

Transportation System Management: A Practitioner's Experience

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ABSTRACT

The experience and evaluation of the RideShare Department of the Southeast Michigan Council of Governments are presented. From the practitioner's experience, it is concluded that ridesharing programs, because they provide a more economical and less stressful means of commuting to work, can be marketed by major employers as an employee personnel benefit. The use of designated employee transportation coordinators for ridesharing by such employers has established good, solid programs. Marketing ridesharing to the general public enhances the objectives of transportation system management (TSM) by coordinating commuters with existing major businesses and business districts. This evaluation will enable the regional planning agency to reassess its goals in order to satisfy the existing TSM objectives through ridesharing.

It has been almost 10 years since the concept of transportation system management (TSM) was introduced in the planning regulations of FHWA and UMTA. It appears that there has been a considerable shift in the past few years from capital-intensive long-range transportation planning activities to short-range TSM courses of action.

What is TSM? One way to define it is to quote from the federal regulation [40 Federal Register 42976-42984(1975)]:

Automobiles, public transportation, taxis, pedestrians, and bicycles should be considered as elements of one single urban transportation system. The objective of urban transportation system management is to coordinate these individual elements through operating, regulatory and service policies so as to achieve maximum efficiency and productivity for the system as a whole.

As seen from this definition, striving to achieve the maximum efficiency of the existing highway and transit facilities can be regarded as one of the TSM objectives. Ridesharing is an element in this objective.

BACKGROUND

As part of the trend for regional planning and local operating agencies to cooperate in making more productive use of existing transportation facilities, the federal government instituted TSM in 1975. To the transportation practitioner this translated into planning on the basis of how well the existing facilities operated and how to maintain these facilities to the optimum. A consideration in achieving TSM objectives was the institution of ridesharing on a national basis.

On a regional level, ridesharing becomes integrated into the transportation air-quality analyses of TSM in the Southeast Michigan Council of Governments (SEMCOG) region under the Transportation Plan-

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ning Guidelines of the Environmental Protection Agency. When implemented, ridesharing activities result in reduced energy consumption and abatement of the air and noise pollution associated with the urban transportation system. In recognition of UMTA's high priority on paratransit planning, vanpooling became the initial task. Ridesharing became part of the regional short-range plan because of the TSM emphasis that all facets of transportation be integrated into one system rather than several separate systems.

SEMCOG RideShare, as it is now identified, took 8 years to develop. Staffing now includes six full-time employees--one manager, three ridesharing planners, one ridesharing research assistant (data processing), and one administrative assistant-secretary. The program services the seven-county region in southeast Michigan as the ridesharing agency of record. For those involved in paratransit planning, the development of this program and its goals and achievements has been a valid learning experience.

RIDESHARING AS A METROPOLITAN PLANNING ORGANIZATION FUNCTION

The regional ridesharing vehicle-pooling program became part of the work program of the metropolitan planning organization (MPO), SEMCOG, in FY 1977-1978. The initial objective was to utilize COG resources in the start-up, coordination, and monitoring of ridesharing activities. The method was to refine the geocoding file of the urbanized portion of the tricounty area. The council used the geocoding as input to one of several vanpool vehicle-pooling software packages. During the following year the council selected, acquired, and made operational the package that best served the needs of southeast Michigan. The planning of this task was coordinated with the Southeast Michigan Transit Authority (SEMTA) and the Detroit Department of Transportation (DDOT). Production completion included selected packages made operational on the council's data processing hardware. The budget for this task allowed one person to develop the program within a time frame of 16 weeks.

It is important to note that also during this

fiscal year, President Jimmy Carter mandated ride-sharing as a federal regulation, stating that federal government agencies would appoint transportation coordinators for each federal facility. The objectives of the federal program were to conserve fuel, reduce traffic congestion, improve air quality, provide an economical way for federal employees to commute to and from work, and reduce the need for parking at federal facilities.

During its second year the ridesharing program at SEMCOG employed one staff member half time whose major task was to identify the role that SEMCOG would play in assisting the implementation of vanpools in southeast Michigan. The staff met with companies interested in forming vanpools for their employees or those who already were conducting a working vanpooling program. Two private-sector corporations, Chrysler and Detroit Edison, conducted surveys of vanpoolers in the seven-county region in southeast Michigan. These surveys determined travel characteristics before and after vanpooling. The information gathered from this survey was then coordinated with the Michigan Energy Administration. The result was a documentation of socioeconomic, travel, and attitudinal data from vanpool participants in the SEMCOG region. It gave RideShare an idea of who the target audience was and what their travel preferences were. This survey provided staff with information they could use in handling employer-based vanpool programs.

