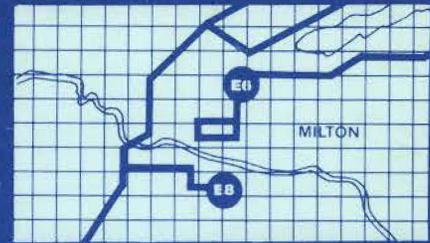
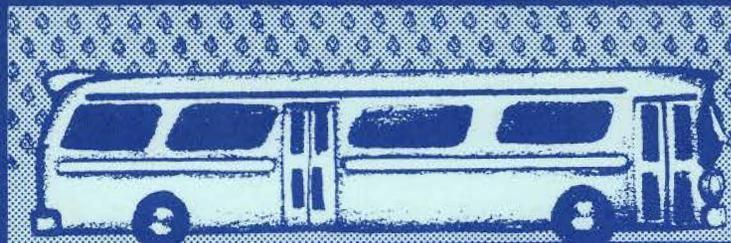




- C1 Airport
- C2 Downtown
- C3 Airport
- C4 Greenbelt
- X3 Local Center



C4 Greenbelt

8:15	12:57	5:17
8:38	1:06	5:38
9:06	1:30	5:58
9:36	1:53	6:25



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# User Information Aids

# Transit Marketing Management Handbook



November 1975  
 U.S. Department of Transportation  
 Urban Mass Transportation Administration  
 Office of Transit Management  
 Washington, D.C., 20590

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Transit Marketing Management Handbook

USER INFORMATION AIDS

Prepared for

U. S. Department of Transportation  
Urban Mass Transportation Administration  
Office of Transit Management  
Washington, D. C. 20590

November, 1975

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# Introduction

The goal of this handbook is to provide you with the tools to build an information system that meets the needs of your community and your transit system.

This handbook has been prepared for the professional in public transportation to assist in the design and/or improvement of user information systems. The handbook does not contain a "one best system", because a universal system is not possible or even desirable. The handbook will provide an approach to user information that you can use to custom design a user information system that best suits the information needs of your community. It is based upon the premise that transit user information is a subsidiary unit of the transit system.

Consideration of your entire community must be given in the development of an information program. All taxpayers contribute to transit whether or not they use it. Therefore, it makes good sense for the tax-subsidized transit system to communicate with all of those who contribute to its existence. The information imparted to the public will include the Who, What, Where, When, Why, and How information about using their transit system. Included in this information process is feedback. Feedback means listening to the public about whether or not the information provided really works.

All user information aids have a message. That message will be directed at a particular audience in order to provide a solution to a problem. Careful consideration must be given to each of the audiences you are able to define in your community. A great many potential users simply do not know the extent of transit services available to them. If people do not know of the existence of transit services, they can hardly be expected to use them. However, just simply being aware of them is not enough - people must also know where the services run, when, how long they take, where to board, type of fare payment, etc. People need precise, accurate information. Lack of this information and ignorance about how to get it lead to uncertainty. This produces in the potential (and sometimes current) rider a lack of confidence that discourages use.

Developing a broad view of transit information requirements will contribute to keeping the transit system in harmony with the evolving expectations of the community in which you operate. It is strongly recommended that on first reading you go through the handbook sequentially from beginning to end. This will put all of the information it contains into the context in which it was intended and facilitate later reference use.



The illustrations and examples in this handbook show portions of the information system of a fictitious transit system. That transit system is referred to in this handbook as the America Transport Company, the transit operator in the City of America and the surrounding metropolitan area.

As background for the preparation of this handbook, transit properties were visited in the United States, Europe, Canada, and Mexico. In addition, other public places such as airports and museums with significant information systems were inspected. Transit managers were consulted via telephone and samples of materials used by a variety of properties were examined. As an extension of this research, previous research and writings about transit information systems were reviewed. Groups of citizens in Columbus, Ohio; Dallas, Texas; and Seattle, Washington, were formed to evaluate various information aids. These consumer laboratories gathered representatives of the riding and non-riding market segments so that the people who will finally dictate the success of any information program would have an opportunity to evaluate each aid individually and together as a system. A summary of the results of these sessions to catalogue consumer attitude change and comprehension of various messages appears on pages 127-133 (Part VII).

# How to Use this Handbook

The following six steps develop a logical process to build a well-founded information system. These steps will be used as the major parts of this handbook. The points which will be discussed in each part are listed below. The handbook explores a system of information aids and dissemination channels that will be adaptable to your needs.

## Community Perspective

### Part I Community Perspective:

- Why a community perspective is important
- How you get a perspective of your community
- Identification of your audience
- Identification of weaknesses in your system

## Conceptual Objectives

### Part II Creating Conceptual Objectives:

- What are conceptual objectives?
- Why are conceptual objectives important?
- How to use conceptual objectives

## Systems Approach

### Part III A Systems Approach To User Information Aids:

- What is a systems approach?
- General and specific information
- Geography, geometry, time and fare

## Elements, Modules, Components

### Part IV Working With Elements, Modules, and Components:

- Defining basic elements
- Forming modules from elements
- Constructing components

## Communication Channels

### Part V Communication Channels:

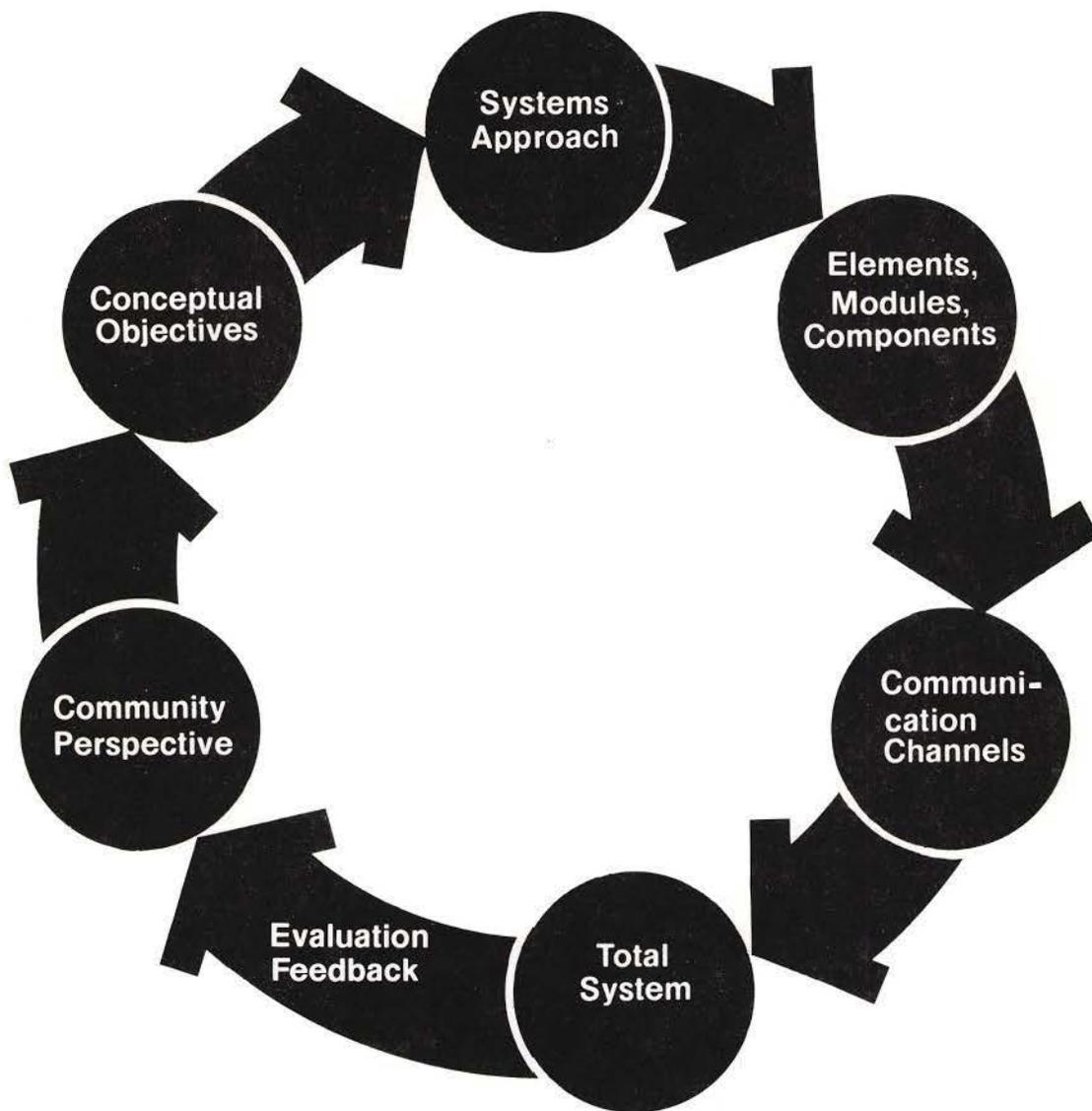
Dissemination of user information  
Defining channels

## Total System

### Part VI Total System:

- Drawing a community profile
- Inventorying your existing system
- Information sub-system design
- Applying costs and priorities
- Scheduling the implementation

This diagram pictorially represents the above step-by-step process to create an information system. This diagram will be used throughout the handbook, from one part to the next, so that this process can be kept in mind as your system develops.



# Part I: Community Perspective



## Why a Community Perspective is Important

In order to provide solutions to problems, the problems must first be identified. While this premise is basic to our everyday lives, it needs to be re-stated. Without a total community perspective, solutions are often provided where no problem has been identified. This happens when programs are instituted just because another transit system appeared to have success with them.

You, as a professional in the transit industry, can avoid costly solutions, in absence of real problems, if you first get to know the community in which you operate. Get to know your community well enough to be able to provide solutions for your customer before they become system-wide problems involving all of your divisions.

# How You Get a Perspective of Your Community

A perspective of your community will contain the following information:

- Service area boundaries
- Service area geographic characteristics
- Demographic characteristics of the community
- Transit service levels
- Ridership

In the back of this handbook are sample worksheets which will provide the guidance you need in developing such a perspective of your community. By answering these questions you will continue to add to your present knowledge of the community in which you operate.

## Identification of Your Audience

There are many segments that comprise the transit audience which are universal in all transit systems. Evaluation of each of those segments will reveal that they also contain citizens who have differing information needs based upon personal, social, and economic characteristics and upon their type of involvement with the transit system.

For example, whether or not a person speaks and reads fluent English will have a bearing on how the transit system provides information to and receives feedback from that person. Educational and cultural background will also have an influence on how information is transmitted and received. As a public agency, a transit system cannot ignore any of these audiences.

Within each of the audience segments you identify, there also will be differing levels of information need. For example, peak hour riders have a one-time information need to determine the best service to meet their origin and destination needs for work purposes. However, updating of that information is required to keep those riders alerted to route and scheduling changes. Riders who use transit for a variety of purposes will require a much higher level of information to meet their transportation needs. Non-riders need to know some very elementary things. They need to have a general awareness that there is a viable public transit system available. Information is an essential part of the total process in order to obtain first time ridership. The consumer laboratories conducted as a part of this study reinforce those findings.

Those persons who participated in the laboratories stated that the availability of transit information would influence their decision to use transit.

In many cities tourism is becoming an increasingly important part of the local economy. Transit has a role to play here in presenting information about both regular and special services to the special visiting non-rider.

## Identification of Weaknesses in Your System

As the operator of the transit system, you also are a vital part of the community. In gaining a total community perspective you must take a close look at your own operation. Start with an operating procedures summary that describes the route naming and numbering system now in use. Determine whether color, letter, symbol coding is used and whether or not a formal classification plan for services such as shuttle, local, and express exists. These are some of the operating constraints within which you will have to design your information program.

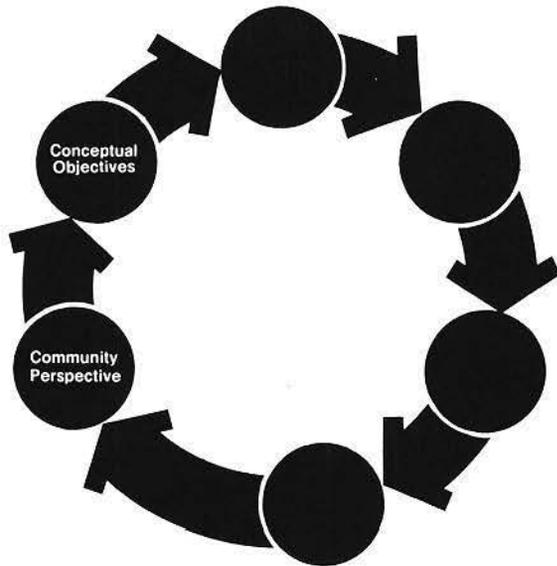
After having looked at the operating procedures affecting your information system, review the checklists of aids and dissemination channels. Determine which ones you will be able to use and who will be responsible for each.

Examine samples of the aids which you presently use. Which of these provide the most information? Which serve dual purposes? While reviewing your current aids, consider your staff commitment to the information process. What part of your operation is now responsible for the development of your information programs? Determine the current budget as a percentage of the entire operating budget. Is that budget adequate to meet the information needs of the community?

After this evaluation you may determine that no problem exists with the aids you are now using. The problem may be in how those aids are being disseminated. Take a look at the dissemination channels being used. How many points of distribution have been established? Do you have someone responsible for the maintenance of these distribution points? Count the number of employees you have assigned and determine whether it is adequate. You may find that the number of employees is adequate, but they may be under-utilized.

The answers to these questions will provide valuable input to your total perspective of the community and the design of an information system to meet the needs of the community.

# Part II: Creating Conceptual Objectives



## What are Conceptual Objectives?

Simply stated, conceptual objectives are the potential solutions for the problems identified in the construction of your community perspective. There are no constraints placed on the formulation of conceptual objectives. For example, your analysis of community demographic data may ideally show a need for bi-lingual information operators, or it may suggest a greater emphasis on written rather than verbal communication. Offering these services would be objectives of your information system. At this point, these objectives should include every conceivable solution to a problem, and in most instances there will be many solutions for each problem.

# Why are Conceptual Objectives Important?

Formulation of all possible solutions, without regard to any constraints, will provide you with an array of solutions from which to make a selection. In the final analysis your choice will be dictated by such things as cost, time frame, personnel requirements, personnel capabilities, etc. But it is necessary to look at all of the possibilities to avoid costly false starts.

## How to Use Conceptual Objectives

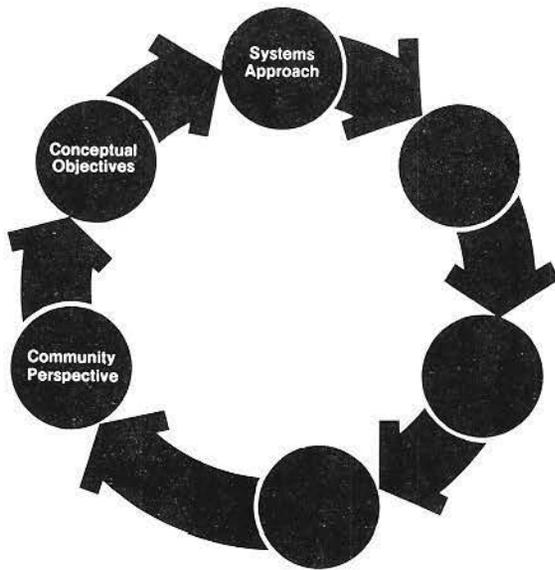
Use the conceptual objectives to guide you in the establishment of criteria for the development of a user information aid or dissemination technique to solve the problem that has been identified.

Conceptual objectives must be formulated with the full awareness of the audience to be reached.

When the final criteria for an aid or technique have been decided, it is then time to proceed with the development of the aid or technique. In order to successfully proceed with the development, you must understand the systems approach to user information aids. This is the topic discussed in the following section (Part III).



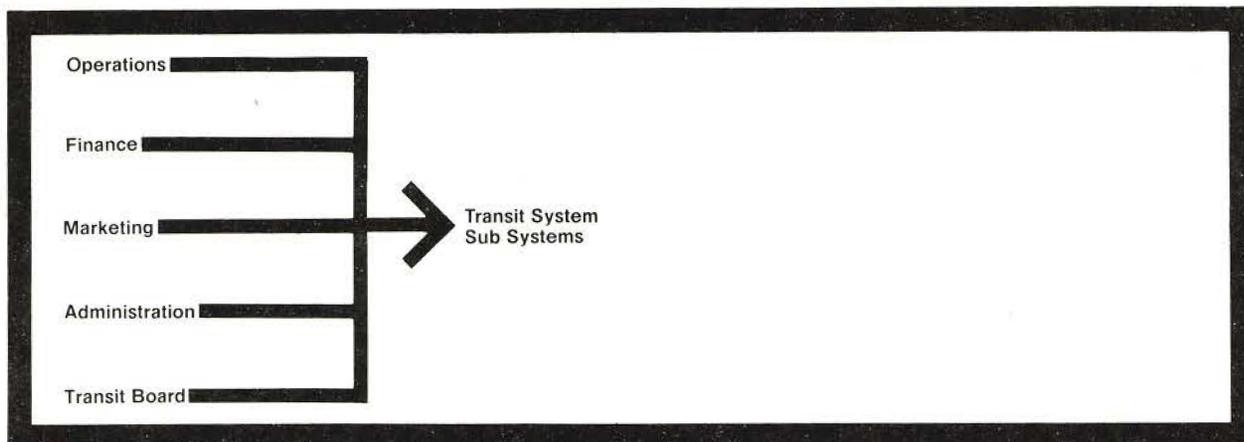
# Part III: A Systems Approach to User Information Aids



## What is a Systems Approach?

All of us in some way employ what is referred to as a systems approach in dealing with the cataloging of information. In our own minds we classify and group like kinds of information. When that becomes awkward, we resort to the use of simple outlines that can then be developed into well-planned courses of action. So it must be in dealing with information aids.

Consider your own transit system. It is comprised of various other sub-systems or divisions. For the larger systems it may look something like this:



For the smaller systems there may be a combination of responsibilities borne by one division. Even so, the basic transit sub-system functions of operations, finance, marketing, administration, and transit advisory boards will exist. While this approach may appear overly formal on first reading, it has two very practical advantages for transit operators. It provides an organized method of dealing with decisions that have to be made to provide effective user information. It also offers modular construction of a plan, consistency of planned development, and cost efficiency.

In the development of a user information system it is important to look at the types of information people need to use transit.

## General Information and Specific Information

Transit information can be broadly divided into two categories: general information and specific information. General information includes such things as which door to enter, how to identify bus stops, and how to obtain information from the transit system.

Specific information required to use this system includes information about significance of route numbers, fare payment requirements, and what time the bus arrives and departs. People get both kinds of information in its most basic sense from the geography and geometry of the system.

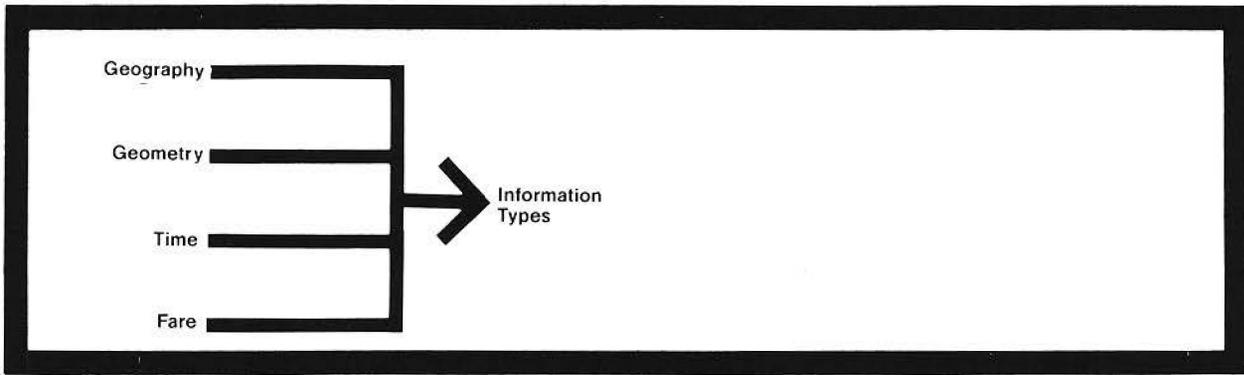


Categorizing information by specific information and general information allows you to study how that information should be treated. For instance, general information, which is consistent throughout the system, can be treated in a long-range, educational manner, and the appropriate method of communicating "permanent" facts derived. Specific information relates to data on each route - its name and number, schedule, or fare; or on special services, such as when the ski bus leaves and returns and where it starts.

## Geography, Geometry, Time and Fare

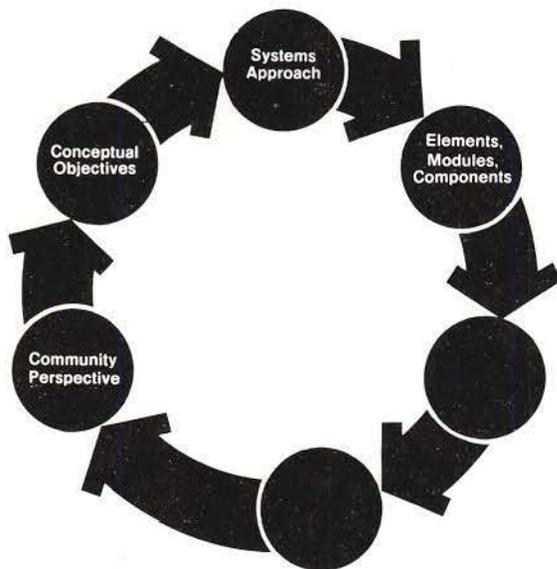
For a rider to properly understand and be comfortable with public transit as a system, there are four basic bits of information which must be repeatedly made available. First, the rider must understand the geography of his selected route(s) - or, where the route starts, where it goes, how it gets there, what places and streets it passes. Secondly, the rider must understand how his route works with other routes in the system; the geometry of the total system network must clearly show what areas in his community are served, how the routes converge and spread out.

Thirdly, the rider needs time information for selected routes to properly plan trips. For example, if service decreases during a particular day part the rider needs that information to plan trips. Finally, the rider needs fare information: how much to pay, when to pay it, what zone and transfer charges there may be and what methods of payment exist. Together, geography, geometry, time, and fare information will provide the rider with all of the information needed to complete a ride.



When people have a general understanding of the system's geography, geometry, fare, and time elements, they can then find the specific information needed for easy utilization of the entire transit system. They will be able to find it more quickly and easily.

# Part IV: Working with Elements, Modules and Components



This section will detail how you go about creating the information elements, modules, and components needed by your system. Elements are the basic units needed to create any information aid. The use of elements will be applied to modules and components. Elements are:

Names, numbers, places, colors, shapes, or symbols.

The combination of elements will provide the basis for modules. Modules are things such as route headings, time blocks, and maps. A combination of modules can in turn be used to construct components. A component is defined as a total information unit such as a pocket schedule, transfer point sign, or information center.

