

IDENTIFICATION OF SUCCESSFUL RIDESHARING STRATEGIES

E. D. Arnold, Jr.
Research Scientist

(The opinions, findings, and conclusions expressed in this report are those of the author and not necessarily those of the sponsoring agencies.)

Virginia Transportation Research Council
(A Cooperative Organization Sponsored Jointly by the Virginia
Department of Transportation and
the University of Virginia)

In Cooperation with the U.S. Department of Transportation
Federal Highway Administration

Charlottesville, Virginia

May 1989
VTRC 89-TA4

TRAFFIC AND PLANNING RESEARCH ADVISORY COMMITTEE

- A. L. THOMAS, JR., Chairman, State Traffic Engineer, VDOT
- M. G. ALDERMAN, Regional Sign Shop Coordinator, VDOT
- W. S. BLACK, District Traffic Engineer, VDOT
- G. R. CONNER, Assistant Rail & Public Transportation Administrator, VDOT
- J. C. DuFRESNE, District Traffic Engineer, VDOT
- D. L. FARMER, Chief Transportation Planner, Southeastern Virginia
Planning District Commission
- C. F. GEE, Assistant Construction Engineer, VDOT
- C. D. HALL, Assistant State Traffic Engineer, VDOT
- T. A. JENNINGS, Safety/Technology Transfer Coordinator, FHWA
- P. L. KRUSE, District Traffic Engineer, VDOT
- YSELA LLORT, Assistant District Engineer, VDOT
- C. E. MORRIS, Assistant District Engineer, VDOT
- T. W. NEAL, JR., Chemistry Laboratory Supervisor, VDOT
- R. L. PERRY, Assistant Transportation Planning Engineer, VDOT
- R. N. ROBERTSON, Senior Research Scientist, VTRC
- R. L. SAUVAGER, Assistant Urban Division Administrator, VDOT

ABSTRACT

Ridesharing offers a relatively low-cost solution to the problems associated with high commuting costs, traffic congestion, unmet parking demands, energy shortages, and excessive air pollutants. Accordingly, it is worthwhile to develop a list of strategies that have been or are being used to encourage ridesharing and to make an assessment of the effectiveness of each. This report presents such a listing, which was developed primarily from a review of the literature. Further, an assessment of the effectiveness of each strategy in increasing ridesharing and its relative cost is discussed. This information was derived from a survey of ridesharing agencies in Virginia.

IDENTIFICATION OF SUCCESSFUL RIDESHARING STRATEGIES

E. D. Arnold, Jr.
Research Scientist

INTRODUCTION

Ridesharing occurs when two or more persons travel together, most typically by carpooling, vanpooling, buspooling, or public transit. It is most often associated with commuting to and from work. There are many benefits associated with ridesharing, including reductions in commuting costs, traffic congestion, parking demand, energy consumption, and air pollution. Accordingly, it is worthwhile to develop a list of strategies that have been or are being used to encourage ridesharing and to make an assessment of the effectiveness of each.

PURPOSE, SCOPE, AND METHODOLOGY

The purpose of the project was to develop a comprehensive list of ridesharing strategies and to assess the effectiveness of each. The project was undertaken as a technology transfer effort and thus was very limited in scope. The listing of strategies was derived primarily from a review of the literature, and the assessment was obtained from a survey of ridesharing agencies (RSAs) in Virginia from which information on their experiences with each strategy was solicited.

RIDESHARING STRATEGIES

Ridesharing strategies can be categorized into five distinct groups:

1. ridesharing services provided by the RSA
2. communication techniques
3. ridesharing incentives related to transportation facilities or services
4. ridesharing incentives and disincentives related to parking
5. ridesharing incentives sponsored by the employer.

These categories and the specific strategies within each category were mostly derived from the literature (1-7); however, additional strategies were added by respondents to the RSA survey. A minimal amount of overlapping occurs in the category/strategy groupings. The strategies within each category are discussed in the following sections.

Ridesharing Services Provided by the RSA

Strategies falling under the general topic of services provided specifically by the RSA include

- o assisting employers in sponsoring carpools, vanpools, buspools, and transit use
- o providing information about ridesharing benefits and opportunities to the general public
- o providing matching services for public and employee ridesharing
- o providing vanpool services, carpool services, or both
- o providing brokerage service, i.e., information on commuter alternatives available, including transit
- o assisting with the coordination, implementation, and promotion of local ridesharing strategies sponsored by others, e.g., by the DOT, transit operator, or local government
- o establishing park-and-ride lot locations
- o implementing express bus/van service to major activity centers
- o providing interest-free loans for private purchase of new or used vans
- o implementing the state's 4/3/2/1 incentive program with Vanpool Services, Inc.
- o assisting developers and existing residential and commercial complexes in the development and implementation of transportation management plans
- o establishing computer "self-informs" at shopping centers
- o providing downtown parking information to attract potential poolers
- o providing grants to new vanpools to offset insurance costs
- o coordinating a local personal property tax break plan for vanpool operators
- o providing a loaner van to vanpools that experience a sudden loss of their van, e.g., breakdowns.

