

Transit and Ridesharing Information Study

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The methodology, results, and conclusions of a market research study to identify the transit information needs of the rideshare agency's customers are described. The study identified demographic differences between the ridesharing program's customers and the transit patrons. It also assessed the benefit of increasing the detail of transit information to encourage a ridesharing customer to call the transit company or immediately begin riding transit. The study was based on a random sample of existing customers of Ridefinders, the nonprofit ridesharing organization for the Richmond, Virginia, metropolitan area. Some of the key findings were that ridesharing commuters were more white collar with a higher household income and had a greater degree of automobile ownership than transit patrons. Fifty-seven percent indicated that their home or work location was outside the transit service area. Less than 4 percent cited the lack of awareness of the bus schedule as the reason for not riding transit. In addition, 43 percent of the ridesharing customers had used the transit services within the past 6 months. Less than 10 percent of the customers increased their perceived value of the transit company's telephone number. Ridefinders is using the study results to continue to coordinate marketing efforts with the transit company while recognizing the differences between the markets and the occasional need to adjust its marketing strategies accordingly. Ridefinders will also place its marketing emphasis on highlighting transit features and benefits rather than investing in costly revisions to the computerized ridematching system to increase the level of routing and schedule information or indiscriminately distributing bus schedules.

Transit and ridesharing are complementary transportation options for the commuting public. Each mode has its own benefits and features for addressing different market needs. Transit offers commuters an inexpensive, reliable service and typically offers a range of arrival and departure times for individuals who live and work in high-density areas. Ridesharing by carpool or vanpool provides door-to-door service to commuters who live or work outside the transit company's service area.

In the Richmond, Virginia, metropolitan area, the Greater Richmond Transit Company (GRTC) and Ridefinders are two independent organizations responsible for the provision of transit services and the promotion of ridesharing options, respectively. Since Ridefinders' inception in 1980, under the auspices of the Richmond Area Metropolitan Transportation Planning Organization (MPO), GRTC and Ridefinders have worked in a cooperative manner to foster the use of all forms of ridesharing including public transit use.

GRTC and Ridefinders already provide a host of materials designed to provide or make available more information on public transit. A partial list includes the following:

- Nearest bus route name and number on matchlist (including special messages for commuters without transit service available).
- Individual route maps and schedules.
- GRTC's The Best Curb Service in Town campaign included a brochure indicating all the routes on a schematic map with a general route description and billboard advertising.
- GRTC's Take the Mystery Out of Riding the Bus campaign. This campaign is directed at informing commuters how they can get more information on services designed to meet their needs. This includes GRTC's computerized kiosks.
- GRTC's The Ultimate Riding Machine campaign described how the new buses are designed for the needs of the riders and will be reintroduced as the new buses arrive.
- GRTC's 24-hr Information Center.
- Postage-paid return card to Ridefinders enabling ridesharing customers to request specific information from GRTC.

During the past several years, Ridefinders has examined its customers' desire for transit information, and the effect on mode split of its computerized list of neighbors who work nearby and have similar schedules (i.e., matchlist). As a result of this examination, Ridefinders has provided its customers with transit information in a number of ways. An important goal of the study was to improve the focus of Ridefinders' role as a supplementary source of transit information to its customers. In particular, management was interested in determining whether Ridefinders should concentrate on increasing awareness of transit service availability by increasing the detail of transit information provided on the matchlist, providing bus schedules for every ridesharing customer, or marketing the benefits and features of transit.

Ridefinders compiled some information on clarifying its approach through several research efforts. The earliest effort was a focus group study to evaluate the clarity of its matchlist. Several formats for the transit output page were presented to a focus group of current customers. At the time of the focus group session, the transit page consisted of the names of two routes, headway information, general operating hours, and transfer information.