The elements and modules described here can be put together in a number of ways to form the components most suitable to your identified needs and resources. For purposes of illustrating the construction of components from the basic set of elements and modules, the America Transport Company has been invented to serve the imaginary City of America. The process used by America Transport Company in component construction is the process recommended to the transit industry, but the real life results will be different for each transit system based upon its own unique requirements.

No matter what size system you operate, the basic process for forming elements, modules, and components still exists. The need for a total community perspective and the establishment of conceptual objectives is as important to the operator of a fleet of fifteen coaches as it is to the operator of fifteen hundred coaches. The process will allow an objective look at the needs of your community without the interference of preconceived beliefs.

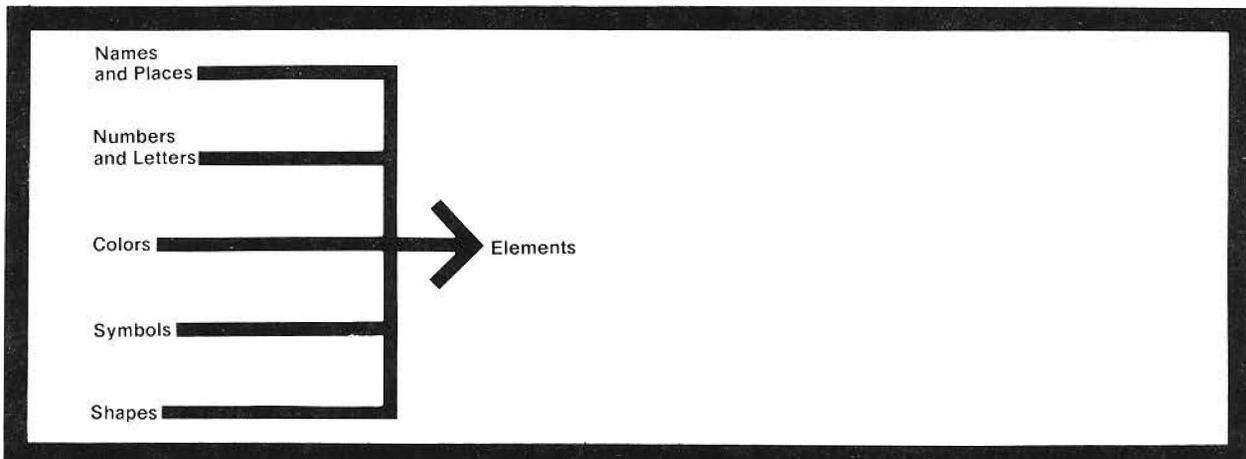
The elements, modules, and components constructed as part of the America Transport Company are samples based on certain assumptions about this mock system.

America Transport Company is primarily a bus system, but it has recently put in light rail on one major interurban corridor. It services a major metropolitan area with a population of one and a half million people. It is a developing system, being expanded from three smaller companies which it recently absorbed. Its long-range plan calls for substantial crosstown and interurban service using suburban stations as connecting points. Radial lines from the suburban stations will serve America's central business district. America Transport presently has 62 routes and is expected to increase to 95 within ten years. The company now has 550 coaches in its fleet and 12 light rail units. More equipment is on order to handle the planned expansion.

## Defining Basic Elements

The following are basic elements to be used in forming modules and components. First, each will be described individually. Then the process of combining will be illustrated.

When a transit system adopts elements, it should consider both graphic quality and complexity of the information system in which they will be used.



## **Element: Names and Places**

Names and places should strive to have a basis in the geography and the culture of the community and reinforce the urban planning concepts being followed in the city and region. Names and places should have meaning to the public:

**Girard Fountain**

**Peoples Market**

**Muddyside Soccer Field**

**Toolmakers Industrial Park**

However, if your city has been laid out on a rigorously applied grid pattern, with logical rules of street naming and numbering, then the transit information system should make use of street names and major intersections that are "places" in its information system. The same is true with major neighborhoods or districts. These efforts will make it easier for your community to relate its city with its transit system.

48th Avenue

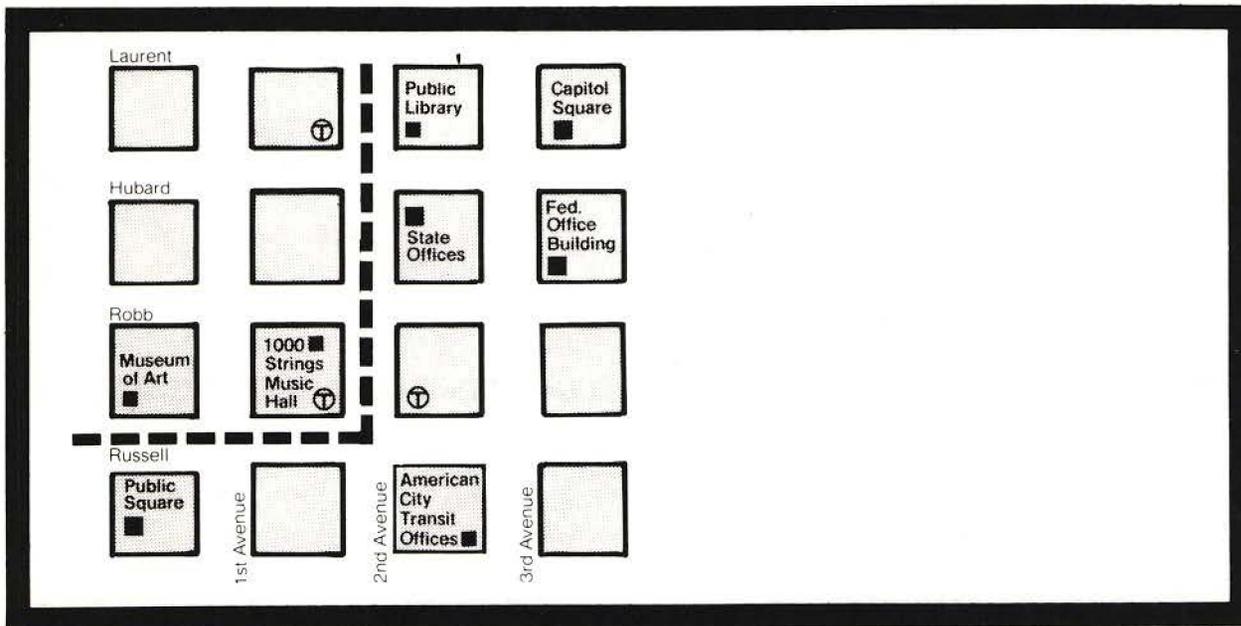
**Basin Street Market**

**S. Temple Playfield**

Castle Avenue

It is recommended that the transit system frequently review its use of names and places, to keep its usage current with the understanding and usage of the public. It is further recommended that the transit system make use of the names of major activity centers. These are "people places", easy to remember and popular destinations for the public at large.

It is helpful to the understanding of the transit system's geometry to use places or names to designate major transfer points. For example, designating a transfer point as "1,000 Strings Music Hall" may be more helpful than "change buses at Second Avenue and Russell." This same approach might also be applied to park-and-ride sites, suburban station express stops, as well as major non-central community business district stops.



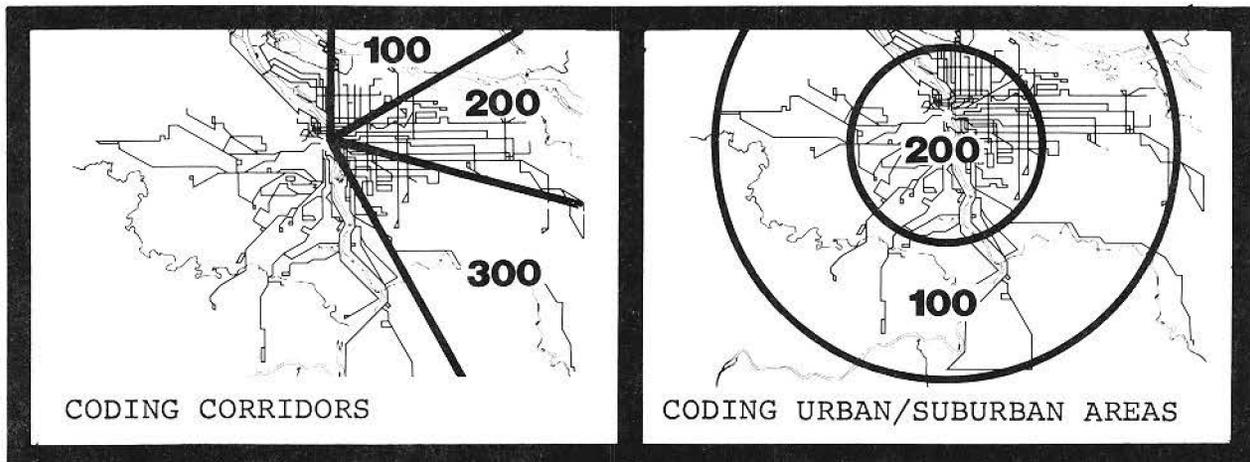
## Element: Numbers and Letters

Numbers are organizers that are both flexible and familiar. Numbers can be used in infinite different arrangements while still retaining an individual meaning. People use them daily in all sorts of ways, and therefore can be expected to relate to them with a fair degree of facility when they are used in the transit information system. They contribute to the classification and coding of information, making its retention easier. Used in this fashion, numbers can make the transit system seem less complex to the user.

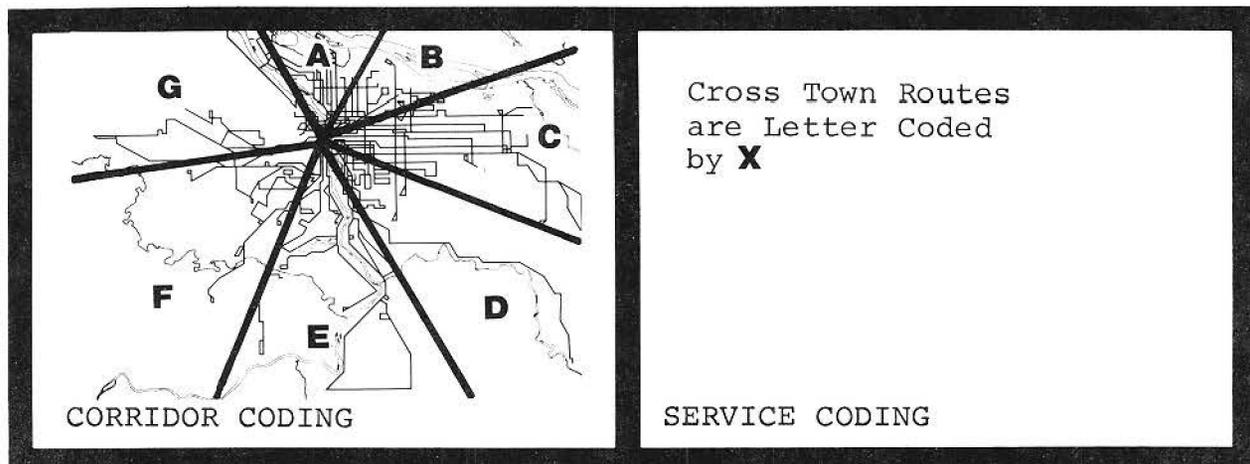
For example, if all odd-numbered routes provide north-south service, and all even-numbered routes provide east-west service, the public can easily absorb that knowledge and then deal with only half the system at a time, according to their travel destination.



Numbers can be divided into series as well. All 100 series routes can serve the northwest corridor, and all 300 series can serve the southeast corridor. Alternatively, all 100 series routes could be suburban service while all 200 series are intra-city services.



Letters can similarly be used for classification purposes, such as corridor representation or classes of service. However, letters have less latitude and flexibility than numbers.



The way in which numbers and letters are used for classification purposes will vary. The decision depends on the complexity and requirements of each transit system. It is important that the classification value of numbers and letters be recognized, and that they be used in accordance with a long-range plan rather than randomly.

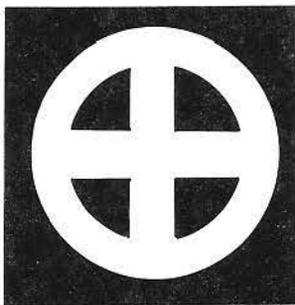
## Element: Colors

Color commands instant recognition. It can easily make a complex situation more simple, as on a multi-modal system map where each mode is represented by a different color. Colors can be used for coding service, either as to corridors or class of service. As a part of the group testing in the consumer laboratories, mentioned earlier in the handbook, the use of color to denote class of service was tested. Persons being tested were asked how many colors they could assimilate before it became confusing. In the case of color being used to denote corridors, 44.4% of the respondents said four, and 17.8% said five. When using color as a geographic coder, limit yourself to four.

Color can be used to perform certain functional chores:

- Denote transfer stops.
- Denote type of service, e.g. local, express, etc.
- Distinguish between modes, e.g. rail, bus.
- Identify effective dates of timetables.

Color can also be used as an amplification of another classification or coding system. For example, if the symbol ⊕ were used on a route map in conjunction with the color blue to denote transfer stops, the street signs could have a ⊕ reversed out of a blue background. This would provide consistency for the user between the route map and what is seen at the bus stop.



Laboratory respondents showed a first preference for blue from both the standpoint of ready identification and attractiveness, followed by yellow, red, and green in that order.

The choice of color should be made simultaneously with the choice of names and places, numbers and letters, and shapes and symbols. This will insure an integrated use of all the tools available and the choice of the tools best suited to meet each information requirement.

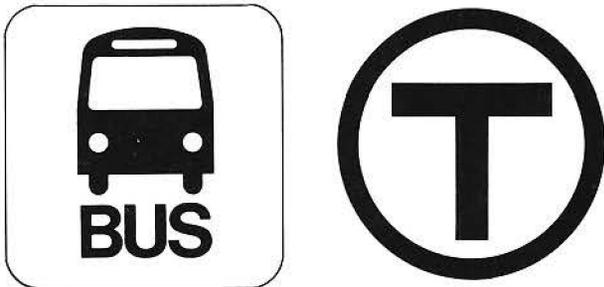
## Element: Symbols

Symbols are defined as any character, object, or pictograph used to represent a transit-related function. Symbols are a shorthand way of conveying a message. There is also a universal aspect. Symbols can clearly project meaning in sizes ranging from very large to very small with little or no distortion of meaning.

In many cases transit symbols will require an educational process before they command broad recognition. This is because symbols have not had as widespread a usage in transit as they have had in other fields such as highway traffic control.

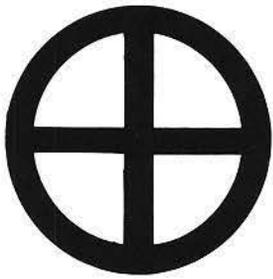


Some transit systems have made use of the encircled T for transit and various bus pictographs. It should be noted that 90.2% of the laboratory participants indicated a preference for a universal transit symbol. America Transport will be illustrated here with a symbol used in some systems today - the encircled T.



## Element: Shapes

A shape can provide a background field for displaying a symbol and can have meaning itself. For example, in motor vehicle traffic control signage, a triangular shape means caution in general and also carries a specific meaning on its face, such as "yield". Similarly, a transit system can use shapes to organize its information. For instance, a horizontal rectangle may be used for all route headings; and, a circle may be used with appropriate symbols to quickly identify such things as park-and-ride sites, transfer points, or information kiosks.



**C2** Brentwood



The meaning assigned to shapes for your transit system should not be in conflict with other shapes currently being used for traffic control or by private business in your area.

## Choosing Elements

In order to correctly assign the proper element to the proper information need, an understanding of the qualities of each is necessary. Cataloging both elements and basic information organizing needs, in terms of advantages, disadvantages, and requirements, and then cross-referencing the needs with the elements will help put you in the proper perspective for determining the highest and best use of the information system elements.

For instance, when looking at the need of communicating types of services to the public, determine such things as:

- How many types of service there are now.
- How many types there will be in the future.
- Where the information should be displayed.
- The constraints of where it will be displayed.

When looking at an element such as color, consider the following advantages and disadvantages:

Advantages:

1. Quickly recognizable from a distance.
2. Can work as a graphic element ("Green" section of town denoted by green line).

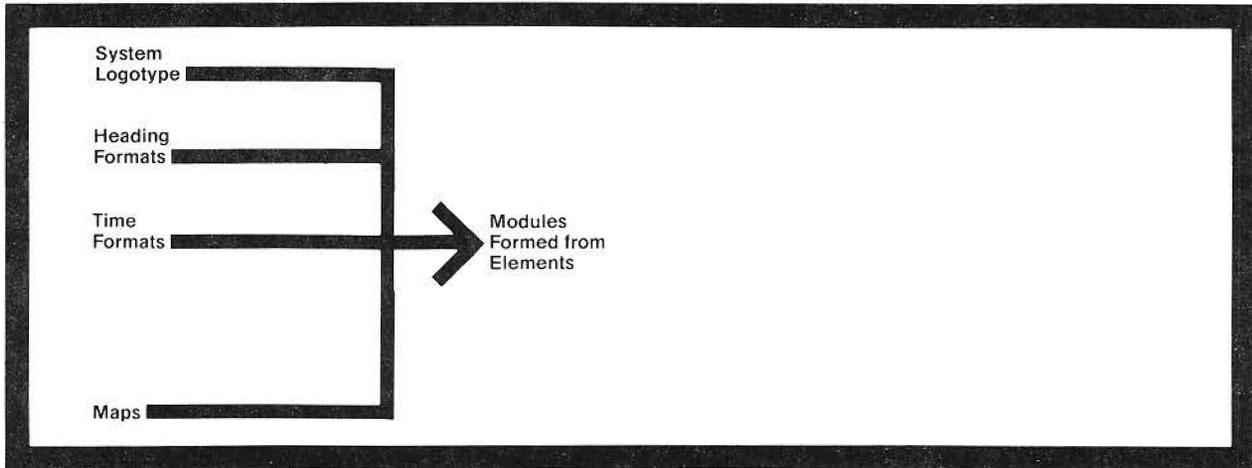
Disadvantages:

1. There are a limited number of colors available that are recognizably different.
2. High production cost.

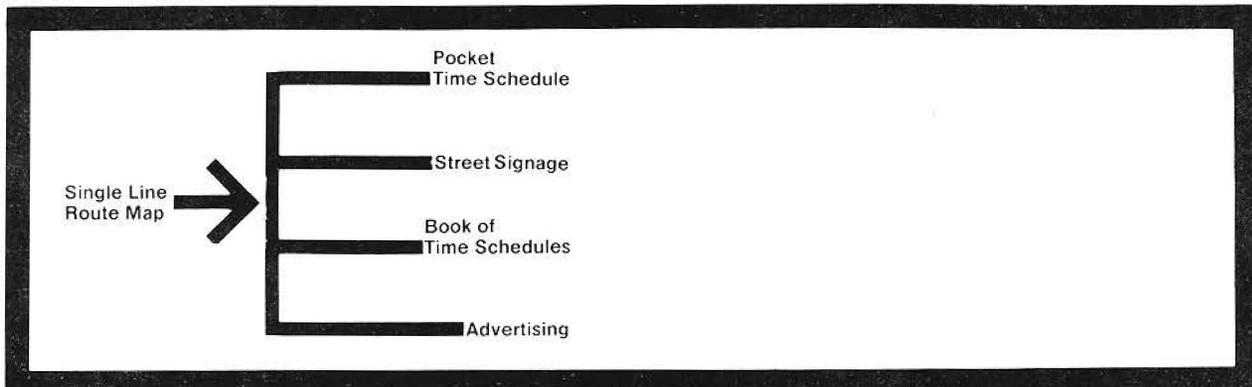
When a firm idea of the requirements of both the elements and the information needs has been established, study the relationships and assign the proper element to the proper information need.

# Forming Modules from Elements

Elements (names, shapes, symbols, etc.) begin to assume informational value when they are combined to form these modules:



These modules will ultimately be combined to create different components (information aids). For example, a single line route map, which is a module formed from several elements, can be used in a pocket time schedule or on a street sign. The goal is to combine elements into modules which can be used to achieve more consistency in the total information system. The result will be information that is familiar and easy to remember for the public. The presentation formats of the information will aid recall and recognition by consistent exposure.



## Module: Transit System Identification Mark

This module is often referred to as the logo, and in combination with the name of the system it is referred to as the logotype. Several elements are required to form a distinctive logotype for a transit system. Careful consideration should be given to the heritage of your area when you go about selecting a logo. Area architecture and culture should be explored. Because of its pervasive influence on the "look" of the transit system, the identifying logo and logotype should be chosen with great care. The colors and ultimately the logo should reflect the aesthetics of your community.

The symbol of a transit system should also evolve from the objectives that the system forms. Conversely, the transit system should be what its symbol says. If the community perceives, from your symbol, that your system is progressive, cares for the welfare of the user, is attentive to public need, it will expect that kind of performance from you. You must carry through the commitment of the design. These same points apply for the name chosen to accompany the logo. Together the logo, the colors, the name and performance must work to position the transit system as a community force.

The varying format and environments in which the system logo and logotype will appear must also be considered, as well as the costs of reproducing it.



## Heading Format Modules:

In this category there are two types of modules. However, each of the modules is still comprised of the basic elements (shapes, names and places, etc.) that were discussed in the preceding section. The heading format modules will be used on vehicles, fixed signage, and certain printed pieces. The modules to be discussed in the following pages are:

1. Route Headings
2. Functional Message Headings

### Module 1: Route Headings

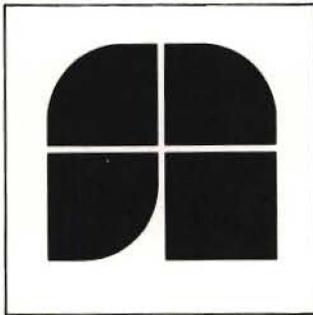
This module combines route number, shape, and name. It is recommended that, in most instances, both the numbers and letters be "reversed out" (see example) of the background color, whether it's black or another color with a meaning to it. The use of colors in the background is dependent upon the basic color coding decisions made by the transit system. Research conflicts on the use of all upper-case or upper- and lower-case letters. Caps and lower-case have been used in this example. Further research needs to be done to establish standard criteria for the use of type in transit situations.



### Module 2: Functional Message Headings

Included in this category are the modules used to designate bus stops, transfer points, park-and-ride facilities and similar kinds of service. It is possible to use the logo of the transit system as a heading format. Some examples of this exist, such as London Transport.

It is recommended, however, that the transit system logo be used in a subordinate position to a functional heading, rather than as the primary visual item. For example, Illustration A shows a bus stop designated by the system logo. B shows a bus stop designated by a functional graphic with the system logo in subordination on the sign. Example C shows a combination of the system logo and a functional message sharing the principal target value of the heading.



**A**



**B**



**C**

## **Time Format Modules:**

This is another area of the handbook in which more than one type of module is identified to meet a variety of transit information needs. As it is used in the handbook, time format is defined as "the arrangement or organization of scheduling information into a module for use in an information component."