Communication Techniques

Communication techniques can generally be defined as "active ways to gain the preliminary involvement of travelers" (3, p. 9). Obviously, many of these techniques are employed by the RSA in providing the aforementioned services. These techniques, many of which are listed below, are further divided into those targeted to the general public, to employers, and to employees:

1. To the general public

- o billboards and roadside signs
- o public service announcements or other free articles or spots in newspapers, on radio, and on television
- o paid advertising in newspapers, on radio, and on television
- o form letters and brochures
- o mass mailings
- o information displays, information telephones, and posters
- o bumper stickers and lapel buttons

- o special promotions and local public events, e.g., ridesharing days, giveaways
- o corridor-specific marketing campaigns
- o yellow pages ads
- o distribution of ridesharing information to local real estate companies
- o telemarketing, i.e., providing ridesharing information via randomly placed telephone calls

2. To employers

- o personal meetings and telephone calls
- o workshops
- o explanatory brochures, form letters, and newsletters
- o films and slide shows

3. To employees

- o matching questionnaires
- o company carpool coordinators
- o form letters, brochures, and newsletters
- o information displays and posters
- o workshops
- o bumper stickers and lapel buttons

Ridesharing Incentives Related to Transportation Facilities or Services

Ridesharing incentives are strategies that have the objective of making ridesharing more attractive to commuters. The previously listed communication techniques are intended for preliminary or initial contact with commuters, whereas incentives are "ways to achieve their participation by making ridesharing more appealing: hassle free, convenient, traveler-controlled, cost effective" (3, pp. 9-10). Following is a list of such incentives involving transportation facilities or services:

- o exclusive or preferential freeway lanes, freeway ramps, surface street lanes, and toll plaza lanes
- o downtown shuttle or loop bus service to accommodate daytime (especially lunch) transportation needs
- o reduced or eliminated tolls for ridesharers at existing toll facilities
- o peak hour express shuttle to rail stations
- o holiday shoppers' service
- o pooling to rail stations.

Ridesharing Incentives and Disincentives
Related to Parking

Strategies that affect the availability and cost of parking represent a means of changing travel behavior or patterns. These strategies can be either incentives, which directly encourage ridesharing, or disincentives, which discourage parking and thereby encourage ridesharing. Following is a list of strategies in this category:

- o development of park-and-ride lots
- o reduction or restriction of growth in parking supply
- o imposition of a special tax on parking
- o provision of preferential parking
 - assign closest or most convenient spaces to ridesharers
 - assign sheltered spaces to ridesharers
 - guarantee spaces to ridesharers when parking is scarce
- o modification of parking rate structure
 - charge lower rates to ridesharers
 - charge higher hourly rates for all-day parking
 - eliminate monthly parking fees (charge for actual usage) so that ridesharer is not penalized when space is not used
- o modification of parking subsidy (if applicable)
 - eliminate parking fee subsidy to employees
 - provide parking fee subsidy for ridesharers
 - provide free parking stickers redeemable for cash if not used
- o provision of rideshare staging areas at work destinations.

Ridesharing Incentives Sponsored by the Employer

As indicated previously, ridesharing is most often associated with the work trip. Accordingly, strategies sponsored directly by the employer are generally very effective in reaching a maximum number of persons all having similar travel needs (i.e., a common destination). Strategies falling into this category include those listed below. It is noted that several of the strategies have already been listed under those provided by the RSA; likewise, several of the parking strategies listed above are clearly the responsibility of the employer:

- o rideshare matching and promotion
- o provision of vanpool or buspool program
- o fleet ridesharing (i.e., employee use of company vehicles for pooled commuting)
- o provision for mid-day travel needs, including emergencies (e.g., use of company vehicles)
- o provision of extra fringe benefits to ridesharers
- o establishment of working hours policies that facilitate ridesharing arrangements (e.g., flexible work hours, no overtime, no early or late meetings)
- o subsidy to transit users
- o provision of sheltered areas for loading/unloading ridesharers
- o provision of a daycare center.

RIDESHARING AGENCY SURVEY

A questionnaire was mailed to 18 RSAs in the state (see Appendix A). The questionnaire listed the ridesharing strategies found in the literature, categorized according to the previously defined groups. The RSAs were queried as to their utilization of each strategy and as to their evaluation of the effectiveness and cost of each strategy relative to strategies in general. Evaluations were requested if the person completing the questionnaire had personal knowledge or experience with the strategy, regardless of whether the RSA was currently using it. Further, space was provided to add other strategies, and as indicated previously, several RSAs suggested additional strategies.