During the same fiscal year, SEMCOG developed its own regional TSM plan, with ridesharing as one of the elements. In the TSM description, ridesharing efforts in the seven-county region in southeast Michigan were defined. Included in this were descriptions of formal and informal pooling, vanpooling, and carpooling and general obstacles to the expansion of the program. It was stated that at that time (December 1979) "existing ridesharing efforts were not considered to a great degree; there was an absence of an overall ridesharing program promotion effort. This represented the most serious ridesharing deficiency in this region." Also, with the exception of some basic vehicle occupancy data, there was very little information regarding carpooling in the region. It was indicated that the Michigan Department of Transportation had begun to provide parking facilities within highway rights-of-way. Vanpools were identified only through existing programs with regional employers.

There was a great amount of work to be done in order to get the ridesharing program on the road. The computer service was in place and park-and-ride lots were available. SEMCOG needed to promote its software service to the major employers of the seven-county region and promote ridesharing by changing employees' commuting habits. RideShare had its challenge set.

The objective of the FY 1979-1980 ridesharing work program was to focus on employer-based vanpool programs. These programs promoted both carpooling and vanpooling within the SEMCOG region. First existing ridesharing programs in comparable markets were reviewed. The program best suited to meet RideShare's needs was incorporated into SEMCOG's computer system and used as the basis for the free computer information system (CIS) system, which helped employees with the same work hours and home and work locations contact one another for the purpose of carpooling or vanpooling for their daily commute. One staff person was assigned to the task for a 40-week period. During this time, the computer matching program was documented.

FY 1980-1981 gave RideShare the opportunity for promotion to the region's employers and their staffs. Regional local governments and the public and private sectors cooperated in this task. Promotional

materials were developed and disseminated. The basis for this promotional effort was the free use of SEMCOG's CIS.

At this time, SEMCOG RideShare engaged in the promotion of the third-party vanpool program with the Michigan Department of Transportation. The third party was Van Pool Services, Inc. (VPSI), a subsidiary of Chrysler Corporation. The service was called Michivan. SEMCOG RideShare provided the free matching service, which helped identify those individuals who were interested in driving a van daily to and from their work location. RideShare helped find enough passengers to fill either a 12- or a 15-passenger vehicle, explained to them how the program worked, and then referred them to VPSI. The work for this program was coordinated with both SEMTA and Ann Arbor Transportation Authority (AATA).

This planning effort enhanced the TSM program and continued to satisfy its goals of reducing air pollutants and energy consumption. The plan produced the first application and accompaniments in the form of support graphics, documentation of employers contacted, and ridesharing match lists. Staffing included a program coordinator, three RideShare planners, and one computer programmer.

In FY 1981-1982 the objectives, methodology, planning, and production of the previous year were replicated. In addition, for the first time, the program was documented on paper.

RIDESHARE--A MARKETABLE SERVICE

There were marked changes in the strategies of the program in FY 1982-1983. Marketing specialists were sought and the staff was increased to seven, including one fleet management specialist, one half-time bicycle transportation specialist, and one half-time communications specialist. The marketing specialists developed a plan for the calendar year to produce materials for dissemination in the region describing the ridesharing services. This plan included an escalated media awareness campaign. The media promotions, on radio and television, served double duty as in-kind services matching.

One of the goals of the marketing plan (discussed later) was to implement self-supporting transportation programs for large employers. RideShare continued to market the VPSI-Michivan third-party vanpool program. Expanding the existing data base to include medium-sized and small employers became another goal. The concept of flextime (staggered work schedules) was incorporated into these promotional endeavors.

In addition, two new areas of ridesharing were researched. The first was the development of a ride-sharing contingency plan, an action to be taken during transportation disruptions to aid employers in making sure that their employees have transportation to and from work. This plan was threefold in its purpose: to educate the general public and employers on what ridesharing services could be provided during a transportation emergency, to detail a plan describing the implementation of these services, and to provide a short-range program identifying steps that SEMCOG takes as part of its normal work program. The method in this contingency plan was to identify staff members for emergency ridesharing. Implementation time and costs for seeking transportation alternatives in transportation emergency situations were also included.

The second area of ridesharing researched was general public marketing and matching. Until this time ridesharing had been promoted only to employers in the region. The promotion for the general public included a telephone number and widespread advertising and distribution of applications. The unique

thing about this promotion was that applications could be taken over the telephone as well as through the mail. This, of course, expedited the process of matching through the computer system. The process took 1 week once the application had been received at the agency. Mail applications sometimes took longer, depending on the speed of the mail service. Taking applications over the telephone enabled RideShare to satisfy the customer in a shorter period of time.

