Public Transportation Marketing Evaluation Manual

Techniques for Data Collection

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UMTA Technical Assistance Program

Public Transportation Marketing Evaluation Manual

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I. INTRODUCTION

A.   Transit Marketing: Problems and Solutions

Public transit marketing was a popular theme through most of
the 1970's. Marketing was viewed as a "good thing to do," espec-
ially in times of expanding Federal transit dollars. In spite of
marketing's popularity and its role in increasing the transit
system's share of the traveling market, the marketing function
was always treated as a "stepchild". Marketing departments in
reality had little to say about the basic structure and function-
ing of the transit system. Routes, schedules, nature of service,
fares and so forth were determined by the more traditional areas
of planning, operations, scheduling and finance. Marketing was
given the task of advertising and conveying information to
customers about a service designed and managed by other entities
within the transit organization.

As fiscal constraints for public transit agencies became
more severe in the late 1970's and into the 1980's, the marketing
function became a prime candidate for cost cutting. This was
unfortunate because marketing is a very important function for
public transit. It would be difficult for transit to capture an
increasing share of the traveling market unless a strong and
vigorous marketing orientation is implemented. There are good
indications that the marketing function within public transit can
be reconstituted and indeed made vigorous. New vigor in market-
ing would be the result of three undertakings. First, shift the

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emphasis on public transit to "public transportation." Indeed, this is currently happening. Transit agencies are developing subscription bus services, subsuming the regional ridesharing operations, contracting services to private operators for a variety of specialized services, and assuming many other operations that are now making the agency a multi-modal "transportation" agency.

The impact of this shift is significant for marketing. "Transit" marketing traditionally accepted big buses on fixed routes as the given mode of operation. The job of the marketing group was to promote this one kind of service. But today as transit agencies become multi-modal, marketing divisions will be able to utilize one of the most basic tools in marketing -- "market segmentation". It will be possible for public transportation agencies to segment their markets into different categories and determine which type of service fits the travel needs and desires of individual segments. The agency, through multimodal marketing, will then be able to tailor public transportation service to each market and have a much better chance of increasing mode share.

The second undertaking which will impact marketing significantly is its repositioning within the public transportation organizational structure. This repositioning will be caused, in part, by the new multi-modal nature of the agency and the corresponding need for market segmentation. With a variety of services to offer, the transportation agency must segment its

market into subgroups that will be receptive to various different services. This is a very important function that marketing will carry out.

Marketing theory notes that the marketing mix--the set of controllable variables that can be used to influence buyers' responses--includes the "four P's": product (1), place (1), price and promotion. Good marketing practice first attends to the task of designing a good product or service to fit consumer needs. The next tasks are to determine appropriate distribution channels (place) and price; and then to embark upon a promotional program. It is important to note that these functions must be carried out in this order. In other words, it is inappropriate to embark upon a promotional endeavor unless the product-place-service and price issues have been dealt with thoroughly. Unfortunately, in the past, transit marketing activity was relegated to the promotional aspects only. The multi-modal nature of future public transportation agencies will force segmentation, which opens the door for marketing to be involved in product-place-service determination, and pricing in addition to its previous promotional activities. The marketing function will be critical to the planning and operation of all phases of a transportation delivery system.

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(1) In the case of a service, such as public transportation, "product" and "place" may be combined into "service."

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The third and final undertaking necessary to improve the status of transportation marketing revolves around the word "evaluation" and is the central theme for this manual. When public transit dollars were plentiful, millions were spent on marketing with little attention to cost-effectiveness. For example, a new system map would be generated that easily might cost several thousands of dollars. Yet marketing managers were hard pressed to assess the impact of this expenditure. Did a one hundred thousand dollar system map encourage ridership or build a political constituency? If so, to what degree? Because of this lack of evaluation of marketing techniques, transit marketing departments were unable to defend their budget when resources were curtailed over the past several years. A general manager who was looking for ways to cut his or her budget turned to the marketing division because the results of this program were not often assessed and therefore not defensible.

It is put forth in this manual that through the increased use of marketing evaluation three important results will accrue. First, the practice of marketing will be improved as managers document the successes and failures of their individual programs and use this data to design new and better programs. Second, marketing managers will be able to better defend and protect their budgets, because they will find it possible to demonstrate the impact of their programs. And third, evaluation will document the successes of marketing and demonstrate its importance

which will in turn strengthen the organizational position of marketing within the public transportation agency.

B.   Part of the Solution: A "Public Transportation Marketing Evaluation Manual"

Before public transportation agencies can perform good marketing evaluation, it is necessary to improve current evaluation practice. This conclusion was supported by a study carried out by the Transportation Research Board (TRB) for the Urban Mass Transportation Administration (UMTA) in 1982. The report noted that in 1982 approximately 56% of marketing promotional endeavors (which included pricing incentive programs, advertising and consumer information aids) were evaluated. Although this figure is somewhat encouraging, further inspection revealed that 80 percent of the promotions that had been evaluated were done so by weak experimental designs. Many evaluations were simply managers' "good guesses" of how well a program was working. This situation leaves the marketing manager with a very weak argument to document the effectiveness of his or her program.

Additionally, of the evaluation work currently being carried out, the majority seems to be in the "efficiency" category as opposed to "effectiveness." That is, there is much information on the costs and person hours necessary to produce a timetable, answer a telephone information call, place a T.V. ad, and so forth. These are efficiency measures. What is lacking are effectiveness measures that assess whether or not these and other marketing strategies changed rider and non-rider attitudes,

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perceptions, awareness and actual behaviors in regards to public transportation.

One of the major recommendations of the report was to "facilitate management's application of marketing evaluation methods relevant to the transit industry". It is exactly this task that this manual addresses.

1.   **Philosophy of the Manual: A "Keep It Simple, Hands On" Approach**:

The manual is written in a very easy style because it is the belief that a highly sophisticated, technical manual would not be used and would be impractical for day-to-day implementation within the normal routine of a transportation marketing department. It is believed that data collection tools can be simple, easy to use, and implemented on a routine basis, even though such tools may sacrifice some statistical validity. In other words, it is better to have simple procedures that are used rather than complex ones that are not. Some evaluation is better than none. The tools described in this manual are relatively easy to use and should not be intimidating. Managers should feel free to employ them on a routine basis in order to continually improve their marketing program.

This manual is written for the public transportation marketing manager and staff who deal with marketing functions and marketing evaluation on a daily basis. It is intended to be a "hands on" working manual that will not be static but which can be modified as improved data collection techniques are developed and existing techniques enhanced. It is impossible to design the

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perfect marketing program or the perfect marketing evaluation strategy or marketing evaluation tool. One large expensive evaluation project to assess a transit consumer information program is inappropriate. Consumer information systems and other similar marketing programs are complex and can be improved only incrementally through constant monitoring and evaluation.

2.   **What the Manual Covers and Does Not Cover**

There are several important issues to be considered within the area of public transportation marketing evaluation. For example, areas of concern in evaluation design (experimental design) often include the notion of controls, sample size and sampling procedure, internal and external validity, reliability, and many other "strategic" issues. Evaluation also includes methods for analyzing the data or, in other words, statistics. These two issues--evaluation design and analysis techniques--are presented well in numerous experimental design and statistical texts (see the list of marketing research books at the end of the manual). Rather than repeat design and analysis information, it is felt that this manual should focus on a third area of evaluation, data collection techniques.

Data collection techniques are essentially the instruments one uses to collect the evaluation data once an evaluation design has been determined. Upon collection of this data the analysis function may proceed. In summary, evaluation includes the evaluation design, development and determination of data collection tools, and analysis of the data collected. This manual

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presents data collection techniques especially designed for public transportation marketing evaluation.

Data collection techniques for three areas within the realm of marketing promotions will be presented. These areas are: 1) consumer information aids; 2) pricing incentives, and 3) advertising. Consumer information aids include timetables, area and system maps, on-street information, vehicle destination signs, and telephone information systems. Pricing incentive programs include those programs that manipulate price and/or an economic incentive (such as a coupon good for a discount in a store) on a short term basis in order to encourage ridership. Pricing incentive programs do not include long-term structural changes in a pricing strategy. Advertising programs include any form of paid (nonpersonal) media presentation and promotion of the transportation services offered by an agency. Advertising involves a variety of presentation modes including magazines and newspapers, radio and television stations, outdoor billboards and displays, direct mailings, catalogs, and so forth. This manual will present only a modest level of data collection tools for pricing incentive programs and for advertising programs. Pricing incentive programs are relatively easy to assess because of their direct influence on ridership. In other words, often the best data collection tool is simply to count riders. On the other hand, advertising effectiveness is somewhat more difficult to measure because the desired effect is often subtle (a slight shift in attitudes or awareness as opposed to a more easily

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measured behavior change). The techniques for assessing advertising effectiveness have been described at length in many other manuals and texts such as those listed in Appendix B.

This manual will emphasize data collection techniques for assessing public transportation consumer information systems. The reason for focusing on consumer information systems is twofold. First, a large and significant proportion of many public transportation agencies' marketing budgets is spent on consumer information aids. It is not uncommon to find at least 50% of an agency's marketing budget devoted to the telephone system, maps and timetables, bus stops signs, and vehicle destination signs. Secondly, there exists no extent literature on evaluating the effectiveness of information aids, nor are there many data collection techniques for measuring the effectiveness of information aids. It is for these reasons that the primary focus of this manual will be to present data collection techniques for evaluating public transportation consumer information aids.

3. Organization of the Manual

The work presented in this manual was carried out in conjunction with Seattle Metro, for which three prototypical customer information systems were created. Data collection techniques were developed for evaluating these information aids systems. The product of this joint effort was 1) the determination of a salient information aids system for Seattle; and 2) a testing of different data collection techniques for presentation

in this manual.   Accordingly, the manual proceeds in the follow-
ing fashion:

- detailed descriptions of the various data collection
techniques are presented;

- these techniques are organized by application, i.e.,
consumer information aids, pricing incentives, and
advertising;

- each of the techniques will be discussed on a single
page so that it may be easily copied from the manual
and used in other situations, distributed, and updated.

The steps taken and the data collection tools used in the Seattle
Metro study are then presented in Appendix A.

II. DATA COLLECTION TECHNIQUES FOR CONSUMER INFORMATION AIDS

A. Overview.

In a major urban area, public transportation systems are quite complex, and indeed consumers are often confused concerning how to use them. For this reason, transportation managers have felt it very important to communicate information to their consumers about how to use their services. These information systems have been labelled consumer information aids, and they consist of many elements which include system maps, area maps, timetables with route maps, on-street information (such as bus stop signs), vehicle signs (i.e., destination signs), and electronic information systems (which today constitute primarily the telephone). There are also several less formal elements within the system such as bus drivers, public service personnel (such as police officers), and so on.

Although public transportation managers unanimously agree that consumer information aids are a necessity, there is much disagreement as to their actual impact on ridership. Some might say that the information aid system will not have a significant impact on ridership but will simply make it easier for people who are going to use public transportation anyway. Others feel that good information aids clearly promote ridership. Additionally, there is much confusion and indeed very little knowledge regarding what constitutes good information aids. For example, some feel that a system map is very necessary and others contend that advanced electronic information systems are the only answer.