Time provides both general and specific trip planning information for a given line on a certain day of the week at a specific time of day. The importance of time information increases in direct proportion as service frequencies decrease and as the requirement for making transfers increases. If riders know that the bus they want runs on five-minute headways, and that no transfer is required in getting to their destination, time knowledge is of little further importance. However, the individual depending on a bus that runs two times an hour, who has to transfer to a bus that runs only once an hour, will find additional time information critical. That rider will have to know precisely when both buses will be at the transfer point. In addition, the rider needs to know the running time from the point of origin to the transfer point.

Time information can be arranged into a variety of different modules. Four typical time modules have been identified. They are:

1. Detail Time Module
2. Detail Time Module (Modified)
3. Written/Graphic Time Module
4. User Completed Time Module



When components are designed, the module selected will depend on the physical characteristics of the component (paper pocket time schedule or a silk-screened metal sign). In addition, the component design will depend on its use, e.g. general overview information, specific time information for one route, information on the time relationships of several routes at a transfer point.

## **Module 1: Detail Time Formats**

Information purpose:

To provide accurate and complete time planning information. It will not contain a time for each stop the bus makes, but will contain checkpoints to give the rider a point to relate to along the route. If, for example, the rider lives at a midpoint between Penny Pack Park and University District, it can be determined that the bus leaving downtown at 4:56 AM will arrive at the midpoint bus stop at approximately 5:38 AM.

Typical characteristics:

Exact timepoint information for all trips involved.  
Adequate use of checkpoints to allow a person to accurately describe any number of intermediate points in terms of arrival/departure time.

Potential component applications:

Single route pocket time schedule.  
Posted on route at:  
    Park-and-ride locations  
    Shelters  
Time schedule books.

Variations:

Example A shows a detail time module in the horizontal format. (Note the AM/PM split and use of colons.) Example B shows a detail time module in the vertical format.

**Weekday**, Direction of Travel from Downtown to Greenbelt.

Downtown	Union Center	102nd & Healy 102nd & Brewster	Holiday Park Hospital	Penny Pack Park	University District	Ravenswood Park	Wildwood	Greenbelt
<b>A.M.</b>								
4:56	5:00	5:04	5:17	5:35	5:42	5:48	5:52	6:02
5:30	5:34	5:38	5:51	6:09	6:17	6:23	6:27	6:38
5:50	5:54	5:58	6:11	6:29	6:36	6:42	6:46	6:59
6:10	6:14	6:18	6:31	6:49	6:56	7:02	7:06	7:19
6:21	6:25	6:29	6:42	7:00-A	7:07-A	7:15-A	7:20-A	—
6:25	6:29	6:33	6:46	7:04	7:11	7:19	7:23	7:36
6:45	6:49	6:53	7:06	7:27	7:36	7:44	7:48	8:01
7:05	7:09	7:13	7:26	7:48	7:57	8:05	8:09	8:22
7:23	7:27	7:31	7:44	8:06	8:14	8:22	8:26	8:38
7:35	7:39	7:43	7:56	8:18	8:26	8:34	8:38	8:50
7:55	7:59	8:03	8:16	8:38	8:46	8:54	8:58	9:09
8:15	8:19	8:23	8:36	8:52	9:00	9:08	9:12	9:23
8:38	8:42	8:46	8:59	9:15	9:23	9:31	9:35	9:47
9:06	9:10	9:14	9:27	9:43	9:49	9:57	10:01	10:13
9:36	9:40	9:44	9:57	10:13	10:19	10:27	10:32	10:42
10:06	10:10	10:14	10:27	10:44	10:50	10:58	11:03	11:14
10:36	10:40	10:44	10:57	11:14	11:20	11:28	11:33	11:44
11:06	11:10	11:14	11:27	11:44	11:50	11:58	12:03 p.m.	12:14 p.m.
11:36	11:40	11:44	11:57	12:15 p.m.	12:21 p.m.	12:29 p.m.	12:34 p.m.	12:46 p.m.
<b>P.M.</b>								
12:06	12:10	12:14	12:27	12:45	12:51	12:59	1:04	1:17
12:36	12:40	12:44	12:57	1:15	1:21	1:27	1:32	1:45
12:57	1:01	1:05	1:18	1:36	1:47	1:48	1:53	—
1:06	1:10	1:14	1:27	1:45	1:51	1:57	2:03	2:16
1:30	1:34	1:38	1:51	2:08	2:14	2:21	2:27	2:42
1:53	1:57	2:01	2:14	2:31	2:39	2:46	2:52	3:07
2:15	2:19	2:23	2:36	2:54	3:02	3:09	3:15	3:30
2:37	2:41	2:45	2:58	3:18	3:26	3:33	3:39	3:54
2:59	3:03	3:07	3:20	3:42	3:49	3:57	4:03	4:18
3:22	3:26	3:30	3:43	4:02	4:09	4:17	4:23	4:37
3:46	3:50	3:54	4:07	4:26	4:33	4:43	4:49	5:02
4:12	4:16	4:20	4:33	4:52	4:59	5:09	5:15	5:28
4:36	4:40	4:44	4:57	5:16	5:23	5:33	5:40	5:53

**A**

Direction of Travel from Greenbelt to Downtown.

	A.M.														
Greenbelt.....	5:05	5:21	5:31	5:50	6:11	6:25	6:38	6:52	7:12	7:33	7:50	8:14	8:34	9:02	9:31
Union Center.....	5:14	5:30	5:40	5:59	6:20	6:34	6:47	7:01	7:22	7:43	8:00	8:24	8:44	9:11	9:39
102nd & Healy.....	5:26	5:42	5:52	6:11	6:32	6:46	7:00	7:14	7:35	7:56	8:14	8:37	8:57	9:24	9:52
102nd & Brewster.....	5:31	5:48	5:58	6:17	6:39	6:52	7:06	7:20	7:41	8:02	8:20	8:43	9:03	9:30	9:58
Holiday Park Hospital...	5:38	5:55	6:05	6:24	6:46	7:00	7:14	7:28	7:49	8:10	8:28	8:51	9:10	9:37	10:05
Penny Pack Park.....	5:46	6:03	6:13	6:32	6:54	7:08	7:23	7:37	7:58	8:17	8:35	8:58	9:18	9:45	10:13
University District.....	6:00	6:17	6:27	6:46	7:08	7:23	7:38	7:54	8:15	8:34	8:51	9:13	9:35	10:00	10:29
Ravenswood Park.....	6:10	6:27	6:37	6:56	7:18	7:33	7:48	8:05	8:26	8:45	9:02	9:24	9:40	10:11	10:40
Wildwood.....	6:15	6:32	6:42	7:01	7:23	7:38	7:53	8:10	8:31	8:50	9:07	9:29	9:49	10:16	10:45
Downtown.....	6:22	6:39	6:49	7:08	7:30	7:45	8:00	8:16	8:37	8:56	9:13	9:35	9:55	10:22	10:51

**B**

## Module 2: Detail Time Format (Modified)

Information purpose:

To provide complete trip interval time information by using a minimum of two checkpoints for orientation purposes where display space or information resource is a physical constraint, e.g. wallet schedule, express stop, bus stop (local).

Typical characteristics:

Complete listing of trip start times from either terminal ends of the route or known intermediate point.

An option to be considered in the construction of this module is the inclusion of approximate riding times (both peak and off-peak) between described intermediate checkpoints.

Potential component applications:

At bus stops  
Time schedule books  
Wallet time schedule.

Variation:

Example A shows Detail Time Module (Modified).

Example B shows Detail Time Module with abbreviated headway.

### To Greenbelt

Departure times from  
Downtown Terminal.

A.M.	8:15	12:57	5:17	
4:56	8:38	1:06	5:38	
5:30	9:06	1:30	5:58	
5:50	9:36	1:53	6:25	
6:10	10:06	2:15	6:54	
6:21	10:36	2:37	7:24	
6:25	11:06	2:59	7:54	
6:45	11:36	3:22	8:24	
7:05		3:46	8:54	
7:23	P.M.	4:12	9:24	
7:35	12:06	4:36	9:54	<b>A</b>
7:55	12:36	4:57	10:24	

### To Downtown

Direction of Travel from Greenbelt to Downtown.

	A.M.								P.M.							
Greenbelt.....	5:05	5:21	5:31	5:50	6:11	6:25	6:38	6:52	12:29	1:02	1:58		9:02	10:51		
Union Center.....	5:14	5:30	5:40	5:59	6:20	6:34	6:47	7:01	12:38	1:11	2:07		9:11	10:58		
102nd & Healy.....	5:26	5:42	5:52	6:11	6:32	6:46	7:00	7:14	12:51	1:24	2:20		9:24	11:09		
102nd & Brewster.....	5:31	5:48	5:58	6:17	6:39	6:52	7:06	7:20	12:57	1:30	2:26		9:30	11:13		
Holiday Park Hospital...	5:38	5:55	6:05	6:24	6:46	7:00	7:14	7:28	1:05	1:38	2:34		9:37	11:18		
Penny Pack Park.....	5:46	6:03	6:13	6:32	6:54	7:08	7:23	7:37	1:13	1:46	2:46		9:45	11:25		
University District.....	6:00	6:17	6:27	6:46	7:08	7:23	7:38	7:54	1:29	2:02	3:01		10:00	11:38		
Ravenswood Park.....	6:10	6:27	6:37	6:56	7:18	7:33	7:48	8:05	1:40	2:13	3:12		10:11	11:49		
Wildwood.....	6:15	6:32	6:42	7:01	7:23	7:38	7:53	8:10	1:45	2:18	3:17		10:16	12:53		
Downtown.....	6:22	6:39	6:49	7:08	7:30	7:45	8:00	8:16	1:51	2:24	3:23		10:22	12:59		

### Module 3: Written/Graphic

#### Information purpose:

To provide a general informational overview in a written or graphic presentation to show:

- (1) Single route service within time of day, day of week.
- (2) Between two or more routes, within time of day, day of week

where physical constraints of minimal source data, minimal space, or the need of actual arrival time latitude requires it.

#### Typical characteristics:

Written information depicting the frequency of service usually by time of day, day of week. (Example A.)  
 Graphic information depicting frequency of service, usually by time of day, day of week. (Example B following page.)

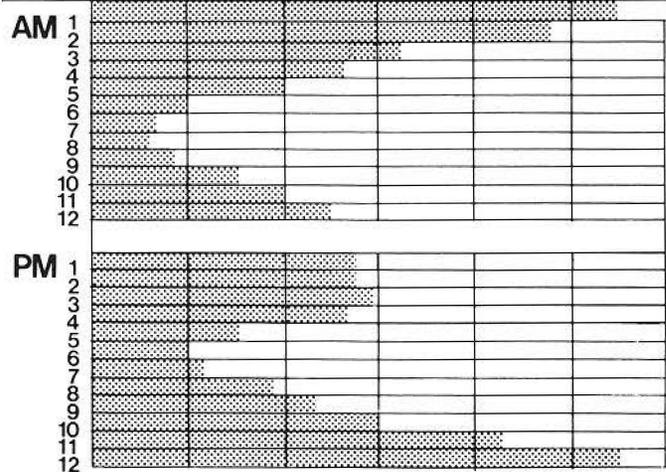
#### Potential component applications:

- Bus stops
- Abbreviated addenda to maps, brochures, etc.

FREQUENCY OF SERVICE (in minutes)																		
LEAVING SUNDAY	ROUTE	TERMINAL	WEEKDAYS						SATURDAY						SUNDAY	ROUTE		
			8:00 AM	NOON	5:30 PM	9:00 PM	2:00 AM	8:00 AM	NOON	5:30 PM	9:00 PM	2:00 AM	8:00 AM	NOON	5:30 PM		9:00 PM	2:00 AM
7:00AM-1:20AM	<b>C1</b>		5	6	5	20	-	8	7	7	20	-	18	12	12	20	-	<b>C1</b>
6:44AM-12:40AM	<b>C2</b>		5	6	5	20	-	8	7	7	20	-	18	12	12	20	-	<b>C2</b>
All times	<b>C3</b>		4	6	4	10	60	10	6	6	10	60	14	8	8	12	60	<b>C3</b>
6:57AM																		
11:47AM-6:38PM																		
All times	<b>C4</b>		5	7	4	12	46	14	9	8	12	46	16	12	12	14	46	<b>C4</b>
12:20PM-6:30PM	<b>C5</b>		7	12	7	30	-	60	12	12	30	-	-	15	15	-	-	<b>C5</b>
10:00AM-8:45PM																		
7:08AM-12:10AM	<b>C6</b>		4	14	6	22	-	14	16	17	22	-	14	14	14	20	-	<b>C6</b>
No service	<b>C7</b>		60	60	60	60	-	-	60	60	-	-	-	-	-	-	-	<b>C7</b>
7:00AM-10:30PM	<b>C8</b>		13	15	15	30	-	30	30	30	30	-	60	30	30	30	-	<b>C8</b>
7:30AM-12:46AM	<b>C9</b>		7	12	7	18	-	20	14	10	18	-	30	20	15	24	-	<b>C9</b>
-	<b>C10</b>		6	15	6	30	-	-	-	-	-	-	-	-	-	-	-	<b>C10</b>

**A**

# Trip Frequency



## B

### Module 4: User Completed Time Format

Information purpose:

To provide highly detailed information to the user which is accurate to his specific stop, used on an ongoing, repeated basis.

Typical characteristics:

Time of day matrix.

Potential component application:

Wallet schedule.

### Checkpoint Timetable

	0	10	20	30	40	50	60
AM 1							
AM 2							
AM 3							
AM 4							
AM 5							
AM 6							
AM 7							
AM 8							
AM 9							
AM 10							
AM 11							
AM 12							
PM 1							
PM 2							
PM 3							
PM 4							
PM 5							
PM 6							
PM 7							
PM 8							
PM 9							
PM 10							
PM 11							
PM 12							

## Map Modules:

Maps are merely graphic means of expressing the geographic relationships between origins and destinations for a single route or for the entire system. They are important tools that enable the rider to better plan a trip. Widespread use of maps should increase familiarity with the system.

Before a detailed explanation of each of the map modules, the guidelines for map development will be discussed.

Each transit system should develop a set of maps that will meet the community needs. Special needs are then identified as the following map modules:

1. Legend
2. Single Route Map
3. Multi-Line/Corridor Map
4. Schematic Full System Map
5. Non-Schematic Full System Map
6. Area Blow-up Map
7. Pedestrian Map
8. Special Service Map

The size and level of service of your transit system will determine which of these maps will suit the needs of your community.

## Guidelines for Map Development

Consideration for map development is divided into three areas:

1. Schematic versus non-schematic.
2. Criteria used in developing the geographic base map.
3. Criteria used to represent the route structure.

In most cases the route structure will be imposed on top of the base map.

### 1. SCHEMATIC VERSUS NON-SCHEMATIC

Transit maps can be developed in two ways. The traditional map is a base map showing all topographical and street detail with the transit routes superimposed on it.

A schematic map shows items of major importance boldly, and screens (shades) back or deletes less important information so as not to compete with the more important transit information. Schematic maps retain a high degree of clarity enlarged or reduced.

Laboratory participants preferred some degree of detail on overall system maps. However, research also showed a preference for a pocket-sized system map as opposed to the large fold-out map. Because a detailed map requires more space to include additional data, a pocket-sized system map would require a more schematic approach than a larger fold-out map.

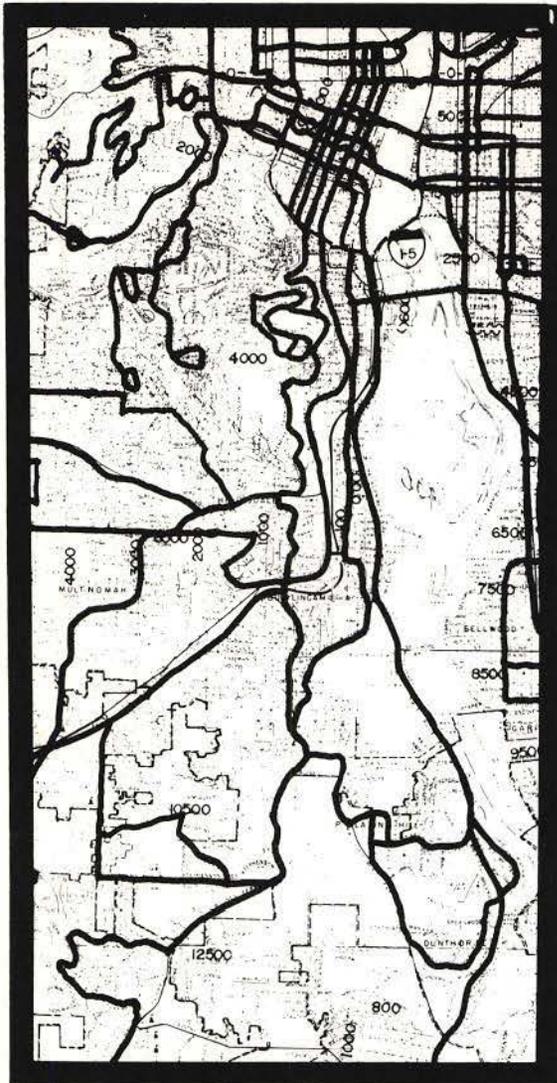
Large-scale system maps should include a substantial amount of street detail, while system maps constrained by size or location (shelters, transfer point locations, local bus stops) should use a schematic approach.

Individual schematic map process preceding development:

1. The information system designer should become familiar with the specific routes of the system and their relationship to primary locations along the routes.
2. A list of the most memorable locations along each route should be made.
3. Research should be conducted to determine perceived distance between memorable locations along the route. For instance, people may perceive distances as either greater or less than they actually are.
4. The presentation of route deviations should be weighed against the value to the rider. For example, if a route makes a one-block detour in order to enter a one-way street, ask yourself if the detour is significant enough to show on the map.
5. Allow enough space between routes on a schematic map to enable the easy placement of symbols, route numbers, street names, etc.

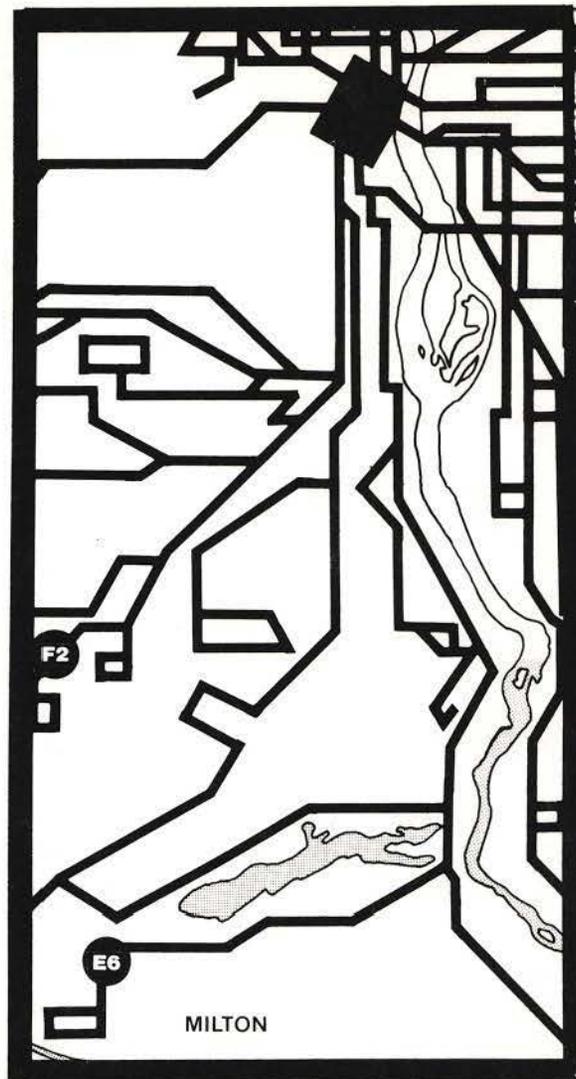
The above guidelines will allow for the development of an easily envisioned, easily remembered, easily read information piece.

NON-SCHEMATIC



WITH MEANDERING LINES

SCHEMATIC

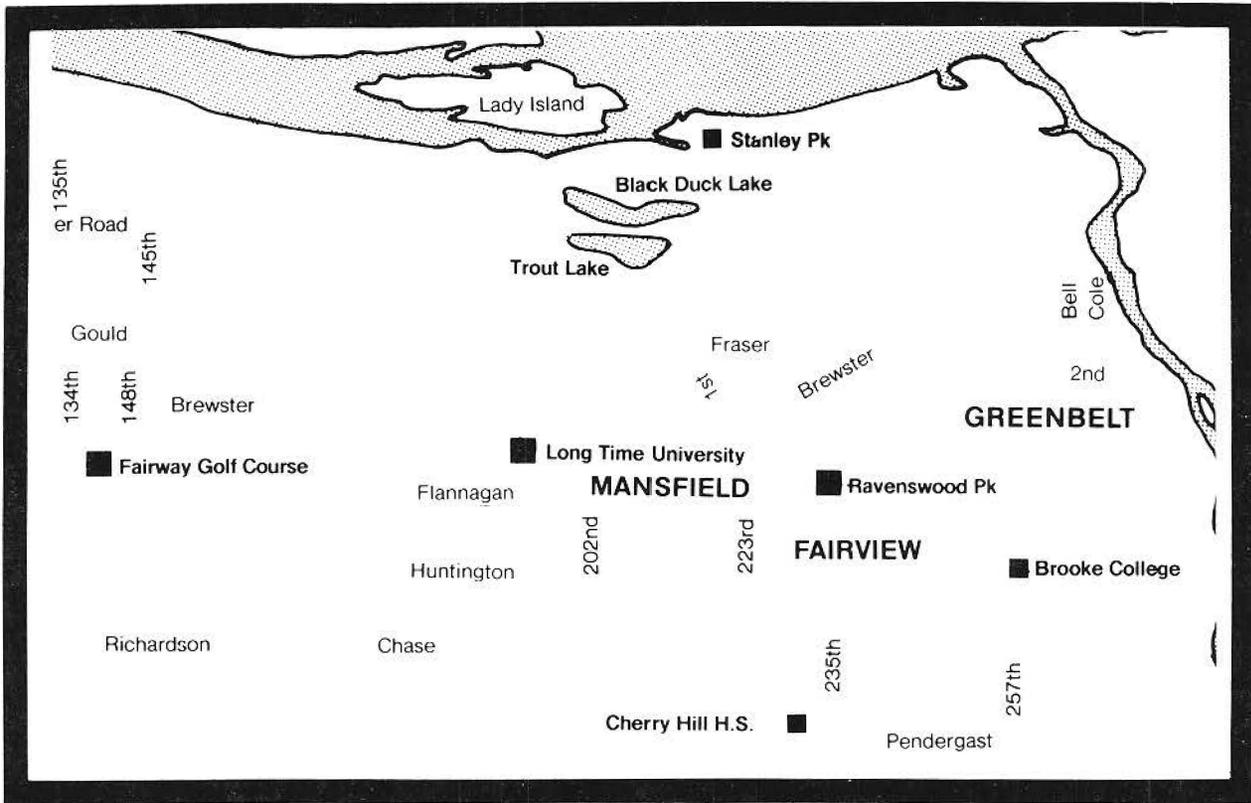


WITHOUT MEANDERING LINES

2. THE BASE MAP

In laying out the geographic base map, natural forms are used for coast lines, rivers, islands. That is, the forms on the map follow the natural outlines. The routes will follow naturally on the streets of the base map except when grid distortion is being applied for the purpose of emphasis or straightening out meandering routes on the map (generally a schematic map). Grid distortion is a technique of enlarging and emphasizing areas of complexity in order to make the map easier to use.





