MARKETING PUBLIC TRANSIT:

BUS TRANSPORTATION IN A SMALL CITY

by

Barry Clement Cosgrove

B.A., Marquette University
(1979)

SUBMITTED TO THE DEPARTMENT OF URBAN STUDIES AND PLANNING IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER IN CITY PLANNING

at the MASSACHUSETTS INSTITUTE OF TECHNOLOGY

June 1981

© Barry Clement Cosgrove 1981

The author hereby grants to M.I.T. permission to reproduce and to distribute copies of this thesis document in whole or in part.

Signature of Author

Department of Urban Studies and Planning

Certified by Ralph Gakenheimer
Thesis Supervisor

Accepted by Langley Keyes
Chairman, Department Committee

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

JUL 27 1981

LIBRARIES
MARKETING PUBLIC TRANSIT:
BUS TRANSPORTATION IN A SMALL CITY

by

BARRY CLEMENT COSGROVE

Submitted to the Department of Urban Studies and Planning on May 8, 1981 in partial fulfillment of the requirements for the Degree of Master in City Planning

ABSTRACT

This report represents documentation of two marketing audits conducted by the Brockton Area Transit Authority (BAT) in Brockton, Massachusetts. The purpose of the report is to detail these marketing audits in light of an introductory hypothesis that marketing is a management function which will become increasingly important to public transit operations. This report includes a recommended public transit marketing process (Chapter I), a summary of the Brockton Area Transit Authority (Chapter II), a summary of a pre-paid fare marketing audit (Chapter III), and a summary of a para-transit ridership promotional audit. Throughout the report are specific observations intended to assist BAT, and similar small sized transit operations of its kind, in implementing and evaluating various marketing opportunities and dilemmas. The marketing techniques which have been utilized in managing the cases within this report are by no means the only methods available. Rather, the techniques used were used in response to the particular characteristics of BAT and regulated public transit environment.

This report is a combination of the management decisions, scientific survey results, transit literature research, and professional interviews.

Thesis Supervisor: Dr. Ralph Gakenheimer
Title: Professor of Urban Studies and Civil Engineering
CHAPTER I
PUBLIC TRANSIT MARKETING/PLANNING PROCESS

Marketing, to some, is advertising and promotion. To others, it is price, product, promotion, market analysis, concept development, commercialization, and much more. In short, the complexity and sophistication of a marketing project varies with the extent of the marketing challenge as well as with the quantity of resources available to carry out the task.

This report addresses two marketing projects within the field of public transit. Conducted at the Brockton Area Transit Authority (BAT) in Brockton, Massachusetts, the projects reflect both the complicity of the marketing projects as well as BAT's management resources. In both cases, Philip Kotler's concept of a public marketing management process was employed. 1/ The process is both logical and imaginative, and permits a public sector enterprise such as BAT to adopt many private sector marketing techniques. Figure 1-1 illustrates this process, and, like the narrative, is intended to be a guide to transit operations like BAT.

In both the marketing projects conducted by BAT, the process began with questions and objectives. BAT needed to find out why some events were occurring and also wanted to cause other events. That is, in the case of the fixed route marketing project, BAT wanted to find out how people were

1/ Philip Kotler, Marketing Management, Prentice-Hall, 1980, Pages #310-#349.
paying the fare on one route and with this information wanted to investigate ways in which it could alter this fare payment pattern. In the case of the paratransit project, BAT wanted to know what percentage of the eligible market was using its DIAL-A-BAT service, and also what time of day users were riding. Having these questions and interests in mind, the parameters of the market analysis to follow were in place. New questions and discoveries accompanied further research, but it was these basic issues which served as the impetus for the entire marketing project.

The second stage of the process may be defined as the idea generation phase. It is at this time that alternative ideas are gathered in an effort to begin to define a problem solving strategy.

During the idea development stage few, if any, ideas should be discounted immediately. While developing ideas for solving the marketing problem on BAT's Ashmont route, many appeared unapplicable at first, but were ultimately turned into action.

The idea generation process can be a formal or informal one. That is, if it is the style of the transit operation to generally organize and present alternatives in a formal fashion then perhaps this format is best. However, as William Fuchs notes, idea generation is an ongoing process of management thinking which is the result of observation and experience. Fuchs claims that this ongoing thinking process need only be corralled in a formal way long enough to list the different
ideas. At BAT the idea generation stage was similar to Fuchs' style. Informal discussions over a fairly long period of time introduced a large number of alternative ideas regarding possible solutions to the market objectives and questions raised earlier. It was here that BAT also sought the opinions and ideas of managers at all levels of its operation and the operations of other similarly sized transit firms. Merging these opinions and ideas with those of many user and non-users of the BAT service marshalled a substantial supply of ideas to be screened and developed.

The third stage in BAT's marketing process was devoted to concept development. Concept development involves the development of a product idea and concept. In the case of the fixed route marketing project, the BAT Commuter Book was the result of this concept development stage. The product was to take the physical shape of a coupon booklet and provide users 12 rides for the price of 10.

Having this concept in mind was not enough. It was then necessary for BAT to define who its potential users were, who would benefit from it, what the competition was, and in which product space the book would be positioned in. The answers to these questions provided BAT a product concept, a consumer meaning that BAT would build into the product idea. From this stage came the concept of an alternative discounted pre-paid fare which was to be a complement to a monthly pass and a competitor to the dollar bill. In addition, the concept of selling the coupon books at various retail outlets was born during this
stage as well.

A product concept should be tested, as consumer reaction to the concept is a critical measure of its potential acceptability. BAT did not test its product concept. Rather, BAT tested the potential market for the Commuter Book. Having data regarding the intention of potential consumers was certainly valuable. However, BAT did not have any measure of potential consumers' ratings of the attributes of the proposed Commuter Book. That is, BAT had no measure of what the consumers viewed as the most important characteristic about the booklet, i.e., its price, convenience, availability. Having such information would greatly assist the effective development and marketing of the new product. Kotler suggests that testing of this sort be done at length before further market analysis is pursued. Again, an on-board rider survey should do the job of measuring the user's opinions. Generating the opinions of non-users is a greater task, and one which is probably too costly for a transit authority to attempt on its own. Contracting a professional survey data service is suggested.

Stage four of the BAT marketing management process involved the analysis of the markets. For both the fixed route and demand responsive marketing projects, estimating the size and characteristics of the markets, and the market's segments came first. After this came an analysis of the market segments with respect to their likelihood to either purchase a Commuter Book in the case of the fixed route project, or to try DIAL-A-
BAT in the case of the paratransit project. It is important to note that the information generated during this stage was critical to successful marketing of the new product concepts. Whereas the concept development stage indicated what consumers viewed as the product they would like to have available to them, this stage would shed light on who these consumers were (market segments), and how best to reach these consumers.

In both the fixed route and paratransit projects estimating the size and the demographic characteristics of the markets was fairly easy. Census materials and archival data provided excellent information about the users of public transit in the BAT service area. In particular, past on-board surveys provided extensive information about the number of users of transit as well as their age, sex, education, income, and purpose for using public transit. Information regarding the size and characteristics on the non-user population was also readily available. Past surveys, which had been conducted under contract with BAT, provided the extensive amount of data needed. (Note that the data regarding non-users was produced under contract. BAT, like virtually all transit operations of its size, simply did not have the manpower nor electronic data assembly resources on hand. Further, note that the costs of these non-user surveys were paid primarily through grants from the Federal government).

Completing this stage of the process demanded that estimates of potential market acceptability be conducted. In the case of the fixed route discount coupon book, estimates of
potential sales were completed. In the case of the DIAL-A-BAT project estimates of potential shifts in peak and non-peak hour demand were done. In estimating the sales of the proposed Commuter Book, BAT conducted an estimate of the users market segment with an on-board survey. (An estimate of non-users potential sales was not conducted). Studying the Commuter Book, BAT found that the simple on-board survey provided considerable reliable data regarding the potential sales. As it is explained in detail in Chapter III, BAT found that 73% of the survey respondents said they either definitely or probably intend to purchase a Commuter Book. Although this information provided insight as to the survey respondents intention to purchase a Commuter Book, BAT had no norm to judge how well the intention to buy data actually predicted final sales. Further, BAT did not have access to repeat purchase probability data. It is recommended that transit authorities spend considerable time estimating the intention of users to purchase or use a new product. In addition, it is recommended that an equal amount of time be dedicated to the estimation of how closely intention and actual behavior rest. Beyond this, it is recommended that repeat purchase estimates be developed.

The Fount and Woodlock model of consumer non-durable sales will provide much guidance in these efforts. This model estimates first time sales and accounts for potential changes in sales over time as well. The model, \( Q_t = r \alpha (1-r)^{t-1} \), begins with an overall estimate of the potential sales of a new product, and calculates the penetration of the remaining new buyer potential over time. Thus, as time goes on, the
incremental trial percentage goes to zero. Repeat sales cannot be entirely derived from this model, however, BAT found that repeat sales were a linear function related to actual frequency of bus ridership. 2/

As was noted above, data concerning the non-user populations' likelihood to purchase a Commuter Book was not developed. BAT simply did not have the resources on hand to estimate this market. It was the opinion of BAT from the start that introducing the new discounted fare would not do a lot to encourage non-users to begin using the service. BAT assumed that reducing the cost of public transit would not greatly influence non-users because the cost of public transit was already considerably below that of its chief competitor, the automobile. To date, this assumption has proven correct and has proven also that extensive efforts to measure non-users' likelihood to purchase a Commuter Book would only have resulted in very unfavorable survey results. The nature of the new product or service should dictate the need to conduct non-user analysis. In the case of the DIAL-A-BAT project, non-user analysis was extensive as the non-users was the market segment BAT was attempting to reach. Chapter IV details the non-user data utilized in the marketing process.

At this point it became necessary to formulate specific and quantifiable goals. In both marketing projects, the determination of goals was a careful decision as they would later serve as a measure of success for the projects. The goals had

---

promotional efforts had been used by BAT in the past while others were chosen for experimental purposes.

In short, the strategy stage involved the development of a package of product, price, and promotion which consumers would either accept or reject. As the Transit Marketing Management Handbook of UMTA explains, this marketing package would have to meet "consumer needs" because a failure to meet these needs would result in "transit failing both socially and economically". 3/

The second to last stage of the marketing management planning process utilized by BAT was devoted to market testing. Market testing involved activities aimed at marshalling consumer reaction to the proposed marketing products. In the case of the Commuter Book, it involved actually asking consumers for their reaction to the book. Robin E. MacStravic suggests that the degree of testing should be relative to the amount of investment and risk involved with the product. 4/ With this in mind, BAT conducted fairly limited market testing as earlier market research had indicated a substantial interest in the new pre-paid fare booklet. Nonetheless, this stage headed off considerable complaints and difficulties and is likely to do so for all transit firms.

The final, and perhaps the most crucial, stage of the process involves the tracking and evaluation of the market effort. Like the strategy stage, the tracking stage concentrates on product, price, and promotion. Careful attention is


to be congruent with the overall objectives of BAT, and had to be reasonably attainable and attainable at a reasonable cost. The goals established for each of the two marketing projects detailed in this report are spelled out in the respective chapters that follow. In both cases, the goals were related to the improved management of the BAT system as well as the successful meeting of the marketing opportunities identified by the market segmentation process.

The development of a strategy, a management game plan which would achieve the stated goals was the next step. The strategy, like the goals, would have to be congruent with the objectives and would have to be implementable. Again, the chapters which follow detail the strategies employed for each project. Notice that the strategies include considerations of product, price, and promotion. Product information came from the idea generation and concept development stages as well as from the market research stage. Without the benefit of the data generated in these earlier stages, the product would not have successfully incorporated the product concept consumers demanded. The size, shape, color, text, and materials of the product were also the result of this information. In the case of the Commuter Book, even the technical and graphic aspects of the booklet were the result of the work in these earlier states. Information concerning price also came from earlier states, as did the considerations involved in developing a distribution strategy. The promotional decision came as a result of mixing alternative communication means. Some of these
afforded the tracking and evaluation efforts in both Chapters III and IV. Notice that everything from the medium of promotion to the reason for using the newly marketed products were evaluated.


CHAPTER II
BROCKTON AREA TRANSIT AUTHORITY

A. FIXED ROUTE

The Brockton Area Transit Authority (BAT) was established in 1974 and took over Brockton's bus system in July 1975. BAT was established as a result of Massachusetts Legislation, which authorized the establishment of Regional Transit Authorities outside of the Massachusetts Bay Transportation Authority's (MBTA) jurisdiction.

The legislation further stipulated that the Regional Transit Authorities contract with private carriers to operate the service. BAT contracts with Baystate Bus Corporation. BAT is responsible for making policy, setting rates and fares, and owns all the facilities and equipment used in the operation. Baystate employs BAT drivers, management, maintenance, and office staff. This legislation also established a formula whereby the operating deficit of the local transit system was shared 50% by the Federal government, 25% by the state, and 25% by the local participating cities and towns.

Prior to BAT, the city-owned system consisted of nine 15-30 year old buses, an uncoordinated system of routes and schedules, and a daily ridership of about 2,000 patrons. Today BAT operates 45 GMC RTS-II buses on eighteen routes including two routes that extend through the neighboring Town of Stoughton, and a heavily patronized route serving the Town of Avon and the Ashmont MBTA Rail Transit Station in Boston.
BAT buses stop at the entrance of every major elderly housing project in Brockton and over 90% of Brockton residents live within a quarter mile of a BAT bus route.

Daily ridership is now approximately 14,000 patrons a day, a 700% increase over 1974. Ridership grew at an annual rate of 25% throughout the first four years of BAT's operations. Ridership grew 13% during the twelve months ending June 30, 1980. This increase in ridership resulted even though off-peak service levels were reduced during the period. Total ridership for the twelve months ending June 30, 1980 was 4,057,000. During this same period, BAT provided 1,436,130 revenue miles and 122,323 hours of fixed route service.

BAT's radial network of routes converge at the BAT Transfer Centre in downtown Brockton, where coordinated schedules allow no-wait transfers between all routes. More than 10,000 people pass through the BAT Transfer Centre, which is located in the heart of the downtown Brockton revitalization program. The BAT system is specifically designed to increase downtown accessibility as well as pedestrian traffic in the downtown area. The Transfer Centre itself, an impressive $600,000 landscaped brick and granite facility, designed by Skidmore, Owings & Merrill, is a national showpiece in transit terminal design.

As of January 1, 1981, BAT Brockton service operates from 6:00 a.m. to 9:15 p.m. weekdays, 7:20 a.m. to 6:15 p.m. Saturdays, and 10:00 a.m. to 5:30 p.m. Sundays. Brockton
service frequencies are 20 and 45 minutes. (Note Figure 2-1).

BAT Ashmont service operates from 5:15 a.m. to 1:30 a.m. weekdays, 5:40 a.m. to 12:45 a.m. Saturdays, and 8:40 a.m. to 12:45 a.m. Sundays and Holidays. Service frequencies vary from 10 minutes during weekday peak periods to as much as every 2 hours during off-peak weekend periods. (Note Figure 2-2).

BAT Stoughton service operates from 6:40 a.m. to 6:15 p.m. weekdays and Saturdays. There is no Sunday Stoughton service. Stoughton service frequencies are 40 to 45 minutes. (Note Figure 2-3).

The regular fare for BAT is 35¢ within Brockton. The fare for service between Brockton and Stoughton is 60¢, and $1.00 between Brockton and Ashmont. A BAT Riders Club card allows unlimited trips for one month, affording a savings of 15 to 40%. The Brockton card costs $10, Brockton-Stoughton card costs $18, and the Ashmont card costs $32. The BAT Commuter Book provides riders on the Ashmont route 12 rides for the price of $10. (Note Figure 2-4). Reduced fares are also available for elderly and handicapped passengers as well as for students.

Total operating costs for the twelve months ending June 30, 1980 were about $3,750,068. Revenues amounted to about $853,474. Costs in excess of revenues are paid 50% by the Federal government, 25% by the state, and 25% by participating cities and towns. (Note Figure 2-5).
<table>
<thead>
<tr>
<th></th>
<th>Leave City Centre</th>
<th>Leave end of line</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Routes</strong> 1, 2, 2A, 3, 3A, 4, 4A, 5, 6, 7, 8, 9, 9A, 10, 11</td>
<td><strong>Routes</strong> 1, 2, 2A, 3, 3A, 4, 4A, 5, 6, 7, 8, 9, 9A, 10, 11</td>
<td><strong>Routes</strong> 1, 2, 3, 4, 5, 6, 7, 8, 9A, 10, 11</td>
</tr>
<tr>
<td><strong>Monday-Friday</strong></td>
<td><strong>Saturday</strong></td>
<td><strong>Sunday</strong></td>
</tr>
<tr>
<td>Leave City Centre</td>
<td>Leave City Centre</td>
<td>Leave City Centre</td>
</tr>
<tr>
<td>6:00 A, 4</td>
<td>7:20</td>
<td>10:00</td>
</tr>
<tr>
<td>6:40 A</td>
<td>8:00</td>
<td>10:45</td>
</tr>
<tr>
<td>7:00 B, 9</td>
<td>8:40</td>
<td>11:30</td>
</tr>
<tr>
<td>7:20 A</td>
<td>9:20</td>
<td>12:15</td>
</tr>
<tr>
<td>7:40 B</td>
<td>10:00</td>
<td>1:00</td>
</tr>
<tr>
<td>8:00 A</td>
<td>10:45</td>
<td>1:45</td>
</tr>
<tr>
<td>8:20 B</td>
<td>11:30</td>
<td>2:30</td>
</tr>
<tr>
<td>8:40 A</td>
<td>12:15</td>
<td>3:15</td>
</tr>
<tr>
<td>9:00 B</td>
<td>1:00</td>
<td>4:00</td>
</tr>
<tr>
<td>9:20 A</td>
<td>1:45</td>
<td>4:45</td>
</tr>
<tr>
<td>10:00 A</td>
<td>2:30</td>
<td>5:30</td>
</tr>
<tr>
<td>10:45 A</td>
<td>3:15</td>
<td>6:15</td>
</tr>
<tr>
<td>11:30 A</td>
<td>4:00</td>
<td>10:20</td>
</tr>
<tr>
<td>12:15 A</td>
<td>4:45</td>
<td>11:05</td>
</tr>
<tr>
<td>1:00 A</td>
<td>5:05</td>
<td>11:50</td>
</tr>
<tr>
<td>1:45 A</td>
<td>5:30</td>
<td>12:15</td>
</tr>
<tr>
<td>2:05 B</td>
<td>6:15</td>
<td>12:35</td>
</tr>
<tr>
<td>2:30 A</td>
<td>3:35 A</td>
<td>1:45</td>
</tr>
<tr>
<td>2:50 B</td>
<td>4:00 B</td>
<td>2:30</td>
</tr>
<tr>
<td>3:15 A</td>
<td>4:20 A</td>
<td>3:35</td>
</tr>
<tr>
<td>3:35 B</td>
<td>4:45 B</td>
<td>4:00</td>
</tr>
<tr>
<td>4:00 A</td>
<td>5:05 A</td>
<td>4:20</td>
</tr>
<tr>
<td>4:20 B</td>
<td>5:30 B</td>
<td>4:45</td>
</tr>
<tr>
<td>4:45 A</td>
<td>6:15</td>
<td>5:30</td>
</tr>
<tr>
<td>5:05 B</td>
<td>5:50 A</td>
<td>6:15</td>
</tr>
<tr>
<td>5:20 A</td>
<td>5:50 B</td>
<td>6:15 A</td>
</tr>
<tr>
<td>5:50 B</td>
<td>6:15 A</td>
<td>6:15 A</td>
</tr>
<tr>
<td><strong>Notes:</strong></td>
<td>Rt 1: for Montello take Bus 12 (Ashmont) after 5:50 pm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9A: via Torrey St. until 1:45 pm; via Belmont after 1:45 pm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14 &amp; 15: (Pleasant St.) see Stoughton schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Westgate Mall: Routes 4, 4A, 14 stop at Mr Donut/Child World; Rts 14 &amp; 15 stop at Jordan Marsh</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stoughton: see Stoughton schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Holiday service: Ashmont only</td>
<td></td>
</tr>
</tbody>
</table>