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Designing information aids that accurately convey complex transit information to a variety of consumers is not a simple task. Furthermore, it is virtually impossible for a public transportation agency to implement the "ideal" information system regardless of the amount of high quality research and design that goes into such an endeavor. It is believed that information systems will evolve and be enhanced only through an iterative process of continually updating new versions based on good evaluation of previous or existing information systems. This is one of the main reasons for writing this section of the manual. A continual evaluation will allow for a documentation of the most cost-effective ways of delivering information to the consumer that enhance their understanding of the transportation services.

This section of the manual on consumer information aids supplies more data collection techniques than the sections for advertising or pricing promotions. Pricing promotions are relatively easy to measure by their impact on ridership, and there have been many texts and manuals written on data collection for advertising. There is, however, virtually no extant literature concerning the evaluation of consumer information aids for public transportation. This is not a simple task! One of the major reasons is that the effects of an information aid system may be very subtle. Ridership may not be impacted by an information aid variation. An individual's intimidation about using public transportation may be reduced, yet their riding remain constant. In another case, an information aid may not improve a

rider's navigational ability, but may simply promote a positive attitude towards public transportation. Another aid may indeed promote navigational abilities and allow people who are already making trips to simply make a more efficient trip. For these and many other reasons, information aid evaluation is complex.

This section will focus on data collection techniques for five different kinds of information aids. These are system maps, timetables with route maps, on-street information, vehicle signs, and telephone information systems. These are the most common types of information aids currently used.

Table 1 presents an overview of sixteen evaluation techniques that may be applied to the different types of information aids. Some of these data collection techniques are quite similar and differ only in how they are applied. For example, there are three survey techniques listed among the sixteen. Questions on each of the three survey instruments may be quite similar, but the techniques will differ in how they are delivered to the customer: one by mail, the other via the phone, and the third through an intercept interview on the street. Additionally, many of the information aid data collection techniques could be used in conjunction with one another. Indeed, the analysis of the data from any data collection technique would be improved if used in conjunction with other data collection techniques.

TABLE 1:   A Matrix That Illustrates (via asterisks) Which Data Collection Techniques Are Appropriate for the Different Information Aids.

Data Collection Techniques	Information Aids				
	Maps	Timetables	On Street Information	Vehicle Signing	Telephone Information
Ridership Counts	*	*	*	*	*
Focus Groups	*	*	*	*	*
Survey:					
Mail	*	*	*	*	
Phone	*	*	*	*	*
Intercept	*	*	*	*	*
Observe Trip Planning	*	*	*	*	
Trip Planning Test:					
Test Room	*	*	*	*	
Direct Mail	*	*	*		
Newspaper	*	*	*		
Observe Trip Making	*	*	*	*	
Incentive Coupons	*	*			
Vehicle Operator Reports	*	*	*	*	*
Information Phone Calls	*	*	*	*	*
Complaint Phone Calls	*	*	*	*	*
Information Aid Consumption Rate	*	*			
Information Aid Discard Rate	*	*			

B.   The Techniques: Consumer Information Aids

INFORMATION AID DATA COLLECTION TECHNIQUES

TECHNIQUE: Ridership Counts

APPLY TO:

<u>Maps</u>	<u>Timetables</u>	On Street <u>Information</u>	Vehicle <u>Signing</u>	Telephone <u>Information</u>
*	*	*	*	*

WHAT IT MEASURES:

Ridership

HOW IT WORKS:

Ridership counts (often routinely collected by several transit systems) could be taken system-wide or focused on a few routes that received a new style of information. Ridership counts may be gained as a product of farebox revenue, or the passenger may be counted directly by drivers, independent observers riding buses or by automatic passenger counters (APCs). Ridership data may also be collected by survey techniques (intercept, phone, or direct mail).

ADVANTAGES:

Changes in ridership due to the implementation of a new information aid would be the most objective and strongest indication of an aid's impact. Furthermore, ridership counts are usually routinely made by most systems so this data collection technique would not incur additional expenses. Finally, ridership counts are often by time of day and by route. This detailed data would allow assessment of information aids implemented on only part of the system and provide good control ridership data from the rest of the system.

DISADVANTAGES:

The most severe disadvantage of ridership counts is that their normal day-to-day variation may be larger than the subtle impacts a new information aid would have on ridership, thus masking their effect. Indeed an information aid may be effective in reducing rider intimidation but may not impact ridership at all!

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INFORMATION AID DATA COLLECTION TECHNIQUES

TECHNIQUE: Focus Groups

APPLY TO:

Maps	Timetables	On Street Information	Vehicle Signing	Telephone Information
*	*	*	*	*

WHAT IT MEASURES:

Attitudes and preferences about information aids presented.

HOW IT WORKS:

A focus group involves inviting ten to fifteen citizens to a two-hour group "meeting." This "meeting" is run by a professional focus group leader. The leader guides the group through a fairly open-ended discussion of the issues at hand (e.g., three alternative system maps). The leader specifically plays a neutral role and does not express his or her opinions. The leader simply tries to elicit reactions from the attendees and move the group through several issues (e.g., system maps, then timetable prototypes) within the allotted time. Commonly, a cohort of the group leader takes notes through a one-way mirror. These notes, along with a taperecording of the session, provide the data for analysis, which is primarily a written summary of the main ideas brought out by the attendees. A statistical analysis of the data is not appropriate as the data is from a small sample, not systematically solicited and subjective in nature.

ADVANTAGES:

Focus groups are found easy to manage and they yield, rather quickly, subjective data about a new information aid's value.

DISADVANTAGES:

Focus groups yield quite subjective data that will essentially indicate whether the attendees "like" a new information aid (its color, size, etc.) but very little information (if any) is gathered concerning the enhancement of transit navigation as a function of the new aid. Additionally, focus group results may be dominated by a few assertive group members.

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INFORMATION AID DATA COLLECTION TECHNIQUES

TECHNIQUE: Mail Survey

APPLY TO:

Maps	Timetables	On Street Information	Vehicle Signing	Telephone Information
*	*	*	*	

WHAT IT MEASURES:

Responses to attitudinal, preferential and navigational questions.

HOW IT WORKS:

A mail survey sent to a preselected set of residents is a cost-effective way of presenting consumers with graphic materials. Residents could receive system maps, timetables, samples of on-street information and vehicle signing and then be asked to answer both subjective-preferential questions (e.g., which map do you like the best and why?) and objective navigational questions (e.g., using map number 1, what bus will you take from 5th and Main to the Logan Shopping Center?). Complete surveys may be returned via pre-addressed and postage-paid envelopes.

ADVANTAGES:

- Bulk mailing allows a cost-effective distribution to many citizens
- Easy to present graphic materials in the mail
- Citizens may use more time to respond to materials
- Advertising benefits of distributing consumer information to homes

DISADVANTAGES:

- Return rate may be low
- May send expensive materials to citizens not intending to respond to them
- No assurance of who or how many people responded to the survey when it is in the home

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INFORMATION AID DATA COLLECTION TECHNIQUES

TECHNIQUE: Phone Survey

APPLY TO:

Maps	Timetables	On Street Information	Vehicle Signing	Telephone Information
*	*	*	*	*

WHAT IT MEASURES:

Responses to attitudinal, preferential and navigational questions.

HOW IT WORKS:

A phone survey may measure some of the same variables as does one applied via direct mail or the intercept interview. It must, however, be more brief and verbally delineate in a simple manner the answer options for closed-ended responses.

ADVANTAGES:

- Somewhat economically efficient
- Can be administered quickly
- Geographic random sampling relatively easy through reverse phone directories
- Easily measures past use of information aids
- Many firms well prepared to carry out phone interviews

DISADVANTAGES:

- Can't present graphic material
- Answer options are limited
- Can't obtain trip planning accuracy data

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INFORMATION AID DATA COLLECTION TECHNIQUES

TECHNIQUE: Intercept Survey (Interview)

APPLY TO:

Maps	Timetables	On Street Information	Vehicle Signing	Telephone Information
*	*	*	*	*

WHAT IT MEASURES:

Responses to attitudinal, preferential and navigational questions

HOW IT WORKS:

Interviewers solicit subjects on the sidewalk, in shopping malls, on buses and so forth. A series of objective and subjective questions may be put forth. Smaller graphic material may be handed to subjects while larger materials may be displayed on a nearby panel and subjects asked to look at it. An interview with a subject should not cover more than one or two information aids. Malls are ideal places for intercept interviews, but permission of the owner-manager must be obtained.

ADVANTAGES:

- Random selection of citizens
- Both subjective and objective navigational accuracy data can be collected
- Can obtain many interviews in short time span in busy area

DISADVANTAGES:

- May be hard to find site where there is enough traffic of the type of subjects desired
- At times may be difficult to obtain permission for interviewing

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INFORMATION AID DATA COLLECTION TECHNIQUES

TECHNIQUE: Observe Trip Planning

APPLY TO:

<u>Maps</u>	<u>Timetables</u>	On Street <u>Information</u>	Vehicle <u>Signing</u>	Telephone <u>Information</u>
*	*	*	*	

WHAT IT MEASURES:

Proportion, frequency, and duration of citizens looking at information aids, questions asked of other patrons, drivers, etc. Type of information looked at (e.g., map versus timetable).

HOW IT WORKS:

A good deal of information can be obtained by simply observing (unobtrusively) how customers use current information systems. Are they looking at the vehicle signing or at the bus stop signing? How often do they reference this material, do they ask questions of other patrons after referencing a timetable they pulled out of their purse or pocket? What types of people tend to ask questions (older, male, female)? How many individuals use a system map, and so forth.

ADVANTAGES:

A simple inexpensive mechanism to collect a breadth of information

DISADVANTAGES:

May not directly answer the question, "How well is an information aid communicating navigational information?"

INFORMATION AID DATA COLLECTION TECHNIQUES

TECHNIQUE: Trip Planning Test: Test Room

APPLY TO:

Maps	Timetables	On Street Information	Vehicle Signing	Telephone Information
*	*	*	*	

WHAT IT MEASURES:

Objective data on how accurately navigational questions are answered and subjective data on subjects' impressions of the information aid

HOW IT WORKS:

Subjects are given a sample of the information aid in question. This may be done via an intercept interview or in a setting that subjects are previously invited to. They are then asked to make a given transit trip while using the information aid in question. They are to respond on paper or verbally concerning what number bus they are to take, when they will catch it, how long will their trip take, how much will it cost and so forth. After this objective navigational information is gathered, subjective questions may be asked focusing on how easy the aid was to use.

ADVANTAGES:

Yields realistic, accurate data assessing the aid's performance in promoting navigational accuracy

DISADVANTAGES:

Maybe difficult to obtain appropriate sample sizes

INFORMATION AID DATA COLLECTION TECHNIQUES

TECHNIQUE: Trip Planning Test: Direct Mail

.APPLY TO:

Maps	Timetables	On Street Information	Vehicle Signing	Telephone Information
*	*	*		

WHAT IT MEASURES:

Objective data on how accurately navigational questions are answered and subjective data on subjects' impressions of the information aid

HOW IT WORKS:

A new style of information aid is mailed to a random selection of residences in the section of the transit system being studied. Instructions tell the residents to fill out a response form while looking at the aid in question. Navigational as well as subjective evaluative questions may be asked. Subjects return the response form via a pre-addressed stamped envelope. To encourage a high return rate, the transit system may want to have the returned forms entered in a lottery for prizes.