Effectiveness and cost were evaluated according to the following scales:

1. Effectiveness of strategy (relative to ridesharing strategies in general)

- 0 = strategy has had minimal effect on increasing ridesharing
- 1 = strategy has had average effect on increasing ridesharing
- 2 = strategy has had maximum effect on increasing ridesharing

2. Cost of strategy (relative to ridesharing strategies in general)

- 0 = strategy is very costly
- 1 = strategy has an average cost
- 2 = strategy is inexpensive

Completed questionnaires were received from 13 RSAs, and the actual tabulation is shown in Appendix B. The results are discussed in the following sections. The strategies added by individual ridesharing coordinators were only evaluated in that single instance; therefore, that evaluation is described separately.

Ridesharing Services Provided by the RSA

All 13 respondents provide general public information on the benefits of ridesharing, matching services for public and employee ridesharing, and assistance with strategies sponsored by other agencies. A significant majority (11 of the 13) also assist employers in sponsoring ridesharing and provide information on commuter alternatives. A few actually provide vanpool or buspool services.

The strategy rated the most effective is the provision of matching services. Others rated as having average to maximum effectiveness include providing the general public with information on ridesharing benefits, vanpool service, information on commuter alternatives, and assistance to other agencies. Assisting employers in sponsoring ridesharing is rated slightly less than average, whereas providing buspool service did not receive enough responses to provide a meaningful evaluation.

Strategies considered to have an average to minimal cost include assisting employers in ridesharing, providing general public information on benefits, providing vanpool service, and providing information on commuter alternatives. Two other strategies--matching services and assistance to others--are considered more costly than average. Again, buspool service did not receive enough responses to justify a rating.

Strategies suggested by individual RSAs that received at least an average rating as to effectiveness and cost by the RSA include assisting in the development of park-and-ride lots, implementing express bus or van service to major activity centers, assisting developers and existing residential and commercial complexes with transportation management plans, and providing downtown parking information to attract potential poolers.

Communication Techniques

Communication techniques targeted to the general public, which are employed by more than half of the respondents, include highway signs, public service announcements (PSAs) in newspapers and on radio and television, paid advertising in newspapers and on radio, form letters, mass mailings, information displays, information telephones, brochures, and posters.

Of the communication techniques used with the general public, highway signs are rated the most effective in increasing ridesharing. Techniques receiving at least seven evaluations and which were rated at least average in effectiveness include paid advertising on radio, brochures, and information telephones. The remaining strategies did not receive at least seven evaluations or are rated less than average. It is interesting to note that PSAs, form letters, and information displays are rated as mostly ineffective.

Obviously, the PSAs are rated as the least expensive of the general public techniques. Other techniques rated as having an average or low cost include highway signs, form letters, brochures, information telephones, and posters. The remainder did not receive enough response to be fairly evaluated or they are rated as costing more than average.

Finally, several additional techniques of communicating with the general public were suggested by individual RSAs. Those rated at least average in effectiveness and no more than average in cost include special promotions (including those offering free items), yellow pages advertising, corridor-specific marketing campaigns, and distribution of ridesharing information to local real estate companies.

Communication techniques targeted to employers that are used by more than half of the respondents include personal meetings and telephone calls, workshops, and explanatory brochures. The only employer technique rated as average or above in effectiveness is personal telephone calls--all the others are rated below average. All techniques except films and slide shows are considered to be average or low in cost.

Communication techniques targeted to employees that are utilized by more than half of the RSAs responding include explanatory brochures, information displays, posters, and form letters. The only employee technique that is rated average or above in effectiveness is the use of company carpool coordinators; however, this evaluation is based on only six responses. All other techniques are judged to be less than average in effectiveness. The employee techniques rated average or low in cost include explanatory brochures, newsletters, information displays, workshops, and company carpool coordinators. The others are rated slightly higher than average in cost.

Ridesharing Incentives Related to Transportation Facilities or Services

As expected, the cost and magnitude of most of the incentives in this category preclude their usage in all but the largest urban areas. The most commonly used incentive is exclusive or preferential freeway lanes, and their usage is reported by only six RSAs. Further, all responses referred to such facilities in only two urban areas--Northern Virginia and Tidewater.

Because of the minimum amount of utilization of these incentives, the number of respondents providing an evaluation as to effectiveness and cost was minimal. In general, however, these incentives are most often rated as being highly effective in increasing ridesharing and very costly. Again, these findings are as expected.

Additional incentives suggested by individual RSAs and rated at least average in effectiveness and less costly than average include peak hour express shuttles to rail stations and pooling to rail stations.

Ridesharing Incentives and Disincentives Related to Parking

With the exception of park-and-ride lots, incentives in this category are infrequently utilized in Virginia. Park-and-ride lots are reported as being used by all 13 RSAs and are rated as being considerably above average in effectiveness. Cost ratings are generally either very costly or inexpensive, probably depending on whether the lots evaluated were built specifically for commuting or used jointly by commuters and others, e.g., at shopping centers, churches, and movie theaters. The former lots are costly, whereas, the cost of the latter is considered low because it is not directly associated with the commuter.

The three specific incentives relating to preferential parking for ridesharers are used in several RSA areas. These incentives are generally rated as being above average in effectiveness and as having very little cost.