According to the market research firm's report, "Panelists do not expect [Ridefinders] to provide transit information on matchlists, but say the information would be 'nice to have.'" The focus group panelists also indicated a desire for much more detailed information than the current ridematching soft-

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TABLE 1 COMMUTERS' MODE OF TRANSPORTATION BEFORE BEING PLACED IN CARPOOL

	DRIVE ALONE	TRANSIT	CAR-POOL	VAN POOL	OTHER	NO.
Ridefinders	74%	0%	11%	7%	7%	27
VA TOTALS	42%	24%	23%	10%	1%	577

ware was designed to produce. The research firm concluded that "the [Ridefinders] transit information is perceived to have serious drawbacks. It is perceived to be very vague."

In addition to qualitative feedback about Ridefinders' transit element, other quantitative information was compiled to analyze the market potential for Ridefinders' transit information services. An analysis of Ridefinders' market found that

- 33 percent of Ridefinders' customers live and work in GRTC's service area,
- 19 percent of those who live and work in the service area work in the central business district (CBD),
- 57 percent of all Ridefinders' customers work downtown,
- 25 percent of those customers who work in the CBD already ride the bus to work, and
- 8 percent of all Ridefinders' customers, regardless of home and work locations, rode the bus to work at the time they registered with Ridefinders.

Because Ridefinders and GRTC are both in the business of providing alternatives to driving alone to work, consideration was given to the effects of marketing on transit ridership. An evaluation of Ridefinders' performance by the Virginia Department of Transportation for fiscal year 1987, as indicated in Table 1, found no net diversion from transit to carpooling among those Ridefinders placed into a carpool as a direct result of receiving a matchlist.

Using the sample of 217 completed surveys of Ridefinders' customers, VDOT also reported that there was no loss in transit share among Ridefinders' customers whether or not they were placed into a carpool as a direct result of receiving a matchlist (see Table 2).

On the basis of the background information available, Ridefinders concluded that marketing transit was a desirable strategy for the ridesharing agency. The questions remained how to best integrate the marketing of transit and ridesharing alternatives. This study was designed to answer such questions as whether the lack of awareness about transit services or inexperience in riding a bus were significant marketing problems and, if so, what level of information desired by the customer would have a meaningful influence on current behavior.

STUDY OBJECTIVES

The general purpose of this research project was to conduct a study that would collect, analyze, and report data in a form to provide additional information to complement existing information sources used by GRTC and Ridefinders.

The primary objective of this study was to determine the effectiveness of providing selected transit-related information to Ridefinders' customers as a strategy for increasing the number of individuals using GRTC services.

The primary research question was, "What transit-related information is most effective in encouraging Ridefinders' customers to use the services of GRTC?" The independent variables considered were the GRTC phone number, a detailed route map for the nearest route, a general description of the nearest route, the name of the nearest route, travel time, frequency of service, and schedule. The dependent variables considered were getting the Ridefinders' customer to contact GRTC for additional information and to use GRTC services.

The need for transit information was based, in part, on current levels of transit awareness among Ridefinders' clients and the likelihood that any additional information would result in clients' calling or riding GRTC. One possible outcome of this study would be the modification of the transit component of the ridematching information to provide more detail than the route name and number, transfer options, and transit company's phone number.

METHODOLOGY

Two tasks were designed to carry out this market research study. The first task was to identify the demographic and travel characteristics of Ridefinders' customers. With this information, Ridefinders' customers were compared to GRTC peak-hour riders. For the purpose of this comparison, the data included in GRTC's Ridership Profile Study were used. The second task was to conduct an unbiased stratified random survey of Ridefinders' customers to produce quantifiably supported ratings on the effectiveness of the independent variables on influencing behavior.

TABLE 2 MODE SHARE BEFORE AND AFTER RIDEMATCHING ASSISTANCE

Mode	Before (N=217)	After (N=217)
Drive Alone	72%	60%
Transit	9%	9%
Carpool	12%	25%
Vanpool	0%	1%
Other	7%	5%
	-----	-----
	100%	100%

Population and Sample

The list of names of existing Ridefinders' customers served as the population from which the systematic sample was drawn. The population element was stratified along the dimensions of the characteristics considered including such items as sex, age, household income, and educational level; traveling characteristics consisted of such factors as a knowledge of transit service area and work location.

The sample consisted of 900 individuals who were selected by use of the systematic random sample methodology from a listing of approximately 3,000 existing and former Ridefinders' customers.