**Routes** 1, 2, 3, 4, 5, 6, 7, 8

<table>
<thead>
<tr>
<th></th>
<th>Leave City Centre</th>
<th>Leave end of line</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 A, 4</td>
<td>6:35</td>
<td>7:00 A, 4</td>
</tr>
<tr>
<td>7:45</td>
<td>7:20</td>
<td>7:45</td>
</tr>
<tr>
<td>8:00</td>
<td>8:05</td>
<td>8:00</td>
</tr>
<tr>
<td>9:15</td>
<td>8:50</td>
<td>9:15</td>
</tr>
</tbody>
</table>

Ride free with your Riders Club card or pay exact fare:

- Adults: 35c
- Senior Citizens: 15c
- Under 12: 15c
- Under 5: free

Free transfers in City Centre

Information: 580-1170
### Monday-Friday

<table>
<thead>
<tr>
<th>Leave City Centre</th>
<th>Arrive Ashmont</th>
<th>Leave Ashmont</th>
<th>Arrive City Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:15</td>
<td>6:00</td>
<td>E 6:00</td>
<td>6:40</td>
</tr>
<tr>
<td>5:40</td>
<td>6:20</td>
<td>E 6:20</td>
<td>7:00</td>
</tr>
<tr>
<td>6:00</td>
<td>6:50</td>
<td>E 6:50</td>
<td>7:35</td>
</tr>
<tr>
<td>X 6:35</td>
<td>7:20</td>
<td>X 7:20</td>
<td>8:00</td>
</tr>
<tr>
<td>E 6:40</td>
<td>7:30</td>
<td>E 7:30</td>
<td>8:15</td>
</tr>
<tr>
<td>7:00</td>
<td>7:45</td>
<td>7:50</td>
<td>8:35</td>
</tr>
<tr>
<td>7:20</td>
<td>8:05</td>
<td>8:10</td>
<td>8:55</td>
</tr>
<tr>
<td>E 7:40</td>
<td>8:25</td>
<td>E 8:30</td>
<td>9:15</td>
</tr>
<tr>
<td>8:00</td>
<td>8:45</td>
<td>E 8:50</td>
<td>9:35</td>
</tr>
<tr>
<td>8:20</td>
<td>9:05</td>
<td>E 9:10</td>
<td>9:55</td>
</tr>
<tr>
<td>E 8:40</td>
<td>9:25</td>
<td>E 9:30</td>
<td>10:15</td>
</tr>
<tr>
<td>9:00</td>
<td>9:45</td>
<td>9:50</td>
<td>10:35</td>
</tr>
<tr>
<td>9:20</td>
<td>10:05</td>
<td>10:10</td>
<td>10:55</td>
</tr>
<tr>
<td>E 10:00</td>
<td>10:45</td>
<td>E 10:45</td>
<td>11:30</td>
</tr>
<tr>
<td>10:45</td>
<td>11:30</td>
<td>11:30</td>
<td>12:15</td>
</tr>
<tr>
<td>11:30</td>
<td>12:15</td>
<td>12:15</td>
<td>1:00</td>
</tr>
<tr>
<td>E 12:15</td>
<td>1:00</td>
<td>E 1:00</td>
<td>1:45</td>
</tr>
<tr>
<td>1:00</td>
<td>1:45</td>
<td>1:45</td>
<td>2:30</td>
</tr>
<tr>
<td>1:45</td>
<td>2:35</td>
<td>2:20</td>
<td>3:10</td>
</tr>
<tr>
<td>2:05</td>
<td>2:50</td>
<td>2:40</td>
<td>3:30</td>
</tr>
<tr>
<td>E 2:30</td>
<td>3:20</td>
<td>3:00</td>
<td>3:50</td>
</tr>
<tr>
<td>3:20</td>
<td>3:40</td>
<td>E 3:25</td>
<td>4:15</td>
</tr>
<tr>
<td>3:50</td>
<td>4:05</td>
<td>3:45</td>
<td>4:35</td>
</tr>
<tr>
<td>4:00</td>
<td>4:35</td>
<td>4:10</td>
<td>5:00</td>
</tr>
<tr>
<td>E 4:00</td>
<td>5:20</td>
<td>4:50</td>
<td>5:45</td>
</tr>
<tr>
<td>4:20</td>
<td>5:05</td>
<td>E 4:55</td>
<td>5:45</td>
</tr>
<tr>
<td>4:45</td>
<td>5:30</td>
<td>X 5:05</td>
<td>5:50</td>
</tr>
<tr>
<td>5:05</td>
<td>5:50</td>
<td>E 5:15</td>
<td>6:05</td>
</tr>
<tr>
<td>E 5:30</td>
<td>6:15</td>
<td>6:25</td>
<td>6:15</td>
</tr>
<tr>
<td>5:50</td>
<td>6:35</td>
<td>X 5:35</td>
<td>6:15</td>
</tr>
<tr>
<td>6:15</td>
<td>7:00</td>
<td>5:55</td>
<td>6:40</td>
</tr>
<tr>
<td>7:00</td>
<td>7:45</td>
<td>E 6:15</td>
<td>7:00</td>
</tr>
<tr>
<td>E 7:45</td>
<td>8:30</td>
<td>6:35</td>
<td>7:20</td>
</tr>
<tr>
<td>8:30</td>
<td>9:15</td>
<td>7:00</td>
<td>7:45</td>
</tr>
<tr>
<td>9:15</td>
<td>10:00</td>
<td>7:45</td>
<td>8:30</td>
</tr>
<tr>
<td>E 10:30</td>
<td>11:15</td>
<td>E 8:30</td>
<td>9:15</td>
</tr>
<tr>
<td>11:15</td>
<td>12:20</td>
<td>9:30</td>
<td>10:15</td>
</tr>
<tr>
<td>E 10:40</td>
<td>11:30</td>
<td>12:15</td>
<td>11:15</td>
</tr>
<tr>
<td>11:40</td>
<td>12:45</td>
<td>E 12:45</td>
<td>1:30</td>
</tr>
</tbody>
</table>

### Saturday

<table>
<thead>
<tr>
<th>Leave City Centre</th>
<th>Leave Ashmont</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:40</td>
<td>6:20</td>
</tr>
<tr>
<td>E 7:20</td>
<td>E 8:00</td>
</tr>
<tr>
<td>8:00</td>
<td>8:40</td>
</tr>
<tr>
<td>E 8:40</td>
<td>E 9:20</td>
</tr>
<tr>
<td>9:20</td>
<td>10:00</td>
</tr>
<tr>
<td>E 10:00</td>
<td>E 10:45</td>
</tr>
<tr>
<td>10:45</td>
<td>11:30</td>
</tr>
<tr>
<td>E 12:15</td>
<td>E 1:00</td>
</tr>
<tr>
<td>1:00</td>
<td>1:45</td>
</tr>
<tr>
<td>E 1:45</td>
<td>2:30</td>
</tr>
<tr>
<td>E 2:30</td>
<td>E 3:15</td>
</tr>
<tr>
<td>3:15</td>
<td>4:00</td>
</tr>
<tr>
<td>4:00</td>
<td>4:45</td>
</tr>
<tr>
<td>4:45</td>
<td>5:30</td>
</tr>
<tr>
<td>E 5:30</td>
<td>E 6:15</td>
</tr>
<tr>
<td>6:15</td>
<td>7:00</td>
</tr>
<tr>
<td>7:45</td>
<td>8:30</td>
</tr>
<tr>
<td>E 9:15</td>
<td>E 10:30</td>
</tr>
<tr>
<td>11:40</td>
<td>12:45</td>
</tr>
</tbody>
</table>

### Sunday & Holidays

<table>
<thead>
<tr>
<th>Leave City Centre</th>
<th>Leave Ashmont</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:40</td>
<td>6:20</td>
</tr>
<tr>
<td>E 8:40</td>
<td>E 9:20</td>
</tr>
<tr>
<td>8:00</td>
<td>8:40</td>
</tr>
<tr>
<td>E 8:40</td>
<td>E 9:20</td>
</tr>
<tr>
<td>9:20</td>
<td>10:00</td>
</tr>
<tr>
<td>E 10:00</td>
<td>E 10:45</td>
</tr>
<tr>
<td>10:45</td>
<td>11:30</td>
</tr>
<tr>
<td>E 12:15</td>
<td>E 9:15</td>
</tr>
<tr>
<td>1:00</td>
<td>1:45</td>
</tr>
<tr>
<td>E 1:45</td>
<td>2:30</td>
</tr>
<tr>
<td>E 2:30</td>
<td>E 3:15</td>
</tr>
<tr>
<td>3:15</td>
<td>4:00</td>
</tr>
<tr>
<td>4:00</td>
<td>4:45</td>
</tr>
<tr>
<td>4:45</td>
<td>5:30</td>
</tr>
<tr>
<td>E 5:30</td>
<td>E 6:15</td>
</tr>
<tr>
<td>6:15</td>
<td>7:00</td>
</tr>
<tr>
<td>7:45</td>
<td>8:30</td>
</tr>
<tr>
<td>E 9:15</td>
<td>E 10:30</td>
</tr>
<tr>
<td>11:30</td>
<td>12:30</td>
</tr>
</tbody>
</table>

- E: through Avon via East Main St
- X: express between City Centre and Ashmont Mon-Fri
- Buses leave Avon 10 minutes after departure from Brockton and 25 minutes after departure from Ashmont
- Sat, Sun & Holidays buses arrive Ashmont 45 minutes after leaving City Centre
- Exact fare required

Information: 580-1170
# FIGURE 2-3

## 14 Brockton via Westgate Mall

<table>
<thead>
<tr>
<th>Leave NE Sinai Hospital for Brockton</th>
<th>Leave Brockton City Centre for Stoughton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon-Sat</td>
<td>Mon-Sat</td>
</tr>
<tr>
<td>6:40 (not Sat)</td>
<td>6:00 (not Sat)</td>
</tr>
<tr>
<td>7:20</td>
<td>6:40</td>
</tr>
<tr>
<td>8:00</td>
<td>7:20</td>
</tr>
<tr>
<td>8:40</td>
<td>8:00</td>
</tr>
<tr>
<td>9:20</td>
<td>8:40</td>
</tr>
<tr>
<td>10:00</td>
<td>9:20</td>
</tr>
<tr>
<td>10:45</td>
<td>10:00</td>
</tr>
<tr>
<td>11:30</td>
<td>10:45</td>
</tr>
<tr>
<td>12:15</td>
<td>11:30</td>
</tr>
<tr>
<td>1:00</td>
<td>12:15</td>
</tr>
<tr>
<td>1:45</td>
<td>1:00</td>
</tr>
<tr>
<td>2:30</td>
<td>1:45</td>
</tr>
<tr>
<td>3:15</td>
<td>2:30</td>
</tr>
<tr>
<td>4:00</td>
<td>3:15</td>
</tr>
<tr>
<td>4:45</td>
<td>4:00</td>
</tr>
<tr>
<td>5:30</td>
<td>4:45</td>
</tr>
<tr>
<td>6:15</td>
<td>5:30</td>
</tr>
</tbody>
</table>

Stoughton Sq to Brockton: Buses leave 5 minutes after leaving NE Sinai

## 15 Cobb’s Corner & Goddard Hospital

<table>
<thead>
<tr>
<th>Leave Cobb’s Corner for Brockton</th>
<th>Leave Brockton City Centre for Cobb’s Corner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon-Sat</td>
<td>Mon-Sat</td>
</tr>
<tr>
<td>7:40</td>
<td>8:00</td>
</tr>
<tr>
<td>8:20</td>
<td>8:40</td>
</tr>
<tr>
<td>9:00</td>
<td>9:20</td>
</tr>
<tr>
<td>9:40</td>
<td>10:00</td>
</tr>
<tr>
<td>10:20</td>
<td>10:45</td>
</tr>
<tr>
<td>11:05</td>
<td>11:30</td>
</tr>
<tr>
<td>11:50</td>
<td>12:15</td>
</tr>
<tr>
<td>12:35</td>
<td>1:00</td>
</tr>
<tr>
<td>1:20</td>
<td>1:45</td>
</tr>
<tr>
<td>2:05</td>
<td>2:30</td>
</tr>
<tr>
<td>2:50</td>
<td>3:15</td>
</tr>
<tr>
<td>3:35</td>
<td>4:00</td>
</tr>
<tr>
<td>4:20</td>
<td>4:45</td>
</tr>
<tr>
<td>5:05</td>
<td>5:30</td>
</tr>
<tr>
<td>5:50</td>
<td>6:15</td>
</tr>
</tbody>
</table>

Stoughton Sq to Cobb’s Corner: Buses leave 25 minutes after leaving Cobb’s Corner

### Exact fare required:

<table>
<thead>
<tr>
<th>In Brockton</th>
<th>Brockton to Stoughton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults</td>
<td>35c</td>
</tr>
<tr>
<td>Sr Citizens</td>
<td>15c</td>
</tr>
<tr>
<td>Under 12</td>
<td>15c</td>
</tr>
<tr>
<td>Under 5</td>
<td>free</td>
</tr>
</tbody>
</table>

*Ride free with your BAT Riders Club card

Free transfers in Brockton City Centre

### Notes:

- Westgate Mall: Rt 15 stops at Jordan Marsh; Rt 14 stops at Jordan Marsh and Mr Donut/Child World
- No holiday Service

Information: 580-1170
What is the Riders club card?

With a Riders club card, you don't have to pay when you get on the bus, you just show the driver your card. And you can transfer free to any route. The card is good for one month. You must get a new card each month.

The 35¢ card: worth 35¢ every time you ride the bus. For $10 a month you ride free in Brockton or Stoughton, and get a 35¢ reduction on all other trips.

The 60¢ card: worth 60¢ every time you ride the bus. For $18 a month you ride free between Brockton and Stoughton, and get a 60¢ reduction on all other trips.

The $1 card: worth $1 every time you ride the bus. For $32 a month you ride free on all routes.

And now, a new service: The bus Commuter book: 12 rides on Ashmont for $10. 20% savings no matter how often you ride. Each ticket good all year.

Why buy the card? It's cheap.

Ride the bus to work every day with a Riders club card, save 15 to 40%. That's $2 to $7 a month. Any extra trips you take are more money in your pocket.

Save on auto insurance, too.

Buy a Riders club card at least 11 out of 12 months during the year, and you can save up to 10% on property damage and collision coverage. See your insurance agency for details.

What if you lose it?

Don't lose it. A lost card can't be replaced, because someone might find it and use it. If you lose your card, you must pay your fare in cash until the next month.

How do you get a Riders club card?

Buy a Riders club card at any of the places listed on the back of this brochure; cards go on sale ten days before the month begins.
## SUMMARY OF OPERATING AND FINANCIAL STATISTICS

### FIXED ROUTE SERVICE

**FISCAL YEAR 1980 (JULY 1, 1979 - JUNE 30, 1980)**

<table>
<thead>
<tr>
<th></th>
<th>FY80</th>
<th>% CHANGE FROM FY79</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL RIDERSHIP</td>
<td>4,057,000</td>
<td>+13</td>
</tr>
<tr>
<td>COST</td>
<td>$3,750,068</td>
<td>+16</td>
</tr>
<tr>
<td>REVENUE</td>
<td>$853,474</td>
<td>+15</td>
</tr>
<tr>
<td>REVENUE MILES</td>
<td>1,436,130</td>
<td>0</td>
</tr>
<tr>
<td>REVENUE HOURS</td>
<td>122,323</td>
<td>+3</td>
</tr>
<tr>
<td>COST/PASSENGER</td>
<td>$0.924</td>
<td>+2.5</td>
</tr>
<tr>
<td>COST/REVENUE MILE</td>
<td>$2.61</td>
<td>+16</td>
</tr>
<tr>
<td>COST/REVENUE HOUR</td>
<td>$30.66</td>
<td>+12</td>
</tr>
<tr>
<td>PUB. SUBSIDY/PASSENGER</td>
<td>$0.71</td>
<td>+2.5</td>
</tr>
<tr>
<td>REVENUE/COST</td>
<td>0.23</td>
<td>0</td>
</tr>
<tr>
<td>PASSENGERS/REV. MILE</td>
<td>2.825</td>
<td>+13</td>
</tr>
<tr>
<td>AVERAGE SPEED</td>
<td>11.74</td>
<td>-3.5</td>
</tr>
<tr>
<td>PASSENGERS/HOUR</td>
<td>33.17</td>
<td>+10</td>
</tr>
<tr>
<td>PASSENGERS/CAPITA</td>
<td>31.9</td>
<td>+13</td>
</tr>
</tbody>
</table>

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MILES</td>
<td>HOURS</td>
</tr>
<tr>
<td>ROCKTON</td>
<td>847,700</td>
<td>88,170</td>
</tr>
<tr>
<td>TAUGHTON 14</td>
<td>88,370</td>
<td>7,510</td>
</tr>
<tr>
<td>TAUGHTON 15</td>
<td>105,740</td>
<td>6,734</td>
</tr>
<tr>
<td>SHMONT</td>
<td>394,300</td>
<td>19,909</td>
</tr>
<tr>
<td></td>
<td>1,436,110</td>
<td>122,323</td>
</tr>
</tbody>
</table>

-22-
B. DIAL-A-BAT

The Brockton Area Transit Authority was one of the first authorities in the country to implement a paratransit system combining elderly and handicapped transportation service with human service agency transportation. Begun in February 1977, DIAL-A-BAT provides door-to-door service for the elderly and handicapped for trips of all types. DIAL-A-BAT serves the entire City of Brockton as well as a number of selected medical facilities in Stoughton, West Bridgewater, and Boston.

