees should be encouraged to participate actively in planning and operating the project; (c) the computer should be used to perform routine chores so staff will be free to concentrate on personalized marketing, matching, and follow-ups; and (d) staff should be highly qualified and able to assume a wide range of responsibilities.

Many metropolitan areas in the United States currently have computerized carpool matching systems. Although these systems were established to create new pooling arrangements, they have typically helped only small percentages of the commuting population.

In recent years, researchers such as Margolin and Misch (1), Levin and Gray (2), Hartgen (3), Horowitz and Sheth (4), Kurth and Hood (5), Brunso, Kocis, and Ugolik (6), Shea and Tischer (7), and Wagner (8) have investigated the performance of these systems in order to understand the factors that may hinder their effectiveness and to point to new directions for rideshare-assistance programs. This research suggests that the key to increased effectiveness lies in humanizing the rideshare-assistance process and in taking into account the behavioral factors that help or impede ridesharing.

In response to this research, the Montgomery County Planning Department of the Maryland-National Capital Park and Planning Commission (M-NCPPC) has

initiated a project called Share-A-Ride in the central business district (CBD) of Silver Spring, Maryland. This project, which began operations on September 10, 1979, is testing the ability of the personalized approach to blend behavioral considerations into the rideshare-assistance process. At the same time, it is demonstrating how rideshare assistance can be made more effective, particularly in moderate-size employment centers, such as downtown areas of small-medium size cities, suburban CBDs, and other clusters of commercial development. Share-A-Ride has been developed with primary technical assistance from the project consultant, Sverdrup and Parcel and Associates, Inc.

PERSONALIZED APPROACH

The guiding principle behind the Share-A-Ride project has been the personalized approach. This approach recognizes that sharing a ride involves a personal, social, and business relation that many people find difficult to enter and maintain. The premise of the approach is that personalized assistance can help people overcome certain behavioral barriers, such as reluctance to ride with strangers, perceived loss of independence, or resistance to rigid and confining commuting arrangements.

Project Location and Staff

The Silver Spring CBD was selected for Share-A-Ride because the market is identifiable, manageable, and comprised of commuters from a wide area. Silver Spring is an unincorporated suburb of Washington, D.C., that has a compact CBD where approximately 1150 employers and 17 750 employees work (9). The CBD has a broad mix of employer types; the three largest categories are professional and technical services, government, and wholesale and retail (10). Many of these are small businesses; employers who have fewer than 100 employees account for approximately 58 percent of all employees in Silver Spring.

Although the Washington region's computerized carpool matching program has attempted to serve Silver Spring, the program has historically been ineffective in increasing ridesharing there. Cases in point were two carpooling campaigns conducted by the regionwide program, which together produced an estimated total of only 48 new carpools (11).

The Share-A-Ride staff consists of two field representatives and a secretary. Policy direction and supervision are provided by a staff member of the Transportation Planning Division of M-NCPPC. This has proved to be a sufficient level of staffing to provide personalized marketing, matching, and follow-ups.

Rather than treating rideshare assistance as simply a mechanical process, Share-A-Ride is structured to provide continuous, personal service, from initial contacts with the employers all the way to assistance for their employees. The field representatives have responsibility not only for marketing and promotion but also for matching applicants and making follow-up telephone calls as well. This wide spectrum of tasks adds variety to the job, lets the field representatives manage their time to achieve the proper balance among all activities, and promotes accountability. A field representative recognizes that the ability to make good, prompt matches and follow-ups will affect the receptiveness of employers and employees when he or she attempts to market the project further. Moreover, when the field representative matches applicants and makes follow-up telephone calls, he or she is able to explain to applicants the reasoning behind the match-ups.

Share-A-Ride's field representatives are experienced and educated in marketing and public relations and have good record-keeping skills. Their backgrounds enable them to show sensitivity and develop rapport with both employers and employees and to provide perceptive feedback on marketing strategy and applicant-assistance procedures.

Marketing

Most carpool matching programs attract primarily self-starters--those people who are highly motivated to share a ride with a bare minimum of assistance. Share-A-Ride's personalized marketing program, on the other hand, has been designed also to attract the undecided--those people who are marginally interested in ridesharing, yet who can be convinced to give it a try if personalized assistance is made available.