The principle of emphasis and subordination is used in designating cities and towns. Larger municipalities, such as America, may be shown as a screened or tonal area, if the size of the map permits.

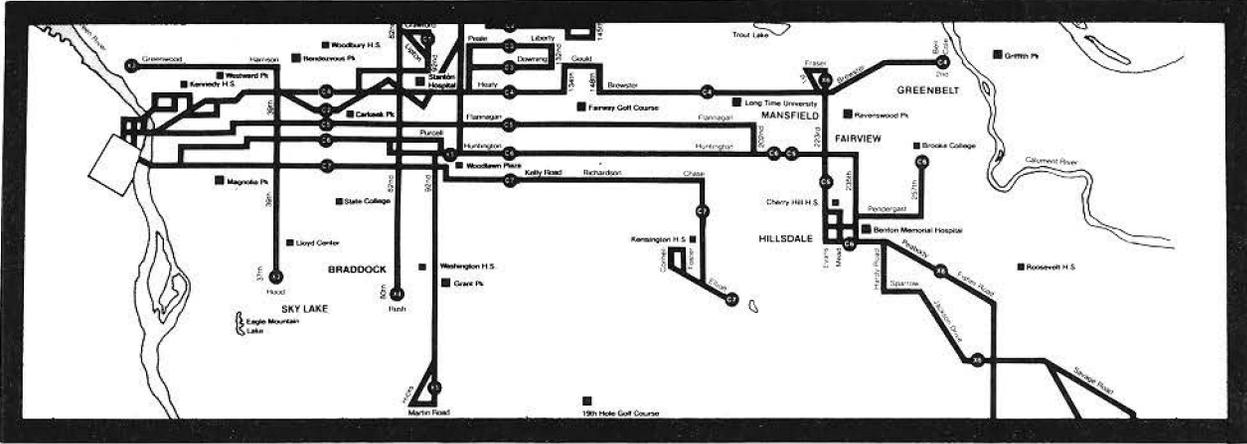
Names of all smaller cities and towns are shown in all upper case bold face type.

Unincorporated places and points of interest are included in proportion to the scale of the particular map. Unincorporated places are medium weight, upper and lower case.

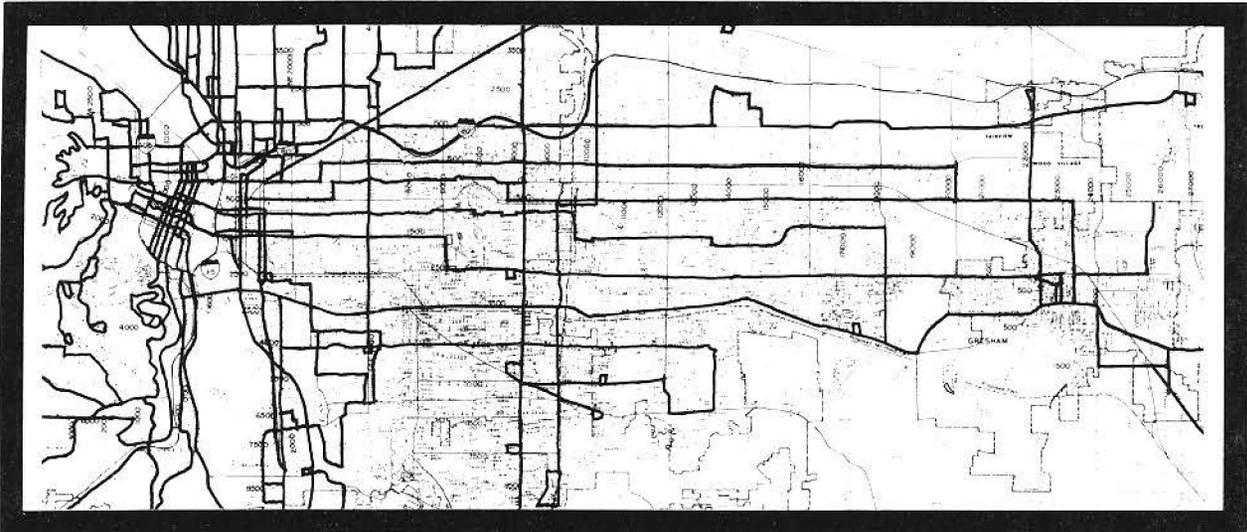
Points of interest are designated by a square locator followed by the name in a smaller face, upper and lower case.

### 3. ROUTE STRUCTURE

The route geometry, or interrelationship of routes, begins with the linear element of routes which are joined and interconnected. On schematic maps, straight, horizontal, and vertical lines and  $60^\circ$ ,  $45^\circ$ , and  $30^\circ$  angles are used in the appropriate combinations to represent a route or series of routes. Unlike the organic geographic forms which follow natural lines, route lines on a schematic map are representational and simplified, and meander lines are straightened.



Routes are shown in uniform line weights. Each route is labeled with its number along each major route leg. Numbers are shown in medium-weight numerals. Terminal points and split ends are labeled in bold, utilizing upper and lower cases. Optional directional arrows may be applied to route lines to clarify confusing situations.



On a non-schematic map, route lines follow their actual base structure to scale.

## Module 1: Legend

A legend is a key or code which explains to the user the meaning of symbols or indicants that are used on the map. A legend is usually combined with other elements and modules, but may occasionally be used alone. In addition fare information should be an element of the legend. This type of information might also include a zone map of the system if zones are used. Most maps will contain legend information.



## Module 2: Single Route Map

Information purpose:

To provide the transit patron with a convenient guide to a single route.

Typical characteristics:

High degree of street line and name detail.  
High degree of names of places and intersections.  
Major alternate routes along the corridor.  
Transferring route capabilities along the single route.  
Indicates Park and Ride locations, express stops, transfer stations, information kiosks, staffed facilities along the single route.  
Checkpoint reference along the route.

Potential component application:

Printed components:

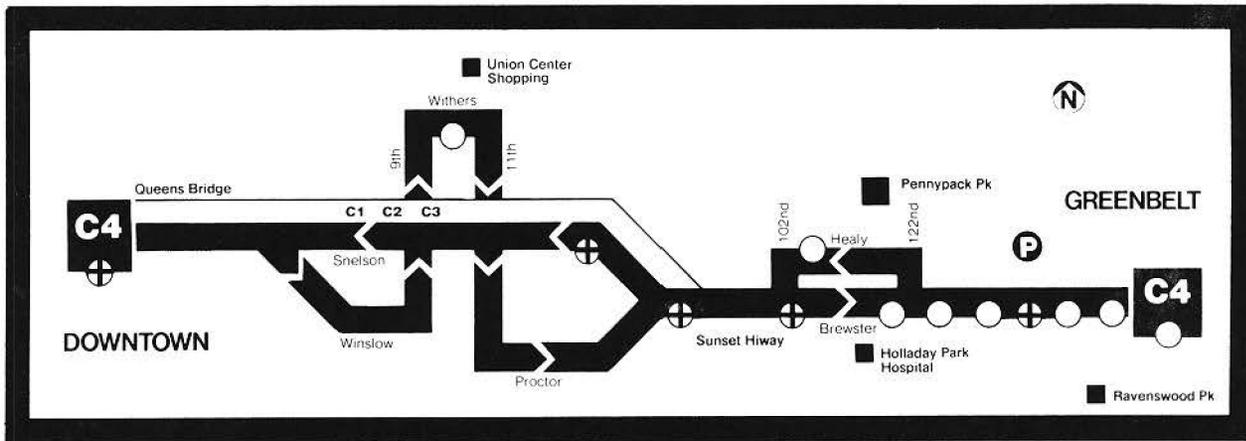
- Pocket schedule
- Time schedule book
- Advertisements

Information signage components:

- Bus stop signage
- Shelter signage
- Information kiosks
- Transfer stations

Electronic components:

- Cathode ray tube displays (TV screens)
- Slide presentations



**Module 3: Multi-Line/Corridor Map**

Information purpose:

To provide the transit user with highlighted information on a specific corridor, for the following purposes:

- To gain a sense of system structure.
- To allow for the display of a corridor map where a total system map could not be accommodated.
- To provide specific corridor information when that is of prime importance to the rider.

Typical characteristics:

The same as the overall schematic system map with the exception that routes extending beyond the boundary of the corridor are indicated as on-going destinations.

Potential component applications:

Printed components:

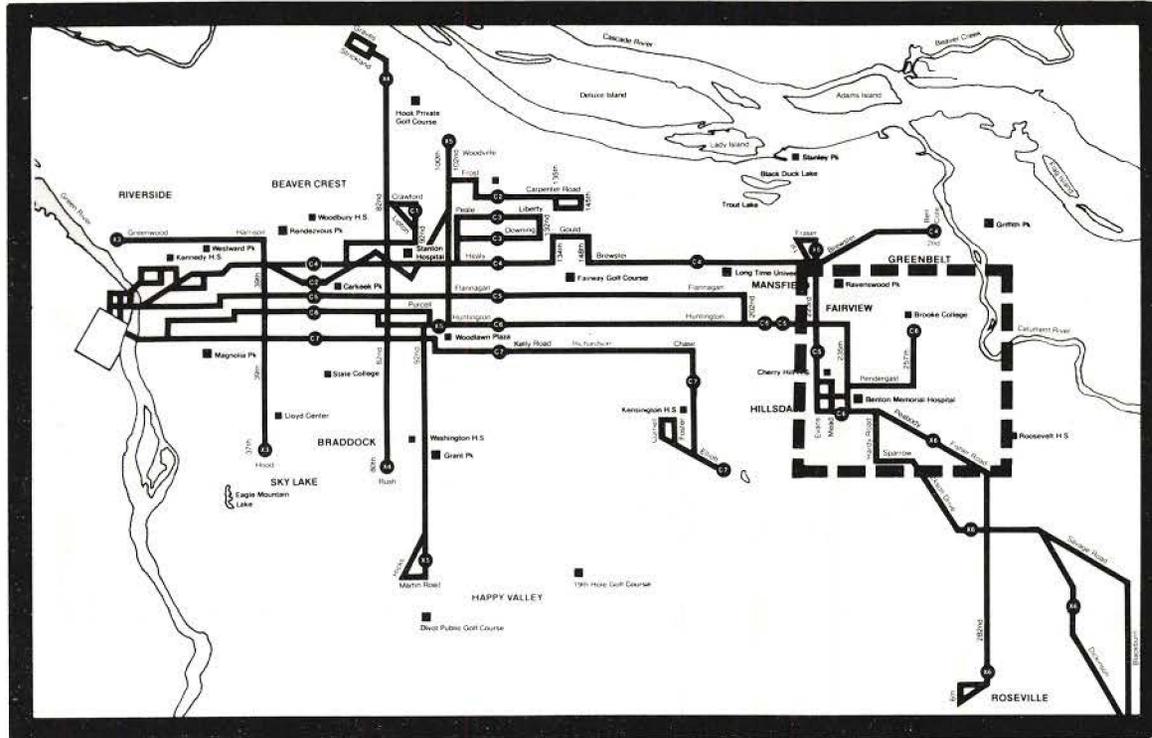
- Time schedule book
- Common destination time schedule
- Advertisements

Informational signage components:

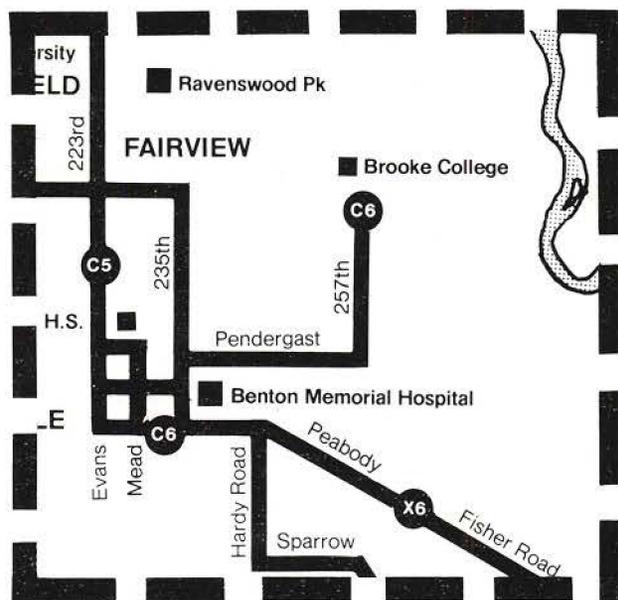
- Bus stop signage
- Shelter signage
- Information kiosks
- Transfer stations
- Transit vehicles

Electronic components:

- Cathode ray tube display (TV screen)
- Slide presentations



**A**



**B** Detail section

## Module 4: Schematic Full System Map

### Information purpose:

To provide the public with an overview of the entire transit system and the relationship of all routes, transit activity areas (Park and Ride, transfer locations, express stops, etc.) and community activity areas.

### Typical characteristics:

Includes only major streets and other highway landmarks.  
Includes all geographic and geometric information pertaining to the total system.  
The scale of the map is not related to the actual distances for simplicity's sake.

### Potential component applications:

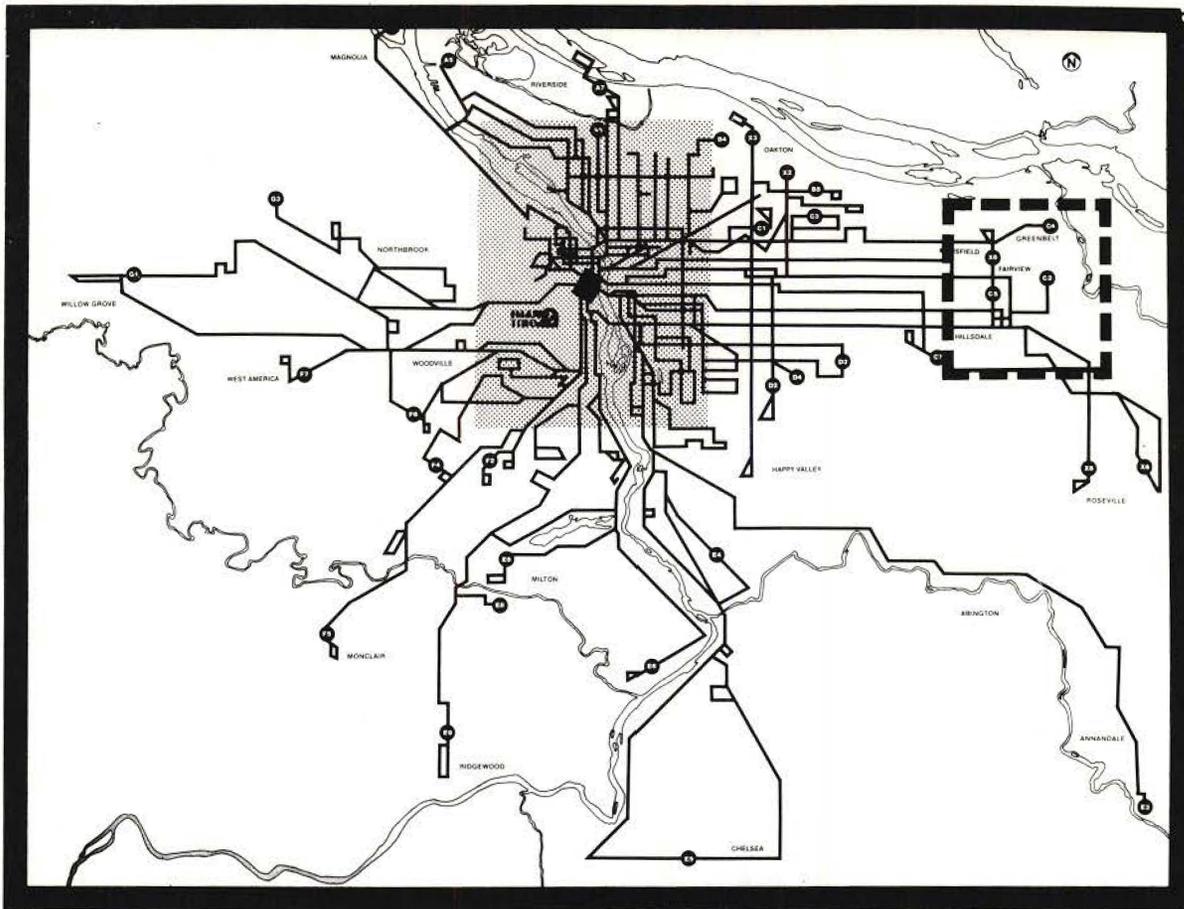
#### Printed components:

- Time schedule book
- User guides
- Kits
- Maps (pocket)
- Advertisements

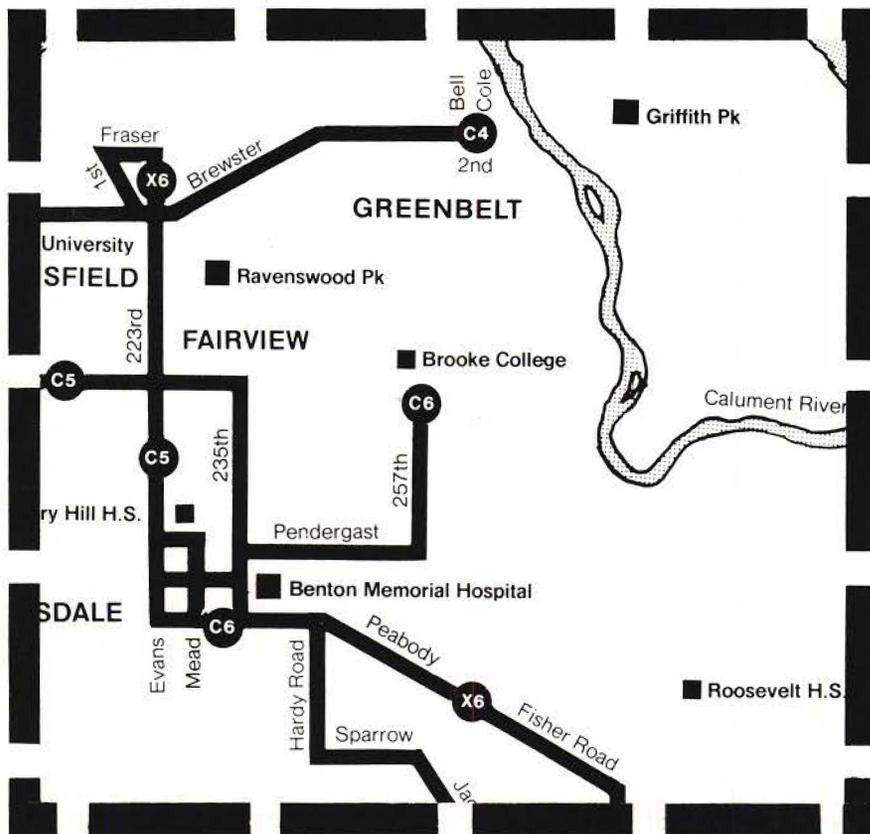
#### Informational signage components:

- On-route signage (informational)
- Facilities (shelters, information offices)
- Transit vehicles
- Kiosks, displays

See example following page



**A**



**B** Detail section

## Module 5: Non-Schematic Full System Map

### Information purpose:

To provide the transit user with detailed street information within the transit system service area for the purpose of trip planning.

### Typical characteristics:

Streets screened back on the base map.  
Includes all points of interest, communities, and other pertinent area information.  
Includes all transit route detail.

### Potential component application:

#### Printed components:

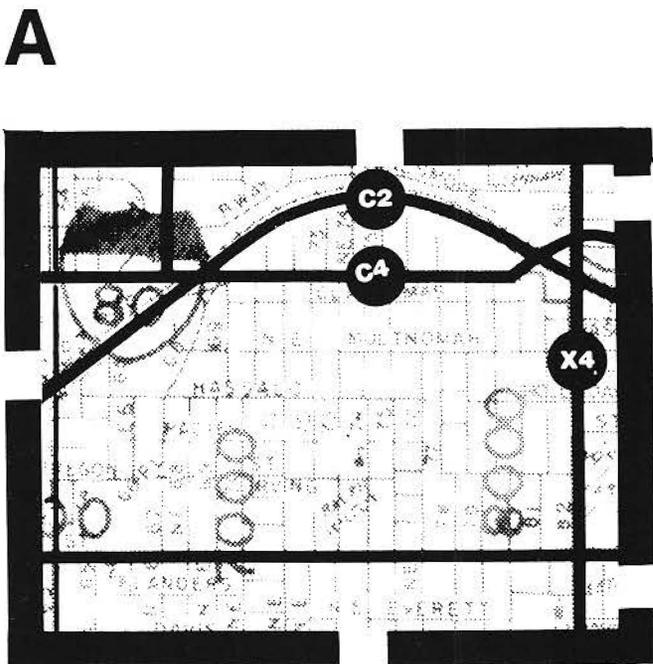
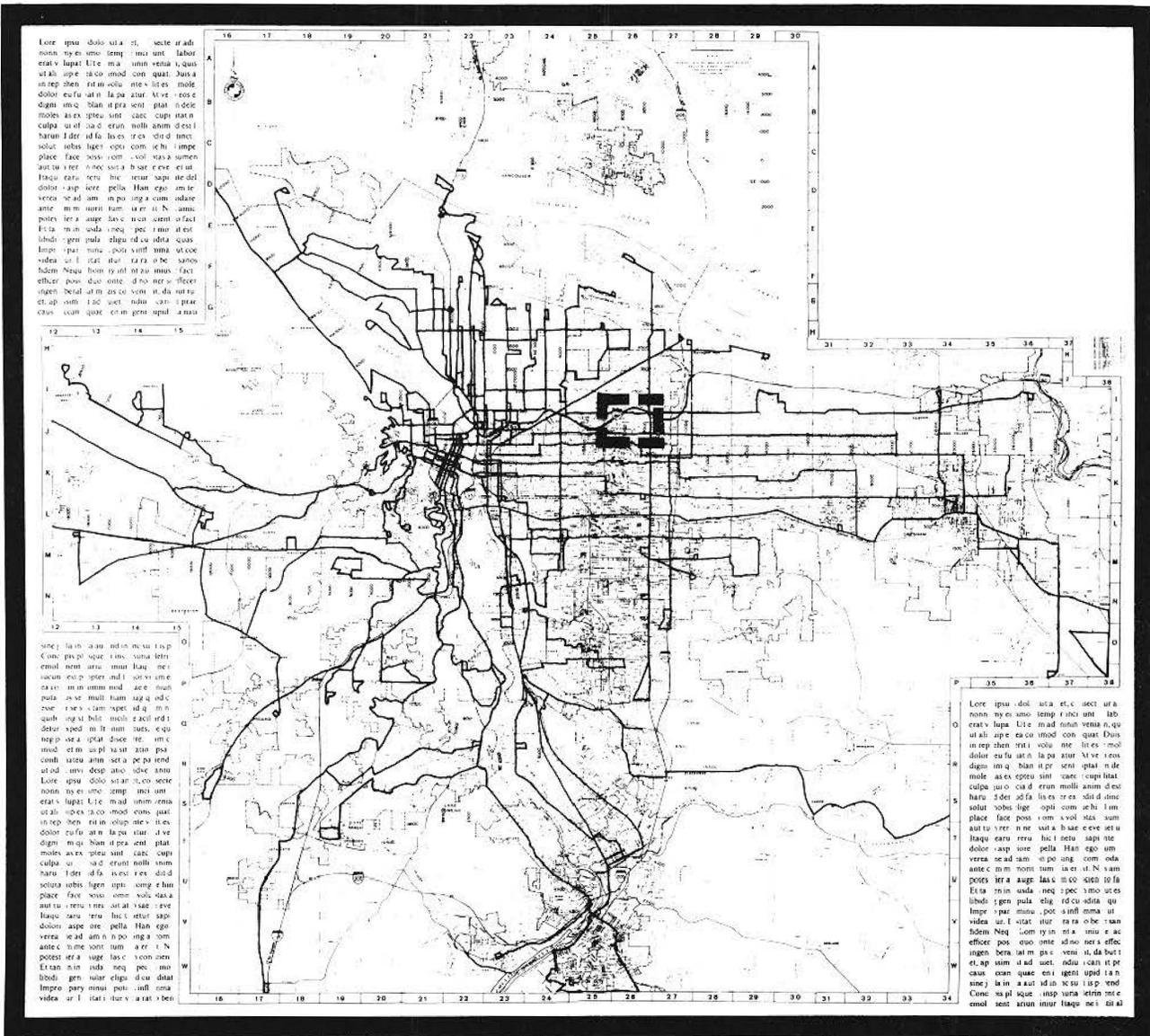
- Fold-out map
- Pocket map
- Advertisements

#### Informational signage components:

- Facility signage
- Kiosks, displays

See example following page





**B** Detail section

## Module 6: Area Blow-Up Map

### Information purpose:

To provide the transit user with more detailed route information where street and route complexity require a more specific view.