Preparation of the Survey Instrument

The survey instrument was designed to elicit the information required to address the specific questions raised. The self-administered survey instrument comprised a measurement scale that enabled the research consultant to determine the effectiveness of the independent variables as contributors to increased ridership on buses. The scale used provided information regarding the extent to which the items were effective in influencing Ridefinders' customers' decisions to contact GRTC for more information and use GRTC's services.

Administering the Instrument

The survey instrument was mailed to each individual that composed the study sample. Also included was an appropriate cover letter from GRTC and Ridefinders and a stamped envelope for returning the completed form. The first administration took place during the first week of January 1988. Allowing approximately 2 weeks for the initial responses, the follow-up surveys were mailed approximately 1 month later.

STUDY RESULTS AND SAMPLE PROFILE

The data gathered were categorical in nature; thus, such descriptive statistical methods as frequencies, percentages, and cross tabulations were used to analyze the results. These methods were used to establish the sample profile and to

determine the impact that the various variables had on the respondents' decision to use the services of GRTC.

Number of Surveys Administered

Eight hundred surveys were distributed during the initial survey. Of this number, 177 (22.1 percent) were returned. During the follow-up procedure, an additional 92 surveys were returned. Thus the total number of surveys returned was 269 or 33.6 percent. Sixty surveys were not delivered because of incorrect addresses. Therefore, 36.4 percent of those delivered were returned.

Characteristics of Nonrespondents

The typical percentage of response for a survey research project usually ranges from about 30 to 40 percent. These percentages usually exclude the surveys returned because of incorrect address. Because of the limited information about the sample individuals, it was practically impossible to describe the characteristics of the nonrespondents. The original sample comprised 365 males and 435 females, 45.6 and 54.5 percent, respectively.

The sample's mode split also closely approximated the mode split of the population from which it was drawn (see Table 3).

The sample was divided among six geographic regions:

1. City of Richmond
 - a. Northside area
 - b. West End area
 - c. Southside area
 - d. East End area
2. Richmond suburban area
3. Surrounding counties

The profiles of the respondents revealed the following information that proved helpful in generalizing the nature of the nonrespondents and also estimating the similarity between respondents and nonrespondents. The analysis of the sample data question that asked for the home address or nearest intersection revealed that responses were received from individuals of each of the six areas.

TABLE 3 CURRENT MODE OF TRANSPORTATION TO WORK

Mode of Transportation	Percent	
	Sample (N = 269)	Sample Population
Drive Alone	49.1	53.7
Transit	21.6	20.8
Carpool	22.7	23.0
Vanpool	1.8	0.3
Other	0.0	1.7
No response	4.8	0.0
	----- 100.0	----- 100.0

On the basis of the general characteristics of the sample in comparison with those of the respondents, the characteristics of the nonrespondents do not differ to a great extent from those of the responding individuals. Thus one would conclude that the sample statistics do not vary significantly from those for the population.

SUMMARY OF FINDINGS

Ridefinders' customers differed from GRTC's peak-period riders in several demographic characteristics. Ridefinders' customers tended to be more equally divided among males and females, work in more white-collar jobs, live in a household with a greater income, and have a higher degree of automobile ownership (see Table 4).

Although Ridefinders' market has significant demographic differences from GRTC's market, the market potential from the perspective of Ridefinders' customers who are served by GRTC at the destination end of their work trip is large. The result of the sampling process resulted in more than two-thirds of the respondents stating that GRTC serves their work area.

<i>GRTC Service to Work Area</i>	<i>Percentage</i>
Yes	68.0
No	30.1
Nonrespondents	<u>1.9</u>
	100.0

Although approximately two-thirds of the respondents had transit service to their work sites, only 16.4 percent make use of GRTC service directly from home. An additional 5.2 percent of Ridefinders' customers drive to access transit. About half of the commuters with service to their work site do not have transit service at the home end. Less than 4 percent indicate that they were unaware of the bus schedule. In sup-

port of the finding that the lack of awareness appeared to be a nonissue, there was a high level of recent experience with the service. Forty-three percent of the respondents indicated that they had made use of the services of GRTC within the last 6 months.