Much of the marketing strategy has been based on findings from interviews of focus groups, which were held before the project's services were made available to the public. A trained moderator guided seven discussion sessions; each contained 8-10 employers or employees (12). The purpose of these sessions was to obtain qualitative information on local attitudes toward ridesharing modes, incentives that would be most effective in inducing pooling and transit use, and options for designing a ridesharing program that has the most appeal and chance of success in Silver Spring.

Two important marketing objectives have been as follows:

1. To make Share-A-Ride a common workplace term and
2. To make a positive impact as early as possible in order to instill public confidence in the project.

The field representatives personally contacted the local Chamber of Commerce and key officials of the 140 largest firms to familiarize them with Share-A-

Ride. The field representatives were aware of the business community's natural hesitancy to get deeply involved until the project has proven itself. They initially sought only a modest level of assistance. Employers were asked to distribute to all employees Share-A-Ride brochures that contain tear-off application cards and to permit audiovisual slide presentations to groups of employees.

Six months later, after considerable newspaper publicity concerning the early success of the project, Share-A-Ride invited company representatives to attend one of a series of two-hour luncheon workshops. The staff briefed them on the status of the project, gave them a tour of the office, and also took the opportunity to request higher levels of assistance from businesses in the upcoming phase of the project. Some of the newer commitments included designation of a coordinator within the company, briefings to new employees about Share-A-Ride during company orientations, posters on company bulletin boards, endorsement of Share-A-Ride via letters to employees, and articles about the project in company newsletters.

The employees of approximately 1100 smaller businesses in Silver Spring could not readily be approached through their employers. Share-A-Ride staff reached them through other marketing techniques, such as posters in building lobbies and public garages; displays or brochures in banks, post offices, restaurants, and other public places; and radio public service announcements and newspaper articles. One local company made personnel available to help the staff distribute these posters and brochures.

Important to any marketing effort are word-of-mouth endorsements from satisfied clients. By improving the quality of the rideshare-assistance process and thereby bringing greater satisfaction to its clients, Share-A-Ride staff expects that word-of-mouth endorsements will increasingly reinforce the marketing efforts of the project.

Hybrid Processing System

An important objective during the creation of Share-A-Ride was to keep track of potentially thousands of applicants with as few errors and as little paperwork as possible and at the same time to give personal attention to each applicant. Accordingly, the project's hybrid manual-automated system combines the personal touch of Share-A-Ride personnel with the efficiency and speed of the computer. A fundamental decision was made to reserve to the computer the objective tasks and to reserve to human judgment the subjective tasks. As a result, the staff uses a printing terminal connected to a mini-computer to handle routine record-keeping, card and letter generation, and information retrieval functions, complemented by personal, manual methods for the matching and follow-up functions.

Share-A-Ride's limited market area produces trip patterns that are essentially many to few (many home locations to few work locations). This type of trip distribution is advantageous because it has permitted the start-up of effective matching at a threshold of 300 applicants. It has also been very adaptable to personalized manual techniques, thus the need for computerized matching is removed.

Share-A-Ride's commuter locator map, a key element of the matching process, is a manual tool that permits quick, visual, and subjective matching. Since this map encompasses the entire Washington-Baltimore region and would be difficult to place flat on a wall, it has been mounted on a scroll-like device that allows the user to pull the map up and down to bring any area into easy view. The map also

has a specially designed movable template for finding an applicant's home location.

Share-A-Ride's printing terminal produces coded information that gives each applicant's identifying number, work arrival and departure times, and work subarea. This information is photocopied onto a small gum-backed label that is then affixed to the applicant's home location on the map. When ready to match, the field representative scans the map's labels to select applicants who appear to be good matches, according to home proximity and information on the labels. The field representative then checks the potential matches more closely by referring to the applicant records for additional characteristics, such as driving preference, occupation, work affiliation, or certain personal requirements that may have a bearing on the suitability of the match. The field representative ranks the matches on the basis of expected compatibility. After the match information is transmitted to the computer, the printing terminal produces a variable-paragraph match letter that is sent to the applicant. The terminal's high-quality print wheel types the letter on regular Share-A-Ride letterhead, in normal letter format and typeface. The letter lists potential poolers in order of presumed compatibility and also suggests public transit routes, where applicable.