As an addendum to the promotional process, locations for new carpool parking lots in addition to those that were currently in operation through the Michigan Department of Transportation were sought. The emphasis was on the rural parts of the region.

FY 1983-1984 as well as FY 1984-1985 were devoted to expansion of the program plans set in place for FY 1982-1983 with an emphasis on general public matching. Using the existing employer-based programs as a model, RideShare staff became involved in intense marketing in the forms of media planning, on-site promotions, and overnight batch processing for applicants.

STATISTICS

After 8 years of planning and development, SEMCOG RideShare has contacted 6,800 individuals and 1,974 employers in the seven-county region in southeast Michigan and has conducted 303 employer programs and distributed 328,906 applications to employees and the general public. This effort has contributed to the distribution of 22,298 match lists.

Thus far, 78 vanpools have been formed that transport 928 individuals to and from work daily. Through the matching service an estimated 4,019 carpools have been formed with an average 2.9 passengers per vehicle. This is a total of 11,655 persons carpooling to their place of employment on a daily basis.

Some cumulative annual statistics are as follows:

- VMT reduction: 79,289,406
- Gallons of gasoline conserved: 5,321,436

- Tons of pollution (HC/CO) reduced: 309/3,017
- Accidents prevented: 470
- Injuries prevented: 156

PROGRAM EVALUATION

By studying the products in the comparative charting for 1982-1984 (Figures 1-4), RideShare has learned that the implementation of the marketing plan has given the program the exposure in the region that was lacking in 1979. Ridesharing has been marketed well enough so that returns are higher with less time allocated to marketing. The program is selling itself. RideShare can target its expertise toward other areas, including marketing the Michivan vanpooling program more extensively, seeking new employer clients, and developing ridership counts in carpools formed throughout the region.

RideShare staff is constantly learning new ways to better serve the region through marketing. The use of highway signs--"RideShare Info 963-RIDE"--has doubled applications to the program. In telephone applications, RideShare planners communicate first hand with applicants, learn what their needs are, and match them with other applicants more expeditiously.

Personalizing applications and support materials for clients, such as incorporating company logos into these materials, gives employees more confidence in the RideShare services because they know that their employer is supporting the program. Many of the employer-based clients offer incentives to these employees in conjunction with the ridesharing program. The most popular incentives are premium parking, reduction in monthly parking fees, or subsidized parking facilities.

In marketing for federal government facilities, RideShare has learned to work with the federal Executive Order, first mandated in 1979 and again in 1985, requiring each federal agency to have a transportation coordinator and a workable ridesharing program [41 CFR § 101-106(1984)]. The order has helped to increase the data base.