ADVANTAGES:

- Can focus procedure on particular area of the city via the mail
- Easy and relatively inexpensive to administer
- Potential for large sample sizes yielding excellent objective and subjective rating of the aid

DISADVANTAGES:

Concern as to who in a household fills out the survey (an individual or a group - but does it matter?)

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INFORMATION AID DATA COLLECTION TECHNIQUES

TECHNIQUE: Trip Planning Test: Newspaper

APPLY TO:

Maps	Timetables	On Street Information	Vehicle Signing	Telephone Information
*	*	*		

WHAT IT MEASURES:

Objective data on how accurately navigational questions are answered and subjective data on subjects impressions of the information aid

HOW IT WORKS:

A sample information aid (or aids) along with a question-naire is printed in a city or neighborhood newspaper. Recipients of the paper are encouraged to answer both navigational and evaluative questions in regards to the aid. A contest atmosphere can be created in which returned forms are entered into a lottery. A contest of some sort is needed to encourage high return rates.

ADVANTAGES:

- Large sample can be obtained
- Easy to administer

DISADVANTAGES:

- Inability to focus procedure on a very specified sample
- Can not easily include a prestamped return envelope
- Publication costs may be high - depending on the city and the publication
- May be concern as to who fills out the questionnaire

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INFORMATION AID DATA COLLECTION TECHNIQUES

TECHNIQUE: Observe Trip Making

APPLY TO:

Maps	Timetables	On Street Information	Vehicle Signing	Telephone Information
*	*	*	*	

WHAT IT MEASURES:

Route or vehicle taken and/or travel time

HOW IT WORKS:

This procedure is similar to the "Observe Trip Planning" technique because it requires observers to monitor the actual behavior of subjects. The behavior of interest in this situation is, however, trip making as opposed to trip planning. Typically an individual is given a new piece of travel information (a systems map, time table, etc.) and asked to go from one location to another. Observers then follow the subject (usually obtrusively) and note the correctness of route choice, optimization of travel time, errors made and so forth.

ADVANTAGES:

Technique yields very objective, realistic account of how well an information aid promotes accurate navigation.

DISADVANTAGES:

Selecting an appropriate and large enough sample could be problematic. Samples, however, can be small because the objective data collected has smaller variability than data collected via other techniques. Attaching an observer to each subject is, however, costly.

INFORMATION AID DATA COLLECTION TECHNIQUES

TECHNIQUE: Incentive Coupons

APPLY TO:

<u>Maps</u>	<u>Timetables</u>	On Street <u>Information</u>	Vehicle <u>Signing</u>	Telephone <u>Information</u>
*	*			

WHAT IT MEASURES:

Number of trips made

HOW IT WORKS:

This technique requires the development of two or three
prototypes of new maps or timetables. These are then
randomly distributed to subjects living along a certain
route. They may be distributed via direct mail, newspaper
ads, door hangers, etc. Each prototype is accompanied by
several (3-5) <u>unique</u> free ride tickets. For example, system
map "A" might be accompanied by blue tickets, and system map
"B" by yellow tickets. The different colored tickets
collected in the fare box yield information as to the most
"effective" information aid.

ADVANTAGES:

Yields objective data regarding which information aid
produced the most ridership because of its promotional and
navigational attributes. This technique offers excellent
data by directly comparing prototype "A" against "B".

DISADVANTAGES:

The main variable being measured--ridership--may not be
dependent upon the treatment. In other words, it may be
asking a lot for an information aid to generate a ride. If
a ride is generated, the technique tends to assess the
promotional attributes of the aid in addition to its naviga-
tional merits.

INFORMATION AID DATA COLLECTION TECHNIQUES

TECHNIQUE: Vehicle Operator Reports

APPLY TO:

Maps	Timetables	On Street Information	Vehicle Signing	Telephone Information
*	*	*	*	*

WHAT IT MEASURES:

Questions asked of vehicle operators, navigational errors observed by vehicle operators

HOW IT WORKS:

Vehicle operators report on the types of navigational questions asked of them. The number of people getting on the wrong bus, or failing to get off at the correct stop, and so forth, can be quite illuminating regarding the functioning of the information system in general. These reports can be obtained fairly objectively by having the operators fill out a check sheet as an event happens, or less vigorously by interviewing operators about their knowledge of traveler errors or problems.

ADVANTAGES:

Yields a wide array of data on the information system in general that portrays the types of realistic problems that arise on a daily basis

DISADVANTAGES:

- Operators' reports may not accurately reflect reality
- Individuals may not relate their travel problems to operators
- Does not assess performance of individual consumer information aids

INFORMATION AID DATA COLLECTION TECHNIQUES

TECHNIQUE: Information Phone Calls

APPLY TO:

Maps	Timetables	On Street Information	Vehicle Signing	Telephone Information
*	*	*	*	*

WHAT IT MEASURES:

Type and frequency of questions asked of telephone operators

HOW IT WORKS:

As is the case for "Vehicle Operator Reports," much valuable information may be obtained by documenting the types of inquiries received by operators of the systems' telephone information center. This data may be objectively taken by providing the operator with a check sheet or obtained in a more subjective manner by having a debriefing session with the operators. One nice format might involve noting the frequency and nature of navigational questions asked about a particular route (for baseline purposes). Then introduce a new aid for that route (e.g. a new timetable). Hopefully the frequency of information calls will go down for that route because of the new aid!

ADVANTAGES:

Simple, easy to collect, no-cost data in which the data collection system already exists

DISADVANTAGES:

Questions asked of the phone operator may not directly reflect the promotional or navigational problems of the information aids.

INFORMATION AID DATA COLLECTION TECHNIQUES

TECHNIQUE: Complaint Phone Calls

APPLY TO:

Maps	Timetables	On Street Information	Vehicle Signing	Telephone Information
*	*	*	*	*

WHAT IT MEASURES:

Frequency, nature of complaint calls referring to particular information aids

HOW IT WORKS:

A currently existing data collection system that collects consumers' reactions to all elements of the transportation system is the customer complaint phone line. Complaint (or commendation) calls with specific reference to the customer information system may be separately analyzed and yield valuable information about current or experimentally implemented aids.

ADVANTAGES:

Data collection system usually exists so this technique can be instituted at no extra cost.

DISADVANTAGES:

May not directly measure people's navigational abilities; they may complain about something from which they actually gained accurate information. Another problem involves the self-selection of the subjects (would one be simply measuring the opinions of chronic complainers?).

INFORMATION AID DATA COLLECTION TECHNIQUES

TECHNIQUE: Information Aid Consumption Rate

APPLY TO:

Maps	Timetables	On Street Information	Vehicle Signing	Telephone Information
*	*			

WHAT IT MEASURES:

Rate and location of information aid consumption

HOW IT WORKS:

Accurate records of the rate and location of consumption of timetables and system maps could be a good indicator of the aid's attractiveness and use. The difference between consumption rates of an old versus a new model of an aid would also be of significance.

ADVANTAGES:

Inexpensive to collect data since it probably already exists

DISADVANTAGES:

Data may not separate navigational from promotional value of an aid. Furthermore, a high consumption rate could imply opposites - it is either very attractive and well used, or very confusing, thus generating a greater need to reference it!

TECHNIQUE: Information Aid Discard Rate

APPLY TO:

Maps	Timetables	On Street Information	Vehicle Signing	Telephone Information
*	*			

WHAT IT MEASURES:

Rate and location of information aid discarding

HOW IT WORKS:

If an aid is attractive and clear, it may not be discarded on the floor of a vehicle or on the ground at a stop. Aids that lack clear information may exhibit higher discard rates. A high consumption rate linked with a low discard rate is a situation that most likely correlates with an effective aid.

ADVANTAGES:

Easy data to collect when the vehicles are swept or stops (stations) are cleaned

DISADVANTAGES:

The assumption that the discard rate is correlated with the aid's ambiguity or clarity, or its ability to promote public transportation and accurate trips may be erroneous.

III. DATA COLLECTION TECHNIQUES FOR PRICING PROMOTIONS

A. Overview

The marketing mix includes product, place, price and promotion (for public transportation product and place can be combined into service). The "price" term in the marketing mix is not what we're discussing here, which refers to the normal ongoing and regular price of a service or a product. What we are discussing is pricing promotions, which are part of the fourth element of the marketing mix--promotion. Pricing promotions are included in this category, along with advertising, publicity, direct sales, graphics and incentives.

Pricing promotions fall under the more broader promotional category--incentives. Pricing promotions include a short-term reduction in price in order to increase sales. They can, in the case of public transportation, include free rides, discounts on passes, fare discounts during off-peak hours, the distribution of coupons good for free or reduced fare rides, and merchant discount programs. The latter is a program in which riders receive coupons as they board a public transportation vehicle (or purchase a monthly pass) which is, in turn, worth a discount at participating merchants. Although this is not directly a discount on the transportation fare, customers do gain an economic incentive almost equal to a fare, or indeed sometimes more, thus the reason for categorizing it as a pricing promotion.

It is rather arbitrary as to when (how much time) a short-term manipulation in price must be in effect before a pricing promotion becomes a basic change in pricing structure. To keep issues simple, we will simply call a price change (either in the cost of a fare, or an economic return of some sort) a pricing promotion if it is not a basic change in the pricing structure and is viewed as temporary.

Pricing promotions are one of the easiest promotional strategies for which to gather data. This is so because the explicit goal is to increase sales (rides), so the most logical data collection technique is to measure ridership. In contrast, one must measure attitudes, cognitions, knowledge, intimidation and so forth when evaluating consumer information aids and advertising. There are, however, some other dependent variables that one might want to look at beyond ridership when evaluating pricing promotions. In merchant discount programs, for example, it might be appropriate to assess the merchants' satisfaction with, or willingness to stay in the discount program, or to measure the number of increased customers a merchant received because of involvement.

This section of the manual will outline data collection techniques for:

- free and reduced fare programs (no coupons necessary--simply a reduced or free fare when boarding a vehicle)
- pass discounts
- coupons good for fare reductions
- merchant discount programs
- lotteries (each fare paying passenger has odds on winning a prize)

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B.   The Techniques: Pricing Promotions

PRICING PROMOTION DATA COLLECTION TECHNIQUES

TECHNIQUE: Ridership Counts

APPLY TO: Free and reduced fare programs, pass discounts, coupons good for fare reductions, merchant discount programs, lotteries

WHAT IT MEASURES:

Ridership

HOW IT WORKS:

Ridership is measured by fare box revenue, manual passenger counts, or by automatic passenger counters. It would be ideal to get counts before, during and after the program. It would even be better to also measure ridership on routes on vehicles without the pricing promotions, so one could obtain good concurrent control data

ADVANTAGES:

Strong proof, if appropriate controls are taken, of the impact of the pricing promotion.

DISADVANTAGES:

Day-to-day vacillations in ridership due to uncontrollable variables such as weather may override the effects of the promotion. It is often difficult to get accurate ridership counts at reasonable costs.

PRICING PROMOTION DATA COLLECTION TECHNIQUES

TECHNIQUE: Pass Sales

APPLY TO: Pass discounts, merchant discount programs,
                   lotteries

WHAT IT MEASURES:

Pass Sales

HOW IT WORKS:

Through the pass sales or accounting office, document pass
sales during a pricing promotional program. Appropriate
controls would be necessary (e.g., pass sales before and
after the promotional program). Technique directly assesses
impact of pass discount programs and merchant discount
programs and lotteries when the benefits are contingent upon
pass purchase. Pass sales may also go up when a merchant
discount or chance on a lottery are contingent on simply
boarding a transit vehicle.