Ridesharing Incentives Sponsored by the Employer

Three of the employer-sponsored incentives are each used in more than half of the RSA areas--carpool matching and promotion, vanpool programs, and work hour policies that facilitate ridesharing. All three are rated as average or above in effectiveness and slightly lower than average in cost.

SUMMARY

Information on the utilization, effectiveness, and cost of strategies, communication techniques, and incentives to encourage and promote ridesharing was obtained from 13 ridesharing coordinators in Virginia. This information is summarized in the following sections.

Utilization

The following are most frequently used in Virginia:

- o public information on the benefits of ridesharing
- o matching services
- o information on commuting alternatives (brokerage service)
- o communication with the public
 - highway signs
 - public service announcements in newspapers and on radio and television
 - paid advertising in newspapers and on radio
 - form letters and brochures
 - mass mailings
 - information displays, telephones, and posters
- o communication with the employer (by the RSA)
 - personal meetings and telephone calls
 - workshops
 - brochures
- o communication with the employee
 - form letters and brochures
 - information displays and posters
- o exclusive or preferential freeway lanes
- o park-and-ride lots
- o preferential parking
 - closest or most convenient spaces to ridesharers
 - guaranteed spaces to ridesharers
- o vanpool programs or services
- o work hour policies that facilitate ridesharing.

Effectiveness

The following are considered to be very effective in increasing ridesharing:

- o matching services
- o highway signs
- o exclusive or preferential freeway lanes and ramps
- o park-and-ride lots.

In addition, the following are considered to be at least average in effectiveness:

- o public information on the benefits of ridesharing
- o vanpool program or services
- o information on commuting alternatives (brokerage service)
- o communication with the public
 - paid advertising on radio
 - brochures
 - information telephones
- o communication with the employer (by the RSA): personal telephone calls
- o communication with the employee: company carpool coordinators
- o preferential parking
 - closest or most convenient spaces to ridesharers
 - guaranteed spaces to ridesharers
- o work hour policies that facilitate ridesharing.

Cost

The following are considered to be relatively inexpensive to use or to have no more than an average cost:

- o public information on the benefits of ridesharing
- o vanpool programs or service
- o information on commuting alternatives (brokerage service)
- o communication with the public
 - public service announcements on newspapers and on radio and television
 - highway signs
 - form letters and brochures
 - information telephones and posters
- o communication with the employer (by the RSA)
 - personal meetings and telephone calls
 - workshops
 - form letters, brochures, and newsletters
- o communication with the employee
 - company carpool coordinators
 - workshops
 - brochures and newsletters
 - information displays
- o joint use park-and-ride lots
- o preferential parking

- closest or most convenient spaces to ridesharers
- guaranteed spaces to ridesharers
- o carpool matching and promotion (by employer)
- o work hour policies that facilitate ridesharing.

Other Strategies, Communication Techniques, and Incentives

Several ridesharing coordinators identified additional strategies, communication techniques, and incentives used in their area. Based on only one person's evaluation, the following are considered to be at least average in effectiveness and no more than average in cost:

- o express bus or van service to major activity centers
- o transportation management plans for residential and commercial complexes
- o information on downtown parking
- o communication with the public
 - special promotions
 - yellow pages advertising
 - corridor-specific marketing campaigns
 - information on ridesharing to real estate companies
- o peak hour express shuttle to rail stations
- o pooling to rail stations.

ACKNOWLEDGMENTS

Special thanks are extended to each of the ridesharing coordinators who so kindly took their time to share their expertise by completing and returning the questionnaire survey. These include Dottie Cousineau, Mary Plumley, Laretta Ruest, Carol Russell, Paul Marchione, Gerri Robertson, Cliff Rusch, Phil Winters, Vonnie Reynolds, Diana Utz, Barbara Zimmerman, Mary Kay Kotelec, and Rob Kinsley. Thanks also go to David Berg and Victoria Fox for their review and comments during the course of the project.

REFERENCES

1. Federal Energy Administration. 1976. Carpool incentives: Evaluation of operational experiences. Conservation Paper No. 44. Washington, D.C.
2. Federal Energy Administration. 1976. Carpool incentives: Analysis of transportation and energy impacts. Report No. FEA/D-76/391. Washington, D.C.
3. Misch, M. R.; Margolin, J. B.; Curry, D. A.; Glazer, L. J.; and Shearin, G. 1981. Guidelines for using vanpools and carpools as a TSM technique. NCHRP Report No. 241. Washington, D.C.: Transportation Research Board.
4. U.S. Department of Transportation. 1975. Carpool incentives and opportunities. Report of the Secretary of Transportation to the United States Congress, Pursuant to Section 3(e), Public Law 93-239, Emergency Energy Conservation Act. Washington, D.C.
5. U.S. Department of Transportation. 1987. Introduction to ridesharing: A manual for new ridesharing coordinators. Report No. FHWA-SA-88-015. Washington, D.C.
6. U.S. Department of Transportation. 1984. Traffic mitigation reference guide. Report No. DOT-I-86-18. Washington, D.C.
7. U.S. Department of Transportation. 1974. Incentives to carpooling. Washington, D.C.