Two more examples of how the computer assists the personalized process are Share-A-Ride's courtesy cards and rematch cards. Immediately after a person enrolls in the project, the printing terminal automatically produces a courtesy postcard that acknowledges that the application has been received and that assistance will follow shortly. At the same time that a new applicant receives a match letter, the printing terminal automatically produces rematch postcards that are sent to the potential poolers on the new applicant's match list to let them know that the new applicant may be a good match for them. In this way, all parties to a match know about each other, and old applicants, whose files are still active, continue to receive potential matches until their needs are met.

Along with every match letter, each new applicant receives a concise carpool, vanpool, or transit information booklet, according to his or her ridesharing preferences. The carpool booklet emphasizes the flexibility of carpooling and points out additional benefits such as reserved carpool spaces and reduced automobile insurance premiums. The vanpool booklet explains how vanpooling works and describes how a person gets a van and qualifies as a vanpool driver. The transit information booklet serves as a handy reference on all the public transit services available to the applicant. Additional features that are common to all booklets are tips for successful ridesharing, endorsements of ridesharing from both employees and employers, and a brief explanation of Share-A-Ride's personalized services.

Telephone Follow-Ups

About two to three weeks after an applicant receives the matches, the staff makes the first follow-up telephone call. This follow-up provides information on early actions taken by the applicant or serves as a reminder to the applicant to make contact with other potential poolers. This call also serves to inform the applicant that Share-A-Ride staff is ready to assist personally if necessary.

A second follow-up telephone call normally occurs two to three weeks later. At this stage, the field representative can take an active role in assisting an applicant who has not yet made new ridesharing arrangements. A skilled field representative can ferret out the reasons for the applicant's inaction

and suggest ways to remove barriers that may exist. A hesitant applicant soon realizes that if a ridesharing arrangement does not work out, the field representative is prepared to give advice or supply names of additional prospects on a continuing basis.

As time permits, the field representative may make additional follow-up calls to verify the effectiveness of the assistance or to supply additional information or assistance. An important side benefit of these periodic calls is the opportunity to find out if applicants have moved or otherwise changed their status. The currency of data, a perennial problem for most ridesharing programs, is therefore much less of a problem for Share-A-Ride.

EARLY RESULTS

To obtain an early indication of the effectiveness and efficiency of the personalized approach, preliminary results were compiled in June and November 1980. These compilations relied primarily on three sources of information:

1. Postcard questionnaires that were mailed back by 30 percent of the 4600 Silver Spring employees receiving cards at random sampling points near building entrances during June 2-4, 1980;
2. Questionnaire forms that were mailed back by 38 percent of the 858 applicants in the Share-A-Ride project as of June 4, 1980; and
3. The Share-A-Ride data inventory system, which contains information from 1220 application cards and from an intensive series of follow-up telephone calls as of November 10, 1980.

Effectiveness

The 1220 people who applied to Share-A-Ride during the first 14 months of the project represent 6.9 percent of the work force of 17 750. About 50 percent of Share-A-Ride's applicants have been from employers who employ fewer than 100 persons, about 30 percent from employers who employ 100-500 persons, and about 20 percent from employers who employ more than 500 employees.

Although Share-A-Ride's roster of applicants is not large by ordinary standards, effective matching has still been possible. This has been due primarily to the many-to-few trip distributions of the applicants. The field representatives have been successful in providing match list or transit information to more than 93 percent of all applicants who requested assistance.

An especially important accomplishment of the personal approach has been the ability to overcome a formidable barrier for most ridesharing programs--the reluctance of applicants to call persons on their match lists. Approximately 72 percent of the applicants who received lists of prospective poolers have actually contacted each other.