Like the fixed route service, DIAL-A-BAT is operated under a private contract. BAT is responsible for making policy, setting rates and fares, and establishing agreements with participating human service agencies for DIAL-A-BAT service. DIAL-A-BAT is operated by Self-Help, Inc., a non-profit community action agency overseeing a number of human service programs in the Brockton area. Self-Help employs DIAL-A-BAT drivers, management, and office staff. Baystate Bus Corporation, the operator of BAT's fixed route service, maintains all DIAL-A-BAT equipment and provides drivers for at least two of the vehicles.

DIAL-A-BAT offers three different types of service—Dial-a-Ride (DAR), Subscription (SUB), and Out-of-Town (OOT). In each case, the service is door-to-door and the drivers are trained to assist passengers between the van and the door of the origin or destination.
Dial-a-Ride service is available to eligible participants as well as for authorized trips by clients of some social service agencies. Eligible riders must contact the DIAL-A-BAT office 24 hours in advance of their trip in order to place a reservation. Eligible riders who are clients of a social service agency must reserve their trip through the agency. The return trip is not reserved in advance, rather, passengers call DIAL-A-BAT when they are ready to return. Waiting time in this case rarely exceeds 20 minutes. The fare for a one-way dial-a-ride trip is $1.00. The fee charged to the social service agencies which authorize trips via DAR is $3.50 per one-way trip. Agencies are billed monthly for DAR service.

Subscription is available to agency groups or groups of six or more eligible riders traveling together. SUB service is utilized primarily for transportation to and from regularly scheduled programs, such as pre-school or elderly meal programs. As is the case with DAR service, agency group trips are arranged by the agencies through the DAB office. The fare for eligible individuals traveling in a group of six or more is 50¢ per one-way trip. The fee charged to agencies for SUB service for agency clients is on the basis of hours of service. The hourly rate is approximately $11.50 per hour within Brockton, and $16.00 outside of Brockton.

Out-of-town service is available to eligible riders and authorized agency clients for service primarily to medical facilities outside of the DIAL-A-BAT service area, i.e., Boston. The fare for OOT service is $5 per round trip or $15 per week.
for unlimited travel. The charge to agencies for authorized clients is $16 per round trip. A 24-hour advance reservation policy applies for OOT service as well.

DIAL-A-BAT operates 21 vans which are especially designed for transporting the elderly and handicapped. All 21 vans are two-way radio equipped and nine have wheelchair lifts. DIAL-A-BAT drivers are trained in defensive driving, basic Red Cross first aid, cardio-pulmonary resuscitation, and sensitivity to the problems of the elderly and handicapped.

DIAL-A-BAT operates from 7 a.m. to 6 p.m. weekdays and from 9:30 a.m. to 4:30 p.m. on Saturdays. Approximately 15,000 patrons utilize DIAL-A-BAT each month. (Note Figure 2-6).
**dial-a-bat** provides door-to-door transportation for elderly and handicapped people and clients of human service agencies.

**dial-a-bat** serves all of Brockton and nearby medical facilities.

**dial-a-bat** costs $1 per trip; 6 or more people traveling together each pay 50¢ per trip; agency clients ride free for authorized trips.

---

**Who can ride dial-a-bat?**

Anyone who is 60 or older. (You can get a senior citizen I.D. card at the Senior Citizens Drop-In Center, 234 Main Street, Brockton.)

Anyone who can’t ride the big bat buses because of a physical handicap or mental disability. (Call MOM – our Manager of Mobility – to find out how to get a Handicapped Citizen I.D. Card.)

Anyone whose trip is authorized by a participating human service agency like the Department of Public Welfare. (Call MOM to see if your agency offers dial-a-bat service.)

---

**What about aides and companions?**

If you need an aide, that person can ride free. Other companions who are neither elderly nor handicapped may ride for $1.

---

**How do I arrange my trip?**

Phone MOM at least one day before you wish to travel and reserve your trip.

If you’re an agency client, phone your agency. They’ll arrange your trip with MOM and they’ll pay for it, too.

Don’t forget to call the day before!

---

**How do I get home?**

If possible, reserve your return trip in advance. Otherwise, when you are ready to go home, call MOM. In most cases dial-a-bat will pick you up in twenty minutes or less.

---

**What if my plans change?**

If you find you have to cancel or re-schedule your trip, you must notify MOM as soon as possible. That way, our vehicles will be free to serve other people.

Don’t forget to call MOM whenever your plans change, 584-5530.
C. MARKETING AT BAT

Approximately three years ago a comprehensive marketing study was conducted for BAT by Multisystems, Inc., of Cambridge Massachusetts. The study was funded in part through a grant from the U.S. Department of Transportation, and in part by BAT and the Old Colony Planning Council. The results of the study were taken principally from a scientific telephone survey of 300 randomly selected Brockton residents and 100 randomly selected Stoughton residents. (300 additional surveys were conducted for the purposes of increasing the sample size of particular groups). In general the Multisystems report provided guidelines for increasing the ridership and the public awareness of BAT. Multisystems advocated substantial expenditures for informational aides and advertising and also recommended some spending for service changes and improvements.

Although the above marketing study provides some useful information about the market within which BAT operates, many changes have occurred or are about to occur since this publication which have dramatically altered BAT's operating environment. The "newness" of the system as well as the ability to constantly announce additions and improvements to the system is now gone. The result is that the style of marketing BAT has been able to use will now have to change and the overall marketing of the system will have to become a more major function within the administration of the BAT system.

To begin, as a result of a fare increase and a reduction in non-peak hour service, ridership has begun to fall. For
example, when comparing the months of October and November of 1980 with the same months of 1979, a clear decrease in ridership is apparent. Although the ridership decreases were not substantial, and limited to off-peak hours, these decreases nonetheless illustrate the effects of fare increase and service reductions. The recent victory of Proposition 2½ and the certain reductions in Federal operating assistance will greatly magnify these fare increases and service cuts. Likewise, the reductions in ridership will increase as well.

Due to Proposition 2½, BAT is restricted by law from charging participating cities and towns within its service area more than 104% of the last year's total assessment. Therefore, although inflation may force increases in operating expenses of 12% or more, only a 4% share of this increase can be assessed to the cities and towns with the Brockton Area Transit Authority Area. Worsening this matter is the Reagan Administration's reduction on federal operating assistance to BAT. Federal assistance to BAT totaled $1,400,000 in fiscal year 1980. In fiscal year 1981 this total was only $1,270,000 and in fiscal year 1982 it will be only $970,000. Thus, in just a two year period federal help to BAT will have fallen by $430,000 or 31%. The result is that the federal operating aide lost must be matched by an equal reduction in BAT's operating deficit. Given that Proposition 2½ limits the amount which BAT can charge its participating cities and towns, the loss in federal operating assistance can not be made up by increasing the levy to the cities and towns. Decreasing service
and increasing fares are the only options left for BAT. As if this were not enough, the Reagan Administration is also proposing that Federal operating assistance to local transit firms be eliminated entirely by 1985.

In summary, BAT is facing difficult economic times and service cuts will be absolutely unavoidable. What will not be unavoidable, however, will be a new approach to marketing. Unlike the past, ridership will fall and the what was once endless supply of new equipment and service additions will not be available. Just as the private sector must keep up with changing consumer wants and aggressive competition, so too will BAT have to keep up with its changing market conditions. The only difference for BAT will be that it will have to face many more problems than does a private firm in that it will have less and less money available to work with and more and more public pressure to use each of its dollars more effectively and efficiently.

2) **Definition**

Until recently marketing was primarily defined by BAT to be the functions related to the maintenance of a positive community image and notification to passengers of service changes and service availability. Such marketing functions as consumer analysis, positioning, and market testing were not included in the BAT marketing effort. The fact that BAT's marketing had a tendency to be equated with image maintenance is understandable, however. Enjoying the benefits of its newness, BAT hardly needed to conduct any other type of
marketing. Its brand new fleet of GMC RTS II advanced fleet of buses, trimmed with a distinct BAT insignia, was marketing the system by themselves. The subsequent arrival of the award winning downtown transfer center, a cornerstone of the downtown Brockton urban renewal project, then continued the "newness" marketing of BAT. As if the above additions were not bringing enough positive attention to the system, BAT then announced the expansion of service by increasing the number of fixed routes in Brockton as well as increasing the service frequency. Shortly after this BAT then announced the addition of 21 new vans for use by DIAL-A-BAT. The vans, like the fixed route buses, were new equipment and 11 were wheelchair lift equipped. The soon to follow additions of new BAT bus shelters continued the period of improved service capabilities and the simultaneous marketing of the new and improved public transit in Brockton. This ability to constantly announce new additions and new improvements to the BAT system all combined to provide BAT a marketing strategy which built a "first-class" reputation for BAT as well as an extremely high level of service awareness. The 700% increase in ridership on the fixed routes as well as a geometric increase in the use of DIAL-A-BAT subscription and dial-a-ride service attest to the effectiveness of the marketing of the system over this period.

Unfortunately for BAT the times have changed. There will be no new buses, no more new transfer centers, no more new bus shelters, and certainly no new routes added to the system.
Now BAT will be faced with the opposite situation. Service will be cut, fares will increase and the newness BAT was able to show off will be gone. BAT is simply going to have to develop a new approach to its marketing.

3) Marketing Mix

Product, price, and promotion are generally the three components of a marketing mix. BAT's product and prices have been discussed in detail already. The remaining component, promotion, is the subject of this section.

BAT's promotion has generally taken the form of a combination of newspaper ads, radio ads, maps, schedules, brochures, representation at community events, and bus posters. Newspaper ads have been run in the Brockton Enterprise, a major daily newspaper which is home delivered to more than 90% of the households in the BAT service area. Radio spots have been purchased from the three local radio stations, WBET, WOKW, and WCAV.

The marketing study written by Multisystems found that both Brockton and Stoughton residents had seen BAT's newspaper advertisements often or occasionally. A full 70% of these residents have seen the ads, but as much as 43% of the youth respondents had not. 1/

Radio advertisements were found by the survey to be considerably less effective than the newspaper ads. Only 25% of the Brockton residents remembered hearing a BAT radio ad, and

just 14% of the Stoughton residents interviewed had ever heard of a BAT radio advertisement. 2/

BAT maps and schedules were found to be well utilized by the survey respondents. Only 25% of the Brockton residents reported never having seen a BAT map or schedule. Brockton users and non-users of BAT were found to have widely different levels of exposure to BAT maps and schedules; 40% of non-users had never seen a map or schedule while just 11% of the users reported never having seen any of these materials. Stoughton residents had considerably less exposure to BAT maps and schedules as 62% answered "never" having seen either of the publications. Both users and non-users in Brockton and Stoughton reported that the maps and schedules were very "helpful". The major source of the maps and the schedules were found to be the bus. 3/

The Multisystems study did not measure the effectiveness of the product and price components of the BAT marketing.

The BAT management has a reserved confidence in the various mediums noted above. Having not yet had to thoroughly evaluate the relative costs and benefits of each alternative medium, the administration remains somewhat skeptical of each of them. In many cases, the administration has chosen its mediums on the basis of intuition. A careful effort to begin measuring the effectiveness of each of the alternative medium should provide future guidance for BAT in this area, and should also result in a better utilization of coverage in the Brockton


Enterprise. Also, this evaluation will provide help in planning marketing for potential as well as existent riders.


A. BACKGROUND

1) Statement of Problem

Immediately after BAT took over the operations of the public transportation in Brockton in 1975, the idea of instituting a pre-paid discount fare policy surfaced. The regular fare for travel on a BAT bus at that time was 25¢ within Brockton, 50¢ to Stoughton, and 90¢ to Ashmont. At question was the issue of establishing either a weekly, monthly, or yearly discounted fare for persons who purchased a pre-paid pass or coupon. The concept of discounted fares during off-peak periods was also considered. In the end, the BAT management determined that a monthly pre-paid pass system would be established. It was the opinion of the management at that time that such a monthly pass would adequately provide frequent riders a reasonable savings and a welcomed convenience. It was further the decision of the management at that time to institute only a monthly discount pass system and nothing other.

The monthly pass system the management instituted is called the BAT Riders Club. The Riders Club system includes three monthly passes, all of which provide a Riders Club card holder a savings of 15%-20% or more. There are Riders Club cards for Brockton, Stoughton, and Ashmont and the cards now cost $10, $18, and $32 respectively. The Riders Club cards,
which are available at most area banks, also provide holders a reduction in the fare on any BAT bus equal to the value of the Riders Club card they are holding. At present, Riders Club cards are becoming more and more popular among BAT riders with over 516 persons purchasing a Riders Club card of some type each month since October 1980.

Recently, it has come to the attention of the present BAT management that on one of its most heavily traveled routes, Ashmont, another form of pre-paid fare discount may be useful. The BAT Ashmont run carries over 1,400 patrons daily from Brockton and Avon to the Ashmont MBTA Station in Dorchester. Passengers transfer from the BAT Ashmont bus to the MBTA Red Line subway at the Ashmont station to travel into Boston and Cambridge. The regular fare on the Ashmont run is $1.00 from Brockton to Ashmont and 90¢ from Avon to Ashmont.

Having conducted a survey of the ridership characteristics of the Ashmont passengers, (Note Figure 3-1) the BAT management was able to determine that there are a large number of Ashmont travelers that use the service fairly frequently but, at the same time, do not use the service enough to benefit from the BAT Ashmont Riders Club card. In fact, it was found that approximately 78% of the Ashmont riders were using the service at least three or four days a week, many of whom use BAT just a day or two too few in order to benefit from the monthly pass system.

In addition to the information noted above, the BAT management had also become aware of an increasing problem on the
The purpose of this survey is to ask your opinion of a proposed coupon book which would provide 12 rides to or from Ashmont for the price of 10 ($10). These coupons would be valid for 1 year.

1. How often do you usually ride BAT to or from Ashmont?
   - daily
   - 3 or 4 days a week
   - 1-2 days a week
   - occasionally

2. Did you know that BAT sells monthly Riders Club cards which save a regular Ashmont traveler money?
   - Yes
   - No

3. Have you ever purchased a monthly Riders Club card for travel to and from Ashmont?
   - Yes Which one?
     - $8 card
     - $16 card
     - $30 card
   - No If "no", why not? (You may check more than one)
     - Not a regular rider
     - Too much money to pay at one time
     - Price too high
     - Do not know where to buy one
     - Not enough sales outlets

4. If you regularly purchase a Riders Club card for travel to and from Ashmont, would you be likely to switch to a coupon booklet which offered 12 rides for the price of 10?
   - Yes
   - No
   - Maybe

5. If you have never, or have rarely, purchased a BAT monthly Riders Club card for travel to and from Ashmont, would you be likely to purchase a BAT coupon booklet which provides 12 rides to or from Ashmont for the price of 10?
   - Yes
   - No
   - Maybe

Thank you very much for your help. Comments may be written on the back of this survey. Please take a moment to hand this card back to the driver on your way off the bus.
Ashmont run--an overstuffing of the farebox. Because the fare from Brockton to Ashmont is $1.00 even, and because over 30% of the Ashmont riders pay their fare with a one dollar bill, the farebox on the Ashmont line has been continually jammed. This was resulting in a slowing of the boarding process onto the Ashmont bus as well as a safety problem as the farebox began to overflow. Beyond this, the over-stuffing of the farebox was often forcing a maintenance man to leave his regular duties to empty the farebox during the middle of peak period service. As if there were not problems enough, the increasing use of dollar bills as fares on the Ashmont line was also complicating the job of the money counters as well. Having to unfold, arrange, and count over 700 dollar bills each evening has become an increasingly time consuming task, particularly when the job can only be done by hand. In short, beyond attempting to provide fairly regular Ashmont riders a discounted fare, the BAT management had identified problems related to the fare structure on the Ashmont line, and had an opportunity to kill several birds with one stone.

2) **Idea Generation**

With the above information in mind, the BAT management then began to generate different ideas about a way to address the apparent need to provide a discounted fare and to encourage a shift in the use of dollar bills as fares on the Ashmont run. In developing ideas, the management considered a coupon book. This coupon book would be good only on the Ashmont run and would
provide riders a reduced fare regardless of their frequency of travel on BAT. The discount would amount to about 20% and the coupon books would consist of coupons good for one-way trips to or from the Ashmont Station. Finally, it was the management's idea that if these books were readily available for advance purchase, they would replace dollar bills as the principle form of payment on the Ashmont route. The next step was to survey the Ashmont riders in order to measure their interest in such a discount coupon booklet.

3) **Multiple Goals**

As was noted earlier, the idea of developing a discount coupon booklet for riders on the Ashmont run was primarily in the interest of providing fairly regular riders an opportunity to save money. In addition to this, however, it was also noted that the addition of an advance paid fare structure, such as a coupon booklet, would encourage a decrease in the use of one dollar bills as fares on the Ashmont lines. This reduction in dollar bill use was then seen to be helpful in alleviating the problem of clogged fareboxes, slower boarding procedures, wasteful use of maintenance personnel and complicated money counting procedures. In short, what had started out as a single idea with a single goal soon blossomed into a concept with multiple goals as well as an opportunity to implement other ideas which had previously been shelved. For example, in addition to the various goals related to the coupon booklet which have been noted above, BAT now also had an opportunity
to expand its pre-paid fare outlets as well as an opportunity to recognize the 50th Anniversary of public transportation from Brockton to Ashmont. As the pages which follow will note, BAT did indeed take advantage of these opportunities by including them into its marketing strategy.
B. AUDIT OF MARKET

1) Description of Ashmont Service Market:

Having identified its problem and having stated its goals the BAT management now had to conduct some testing. Confident as the management was that a coupon book would be well utilized by Ashmont riders and very effective in achieving the efficiencies related to that use, the management nonetheless conducted a quantitative and qualitative audit of the Ashmont market. The first step was to describe the Ashmont market.

BAT service to the Ashmont MBTA Station is the most heavily traveled route in the BAT system. Running 17 hours a day, Ashmont service begins at 5:40 a.m. and runs through 12:45 a.m. Buses to and from Ashmont on weekdays run at 20 minute intervals during peak periods and 40 minute intervals during non-peak hours. Afternoon peak hour service is often as frequent as every 10 minutes. Saturday Ashmont service runs from 5:40 a.m. to 12:45 a.m. and Sunday and Holiday Ashmont service from 8:40 a.m. to 12:45 a.m. Service on weekends and Holidays varies from every 20 minutes to as much as every two hours.

Service between Brockton and Ashmont takes approximately 45 minutes with a one-way trip being 17 miles. In fiscal year 1981 BAT covered a total of 394,327 miles on the Ashmont route and provided a total of 19,909 hours of service to Ashmont.

The fare from Brockton to Ashmont is exactly $1.00 and from Avon to Ashmont 90¢. Student, elderly, and handicapped riders travel at 50¢. Holders of a BAT Ashmont Riders Club
Card are also entitled to unlimited travel on all BAT routes with their monthly card.