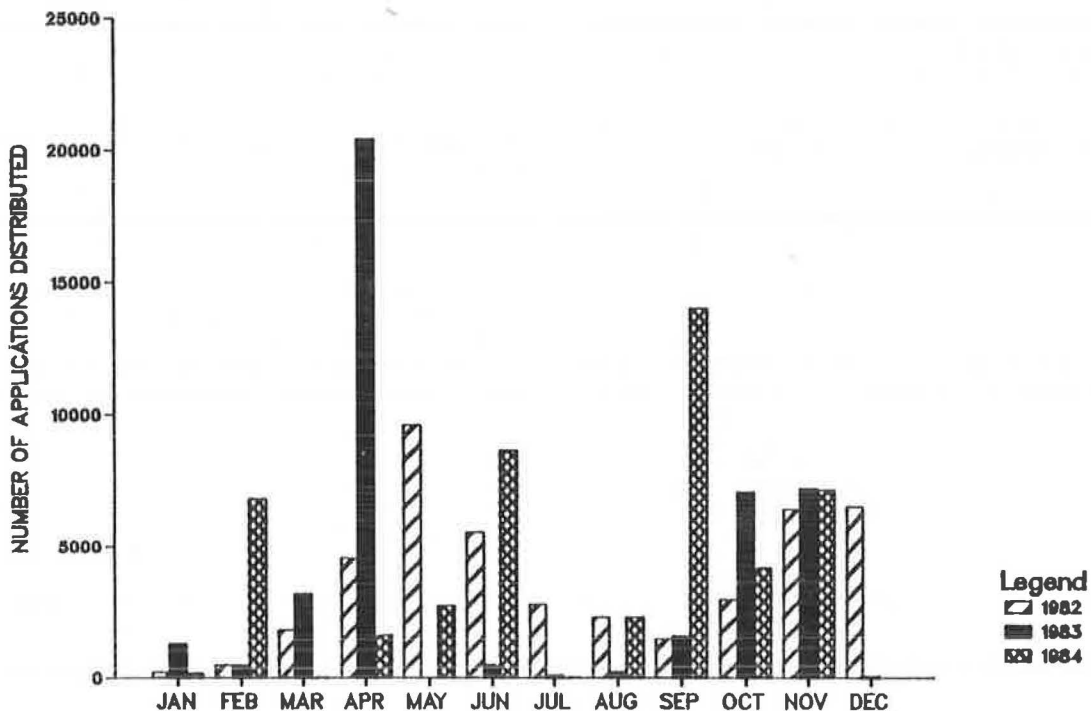


FIGURE 1 RideShare applications distributed by month and year, 1982-1984.

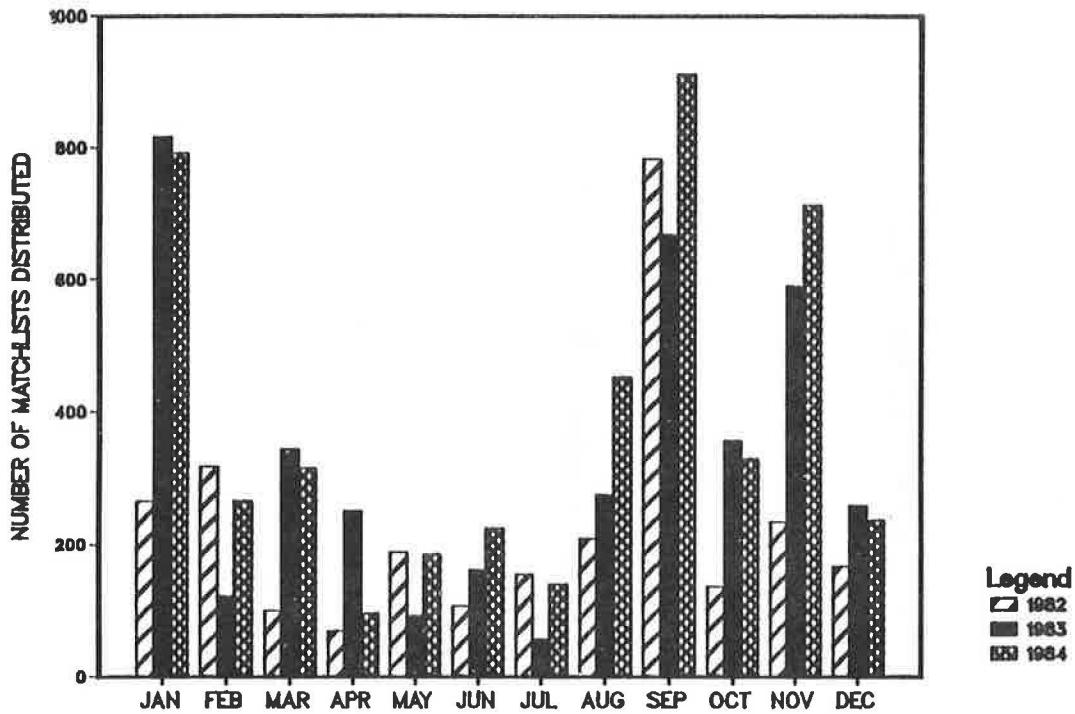


FIGURE 2 Rideshare match lists distributed by month and year, 1982-1984.

Working with major banks in the region has educated staff on how to serve employers who have more than one branch office. Many of the major banks in the central business district are relocating. RideShare's services have been called on to aid in ensuring that each employee has transportation to the new work site. One bank's rideshare program has earned an award from the National Employee Services and Recreation Association for outstanding program promotion based on an employer kit that RideShare staff produced for them. The same employer program

has also received recognition from the Michigan Department of Commerce and the U.S. Department of Commerce for energy innovation through an award program.