ADVANTAGES:

Easy data to collect as pass sales are routinely collected
by the sales or accounting departments

DISADVANTAGES:

Pass sales may not directly correlate with ridership
changes. Also, it may be hard to obtain "fine grain" data
on pass sales (e.g., sales in the mornings, or sales from
individual outlets).

PRICING PROMOTION DATA COLLECTION TECHNIQUES

TECHNIQUE: Coupon Tracing

APPLY TO: Pass discounts, coupons good for fare reductions

WHAT IT MEASURES:

Number and type of coupon turned in

HOW IT WORKS:

Different types of coupons, good for a reduction on either a pass or cash fare are distributed to potential consumers in a controlled fashion (i.e., a control group gets same mailing, etc., but with no coupons). Coupons of various types (color coded) are deposited in the fare box when used and counted daily. Control group is called by phone to measure their bus riding.

ADVANTAGES:

Simple, easy to administer way to document a variety of pricing promotions in a controlled fashion

DISADVANTAGES:

Some problems include: consumers' negative reaction to coupons, counterfeiting, and coupons jamming fareboxes.

PRICING PROMOTION DATA COLLECTION TECHNIQUES

TECHNIQUE: Merchant Data

APPLY TO: Merchant discount programs

WHAT IT MEASURES:

Sales by participating stores, discount coupons turned into participating stores, attitudes of participating merchants, and merchant willingness to stay in the program

HOW IT WORKS:

Coupons for discounts at local stores are given to transit customers as they board a vehicle or purchase a transit pass. If the participating merchants will allow it, changes in sales data and/or an accounting of the coupons turned in to their stores would be excellent data. At the least, the merchants' attitudes (over time) in regards to the program or their willingness to stay in the program would be good data.

ADVANTAGES:

Retail sales data and number of coupons returned are easily collected by the stores.

DISADVANTAGES:

A merchant may not want to divulge his or her store's data. A small number of participants (customers) in such a program may not count as a success for the transit agency, but a new customer for a small store may be beneficial from the merchant's perspective.

PRICING PROMOTION DATA COLLECTION TECHNIQUES

TECHNIQUE: Surveys

APPLY TO: Free and reduced fare programs, pass discounts, coupons good for fare reductions, merchant discount programs, lotteries

WHAT IT MEASURES:

Rider, nonrider and merchant attitudes and knowledge of the pricing promotion, and rider reports of rides taken during the program

HOW IT WORKS:

As is the case for consumer information aids and advertising, much information can be gathered via surveys. Surveys for pricing promotions can be administered on the phone, through intercept interviews on the street, in a mall or on a transit vehicle. They may be guided or self-administered. Questions should range from subjective ("Do you like the merchant discount program?") to objective ("Did you ride the bus yesterday?").

ADVANTAGES:

Can gather alot of data, from attitudes and knowledge to reported ridership. Can assess some of the more subjective aspects of a pricing promotion, which may tease out subtle effects of a pricing promotion.

DISADVANTAGES:

People's answers to surveys may not be accurate indicators of their ridership, and the technique is more expensive than many of the others.

PRICING PROMOTION DATA COLLECTION TECHNIQUES

TECHNIQUE: Focus Groups

APPLY TO: Free and reduced fare programs, pass discounts, coupons good for fare reductions, merchant discount programs, lotteries

WHAT IT MEASURES:

Attitudes and preferences about pricing promotions presented

HOW IT WORKS:

Before, during or after a pricing promotion, a focus group would be a good way to get a subjective overview of the program. Ten-to-fifteen citizens (riders or nonriders or a mix) are selected from a population segment and attend a one-to-two hour session to convey their thoughts on the pricing promotion in question. A "neutral" focus group leader keeps the group focused on the subject and stimulates discussion without asserting his or her views. A focus group session before the introduction of a pricing promotion could yield valuable data for the design of the program.

ADVANTAGES:

Relatively efficient in time and money; technique garners a wide range of information in regards to the pricing promotion

DISADVANTAGES:

Subjective data may not be indicative of actual impact of a pricing promotion; a dominant member of the focus group could lead other members and bias output.

IV. DATA COLLECTION TECHNIQUES FOR ADVERTISING

A. Overview

It is the objective of this section of the manual to outline data collection techniques for the evaluation of public transportation advertising.

Advertising is a major channel of communication between a public transportation system and its public. It is an element of one of the "Four Ps" of the marketing mix--promotion. The most interesting aspect of advertising is its cumulative effect--the fact that the effects of advertising persist beyond the period of expenditure and become a valuable if intangible asset of the company. The wide diversity of occasions for the use of advertising by public transportation makes it essential that management 1) develop a clear set of advertising goals which define what the transportation system specifically wants to achieve, and 2) measure the effectiveness of advertising in achieving these goals. Progress in measuring the results of advertising, i.e., advertising's effectiveness, has been slow, not only in the public domain, but in private industry as well. Thus, while advertising is considered to be an important factor in the stimulation of ridership and positive attitudes towards transit, individual transportation systems find it difficult to determine the size of their advertising budgets with reasonable confidence. How to get the most out of an advertising expenditure has been given much attention by transportation marketers; determining the size of that expenditure based on an evaluation of the effective-

ness of advertising has been relatively difficult. The amount of money spent by transportation systems on advertising and the lack of advertising evaluation to develop defensible, objective criteria for determining how much to spend argue for and provide the impetus for this section.

Advertising is notoriously difficult to study and assess. There are several reasons for this:

- it is difficult to isolate advertising from the plethora of other factors in the environment that also impact on sales;

- advertising is difficult to define--the word itself has come to mean a whole range of very different activities;

- advertising research is complicated by the impact made by the overall advertising campaign on a single advertisement, the multitude of media possibilities, and other factors in the marketing mix;

- time is a critical factor in determining advertising effectiveness--market tests can in most cases evaluate the effects of only one exposure; it is more difficult to take into account the cumulative effects of past advertising on attitudes and behavior (it may take a series of advertisements to break through a threshold of resistance--the last ad that triggers a commuter to use public transportation cannot alone be credited with the result).

- advertising research can produce an atmosphere of para- noia--large amounts of money, as well as reputations, and

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ultimately jobs, can be at risk when advertising research is being undertaken.

To say, however, that advertising research is imprecise and fraught with difficulties is not, of course, to say that it is useless! A parallel with economists might be drawn--economists are often wrong and have to change their theories to fit new facts, but nevertheless provide a perspective that eliminates a certain amount of guesswork and makes learning by experience less painful (Lovell and Potter, 1975). Various lists have been drawn up describing conditions under which advertising is likely to have a significant impact in the marketing process. Kotler (1976) has defined the following instances in which advertising's contribution is the greatest:

- when buyer awareness is minimal;
- when sales are rising rather than remaining stable or declining;
- when the product has features normally not observable to the buyer;
- when the opportunities for product differentiation are strong;
- when discretionary incomes are high.

Often what goes wrong in advertising research is a failure to define in measurable terms exactly what advertising should be accomplishing--what are the goals of advertising over the long term and the short term? Alone and in combination with other marketing tools? Described below are a number of evaluation

measures that will contribute to the definition of a public
transportation system's advertising goals. A system should
establish goals that can be measured by these criteria:

Measures of Awareness
1.   What was the degree of exposure to the advertising?
2.   Was the advertising message communicated to the targeted
      segments of the population?
3.   Did the advertising increase the awareness in the community
      of the public transportation system?

Measure of Attitudes
1.   Did the advertising create a predisposition in the targeted
      population to use public transportation?
2.   Was the potential customer persuaded by the advertising to:
      a) want to ride the transit vehicle?
      b) support public transportation in general?

Measures of Behavior
1.   Did the advertisement actually motivate the customer to ride
      the transit vehicle?
2.   What role did the advertising play in the customer's
      decision?
3.   Does the advertisement encourage repeat riding?

With respect to the above measurements of advertising
effectiveness, however, two things must be kept in mind (Cox,
1961):

1)   It is possible for a person to change his/her factual
      knowledge without changing his/her attitudes or behavior.

2)   It is possible for a person to change his/her behavior
      without first changing his/her attitudes (i.e., attitude
      change may follow behavior change).

Another concern when measuring advertising effectiveness
relates to determining how much to spend for advertising re-
search. Two factors must be considered: 1) What is the cost of
each advertising research project? and 2) What benefits will be
derived from each project?

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A cost-benefit analysis (described at length in the market-
ing literature) should be one of the first steps in any decision
regarding an advertising research project.

Many public transportation systems do not have a marketing
research department. Most systems have no evidence from which to
judge the productivity of advertising dollars. It is the purpose
of this section of the manual to provide various data collection
techniques, described in a straight forward manner, to measure
the effectiveness of advertising.

The section is organized by the techniques of measurement
used to ascertain the effectiveness of advertising: focus
groups, personal interviews, self-administered questionnaires,
site testing, newspaper and cablevision splits, telephone
interviews, and measures of ridership levels.

B.   The Techniques: Advertising

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ADVERTISING DATA COLLECTION TECHNIQUES

TECHNIQUE: Focus Group (Testing Advertising Themes)

APPLY TO: Advertising Themes

WHAT IT MEASURES: Awareness, attitudes

HOW IT WORKS:

- Several themes or main ideas for the advertisement are presented on a screen or on cards to a small group of participants in a specially built room. A professional moderator then tries to bring out, through discussion, which of the themes is most interesting and why. (Interviewing)

- The themes or main ideas are presented as above and the respondents are asked to indicate which of them they would like to see more information about, thus assuming that the differences in curiosity correspond to differences in interest and attention. (Curiosity tests)

- Respondents are shown a theme or main idea for the adver- tisement to be viewed on TV. The video can be shown without any sound and the respondents probed for the ideas conveyed. The same test is then conducted for the audio without any sight--to be sure that the two elements are telling the same story. (Audio/video test)

ADVANTAGES:

As a conversation stimulator this approach can be useful in the search for diagnostic clues as to where an ad might need strengthening.

DISADVANTAGES:

The focus group method sounds simple but is actually tricky. Few researchers in major advertising firms would use this method as a means of "scoring" ads. It should never be used for quantitative estimates.

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ADVERTISING DATA COLLECTION TECHNIQUES

TECHNIQUE: Focus Group (Testing Idea Sequencing)

APPLY TO: Idea Sequencing

WHAT IT MEASURES: Awareness, attitudes, behaviors

HOW IT WORKS:

- Before the actual filming of the TV ad is undertaken, the sequence of the advertisement, especially if it has a story to tell, can be tested by a series of storyboards. Each respondent is provided with a set of story "events" and asked to place them in order. The moderator then leads a discussion among the participants as to why one order of events is preferred over another. (Sequencing test)

ADVANTAGES:

As a conversation stimulator this approach can be useful in the search for diagnostic clues as to where an ad might need strengthening.

DISADVANTAGES:

The focus group method sounds simple but is actually tricky. Few researchers in major advertising firms would use this method as a means of "scoring" ads. It should never be used for quantitative estimates.