In fiscal year 1980 BAT generated a total of $336,174 in revenue from the Ashmont route. This revenue breaks down to an average Ashmont fare of 63¢ as BAT carried over 498,200 patrons on this route in 1980. (This average fare is affected by the half-fare paying patrons, i.e., student, elderly, and handicapped riders). More than 35% of the Ashmont riders use a one dollar bill as their fare while approximately another 14.2% pay the fare with an Ashmont Riders Club Card.

Surveys conducted by BAT indicate that more than 60% of the Ashmont riders use the service daily and another 18% use the service three to four days a week. Thus, although 78% of the Ashmont riders use the service three or more times a week, the number of riders utilizing the discounted monthly pass is rather low. (Again, some of the regular riders are entitled to a half-fare).

A Multisystems, Inc. survey indicated that BAT users were most likely to be female, in a lower income bracket, from households with few autos and few drivers, very young or very old, and in some case non drivers. The survey of BAT users found that 60% are female, 30% have incomes under $10,000, 11% did not have a driver in the household, 38% had no drivers license, and 31% were between age 14 and age 19 years and 21% were age 55 or older. Characteristics such as occupation and convenience to a bus stop were also investigated but showed no significant information. 1/

Although the survey did not isolate the characteristics of BAT Ashmont riders, it is clear that some of the above system-wide characteristics hold for Ashmont. Differences, if any, would most likely be found in the age classifications as persons over the age of 55 and under age 19 are less likely to be regular riders of the Ashmont route. This is because a large majority of the Ashmont riders are utilizing the service for work and to attend colleges and universities in the Boston area.

2) Questions to be Answered

Reviewing the characteristics of BAT riders and Ashmont riders overall did not sufficiently answer all of the BAT management's questions. Many other bits of information needed to be generated. Most specifically, the BAT management wanted to measure the potential market for its proposed coupon booklet.

In determining the exact information needed the BAT management decided that it would be necessary to gather the following information:

- Are the percentages of patrons using the Ashmont service three or four days a week still over 70%?
- Are Ashmont riders aware of the BAT Riders Club Cards?
- How many of the Ashmont riders have already purchased a BAT Riders Club Card and how many have not and why?
- How many present Ashmont Riders Club Card holders would be likely to switch to a coupon book type fare?
- How many non-Ashmont Riders Club Card holders would be likely to use a coupon book type fare?
The purpose of asking the above questions were many. First, the management wanted to check that the frequency of riders, by percentages, had not changed on the Ashmont route. Without this information it would be impossible to estimate the total potential size of the market for the coupon book, as the most likely buyers would be those traveling three or more days a week.

Asking riders about their awareness of the BAT Riders Club Cards served many purposes. The first was to check if the riders were conscious of the discount pass, and the second to estimate the effectiveness of the Riders Club Card, marketing and promotion. The management felt that a question of this type would also provide some understanding about the Ashmont market. That is, with information of this sort it would be possible to make some assumptions about the Ashmont consumers' behavior. It would be possible to estimate the number of regular riders who were aware of the discount monthly pass, and yet were still paying the more expensive regular daily fare.

Questioning whether or not the riders have ever purchased an Ashmont Riders Club Card and why or why not they have made this purchase will provide crucial information in deciding if a coupon book is a good idea. This information gives the management a good sense of what is going on in the consumer's head when he or she decides whether or not to buy a monthly pass. It will be this thinking which is likely to take place when a consumer considers a coupon book as well. Therefore,
it will be most useful to have an idea of Ashmont patrons perceptions and preferences. With this information, it is possible to position the coupon book in such a way as to be in accordance with Ashmont consumer's perception of a discount fare and preference for use of a discount fare. Further, this information could also provide insight regarding the importance of expanding the sales outlets, if in fact it is found that those not presently buying a Riders Club Card are not doing so because there is not an outlet convenient to them.

The final two pieces of information which the BAT management needed were with respect to the Ashmont consumer's likelihood of either switching from a Riders Club Card to a coupon book or to begin using a coupon book. It would be this data which would serve as the preliminary coupon book sales projections. Careful attention would especially have to be afforded to the data regarding the number of consumers likely to switch from a Riders Club Card to a coupon book as this would result in changing revenue projections of the Ashmont line overall.

3) Data Collection

In order to generate the information the management deemed necessary an on-board survey which was conducted in October, 1980. (Note Figure 3-2). The survey was distributed to a total of approximately 500 Ashmont riders while they boarded the bus at Ashmont Station in route to Brockton. A total of 284 patrons, 56.8% of the surveys distributed, answered the
1. How often do you ride BAT to or from Ashmont?
   - daily
   - 3 or 4 days a week
   - 1-2 days a week
   - occasionally

2. Have you ever heard of the BAT Commuter Book?
   - yes
   - no

3. How did you find out about the BAT Commuter Book? (check all that apply)
   - newspaper story
   - newspaper ad
   - poster (location)
   - saw someone using a book on the bus
   - friend
   - other

4. Did you know that the BAT Commuter Book provides Ashmont riders 12 trips for the price of 10?
   - yes
   - no

5. Did you know that the BAT Commuter Book may be purchased at 20 different sales outlets?
   - yes
   - no

6. Have you ever purchased a BAT Commuter Book?
   - yes
   - no

7. If you have purchased a BAT Commuter Book, why did you? (check all that apply)
   - to take advantage of the reduced fare
   - easy to use
   - sales outlets are easy to find
   - tired of stuffing a dollar bill into the fare box each trip

8. If you have not purchased a BAT Commuter Book, why haven’t you? (check all that apply)
   - too much money to pay out at one time
   - rather pay $1 for each ride than to have to keep track of a commuter book
   - do not know where to buy one
   - currently use a Riders Club card

THANK YOU VERY MUCH FOR YOUR HELP. COMMENTS MAY BE WRITTEN ON THE BACK OF THIS SURVEY. PLEASE TAKE A MOMENT TO HAND THIS CARD BACK TO THE DRIVER ON YOUR WAY OFF THE BUS.
survey and returned it to the bus driver when exiting from the bus. Although a 56.8% response is quite substantial, the survey is not random. The survey was distributed only on one afternoon and then only to those Ashmont passengers returning to Brockton. A 100% survey of these passengers heading in and out of Ashmont would probably have been more random. However, because of the logistical simplicity of conducting the survey in the manner noted as well as the time and financial savings accompanying this method, it was decided to administer the survey with the knowledge that it was not random. It is impossible to estimate a confidence level for the survey, but there is considerable reason to trust the overall survey results as it is likely that BAT Ashmont passengers use the service on a round-trip basis. In summary, the results of the survey overwhelmingly indicate that the majority of Ashmont riders would be likely to start using or switch to using a coupon book. Of the 284 respondents, 73% said they would definitely or may use a coupon book.

Survey respondents were first asked how often they ride the bus. Sixty one percent said they ride the bus daily, 18% three or four times a week, 7% one or two times a week, and 14% occasionally.

When asked if they were aware of the BAT Riders Club Card and the cost savings which accompany it, a total of 276 riders (93%) said they were aware of the Riders Club Card and that it saved a regular rider money. Of those indicating that they ride daily, only 1.7% said they did not know about Riders Club
Cards. Of those using BAT Ashmont service three or four times a week only 1% said they were not aware of the Riders Club. Thus, awareness of Riders Club Cards among those who would be likely to benefit from it is extremely high.

When asked if the respondent had ever purchased a Riders Club Card, 26.4% said they had and 73.6% said they had not. Of those that said they had never purchased a Riders Club Card, most said they did not either because it was too much money to pay out all at once or they did not ride often enough to benefit from it. Forty percent of the daily riders who said they had never purchased a Riders Club Card said they had not because it was too much money to pay all at once. Another 28% of these daily riders who had never before purchased a Riders Club Card said that they had not done so because the price was too high.

Of those respondents who use Ashmont service three or four days a week but had never purchased a Riders Club Card, 31% said they had not because they did not believe that they rode often enough to benefit from it and 28.5% said it was too much to have to pay all at once.

The above data played a particularly important role in convincing the BAT management that the coupon book was a good idea. With 40% of the daily riders claiming that a Riders Club Card required too much of a monetary outlay all at once a $10 coupon book would be likely to be viewed by them as a more reasonable option. Further, with 31% of those riding Ashmont three or four times a week believing that they do not
ride often enough to benefit from a Riders Club Card, it seemed reasonable to assume that these riders had stopped and given thought to the benefits of a pre-paid fare, and, thus, would probably give a coupon book, which is a discount regardless of how often one travels, even more serious consideration.

When asked if they were likely to purchase a coupon book, responses were positive across all types of riders. As was noted above, 73% of all respondents indicated that they would definitely or might purchase a coupon book. Of those who ride Ashmont daily, 35.5% said they would start using a coupon book, 11.6% said they would switch from Riders Club to a coupon book, 10.4% said they may start using a coupon book, and 9.8% said they may switch from a Riders Club Card to a coupon book. Thirteen percent said they would not start using a coupon book and 19.7% said they would not switch from a Riders Club Card to a coupon booklet. So, of the daily riders, 67.4% said they either would or might start or switch to a coupon book.

Those traveling to Ashmont by BAT three or four days a week also expressed a strong interest in using a coupon book. Of the 51 respondents who use BAT three or four times a week over 86% said they would or may start or switch to a coupon book form of payment.

Less frequent Ashmont riders also showed interest in a coupon book. Of the 20 respondents traveling by BAT one or two times a week, 90% said they would use, or may use, a coupon book. Those respondents indicating that they use BAT Ashmont service occasionally said they may too begin using a coupon
book. Seventy five percent of these occasional riders said they would use it.

4) **Estimation of Minimum and Maximum Potential Market**

Having completed the survey analysis, the BAT management began to estimate the minimum and maximum markets for the coupon book. Minimum market size was estimated from the actual number of Ashmont riders surveyed, and the maximum market size from the survey results scaled up to the average weekday Ashmont ridership. Weekend ridership was excluded from the analysis as it generally represents just 12% of the average Ashmont weekly ridership. Further, weekend ridership was excluded from the analysis as it was reasoned that most potential coupon book purchases would be those who are traveling to and from work and school on a Monday through Friday basis.

To estimate the minimum market for the proposed coupon book, BAT simply took the percentages of survey respondents who stated that they would either definitely or probably start using or switch to a coupon book. Of the total survey sample of 284, about 73% of the respondents said they would either definitely or probably begin using or switch to a coupon book. This meant that a total of 207 patrons may purchase the coupon book. With 207 persons purchasing the book, the maximum number of coupons used daily by these patrons would amount to 414 (207 were x2 coupons per day). Thus, if only those who responded to the survey made up the market for a coupon book, and all those who said they would definitely or probably use
the coupon book did in fact use the coupons two times a day, then the overall potential minimum number of coupons used per day would be about 414.

Obviously, not all those who said they definitely or probably would use a coupon book would in fact do so, and, equally obvious is the fact that not all of the 73% who said they probably would use the coupons would do so daily. Nevertheless, because BAT was able to actually put their hands on to 207 potential users, it was possible to estimate a beginning minimum potential market of 207 users, or a daily use of 414 coupons.

As was noted above, the estimate of 414 coupons per day was the estimate of coupons which could be used by riders as a result of a survey whose respondent size was 20% of the actual average daily Ashmont ridership.

Having estimated coupon use on the basis of the survey data, it was now necessary to estimate the maximum potential coupon use in accordance with the actual average daily Ashmont ridership. That is, BAT now had to estimate coupon use on the basis of 1400 daily riders rather than on the basis of a survey with 284 respondents. To complete this maximum coupon market estimate BAT took the market interest percentages from the survey, and, on a percentage basis, scaled the number up. Thus, 73% of the survey respondents indicating a likelihood to use a coupon book meant that 73% of 1400 riders could result in as many as 1022 coupons being used daily.

Naturally, the restraints which applied in estimating the
minimum market apply to estimating the maximum market. That is, certainly not all of the survey respondents will actually purchase a coupon book and not all of the coupon users will ride Ashmont service daily. Beyond this, because the survey is not random it is certain that scaling the estimates up in proportion to the survey results did not produce entirely accurate estimates. Thus, the actual potential market is neither the minimum estimate nor the maximum estimate procuded mathematically. In reality, the actual market is probably somewhere right in-between these estimates of 414 and 1022. In order to get closer to this more realistic estimate the BAT management then observed the likelihood of use, by the frequency of travel by Ashmont riders. This method brings the maximum market estimate to about 650 coupons per weekday. Having then produced a market estimate, BAT was able to begin preparing a strategy to achieve the market potential. Also, BAT now had a quantifiable goal which would be useful when tracking and evaluating the coupon use.
C. MARKETING MIX

1) Commuter Book/Description/Price

The table now had been set to begin the development of a marketing strategy. The first steps were the development of the product and the pricing of the product in accordance with the results of the marketing audit.

The BAT management decided that it was a useful effort to develop the coupon book idea and choose a 12 ride coupon book. The booklet, to be called the BAT Commuter Book, would provide a holder 12 coupons, each of which would entitle a holder to a single one-way trip to or from Ashmont on BAT. The book would be valid for one year from the date of purchase, and it would be of such a size that it could conveniently fit into a pocket. The book would have a pristine appearance and be able to be handled without damaging.

The rules regarding the Commuter Book were that it was not transferable and that the coupons would have to be detached in the person of the driver. Figure 3-3 is a simulated BAT Commuter Book.

The price of the Commuter Book would be a critical decision for the management to make. Considerable data suggested that the magnitude of the discount would directly effect sales. In addition, the published research suggested that the price of a pre-paid fare should be a round number. 2/ That is, a coupon for $10 would be much easier to market and sell than would one costing $13.67 or some such number. With this literature in mind the BAT management elected to price

Audit Stub
To be retained by vendor

bat Commuter book
Each ticket in this book is good for one ride on Ashmont. The ticket must be detached from the book in the presence of the driver.

Tickets are not transferable or refundable.

Book no. 1199
Brockton Area Transit

FIGURE 3-3
the 12 Coupon Commuter Book at $10. This discount amounted to approximately 17% as 12 trips to Ashmont would now be $10 rather than $12. Further, the 17% discount was attainable regardless of the frequency of travel.

2) Sales Outlets

Expanding the availability of the pre-paid fares was found in BAT's survey to be a very important factor in promoting sales. The introduction of a new fare policy seemed an excellent opportunity to begin this task.

Numerous alternatives were discussed in choosing which types of sales outlets would be best. The BAT Riders Club Cards had always been sold in Brockton and Stoughton banks and these outlets were found to be very good. However, because the Commuter Book was to be good only for use on the Ashmont route, and because peak-hour demand on Ashmont occurs during non-banking hours, it was decided to expand the availability beyond the banks.

Supermarkets were considered as one option as they would provide riders an opportunity to purchase their bus coupons while doing their food shopping. Further it was thought that having the Commuter Books available at supermarkets would be wise because the chances were that the shopper would have enough money on hand to purchase a Commuter Book. In the end, supermarkets were not chosen to be Commuter Book sales outlets. Rather, convenience stores and drug stores were selected.

In choosing convenience and drug stores as Commuter Book
outlets, it was the thinking of the BAT management that the outlets should be open seven days a week, and should also be open 12 or more hours a day. Furthermore it was the opinion of the BAT management that the convenience and drug stores were more often located on existing BAT routes than were supermarkets. Additionally, it was also found that BAT could negotiate arrangements for sales of its Commuter Books with convenience and drug store chains, and thus make the coupons more readily available with fewer logistic and bureaucratic difficulties. Finally BAT considered that Commuter Book sales at supermarkets would have to be from the customer service desk. This was thought to be discouraging because the customer service desk generally only attracts shoppers who cash their pay checks at the supermarket.

Today the BAT Commuter Books are available at 20 different retailers, six of which are Dunnington's Drug Stores and 10 of which are Christy's Markets. The remaining outlets are also popular retailers, particularly Montello News which is open 20 hours a day. In choosing the latter stores, it was decided that not only are they more accessible than supermarkets, but also that the supplying of Commuter Books, reimbursement of cash, and accounting of sales would all be simplified by working with chain stores.

The retailers of the Commuter Books receive no direct compensation from BAT. Rather, BAT has included the names and addresses of the outlets in various advertisements at no cost to the retailer. Although the retailers participate with BAT
primarily as an act of public service, the selling of the Commuter Books is surely a convenience for some of the retailers' customers as well as a possible incentive to attract new customers to their store.

3) Promotion

The first two components of the marketing mix, product and price, have been discussed in parts one and two above. This section is saved for a discussion of the third component of the marketing mix, promotion.

The promotion of the Commuter Book is equally as important as the properties of the Commuter and its price. The proper communication and promotion of the availability of the Commuter Book as well as the specific advantages of the book will have a profound impact on its acceptance and use.

The promotion of the Commuter Book took the form of press releases, newspaper advertisements, bus posters, sales outlet stickers, brochures, and 50¢ coupons. The overall strategy was a concentrated one. The promotion was geared primarily at the existent Ashmont ridership market. Some effort was made to differentiate the marketing by approaching potential riders outside of the already existent Ashmont market. This latter effort was minimized however.

The first promotion of the Commuter Book began three weeks prior to its formal introduction. This promotion took the form of a poster strategically placed on all Ashmont buses. The poster was 22" by 21" inches in size and was positioned directly
behind the bus driver's seat in such a way that it could not escape the rider's eye. The printing of the poster as well as its colors were identical to that of the soon to be introduced Commuter Books. The poster gave a simple but appealing message reading "Ashmont Ripp-off, 12 rides for $10 sold at participating stores".

Unfortunately, this poster failed to note that the Commuter Book would not be available until January 16, and also failed to list the exact sales location. The result was that many riders were left with unanswered questions about the book and where it could be purchased.

Shortly after placing the posters on the Ashmont buses BAT neatly provided the Brockton Enterprise (a major daily newspaper which is home delivered to over 90% of BAT service area) a press release about the new Commuter Book. Knowing that the introduction of the Commuter Book would not in itself generate a substantial newspaper story, BAT also provided information about the upcoming 50th Anniversary of public bus service between Brockton and the Ashmont MBTA Station. By integrating this information BAT capitalized on an unusually timely marketing opportunity. The result was a large news story in the Brockton Enterprise just days before the introduction date of the Commuter Book. (Note Figure 3-4).

While the posters had been placed on all the Ashmont buses and the Enterprise chipped in with a big story, BAT was simultaneously providing the future Commuter Books sales outlets with BAT Commuter Books, Commuter Book brochures, and
BAT marks Ashmont run anniversary

By BRUCE F. SMITH
City Hall Reporter

BAT's Brockton to Ashmont MBTA station riders will be able to participate financially in the 50th anniversary of the inauguration of bus service on this route, says Charles C. Stevenson, the transit authority's administrator.

To mark the transportation milestone on Friday, Jan. 16, BAT will distribute to all inbound Ashmont passengers 50-cent discount coupons toward the purchase of a BAT Commuter Book, the system's most recent reduced fare for Ashmont riders. It provides riders 12 trips to and from Ashmont for the price of 10.

BAT, which took over operation of the Brockton-Ashmont route from the MBTA in September 1978, provides regular service between 5:15 and 12:45 a.m. During morning and afternoon peak periods, buses run every 20 minutes and during the busiest time of the afternoon, every 10 minutes.