APPENDIX A

Questionnaire Survey Entitled "Survey of the
Effectiveness of Ridesharing Strategies"

SURVEY OF THE EFFECTIVENESS OF
RIDESHARING STRATEGIES

Attached is a list of strategies which have been used to promote or encourage ridesharing (carpooling, vanpooling, buspooling). Please review the list and indicate whether the strategy has been or is being used in your area. Also, if you have personal knowledge or experience with the use of the strategy, please evaluate it as to effectiveness and cost. Finally, please add and evaluate any strategies being used in your area that are not listed.

The effectiveness and cost should be evaluated according to the following scale:

Effectiveness of Strategy (relative to ridesharing strategies in general)

- 0 = strategy has had minimal effect on increasing ridesharing
- 1 = strategy has had average effect on increasing ridesharing
- 2 = strategy has had maximum effect on increasing ridesharing

Cost of Strategy (relative to ridesharing strategies in general)

- 0 = strategy is very costly
- 1 = strategy has an average cost
- 2 = strategy is inexpensive

Please submit the completed survey by October 28, 1988 to:

E. D. Arnold, Jr.
Virginia Transportation Research Council
Box 3817 University Station
Charlottesville, VA 22903-0817
(804)293-1931

I. RIDESHARING SERVICES
(provided by the ridesharing agency)

	(Circle Correct Response)								
	<u>Used(?)</u>		<u>Effectiveness</u>			<u>Cost</u>			
1. Assisting employers in sponsoring ridesharing	Yes	No	0	1	2	0	1	2	
2. Providing general public information on benefits of ridesharing	Yes	No	0	1	2	0	1	2	
3. Providing matching services for public and employee ridesharing	Yes	No	0	1	2	0	1	2	
4. Providing vanpool service	Yes	No	0	1	2	0	1	2	
5. Providing buspool service	Yes	No	0	1	2	0	1	2	
6. Providing information on commuter alternatives (brokerage)	Yes	No	0	1	2	0	1	2	
7. Assisting with the coordination, implementation, and promotion of local ridesharing strategies sponsored by others (e.g., by VDOT, transit operator, local government)	Yes	No	0	1	2	0	1	2	
8 Other services (please list and evaluate)									
	Yes	No	0	1	2	0	1	2	
	Yes	No	0	1	2	0	1	2	
	Yes	No	0	1	2	0	1	2	

II. COMMUNICATION TECHNIQUES

	(Circle Correct Response)								
	<u>Used(?)</u>		<u>Effectiveness</u>			<u>Cost</u>			
<u>For the general public</u>									
1. Billboards (outdoor advertising)	Yes	No	0	1	2	0	1	2	
2. Highway signs	Yes	No	0	1	2	0	1	2	
3. Public service announcements or other free articles or spots	Yes	No	0	1	2	0	1	2	
-- in newspapers	Yes	No	0	1	2	0	1	2	
-- on radio	Yes	No	0	1	2	0	1	2	
-- on television	Yes	No	0	1	2	0	1	2	
4. Paid advertising	Yes	No	0	1	2	0	1	2	
-- in newspapers	Yes	No	0	1	2	0	1	2	
-- on radio	Yes	No	0	1	2	0	1	2	
-- on television	Yes	No	0	1	2	0	1	2	
5. Form Letters	Yes	No	0	1	2	0	1	2	
6. Brochures	Yes	No	0	1	2	0	1	2	
7. Mass mailings	Yes	No	0	1	2	0	1	2	
8. Information displays	Yes	No	0	1	2	0	1	2	
9. Information telephones	Yes	No	0	1	2	0	1	2	
10. Posters	Yes	No	0	1	2	0	1	2	
11. Bumper Stickers	Yes	No	0	1	2	0	1	2	
12. Lapel buttons	Yes	No	0	1	2	0	1	2	
<u>Outreach to employers</u>									
13. Personal meetings	Yes	No	0	1	2	0	1	2	
14. Phone calls	Yes	No	0	1	2	0	1	2	
15. Workshops	Yes	No	0	1	2	0	1	2	
16. Explanatory brochures	Yes	No	0	1	2	0	1	2	
17. Films or slide shows	Yes	No	0	1	2	0	1	2	
18. Newsletters	Yes	No	0	1	2	0	1	2	
19. Form letters	Yes	No	0	1	2	0	1	2	

Outreach to employees

20. Explanatory brochures	Yes	No	0	1	2	0	1	2
21. Employee newsletter	Yes	No	0	1	2	0	1	2
22. Information displays	Yes	No	0	1	2	0	1	2
23. Employee workshops	Yes	No	0	1	2	0	1	2
24. Company carpool coordinators	Yes	No	0	1	2	0	1	2
25. Matching questionnaires	Yes	No	0	1	2	0	1	2