<i>Reasons for Mode of Getting to Work</i>	<i>Percentage (N = 269)</i>
GRTC does not serve area in which I work.	30.1
GRTC does not serve area in which I reside.	27.1
I currently use services of GRTC.	16.4
Schedule does not match work schedule.	8.9
I just don't want to ride the bus.	8.6
Unaware of bus schedule.	3.7
No response.	<u>5.2</u>
	100.0

<i>Used GRTC Services in the Past 6 Months</i>	<i>Percentage (N = 269)</i>
Yes	43.1
No	53.9
Nonrespondents	<u>3.0</u>
	100.0

Of the 85 percent of respondents who indicated that they were not currently using the services of GRTC, approximately 57 percent indicated that their areas of residence or work sites were not served by GRTC.

The demographic and travel characteristic distributions of Ridefinders' customers illustrate several key differences between Ridefinders' and GRTC patronage, as well as the service area population.

The following items were presented to the respondents as information sources available by GRTC or Ridefinders:

1. GRTC information number,
2. Route map for the nearest route,

TABLE 4 DEMOGRAPHIC COMPARISON OF CUSTOMERS OF GRTC AND RIDEFINDERS

	(Peak Period) GRTC Percent	Ridefinders Percent	No.
<u>Sex</u>			261
Male	32.5	45.6	
Female	67.5	54.4	
<u>Occupation</u>			263
Professional & Managerial	28.3	57.0	
Sales and Support	20.5	39.9	
Operator & Labor	19.4	3.0	
Other	31.8	0.0	
<u>Household Income</u>			257
Less than \$15,000	51.2	8.6	
\$15,000 to \$24,999	23.0	36.2	
\$25,000 to \$34,999	12.4	28.8	
\$35,000 to \$49,999	8.9	18.7	
\$50,000 to over	5.5	7.8	
<u>Auto Ownership</u>			256
Yes	65.9	87.4	
No	34.1	12.6	

3. Name of nearest route from place of residence to work site and home,
4. Transit listing with service times and frequency, and
5. Name of nearest route with time schedule.

The respondents were instructed to rate on a scale of 1 to 5 (1 being of most value) the value of each level of transit information in their decision to call GRTC for additional information, use the services of GRTC, and finally to give other factors that influence their decision to ride the bus (see Table 5).

On the basis of the consultant's findings, there is no significance to the level of transit schedule information provided and the likelihood of that person calling GRTC for more information or using GRTC's services. Only about 10 percent of the customers increased their perceived value rating between the lowest level of information (i.e., transit telephone number) and the highest level of information (i.e., name of nearest route with time schedule). Therefore, increasing the level of detailed information provided on or with matchlists is not likely to contribute to significant increases in Ridefinders' customers calling GRTC.

Increasing the level of detailed information provided as part of the matchlists would also not result in increases in the commuter's decision to use GRTC services (see Table 6). About 10 percent of the respondents increased their rating between the lowest and highest level of transit information.

Other factors given by the respondents may influence the decision to use the services of GRTC. In particular, the majority of those that focused attention on the factor "service

availability" were from areas that were not currently served by GRTC.

<i>Factors That May Influence Decision To Use GRTC Services</i>	<i>Percentage (N = 269)</i>
Service availability	29.7
Reasonable fare	25.3
Courtesy of driver	20.4
Comfort	11.2
Other	6.7
No responses	6.7
	100.0

CONCLUSIONS AND RECOMMENDATIONS

On the basis of the findings, the following conclusions can be drawn:

1. Middle-income, car-owning individuals are less likely to use transit services.
2. A knowledge of pertinent GRTC information is not sufficient to cause individuals (as characterized by the research sample) to use the services of GRTC.
3. To increase the service area of GRTC does not ensure increased ridership.
4. Strategies in addition to those currently being used by GRTC and Ridefinders must be developed and implemented if Ridefinders' customers are to become frequent users of GRTC's services.
5. Individuals within and outside the GRTC service area are knowledgeable of the nature of the service provided by GRTC.