Public transportation between this city and the Hub rapid transit station saw its beginning on Jan. 17, 1931 when a 24-seat Studebaker model Eastern Massachusetts Street Railway bus left from the corner of School and Main streets in downtown Brockton.

Today BAT riders to Ashmont travel on one of the most modern fleets of buses in the country.

BAT's Ashmont route begins at the downtown transfer center off Main and Crescent streets and continues along Main Street northward through Avon and Randolph to its destination in Dorchester.

Passengers are welcome to board a bus anywhere along the route in Brockton or Avon on inbound trips to Boston, and are permitted to get on in any town along the route when the vehicle is returning to Brockton.

Stevenson reports a more than 100 percent increase in Brockton-Ashmont ridership in just four years. When BAT assumed the service in 1976 riders averaged 20,000 monthly, while today the figure is well in excess of 40,000. He said as many as 1,700 passengers a day avail themselves of the service.

Regular fare between Brockton and Ashmont is $1 and that between Avon and the MBTA facility is 90 cents. A reduced fare prevails for elderly and handicapped patrons, as well as children under 12 and students.

Frequent Ashmont riders may buy a monthly Ashmont

with discount book

Riders Club card for $3 at
many Brockton banks. This
permits unlimited travel
throughout the BAT system
for one month.

The new commuter books, which are sold by participating merchants, are valid for one year and should be particularly attractive to frequent Ashmont riders.

Commuter books may be obtained in Brockton at all Dunnington's Super Drug stores, Christy's Markets, and Montello News, Fischer's Market and Tex Barry's, and in Avon at Big Jim's.
Commuter Books "sold here" stickers. (Note Figure 3-5). Supplying the outlets in advance assured that potential buyers would be able to purchase a Commuter Book without difficulty, and also provided more promotion as the sales outlets began placing the "Commuter Books sold here" stickers on their windows and doors. The availability of brochures at the sales outlets also seemed to uplift the overall promotional campaign.

On Friday, January 16, 1981, the BAT Commuter Book was officially for sale as part of a recognition of the 50th Anniversary of Brockton to Ashmont public transit service. In recognition of this Anniversary and the start of the Commuter Book BAT provided every in-bound Ashmont passenger a coupon worth 50¢ toward the purchase of a Commuter Book. The coupon also provided the rider a complete list of the Commuter Book sales outlets, and also congratulated the rider for participating in the 50th Anniversary of public transit from Brockton to Ashmont. (Note Figure 3-6).

Complementing the Friday, January 16, promotion was a story in the Saturday, January 17, edition of the Brockton Enterprise. The story, which was on page one of the local section, was accompanied with pictures of a BAT 1981 Ashmont bus and a 1921 Studebaker model bus which used to carry the Brockton to Ashmont riders. Use of the Enterprise in promoting the Commuter Book was working excellently. (Note Figure 3-7).

Finishing off the promotion for the Commuter Books were advertisements run in the Enterprise. The ads gave the same
Congratulations! You are making history. Today, BAT celebrates the fiftieth anniversary of bus service between Brockton and Ashmont by offering you a 50¢ discount on Ashmont's new Ashmont Commuter book, BAT’s new Ashmont Commuter book, for $10. ($9.50 with this coupon.)

Commuter books are available at:
- Tex Barry's/224 Main, Brockton
- Montello News/829 N Main, Brockton
- Christy's Markets/Brockton
- Dunnington Super Drug Stores/Brockton
- Big Jim's Liquors/155 E Main, Avon
- Fischer's Market/1123 N Main, Brockton

Good through February 1, 1981
By BRUCE F. SMITH
City Hall Reporter

Observance of the 50th anniversary of Brockton-to-Ashmont bus service got off to a fast start Friday with more than 500 persons actively involved in the celebration before 9 a.m., and many more later in the day.

The Brockton Area Transit, which has provided service on this route since 1926, sponsored the marking of the transit-milestone by distributing coupons worth 50 cents toward the purchase of a BAT Commuter book. These give users of the Brockton-Ashmont line 12 rides for the price of 10.

Cost of the latest reduced fare books is $1, but those riding in-bound to Dorchester Friday were given the opportunity to buy them for 95 cents. The offer is good through Feb. 1.

Barry Cosgrove, MIT student serving as a BAT intern, is project director for the new commuter book, and noted Friday that the fare when the public bus service began 50 years ago was 35 cents. The buses ran once an hour from School and Main streets.

Today, the regular fare is $1 from Brockton to Ashmont and 90 cents from Avon. Service is provided from 5:15 a.m. and buses leave as often as every 20 minutes during the morning and afternoon peak periods.

In 1931, patrons rode on 24-seat Studebaker buses operated by the Eastern Massachusetts Street Railway, which provided mass transit in the Brockton area for many years.

Today, riders board one of the most modern fleets of buses available in the country to go to and from Ashmont. Each vehicle seats up to 45 passengers.

Cosgrove said that Friday riders to Ashmont were enthusiastic about the discount commuter books.
message on the bus poster except it included the names and addresses of the sales outlets. The ads ran on the front page of the local section three days a week for one week, and then ran in other sections of the newspaper twice a week for two more weeks. The ads were fairly large and were designed, as were all the other promotional products, by an independent graphics professional. (Note Figure 3-8)). Moving the advertisements into different sections of the newspaper was thought to be a more effective way of continuing the use of the same ad.

Although not exactly promotions oriented BAT also provides a 24-hour telephone information service as well as an assistant operations manager for passenger assistance at the Transfer Center throughout service hours. Both are extremely helpful customer services.
$10 buys the  
bat Commuter book: 12 rides to Ashmont  
you can take any time. Just rip off a ticket,  
drop it in the fare box, and ride.  

bat Commuter books are sold in the following stores:  

Tex Barry's 224 Main, Brockton  
Montello News 829 N Main, Brockton  
Christy's Markets Brockton  
Dunnington Super Drug Stores Brockton  
Big Jim's Liquors 155 E Main, Avon  
Fischer's Market 1123 N Main, Brockton
D. TRACKING/EVALUATION

In order to measure the effectiveness of the Commuter Book project a tracking procedure was developed. This tracking procedure generates quantitative data from which evaluations of the project, from a number of standpoints, can be made. The tracking system generates data to evaluate sales, daily use, changes in use of paid fare types, sales outlets, Commuter Book users and non-users, and promotional methods.

1) Sales

The Commuter Book was initiated on Friday, January 16th and at the time of this writing, has been on the market for approximately 11 weeks. A careful inventory of sales was conducted each week for the first eight weeks. Figure 3-9 illustrates the sales pattern.

The first week showed a total sales figure of 46 Commuter Books, but this level of sales was not repeated until some five weeks later. In fact, during the third week of the program, sales fell to just 22 books. Beginning with week number six, Commuter Book sales began to improve markedly. Forty-seven books were sold in week six and each week since has shown continued improvement.

Sales during the very first week of the program were predicted to be higher. Promotional efforts were in their peak, and a 50¢ discount coupon made available to all Ashmont passengers put the price of the Commuter Book at just $9.50. However, use of this 50¢ discount coupon was not heavy with just 50 coupons being returned to retailers. Apparently, the
potential users of the coupon book were hesitant to try it for the first time. Considerable marketing literature explains this concept of venturesomeness, that is, some consumers are venturesome enough to try something new right away while others are not.

In addition to the effect on sales by potential consumers' venturesomeness is the effect of the consumer adoption process. It appears that although the Ashmont market was well aware of the new Commuter Book (a BAT survey showed 79% of the Ashmont riders knew of the new fare) they were not ready to turn this awareness into use. Philip Kotler explains that this condition is not uncommon and often corrects itself over time. A fact which appears when it is noticed that Commuter Book sales have, with time, been on the increase.

**Sales Outlets/Location**

Not surprisingly, the retailers where Commuter Book sales have been found to be highest are those stores which are open the most hours and which are located along the Ashmont route. Tex Barry's, a popular downtown hotdog stand, enjoys the highest level of sales. This retailer has consistently sold far more Commuter Books than the other outlets. The fact that this retailer is located adjacent to the BAT downtown Transfer Center is also important. BAT has, for some time, considered the possibility of constructing an information and sales booth at its terminal. The excellent sales response at Tex Barry's certainly lends support to the idea of building such a kiosk at the Transfer Center.
The fact that such a large number of retailers sell so very few Commuter Books each week is also worth consideration. Although it is somewhat tempting to recommend that the less utilized retail outlets be eliminated (and thus reduce the logistical burdens of supplying them with Commuter Books and collecting revenues) it is premature to take such action at this point. Sales have been increasing in recent weeks and show signs of continuing to do so. Further, if outlets were dropped at this point, it would force BAT to alter a significant amount of promotional materials and, possibly, inconvenience new Commuter Book users. An examination of possible reasons for lower sales at some of the sales outlets is in order.

Changes in Paid Fare Types

One of the primary goals of the Commuter Book was to reduce the number of one dollar bills being used as fares on the Ashmont route. As was explained in earlier sections, the high use of one dollar bills as fares (the regular Ashmont fare is exactly $1) cause fareboxes to jam, slowed the boarding process, and complicated the daily money counting procedures. In order to measure whether or not the Commuter Book was replacing one dollar bills, data was developed to compare the quantity of dollar bills used as fares before and after the introduction of the Commuter Book.

For the month prior to the Commuter Book's introduction, the average weekday use of dollar bills as Ashmont fares was 625, and the average weekend use was 440. For the first month
since the Commuter Book's introduction, these figures fell. The weekday dollar bill use average went to 591 (a 5.4% decrease) and the weekend average went to 412 (a 6.3% decrease). The goal of replacing dollar bill use appeared to be attainable. However, figures for the second month were not as promising. In fact, this record month showed an increase in the use of dollar bills as fares on the Ashmont run. The weekday average climbed to 680 dollar bills, a 15.5% increase over the previous month and the weekend average to 509 dollar bills, a 23.5% increase from the previous month. The present month's figures appear to be somewhat lower than the last month's, yet still higher than the month prior to the introduction of the Commuter Book.

Complicating the above data is the fact that actual use of the Commuter Book coupons were increasing along with the increased use of dollar bills. The average weekday use of Commuter Book coupons throughout the first month of their availability was about 65. This number rose to an average weekday coupon use of 74 during the second month and, along with the use of dollar bills, appears to be climbing during this month as well. What is the explanation?

In order to determine the reasons for the above occurrences, an investigation of the use of the monthly Ashmont passes was conducted. This effort also complicated things as it was found that their use was also on the rise. During the month prior to the start of the Commuter Book, a total of 90 Ashmont monthly passes had been purchased. Since the Commuter Book, that figure
has risen to 92 Ashmont passes in February and 94 passes in March. Thus, any chance of explaining the increased use in Commuter Books and/or dollar bills was not the result of passengers switching from the monthly pass.

Having an increase in the use of dollar bills, Commuter Books, and Ashmont monthly passes simultaneously, could only mean an increase in Ashmont ridership. Or could it? Preliminary investigation of the Ashmont ridership figures found that this was not true either. Ridership was virtually constant over the same period that all three forms of fare payments had been analyzed. The answer, whatever it could be, would certainly provide the BAT management some interesting information.

Two factors have been determined to account for the increased use of the three forms of fare payment and the accompanying constant level of Ashmont ridership. The first is related to a new system of ridership accounting and the second related to a recent change in the Ashmont fare.

First, around the same time the Commuter Book was introduced BAT altered its ridership account procedure. The new procedure was designed in such a way that it was easier for the bus drivers to record the exact number of persons boarding the Ashmont bus. In the past, drivers would have to record additional information such as passengers' exact form of payment and whether or not they were elderly. Now, as is noted above, drivers simply record the number of persons boarding (according to the town in which they boarded).
The result has been that Ashmont ridership has been found to be lower since the new recording procedure. Thus, the more confusing procedure over calculated the Ashmont ridership, and what had appeared to be more riders on the Ashmont route because of the increase in dollar bill, Riders Club, and Commuter Book use was actually just a more accurate accounting of the true Ashmont ridership and the Ashmont fare payments forms.

The second explanation had to do with a recent fare increase on the Ashmont route. The regular Ashmont fare of 90¢ was increased to $1.00. As a result, passengers found it more convenient to pay their fare with a dollar bill than with a hand full of change. Although it appeared that ridership was increasing on the Ashmont route because of this increase in dollar bills, the fact is that the increased use of the dollar bill was only a result of the fare being increased to exactly $1.00.

Overall, the Ashmont pre-paid revenue percentage of monthly fixed route revenue which is pre-paid has risen to over 10%. (Note Figure 3-10). This is a favorable outcome as is the recognition that the former ridership recording procedure was overstating the Ashmont ridership. The fact that the use of dollar bills has not fallen is a disturbing outcome, however. Continued use of dollar bills at present levels will continue to jam fareboxes, slow the boarding process, and complicate the job of the money counters. The increasing use of the Commuter Book should help in this matter, and the tracking procedure outlined above is firmly in place to check this condition.
FIGURE 3-10

**PRE-PAID REVENUE**

<table>
<thead>
<tr>
<th>MONTH</th>
<th>FIXED ROUTE REVENUE</th>
<th>RIDERS CLUB REVENUE</th>
<th>COMMUTER BOOK REVENUE</th>
<th>PRE-PAID REVENUE % OF TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCT 1980</td>
<td>$93,770</td>
<td>$7,032</td>
<td>---</td>
<td>7.4%</td>
</tr>
<tr>
<td>NOV 1980</td>
<td>83,145</td>
<td>7,376</td>
<td>---</td>
<td>8.8%</td>
</tr>
<tr>
<td>DEC 1980</td>
<td>90,522</td>
<td>6,690</td>
<td>---</td>
<td>7.3%</td>
</tr>
<tr>
<td>JAN 1981</td>
<td>90,545</td>
<td>7,342</td>
<td>870*</td>
<td>8.3%</td>
</tr>
<tr>
<td>FEB 1981</td>
<td>87,198</td>
<td>7,768</td>
<td>1,460</td>
<td>9.5%</td>
</tr>
<tr>
<td>MAR 1981</td>
<td>95,563</td>
<td>8,040</td>
<td>1,290</td>
<td>8.9%</td>
</tr>
<tr>
<td>APR 1981</td>
<td>83,431</td>
<td>7,648</td>
<td>1,500</td>
<td>9.9%</td>
</tr>
</tbody>
</table>

* Represents sales per the last two weeks or January only.
although achievement of this goal appears to be weeks away, it is clear that the introduction of the Commuter Book as well as the tracking of it has generated important managerial information and more support for continued marketing analysis.

Commuter Book Users and Non-Users/Characteristics

Approximately five weeks after the introduction of the Commuter Book, BAT administered an on-board survey to 500 Ashmont passengers. (Note Figure 3-2). Responding to the survey were 298 patrons (59.6% of the sample). Like the survey explained in Section 3B, this survey is not perfectly random. By administering it only to inbound Ashmont passengers on just one afternoon, the sample is potentially bias. However, as was also the case with the earlier noted survey, because the persons whom BAT needed to interview were Ashmont riders, conducting an on-board survey as we did was the logical thing to do. Administering only to inbound passengers and only on one day was also logical as BAT chose the busiest day (Thursday) and chose to distribute the survey only to inbound passengers to avoid the problem of having the same persons submitting more than one survey. Thus, although not perfectly random, the survey reached a large percentage of the population in question, and produced much very reliable data.

Forty-eight percent of the survey respondents indicated that they rode the Ashmont bus daily. Thirteen percent said they ride Ashmont 3 or 4 times a week. Twelve percent said they ride Ashmont 1 or 2 days a week and 25% said they ride Ashmont only occasionally.
Of primary interest after the first five weeks of the Commuter Book was the awareness of the new fare on the part of Ashmont riders. Over 79% of the respondents were aware of the Commuter Book. Of those who were aware of the Commuter Book, 96% knew the new fare amounted to 12 rides for just $10. Awareness of the availability of the Commuter Books at 20 different sales outlets was very poor. Of those who said they were aware of the Commuter Book, only 38% said they know of the 20 outlets. Asking whether or not the respondent was aware of a single outlet convenient to them would have served a better purpose. Promotional efforts emphasized the sales outlet locations, but these survey results clearly indicate that this information was not adequately presented.

Of those responding to the survey, 13% had purchased a Commuter Book and 87% had not. Far more important than this, however, were the reasons for purchasing or not purchasing a Commuter Book. Of those who had purchased a Commuter Book, 58% said they did so "to take advantage of the reduced fare". Thirty-seven percent said they had purchased one because it is "easy to use". A total of 13 respondents, or 39% of those who said they had purchased a Commuter Book did so because they were "tired of having to stuff a dollar bill into the farebox". (Percentages add to more than 100% as respondents were asked to check all the factors that applied to their situation).

Of those who said they had not purchased a Commuter Book, 23% said they currently use a Riders Club Card and 23% said they "did not know where to buy one". (Again, the problem of
sales outlet awareness). Ten percent of those who had not purchased a Commuter Book said they did not purchase one because they would "rather pay $1 for each ride than to have to keep track of a Commuter Book". Finally, 8.4% said they had not purchased the new pre-paid fare because the $10 charge "was too much money to have to pay out at one time".

2) Promotion

Just as it is necessary to track and evaluate Commuter Book sales as well as the users' and non-users' characteristics, so too is it necessary to evaluate the promotion strategy.

As the survey results in the previous section noted, Ashmont riders had an extremely high level of awareness (70%) of the Commuter Book and its savings potential (96%). Thus, it is fair to say that the promotion strategy was most effective in communicating this information to this market segment. As for the effectiveness of the promotional program in terms of informing this same market segment of the availability of Commuter Book sales outlets, the survey showed the promotion was poor in this area. Only 38% said they knew about the 20 different outlets, and 23% of those who had not purchased a Commuter Book said they had not because they "did not know where to buy one". Merging all of this data it is wise to conclude that the medium used to inform the Ashmont riders segment was quite good, but part of the message itself, i.e., that Commuter Books are available at 20 different outlets in Brockton, was poor.

When asked how they found out about the Commuter Book, survey respondents overwhelmingly indicated that the poster on
the Ashmont buses was the source. Fifty-nine percent of the respondents listed the poster, which is in size and place right in back of the bus driver's seat, as the source from which they said they found out about the Commuter Book from advertisements in the Brockton Enterprise. The ads, (Note Figure 3-8), were run on the front page of the City/Region section of the Enterprise. It is particularly surprising that such a small percentage listed the ads as the source from which they found out about the Commuter Book when it is further considered that the Enterprise is home delivered to more than 90% of the households in the BAT service area. Other sources listed were "friend" 5%, "saw another person using it" 4%, and "newspaper story" 4%. Here again a very small percentage indicated having been informed of the Commuter Book via the Enterprise. Like the advertisements, a major newspaper story about the Commuter Book ran on the front page of the City/Region section, but apparently reached very few Ashmont riders.