	(Circle Correct Response)							
	<u>Used(?)</u>		<u>Effectiveness</u>			<u>Cost</u>		
26. Posters*	Yes	No	0	1	2	0	1	2
27. Form letters*	Yes	No	0	1	2	0	1	2
28. Bumper stickers*	Yes	No	0	1	2	0	1	2
29. Lapel buttons*	Yes	No	0	1	2	0	1	2
30. Other communications techniques for any of the 3 groups (please list and evaluate)								
	Yes	No	0	1	2	0	1	2
	Yes	No	0	1	2	0	1	2
	Yes	No	0	1	2	0	1	2

*For your information, these are repeated because they apply in both groups.

III. RIDESHARING INCENTIVES - TRANSPORTATION
FACILITIES/SERVICES

	(Circle Correct Response)								
	<u>Used(?)</u>		<u>Effectiveness</u>			<u>Cost</u>			
1. Exclusive or preferential freeway lanes	Yes	No	0	1	2	0	1	2	
2. Exclusive or preferential freeway ramps	Yes	No	0	1	2	0	1	2	
3. Exclusive or preferential surface street lanes	Yes	No	0	1	2	0	1	2	
4. Exclusive or preferential lanes at toll plazas	Yes	No	0	1	2	0	1	2	
5. Downtown shuttle (facilitates mid-day transportation needs)	Yes	No	0	1	2	0	1	2	
6. Reduced or eliminated tolls for ridesharers (i.e., on existing toll facilities)	Yes	No	0	1	2	0	1	2	
7. Other incentives (please list and evaluate)									
	Yes	No	0	1	2	0	1	2	
	Yes	No	0	1	2	0	1	2	
	Yes	No	0	1	2	0	1	2	

IV. RIDESHARING INCENTIVES - PARKING

(Circle Correct Response)

	<u>Used(?)</u>		<u>Effectiveness</u>			<u>Cost</u>		
	Yes	No	0	1	2	0	1	2
1. Park-and-ride lots	Yes	No	0	1	2	0	1	2
2. Parking supply reduction or restraint	Yes	No	0	1	2	0	1	2
3. Parking tax surcharge	Yes	No	0	1	2	0	1	2
4. Preferential parking								
-- Assign closest or most convenient spaces to ridesharers	Yes	No	0	1	2	0	1	2
-- Assign sheltered (inside) spaces to ridesharers	Yes	No	0	1	2	0	1	2
-- Guarantee spaces to ridesharers where parking is scarce	Yes	No	0	1	2	0	1	2
5. Modified parking rate structure								
-- Charge lower rates to ridesharers	Yes	No	0	1	2	0	1	2
-- Charge higher hourly rates for all-day parking	Yes	No	0	1	2	0	1	2
-- Eliminate monthly parking fees/charge for actual usage (thus ridesharer can save the parking cost)	Yes	No	0	1	2	0	1	2
6. Parking subsidy modification								
-- Eliminate parking fee subsidy to employees	Yes	No	0	1	2	0	1	2
-- Provide parking fee subsidy for ridesharers	Yes	No	0	1	2	0	1	2
-- Provide free parking stickers redeemable for cash if not used	Yes	No	0	1	2	0	1	2
7. Other incentives (please list and evaluate)								
	Yes	No	0	1	2	0	1	2
	Yes	No	0	1	2	0	1	2
	Yes	No	0	1	2	0	1	2

V. RIDESHARING INCENTIVES - EMPLOYER SPONSORED

	(Circle Correct Response)								
	<u>Used(?)</u>		<u>Effectiveness</u>			<u>Cost</u>			
1. Carpool matching and promotion	Yes	No	0	1	2	0	1	2	
2. Vanpool program	Yes	No	0	1	2	0	1	2	
3. Buspool program	Yes	No	0	1	2	0	1	2	
4. Fleet ridesharing (i.e., employee use of company vehicles for carpooled commuting)	Yes	No	0	1	2	0	1	2	
5. Provisions for mid-day travel needs, including emergencies (e.g., use of company vehicles)	Yes	No	0	1	2	0	1	2	
6. Extra fringe benefits to ridesharers (please describe at bottom of page)	Yes	No	0	1	2	0	1	2	
7. Working hours policies which facilitate ridesharing arrangements (e.g., flexible work hours, no overtime, no early or late meetings)	Yes	No	0	1	2	0	1	2	
8. Subsidy to transit users	Yes	No	0	1	2	0	1	2	
9. Sheltered areas for loading/unloading ridesharers	Yes	No	0	1	2	0	1	2	
10. Other incentives (please list and evaluate)									
	Yes	No	0	1	2	0	1	2	
	Yes	No	0	1	2	0	1	2	
	Yes	No	0	1	2	0	1	2	

APPENDIX B

Tabulation of Responses to the Questionnaire Survey
Entitled "Survey of the Effectiveness of Ridesharing Strategies"

SURVEY OF THE EFFECTIVENESS OF
RIDESHARING STRATEGIES

by

E. D. Arnold, Jr.
Virginia Transportation Research Council

A survey of ridesharing agencies in Virginia was conducted to determine the usage and effectiveness of various ridesharing strategies. Thirteen agencies returned the questionnaire, and a tabulation of their responses is attached. Those strategies listed under "other" in each category were added to the list of strategies by the noted respondent. Effectiveness and cost were evaluated according to the following scales.