ADVERTISING DATA COLLECTION TECHNIQUES

TECHNIQUE: Focus Group (Testing Complete Ads)

APPLY TO: Complete Ads

WHAT IT MEASURES: Awareness, attitudes

HOW IT WORKS:

- Participants are shown two or more ads for the product and the moderator tries to elicit which of the ads is the best. (Consumer jury test)

- Participants are shown two or more ads for the product and asked which ad they think would persuade other people to try the product--with the assumption that people cannot impute attitudes to others except as reflection of their own biases and opinions. (Projective questioning)

ADVANTAGES:

As a conversation stimulator this approach can be useful in the search for diagnostic clues as to where an ad might need strengthening.

DISADVANTAGES:

The focus group methods sounds simple but is actually tricky. Few researchers in major advertising firms would use this method as a means of "scoring" ads. It should never be used for quantitative estimates.

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ADVERTISING DATA COLLECTION TECHNIQUES

TECHNIQUE: Personal Interviews (Testing Advertising Themes)

APPLY TO: Advertising Themes

WHAT IT MEASURES: Awareness, attitudes, behavior

HOW IT WORKS:

- Respondent is exposed to themes, ideas and advertising appeals written or drawn on cards and then asked to "play-back" or repeat the message. This test is useful in determining whether the idea is misinterpreted. This should also be considered a measure of the theme's interest-generating ability, since the playback can depend as much on the exact phrasing as on the underlying idea. (Quick recall test)

- Respondent is presented an advertising layout in which only the main element, a headline or picture, is openly exposed, everything else being covered by flaps. When two or more such ads are shown to the respondent, the criterion is which flaps the respondent lifts first. (Element curiosity test)

- This is really a kind of show and tell in which the respondent is exposed briefly to the elements under study (headlines or pictures representing main theme) and questioned about what it means. Specifically, the respondent is shown what purports to be an advertisement with parts of it blanked out, and is then asked questions about the product as he or she would visualize it based on the main theme or idea presented. As a further stimulus, the respondent may be asked what else he or she would say about the product to complete the ad that begins with the given headline. (Show-tell situation)

ADVANTAGES:

Structured personal interviews are the most popular type of test method when affordable. If a van is used, people can be exposed one at a time or in very small groups in a vehicle that can travel from one place to another and hence provide some degree of sampling control.

DISADVANTAGES:

May be expensive per interview and can have some sampling problems (are the interviewees representative of the population).

ADVERTISING DATA COLLECTION TECHNIQUES

TECHNIQUE: Personal Interview (Testing Complete Ads)

APPLY TO: Complete Ads

WHAT IT MEASURES: Awareness, attitudes, behavior

HOW IT WORKS:

- The respondent is shown the video parts of two TV commercials simultaneously and can listen to the audio portion to only one of them and can switch back and forth between them. Relative interest of the two is determined by how much the respondent listens to each commercial. (Video-interest test)

- A sometimes sensitive portfolio or projector test is to place the test ad or commercial in the middle of a sequence of five or more ads, expose all the ads without pause, and then ask the respondent to name or describe the test ad. If one ad scores better than another ad in the same sequence, it is judged more interesting. An alternative method is to allow the respondent to leaf through a portfolio of advertisement alternatives and then, with the portfolio closed, repeat what he or she remembers. The order of ads is alternated among respondents to compensate for effects due to the order of presentation.

ADVANTAGES:

Structured personal interviews are the most popular type of test method when affordable. If a van is used, people can be exposed one at a time or in very small groups in a vehicle that can travel from one place to another and hence provide some degree of sampling control.

DISADVANTAGES:

May be expensive per interview and can have some sampling problems (are the interviewees representative of the population).

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ADVERTISING DATA COLLECTION EVALUATION

TECHNIQUE: Self-Administered Questionnaires (Testing Advertising Themes)

APPLY TO: Advertising Themes

WHAT IT MEASURES: Attitudes

HOW IT WORKS:

- Respondent is shown a list of possible product attributes and asked to put together those he considers desirable for an ideal product of this type. Alternatively, each attribute can be scaled for desirability. (Product attribute test)

ADVANTAGES:

Easy to distribute as self-administered questionnaires are either mailed to homes in selected areas, delivered by carriers or distributed on-board transit vehicles.

DISADVANTAGES:

Their usefulness is limited when much information is needed per person or when in-depth probing is necessary.

TECHNIQUE: Self-Administered Questionnaires (Testing Complete Ads)

APPLY TO: Complete Ads

WHAT IT MEASURES: Awareness, attitudes, behavior

HOW IT WORKS:

- Questionnaires can be mailed to a randomly selected population asking respondents about TV exposures at certain hours of the day or evening in order to elicit their reactions to an advertisement to assess the ad for its attention value, interest value, intended message, effect on attitudes and its effect on traveling behavior. (TV exposure test)

ADVANTAGES:

Easy to distribute as self-administered questionnaires are either mailed to homes in selected areas, delivered by carriers or distributed on-board buses.

DISADVANTAGES:

Their usefulness is limited when much information is needed per person or when in-depth probing is necessary.

ADVERTISING DATA COLLECTION TECHNIQUES

TECHNIQUE: Site Testing

APPLY TO: Complete Ads

WHAT IT MEASURES: Behavior

HOW IT WORKS:

- Display cards or tape recorders or video recorders are used
  to tell the product story at selected points for a transit
  sale (e.g., major bus stops, a pass outlet, etc.). Results
  are then determined by interest generated, actual sales of
  transit passes, inquiries about routes, and redemption rate
  of special coupons or discounts handed out.

ADVANTAGES:

This test is often valuable in determining the ability of an
advertisement to create interest and attention. It also
allows the researcher to test the materials for communica-
tion of their intended messages and specifically to test
them for their effect on purchasing behavior.

DISADVANTAGES:

Does not measure more subtle aspects of a consumer's
response such as their attitudes towards an advertisement.

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ADVERTISING DATA COLLECTION TECHNIQUES

TECHNIQUE: Newspaper Split Runs and Cable-vision Split

APPLY TO: Complete Ad; Advertising Theme

WHAT IT MEASURES: Awareness, attitudes, behaviors

HOW IT WORKS:

- If the text of a complete ad or advertising theme is to be tested, one handy device is the newspaper split run in which a free offer or a 50-cent offer is buried at the end of each version of the ad. Different response rates to the offer are attributed to the extent to which the ad generated enough interest to be read completely. Or the offer can be buried in a standard block of ad copy under a series of different headlines or major themes, in which case different response rates are a measure of the interest the headline or theme created. (Buried offer tests)

- The day after the split run exposure has occurred people qualified as newspaper readers or television viewers are then asked whether they can "prove" that they saw the advertisement by repeating for the telephone interviewer what was in the ad. Results 'are used to ascertain the attention value and communication value of the various ads as well as to probe for attitude or behavior change as a result of the ad. (Newspaper recall test or cablevision recall test)

ADVANTAGES:

Most major metropolitan newspapers offer geographic split runs. In Milwaukee, for example, it is possible to control the exposures over a period of time. The cablevision split is best used when the viewers are not aware of a test or of any special circumstances and when the CATV system is equipped with a means of sending two signals simultaneously on the same channel, each to half the subscribers in an area.

DISADVANTAGES:

Time separation is not possible in ordinary split runs where the receipt of one campaign or another by an individual is a new random split for each insertion.

ADVERTISING DATA COLLECTION TECHNIQUES

TECHNIQUE: Telephone Interviews

APPLY TO: Complete Ad; Advertising Theme

WHAT IT MEASURES: Awareness, attitudes

HOW IT WORKS:

- Respondents are contacted ahead of time and asked to watch certain sponsored TV programs or time slots in which the ad is to be run. After having viewed the ad, respondents are asked questions about its basic themes and ideas and probed for the effect of the ad on their attitudes and behavior. To act as a control group, another population of respondents who did not see the ad are asked similar questions about their attitudes toward the transit system and their travel behavior. (Pre-selected TV test)

- Respondents are contacted at random and questioned about their exposure to a TV ad, a newspaper ad or other elements of a major campaign. Respondents may be asked about transit system advertising in general, a specific theme, the believability of specific ad ideas, what they liked or disliked about the advertising, where they heard or saw the ad, etc. (Telephone attitude and awareness test)

- See example in Figure 1 on following page.

ADVANTAGES:

Telephone interviewing is the norm these days, especially with the availability of WATS lines. The rationale under-lying this method is that the attitudes and behavior of a group exposed to a major campaign should be understood. It is also assumed that the higher the scores of recall of an advertisement, the more likely it is that the advertising is productive.

DISADVANTAGES:

May be expensive; no assurance of whether the person answering the phone is the appropriate interviewee.

Figure 1: Telephone Interview for Advertising Evaluation

METRO ATTITUDE AND AWARENESS STUDY (February 1982)

1. Now, thinking about advertising, have you seen or heard any advertising about METRO in the past few months?

2. METRO has been sponsoring some advertising featuring different people who ride the bus, with the theme line: "METRO, who rides it? People just like you." Have you seen or heard any of that advertising?

3. Could you tell me everything you remember about the advertising?

4. What do you think was the main idea they were trying to get across to you in that advertising? (One main idea only. Don't accept "To get you to ride the bus.")

5. How believable do you think that idea is? Would you say it's . . .

        very believable
        somewhat believable
        not very believable
        not at all believable

6. What makes you say that?

7. Was there anything that you particularly <u>liked</u> about the advertising?

8. Was there anything you particularly <u>disliked</u> about it?

9. Where did you see or hear the advertising about METRO?

        television   inside bus
        newspaper   outside bus
        radio   on phone line

Additional Suggested Questions for Telephone Interviews

1. How often have you seen or heard the advertising?
2. Did you learn anything new from the advertising?
3. Did you think there was anything particularly important about what you saw or heard in the advertising?
4. Was anything in the advertising difficult to understand, confusing or unbelievable or exaggerated?
5. How convincing or persuasive is the advertising in causing you to want to try the service? (Or, if already rode the bus) Do you intend to continue riding the bus? How often?

ADVERTISING DATA COLLECTION TECHNIQUES

TECHNIQUE: Ridership

APPLY TO: Complete Ads; Advertising Theme

WHAT IT MEASURES: Ridership behavior

HOW IT WORKS:

- Ridership data can be analyzed in relation to an advertising
  campaign exposed during a given period--provided the
  campaign runs long enough, in a large enough geographic
  area, and utilizes a large variety of media exposure.

ADVANTAGES:

Objective, strong indicator of advertising effectiveness

DISADVANTAGES:

Actual behaviors may not be changed because of advertising.
Yet awareness and attitudes may change and this is an
important product of advertising. May be many other events
that change ridership concurrently with advertisement (e.g.,
introduction of new vehicles), thus making it hard to
control for effects of advertisements.

Evaluating Seattle Metro's Consumer-Information System

Recently, Seattle Metro embarked upon a program to develop several new prototypes of various components of its information aid system. Specifically, Metro was interested in developing two new styles for a system map, two new styles for an area map (such as a central business district), two new styles for timetables with route maps and two new styles for bus stop signs. Furthermore, Metro desired a comprehensive analysis to determine which of the new styles would be most positively received by riders and non-riders and which would promote the most accurate navigation (trip making). In order to carry out this task, several different evaluation techniques were developed so that Metro would have an answer to these questions. Different data collection techniques were tested in this context, and those that proved effective and efficient are included in this manual.

It is the intention of this section of the manual to document the Seattle case study experience so that the reader may understand the complete process of developing new information aids and then evaluating them. Five steps are explained and accompanied by display materials that further document how each of the steps was carried out.