SEMCOG is confident that RideShare has developed excellent employer-based programs through implementation of the marketing plan. However, RideShare staff has learned that there are also areas that need improving. One concern is follow-up. There is no established procedure to follow up on applicants to the program to determine what mode of transportation they are using in ridesharing. The second con-

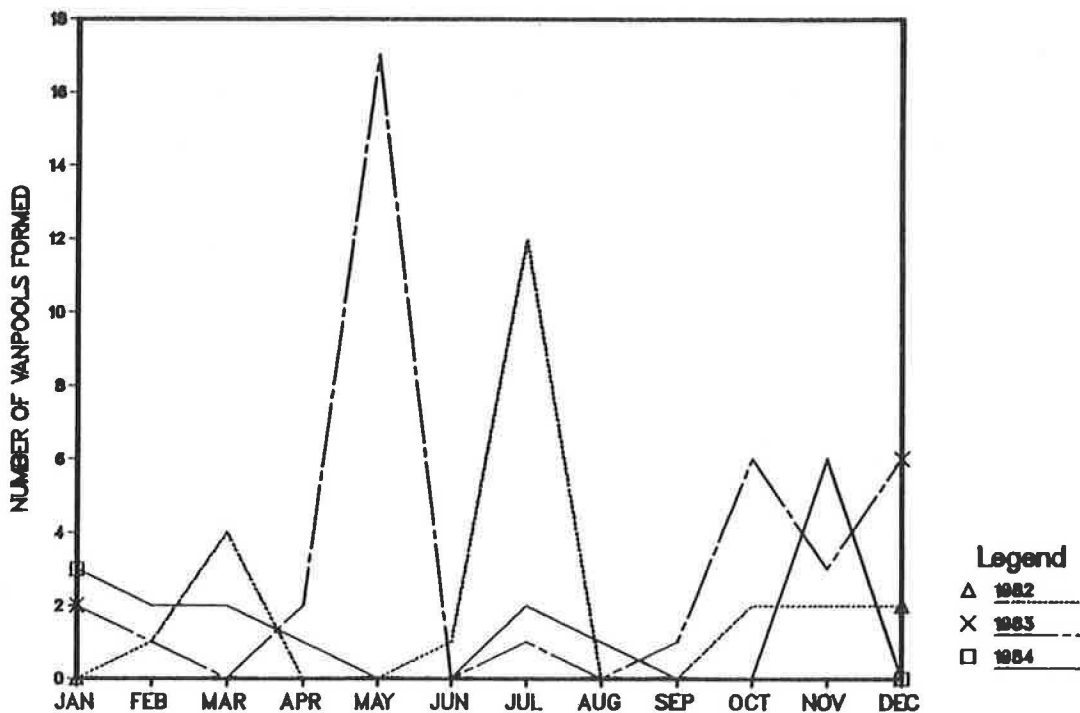


FIGURE 3 Number of Michigan vanpools formed by month and year, 1982-1984.