### Typical characteristics:

Includes same scale of information as overall schematic map.

### Potential component applications:

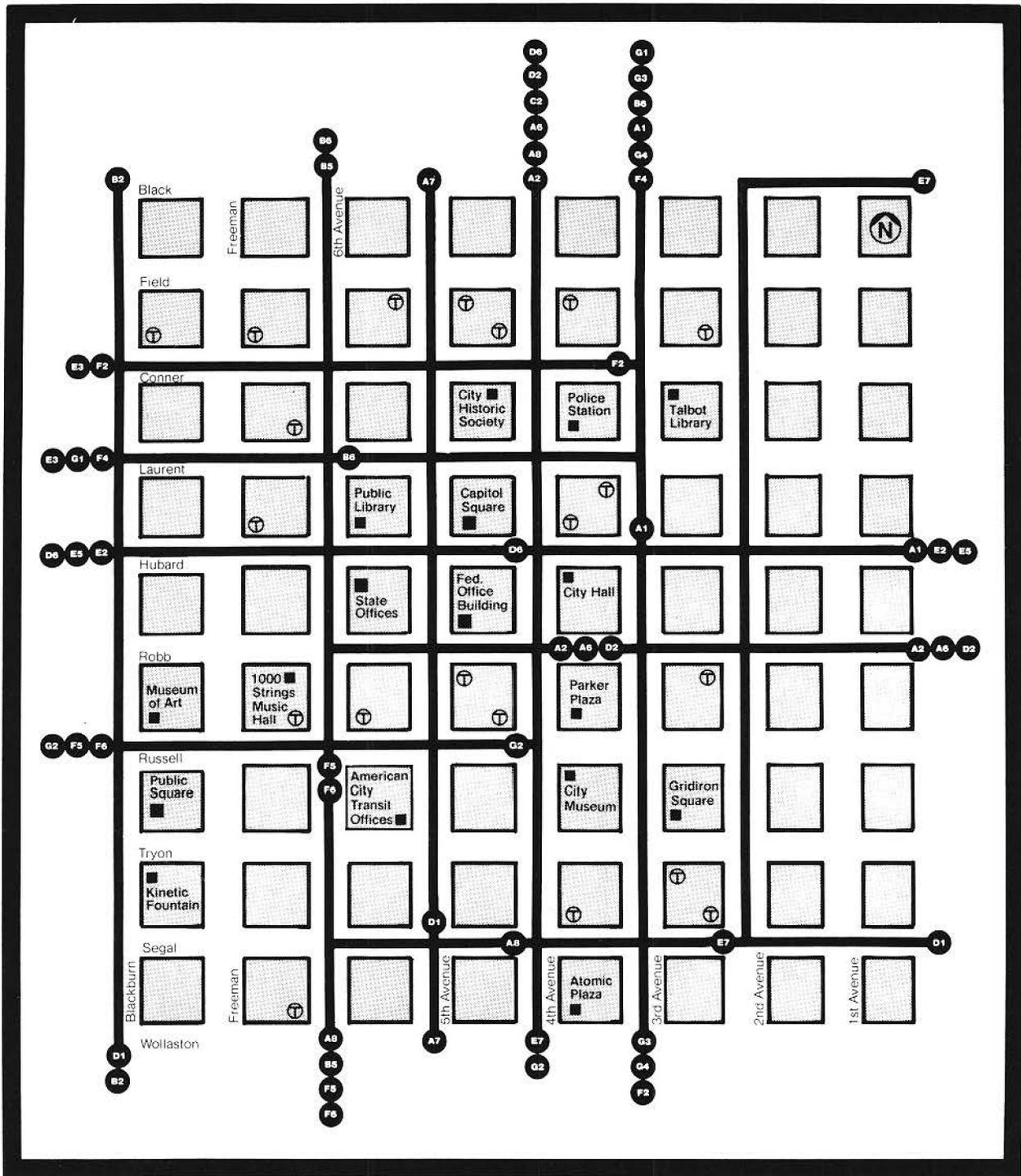
#### Printed components:

- Time schedule book
- Guides
- Kits
- Maps (pocket)

#### Informational signage components:

- On-route signage
- Facilities
- Transit vehicles
- Kiosks, displays

See example following page



Area Blow Up Map

## Module 7: Pedestrian Map

Information purpose:

To provide the transit user with a pedestrian orientation to a specific area showing the relationship of that area to the transit facilities and services within the area.

Typical characteristics:

Includes specific building names, intersecting streets, courtyards, fountains, etc. of the area.

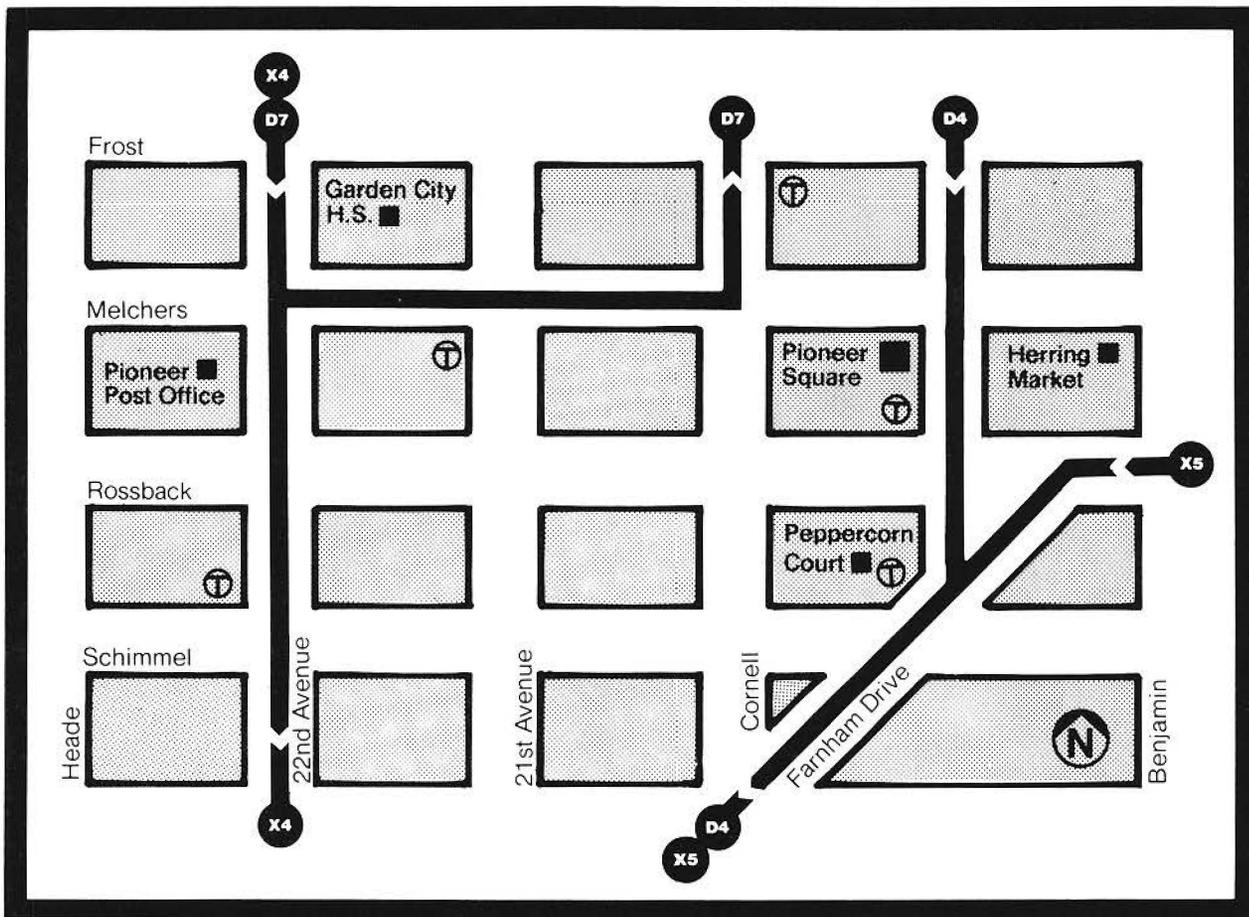
Potential component applications:

Printed components:

Time schedules (limited to specific situations)  
Advertisements

Informational signage components:

Limited to specific situations for all applications,  
i.e. transfer areas.



## Module 8: Special Service Map

### Information purpose:

To provide the transit user with specific information about alternate transit networks within the total transit system, e.g. express system, light rail, shuttles, and seasonal or special community services.

### Typical characteristics:

Clearly delineated origins and destinations.  
All connections with regular transit service.

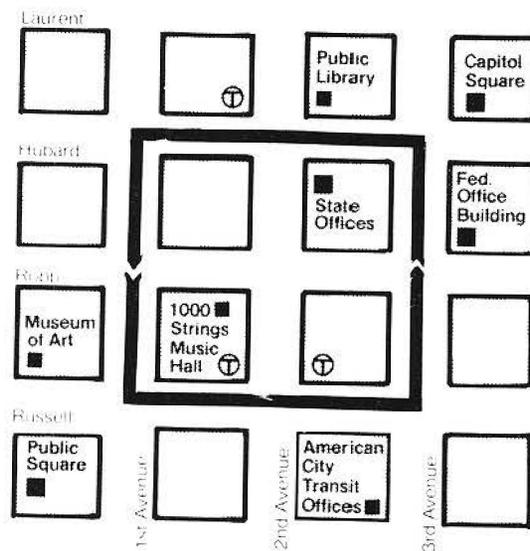
### Potential component applications:

#### Printed components:

- Time schedule book
- Guides
- Advertisements
- Brochures

#### Informational signage components:

Limited to specific situations of special service connection with regular information signage.



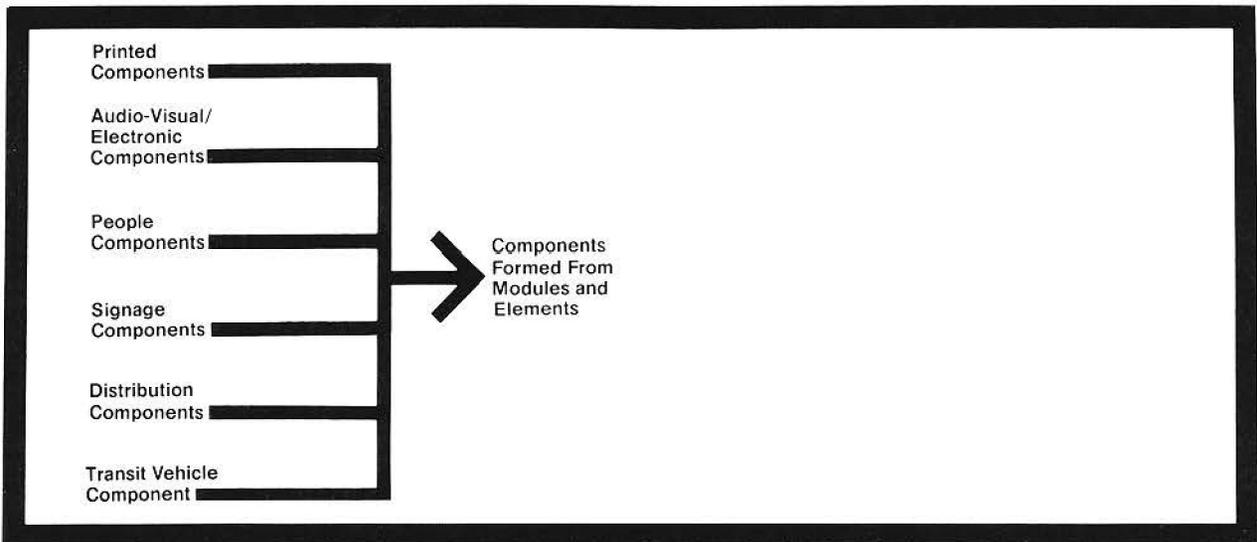
— DOWNTOWN SHUTTLE

# Constructing Components

The elements and modules described previously can be combined into components. First, however, decisions must be made as to which element (names and places, numbers and letters, etc.) will be used to represent each significant item of information, and which modules are to be constructed for use in creating the information components. Guidelines on making these decisions are contained in Part VI: Total System.

Ultimately the construction of your system information components will depend on the elements and modules you have developed. The components, when they are finally constructed, should be customized to your community and reflect the community perspective and the refined conceptual objectives that have been established for your system.

The components that can now be constructed have been categorized in the following manner:



Contained within each of the above component categories will be the actual information aids.

## Printed Components:

Printed components can be assembled in a great variety of formats to serve different purposes. Some of the basic types of printed pieces are described below. All printed pieces should maintain familiarity to the transit system. Printed pieces can usually be "taken away" with the patron, kept and examined at leisure.

### Schedules

1. Pocket
2. Book
3. Wallet size
4. Common destination

### Fare Payment Methods

1. Cash
2. Tokens
3. Tickets
4. Passes

### Special Printed Pieces

1. How-to-ride books
2. Kits
3. Display posters
4. Brochures
5. Pocket maps
6. System maps

### Advertising Promotion (Printed)

1. Newspaper/magazine
2. Transit advertising
3. Outdoor
4. Direct mail
5. Specialty items

## Schedule Components:

Participants in the laboratory sessions consistently identified the time schedule as the most useful aid of those common aids presented.

There are four types of schedules that can be easily carried and referred to:

1. Pocket
2. Book
3. Wallet
4. Common destination.

Any of these schedules should accurately represent route geography, geometry, time, and fare to the user. It should be:

readable  
a standardized size  
compatible with other information aids  
conveniently sized for pocket and purse  
rider oriented.

To promote compatibility with other aids, a standard route heading module (Example A) to tie all schedules in with other on-route signage should be used (Examples B, C, and D).

The reversed-out number, letter, and name shown here coincide with the vehicle signage (B) and the suggested route information signage (C).

If color coding is adopted for designating corridors or service, a geographic or service notation is included with the name/number in this block (D).

The destination of the route is included in the color block as shown in (D).

Under the route designation and destination block, list the "via" information. There should be no more than six "via" listings (Example A).

Following the "via" listings, the effective season should be shown, including the effective inclusive dates of the schedule.

## **Component 1: Pocket Time Schedule**

The pocket time schedule is a key component in most information systems regardless of the size of the transit system.

There are four basic sections to a time schedule. These four will be most applicable to a pocket or book schedule:

1. the cover
2. the map - and legend
3. special information
4. the schedules - and indicants (symbols)



# C4 Greenbelt

Via Downtown, Union Center,  
Holiday Park Hospital, Penny Pack Park,  
University District, Ravenswood Park.

Summer Schedule  
Effective thru Aug. 30, 1975

**A**



**B**



**C**

# C4 Greenbelt Express

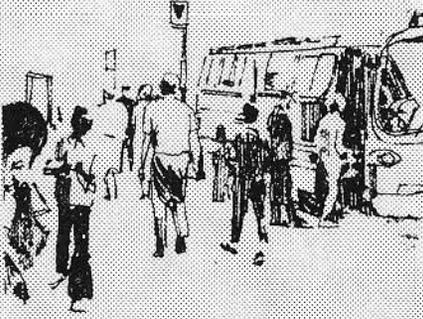
**D**

On the cover of a pocket schedule and following the standardized route heading, "via" information, and effective dates, the pocket schedule's space can be used for special information or for decorative graphics (see Example A). Special information blocks, if any, are updated to explain on-going system changes to the rider. This updating should be reviewed at each timetable revision.

**C4 Greenbelt**

Via Downtown, Union Center,  
Holiday Park Hospital, Penny Pack Park,  
University District, Ravenswood Park.

Summer Schedule  
Effective thru Aug. 30, 1975



 America Transport Company  
Information 555-9999

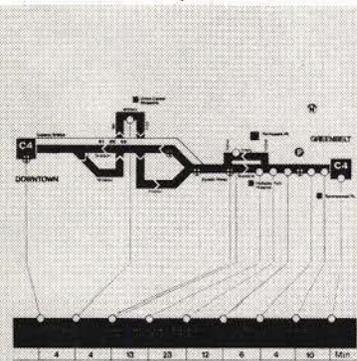
**A**

The single route map and legend have been placed on the inside lefthand page in the America Transport Company schedule. If a horizontal map is needed to maintain a consistent north indication, the map would use the top half of the first two panels. The legend of symbols is placed below the map.

The time format module (scheduling information) is inserted as shown in Example B, placing the most often used weekday times on the same side as the map. America Transport Company uses the vertical full schedule with "checkpoints". In the case of a pocket schedule prepared for a special service, modifications to the cover and time blocks may be made.

The rest of the information should be compatible with other pocket schedules.

Special information such as fare policy, operating hours, holiday service should be on the back panel when the schedule is folded.



**Legend**

- Alameda Station
- Greenbelt Station
- Direction of Travel
- Transfer Point
- Transfer Route
- Transfer Point
- Checkpoint

**Connecting Routes**

estis ad aliam stationem, quae connectit ad aliam stationem, quae connectit ad aliam stationem.

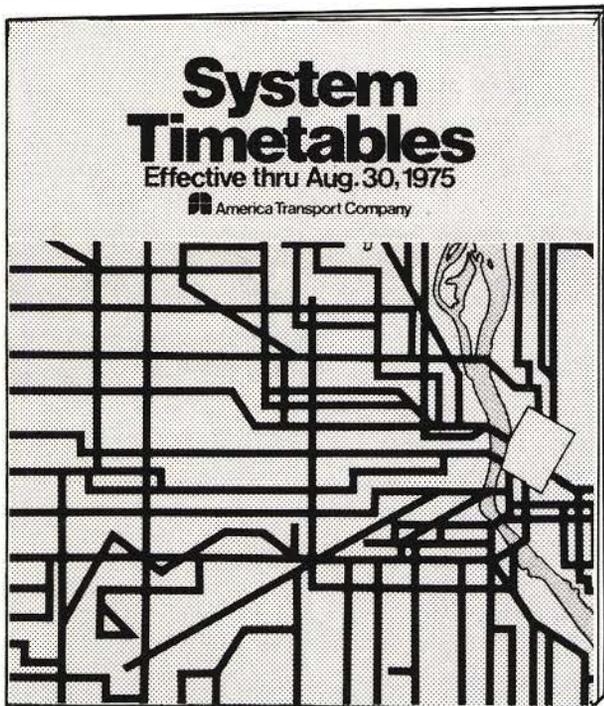
**Weekday, Direction of Travel from Downtown to Greenbelt**

Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
6:00	6:05	6:10	6:15	6:20	6:25	6:30	6:35	6:40	6:45	6:50	6:55	7:00	7:05	7:10	7:15	7:20	7:25	7:30	7:35	7:40	7:45	7:50	7:55	8:00	8:05	8:10	8:15	8:20	8:25	8:30	8:35	8:40	8:45	8:50	8:55	9:00	9:05	9:10	9:15	9:20	9:25	9:30	9:35	9:40	9:45	9:50	9:55	10:00	10:05	10:10	10:15	10:20	10:25	10:30	10:35	10:40	10:45	10:50	10:55	11:00	11:05	11:10	11:15	11:20	11:25	11:30	11:35	11:40	11:45	11:50	11:55	12:00	12:05	12:10	12:15	12:20	12:25	12:30	12:35	12:40	12:45	12:50	12:55	1:00	1:05	1:10	1:15	1:20	1:25	1:30	1:35	1:40	1:45	1:50	1:55	2:00	2:05	2:10	2:15	2:20	2:25	2:30	2:35	2:40	2:45	2:50	2:55	3:00	3:05	3:10	3:15	3:20	3:25	3:30	3:35	3:40	3:45	3:50	3:55	4:00	4:05	4:10	4:15	4:20	4:25	4:30	4:35	4:40	4:45	4:50	4:55	5:00	5:05	5:10	5:15	5:20	5:25	5:30	5:35	5:40	5:45	5:50	5:55	6:00	6:05	6:10	6:15	6:20	6:25	6:30	6:35	6:40	6:45	6:50	6:55	7:00	7:05	7:10	7:15	7:20	7:25	7:30	7:35	7:40	7:45	7:50	7:55	8:00	8:05	8:10	8:15	8:20	8:25	8:30	8:35	8:40	8:45	8:50	8:55	9:00	9:05	9:10	9:15	9:20	9:25	9:30	9:35	9:40	9:45	9:50	9:55	10:00	10:05	10:10	10:15	10:20	10:25	10:30	10:35	10:40	10:45	10:50	10:55	11:00	11:05	11:10	11:15	11:20	11:25	11:30	11:35	11:40	11:45	11:50	11:55	12:00	12:05	12:10	12:15	12:20	12:25	12:30	12:35	12:40	12:45	12:50	12:55	1:00	1:05	1:10	1:15	1:20	1:25	1:30	1:35	1:40	1:45	1:50	1:55	2:00	2:05	2:10	2:15	2:20	2:25	2:30	2:35	2:40	2:45	2:50	2:55	3:00	3:05	3:10	3:15	3:20	3:25	3:30	3:35	3:40	3:45	3:50	3:55	4:00	4:05	4:10	4:15	4:20	4:25	4:30	4:35	4:40	4:45	4:50	4:55	5:00	5:05	5:10	5:15	5:20	5:25	5:30	5:35	5:40	5:45	5:50	5:55	6:00	6:05	6:10	6:15	6:20	6:25	6:30	6:35	6:40	6:45	6:50	6:55	7:00	7:05	7:10	7:15	7:20	7:25	7:30	7:35	7:40	7:45	7:50	7:55	8:00	8:05	8:10	8:15	8:20	8:25	8:30	8:35	8:40	8:45	8:50	8:55	9:00	9:05	9:10	9:15	9:20	9:25	9:30	9:35	9:40	9:45	9:50	9:55	10:00	10:05	10:10	10:15	10:20	10:25	10:30	10:35	10:40	10:45	10:50	10:55	11:00	11:05	11:10	11:15	11:20	11:25	11:30	11:35	11:40	11:45	11:50	11:55	12:00	12:05	12:10	12:15	12:20	12:25	12:30	12:35	12:40	12:45	12:50	12:55	1:00	1:05	1:10	1:15	1:20	1:25	1:30	1:35	1:40	1:45	1:50	1:55	2:00	2:05	2:10	2:15	2:20	2:25	2:30	2:35	2:40	2:45	2:50	2:55	3:00	3:05	3:10	3:15	3:20	3:25	3:30	3:35	3:40	3:45	3:50	3:55	4:00	4:05	4:10	4:15	4:20	4:25	4:30	4:35	4:40	4:45	4:50	4:55	5:00	5:05	5:10	5:15	5:20	5:25	5:30	5:35	5:40	5:45	5:50	5:55	6:00	6:05	6:10	6:15	6:20	6:25	6:30	6:35	6:40	6:45	6:50	6:55	7:00	7:05	7:10	7:15	7:20	7:25	7:30	7:35	7:40	7:45	7:50	7:55	8:00	8:05	8:10	8:15	8:20	8:25	8:30	8:35	8:40	8:45	8:50	8:55	9:00	9:05	9:10	9:15	9:20	9:25	9:30	9:35	9:40	9:45	9:50	9:55	10:00	10:05	10:10	10:15	10:20	10:25	10:30	10:35	10:40	10:45	10:50	10:55	11:00	11:05	11:10	11:15	11:20	11:25	11:30	11:35	11:40	11:45	11:50	11:55	12:00	12:05	12:10	12:15	12:20	12:25	12:30	12:35	12:40	12:45	12:50	12:55	1:00	1:05	1:10	1:15	1:20	1:25	1:30	1:35	1:40	1:45	1:50	1:55	2:00	2:05	2:10	2:15	2:20	2:25	2:30	2:35	2:40	2:45	2:50	2:55	3:00	3:05	3:10	3:15	3:20	3:25	3:30	3:35	3:40	3:45	3:50	3:55	4:00	4:05	4:10	4:15	4:20	4:25	4:30	4:35	4:40	4:45	4:50	4:55	5:00	5:05	5:10	5:15	5:20	5:25	5:30	5:35	5:40	5:45	5:50	5:55	6:00	6:05	6:10	6:15	6:20	6:25	6:30	6:35	6:40	6:45	6:50	6:55	7:00	7:05	7:10	7:15	7:20	7:25	7:30	7:35	7:40	7:45	7:50	7:55	8:00	8:05	8:10	8:15	8:20	8:25	8:30	8:35	8:40	8:45	8:50	8:55	9:00	9:05	9:10	9:15	9:20	9:25	9:30	9:35	9:40	9:45	9:50	9:55	10:00	10:05	10:10	10:15	10:20	10:25	10:30	10:35	10:40	10:45	10:50	10:55	11:00	11:05	11:10	11:15	11:20	11:25	11:30	11:35	11:40	11:45	11:50	11:55	12:00	12:05	12:10	12:15	12:20	12:25	12:30	12:35	12:40	12:45	12:50	12:55	1:00	1:05	1:10	1:15	1:20	1:25	1:30	1:35	1:40	1:45	1:50	1:55	2:00	2:05	2:10	2:15	2:20	2:25	2:30	2:35	2:40	2:45	2:50	2:55	3:00	3:05	3:10	3:15	3:20	3:25	3:30	3:35	3:40	3:45	3:50	3:55	4:00	4:05	4:10	4:15	4:20	4:25	4:30	4:35	4:40	4:45	4:50	4:55	5:00	5:05	5:10	5:15	5:20	5:25	5:30	5:35	5:40	5:45	5:50	5:55	6:00	6:05	6:10	6:15	6:20	6:25	6:30	6:35	6:40	6:45	6:50	6:55	7:00	7:05	7:10	7:15	7:20	7:25	7:30	7:35	7:40	7:45	7:50	7:55	8:00	8:05	8:10	8:15	8:20	8:25	8:30	8:35	8:40	8:45	8:50	8:55	9:00	9:05	9:10	9:15	9:20	9:25	9:30	9:35	9:40	9:45	9:50	9:55	10:00	10:05	10:10	10:15	10:20	10:25	10:30	10:35	10:40	10:45	10:50	10:55	11:00	11:05	11:10	11:15	11:20	11:25	11:30	11:35	11:40	11:45	11:50	11:55	12:00	12:05	12:10	12:15	12:20	12:25	12:30	12:35	12:40	12:45	12:50	12:55	1:00	1:05	1:10	1:15	1:20	1:25	1:30	1:35	1:40	1:45	1:50	1:55	2:00	2:05	2:10	2:15	2:20	2:25	2:30	2:35	2:40	2:45	2:50	2:55	3:00	3:05	3:10	3:15	3:20	3:25	3:30	3:35	3:40	3:45	3:50	3:55	4:00	4:05	4:10	4:15	4:20	4:25	4:30	4:35	4:40	4:45	4:50	4:55	5:00	5:05	5:10	5:15	5:20	5:25	5:30	5:35	5:40	5:45	5:50	5:55	6:00	6:05	6:10	6:15	6:20	6:25	6:30	6:35	6:40	6:45	6:50	6:55	7:00	7:05	7:10	7:15	7:20	7:25	7:30	7:35	7:40	7:45	7:50	7:55	8:00	8:05	8:10	8:15	8:20	8:25	8:30	8:35	8:40	8:45	8:50	8:55	9:00	9:05	9:10	9:15	9:20	9:25	9:30	9:35	9:40	9:45	9:50	9:55	10:00	10:05	10:10	10:15	10:20	10:25	10:30	10:35	10:40	10:45	10:50	10:55	11:00	11:05	11:10	11:15	11:20	11:25	11:30	11:35	11:40	11:45	11:50	11:55	12:00	12:05	12:10	12:15	12:20	12:25	12:30	12:35	12:40	12:45	12:50	12:55	1:00	1:05	1:10	1:15	1:20	1:25	1:30	1:35	1:40	1:45	1:50	1:55	2:00	2:05	2:10	2:15	2:20	2:25	2:30	2:35	2:40	2:45	2:50	2:55	3:00	3:05	3:10	3:15	3:20	3:25	3:30	3:35	3:40	3:45	3:50	3:55	4:00	4:05	4:10	4:15	4:20	4:25	4:30	4:35	4:40	4:45	4:50	4:55	5:00	5:05	5:10	5:15	5:20	5:25	5:30	5:35	5:40	5:45	5:50	5:55	6:00	6:05	6:10	6:15	6:20	6:25	6:30	6:35	6:40	6:45	6:50	6:55	7:00	7:05	7:10	7:15	7:20	7:25	7:30	7:35	7:40	7:45	7:50	7:55	8:00	8:05	8:10	8:15	8:20	8:25	8:30	8:35	8:40	8:45	8:50	8:55	9:00	9:05	9:10	9:15	9:20	9:25	9:30	9:35	9:40	9:45	9:50	9:55	10:00	10:05	10:10	10:15	10:20	10:25	10:30	10:35	10:40	10:45	10:50	10:55	11:00	11:05	11:10	11:15	11:20	11:25	11:30	11:35	11:40	11:45	11:50	11:55	12:00	12:05	12:10	12:15	12:20	12:25	12:30	12:35	12:40	12:45	12:50	12:55	1:00	1:05	1:10	1:15	1:20	1:25	1:30	1:35	1:40	1:45	1:50	1:55	2:00	2:05	2:10	2:15	2:20	2:25	2:30	2:35	2:40	2:45	2:50	2:55	3:00	3:05	3:10	3:15	3:20	3:25	3:30	3:35	3:40	3:45	3:50	3:55	4:00	4:05	4:10	4:15	4:20	4:25	4:30	4:35	4:40	4:45	4:50	4:55	5:00	5:05	5:10	5:15	5:20	5:25	5:30	5:35	5:40	5:45	5:50	5:55	6:00	6:05	6:10	6:15	6:20	6:25	6:30	6:35	6:40	6:45	6:50	6:55	7:00	7:05	7:10	7:15	7:20	7:25	7:30	7:35	7:40	7:45	7:50	7:55	8:00	8:05	8:10	8:15	8:20	8:25	8:30	8:35	8:40	8:45	8:50	8:55	9:00	9:05	9:10	9:15	9:20	9:25	9:30	9:35	9:40	9:45	9:50	9:55	10:00	10:05	10:10	10:15	10:20	10:25	10:30	10:35	10:40	10:45	10:50	10:55	11:00	11:05	11:10	11:15	11:20	11:25	11:30	11:35	11:40	11:45	11:50	11:55	12:00	12:05	12:10	12:15	12:20	12:25	

## Component 2: Time Schedule Book

Depending on the size of the transit system, all time schedules can be combined into one complete reference document, or a series of documents. Special service information should also be included in this schedule book.

The book might be offered free or a nominal fee to users may be attached to it. In order to further defray production cost of the book, advertising space may be sold to merchants along the routes.



## Component 3: Wallet Size Time Schedule

This is a miniaturized version of the single route pocket time schedule. It utilizes a schematic map module (A) and the user completed time schedule module (B). The rider marks in the appropriate time for the desired route and keeps the card in a purse or wallet for ready reference in the future.

### C4 Greenbelt

ROUTES FROM TRANSFER POINTS

**Instructions for use:**

Temporibus autem quibusdam aut officio debet aut tunc rerum repellere. necessitatibus saepe eveniet ut et reprehendant sint et molestia non recus. Itaque necessitatibus earum rerum hinc entaury sapiente delectatus auant preferat erndis doloribrearud reru asperiore repellat. Hanc ego cum tene sententiam, quid est cur verear ne adasperiore iam non possing accommodare nost ros quos tu paulo ante cum memorieeam non j tum etia ergat. Nos amice et nebevol, olestias access potest fier ad augendastum etia e cum conscient to factor tum poen legum odioque cividua. Et tamen in busacum conse neque pecun modut est neque nonor imper ned libiding gen epular religuardneque pec cupiditat, quas nulla praid om umdant. Improb pary minuit, potius flam utcupiditepe coerend magist and et dodecendesse videantur. Invitat igitur vera ratio adcoerend i bene sanos ad iustitiam, aequitaded fidem. Neque hominy infant aut inuistebene even fact est cond qui neg facile effierd possit duo conetud notiner si effecerit, etfact est co opes vel fortunag vel ingen liberalitat magis conveniunt, da but tuntung etopes vel fe benevolent sib conciliant et, aptissim est ad quiet. Endium caritat praesertbenevolent cum omning null sit cuas peccand quaert en imigent cupidat a natura facilecum omni explent sine julla inaura autend inane sunt is parend non est nihil enim adexplent sir desiderabile. Concupis plusque in insupnaria detriment est quam in his etdesideraie rebus emolument oariunt iniur.

**A**

Fold On Line

	Downtown	Union Center	KNOX & Healy Korn & Brewster	Holiday Park Hospital	Perry Park	University District	Riverswood Park	Wilwood	Greenbelt	
	4	4	13	23	12	6	4	10	Min.	
Approximate riding time between checkpoints										

		Checkpoint Timetable						
		0	10	20	30	40	50	60
AM	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
PM	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							

Departure times from Downtown Terminal.

A.M.	8:15	12:57	5:17
4:56	8:38	1:06	5:38
5:30	9:06	1:30	5:58
5:50	9:36	1:53	6:25
6:10	10:06	2:15	6:54
6:21	10:36	2:37	7:24
6:25	11:06	2:59	7:54
6:45	11:36	3:22	8:24
7:05		3:46	8:54
7:23	P.M.	4:12	9:24
7:35	12:06	4:36	9:54
7:55	12:36	4:57	10:24

	Greenbelt	Wilwood	Riverswood Park	University District	Perry Park	Holiday Park Hospital	KNOX & Healy Korn & Brewster	Union Center	Downtown	
	10	4	6	12	23	13	4	4	Min.	
Approximate riding time between checkpoints										

		Checkpoint Timetable						
		0	10	20	30	40	50	60
AM	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
PM	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							

Departure times from Greenbelt Terminal.

A.M.	8:14	1:02	5:51
5:05	8:34	1:58	6:24
5:21	9:02	2:19	6:51
5:31	9:31	2:37	7:21
5:50	10:01	3:00	7:51
6:11	10:31	3:28	8:21
6:25	11:01	3:49	8:51
6:38	11:30	4:11	9:21
6:52	11:59	4:33	9:51
7:12		4:52	10:21
7:33	P.M.	5:09	10:51
7:50	12:29	5:31	

**B**

## Component 4: Common Destination Time Schedule

This is a special schedule, either posted or pocket size, which is organized around a particular destination. A combined map and timeblock are used to show all of the different lines or routes which can be used to reach that destination.

### Routes to Downtown

	A.M.							P.M.								
<b>C13</b> .....	5:05	5:21	5:31	5:50	6:11	6:25	Service Every 30 Minutes	12:29	1:02	1:58	2:37	3:00	3:28	3:49	Service Every 30 Minutes	10:51
<b>C17</b> .....	5:14	5:30	5:40	5:59	6:20	6:34		12:38	1:11	2:07	2:46	3:09	3:36	3:57		10:58
<b>D1</b> .....	5:26	5:42	5:52	6:11	6:32	6:46		12:51	1:24	2:20	3:01	3:24	3:51	4:11		11:09
<b>D5</b> .....	5:31	5:48	5:58	6:17	6:39	6:52		12:57	1:30	2:26	3:07	3:30	3:57	4:17		11:13
<b>D9</b> .....	5:38	5:55	6:05	6:24	6:46	7:00		1:05	1:38	2:34	3:16	3:39	4:06	4:28		11:18
<b>D13</b> .....	5:46	6:03	6:13	6:32	6:54	7:08		1:13	1:46	2:46	3:25	3:48	4:15	4:37		11:25
<b>D17</b> .....	6:00	6:17	6:27	6:46	7:08	7:23		1:29	2:02	3:01	3:42	4:05	4:32	4:54		11:38
<b>E1</b> .....	6:10	6:27	6:37	6:56	7:18	7:33		1:40	2:13	3:12	3:53	4:16	4:43	5:05		11:49
<b>E5</b> .....	6:15	6:32	6:42	7:01	7:23	7:38		1:45	2:18	3:17	3:58	4:21	4:48	5:10		12:53
<b>E9</b> .....	6:22	6:39	6:49	7:08	7:30	7:45		1:51	2:24	3:23	4:04	4:27	4:54	5:16		12:59

## Fare Payment Components:

"How much is the fare?" is the most often asked question in most transit systems after they have successfully dealt with geography, geometry, and time. This is a relatively simple task when a single fare is used throughout the transit system, but becomes increasingly more complex when transfer or zone charges are added. Communication about fare payment has two basic audiences: transit personnel and the public. Fare payment will be more easily understood by personnel as well as by riders if the components are carefully coordinated to complement each other.

Most transit systems now follow the "exact fare only" plan, under which drivers do not carry change. Where this plan is in effect, an explanation of it should be included in all communications about fare payment. The plan should be treated positively as a safety feature, so that the public will not feel it is some arbitrary rule to inconvenience the patron.

The fare payment components described on the following pages are:

1. Cash
2. Tokens
3. Tickets
4. Passes/Permits

## Component 1: Cash

This is the simplest fare payment component of all: lawful money in exchange for a ride. The drawbacks to establishing cash as the sole means of payment are:

1. Inconvenience to the public under an exact fare plan.
2. No pre-payment advantages.
3. Increased possibility of robberies.

The following components are pre-payment methods which, from the transit system's standpoint, offer several advantages:

1. Advance commitment to use transit.
2. Improvement of cash flow.
3. Payment of rides that are never taken.
4. Flexibility in offering promotional discounts.
5. Reduction of perceived cost to the user in the same way credit cards diffuse the true cost of automobile use.

The disadvantages of prepayment are:

1. Greater set-up cost.
2. Greater operational cost.
3. Possible handling fee for distribution outlets.  
(NOTE: When fees are paid, they range from 1-10% of the total cost of the component.)

## Component 2: Tokens

Tokens work best on systems which use a single fare plan. In such situations they have most of the advantages of cash with few of the disadvantages. From the public's standpoint, they can be carried as easily as coins, although they do have to be obtained from special outlets.

Tokens will usually have a greater initial cost than "paper" pre-payment plans, but one of their most significant advantages is that they can be re-used almost indefinitely. They can also be counted with relative ease either by manual methods or by machine.

### **Component 3: Tickets**

Tickets may offer the most advantages where zone fares or transfer charges exist, since it is easy to print varying denominations. The same general advantages of pre-payment described previously also apply to tickets. They should be in denominations for base and zone fares (if applicable) and bound in easy-to-use books, which accommodate a typical month's riding to and from work. Care should be taken in selecting graphics and color that will not confuse the driver, but will help attract favorable attention. Consideration should also be given to graphics that are not easily duplicated.

### **Component 4: Passes/Permits**

This term describes an identification card carried by a rider which entitles him to board a transit vehicle either without payment of fare at that time, payment of a fare based on special conditions upon boarding, or paying a fare all of the time.

Significantly, participants in the consumer laboratory sessions showed a decided preference for passes.

Each transit system will have its own listing of passes or permits in use. The words "passes" and "permits" are often interchanged, but they both designate a method of pre-payment. The types of passes/permits most common to transit systems are:

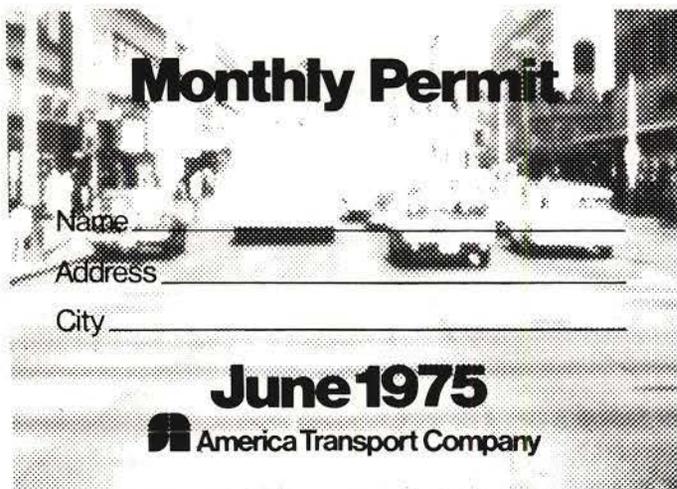
- Employee pass
- Retired employee pass
- All-day pass
- Weekly pass
- Monthly pass
- Annual pass
- Excursion pass
- Student pass
- V.I.P. pass
- Police/fireman pass
- Senior citizen pass
- Handicapped person pass
- Youth fare pass
- Blind person pass

Careful design of these passes is necessary in order to make their use easy for both the driver and the rider. Care should also be given to the communication of the terms and conditions of the pass to all personnel and to the rider.



In addition to the inclusion of the system logo, the following general criteria have been developed for the design of all passes/permits:

1. Drivers should be able to tell at a glance if the bearer:
  - a. Pays no fare.
  - b. Always pays a fare.
  - c. Pays a fare depending on special circumstances, e.g. time of day, employee status, day of week, etc.



2. Expiration date should be clearly displayed by numbers or words. A symbol or color element can be used as an easy and quick way to supplement this. Every type of pass/permit should show the expiration date in the same location.
3. Passes/permits requiring photographs should use the same position for the photos on all types.

4. Serial numbers will increase accountability and control.
5. The name of the pass/permit holder should be legible and carried in a standard place on all cards, as should the signature, if required.
6. Clear description of the authorized terms and limits of use should be on the back of the card for the convenience of the user and protection of the transit system.
7. Pass data limiting its validity should be shown large enough so that it cannot be covered by a finger or thumb.

These criteria and others - such as screened-back patterns - will help to discourage counterfeiting.

## **Special Printed Components:**

The possibility for development of these components is limited only to the imagination of the individuals responsible for your information system. However, because of this limitless category only a few of the most promising are included in this handbook. They are:

1. How-to-ride books
2. Kits
3. Brochures
4. Display posters
5. Pocket maps
6. System maps

These components can be designed to reach your entire population or various segments within your community, depending on the problem that needs to be solved.

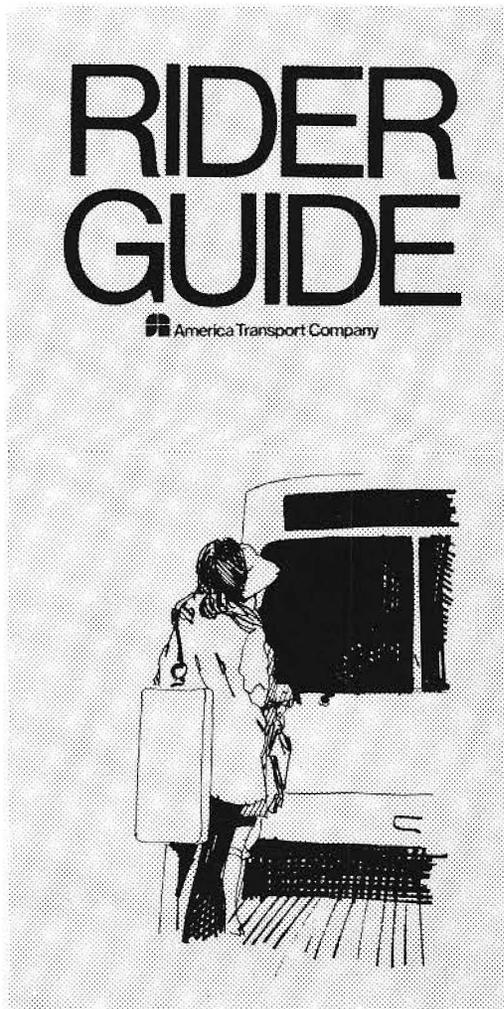
### **Component 1: How to Ride Books**

These are publications that can be used to describe special services, the entire system, and step-by-step processes for obtaining information. They are intended for use by the rider as well as the non-rider. Simple guides can deal with the basic steps of using the transit system, while more elaborate guides will describe the logic of the whole transit system in an attempt to build the patron's knowledge and confidence in the system. In one form or another, all "How to Ride" books deal with geography, geometry, time, fare wants and desires.