Step 1 (Table A) - Defining the Information System. Before designing new models of several of the different information aids, it was first necessary to undertake a more comprehensive look at the types of information that each of the information

aids passes on to consumers. Table A presents the different types of information conveyed by current and potential information aids. As the table illustrates, some aids, such as a system map, are designed to present very general information, while other aids, such as a timetable, are for the presentation of much more specific information.

Table A

Step 2 (Table B) - Functional Roles and Design Criteria for Information Aids. This step involved a much more detailed development of the functional roles of the different information aids and also specified design criteria that were to be passed on to the artists developing new information aid prototypes. Table B presents the functional roles and design criteria for the new system maps, area maps, timetables with route maps and bus stop signs that were to be developed. It should be pointed out that there are two functional requirements for each of the aids; the first is promotional and the second is navigational. For example, under the system map, a promotional function is heavily emphasized, whereas a navigational function plays somewhat less of a role.

Table B

TABLE A. A "SYSTEM FOR REPRESENTING TRANSIT CONSUMER INFORMATION"

Key: • = Aid should convey this information

INFORMATION TO CONVEY	CURRENT AIDS									POTENTIAL AIDS						
	MAPS		TIME-TABLE	BUS STOP SIGN			BUS "HEADER"	TELEPHONE INFO.	SIDE-WALK KIOSKS	TIME-TABLE BOOK	C R T				PHONE-COMPUTER	
	System	Area		Sign	Sign + Sch.	Sign + Sch+Map					Station	Station Interact	Home	Home Interact	Station	Home
Service Area	•							•	•	•	•	•	•	•	•	•
Landmark/Pts Interest		•	•					•	•			•	•	•		
Routes (General)	•					•			•	•	•		•			
Hours/Freq. Service		•	•		•			•	•	•	•	•	•	•	•	•
Fares	•	•	•		•	•		•	•	•	•	•	•	•	•	•
Street Detail		•	•						•	•		•	•	•		
Routes(Detail)		•	•						•	•	•	•	•	•		
Stop Location		•		•	•				•	•	•	•	•	•	•	•
Schedule			•		•				•	•	•	•	•	•	•	•
Routes Serving Stop		•		•	•				•	•		•		•		
Destination (RTS Serving Stop)		•			•	•			•			•		•		
Travel Time To Destination			•						•			•		•		
Transfer Points		•	•		•	•			•	•	•	•	•	•		
Modal Connections	•		•						•	•	•	•	•	•		
How to Ride	•		•		•	•		•	•		•	•	•	•		•
Info Sources e.g., Phone #s	•		•					•	•	•						
Special Services	•		•					•	•							

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TABLE B: FUNCTIONAL ROLES AND DESIGN CRITERIA FOR INFORMATION AIDS

I.   Maps

    A.   System Map
       1.   Function
          a.   Promotional
             (1)   Increases awareness of transit
             (2)   Increases positive attitudes about transit
             (3)   Increases knowledge of transit
             (4)   Increases transit patronage
             (5)   Increases political constituency for transit
          b.   Navigational: allows determination of transit route(s) for a given trip and hours and frequency of service
       2.   Target Population
          a.   Riders, potential riders, non-riders
          b.   Individuals, groups, organizations
          c.   New residents, established residents, visitors
          d.   All ages (12+)
          e.   Special populations
       3.   Design Criteria
          a.   Content
             (1)   Entire service area
             (2)   Routes and their origins and destinations
             (3)   Route designations
             (4)   Route connections
                (a)   transfers
                (b)   connections with car (Park & Ride), train, air, intercity bus, etc.
             (5)   Landmarks and points of interest
             (6)   "How to use" information
                (a)   fares
                (b)   hours of service
                (c)   frequency
                (d)   type of service or special service
                (e)   other information aids available
             (7)   Compass rose (North arrow)
             (8)   General reference to street names/numbers
             (9)   Mileage scale
          b.   Production
             (1)   Materials: promote keeping and displaying
             (2)   Quantity: 50,000
             (3)   Reprint schedule: annually
          c.   Distribution

(1) Displayed at bus stops
                        (2) Distributed at Metro customer counter
                        (3) Displayed in public places
                        (4) Displayed in business establishments
                   d.   Special Design Considerations
                        (1) Promotional and navigational roles are
                            equally important
                        (2) Design should promote retaining and
                            displaying by individuals, groups,
                            organization, and business
                            establishments
                        (3) Attractive (promotes use of information
                            aid)
                        (4) Easy to modify and update
                        (5) Minimum cost per unit

B.   Area Map   (an insert to the system map that can also be
                used independently of the system map)
     1.   Function
          a.   Promotional
               (1) Increases awareness of transit
               (2) Increases positive attitudes about
                   transit
               (3) Increases knowledge of transit
               (4) Increases transit patronage
               (5) Increases political constituency for
                   transit
          b.   Navigational
               (1) Allows detailed understanding of transit
                   routes for a part of the city
               (2) Use can determine destinations of routes
                   in area shown by the area map
     2.   Target Population
          a.   Riders, potential riders, non-riders
          b.   Individuals, groups, organizations
          c.   New residents, established residents,
               visitors
          d.   All ages (12+)
          e.   Special populations
     3.   Design Criteria
          a.   Content
               (1) Routes in area and their origins and
                   destinations
               (2) Route designations
               (3) Route connections
                   (a) transfers
                   (b) connections with car (Park & Ride),
                       train, air, intercity bus, etc.
               (4) Landmarks and points of interest
               (5) "How to use" information
                   (a) fares
                   (b) hours of service

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(c) bus frequency
                    (d) type of service or special service
                    (e) other information aids available
               (6) Compass rose (North arrow)
               (7) Detailed reference of street
                    names/numbers
               (8) Mileage scale
          b.   Production
               (1) Materials: promote keeping and
                    displaying
               (2) Quantity: 50,000
               (3) Reprint schedule: annually
          c.   Distribution
               (1) Displayed at bus stops
               (2) Distributed at Metro customer counter
               (3) Displayed in public places
               (4) Displayed in business establishments
          d.   Special Design Considerations
               (1) Area map will serve as an insert for a
                    system map yet also be able to "stand
                    alone" for certain applications
               (2) Promotional and navigational roles are
                    equally important
               (3) Design should promote retaining and
                    displaying by individuals, groups,
                    organizations, and business
                    establishments
               (4) Attractive (promotes use of information
                    aid)
               (5) Easy to modify and update
               (6) Minimum cost per unit

II. Timetables

     A.   Function
          1.   Promotional: increases knowledge of transit
          2.   Navigational: allows detailed trip planning
               (e.g., transit stop locations and arrival and
               departure times) for a specific transit route
     B.   Target Population
          1.   Riders, potential riders
          2.   New residents, established residents, visitors
          3.   All ages (12+)
          4.   Special populations
     C.   Design Criteria
          1.   Content
               a.   Route-specific map (schematic or
                    representative?)
               b.   Route-specific timetable with timepoints and
                    travel times
               c.   Route connections (see "System Map" details)
                    on map

        d.   Landmarks and points of interest on route map
        e.   "How to use" information (see "System Map"
              details)
        f.   Compass rose (North arrow) on route map
        g.   Reference to street names/numbers on route
              map
        h.   Milage scale on route map
    2.   Production
        a.   Materials: promotes keeping
        b.   Quantity: 120 individual timetables, 15-
              60,000 of each
        c.   Reprint schedule: 3 times annually
    3.   Distribution
        a.   Distributed at METRO customer counter
        b.   Distributed on buses
        c.   Distributed in displays at major public
              buildings
        d.   Distributed in displays at variety of retail
              stores
        e.   Distributed via mail on request, and during
              specific promotions
    4.   Special Design Considerations
        a.   Design should promote displaying of many
              timetables in large racks
        b.   Each individual timetable should be easily
              identified (especially when in a display
              rack)
        c.   Timetables should be attractive so that use
              is promoted
        d.   Minimum cost per unit

III. Bus Stop Schedule Information

    A.   Function
        1.   Promotional (same as "System Map")
        2.   Navigational: allows detailed trip planning (what
            buses stop at a given stop, when, where they go
            and approximate travel times) for routes serving a
            given bus stop
    B.   Target Population
        1.   Riders, potential riders, non-riders
        2.   New residents, established residents, visitors
        3.   All ages (12+)
        4.   Special populations
    C.   Design Criteria
        1.   Content
            a.   Designation of routes that stop at given stop
            b.   Times that buses stop at given stop or
                nearest timed stop
            c.   Notes on distance (travel time) to nearest
                timed stop
            d.   Destinations for buses serving given stop

e.   Approximate travel times to destinations from
                given stop (or nearest timed stop)
        f.   "How to use" information (see "System Map"
                details)
    2. Production
        a.   Materials: promotes outside displaying
        b.   Quantity: 1200 styles, 1-15 of each
        c.   Reprint schedule: 3 times annually
    3. Distribution: on display on 3,000 bus stop signs
    4. Special Design Considerations
        a.   Easy to read at a distance (on a post)
        b.   Promotes quick access to information
        c.   Attractive (promotes use of information aid)
        d.   Easy to modify and update
        e.   Promotional and navigational roles are
                equally important
        f.   Minimal cost per unit

Step 3 (Table C) - Development of New Information Aid Prototypes.
Table C illustrates which variables were changed in the different
information aid prototypes. It should be noted that three
variations of each of the information aids were developed. Two
of the variations were brand-new styles and one of the variations
was a duplication of a current information aid. The duplication
of the current information aid was necessary to act as a control
for understanding whether or not the new prototypes performed
better or worse than what existed.

Table C

Step 4 (Tables D, E, F, G) - Research Design. Table D represents
a first cut at a research design for evaluating the information
aid prototypes. Table E is a refinement of this process and
specifies in more detail the various sample sizes needed to test
the different information aids.   Table F is a further refinement
of the research design; it presents more detail regarding the
specific methods for displaying the information aid prototypes.
Table G is a schedule delineating exactly when the different
events were to take place in the research process.

Tables D, E, F and G

TABLE C. VARIABLES CHANGED IN THE DIFFERENT VERSIONS OF THE INFORMATION AIDS

<u>Variables Changed</u>

<u>SYSTEM MAP</u>

	Street Grid	Color-Coded Routes	Schematic	Route # Matrix
# 21 (current)	NO	NO	NO	NO
# 24 (new)	**YES**	**YES**	NO	NO
# 26 (new)	NO	NO	**YES**	**YES**

<u>AREA MAP</u>

	Street Grid	Color-Coded Routes	Schematic	Route # Matrix
# 41 (current)	NO	NO	NO	NO
# 44 (new)	**YES**	**YES**	NO	NO
# 46 (new)	NO	NO	**YES**	**YES**

<u>TIMETABLE</u>

	To, From Info.	Trip Times	# Time Points	Memory Headway	Arrow with Trip Time
# 61 (current)	NO	NO	7	NO	NO
# 64 (new)	**YES**	**YES**	**4**	NO	NO
# 66 (new)	NO	NO	7	**YES**	**YES**

<u>BUS STOP</u>
<u>SCHEDULE</u>

	Column Layout	Trip Times	Memory Headway	Map
# 81 (current)	NO	NO	NO	NO
# 84 (new)	**YES**	**YES**	NO	NO
# 86 (new)	NO	NO	**YES**	**YES**

Bold Print = Different from "current" information aid
1. Memory Headway is when arrival times are the same throughout the day.
2. Column Layout is when all arrival times are in a verticle column.