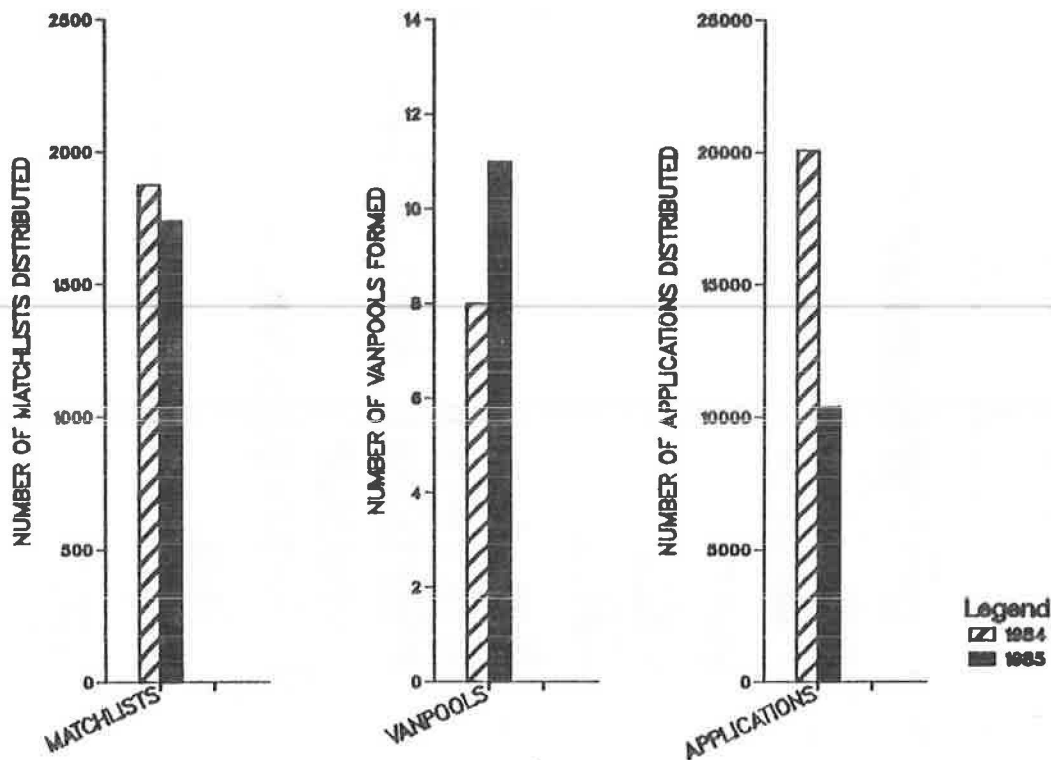


FIGURE 4 Rideshare Program, January through June 1984 compared with 1985.

cern for development of SEMCOG's ridesharing program is how to market and implement a carpool registration program.

The prime recommendation for creating a workable ridesharing program as part of the TSM objective is to look at ridesharing as a marketable service. The SEMCOG RideShare program differs from others throughout the country in that ridesharing is treated as a saleable service. SEMCOG has tried to convince commuters that the RideShare program is a dependable service that helps people save money. By establishing a client-agency relationship and marketing ridesharing as a consumer product, RideShare has established a unique blend to attain their goal--making ridesharing a part of the personnel services of businesses in the seven-county region. The program has also made the general public aware that the service is available, sound, and an institution in its own right.

MARKETING PLAN

Promotion

Employer Kits

Although the RideShare program encompasses matching for the general public, the main thrust will continue to be employer programs. It has been the experience of the majority of rideshare organizations nationwide that the rate of participation is highest when participants are enrolled through their employer. This is mainly because a given company's employees meet two of the major criteria for successful ridesharing: common work destination and work hours.

RideShare staff enhance employer contacts with the employer ridesharing kit, which provides a range of program resource materials, specifically, the items detailed in the following paragraphs.

Employer Brochure

The employer brochure explains how the RideShare program can benefit the company, describes the services the staff can provide, and details the steps required to implement a successful ridesharing program.

To reach employers, specific employer benefits are emphasized, such as reduced parking requirements, employee benefit at no cost to the company, expanded labor market, easier relocation, reduced traffic congestion, and positive community image.

Sample Memo

A memo sent from top management to employees before implementation of the company's ridesharing program explains the program and the company's commitment to it and discusses the benefits of carpooling or vanpooling and program activities that will be conducted.

Providing employees with a sample helps ensure that (a) top management is perceived as endorsing the program and encouraging employees to participate and (b) pertinent information is disseminated to all company personnel before the program begins.

Sample Match List

The match list helps the client understand RideShare's services by showing the final product that employees will receive and the factors RideShare uses to determine suitable matches. It illustrates the computer system capabilities as well.

Site Coordinator Brochure

The site ridesharing coordinator, who is selected by management to work with RideShare staff, or, if ap-

plicable, the employee transportation coordinator is the target of this brochure. Because this role is vital to successful implementation, the RideShare program, as well as procedural requirements of the coordinator, must be fully explained.

Sample Newsletter Article and Graphics

The site coordinator submits an article about the RideShare program to the company newsletter before the start of the program. Supporting graphics may also be supplied.

Program Folder

All-purpose program folders hold all materials appropriate for a given audience and feature the program name and company logo.

General Program Brochure

The general program brochure gives reasons for ride-sharing, explains how the program works, and provides a chart for estimating actual annual commuting costs based on daily round-trip mileage and transportation mode.

Posters

Colorful posters with catchy copy are a key marketing item. RideShare develops one general program poster and later several are targeted to more specific interests or employers.

Surveys

Surveys to determine ridesharing needs before a program is promoted are essential to the success of the effort.

Highway Signs

Highway signs are considered a highly successful promotional tool nationwide because once in place, they become a permanent and repetitive message. Therefore, signs reading "RideShare Info 963-RIDE" have been placed on major routes into Detroit's central business district, Troy's Big Beaver corridor, and the Southfield Civic Center area because of the high concentration of commuters and large employers.

Ridesharing Display

A display may be used in conjunction with either employer programs or general public promotions to supplement RideShare presentations or act as a substitute for RideShare personnel when they cannot be present to give out information but want a more in-depth presentation than a brochure or poster alone can provide.

Public Service Announcements

Because of limited financial resources and the seemingly limitless ways to spend those resources, the general public campaign relies heavily on air time donated by local radio stations to publicize ride-share programs via public service announcements (PSAs).