Information regarding the effectiveness of the Commuter Book promotional effort in reaching the non-Ashmont rider market is not available. Conducting an awareness survey of that market is simply too costly for BAT. Because there exists no evidence of an increase in ridership on the Ashmont route since the introduction of the Commuter Book, however, it appears certain that very few, if any, persons began riding Ashmont as a result of the promotion of the Commuter Book.

In summary, the promotional effort appeared to be very good in some areas and very poor in others. In terms of reaching the existing Ashmont riders market it was good, and in terms of
reaching other market segments it appears it was not. Further, it appears that the promotion aimed at the existent Ashmont riders market was logistically sound, but faulty in terms of promoting the various sales outlets. Beyond this, it appears that the Brockton Enterprise is not the best way to promote BAT services. The ad, placed in the Enterprise was designed by a graphics professional, placed in an extremely conspicuous place, run over a long period of time, and even altered during the later printings. Nonetheless, the results of the scientific survey conducted by BAT indicated clearly that the Enterprise is not the most effective; or the most efficient way to promote BAT. Perhaps the Enterprise could be found to be extremely effective and efficient if it were utilized over a longer period of time and was used as part of a huge advertising program (full page ads, etc.). But, such a communications effort is way beyond BAT's budget, and probably well beyond that of any other public agency.
FOOTNOTES ...... CHAPTER III


CHAPTER IV
INCREASING NON-PEAK HOUR DIAL-A-RIDE RIDERSHIP/DEMAND RESPONSIVE MARKETING

A. BACKGROUND

1) Statement of Problem

DIAL-A-BAT service has met with considerable success in Brockton. In fact, ridership on DIAL-A-BAT has grown by more than 300% since its establishment in February 1977. This remarkable increase in ridership has been accompanied by extremely heavy peak period demands and extremely low off-peak usage. It is this situation which summarized DIAL-A-BAT's marketing problem.

The dial-a-ride component of BAT's DIAL-A-BAT service provides door-to-door service for eligible elderly and handicapped residents of Brockton. Users of the service must call the DIAL-A-BAT management of mobility office 24 hours in advance of their trip and place a reservation in order to use the service. Most dial-a-ride passengers pay the standard $1.00 per one-way trip fare, but several have their trip paid for by a social service agency of which they are a client. When agencies pay for a dial-a-ride trip, the fee is $3.50 per one-way trip. Approximately 40% of all dial-a-ride trips are paid for by social service agencies. The service operates from 7:00 a.m. - 6:00 p.m. on weekdays and from 9:00 a.m. to 4:30 p.m. on Saturdays. Virtually all Saturday trips are dial-a-ride trips. There is no DIAL-A-BAT service on Sundays.

Dial-a-ride trips represented 23% of the number of trips made by DIAL-A-BAT for the six months ending December 31, 1980.
Most of the DIAL-A-BAT trips, 70%, are subscription trips, and the remainder are Out-of-Town trips (7%). During the same period, the average number of dial-a-ride trips per day was 136 on weekdays and 25 on Saturdays. Meanwhile, the average number of weekday subscription trips for this period was 433 per day.

Although specific documentation is not available, the DIAL-A-BAT management is most aware of the times of day when dial-a-ride and subscription service are most in demand. Having to schedule the service each day, the DIAL-A-BAT routers are cognizant of the especially pronounced subscription service demand during the hours of 7:00 a.m. to 10:00 a.m., 12:00 p.m.-1:00 p.m., and 3:00 p.m.-6:00 p.m. Most of this demand is the result of ongoing subscription service with child development centers and Head Start operations where students report between 7:00 a.m.-10:00 a.m. and return home between 3:00 p.m. and 6:00 p.m. Dial-a-ride demand is not as predictable as that of the subscription service, however. A scientific survey conducted by Grey Advertising, New York, New York, under contract with the U.S. Department of Transportation, Urban Mass Transportation Administration, indicated that 81% of the dial-a-ride users travel between 12:00 p.m. and 1:00 p.m. When this demand is coupled with the subscription demand, DIAL-A-BAT is pushed almost beyond capacities during the hours noted above and is almost without business during the hours in between. Thus, from 10:00 a.m.-12:00 p.m. and 1:00 p.m.-3:00 p.m. there is

substantial excess capacity at DIAL-A-BAT and potential revenue hours ticking away.

In addition to the excess capacity during non-peak service hours, dial-a-ride suffers another problem, a lack of service awareness. The Grey survey indicated that among the transportation handicapped population in Brockton who are non-users of DIAL-A-BAT, 77% know only "a little" about DIAL-A-BAT, and 25% believe they are not even eligible for the service. Beyond this, another 5% did not even know if they were eligible for the service. 2/

When the above data is coupled with the fact that the same survey indicates that of the DIAL-A-BAT participants, 71% say it is "a lot better" than any other form of transportation available to them, 3/ it is clear that not only do too few of the transportation handicapped in Brockton know about the service, but that if they did, they would probably use and find it appropriate to their transportation needs.

2) Multiple Goals

With the data regarding non-peak hours, excess capacity, and low awareness among transportation handicapped in mind, the BAT management established the goals of the paratransit marketing project.


The primary goal was to increase dial-a-ride non-peak hour ridership. The goal was to increase the average daily dial-a-ride ridership by 20% overall, and to generate this ridership during the hours of 10:00 a.m. and 3:00 p.m.

The successful achievement of the first goal required BAT to establish other goals, which were: to increase the awareness of the transportation handicapped who are not users of the dial-a-ride service; to increase the awareness of the dial-a-ride service among social service agencies who come into contact with potential dial-a-ride users; and to increase the involvement of local retailers in encouraging dial-a-ride use.

Although not immediately related to this specific marketing program, BAT has other goals related to its DIAL-A-BAT system. Increasing dial-a-ride service hours and frequency and decreasing the dial-a-ride fare are examples. BAT has no intention of making these service improvements, however, until the goal of increasing demand has been achieved.

3) Current Marketing Mix

The dial-a-ride product has already been discussed as has its price. The remaining part of the current DIAL-A-BAT marketing mix, promotion, is the topic of this section.

The promotion of dial-a-ride has been, like the fixed route promotion, primarily concerned with maintaining dial-a-ride's positive community image and encouraging its use. Newspaper and radio ads have been used as have posters and brochures. Representation at community events has been another
approach. A further promotional effort has been the educating of social service representatives who serve elderly and handi-
capped clients.

Efforts to maintain the excellent image of DIAL-A-BAT have not been as effective as those used for the fixed route system. Like the fixed route system, DIAL-A-BAT is a national leader and used as an example for other systems, but this fact is not well publicized. DIAL-A-BAT has been effective in maintaining a good image by transporting people to the Senior Citizens' Picnics and by displaying the new DIAL-A-BAT vans at occasions of this sort. However, it has not been aggressive in providing press releases detailing the specific capabilities of the service or its availability. It may be the case that taxpayers would not want public funds expended on efforts of this sort. But, given that BAT has not received any negative feedback from taxpayers with respect to similar efforts for the fixed route system, it seems reasonable to assume that BAT would not be criticized for such efforts with DIAL-A-BAT. More testing need be done in this area, and such testing is impossible to conduct until DIAL-A-BAT begins promoting its image.

The activities that attempt to encourage people to use DIAL-A-BAT have also been less successful than those employed for the fixed route system. Posters and brochures with all the information about DIAL-A-BAT have been distributed around Brockton. These were given to elderly housing projects, senior citizen centers, libraries, stores, etc. Unfortunately, little
is known as to where these materials ended up. Advertisements have been used on occasion in the Brockton Enterprise as well as on three local radio networks. Again, the advertising has been primarily limited to the announcement of service changes and have not promoted the system as a whole. The description of the physical features of the service is good, but it excludes the core-benefit proposition. That is, the real reason why the reader or listener of the promotion should use DIAL-A-BAT. The Grey Advertising survey found that among the transportation handicapped in Brockton and Stoughton who are not now users of the system, 77% knew only "a little about" DIAL-A-BAT. A full 25% of these non-users also believed they were not eligible to use the service. 4/ This data, when coupled with the fact that 75% of the Brockton respondents to the Multisystems Survey indicated they had never heard a BAT radio ad, and that elderly in general had seen far fewer BAT newspaper ads, clearly illustrates the fact that other types of advertising and promotion have to be developed to successfully encourage DIAL-A-BAT use. 5/ This data also points to the need to improve the substance of the advertisements as well.

Other ways to learn about the system are by word-of-mouth and by calling the BAT information Line. Word-of-mouth has already worked well for DIAL-A-BAT. Users of the service have been found to encourage additional ridership as have social service representatives who deal with DIAL-A-BAT eligible clients. Word-of-mouth campaigns will be more fully utilized


in the future, particularly with the social service representatives. The heavy turnover of social service personnel has made it difficult for BAT to keep the various agency representatives up to date with service characteristics and eligibility rules, so more frequent communication between DIAL-A-BAT and these various agencies will be facilitated by BAT. The information telephone line is helpful also, but a person must first know of the system in the first place to know enough to call.
B. AUDIT OF MARKET

1) Description of Market

The market for dial-a-ride is difficult to define. Although the market is defined as the transportation handicapped who are residents of the City of Brockton, Massachusetts, the definition of transportation handicapped itself actually obfuscates the true picture of the eligible and potentially eligible users and non-users of the system.

The U.S. Department of Transportation, Urban Mass Transportation Administration, defines as transportation handicapped those individuals who:

-- use a wheelchair all/most of the time, or occasionally
-- use mechanical aides, i.e., braces, crutches, canes, or have artificial limbs
-- have visual dysfunctions
-- have hearing dysfunctions
-- have other problems, i.e., difficulty going up or down stairs, stooping, kneeling, walking more than one block
-- have one or more of these dysfunctions

Because this Federal agency defines the transportation handicapped in this manner, and because this same agency is also the source of, or the funding source for, the preparation of demographic data for DIAL-A-BAT, there is a lack of sufficient data about the elderly and handicapped. There remains no clear delineation of the elderly/non-handicapped and handicapped/non-elderly populations. Having the available data based on such a definition of transportation handicapped disregards the fact that, by nature, most elderly individuals
have such physical dysfunctions as difficulty going up or
down stairs, stooping, kneeling, and some difficulty walking
more than a block. Thus, elderly individuals are classified
as transportation handicapped when, in fact, their dys-
functions are not at all comparable to those which require
wheelchair or mechanical aide dependence. Clearly, this
merger of different populations complicates the estimation of
potential dial-a-ride users. Further, it also complicates
the interpretation of the existent data as it is impossible
to judge exactly how many dial-a-ride users and non-users are
in fact users or non-users because of their demographic and
physical characteristics.

With the above in mind, the data which follows is taken
from a report on the study of special transportation systems
in four cities designed for transportation handicapped people.
The report was completed in April 1980, and was conducted by
Grey Advertising, Inc., New York, New York, under contract
with the U.S. Department of Transportation, Urban Mass Trans-
portation Administration, Office of Transportation Planning,
Management, and Demonstration. Unfortunately, because the
survey defined transportation handicapped in the manner noted
above, this survey data fails to indicate the elderly/non-
handicapped and handicapped/non-elderly populations. Beyond
this, the survey data displays a transportation population of
which more than 40% have nine or more physical dysfunctions.
However, wherever possible DIAL-A-BAT has checked the study's
data with its own information and observations. The result is
that the DIAL-A-BAT management is confident that the data which follows in this section and the next is generally very accurate and that the perceptions and preferences are similar to the perceptions and preferences of both the elderly and the handicapped users and non-users of dial-a-ride service. Finally, in defining users and non-users of the service, users were those who had used DIAL-A-BAT over the six month period of June 1979 - November 1979 and non-users as those who did not use dial-a-ride over the same period.

2) **Demographic Characteristics**

Users of dial-a-ride were found to be 77% female and non-users 68% female. Two-thirds of both groups have incomes of less than $4,000 and more than 50% of each group have completed less than 12 years of schooling. Retired individuals make up 51% of the dial-a-ride users and 22% of the non-users. Virtually all of the users and non-users are white, consistent with the predominantly white population. (Note Figures 4-1 and 4-2). 6/

Users of dial-a-ride were found to have more physical dysfunctions, in general, than do non-users. In terms of overall ability to use public transit, users of dial-a-ride have considerably more difficulty using public transit than do non-users. Figures 4-3 and 4-4 provide a graphic display of these facts. (Note that Figures 4-3 and 4-4 display the additive nature of the U.S. DOT's definition of transportation

FIGURE 4-1

DEMOGRAPHICS OF TRANSPORTATION HANDICAPPED PEOPLE IN BROCKTON

- USERS VS. NON-USERS OF DIAL-A-BAT -

(Base: Total In Each Group)

<table>
<thead>
<tr>
<th>AGE</th>
<th>USERS</th>
<th>NON-USERS</th>
<th>SEX</th>
<th>USERS</th>
<th>NON-USERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 - 24</td>
<td>1%</td>
<td>3%</td>
<td>MALE</td>
<td>23%</td>
<td>32%</td>
</tr>
<tr>
<td>25 - 39</td>
<td>9</td>
<td>15</td>
<td>FEMALE</td>
<td>77</td>
<td>68</td>
</tr>
<tr>
<td>40 - 54</td>
<td>8</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 - 64</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 and Older</td>
<td>.79</td>
<td>51</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MARITAL STATUS

<table>
<thead>
<tr>
<th>STATUS</th>
<th>USERS</th>
<th>NON-USERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIVORCED/SEPARATED</td>
<td>9%</td>
<td>12%</td>
</tr>
<tr>
<td>WIDOWED</td>
<td>48</td>
<td>36</td>
</tr>
<tr>
<td>SINGLE</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>MARRIED</td>
<td>26</td>
<td>38</td>
</tr>
</tbody>
</table>

Base: (153) (151)

FIGURE 4-2
DEMOGRAPHICS OF TRANSPORTATION HANDICAPPED PEOPLE
IN BROCKTON (CON'T)

- USERS VS. NON-USERS OF DIAL-A-BAT -

(Base: Total In Each Group)

<table>
<thead>
<tr>
<th>Education</th>
<th>Users</th>
<th>Non-Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed College or More</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Some College</td>
<td>30</td>
<td>29</td>
</tr>
<tr>
<td>Completed High School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some High School</td>
<td>21</td>
<td>31</td>
</tr>
<tr>
<td>Eighth Grade or Less</td>
<td>35</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Users</th>
<th>Non-Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retired</td>
<td>51%</td>
<td>22%</td>
</tr>
<tr>
<td>Not Looking For Work (Including Keeping House, in School)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td>44</td>
<td>26</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Individual Income</th>
<th>Users</th>
<th>Non-Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $4,000</td>
<td>64%</td>
<td>66%</td>
</tr>
<tr>
<td>$4,000 - $4,999</td>
<td>24</td>
<td>12</td>
</tr>
<tr>
<td>$5,000 - $6,999</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>$7,000 and Above</td>
<td>3</td>
<td>15</td>
</tr>
</tbody>
</table>

Base: (153) (151)

MULTIPLICITY OF PROBLEMS AMONG TRANSPORTATION HANDICAPPED PEOPLE IN BROCKTON
- USERS VS. NON-USERS OF DIAL-A-BAT -
(Base: Total In Each Group)

<table>
<thead>
<tr>
<th>NUMBER OF PROBLEMS</th>
<th>USERS</th>
<th>NON-USERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>1 1%</td>
<td>3 7%</td>
</tr>
<tr>
<td>Two</td>
<td>5 3%</td>
<td>3 9%</td>
</tr>
<tr>
<td>Three</td>
<td>5 10%</td>
<td>10 20%</td>
</tr>
<tr>
<td>Four</td>
<td>6 11%</td>
<td>11 22%</td>
</tr>
<tr>
<td>Five</td>
<td>8 11%</td>
<td>11 22%</td>
</tr>
<tr>
<td>Six</td>
<td>10 18%</td>
<td>18 36%</td>
</tr>
<tr>
<td>Seven</td>
<td>12 22%</td>
<td>17 33%</td>
</tr>
<tr>
<td>Eight</td>
<td>13 24%</td>
<td>10 20%</td>
</tr>
<tr>
<td>Nine</td>
<td>16 30%</td>
<td>7 14%</td>
</tr>
<tr>
<td>Ten or more</td>
<td>24 46%</td>
<td>10 20%</td>
</tr>
<tr>
<td>Median No. of problems</td>
<td>7.3</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Base: (153) (151)

DEGREE OF DIFFICULTY TRANSPORTATION HANDICAPPED PEOPLE IN BROCKTON HAVE USING PUBLIC TRANSPORTATION - USERS VS. NON-USERS OF DIAL-A-BAT -

(Base: Total In Each Group)

OVERALL ABILITY TO USE REGULAR PUBLIC TRANSPORTATION COMPARED TO PEOPLE WITHOUT PROBLEMS

NOT ABLE TO USE REGULAR PUBLIC TRANSPORTATION

A LOT MORE DIFFICULT TO USE PUBLIC TRANSPORTATION

A LITTLE MORE DIFFICULT TO USE REGULAR PUBLIC TRANSPORTATION

Base: (153) (151)

<table>
<thead>
<tr>
<th></th>
<th>USERS</th>
<th></th>
<th>NON-USERS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>53%</td>
<td></td>
<td>25%</td>
</tr>
<tr>
<td>NOT ABLE TO USE REGULAR PUBLIC TRANSPORTATION</td>
<td>27</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>A LOT MORE DIFFICULT TO USE PUBLIC TRANSPORTATION</td>
<td>20</td>
<td>52</td>
<td></td>
</tr>
</tbody>
</table>

3) **Special Considerations of Market/Political, etc.**

The fortunes of DIAL-A-BAT depend upon the political climate it operates in. Consequently, the governmental and economic environments are intimately related. The fact that DIAL-A-BAT recovers 63% of its costs from the farebox and appears less vulnerable than other public transportation systems is somewhat misleading. Much of its farebox revenue is paid by social service agencies which are themselves dependent upon government funds. Even individual trips are dependent on the availability of Social Security or other government transfer payments. Nevertheless, these fund sources are relatively stable and present an opportunity to DIAL-A-BAT for continued financial support.

The portion of costs that is directly subsidized is not as stable a source. The Federal contribution has been shrinking and is expected to end in fiscal year 1985. This contribution is unlikely to increase even if service is expanded; thus it may be considered a constraint. The local contribution comes from the property tax and is constrained due to Proposition 2 1/2. This reduction in revenue could eliminate any possible expansions in service availability. On the other hand, the BAT system has benefitted from a very favorable public image and strong support from the Mayor, (who is politically untouchable). This has enabled the BAT system to acquire increased local funding, and may lead to subsidizing BAT from

---

another source. Although DIAL-A-BAT's image does not appear to be as good as that of the fixed route service, it may be even less vulnerable to cuts considering the people it serves carry political support and its cost is a very small portion of the system's cost.