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TABLE D.   PRELIMINARY RESEARCH DESIGN

I.   Predesign Research
    A.   Purpose - Assess current information system to generate ideas for design
    B.   Target Population
        1.   Riders
        2.   Non-Riders
    C.   Technique: Focus Group
    D.   Specific Data of Interest
        1.   Use of current information system (frequency, items used, etc.)
        2.   Attitudes about current information system
        3.   Ease of use/problems
        4.   Opinions about navigational attributes
        5.   Opinions about promotional attributes
        6.   Ideas for new information system

II.   Postdesign Research (Four maps, three timetables, three bus stop schedules)
    A.   Subjective Assessment
        1.   Purpose - Measure subjective reactions to various modes of information presentation
        2.   Target Population
            a.   Riders
            b.   Non-Riders
        3.   Technique: Focus Group
        4.   Specific Data of Interest
            a.   Attitudes
            b.   Ease of use
            c.   Opinions about navigational attributes
            d.   Opinions about promotional attributes
            e.   Comparative measures (e.g., Map 1 vs. 4)
    B.   Objective assessment
        1.   Purpose - Measure consumer's actual trip making abilities and accuracy as function of different graphic presentations
        2.   Target Population
            a.   Riders
            b.   Non-Riders
        3.   Techniques
            a.   Guided interview in mall
            b.   Self-administered survey in mall
            c.   Direct mail response or newspaper ad
        4.   Specific data of Interest
            a.   Ability to accurately plan a transit trip (e.g., correct vehicle arrival time, departure times, travel times, etc.) with different graphic presentations
            b.   Reaction to ease of use (for trip planning) of various graphic presentations

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TABLE E.
RESEARCH STRATEGY FOR INFORMATION AID TESTING

	System Map 21	24	26	Timetable 61	64	66	Bus Stop Sign 81	84	86
FOCUS GROUP									
1. Predesign	*								
a. Riders	10→			→			→		
b. Non-Riders	10→			→			→		
2. Postdesign									
a. Riders	10→	-----	----→	-----	-----	----→	-----	-----	----→
b. Non-Riders	10→	-----	----→	-----	-----	----→	-----	-----	----→
SURVEY (Intercept)									
1. Self-Admin									
a. Riders									
1) Pretest	5	-----	----→	5	-----	----→	5	-----	-----
2) Actual	100	-----	----→	100	-----	----→	100	-----	----→
b. Non-Riders									
1) Pretest	5	-----	----→	5	-----	----→	5	-----	----→
2) Actual	100	-----	----→	100	-----	----→	100	-----	----→
2. Guided									
a. Riders									
1) Pretest	5	-----	----→	5	-----	----→	5	-----	----→
2) Actual	100	-----	----→	100	-----	----→	100	-----	----→
b. Non-riders									
1) Pretest	5	-----	----→	5	-----	----→	5	-----	----→
2) Actual	100	-----	----→	100	-----	----→	100	-----	----→
Trip Plan Test (Timetable)	|	|		50	50	50	50	50	50
Trip Plan Test (Bus Stop Sign)	|	|		50	50	50	50	50	50
Observe Trip Making	10	-----	----→	-----	-----	----→	-----	-----	----→

*The numbers in the cells refer to sample sizes.

Arrows denote that the same subjects are used for the cells the arrows cover

TABLE F. STRATEGY WHICH DELINEATES HOW THE INFORMATION AIDS ARE DISPLAYED FOR RESEARCH PURPOSES

Information Aid

RESEARCH TECHNIQUE		System Map 21 A	24 B	26 C	Area Map 41 A	44 B	46 C	Timetable 61 A	64 B	66 C	Bus Stop Sched 81 A	84 B	86 C
Self-Administered Survey (Index Item Test) Data: Bus Riding History, Navigational Accuracy, Preference (via analysis), 1+ Attributes	Where Administered	Pike Pl & Bell Sq	- - →		- - →			- - →			- - →		
	How Aid Displayed	Kiosk w/Area Map	- - →		Kiosk w/Sys.Map	- - →		Brochure Alone	- - →		Brochure Alone	- - →	
	How Survey Presented	Survey Card	- - →		Survey Card	- - →		Survey/Brochure	- - →		Survey/Brochure	- - →	
	Sample Size												
	Rider/Non-Rider Ratio	Natural Occur	- -										
Semi-Guided Survey (Compare Item Index) Data: Bus Riding History, Navigational Accuracy, Preference (via preference), 1+ Attributes	Where Administered	Pike Pl & Bell Sq.											
	How Aid Displayed	Kiosk together			Kiosk together			Kiosk together			Kiosk together		
	How Survey Presented	Survey Card			Survey Card			Survey Card			Survey Card		
	Sample Size												
	Rider/Non-Rider Ratio	Natural Occur			Natural Occur			Natural Occur			Natural Occur		

TABLE G. RESEARCH SCHEDULE

```
              17 May:    Final Graphics
              18 May:    Focus Group Pretest
              25 May:    Focus Groups
  26 May - 1 June:       Revised Questionnaires Based on Focus Group
          2 June:        Pretest Questionnaires
      3 - 10 June:       Final Questionnaire Revise and Print
     11 - 12 June:       Bell Square Testing
     18 - 19 June:       Bell Square Testing
     25 - 26 June:       Bell Square Testing
```

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
15	16	17 Final Graphics	18 CTAC Focus Group	19	20	21
22	24	24	25 Focus Group	26 Revise Quest	27 Revise Quest	28
29	30 Revise Quest	31 Revise Quest	1 Revise Quest	2 Pretest Quest	3 Revise &Print	4
5	8 Revise &Print	8 Revise &Print	8 Revise &Print	8 Revise &Print	10 Revise &Print	11 Testing
12 Testing	13	14	15	16	17	18 Testing
19 Testing	20	21	22	24	24	25 Testing
26 Testing	27	28	29	30		

Step 5 (Table H and Figures A-G) - Development of the Data
Collection Instruments. Presented below are the data collection
instruments developed to collect the data necessary to evaluate
Seattle Metro's information aid prototypes. The figure captions
on each figure explain their applications. Figures B-G were
reduced 23% from those actually used, so that they could be
printed here. Note that Figures B-G each try to assess (1)
background - demographic information; (2) trip navigational
accuracy; and (3) subjective/preference responses to the informa-
tion aid in question.

Table H and Figures A-G

TABLE H. GUIDE FOR THE FOCUS LEADER TO RUN THE FOCUS GROUPS
(1 Rider Post-Design Group)
(1 Non-Rider Post-Design Group)

ITEM	HOW PRESENT	QUESTIONS/COMMENTS
Introduction	Narrative	- "Metro studying new information systems" - "Tonight look at 3 system maps, 3 area maps, 3 timetables 3 bus stop schedule information" - "Like your opinions of information system designs" - "No right or wrong answers" - "Opinions will contribute to design of future information systems" - "Introduce yourself, occupation, name cards" - "Many things to review"
System Maps	3 display boards, each with all 3 maps. 3 participants to simultaneously observe (while seated) each board.	- Navigational question. - Which map easy to use? - Why? - Which map hard to use? - Why? - Which most attractive? - Why? - Which map least attractive? - Why? - Which map would most people use?
Area Maps	Same as for system maps.	- Same as questions for system maps. - How does area map relate to system map?
Timetables	9 display boards, each with all 3 timetables. All participants get a display board while sitting.	- Same as questions for systems maps.
Bus Stop Sched.	Same as for timetables	- Same as questions for system maps.
"System" Questions	Display everything on wall - 3 area maps - 3 timetables - 3 bus stop schedules	- Which information pieces go with each other? - Which information piece is most important? - What is ideal information system?

Figure A. A Sample Of An Answer Sheet Given To Subjects In The Focus Groups To Get Their Answer to a Navigation Question And Their Opinions In Regards to the Different Information Aids.

Information Aid	Navigation Answer (fill in)	Easiest to Use (circle one)	Hardest to Use (circle one)	Most Attractive (circle one)	Least Attractive (circle one)
1. System Map	_____ route #s	21* 24 26	21 24 26	21 24 26	21 24 26
2. Area Map	route # _____ # blocks	41 44 46	41 44 46	41 44 46	41 44 46
3. Timetable	board time _____ trip time	61 64 66	61 64 66	61 64 66	61 64 66
4. Bus Stop Schedule	_____ board time	81 84 86	81 84 86	81 84 86	81 84 86

*Numbers refer to information aid prototypes (see Table C)

▤BUS

Do Not Write
in this Space
1-1
2-3
(3-5)

WOULD YOU PLEASE ANSWER

1. How many one-way trips did you take on a Metro bus last week?

☐ None   ☐ 1-6   ☐ 7-12   ☐ 13 or more   6-

2. Please LOOK at MAP 26 on the board.

    a. What are the route numbers of the buses that you could take from Eastgate to Medina?

                      _____   7-

                            route numbers

                                              8-Blank

    b. Do you think MAP 26 is...?

        ☐ Very easy to use   ☐ Easy to use   ☐ Hard to use   ☐ Very hard to use   9-

    c. Which of the following should be changed to Improve Map 26?

        ___ Don't change anything   ___ the number of streets shown   10-
        ___ the color   ___ the number of landmarks   11-
        ___ the way in which the route ___ the print size   12-
             numbers are shown   13-
        ___ the way in which the routes ___ Other (write in) _____   14-
             are drawn   _____

3. Please LOOK at MAP 46 on the board.

    a. What are the route numbers of the buses you could take from 110th Ave NE and NE 8th
       Street to the entrance of Bellevue Square at NE 4th and 102nd Ave NE?

                      _____   15-

                            route numbers

    b. Do you think MAP 46 is...?

        ☐ Very easy to use   ☐ Easy to use   ☐ Hard to use   ☐ Very hard to use   16-

    c. Which of the following should be changed to Improve MAP 46?

        ___ Don't change anything   ___ the number of streets shown   17-
        ___ the color   ___ the number of landmarks   18-
        ___ the way in which the route ___ the print size   19-
             numbers are shown   20-
        ___ the way in which the routes ___ Other (write in) _____   21-
             are drawn   _____

4. Please check the ONE statement that best describes what you think about MAP 26 and
   MAP 46.

   [CHECK ONE ONLY]
        ___ MAP 26 is good and MAP 46 is not needed for planning a bus trip.   22-
        ___ MAP 46 is good and MAP 26 is not needed for planning a bus trip.
        ___ Both MAP 26 and MAP 46 are needed for planning a bus trip.
        ___ Neither MAP 26 nor MAP 46 is needed for planning a bus trip.