TABLE 5 RATINGS, REQUEST FOR MORE INFORMATION

ITEM	RATING					TOTAL	NO.
	Most Valuable		Least Valuable				
	1	2	3	4	5		
TRANSIT TELEPHONE INFORMATION NO.	31.8	22.5	18.1	7.5	20.3	100	227
ROUTE MAP FOR THE NEAREST ROUTE FROM HOME TO WORK	27.3	30.9	19.6	8.2	14.1	100	220
NAME OF NEAREST ROUTE FROM HOME TO WORK	26.1	24.3	18.5	8.6	22.1	100	222
TRANSIT LISTING WITH SERVICE TIME AND FREQUENCY	26.8	36.8	12.7	10.5	13.2	100	220
NAME OF NEAREST ROUTE WITH TIME SCHEDULE	34.2	28.4	11.6	13.3	12.4	100	225
TOTAL	29.3	28.4	16.1	9.6	16.4	100	1,114

TABLE 6 RATINGS, DECISION TO USE GRTC SERVICES

ITEM	RATING					TOTAL	NO.
	Most Valuable		Least Valuable				
	1 %	2 %	3 %	4 %	5 %		
TRANSIT TELEPHONE INFORMATION NO.	28.3	22.9	16.6	6.8	25.4	100	205
ROUTE MAP FOR THE NEAREST ROUTE FROM HOME TO WORK	26.6	34.5	24.1	2.0	12.8	100	203
NAME OF NEAREST ROUTE FROM HOME TO WORK	27.6	28.1	21.2	7.9	15.3	100	203
TRANSIT LISTING WITH SERVICE TIME AND FREQUENCY	30.5	28.6	19.2	10.8	10.8	100	203
NAME OF NEAREST ROUTE WITH TIME SCHEDULE	35.0	26.6	16.7	8.4	13.3	100	203
TOTAL	29.6	28.1	19.6	7.2	15.5	100	1,017

A major effort to incorporate transit schedule, fare, and other operating data into the ridematching software is not recommended. Increasing the level of detail of transit information did not indicate a significant increase in the likelihood that the Ridefinders' customer will call or ride GRTC.

Furthermore, awareness of service availability does not appear to be an issue among Ridefinders' customers. Marketing approaches that seek to solely increase awareness that transit services can serve their commute trip are not recommended.

The fact that most of Ridefinders' customers differ demographically from GRTC riders, have a significant level of awareness and prior experience with transit, and have access to an automobile poses a substantial challenge to marketing transit to those customers. Transit agencies will need to design and implement a special marketing strategy, focusing on possible ways to increase ridership from the population of a ride-sharing agency's customers as characterized by the profile of the research sample.

On the basis of the study's findings, Ridefinders and GRTC should develop marketing materials that supplement the transit page on the matchlist. These materials should highlight the features of transit service. Suggested approaches include promoting express service from park-and-ride lots; highlighting GRTC's friendly, courteous drivers; and meeting different work schedules on routes with multiple runs. Possible themes:

- "Your Chauffeur Awaits,"
- "It Pays to Ride With a Friend,"

- "We Are Ready When You Are," and
- "The Airlines Wish They Had Our On-Time Performance Record."

The need for continued cooperation between transit and ridesharing is essential. Both services need to be marketed to the commuter market to reduce traffic congestion, air pollution, and energy consumption. However, each service needs to be targeted to its market.

This research focused on what transit-related information is most effective in encouraging Ridefinders' customers to use transit services. However, the information services component of transit and ridesharing marketing strategies should not overshadow the need to change or introduce products or services, develop new distribution channels, or revise pricing tactics.

Such product strategies could include establishing a guaranteed ride home program to allow commuters who ride the bus or pool to work late. Remote transit stores that sell fare media and provide ridematching and transit information could serve as a new distribution channel. A pricing strategy could be used that charges commuters a commission in exchange for providing personalized assistance for placing them into a pool. Additional market research can determine how effective these and other strategies can be in increasing transit ridership or ridesharing.