4) Governmental/Regulatory

Section 504 of the Rehabilitation Act states that no handicapped person may be denied access to an activity receiving Federal funds. This DOT regulation may require BAT to have buses on its fixed routes capable of carrying wheelchair-bound people. Since all of BAT's buses are brand new, this would require retrofitting (at considerable cost).

Although this is a constraint to the system as a whole, it is an opportunity for DIAL-A-BAT. First, DOT's Section 504 interim regulations may require BAT to do much of what it hopes to do in expansion of service availability (expand hours, reduce cost - now $1, eliminate reservation requirement), Secondly, this could eliminate the need for retrofitting as it would show a good faith effort toward meeting the intent of Section 504 (mobility for all) rather than the specific language (accessibility for all). DOT has been inflexible thus far. However, if they do allow some flexibility in meeting the needs of the handicapped (e.g., under pressure from Brockton and other cities), having a well established service could save tremendous sums of money. In fact, were BAT not provided flexibility with respect to meeting the needs of its handicapped patrons, the DIAL-A-BAT system would probably be eliminated. That is, the funds which were allocated to DIAL-A-
BAT would have to be now used to meet the costs of retrofitting the present fleet and then maintaining wheelchair lifts. Beyond this, the costs to elderly and handicapped patrons would be severely increased as door-to-door service would now only be available from private providers. Perhaps even more costly, although not necessarily in dollars terms, would be the fact that many elderly and handicapped individuals would now make fewer trips and remain home, often alone, more frequently.

5) **Sociological**

There are more programs aimed at the elderly; they are becoming more active; and they will probably travel more. DIAL-A-BAT has a very good image among its users (and even former users). It is very safe and from the focus groups held it was found that there is no stigma attached to using the "special" service. Consequently, the main opportunity is in reaching those who would rather not stay at home, but feel they have no choice. In this sense, staying at home is dial-a-ride's major competition.

6) **Technological**

Dial-a-ride is attempting to use a management information system and dispatcher training to improve the efficiency of its operations. If demand is increased, chances are that vehicle occupancies will increase. On the other hand, increased demand could also increase ride time (more people to drop off), wait time (more people to pick up before you -- especially true on return trips where no appointment has been
made), and dependability. The present dispatching is a constraint to increased service availability. It should be improved before efforts are made to increase demand.

7) **Summary**

DIAL-A-BAT faces many opportunities and potential for expansion. Its goals of expansion of service and positive image are consistent with and even enhanced by the forces of the environment. Constraints on funding may be an exception, as public opinion has cut BAT's revenues (through direct passage of Proposition 2½ and the election of a budget-cutting administration). Also, technological improvements available in the environment must be put to use by BAT before expansion or many potential clients may be lost.
C. DATA COLLECTION

1) Qualitative Research

For the purposes of this discussion, the people spoken to about DIAL-A-BAT are divided into four groups: 1) elderly Users and Non-Users, 2) Providers of General Services for Elderly and Handicapped People, 3) Spokespeople for the Elderly and Handicapped, and 4) BAT Staff. Although each had a different perspective, all shared a similar story of praise for DIAL-A-BAT. However, some differences were found in their perceptions regarding uses and knowledge of DIAL-A-BAT, as well as its problems.

Elderly Users and Non-Users

This research was conducted through a series of three focus groups of 5-6 people each at the Elderly Drop-In Center in Brockton. These people were chosen as users and non-users who are relatively mobile. All were aware of DIAL-A-BAT and well-informed about what it does. The users like the service very much and find it particularly helpful for medical trips. Those who do not use DIAL-A-BAT (they walk, drive, or use regular BAT buses) also have a very favorable impression of it. Many expect to use it in the winter rather than walk or drive.

Virtually no aspect of DIAL-A-BAT is considered to be a problem. There is no stigma attached to use of DIAL-A-BAT (i.e., that people "should" use the regular buses instead of the "special" ones), and none would hesitate to call it when needed. The $1 fare was said to be, "no problem", and the 24
hour advance notice is, "only reasonable". The only moderate complaint came from users who had to wait a while for the van for their return trip. This indicates that unless dispatching is improved, a relaxation of the 24 hour notice could lead to more complaints about excessive waits.

Providers of General Services for Elderly and Handicapped People

The focus groups above did not include a major target population -- the shut-ins and less mobile people. Since we were not allowed to go into homes to talk to people, the best contact with these inaccessible groups was considered to be providers of home care services. A focus group was conducted with nurses from the Visiting Nurse Association, who provide health care to home-bound people. This discussion revealed many misconceptions about DIAL-A-BAT held by both the nurses and their clients. There were questions about eligibility, as many people thought that they must be associated with a social service agency to use DIAL-A-BAT (some would even call VNA and ask them to call BAT). They did not know how helpful the drivers would be or where it could take people (e.g. to Boston). On the other hand, none of the nurses felt that people thought DIAL-A-BAT was only for medical trips or that only handicapped elderly were eligible.

In general, the service was praised and considered very helpful to their clients who use it. They felt that some people might have a problem with the $1 fare, the one-day notice, and the limited service area, but these were not considered to be major drawbacks. Consequently, information
appears to be the key here, to eliminate the misconceptions. The nurses have DIAL-A-BAT pamphlets to distribute to their clients now and appear to be a good source for future information dissemination.

In addition to this focus group, interviews were conducted with the Assistant Director and the Transportation Director of Old Colony Elderly Services. OCES provides many services to clients and is one of the major purchasers of DIAL-A-BAT service. With OCES paying for many of their clients' trips, we expect the administrators to be well informed about the quality of the service provided by DIAL-A-BAT. Again, the service received high ratings. It was considered to be better and cheaper service than they could provide on their own. The only problem OCES has is that DIAL-A-BAT does not cover its entire service area, so they must supplement it with their own service. OCES may have trouble paying for individuals' rides ("We're already spending more than we have"), but hopes to encourage people to call DIAL-A-BAT on their own. Similar to VNA, OCES has caseworkers who go out to the elderly and can relay information to them.

Spokespeople for the Elderly and Handicapped

Spokespeople were considered to be an important group because they would be in positions to hear people's comments about DIAL-A-BAT and relay them to the service provider. A focus group was held with members of the Mayor's Task Force on Independent Living. They pointed out that the eligible populations were growing and that demand could be expected to grow.
They felt that service should be increased, perhaps with funding from the United Way or foundations. The service itself was highly praised, especially the helpfulness of the drivers. The only problems mentioned were the limited service area and maybe the $1 fare is a problem for some.

The positive comments were re-affirmed by other spokespeople, including the Human Resources Administrator, the City Ombudsman, and the Area Elderly Coordinating Officer. None had ever received complaints about the DIAL-A-BAT service.

**BAT Staff**

Many of the feelings of the BAT staff were summarized in the first assignment. The major areas considered for improvement in DIAL-A-BAT were improved dispatching (eliminating the 24 hour advance notice) and reducing the fare. The dispatchers are already being trained to respond to calls on an immediate response basis. The other problem that came up in the research -- increasing the service area -- is not something that BAT can do. The towns outside of Brockton must choose to be included in the system. BAT could perhaps encourage people to talk to selectmen and mayors in other towns to sing its praises, but that is probably outside of what it can be expected to do.

2) **Quantitative Data** 8/

**Awareness**

Eighty-five percent of the non-users of DIAL-A-BAT had

---

heard of the service, but only eight percent said they "know a great deal about it". Twenty-five percent of the non-users believed that they were ineligible for the service and 5% said they were not sure if they were eligible. Further, of those non-users who believed they were eligible (55%), only 4% are registered with the service.

DIAL-A-BAT users overwhelmingly rate the service better than any other currently available to them. Eighty-three percent said DIAL-A-BAT was better than the other modes, 71% "a lot better", and 12% "a little better". Just 9% said it was "a little or a lot worse" than other transportation.

Non-users are not as favorable. About 56% "perceive" DIAL-A-BAT to be better than other transportation available to them. Only 26% of the non-users said DIAL-A-BAT was "a lot better" than any other transportation source available to them. Forty-four percent rated DIAL-A-BAT equal to other transportation available to them. Interestingly, non-users, when rating DIAL-A-BAT on an absolute basis (i.e., not comparing it to another mode) 95% gave DIAL-A-BAT an "excellent" or "good" rating.

In terms of specific service characteristics, the "helpfulness of the drivers" was rated by 75% of the DIAL-A-BAT users as "excellent". "Ease of getting to and from your house" was rated "excellent" by 56% of the users. DIAL-A-BAT services receiving a lower rating were "comfort riding on it", 33% saying "excellent" and "the number of trips you can take during
the day", 25% noting "excellent".

**Travel Behavior/Types of Trips Taken**

During an average month dial-a-ride users and non-users most frequently take trips for medical, shopping, and leisure purposes. Of the users, 84% travel for medical reasons and of the non-users 73% travel for this same reason. Non-users (91%) are more likely to take shopping/personal trips than are users (73%). Trips for leisure are taken by users and non-users with a somewhat equal frequency (56% of users and 60% of non-users).

Overall non-users were found to take more trips per month than do users. Non-users taking 28 trips per month and users an average of 18. Figure 4-5 provides a summary of the number of trips, by type, taken each month by users and non-users of dial-a-ride.

**Travel Behavior/Trips by Time of Day**

Figure 4-6 illustrates the time of day of trips, by type, taken by both users and non-users of dial-a-ride. As can be seen, both users and non-users travel most frequently during the mid-day on weekdays. Eighty one percent of user trips occur during this period and 97% of non-users travel during this time. This data is not surprising given that week-day mid-day periods have long been heavy demand periods for dial-a-ride. The data does, however, point out exactly how difficult it may be to encourage this many riders to travel at different times as well as the difficulty which could surface
NUMBER OF TRIPS TRANSPORTATION HANDICAPPED PEOPLE IN BROCKTON TAKE PER MONTH BY TRIP TYPE

- USERS VS. NON-USERS OF DIAL-A-BAT -

(Base: Total Trips Taken By Each Group)

<table>
<thead>
<tr>
<th>TRIP TYPES</th>
<th>USERS</th>
<th></th>
<th>NON-USERS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Avg. Taken (%)</td>
<td></td>
<td>Avg. Taken (%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>#</td>
<td></td>
<td>#</td>
</tr>
<tr>
<td>Shopping/personal</td>
<td>39</td>
<td>10</td>
<td>48</td>
<td>15</td>
</tr>
<tr>
<td>Leisure/recreation</td>
<td>32</td>
<td>10</td>
<td>19</td>
<td>9</td>
</tr>
<tr>
<td>Medical/therapy</td>
<td>20</td>
<td>4</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>Work</td>
<td>8</td>
<td>27</td>
<td>14</td>
<td>38</td>
</tr>
<tr>
<td>School</td>
<td>1</td>
<td>7</td>
<td>6</td>
<td>34</td>
</tr>
</tbody>
</table>

(Average Number Of Trips) (18) (28)

Base: (# Of Trips) (2758) (4270)

TIMES OF DAY WHEN TRIP TYPES ARE TAKEN BY TRANSPORTATION HANDICAPPED PEOPLE IN BROCKTON

- USERS VS. NON-USERS OF DIAL-A-BAT -

(Base: Total In Each Group Taking Trip Type)

<table>
<thead>
<tr>
<th>TIMES OF DAY</th>
<th>ACROSS ALL TRIP TYPES</th>
<th>SHOPPING/PERSONAL</th>
<th>LEISURE/RECREATION</th>
<th>MEDICAL/THERAPY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>USERS</td>
<td>NON-USERS</td>
<td>USERS</td>
<td>NON-USERS</td>
</tr>
<tr>
<td>Weekday rush hour</td>
<td>19</td>
<td>5</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Weekday mid-day</td>
<td>81</td>
<td>97</td>
<td>80</td>
<td>91</td>
</tr>
<tr>
<td>Weekday nights</td>
<td>12</td>
<td>18</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Weekend daytime</td>
<td>31</td>
<td>36</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Weekend nights</td>
<td>8</td>
<td>3</td>
<td>5</td>
<td>-</td>
</tr>
</tbody>
</table>

Base: (153) (151) (107) (138) (85) (90) (128) (110)

NOTE: Percents add to more than 100% because of travelling during more than one time of day.

NOTE: Work and school trips are not shown because sample bases are too small.

if an increase in demand for dial-a-ride was generated and this increase was all to show itself during the already heavy mid-day period. In short, encouraging non-peak hour rider-ship will not only be a difficult task, but has the possibility of backfiring and creating unmanageable demands for mid-day weekday service.

**Travel Behavior/Competition**

There are two principle modes of transportation for DIAL-A-BAT users, DIAL-A-BAT vans (89%) and private automobiles (54%). Non-users not surprisingly, have principally one mode of transportation, the automobile (87%). Very few users are licensed to drive (10% compared with 41% non-users) and the majority of those users who are licensed (6%) never have a car available to them as a driver. Most non-users who are licensed do have an auto at their disposal. Twenty-two percent of the users own a car while 57% of the non-users own their own car. Only 12% of the users have a car readily available to them as a passenger, 23% of the non-users have this convenience. Public transportation, fixed route, is used by only 19% of the DIAL-A-BAT users and by 18% of the DIAL-A-BAT non-users.

**Changes in Travel Behavior**

Users of DIAL-A-BAT are taking more trips now than they did prior to its availability. Users are taking 18 trips a month, 4 more than they had taken before using the service. Also, of the 23% of the respondents who were previously not
making trips during an average month, 97% are now making monthly trips because of DIAL-A-BAT. A lesser need for a car as a driver or as a passenger since the use of DIAL-A-BAT service is also reflected in the survey results.

Image/Potential Problems

Very few users had problems with the dial-a-ride system. The only service rated as a problem by a measurable number of respondents was "waiting for it to come and pick you up and bring you home". Ten percent of the users rated this as a "big problem" and 19% as a moderate problem. The only other problem was "the need to request it in advance". Six percent of the users saw this as a serious problem and 13% as a "moderate" problem (Note Figure 4-7).

Cost of service was not considered a problem for an overwhelming majority of users and non-users, 86% and 73% respectively. Driver "helpfulness and courtesy" was rated as the most favorable aspect of the service by the most users, 67%. The convenience of service was mentioned by 42% of the users as favorable service quality. Figure 4-8 is a summary of the users' favorable opinions.

Non-users preceiving "the need to request service in advance", as a biggest potential problem. Nine percent of the non-users said advance reservation was perceived a big problem and 15% said it was perceived as a moderate problem. Non-users perceived that traveling "without a companion" was also a problem. Nine percent perceived it to be a big problem and five percent as a moderate problem. Figure 4-9 provides more detail.
FIGURE 4-7

PROBLEMS TRANSPORTATION HANDICAPPED PEOPLE IN BROCKTON HAVE WITH DIAL-A-BAT

(Base: Total Users)

% SAYING BIG/MODERATE PROBLEM

<table>
<thead>
<tr>
<th>Problem Statement</th>
<th>Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiting for it to come pick you up and take you back home</td>
<td></td>
</tr>
<tr>
<td>The need to request it in advance</td>
<td></td>
</tr>
<tr>
<td>The hours and days it runs</td>
<td></td>
</tr>
<tr>
<td>Waiting for it to come to your house to pick you up</td>
<td></td>
</tr>
<tr>
<td>Telephoning someone to have it pick you up</td>
<td></td>
</tr>
<tr>
<td>Its not being able to take you where you want to go</td>
<td></td>
</tr>
<tr>
<td>Getting on and off it</td>
<td></td>
</tr>
<tr>
<td>Travelling on it without a companion</td>
<td></td>
</tr>
<tr>
<td>Finding out how to use it</td>
<td></td>
</tr>
<tr>
<td>Registering to use it</td>
<td></td>
</tr>
<tr>
<td>Fear of using it</td>
<td></td>
</tr>
<tr>
<td>Getting from your home to it</td>
<td></td>
</tr>
<tr>
<td>Embarrassed to use it</td>
<td></td>
</tr>
</tbody>
</table>

Base: 153

FIGURE 4-8

SPECIFIC ASPECTS OF DIAL-A-BAT LIKED BY TRANSPORTATION HANDICAPPED PEOPLE IN BROCKTON

(Base: Total Users Of Dial-A-Bat)

<table>
<thead>
<tr>
<th>LIKED SOMETHING (NET)</th>
<th>TOTAL USERS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>87%</td>
</tr>
</tbody>
</table>

**Driver Helpfulness/Courtesy (Net)**

Driver is helpful 42
Driver is courteous 22
Driver helps with packages 4
Driver is careful/doesn't rush 4

**Convenience of Service (Net)**

Takes me to my destination/Don't have to transfer 16
Door to door service 14
Efficient/reliable 13
Service is on time 8
Service is convenient 5
Other convenience mentions 3

**Vehicle Design (Net)**

Comfort of vehicle 8
Vehicle features/lifts 3
Easy to get on/off 2
Riding is comfortable 2
Other vehicle design mentions 3

**Economy (Net)**

Fare is cheap 5
Other economy mentions 2

**Quality of Service (Net)**

Service is good 3
Service/office staff is helpful 2
Good for old people 1

**Psychological Benefits (Net)**

I feel independent 1

**Miscellaneous Mentions (Net)**

Only transportation available 7
Prefer public service 5
Good in bad weather 1
Nothing Liked 13

Base: (153)

PERCEIVED PROBLEMS WITH DIAL-A-BAT AMONG TRANSPORTATION HANDICAPPED PEOPLE IN BROCKTON WHO ARE NON-USERS OF THE SERVICE

(Base: Total Non-Users)

<table>
<thead>
<tr>
<th>% SAYING BIG/MODERATE PROBLEM</th>
<th>BIG</th>
<th>MODERATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The need to request it in advance</td>
<td>9</td>
<td>15 24%</td>
</tr>
<tr>
<td>Travelling on it without a companion</td>
<td>9</td>
<td>5 14%</td>
</tr>
<tr>
<td>Getting from your home to it</td>
<td>3</td>
<td>7 10%</td>
</tr>
<tr>
<td>The hours and days it runs</td>
<td>3</td>
<td>2 5%</td>
</tr>
<tr>
<td>It's not being able to take you where you want to go</td>
<td>3</td>
<td>1 4%</td>
</tr>
<tr>
<td>Fear of using it</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Embarrassed to use it</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Base: (151)

D. **MARKETING STRATEGY**

Having identified dial-a-ride's marketing problem both in quantitative and qualitative terms, the following recommendations to address this difficulty were developed.

Hardly unique, these recommendations are practical suggested courses of action which utilize the successful components of the present dial-a-ride marketing strategy and sharpen the weaker ones.

Attempting to develop a low cost and trackable strategy, the alternatives presented are inexpensive to implement and easy to trace. Most of the options employ presently existent resources, while the others require only limited expenditures and planning.