Because this method has been proven second only to highway signs in successfully recruiting new pooling participants and entails no significant financial expenditure, it warrants substantial staff time and effort in the creation and presentation of professional-sounding PSAs. To increase the likelihood that the PSAs will be used during peak commuting hours (not, incidentally, the most valuable air time) and, in some cases, will be used at all, contact by program staff with the public service director or appropriate personnel is vital.

Talk Shows

In conjunction with the PSA campaign, when the stations receptive to the ridesharing message are selected, local stations with programs that feature brief highlights of a topic (e.g., 90-sec vignettes on WOMC's "Sunday in Detroit," which runs from 11:30 a.m. to 12:30 p.m.) can be targeted. The best strategy appears to be to gain experience in brief radio spotlight forms and then to try to get on higher-exposure radio and TV programs.

Press Releases

Press releases are used to announce and publicize a wide variety of program events and happenings, for example, a new vanpool formed, a successful employer program, a ridesharing week, and are targeted to the appropriate audiences. Press releases are written and produced in house and can be as specific or general in nature as desired.

Ridesharing Week

As the campaign aimed at the general public gets under way, a promotional Rideshare Week can be the capstone of the fall drive. For maximum effectiveness it should be held in late September or early October when interest in ridesharing peaks. PSAs and press releases can be targeted toward this event, which, in concert with the billboard displays, will terminate the general-public campaign.

Possible events include displays in malls and downtown stores, recognition of companies strongly supportive of ridesharing (via press releases, paid ads, or plaques and certificates), van demonstrations, endorsements by elected officials, contests (recruit new poolers and win a prize), and people riding together for one day.

The impact of this event would be heightened by association with city celebrities (e.g., a group of the Detroit Tigers riding to "work" at the ballpark).

Billboards

A mass media public awareness campaign composed of a blitz of billboard advertising, PSAs, and press releases appears to be the most effective route for reaching a maximum portion of the target audience at a minimum cost.

There are several reasons for allotting a substantial portion of the budget to outdoor advertising:

1. Audience: The target audience is people who drive to and from work alone and commuters who travel the major highways where the billboards are located and see them every work day. In addition, research shows that billboards are the most effective method

of advertising with upscale adults and working women, two prime target groups for ridesharing.

2. Control: RideShare creates the message the audience will receive and selects the billboard locations and the start date. A choice can be made to use boards only on the highway routes into the downtown area or along known heavy suburb-to-downtown routes.

3. Visibility: Billboards are a day-in, day-out reminder; they cannot be turned off or ignored; the message is presented with minimum clutter; they offer creative flexibility; and they provide far more exposure for the advertising dollar than newspapers, radio, or TV.

Premiums

Premiums, or giveaways, are effective because most items are useful and reinforce the service and message each time they are used, especially if they are distinctive novelties. In addition, although people may be reluctant to accept a brochure or flyer, thinking that it entails some commitment on their part, everyone likes to get "something for nothing."

1. Litter bags are excellent because they are related to driving and vehicles, in keeping with the ridesharing program. They can be handed out separately or they make a handy carrier for other materials such as those that RideShare likes to distribute--brochure, Michigan fact sheet, notepad, van cutout, balloon, and bumper sticker.

2. RideShare has found balloons to be an excellent way to attract attention and present opportunities to discuss the program. One unique use of balloons by another ridesharing organization has been to reward someone already ridesharing with a balloon bouquet at their office, which not only helps reinforce the commitment of those already ridesharing, but stimulates the interest of others in the workplace. A picture of the event can be used in the company's newsletter and could possibly receive more coverage if the picture and story are sent to local media.

3. Notepads with the ridesharing organization's name and phone number are inexpensive, useful, and reinforce the message each time a new sheet is used.

4. Van cutouts work because they are unusual and evoke some amusement on the part of the recipient, which helps reinforce the message.

5. Key tags ("Ridesharing--Your Key to Savings") also fit the program transportation theme, are useful, and would remind the user of the program.

6. Tent cards, used in cafeterias or lunchrooms, and payroll stuffers (for example, "A lot more of this paycheck would stay in you pocket if you shared the ride") are other ways to reach prospective poolers and create interest among employees.

7. Bumper stickers are a novelty item, are related to the transportation theme, and can advertise ridesharing.

Holiday Mall Promotions

Ridesharing promotions can be held for mall employees at major malls before December in an effort to alleviate the severe parking congestion typical of the holidays. RideShare contacts mall merchant associations about developing carpooling programs for their employees during the Christmas season in order to increase customer parking spaces.