Effectiveness of Strategy (relative to ridesharing strategies in general)

- 0 = strategy has had minimal effect on increasing ridesharing
- 1 = strategy has had average effect on increasing ridesharing
- 2 = strategy has had maximum effect on increasing ridesharing

Cost of Strategy (relative to ridesharing strategies in general)

- 0 = strategy is very costly
- 1 = strategy has an average cost
- 2 = strategy is inexpensive

I. RIDESHARING SERVICES
(provided by the ridesharing agency)

	(Number of Responses)							
	<u>Used(?)</u>		<u>Effectiveness</u>			<u>Cost</u>		
	<u>Yes</u>	<u>No</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>2</u>
1. Assisting employers in sponsoring ridesharing	11	2	4	7	2	2	8	2
2. Providing general public information on benefits of ridesharing	13	0	0	8	4	2	8	2
3. Providing matching services for public and employee ridesharing	13	0	0	4	8	4	8	0
4. Providing vanpool service	6	6	2	3	3	2	2	3
5. Providing buspool service	2	11	0	2	1	2	0	1
6. Providing information on commuter alternatives (brokerage)	11	1	1	6	4	1	8	1
7. Assisting with the coordination, implementation, and promotion of local ridesharing strategies sponsored by others (e.g., by VDOT, transit operator, local government)	13	0	3	5	3	3	6	1
8. Other services								
Establish park & ride locations (Tidewater TDC)	1	0	0	1	0	0	0	1
Implementing express bus/van service to major activity centers (Tidewater TDC)	1	0	0	1	0	0	0	1
Interest-free loan for private purchase of new or used van (Prince William County)	1	0	1	0	0	0	0	1
4/3/2/1 incentive with vanpool services (Prince William County)	1	0	too soon to evaluate					
Telemarketing (GRTC)	1	0	1	0	0	1	0	0
Assisting developers and existing residential and commercial complexes to develop and implement transportation management plans (Alexandria)	1	0	0	0	1	0	1	0
Computer self-inform at shopping center (Fairfax)	1	0	1	0	0	0	0	1
Provide downtown parking information to attract potential poolers (Ridefinders)	1	0	0	1	0	0	1	0

II. COMMUNICATION TECHNIQUES

	(Number of Responses)							
	<u>Used(?)</u>		<u>Effectiveness</u>			<u>Cost</u>		
	<u>Yes</u>	<u>No</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>2</u>
<u>For the general public</u>								
1. Billboards (outdoor advertising)	4	9	2	1	1	2	1	0
2. Highway signs	12	1	0	1	10	1	7	2
3. Public service announcements or other free articles or spots								
-- in newspapers	10	3	5	4	1	0	1	8
-- on radio	12	1	7	4	1	1	1	9
-- on television	9	4	8	1	1	2	0	7
4. Paid advertising								
-- in newspapers	11	2	2	8	1	4	4	2
-- on radio	8	4	0	6	2	3	3	1
-- on television	3	9	0	2	1	3	0	0
5. Form Letters	7	6	6	2	0	2	3	3
6. Brochures	11	1	2	6	2	1	8	1
7. Mass mailings	8	5	3	5	2	3	6	2
8. Information displays	8	5	6	2	1	2	7	1
9. Information telephones	8	5	2	1	5	2	3	3
10. Posters	10	3	4	6	1	2	7	2
11. Bumper Stickers	2	11	3	1	0	0	1	1
12. Lapel buttons	1	12	2	0	1	0	2	0
<u>Outreach to employers</u>								
13. Personal meetings	12	1	5	3	4	2	6	3
14. Phone calls	10	3	1	6	3	1	3	6
15. Workshops	8	5	3	3	2	1	4	3
16. Explanatory brochures	8	4	4	3	1	0	8	0
17. Films or slide shows	4	8	3	2	0	3	2	0