General information that should be considered for inclusion in the more comprehensive versions should include:

1. Information sources
2. Signage information
3. How to use the time schedules
4. How to use the maps
5. How to make fare payments
6. How to identify the proper bus

"How to Ride" books can be a constant source of information for the rider, thereby reducing the need to call the transit system for information.



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## **Component 2: Kits**

Much imagination can be used in making up kits, for example:

- Student kits
- Tourist kits
- Special service kits
- Fraternal organization kits
- Civic organization kits

A kit usually starts with some sort of attractively designed folder or envelope, sometimes with a place for the recipient's name, and contains various information pieces pertinent to the audience and the service. To further illustrate, the student kit might use a specially printed folder and contain a book cover, a pocket transit map, a folder describing student passes, and pocket time schedules for the routes serving the school. A tourist kit might use a special mailing envelope and contain a system map, brochures for special services and excursion passes, and a "How to Ride" book. The starter kit could use an airline-type envelope, have the recipient's name typed on it, and contain a "How to Ride" book, pocket time schedules for the routes serving the recipient's home and work, and an order blank to buy tickets by mail or receive further transit information.

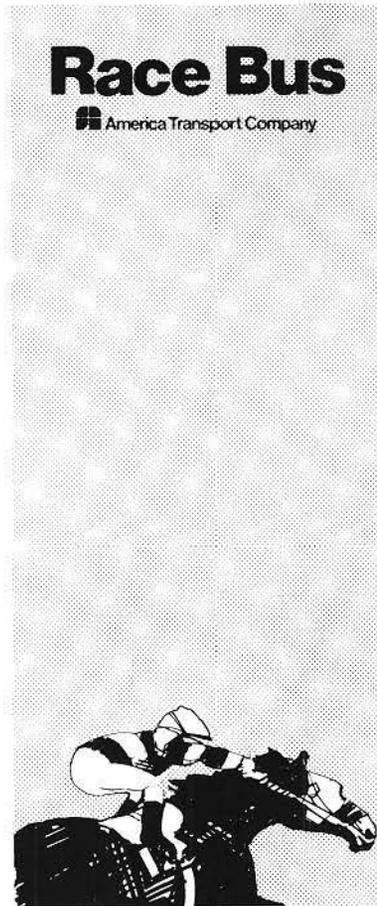
## **Component 3: Display Posters**

Large pin-up display posters can be utilized when there is a need to reinforce other information components. For example, if there is a special service being instituted and the aim is to attract as many riders as possible during the total day, many information components will be used to communicate this message to the public. The poster can be used to attract attention to the service by people working in the downtown area, shopping or sight-seeing. A poster should not be expected to carry an entire program to the public, but should be used almost universally in a supportive role.

Smaller counter-top display posters have a broader use, particularly to identify ticket or token sales outlets. A "take one" pocket added to the card can be an effective means of promoting special services.

## Component 4: Brochures

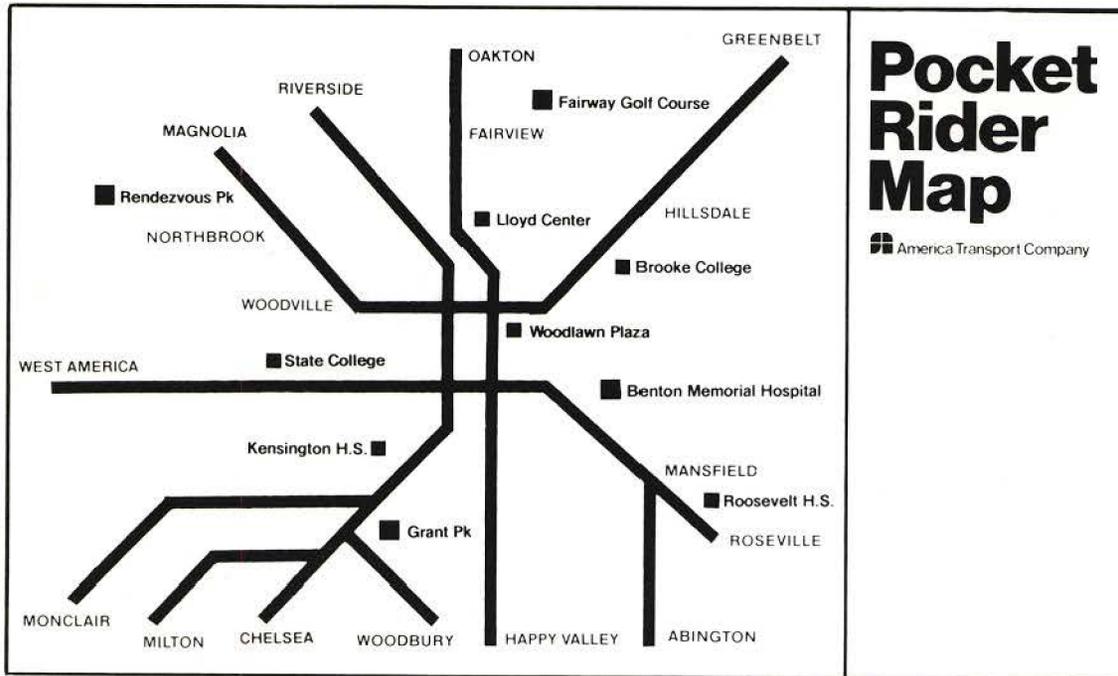
This term covers the many printed components that can be developed to describe special services and their limitations. The duration of the program, fare policy, and general description of the service should be included in the brochure. Sample subjects are shown below. The types of brochures should coincide with the information needs that a particular transit system has to meet. Brochures are often used in conjunction with counter-top posters that have a "take-one" pocket attached.



## Component 5: Pocket Maps

These are wallet or purse-size maps. They provide a quick, easy reference for route use. The laboratory participants rated this component as an extremely useful tool in gaining confidence in using the system.

The pocket format lends itself either to a schematic system map or to a detailed map of a smaller area, such as the central business district or a single corridor.



## Component 6: System Maps

These are the larger, fold-out type of maps, either schematic or detailed. Their larger size permits more detail and/or greater legibility, but the difficulty of using such maps on trips is a drawback.

## Advertising Promotion Components (Printed):

It is necessary at this time to make a distinction between advertising components and channels of communication. The components that will be discussed here will remain components until they are matched with the appropriate communications channel. In other words, a newspaper ad layout on your desk will remain a component until space has been purchased in the newspaper and the ad is actually printed in it.

The printed advertising promotion components that will be discussed in this section of the handbook include:

1. Newspaper/Magazine
2. Transit Advertising
3. Outdoor
4. Direct Mail
5. Specialty Items

It should be noted, however, that there are many cross-uses of these components. For instance, an ad that has run in the local newspaper can also be used for a magazine or be reprinted to be used as a direct mail piece.

### Component 1: Newspaper/Magazine

Since the component that is prepared for a newspaper can also be used in a magazine or other special publication, it is dealt with as one component. The preparation of the component for each medium will be basically the same.

The message is most important when developing a print ad. The message should:

1. Be clear and concise.
2. Be understandable to all levels of your audience.
3. Be informative.
4. Be consistent in design with the rest of your information system.
5. Never promise more than can be delivered by the transit system.

The size of the ad will depend on the importance you place on communicating the information contained in the ad. In other words, it probably would not make sense to take out a full-page ad to promote a one-time special service.

The two sample layouts (examples A and B) were prepared for the fictitious America Transport Company. Example A is the type of ad that would be used to explain specific information about planned route changes or additions. Example B is an ad that would be used in an ongoing advertising campaign dealing with the general information about using the system and why. Because America Transport Company is imaginary, no body copy was developed for the ads. Instead, random type was placed in the ad for purposes of illustration.

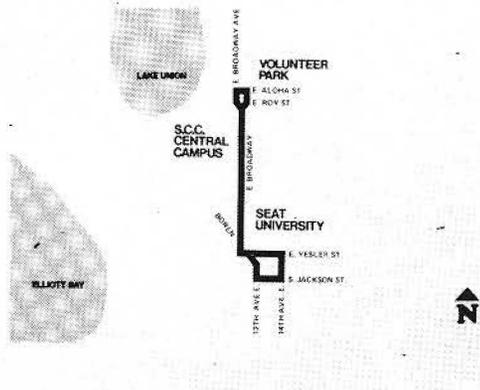
# See the new route on Broadway.

repellend. Temporibus autem qui  
necessitatibus saepe evenit ut er  
reperit rerum hinc entaury sapie  
asperiore repellat. Hanc ego cum te  
eam non possing accommodare no  
tum etia ergat. Nos amice et nebevo  
cum consensit to factor tum poen le

From	To	1	2	3	4	5	6	7	8	9	10
Downtown	100th	4.58	5.20	6.30	6.70	6.25	6.45	6.45	7.55		
Midtown	100th	5.00	5.54	6.14	6.25	6.25	6.45	6.45	7.00		
Manhattan Park	100th	6.04	6.20	6.30	6.35	6.35	6.55	6.55	7.15		
University District	100th	5.17	5.51	6.21	6.31	6.31	6.40	6.40	7.24		
Park Plaza Park	100th	5.25	5.50	6.20	6.30	6.30	6.40	6.40	7.21		
Midway Park	100th	5.20	6.10	6.20	6.30	6.30	6.40	6.40	7.21		
100th & Broadway	100th	5.40	6.25	6.42	7.00	7.15	7.15	7.15	7.44	8.05	
100th & 10th	100th	5.05	6.20	6.40	7.00	7.20	7.20	7.20	7.45	8.05	
100th & 20th	100th	5.20	6.30	6.45	7.10	7.25	7.25	7.25	7.50	8.20	
Grand	100th	6.50	6.45	7.01	7.21	7.41	7.41	7.41	8.01	8.30	

at aur office debet aut tum rerum  
id sint et molestia non recus. Itaque  
catus auaut prefear enrdis doloribr  
ntentiam, quid est cur verear ne ad  
s quos tu paulo ante cum memorie  
stias access potest fier ad augendas  
odioque cividua. Et tamen in busa  
er ned libiding gen epular religuard  
Improb pary minuit, potius flam ut  
deantur. Invitat igitur vera ratio ad  
n. Neque hominy infant aut inuiste  
t duo conetud notiner si effecerit, et

America Transport Company

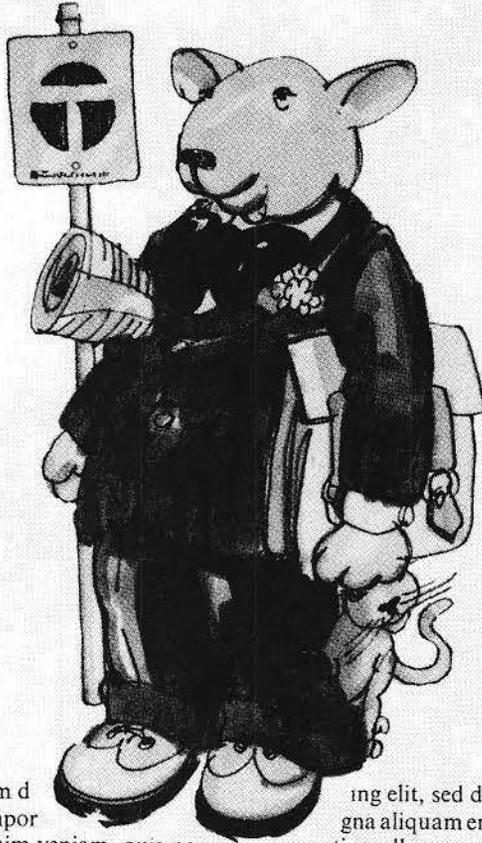


**A**

Example B - see next page



## Fat cats should learn about riding a bus.



Lorem ipsum d  
eiusmod tempor  
enim ad minim veniam, quis no  
oris nisi ut aliquip ex ea commod  
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dolore eu fugiat nulla pariatur. At v  
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laborum et dolor fuga. Et harumd de  
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maxim placeat facer possim omni

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nsequat. Duis autem vel eum irure  
esse molestiae consequat, vel illum  
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ilpa qui deserunt mollit anim id est  
nd facilis est er expedit distinct.

 America Transport Company

**B**

## Component 2: Transit Advertising

One of the more economical forms of printed advertising for the transit system is the use of available transit display space on the inside as well as on the outside of transit vehicles. Transit displays on the inside of the vehicle can also contain a take-one pocket for distribution of other printed materials such as brochures, timetables, etc.

The outside transit display is often used by systems to promote bus riding in general, special services, information number, etc. Most of the time the transit system will be able to utilize space that would normally go unsold. It is recommended that if transit space is to be used, a series of transit displays be developed and stored with the sales contractor for the space. This enables the contractor to post your displays at a time when sales may be down without having to create a display.

Arrangements for use of transit advertising will, of course, depend on:

1. Whether your system utilizes transit advertising.
2. The contractual agreement between the system and the sales agent.

## Component 3: Outdoor

Outdoor advertising as defined in this handbook is limited to the roadway signs everyone normally refers to as billboards. Outdoor is an effective print advertising medium to support other media used in your information system. It is effective as a tool to reinforce your messages. Obviously its most consistent audience is the automobile driver.

Outdoor displays will normally be referred to as:

1. Poster
  - a. 24 sheet
  - b. 30 sheet
2. Painted bulletin
  - a. Permanent
  - b. Rotating

The messages that are posted normally will remain for thirty-day periods. Again, the outdoor component itself will remain just that until it is posted for all to see.

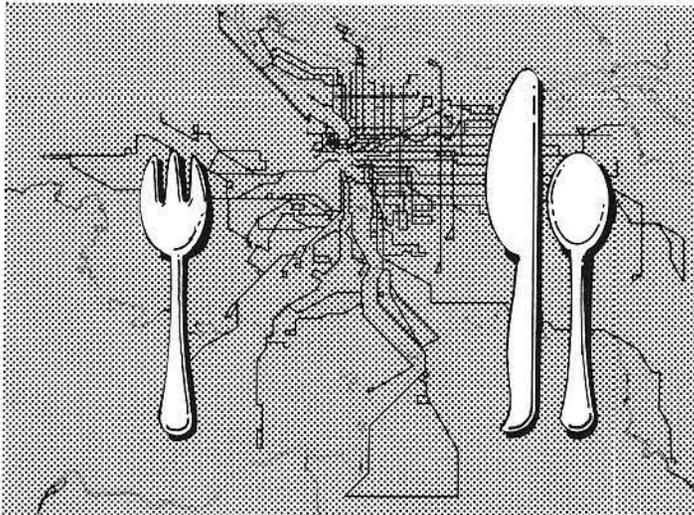
## Component 4: Direct Mail

Direct mail pieces can be as simple or as elaborate as your budget will allow. The depth to which you take the detail of a direct mail piece will depend on the importance of your message. If the message is complex, you will obviously need more detail in the direct mail component. Direct mail pieces should be designed to meet your information needs. The determination to use direct mail as opposed to other printed advertising components will depend on each situation you encounter.

Research in several cities indicates direct mail is one of the most effective approaches for promoting new or improved transit services.

## Component 5: Specialty Items

You can utilize an almost unlimited number of specialty items to fit the requirements of your program. For example, balloons, T-shirts, bumper stickers, buttons, and pennants are specialty items. The taste exercised in the choice and use of specialty items should be consistent with the image transit seeks to maintain in the community.



## **Audio-Visual / Electronic Components:**

These components differ little in their method of construction from those previously discussed. The same elements and modules are basic to their construction. However, these components are relatively new to the transit industry as a whole. Only in the last few years has the use of audio-visual/electronic components increased. Technological advances in science, the space program and other fields now are being successfully applied to the transit industry. A number of those methods are described below.

1. Slide Presentations
2. Motion Pictures
3. Microfilm
4. Cathode Ray Tube
5. Digital Displays
6. Pathfinders
7. Microfiche
8. Advertising

### **Component 1: Slide Presentation**

Photographic slides are displayed on a screen, either on a pre-programmed or a demand-actuated basis. If desired, a soundtrack can accompany the pictures. Your local photographic supply house will be able to provide you with literature on all of the projectors available.

Slide presentations can be prepared for use as a public speaking aid, an educational display at a fair or exhibit. (Normally a self-contained unit would be used for these purposes.) Self-contained units will provide the audio as well as the visual without having to be manned.

Slide presentations can be developed to show route and schedule information and also for training aids for drivers, information clerks, or personnel in general. They are easy to construct, economical, easily updated, and very effective.

## **Component 2: Motion Pictures**

Motion pictures lend themselves to public information presentations, training situations, and exhibits, and are most effective. Rear screen projection can also be used with motion pictures.

The cost of producing a motion picture is rather high if a quality job is to be done. The average cost for motion picture footage will normally run about \$1,000.00 per minute of edited film. In addition, the motion picture can become dated very easily. For instance, if you make a motion picture using your existing fleet and two years later take delivery of new vehicles, it will be readily apparent that the picture does not portray the present fleet. An alternative to making your own motion picture is to search local and national sources - such as UMTA - for appropriate films.

## **Component 3: Microfilm**

Microfilm is being used increasingly for information retrieval by the personnel who staff transit information centers. Often this process is in conjunction with the RUCUS system. RUCUS is a computer program available to the transit industry for use in timetable updating and control. The system provides quick retrieval and easy updating of information. Microfilm has the potential to be developed into a direct information aid for the transit user in displaying route and schedule information. Microfilm can also be used as an efficient means of storage for prolonged periods of time.

## **Component 4: Cathode Ray Tube**

CRT units are information retrieval devices resembling a television set. They are widely used in the airline industry at the present time. In airline terminals they display the departure and arrival schedules for the airline. The ticket clerks use this process of information retrieval to determine flight availability.

The unit can display information generated from your information center or information transmitted over a distance utilizing cable or, in some instances outside of high-density urban areas, by microwave.

Its value to a transit system is that schedule and route information can be stored in a computer (depending on system size) and retrieved by an information clerk at a desk in the information center. This retrieval is accomplished by feeding the computer a code that identifies the information desired. The information is then displayed on the CRT screen.

## **Component 5: Digital Displays**

These units are more widely used overseas for rail transportation, but certainly can be adopted for use by transit systems in the U.S. (Photos of these devices are provided in the photo section.) These units are a combination electrical-mechanical display that can be used at suburban transit stations or major transfer points. The displays will show what bus arrives next at that location and the time of either arrival or departure. These units can be constructed in order to show the next three, four, five, etc. buses arriving at that location. It is possible to display the route number, name, and departure time coincidentally.

## **Component 6: Pathfinder**

A pathfinder unit enables the patron to determine the route of the bus from the location of the unit through the terminal point of the route. This mechanism allows the user to retrieve route path information by pushing a button or touching a sensor pad for the particular information. For instance, if the patron desired to locate route C4 Greenbelt, a button indicating C4 Greenbelt could be pushed and the path of the route would be lighted on the unit. If the patron then wished to determine the transfer point of C4 Greenbelt and D1 Fairhaven, both buttons would be pushed to light up both routes on the map.

A pathfinder can also be a simple electrical device that shows fixed routes such as for a rail system.

## **Component 7: Microfiche**

With a microfiche card and a microfiche reader, a transportation system can store time schedule or other information in a convenient manner for their phone operators and other information personnel, much in the same way that most libraries and governmental groups do. Microfiche cards may be generated by either a photographic process wherein actual copy is photographed and reduced for storage or by a RUCUS-type computer operation.

The advantages of microfiche are more evident to larger systems in that they allow:

1. Control of information at a single location.
2. Easy accessibility of information to personnel (decreasing information call time).
3. A probable lower cost of maintaining information.

## **Advertising Components (Audio/Visual, Electronic):**

As with printed advertising components, these components mean nothing until they are matched with their appropriate channel of communication. There are only two of these components, but their use can aid your information system immensely. The components are radio and television advertising.

### **Component 1: Radio**

Copy for radio will normally be developed in thirty-second or sixty-second units. All advertising should be designed for a specific use. Radio announcements are a valuable tool to enable the transit system to reach the automobile commuter. The messages can be designed for a short-term use or for an extended period of time. The range of radio announcements can run from a straight announcer delivering your message to a full production spot including several voice, music, and/or sound effects. The determination of what kind of spot to write depends again on the nature of the information you wish to transmit. Radio is an excellent medium in which to gain immediate impact and repetition of your message.

### **Component 2: Television**

The same basic guidelines that apply for the development of radio copy apply to television, except the copy must now be matched with a visual. Television spots can be developed using the following methods:

1. Slides
2. Film
3. Video tape
4. Combinations of all of the above

Most television stations now transfer all television commercials to video tape for production control. Video tape is the television equivalent to radio's tape recording with the addition of video.

Due to the different methods of producing a television announcement, cost can be \$500.00 for production for a simple slide commercial or up to \$5,000.00 for a video tape or film commercial. Of course, they can also be produced for less, depending on your information requirements and complexity of the spot. There are no secrets to development of an effective television announcement other than clarity of your message.

## People Components:

The main ingredient in the success of your overall information system is the person who represents the transit system - and all transit system personnel in some way or other come in contact with the public. Everyone in the office staff, maintenance staff, operations, etc., should be another source of information to the public. These persons, however, will not have the direct public contact that others in your system have, but should still be kept informed about the activities of the transit system.

1. Driver
2. Inspector
3. Information Person
4. Telephone Information
5. Public Speakers

### Component 1: Driver

The driver is the front line representative of the transit system and, as such, often must make up for what is lacking in the rest of the information system, for the less sure people are about geography, geometry, time, and fare, the more questions the driver will have to answer. The driver already has enough to do without having to become a secondary information center. Granted, there will never be a time when drivers are not asked questions, but two things can be done to make the driver's job easier:

1. Develop an information system that anticipates questions about service and answer them through your information system.
2. Keep the drivers informed of all new developments regarding service.

While labor agreements may prohibit some information activities you would like to have the drivers undertake, keep in mind that the consumer needs the information to use your system. The following general guidelines have been developed in order to keep the driver more informed and make the job of answering questions easier.



1. Post bulletins of changes in the driver areas at least two full weeks, if possible, before the changes are to take place.
2. Develop an orientation program for new drivers that covers all aspects of the information system.
3. When major changes are contemplated, provide a detailed fact sheet for the drivers.
4. Seek driver input before the initiation of any new program affecting their job.
5. Post all printed information components in the driver area.
6. Make sure that an adequate supply of schedules is available for on-vehicle distribution.
7. If drivers sell tickets or passes, they should be fully briefed as to the importance of the project and to limitations of use.

There are some things the driver can do to make the job easier as well:

1. Make sure that all vehicle information signage reads properly at all times (roller signs, dash signs, side window signs).
2. Call out the principal streets and transfer points.