Targeted Area Promotions

If it is ascertained that specific areas would benefit from a concentrated promotional effort, information can be disseminated by notices, posters, displays, brochure distribution, ads in local papers, press releases, and so on. Organizations to cover include chambers of commerce, welcome wagons, schools, stores, libraries, real estate offices, and other appropriate outlets. Presentations can be given at neighborhood meetings or for community groups.

Implementation

Coordinator Kit

The coordinator kit contains the same information as the employer kit, but also includes worksheets of program steps that need to be completed by the coordinator and that are designed specifically for that organization by the staff program coordinator.

Vanpool Driver-Coordinator Kit

A prospective vanpool driver or organizer can be educated about the program so that he can identify potential passengers and sell them on vanpooling. Development of the following items for this kit better equips drivers to help in forming pools, which eliminates much of the time RideShare staff currently devotes to assisting drivers in finding passengers.

1. Introductory letter: The step-by-step process by which a vanpool is formed is explained.

2. Vehicle brochure: Furnished by VPSI, this brochure shows potential passengers that the vans are comfortable and well-equipped.

3. Recruiting ("Riders Wanted") posters: These posters are displayed on bulletin boards at work sites and at the home end and indicate the work hours, route and destination, and contact person for the potential vanpool.

4. Michigan fact sheet: Distributed to each potential passenger by the driver-coordinator, it summarizes the major features of the program and reinforces the credibility of the program and driver.

5. Driver information packet: Furnished by the Michigan Department of Transportation, this booklet gives details of the program from the driver's perspective.

6. Publicity sheet: This gives tips on how to publicize a potential vanpool.

Maintenance

Pooling Pointers Brochure

Research reveals that the major factor in the breakup of carpools is usually failure by carpool members to establish operating rules and understandings before starting. To avoid misunderstandings and frustrations from the beginning, a brochure offering guidelines on issues that need to be addressed is helpful to poolers. This information will likely improve the extent of operation and the success of the carpools and vanpools that rideshare program staff works hard to organize.

RideShare Newsletter

The continued bimonthly publication and distribution of a newsletter will help maintain the drivers' and

passengers' commitment to and enthusiasm for vanpooling by providing articles on the benefits of ridesharing, its status in other cities and states, activities and innovations of the program, and so on.

Pooler's Packet

Supplying new carpoolers and vanpoolers with materials that promote ridesharing is an effective method for encouraging them to continue to rideshare and reinforces the message that pooling is a rewarding experience. Materials might include premiums (bumper sticker, litter bag, notepad), a letter congratulating them for joining a pool and reiterating the benefits of sharing the ride, a copy of the rideshare

newsletter, a pooling pointers brochure, a general program brochure to give to a friend, a map of park-and-ride lot locations, and the business card of a program staff member for future reference and assistance.

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A Level-of-Service Framework for Evaluating Transportation System Management Alternatives

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ABSTRACT

The complexity involved in evaluating a transportation system, as reflected in the large number of, and often conflicting, goals and objectives postulated by various groups affected by the system, is discussed. Desired improvements can encompass, for example, a reduction in person hours of travel, vehicle delay, traffic volume, or energy consumption as well as an increase in the number of transit passengers. Alternative strategies may result in different changes in each of the variables. Existing evaluation procedures, like goal-achievement analysis or cost-effectiveness analysis, are shown to have various disadvantages, the main one being an inability to compare the different magnitudes of improvement caused by different variables. A benefit-cost analysis can address this problem only if the variables evaluated can all be reduced to monetary terms, which is seldom possible. An evaluation procedure is proposed in which a panel of decision makers representing the various interests affected by the transportation system allocates weighting factors to the selected variables. The utility analysis can be used, thus allowing conflicting views to be presented in an open discussion and a consensus to be reached. The weighted worth of all variables is then summed to give the level of service of the transportation system (LTS), which allows the comparison of one strategy with another, enabling decision makers to select the most suitable alternative.

The elements of any typical transportation system, though rather complex, are interrelated. Private vehicles, public vehicles (e.g., buses, taxis, rapid transit trains), streets and parking facilities, pedestrians, and installations for pedestrian use should all be considered elements of a single urban

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transportation system. In recent years, there has been a shift in engineering philosophy toward better, more efficient use of existing transport systems. Whereas the standard solution to growing demand in the past was the provision of additional capacity, planners and engineers now seek the best possible use of existing systems with, perhaps, minimal cost adjustment.

In the present economic climate, characterized by the shortage of funds for transportation facilities and services, it is natural to expect the capital used for transportation purposes to be scrutinized carefully in respect to the efficiency and produc-