	(Number of Responses)							
	<u>Used(?)</u>		<u>Effectiveness</u>			<u>Cost</u>		
	<u>Yes</u>	<u>No</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>2</u>
18. Newsletters	5	8	3	4	0	1	4	1
19. Form letters	5	8	4	2	0	0	5	1
<u>Outreach to employees</u>								
20. Explanatory brochures	10	3	3	7	0	0	10	0
21. Employee newsletter	5	8	3	2	1	1	3	2
22. Information displays	8	5	5	4	0	2	5	2
23. Employee workshops	5	8	3	2	1	2	2	2
24. Company carpool coordinators	6	7	1	2	3	0	1	5
25. Matching questionnaires	6	5	3	3	1	1	6	0
26. Posters	10	3	4	6	1	3	8	0
27. Form letters	8	5	5	3	0	3	4	1
28. Bumper stickers	2	11	3	1	0	1	2	0
29. Lapel buttons	0	15	2	0	0	1	1	0
30. Other communications techniques								
Local public events (Middle Peninsula)	1	0	0	1	0	0	0	0
Promotions offering free items (JAUNT)	1	0	0	1	0	0	0	1
Yellow Pages advertising (JAUNT & COG)	2	0	0	0	2	0	2	0
Special promotions, events (ridesharing days) (Fairfax)	1	0	0	1	0	0	0	1
Corridor specific marketing campaigns (Fairfax)	1	0	0	1	0	0	1	0
Outreach to real estate companies (Prince William County)	1	0	0	1	0	0	0	1

III. RIDESHARING INCENTIVES - TRANSPORTATION
FACILITIES/SERVICES

	(Number of Responses)								
	<u>Used(?)</u>		<u>Effectiveness</u>			<u>Cost</u>			
	<u>Yes</u>	<u>No</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>2</u>	
1. Exclusive or preferential freeway lanes	6	7	0	2	4	4	2	0	
2. Exclusive or preferential freeway ramps	4	9	0	0	4	3	1	0	
3. Exclusive or preferential surface street lanes	1	12	0	1	1	1	1	0	
4. Exclusive or preferential lanes at toll plazas	3	10	1	1	1	1	1	1	
5. Downtown shuttle (facilitates mid-day transportation needs)	4	9	1	1	2	2	1	0	
6. Reduced or eliminated tolls for ridesharers (i.e., on existing toll facilities)	2	10	1	0	1	1	1	0	
7. Other incentives									
Peak hour express shuttle to rail stations (Fairfax)	1	0	0	1	0	0	1	0	
Holiday shopper's service (Fairfax)	1	0	0	1	0	1	0	0	
Park & ride lots/expanded metrorail parking/ pooling to rail stations (Fairfax)	1	0	0	0	1	1	0	0	

IV. RIDESHARING INCENTIVES - PARKING

	(Number of Responses)							
	<u>Used(?)</u>		<u>Effectiveness</u>			<u>Cost</u>		
	<u>Yes</u>	<u>No</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>2</u>
1. Park-and-ride lots	13	0	0	4	8	5	1	4
2. Parking supply reduction or restraint	3	9	0	0	3	0	2	0
3. Parking tax surcharge	1	12	0	1	1	0	1	0
4. Preferential parking								
-- Assign closest or most convenient spaces to ridesharers	7	5	2	2	3	0	1	6
-- Assign sheltered (inside) spaces to ridesharers	4	9	0	1	3	0	1	3
-- Guarantee spaces to ridesharers where parking is scarce	6	6	1	1	4	0	0	6
5. Modified parking rate structure								
-- Charge lower rates to ridesharers	1	11	0	1	1	1	1	0
-- Charge higher hourly rates for all-day parking	0	12	0	1	0	1	0	0
-- Eliminate monthly parking fees/charge for actual usage (thus ridesharer can save the parking cost)	0	12	0	1	0	1	0	0
6. Parking subsidy modification								
-- Eliminate parking fee subsidy to employees	1	12	0	2	0	0	0	2
-- Provide parking fee subsidy for ridesharers	0	13	0	0	1	1	0	0
-- Provide free parking stickers redeemable for cash if not used	0	13	0	0	1	1	0	0
7. Other incentives								
Staging areas at work destinations (Fairfax)	0	0	0	0	0	0	0	0

V. RIDESHARING INCENTIVES - EMPLOYER SPONSORED

	(Number of Responses)							
	<u>Used(?)</u>		<u>Effectiveness</u>			<u>Cost</u>		
	<u>Yes</u>	<u>No</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>2</u>
1. Carpool matching and promotion	7	6	1	5	1	1	4	2
2. Vanpool program	8	5	1	4	3	1	4	2
3. Buspool program	2	11	0	3	0	0	2	1
4. Fleet ridesharing (i.e., employee use of company vehicles for carpooled commuting)	2	10	0	0	2	0	2	0
5. Provisions for mid-day travel needs, including emergencies (e.g., use of company vehicles)	1	10	0	0	1	0	1	0
6. Extra fringe benefits to ridesharers (please describe at bottom of page)	3	10	0	1	2	1	2	0
7. Working hours policies which facilitate ridesharing arrangements (e.g., flexible work hours, no overtime, no early or late meetings)	8	5	0	5	2	0	4	3
8. Subsidy to transit users	3	9	0	1	2	1	2	0
9. Sheltered areas for loading/unloading ridesharers	0	10	0	0	1	0	1	0
10. Other incentives								
Daycare Center (Fairfax)	1	0	0	1	0	1	0	0