By no means is the strategy presented expected to be a panacea. Rather, it is a pragmatic option whose basis is grounded in substantial analytic investigation and good sense.
SUMMARY

MARKETING STRATEGY/DIAL-A-RISE

GOAL: INCREASE NON-PEAK HOUR RIDERSHIP AND AWARENESS

: Brochures/Posters
: Personal Contact
: Riders/Word of Mouth
: BAT/Retailers
: Direct Mail
: Advertisement/Coupons/Reduced Fare

GOAL: MAINTAIN IMAGE

: Leave Service Alone
: Continue Appearances at Public Events
: Increase Value of Ride with Coupon

GOAL: FOLLOW-UP UNDERSTAND EFFECTS/EVALUATION

: Data Collection
Flyers/Posters

Presently, DIAL-A-BAT distributes flyers and posters throughout the City of Brockton. Neither the flyers (brochures) nor the posters are placed with any strategy in mind.

Figure 4-10 is a copy of the DIAL-A-BAT brochure. Although it includes all the necessary information, many elderly individuals complained that the print was too small, and the wording too complicated. The DIAL-A-BAT Manager conceded. Therefore, it is our first recommendation that these brochures be improved by enlarging the print and simplifying the narrative.

The posters, according to the users we spoke with, are fine. The only suggested improvement is that they be made more available at appropriate sites throughout the city. Further, it is recommended that a record be kept as to where the posters are placed, and how many have been distributed.

Because many focus group participants noted that the agencies they represent are willing to spread the word about DIAL-A-BAT, it is recommended that these representatives be provided brochures and posters more regularly. Also that these representatives be kept abreast of any and all service changes in the DIAL-A-BAT system.

Finally, it is also recommended that notification of public meetings concerning the DIAL-A-BAT system be inserted into the brochures when such meetings are planned.

Personal Contact

Personal contact has, in the opinion of the DIAL-A-BAT
**dial-a-bat** provides door-to-door transportation for elderly and handicapped people and clients of human service agencies.

**dial-a-bat** serves all of Brockton and nearby medical facilities.

**dial-a-bat** costs $1 per trip; 6 or more people traveling together each pay 50¢ per trip; agency clients ride free for authorized trips.

---

**Who can ride dial-a-bat?**

Anyone who is 60 or older. (You can get a senior citizen I.D. card at the Senior Citizens Drop-In Center, 234 Main Street, Brockton.)

Anyone who can’t ride the big bat buses because of a physical handicap or mental disability. (Call MOM – our Manager of Mobility – to find out how to get a Handicapped Citizen I.D. Card.)

Anyone whose trip is authorized by a participating human service agency like the Department of Public Welfare. (Call MOM to see if your agency offers **dial-a-bat** service.)

---

**How do I arrange my trip?**

Phone MOM at least one day before you wish to travel and reserve your trip.

If you’re an agency client, phone your agency. They’ll arrange your trip with MOM and they’ll pay for it, too.

Don’t forget to call the day before!

---

**How do I get home?**

If possible, reserve your return trip in advance. Otherwise, when you are ready to go home, call MOM. In most cases **dial-a-bat** will pick you up in twenty minutes or less.

**What if my plans change?**

If you find you have to cancel or re-schedule your trip, you must notify MOM as soon as possible. That way, our vehicles will be free to serve other people.

Don’t forget to call MOM whenever your plans change, 584-5530.
Manager, been the single best medium for informing people about the service. The Manager has found through experience that both users and non-users feel more comfortable asking questions directly to a DIAL-A-BAT representative rather than over the phone. In the past, meetings of this sort have been held in the elderly highrises and have been extremely well attended. Further, measurable increases in DIAL-A-BAT use have followed these meetings. Because these meetings have been so successful, it is recommended that they occur more often. Also, it is recommended that these meetings be held in a variety of places, and in similar fashion, in order that more non-users are reached and that friends and relatives of potential users be informed of the service.

Because this particular effort requires that a DIAL-A-BAT representative be available fairly regularly, it is recommended that qualified drivers be trained to conduct question and answer periods. This effort will free more time for the DIAL-A-BAT Manager, who has had to run most of these meetings, and it will simultaneously better utilize drivers' paid hours. Drivers can run these question and answer sessions during the off-peak hours of their scheduled day.

Riders/Word-of-Mouth

Virtually everyone we spoke with was convinced that DIAL-A-BAT's popularity has resulted in a large part because of word-of-mouth communication between users and their friends, relatives, and neighbors. Both the BAT Administrator and the DIAL-A-BAT Manager have reserved confidence in any other
marketing strategy because of the unique success of this most basic communication system. Therefore, it is our recommendation that the word-of-mouth system be continued and expanded by placing posters within the DIAL-A-BAT vans encouraging riders to spread the word. Further, drivers should be encouraged to remind the riders to pass along the word also. As the survey data noted earlier indicated, knowledge of DIAL-A-BAT is fairly high, but 25% of the respondents believed they were ineligible to use the service. The word-of-mouth campaign will stress the importance of explaining eligibility. In a later section coupons will be recommended in an effort to encourage riders to spread the word about DIAL-A-BAT as well.

**BAT/Retail**

Presently a couple of supermarkets in Brockton are contracting DIAL-A-BAT vans to commute elderly and handicapped customers to and from their stores one day a week. This service has been an amazingly successful public service for the supermarkets. DIAL-A-BAT has done little to solicit a similar relationship with other retailers.

With this in mind, it is recommended that DIAL-A-BAT actively seek relationships with supermarkets, restaurants, beauty shops, and other establishments which would encourage DIAL-A-BAT use. These relationships can take the form of the ones the supermarkets above have chosen, or can be designed differently. One option is to secure retailers who will provide DIAL-A-BAT riders a discount on their product if the
patron can demonstrate that he or she traveled to the establishment via a DIAL-A-BAT van. Mondays are an especially slow day for DIAL-A-BAT and are also slow for many businesses. Perhaps using this day of the week as the sales pitch would encourage a business to participate in such a mutually beneficial operation.

The recommendations noted above are especially inexpensive to implement. The final two recommendations are somewhat more expensive, yet they, too, are reasonable in financial terms.

Direct Mail

A mailing of DIAL-A-BAT brochures to all the residents of the City of Brockton, to be paid for by BAT, is entirely out of the question. The cost of such a mailing is simply too substantial. However, a mailing via the phone company, or the electric company, or some other city utility company is certainly an option.

Thus far, DIAL-A-BAT has never actively sought an agreement with any public or private organization which conducts city-wide mailings. Therefore, it is recommended that such an arrangement be investigated. There are a number of City Departments (tax Collector, City Clerk) which have to make comprehensive mailing of this type, and even more utility companies. First of all, a gratis arrangement should be sought. If this effort is unsuccessful, then a financial arrangement should be negotiated.
BAT, as the previous sections of this report have noted, enjoys an excellent reputation in its service area. Given this fact, it would be an error on BAT's part not to take advantage of this image. That is, BAT ought to find a public department or utility and stress to that body the advantages of supporting BAT. In fact, BAT should consider approaching a utility, such as the Electric Company, which is presently suffering from a poor image and offer a deal to them which would improve the utilities' image problem. BAT could convince the Electric Company, in this example, to agree to enclose informational brochures or cards in one of its monthly bill mailings. An even better idea would be to offer the Electric Company the opportunity to purchase a large quantity of dial-a-ride coupons at a reduced price. The Electric Company could then in turn mail these coupons to its elderly and handicapped customers for their use free of charge. In either case, the elderly and handicapped benefit, the Electric Company benefits, and BAT benefits.

6) Advertisement/Coupon/Reduced Fare

In the past, advertisements in the Brockton Enterprise (cir. 60,000) and on radio stations WBET and WOKW (both of Brockton) have been unsuccessful. By virtually any measure, it is almost impossible to determine if ridership was affected by either of these medias. This unproductive result has left the BAT Administrator anxious to find better ways to spend his marketing dollars. In fact, it is fair to say that he would
rather forego any advertising in these mediums, outside of critical service change announcements.

An advertising option which DIAL-A-BAT has not attempted, however, is coupon advertising. As noted above, coupons could be provided for free or reduced fare rides. These coupons could be advertised as a complementary ride for present riders, or, even better, could be geared for the non-rider. This latter option is recommended.

In presenting the coupons as an incentive for new riders, it would be wise to word the offer in such a way that the new rider would be most attracted, i.e., "first time riders ride free on DIAL-A-BAT", or "we're so sure you'll like us that we'll pay you to give us a try". In other words, stress a trial use at a free or reduced cost. (The potential loss of revenue is not substantial even if a regular rider were to use the coupon. In fact, even this could be controlled if the coupon were valid only for first time riders who are accompanied by a regular rider). Although cost was not found to be a problem for either the users or the non-users, a reduced fare would likely be seen as an attractive deal, particularly for non-users who are having to pay higher and higher gas and auto related expenses.

7) Image Maintenance

A primary concern of DIAL-A-BAT will be to maintain its positive image among the riders and the community as a whole. Without this, the strategies for increased ridership will do
little good. One-time users do not make the system work -- people must want to tell friends about it and keep coming back. A positive image is necessary for the participation of retailers, as that will make more retailers want to participate and further increase the positive image.

This study and others have shown that DIAL-A-BAT is considered to be a very valuable and well-run system. While it should not stagnate and enjoy the complements, it should also not be too quick to change something that is working so well. A decrease in fare will probably only cause a small increase in ridership. This will drive down the outstanding recovery ratio while reaching only a small increase in the number of people using the system. The elimination of 24 hour advance notice may cause some increase in convenience but may cause a major increase in waiting times (which is perceived by users as the major problem with the service as it presently exists). However, some changes in dispatching may be required if ridership increases are substantial (to maintain the present waiting time).

The use of discount coupons or other methods to increase awareness would benefit all users, not just new ones. The use of retail coupons would be like a fare reduction in that it will be relatively cheaper to use DIAL-A-BAT for trips to those stores, restaurants, or beauty salons where a coupon provides a discount. This may generate increased trips by people, while maintaining the same revenue per trip. Thus the service improvement (lower cost of total trip) is accompanied by an
increased return for BAT and the favorable impression of aggressive pursuit of aid for senior citizens.

Finally, DIAL-A-BAT should continue to appear at public events such as the Walk-a-thon and next year's Health Fair. This will not only make more people aware of its existence, but will especially keep DIAL-A-BAT associated with community service and beneficial events.
E. TRACKING/EVALUATION

1) Marketing Evaluation Procedure

In the past, DIAL-A-RIDE has tried many innovative marketing ideas. Unfortunately, the absence of before and after data makes the objective measurement of their results very difficult. As a result, the wealth of ideas does little to point toward what activities should be expanded or dropped. It is recommended that dial-a-ride keep more detailed records of marketing promotions, first time riders (where possible), and overall ridership trends. Marketing strategies with measurable results have been favored. If certain strategies do not show positive results, DIAL-A-BAT may wish to concentrate more on those that do. The need to understand results is especially important with respect to the higher cost strategies, as the money or time spent may be better spent elsewhere.

Attendance at the group meetings or discussion sessions will give some indication of the number of potential riders that are being reached. The coupons will give an easily measurable indication of use. The retail use coupons will be more difficult to interpret in the attraction of new riders (compared to the "Bring a Friend" coupons), but records of their use will show the general benefit they provide. The more people use them, the more likely the perception of decrease in the cost of trips, increase in word-of-mouth, and continuation of positive image. Since these methods of increasing awareness are not splashy, dial-a-ride cannot expect a sudden jump in ridership, and the task of tracking results
becomes more difficult. Dial-a-ride must look at the growth rate in ridership over time and compare it to the previous growth rate. This will show the effects of the total strategy.

Finally, dial-a-ride must make sure the service remains good and worthy of positive comments. For example, short surveys of first-time riders should be conducted (how can service better meet their needs, how did they learn of the service, etc.). This will not only provide information, it will also give the new riders the idea that they are important and cared about. Dial-a-ride should also keep records of average waiting times before pick-up. If as ridership increases, it becomes harder to keep up with the number of people, service will be perceived as going downhill. Dial-a-ride must sense any changes early and make adjustments to keep the level of service as high as it is now. In fact, one way of assuring the maintenance of high quality service is to implement the marketing strategy elements one at a time. After putting into action one particular idea watch that supply meets demand. If the supply ride does not adjust, then do not go ahead with the next stage of the marketing plan until proper measures have been taken. As was noted before, it is critical that the monitoring and evaluation be ongoing in order that the marketing effort does not create more problems than were present to start with.
2) **Pre/Post Marketing Strategy Measuring Tools**

In order to accurately measure any and all short and long term changes in dial-a-ride ridership, it will be necessary for the dial-a-ride staff to carefully utilize some existent data sources. Principal among these sources are the "monthly sheets" and "time of time" demand summaries.

The "monthly sheets" are produced by the dial-a-ride staff and provide a complete breakdown of the number of dial-a-ride trips by weekday and Saturday each month. This report also breaks down the total hours and miles of dial-a-ride service by weekday and Saturday. The number of trips by wheelchair dependent passengers are also noted on these "monthly sheets" as is revenue information.

Figure 4-11 is a copy of the "monthly sheet" for the month of February, 1981. By referring to the dial-a-ride trips row (number 4) it is clear that a total of 90 dial-a-ride Saturday trips were provided and a total of 2,433 dial-a-ride weekday trips were provided throughout the month of February. Comparing these figures over periods of time will establish changes in ridership, if any, as well as ridership trends. In evaluating the effectiveness of the marketing effort it will be necessary for the dial-a-ride staff to go back and trace dial-a-ride ridership for the period of the past 18 or more months. By doing so, average monthly and weekly ridership can be generated, as can be seasonal averages, as well as weekday and Saturday averages. These figures will in turn serve as the benchmark from which to measure
**MONTHLY SUMMARY OF SYSTEM STATISTICS**

**FOR THE MONTH OF February 1981**

**PREPARED BY Diane Nanigian**

<table>
<thead>
<tr>
<th>I. OPERATING STATISTICS</th>
<th>SATURDAYS</th>
<th>DIAL-A-RIDE</th>
<th>SUBSCRIPTION</th>
<th>OUT-OF-TOWN</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Days of Operation</td>
<td>4</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td>2. DAB Vehicle Hours</td>
<td>64.74</td>
<td>1,178.11</td>
<td>1,070.89</td>
<td>352.95</td>
<td>2,096.89</td>
</tr>
<tr>
<td>3. DAB Vehicle Miles</td>
<td>796.00</td>
<td>14,807.52</td>
<td>13,668.48</td>
<td>7,791.00</td>
<td>37,063.00</td>
</tr>
<tr>
<td>4. DAB trips (one-way)</td>
<td>147.00</td>
<td>3,182.00</td>
<td>12,472.00</td>
<td>1,017.00</td>
<td>16,818.00</td>
</tr>
<tr>
<td>5. Purchased Trips</td>
<td>8.00</td>
<td>44.00</td>
<td>0.00</td>
<td>0.00</td>
<td>52.00</td>
</tr>
<tr>
<td>6. Total Trips (4&amp;5)</td>
<td>155.00</td>
<td>3,226.00</td>
<td>12,472.00</td>
<td>1,017.00</td>
<td>16,870.00</td>
</tr>
<tr>
<td>7. Trips/Day (6/1)</td>
<td>38.75</td>
<td>161.30</td>
<td>623.60</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>8. Pass./Veh. Hr. (4/2)</td>
<td>2.27</td>
<td>2.70</td>
<td>11.64</td>
<td>2.65</td>
<td>N/A</td>
</tr>
<tr>
<td>9. # of NO-Shows (%)</td>
<td>0.00</td>
<td>25</td>
<td>22</td>
<td>11</td>
<td>N/A</td>
</tr>
<tr>
<td>10. Avg. Response Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>11. Avg. Travel Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>12. Avg. Trip Length</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>13. Wheelchair Trips (%)</td>
<td>34/23%</td>
<td>380/12%</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**II. REVENUE**

<table>
<thead>
<tr>
<th></th>
<th>SATURDAYS</th>
<th>DIAL-A-RIDE</th>
<th>SUBSCRIPTION</th>
<th>OUT-OF-TOWN</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Scheduled Fares</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Agency Charges</td>
<td></td>
<td>$2,794.84</td>
<td>$11,872.07</td>
<td>$7,882.40</td>
<td>$22,549.31</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$2,794.84</td>
<td>$11,872.07</td>
<td>$7,882.40</td>
<td>$24,459.53</td>
</tr>
</tbody>
</table>
changes after the new marketing strategy has been implemented. Examining past trends with respect to dial-a-ride miles and hours of service would not effectively provide evaluative data with which to measure the marketing effort by, however, it should so from an operations management standpoint. Such information will provide cost per trip and cost per dial-a-ride passenger information.

An evaluation of changes in the number of trips by wheelchair confined passengers should be conducted. This information will be very useful in establishing whether or not the marketing has reached one population of riders more than another. In other words, if ridership if found to increase by 400 trips per month and none of the new ridership consists of wheelchair dependent passengers, then some consideration would have to be made regarding the marketing strategy's ability effectiveness in reaching the handicapped population.

Evaluating changes in the dial-a-ride demand by time of day will be in a fashion similar to the evaluation of changes in dial-a-ride ridership. Again existent managerial information will be utilized and again investigation of previous past marketing strategy conditions will be compared.

Documentation of dial-a-ride ridership by time of day is not at present as sophisticated as the documentation of monthly ridership. As a result, it will be necessary for the dial-a-ride staff to track demand by time of day in a more formalized and a more regular fashion. Nonetheless, the experience and observations of the dial-a-ride staff, as well as
the time of day demand sheets they have prepared to date, are sufficient starting grounds upon which to measure future change in this area.

Figure 4-12 is a copy of a DIAL-A-BAT demand by time of day schedule. The shaded areas represent the periods when the vans are operating on the road with passengers. Clearly, the heaviest demand can be seen from the hours of 7:00 a.m. - 10:00 a.m., 12:00 p.m. - 1:00 p.m., and 3:00 p.m. - 6:00 p.m. (These shaded areas represent dial-a-ride, Subscription, and Out-of-Town demand).

In effect, the purpose of examining the time of day demand charts is to be able to check if the unshaded area becomes, over time, shaded. Ideally, every van would have a shaded area from 7:00 a.m.-6:00 p.m., however, it is likely that major increases in demand would result in greater demands during the already heavy periods. Thus, it will be necessary to monitor the effectiveness of the marketing strategy regularly in order that increased demand could be traced by time of day and successfully distributed throughout the hours of operation. Discounts for non-peak hour riders would be one example of a method to avert increased demand throughout the entire day. Not having a time of day demand schedule of this sort could result in major problems as new riders would ultimately have to be turned away if they desired to ride during an already over-burdened period of the day. A condition which would have very negative impacts on the image of the service and would be, in effect, a magnification of the problems the
original marketing effort had attempted to reduce.

3) New Rider Characteristics

Evaluating the characteristics of the new riders will also be an important task. This can be done either by questioning callers when making their dial-a-ride reservation or through the administration of an on-board survey. In either case, it will be useful to have some demographic information regarding the new riders as well as an idea of why they were suddenly trying the dial-a-ride service. Information of this sort will serve the purpose of providing the dial-a-ride management direction in their service planning. This data will also serve the purpose of illustrating which promotional efforts were most effective, as well.