A key measure of the project's effectiveness is its ability to create new or expanded pools and transit passengers. By February 1980, Share-A-Ride was able to get 25 percent of all its applicants into new ridesharing arrangements; by July 1980, the rate had increased to 29 percent; and by November 1980, the rate rose to 43 percent. Since the project is young and the full potential of the personal approach has yet to be met, this formation rate can be expected to go even higher. Of the applicants who started new pools or expanded old ones, 62 percent drove alone before applying to Share-A-Ride, and 30 percent applied in order to expand existing pools. The remaining 8 percent, who switched from transit to pooling, were more than offset by the number of people who switched from driving alone to

transit, to produce a net gain for transit.

About 46 percent of the persons who entered new ridesharing arrangements did so soon after being exposed to the initial promotion at or near their work location and receiving a personalized match list through the mail. About 39 percent entered new arrangements as a result of personal contacts by the field representatives. The remaining 15 percent entered new arrangements only after receiving additional assistance and new matches from the field representatives. About 70 percent of those who entered or expanded their pools actually pooled with people on their match lists. The remaining 30 percent pooled with persons who had not applied to Share-A-Ride.

A major objective in tapping the Silver Spring CBD market was to influence employees from different companies to pool with each other, particularly those who work for small businesses. Results show that this objective is being met. Approximately 72 percent of all pools created via the match lists are composed of employees of different companies, and 47 percent of Share-A-Ride poolers work for companies that have fewer than 100 employees.

Calculation of benefits that accrue to the average applicant who has entered new ridesharing arrangements through Share-A-Ride shows an annual savings of 7177 km (4460 miles) of travel and 935 L (247 gal) of gasoline per person. At an assumed automobile operating cost of \$0.11/kilometer (\$0.17/mile), the average dollar saving amounts to \$760/person annually.

Efficiency

The cost of providing service in comparison with the number of persons influenced to share a ride is an efficiency measure typically used by ridesharing programs. The ongoing cost of Share-A-Ride is now \$55 000/year, which covers staff salaries, fringe benefits, equipment and supplies, postage, and telephone service. This figure is based on the project's budget for the second year and thus does not include the start-up costs incurred in the first year. Because Share-A-Ride, like many other ridesharing programs, has been provided free office space and computer time, these items are not reflected in the \$55 000 figure. Share-A-Ride's partnership with the business community has also resulted in substantial donations of printing services by local firms, thus operating costs are decreased further. In the future, Share-A-Ride plans to have enough company coordinators and employee volunteers to assist in marketing so that the project can operate effectively with a reduced staff of two persons. Such a reduction would lower net operating costs to approximately \$45 000/year.

At the rideshare success rate of 43 percent and the annual cost of \$55 000, Share-A-Ride's current cost per new ridesharer is approximately \$130. If we assume that the success rate continues its upward trend and approaches 50 percent and that staff reductions lower the annual cost to \$45 000, the cost per new ridesharer for the following year could drop below \$100. This cost is based on a continuing application rate of 1000 new applications per year.

Share-A-Ride's cost per new ridesharer, not surprisingly, is somewhat higher than costs reported by most regional computerized programs. The additional resources were necessary to serve a difficult market area effectively and to reach beyond the self-starters to attract and retain people who initially are undecided about ridesharing. When compared with the much higher public expense of funding the alternatives to carpooling, such as providing additional parking spaces or new transit

capacity, personal assistance to potential poolers stands as a very efficient and worthwhile service. The addition of new parking garage capacity in Silver Spring, for example, currently costs \$8000-10 000/space.

IMPLICATIONS FOR RIDESHARING PROJECTS

Share-A-Ride continues to refine the specific methods for implementing the personalized approach. Its fundamental philosophy--humanizing and raising the quality of the rideshare-assistance process--has been the key to the success of the project and can be important to the future of other ridesharing programs. Important considerations for projects that plan to use the personal approach include the following.

Personalization of ridesharing services has the best chance of succeeding in limited market areas. Although the personal approach is especially feasible for moderate-size employment centers, it is also adaptable to large metropolitan areas where centralized ridesharing projects may already exist. In such cases, satellite offices could be established in certain subareas that deserve special treatment.