5. Which of the following ideas would most encourage people to use the bus for shopping
   trips to Bellevue Square?

   [CHECK ONE ONLY]
        ___ Improved bus information in Bellevue Square.   23-
        ___ Special shopping buses to Bellevue Square.
        ___ Merchant discounts for bus riders.
        ___ Expanded home delivery services for the things people buy.
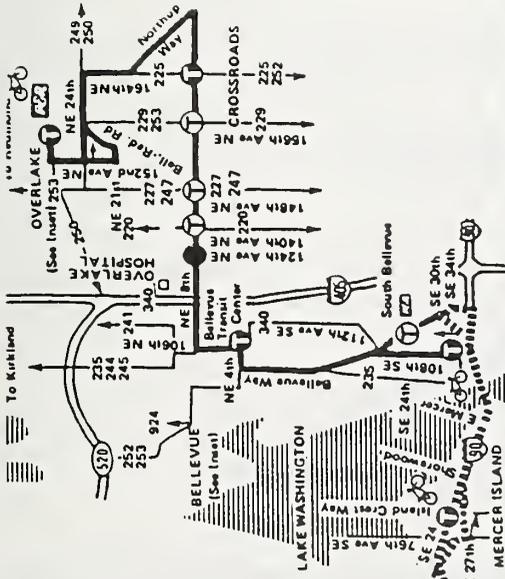   ___ Other (write in) _____

RETURN TO INTERVIEW TABLE

> Figure B.   A Self-Administered Survey, Given to Patrons in
> a Shopping Mall, Designed to Assess A System Map
> and an Area Map (Central Business District)

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Route Map and Service Schedule

MAP LEGEND

TIME POINT: Street intersection used for time schedule reference point listed at the top of time columns to estimate bus arrival and trip times.

TRANSFER POINT: Route intersection for transferring to the connecting route or routes indicated.

TIME POINT/TRANSFER POINT combined.

FARE ZONE: Additional fare required.

PARK & RIDE: Designed free parking area with direct bus service to downtown Seattle and other major commercial centers.

BIKE & RIDE SERVICE load and unload points.

Makes all regular stops.

Makes limited stops.

PARTIAL SERVICE

WEEKDAY

OVERLAKE — 25 minutes — BELLEVUE — 15 minutes — MERCER ISLAND

WEEKDAY

MERCER ISLAND — 15 minutes — BELLEVUE — 25 minutes — OVERLAKE

BUS

WOULD YOU PLEASE ANSWER

(SAT 66)

Do Not Write in this Space
1-1
2-6
(3-5)

1. How many one-way trips did you take on a Metro bus last week?
   □ None   □ 1-6   □ 7-12   □ 13 or more

2. You are at a bus stop at NE 8th and Northup Way. It is 1:30 pm Tuesday and you must catch the next bus to the Bellevue Transit Center.

a. At about what time will you catch your bus? _____

b. About how long will your bus trip take? _____ minutes.

3. Do you think this bus information is...?
   □ Very easy to use   □ Easy to use   □ Hard to use   □ Very hard to use

4. Which of the following should be changed to improve this bus information?
   ___ Don't change anything
   ___ the map
   ___ the number of stops listed in the timetable
   ___ the way in which the bus departure times are presented
   ___ the way in which the travel times are presented
   ___ how the direction of bus travel is presented
   ___ the size of the print
   ___ the spacing between the print
   ___ Other (write in)

5. Which of the following ideas would most encourage people to use the bus for shopping trips to Bellevue Square?
   ___ Improved bus information in Bellevue Square
   ___ Special shopping buses to Bellevue Square
   ___ Merchant discounts for bus riders
   ___ Expanded home delivery services for the things people buy
   ___ Other (write in)

CHECK ONE ONLY

6-
7-
8-
9-
10-
11-
12-
13-
14-
15-22-Blank
23-

RETURN TO INTERVIEW TABLE

Figure C. A Self-Administered Survey, Given to Patrons in a Shopping Mall, Designed to Assess a Timetable with Map.

226 to Downtown Seattle

via NE 8th St, Bellevue Transit Center, 108th Ave SE, Mercer Island, 4th Avenue.
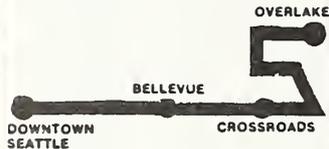
Leaves Overlake P&R at:

WEEKDAYS

AM

4:46 ♿	6:46 E£	8:20 ♿
5:33 ♿£	7:15 E£	9:19
5:57 ♿E£	7:21 ♿£	10:19 ♿
6:15 ♿£	7:45 ♿£	11:19 ♿

PM

12:19 ♿	4:13 ♿£	7:22 ♿
1:19 ♿	4:45 £	8:22 ♿
2:19	5:27 ♿	9:22
3:10 ♿£	5:50 ♿	10:22 ♿
3:43 ♿£	6:22 ♿	

SATURDAY
(♿-all trips)

AM

5:19	7:19	9:18
6:19	8:18	

Hourly service at 15 minutes after the hour from 10:15 AM until 5:15 PM.

Hourly service at 19 minutes after the hour from 6:19 PM until the last bus, 10:19 PM.

SUNDAY & HOLIDAYS
(♿-all trips)

Hourly service at 20 minutes after the hour all day.

First bus   6:20 AM
Last bus   10:20 PM

SCHEDULE SYMBOLS
E-EXPRESS via I-90. Goes via Bellevue Way SE instead of 108th Ave SE. No stops between Bellevue Way SE & SE 30th St and S Dearborn St & Corwin Pl S except at Rainier Ave S & S Bush Pl. Makes no stops on Mercer Island.
♿-Accessible bus (wheelchair lift).
£-Peak hour trip. 60¢ one-zone and 90¢ two-zone fares apply.

🚌 BUS

(SABS 86)

WOULD YOU PLEASE ANSWER

1. How many one-way trips did you take on a Metro bus last week?

☐ None   ☐ 1-6   ☐ 7-12   ☐ 13 or more   6-

2. You are at the Overlake Park & Ride (P&R) bus stop that has an information sign such as that to the left. It is 3:37 on Saturday afternoon and you want the next bus to Bellevue.

At about what time will you catch your bus? _____   7-

     8-Blank

3. Do you think this bus information is...?

☐ Very easy to use   ☐ Easy to use   ☐ Hard to use   ☐ Very hard to use   9-

4. Which of the following should be changed to improve this bus information?

____ Don't change anything	10-
____ the way in which the bus departure times are presented	11-
____ the way in which the travel times are presented	12-
____ the way in which the bus route is presented	13-
____ the space between the print	14-
____ print size	
____ Other (write in) _____	

     15-22-Blank

5. Which of the following ideas would most encourage people to use the bus for shopping trips to Bellevue Square?

     23-

[CHECK ONE ONLY]
____ Improved bus information in Bellevue Square
____ Special shopping buses to Bellevue Square
____ Merchant discounts for bus riders
____ Expanded home delivery services for the things people buy
____ Other (write in) _____

RETURN TO INTERVIEW TABLE

Figure D.   A Self-Administered Survey, Given to Patrons in a Shopping Mall, Designed to Assess a Bus Stop Sign.

GUIDED TEST FOR SYSTEM MAPS

I'd like to ask you some questions about using Metro Transit.

1. How many one-way trips did you take on a Metro bus last week?

None	1
1-6	2
7-12	3
13 or more	4

Here are three different ways of showing the same bus maps.
Please look at them for a minute and then I'll ask you a few questions.

2. What are the route numbers of the buses that you could take from Eastgate to Medina?

Route Numbers:

_____

3. Which Map did you find easiest to use? (ONE ONLY)

Map 21	1
Map 24	2
Map 26	3
Don't Know	4

4. Why was this map the easiest to use?

Detail	01
Color/general	02
Color/routes	03
Route style	04
Route #s/grid	05
Streets	06
Landmarks	07
Bus stops	08
Print size	09
Familiarity	10
Other:	11

5. Which Map do you think would be the hardest to use? (ONE ONLY)

Map 21	1
Map 24	2
Map 26	3
Don't Know	4

6. Why would this map be the hardest to use?

Detail	01
Color/general	02
Color/routes	03
Route style	04
Route #s/grid	05
Streets	06
Landmarks	07
Bus stops	08
Print size	09
Familiarity	10
Other:	11

Right margin codes:
1-2
2-1
(3-5)
(6)
7-
8 Blank
(9)
(10-19)
(20)
(21-30)

Figure E. A Guided Survey, Given to Patrons in a Shopping Mall, Designed to Assess System or Area Maps.

Note that this survey asks interviewees to compare three maps.

GUIDED TEST FOR TIMETABLES | 1-2

	2-3
	(3-5)

I'd like to ask you some questions about using Metro Transit.

1. How many one-way trips did you take on a Metro bus <u>last week</u>?   (6)

None	1
1-6	2
7-12	3
13 or more	4

Here are three different ways of showing timetable information for a bus route. They are all for Route 226 and they all use the same map. (POINT) Please look at them for a minute and then I'll ask you a few questions.

2. You are at a bus stop at NE 8th and Northup Way. It is 1:30 on Tuesday afternoon and you must catch the <u>next</u> bus to the Bellevue Transit Center.

    a. At about what time will you catch your bus? _____   7-

    b. About how long will your bus trip take? _____   8-
                                              (minutes)

3. Which <u>timetable</u> did you find <u>easiest</u> to use? (<u>ONE ONLY</u>)   (9)

Timetable 61	1
Timetable 64	2
Timetable 66	3
Don't Know	4

4. Why was this timetable <u>easiest</u> to use?   (10-14)

Map	1
Number of stops	2
Style departure time	3
Travel times	4
Bus direction	5
Print size	6
Space	7
Familiarity	8
Other:	9

5. Which <u>timetable</u> do you think would be the <u>hardest</u> to use? (<u>ONE ONLY</u>)   (15)

Timetable 61	1
Timetable 64	2
Timetable 66	3
Don't Know	4

6. Why would this timetable be the <u>hardest</u> to use?   (16-20)

Map	1
Number of stops	2
Style departure time	3
Travel times	4
Bus direction	5
Print size	6
Space	7
Familiarity	8
Other:	9

Figure F.   A Guided Survey, Given to Patrons ·in a Shopping Mall, Designed to Assess <u>Timetables with Maps</u>.

Note that this survey asks interviewees to compare three timetables.

GT

GUIDED TEST FOR BUS STOP SCHEDULES

I'd like to ask you some questions about Metro Transit.

1. How many one-way trips did you take on a Metro bus _last week_?

None	1
1-6	2
7-12	3
13 or more	4

Here are three different ways of showing the same bus schedule information at a bus stop. Look at them for a minute and then I'll ask you a few questions.

2. You are at the Overlake Park and Ride (P&R) bus stop that has an information sign such as those on the display. It is 3:37 on Saturday afternoon and you want the next bus to Bellevue.

At about what time will you catch your bus? _____

3. Which _bus stop schedule_ did you find _easiest_ to use? (ONE ONLY)

Bus Stop Schedule 81	1
Bus Stop Schedule 84	2
Bus Stop Schedule 86	3
Don't Know	4

4. Why was this bus stop schedule the _easiest_ to use?

Style departure times	1
Travel time	2
Bus routing/map	3
Print size	4
Space	5
Familiarity	6
Other:	7

5. Which _bus stop schedule_ do you think would be the _hardest_ to use? (ONE ONLY)

Bus Stop Schedule 81	1
Bus Stop Schedule 84	2
Bus Stop Schedule 86	3
Don't Know	4

6. Why would this bus stop schedule be the _hardest_ to use?

Style departure times	1
Travel time	2
Bus routing/map	3
Print size	4
Space	5
Familiarity	6
Other:	7

Right margin column codes:
1-2
2-4
(3-5)
(6)
7-
8 Blank
(9)
(10-14)
(15)
(16-20)

Figure G. A Guided Survey, Given to Patrons in a Shopping Mall, Designed to Assess _Bus Stop Signs_.

Note that this survey asks interviewees to compare three bus stop signs.

APPENDIX B.

Marketing Research References

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