The staff of a personalized project must encourage its clients to participate actively in implementing the program. Group discussion sessions with employers and employees during the planning phase and the involvement of coordinators and volunteers during the operating phase of the project increase awareness and acceptance of the ridesharing services. A partnership with the community can also result in important side benefits, such as donations of services to the project.

Although the matching process is important, it only requires about 10 percent of the staff's time in limited, employer-based market areas such as Silver Spring. In such areas, matching by complex computer programs would be inappropriate because the computer would save little time and would limit the flexibility required for personalized matching. The computer, nevertheless, should be used to perform routine, mechanical record-keeping chores so that the staff can devote the bulk of its time to people-oriented components of the project, such as marketing and follow-ups.

Assignment of the field representatives to the entire range of marketing, matching, and follow-up responsibilities avoids an assembly line situation whereby each function is performed with little regard or knowledge of the others. Since personalization requires extensive outreach and interaction with the public, selection of project staff should be performed carefully. Highly qualified professionals are not a luxury, but a necessity for achieving a reputation of competence and credibility.

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Business Plan for a Commercial, Third-Party Vanpool Operation

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Vanpool rate schedules that are based primarily on meeting costs in a break-even operation discourage participation by the greater number of short-distance riders. As a result, this business plan is based on the supposition that, if vanpool rate schedules were directly related to the gasoline cost of travel by automobile, vanpooling would have much broader appeal, and might even be profitable. Of course, profit is not a necessity. This plan would also be useful in an unsubsidized, nonprofit operation. The plan itself is based on a computer-optimized model, created largely from 3M vanpool data. This model uses a pricing strategy that is indexed directly to the cost of gasoline. Other important features and assumptions are shown as well as profitability, cash flow, and internal rate of return over a seven-year time period.

3M is generally regarded as a pioneer in development of employer-supported vanpools. The 3M program started with 6 vans in 1973. Now, the 3M program has 145 vans that serve more than 1500 employees. Average occupancy per van is 11.5 riders. In addition to reducing gasoline consumption by 300 000 gal/year, this program has reduced demand for parking space at the 3M Center by about 940 spaces. The estimated capital savings for these parking facilities is about \$3.4 million. This, of course, is offset in part by the capital investment in the 3M van fleet, which at this time is in the neighborhood of \$1 million.

The 3M fare schedule for employees is based on the cost of operating and maintaining the fleet plus amortized van cost. The costs of administering the program, providing maintenance facilities, collecting fares, and purchasing are borne by 3M.

This practice of vanpool subsidization by employers or government is quite common. Public Service Options, Inc., managed 50 vans in the Twin Cities of St. Paul and Minneapolis in 1979. About half of their costs were borne by state and federal government. Subsidization, in fact, seems to be common to most forms of multirider transportation, except carpooling. In October 1979, in a radio interview, one of the commissioners of the Twin Cities Metropolitan Transit Commission (MTC) stated that revenues for meeting the cost of operating the

MTC come from the following sources:

Source	Share of Operating Cost (%)
Fares	33
Property taxes	22
State subsidy	25
Federal subsidy	18

Bus fare at that time was \$0.40/ride; senior citizens rode for \$0.10. Thus, subsidization for operating cost was between \$0.70 and \$0.80/passenger trip. This operating cost did not include amortization of the purchase price of the buses. Eighty percent of the cost of purchasing a new bus was borne by the federal government. If this capital investment cost is added to operating cost, the total subsidization of public transportation in the Twin Cities was in excess of \$1/passenger trip. The business plan that follows will show that commercial vanpooling may be a more cost-effective means of multiple-rider transportation.

MARKET PLACE PERSPECTIVE

In 1979 about 6000 (1) employer- or government-sponsored vanpools were in operation in the United States. A like number of private owner-operated vans are also estimated to be functioning in the United States. At an average of 10 riders/van, about 120 000 U.S. workers out of a total labor pool of 90 million are currently vanpooling. This is 0.13 percent of the total labor population. At the 3M Center in St. Paul, Minnesota, participation is 14 percent and there is a waiting list of applicants.

From the above figures one might project that the total potential for pooling in the United States may be about 100 times greater than its present level. This projection equals 12 million riders. The ensuing analysis will show average annual revenues