## **Component 2: Inspector**

The inspector or supervisor represents transit to the rider and non-rider alike when he is on the street. Inspectors should be well aware of their public information role. They should be given all of the advance information described above for drivers.

## **Component 3: Information Person**

Staff of telephone information centers, information kiosks, and other personal information services have the same need for advance notice about new or changed services and circumstances as do drivers and inspectors. They also need a comprehensive knowledge of the workings of the transit system and events around the area, as accuracy is critical to their credibility as representatives of transit and the city or county.

## **Component 4: Telephone Information**

This service can be provided in two ways:

1. Various direct-connection phone locations, enabling the user to pick up a phone at a transfer location and receive information from the information center.
2. Use of the private home, business, or public phone to call directly to the information center.

Information by telephone ranked very high in the laboratory sessions. This was due to the ability to gather accurate information with a considerable amount of ease. The only drawback is not having an adequate number of incoming lines to handle the calling volume. Combining all laboratory participants, it was ranked second only to the pocket time schedule. Mexican-American participants ranked it first in importance.

Several detailed studies on establishing telephone centers have been conducted in recent years. The reader interested in setting up a telephone center will find these studies listed in the bibliography of this handbook.

As telephone companies around the country go to "dial tone first" pay phones, the possibility of making every pay telephone a free line to transit information could be a tremendous advantage to the transit patron. The possibility of having a universal transit number (T-R-A-N-S-I-T) across the country is also a possibility. Another possibility is a computerized information system accessed directly by the transit patron from a push-button telephone.

Equipment now available to and used by transit systems includes the Automatic Call Director. This system allows all calls to be handled in the order in which they are received at the information center. This has definite advantages in keeping the waiting time on the phone down to a minimum.

The decisions regarding the use of a telephone information system depend on the economics of installation, staff requirements, and maintenance. In addition, a telephone information system must be viewed in the context of the total information system.

## **Component 5: Public Speakers**

Transit officials who speak to the public need to be well prepared and well briefed, whether they are speaking to a fifth-grade class, to the Chamber of Commerce, or to a committee of the state legislature. A representative of the marketing department should be aware of basic operational procedures and a fiscal specialist should be familiar with the current promotional campaign to build public confidence in transit.

All representatives of the transit system need to reflect a positive, service-oriented attitude that will come across to the public in a friendly, helpful manner.

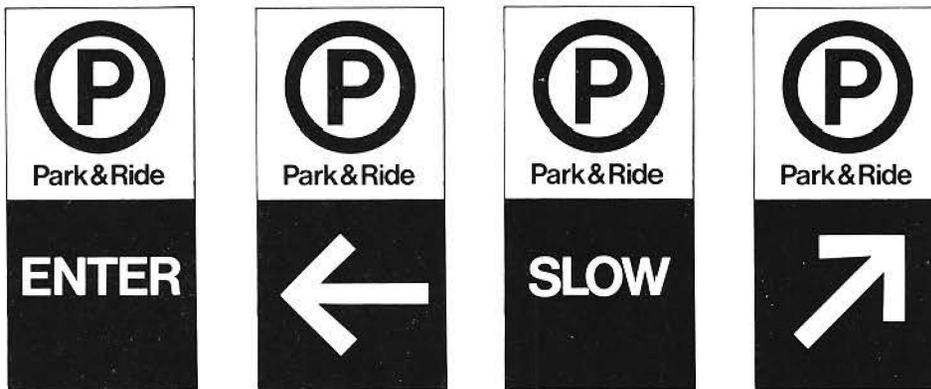
## Signage Components:

1. Fixed Signage
2. Shelters
3. Information Displays
4. Transit Vehicle

### Component 1: Fixed Signage

Fixed signage provides site identification, trip planning, instructional, and regulatory information.

Site identification includes marking facilities such as a customer assistance office or a Park and Ride lot, and even a simple bus stop. Trip planning information deals with route and scheduling matters, while instructional information ranges from "restrooms next door" to "insert quarter to get change". Regulatory information describes a mandatory requirement or prohibition such as "No parking" or "No smoking".

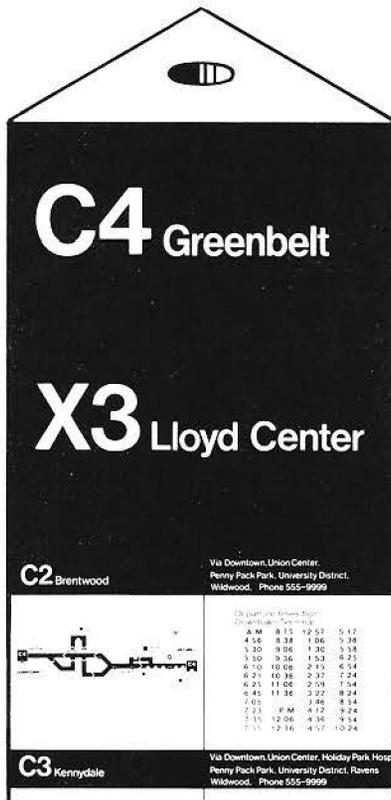


All signage used by a transit system, from that in its offices and shops to bus stop signs and roller signs, should be coordinated as to type faces, terminology, symbols, shapes, and color coding. The use of standard elements and modules to construct each component sign will contribute significantly to achieving such coordination. The reason for the strong emphasis on coordination is simply to make it easier for people to remember. When the same types, colors, shapes, and so forth always mean the same thing, people don't have to burden their memories with "exceptions".

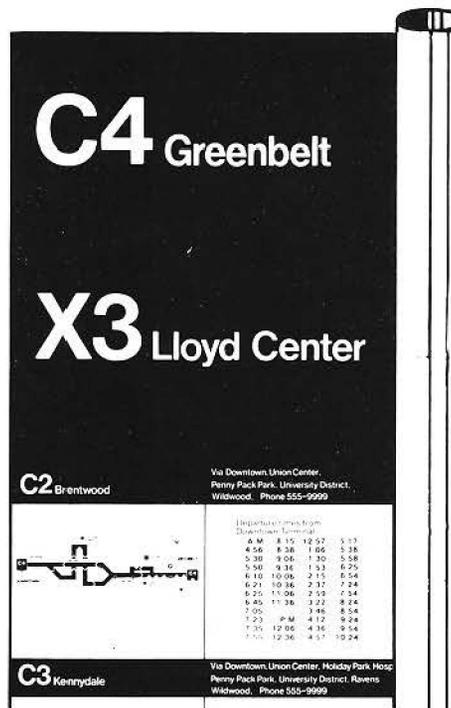
The on-street signage has an even greater requirement to coordinate with the on-vehicle signage, so that the two work together as a team to reinforce the patron's understanding of what vehicle to take to get to where to arrive when. Each transit system will have to custom design its family of component signage. The America Transport examples that follow show how the design process works.

Every transit system needs to examine the levels of information needs at different points around the system. These levels can be classified into types of stops, and a signage component designed for each type. This then allows all the stops on the system to be divided among the types of stop, thus making it somewhat automatic as to what information goes where. America Transport categorizes its stops into four basic groups: local, express, simple transfer point, and major transfer point.

Route information is provided at each local and express stop. The illustrations show two different approaches, one utilizing a three-sided post-mounted "sleeve", the other using a single two-sided panel. In both cases, the route information takes the form of standard modules.



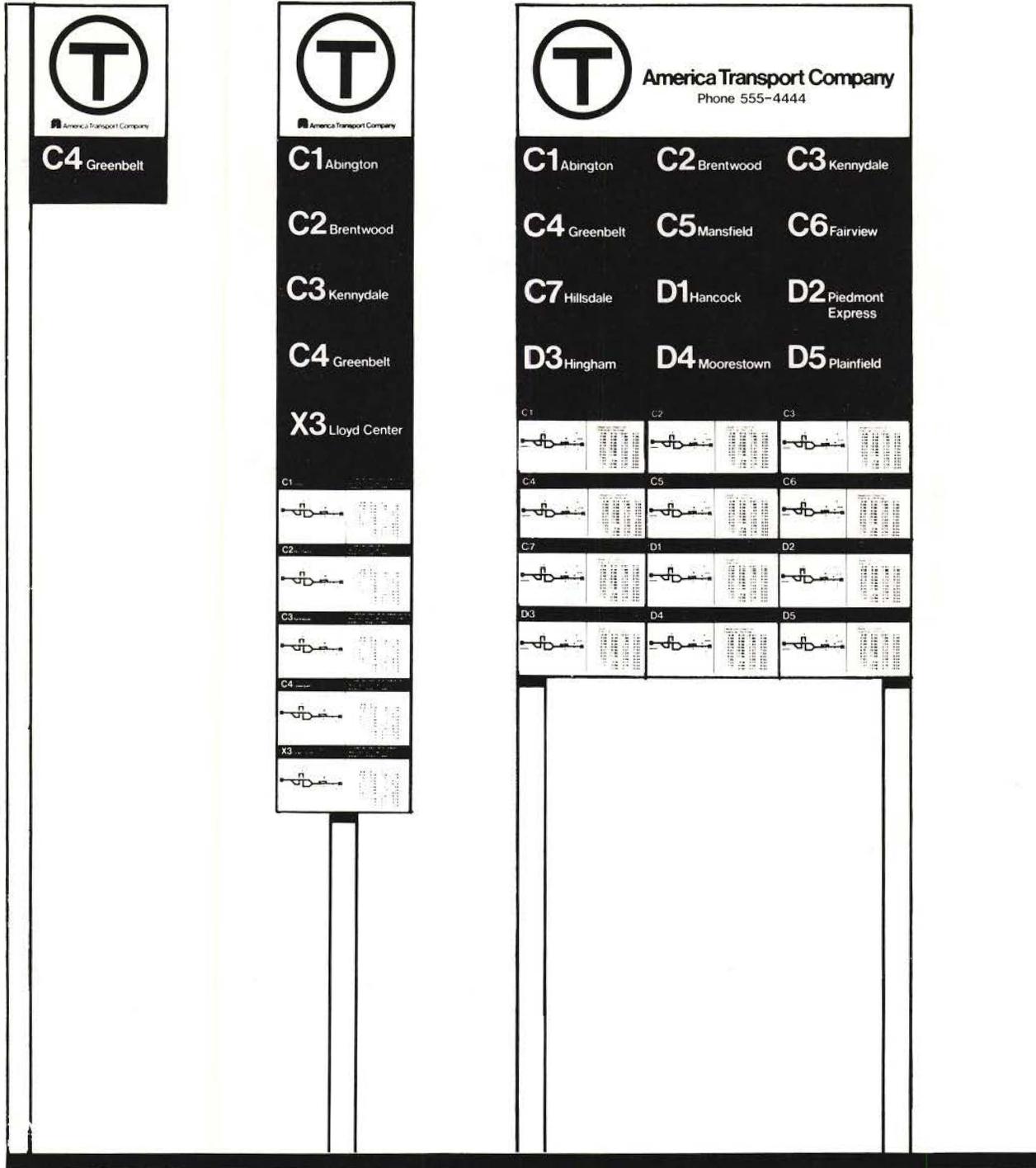
**A** Three-Sided Post



**B** Single Panel

The amount of additional information provided is increased at transfer points. Schedule time formats are displayed as well as route heading modules and single-line map modules.

The major transfer point display also includes a system map module and a special information block.



## **Component 2: Shelters**

Shelters are useful places to display user information. Depending on their size and construction, information elements and modules can be affixed directly to the structure. However, care should be taken that information so placed is accessible to all. In the case of smaller shelters, it is often best to put some of the information on the shelter itself and the rest at the curb in the standard format used by the transit system.

## **Component 3: Information Display**

This component will usually contain - at a minimum - system and area blow-up map modules and special information blocks. It may also contain such features as an information telephone, a CRT unit, time schedule dispenser, and change or ticket machine. It should be considered for malls, major building lobbies, suburban shopping centers, and in stations. The America Transport example shown here is a free-standing kiosk for use on a mall. It contains maps, a demand-access CRT, and a ticket machine.

Please see Examples A and B on the next page.



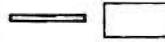
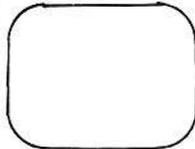
America Transport Company

Phone 555-4444

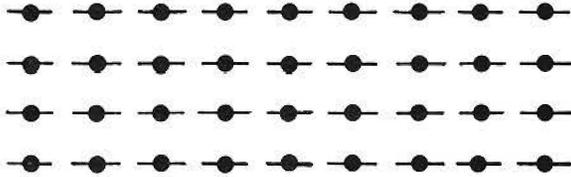
Telephone

Information

Tickets & Change



Timeschedules

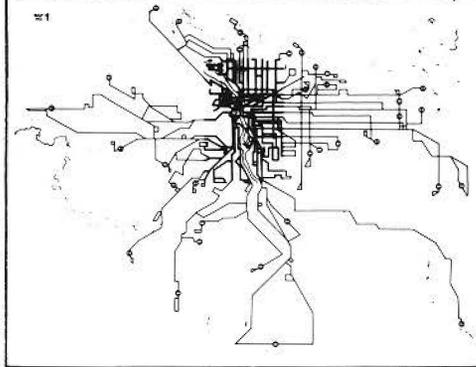


A



America Transport Company

Phone 555-4444

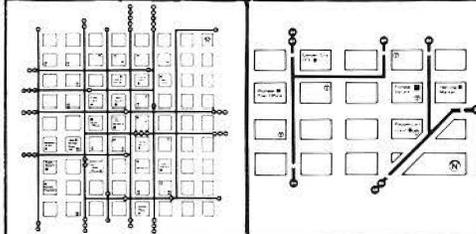


Express

Legend

- Alternate Routes
  - Direction of Travel
  - Timetable Route
  - Terminal Point
  - Landmark
  - Park & Ride
  - Transfer Point
  - Checkpoint
  - Route Number
- Connecting Routes**  
eiusmod tempor incididunt ut labore enim ad minim veniam, quis nost

Airport



B

## Component 4: Transit Vehicle

As will be discussed in more detail later, the transit vehicle is part of the on-route information sub-system. As such it interacts with other on-route information components to surround the rider with aids to increase his confidence and reduce the possibility of mistakes that will delay or disrupt the trip.

In one sense, the mere presence of the transit vehicle itself is an information aid, in that its presence makes a statement that transit operates at this place. The signage on the vehicle then refines and gives precision to the initial "here is transit" statement of the vehicle itself.

The logo and color scheme of the vehicle are the first refinements. Logo identification will give a message as to which transit system, and therefore information system, the vehicle is a part. The color of the vehicle itself should reinforce that identification, as when vehicles are painted in the transit system's identifying colors.

The next item of identification on a transit vehicle is the various route identification and destination signs. It is an almost universal practice to name routes or lines. These names are frequently supplemented by a letter or number designation, which, as combined elements, form a route heading module, used on the vehicle component, as well as on other components such as the pocket time schedule, transit stop, and transfer point signs.

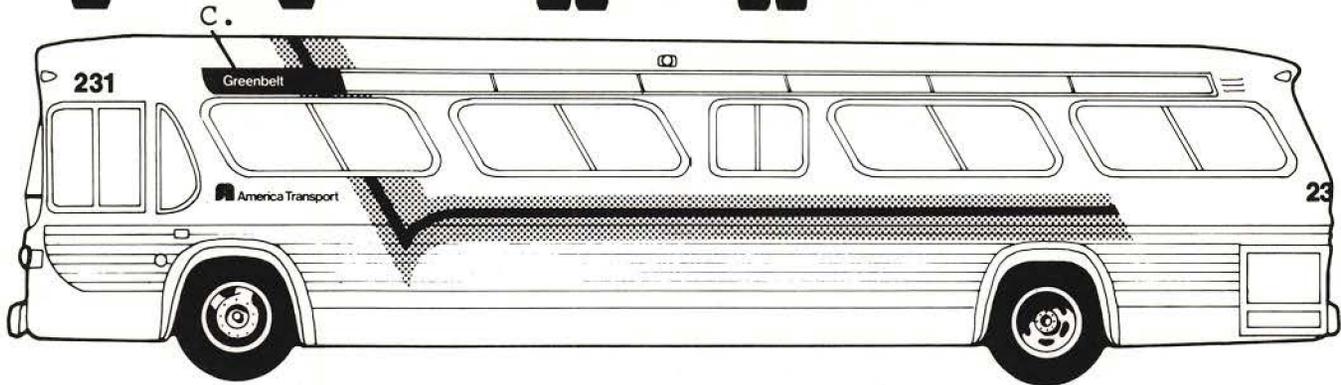
The common usage in the industry today is to have a front roller sign, a side sign, and a dash sign. The combinations of identifiers used in these signs will depend on basic information organizing principles in use by a particular system, such as using color to designate corridors or classes of service.

Numbers and names should be reversed out of their color field on the vehicle signage. Where color is not used for coding, the field will be the standard dark background showing route names and numbers, so that a consistency between all aids will be maintained and so that these may be adapted to color at a later date if desired. Where color is used for coding, it is recommended that the fields, from which names and numbers are reversed out, be in the appropriate color code. It is recognized that there are some cost and supplier problems in implementing this recommendation, but it is expected that systems will either begin to do their own color work or that changing needs will bring about greater supplier flexibility and lower cost.





- A. Roller Sign
- B. Dash Sign
- C. Side Window Sign



The front roller sign and the side sign should be as close to identical as is possible within space limitations on the equipment. It is suggested that the destination sign show either the next, or both, terminal point(s) and the dash sign can be used to identify the "via" information, or to designate class of service. In the America Transport example, class of service is color coded, and therefore appears as the field out of which the number and name route heading modules are reversed.

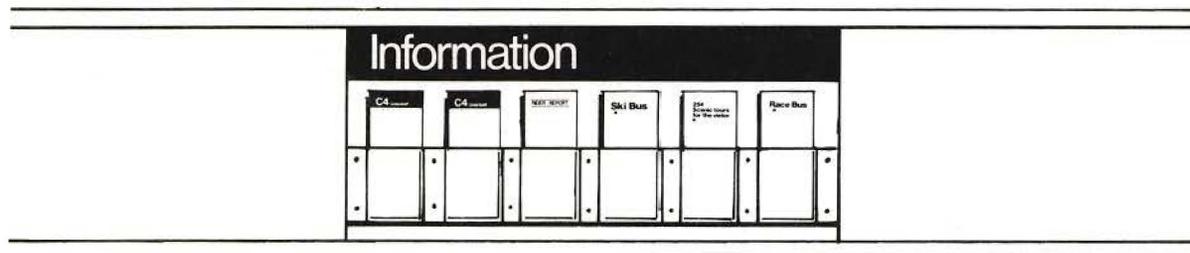
European systems frequently use equipment that provides much larger spaces for displaying information on the exterior of the vehicle. Some vehicles also have rear signs. It is highly recommended that larger information spaces on vehicle exteriors be provided and that rear signs be used.

Occasionally an exterior colored signal light is used for such purposes as indicating an express, that the vehicle is headed for downtown, or that it connects with another mode.

The interior advertising display holders can also be used to inform patrons about transit service or schedules. Example A shows an information card containing route information. Example B shows a display rack for dispensing pocket time schedules, rider reports, and special service brochures. The display holders can be located directly above the seats in the vehicle or near the driver so as not to interfere with seated passengers.



**A**



**B**

## Distribution Components:

1. Change and Ticket Machines
2. Time Schedule Dispensers and Racks

### Component 1: Change and Ticket Machines

Change and ticket machines, time schedule dispensers, and racks are all components for distributing transit materials.

The exact fare plan makes it desirable to provide a means for a person to get change or buy tickets (or tokens). Several different manufacturers make coin and bill changers. Some of these can be adapted to also dispense a book of tickets or a certain number of tokens. Machines are usually available on a lease or purchase basis.

## **Component 2: Time Schedule Dispensers and Racks**

These can be either mechanical or static devices. The mechanical devices can be designed as coin operated if required. The purpose of this component is to display and keep time schedules and similar information clean and dry, where the public can have access to them. They also offer protection against vandalism.

The static devices are those which require no activation to receive the time schedule. For instance, a rack with plastic pocket holders allows the user to simply select the time schedule desired without having to activate a mechanism to dispense the schedule.

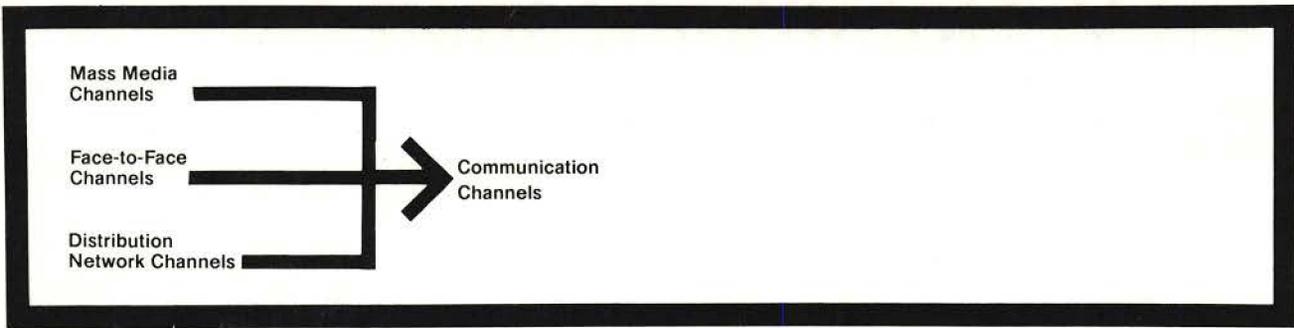
# Part V: Communication Channels



In Part IV of this handbook, the step-by-step process of building information components was examined in detail. In this section, channels for disseminating information will be examined. Communication channels are defined as "means or networks used to make available or distribute transit information". In Part VI, components and communication channels will be integrated as sub-systems.

The laboratory participants expressed great interest in the basic idea of transit information being made more readily available to the public. They stated that the lack of information was one of the chief problems that faced the transit user.

There are three basic channels that can be used to get transit information out to the people who ought to see it: mass media communication, face-to-face communication, and distribution networks. The intended audience and the information component should be carefully considered before a particular channel is selected. More than one channel will frequently be used to communicate with the same audience.



## Mass Media Channels

Mass media are channels through which messages are communicated to the public. The more common forms of mass media are:

- Radio
- Television
- Newspaper
- Magazine
- Outdoor
- Transit advertising
- Direct mail

All of the above have characteristics unique unto themselves in terms of the audience reached. Advertising is either purchased from one of the media or is donated to the transit system by one of the media. Transit is a public service and should therefore be entitled to public service advertising by appropriate media. However, this decision is strictly for the management of each individual radio and television station and of each of the other separate media entities. Broadcast facilities are required by the Federal Communications Commission to provide air-time support to projects or agencies that operate in the public's best interest. Other media, however, are not under the control of any particular federal governing body and may provide support at their discretion.

Another frequent use of media is in a cooperative effort with other business or public agencies. In this instance the cost of production and media time and space are divided between two or more organizations.

Paid advertising should be prepared as an information component after selecting the appropriate media. These selections will provide you with media best suited to your informational needs. In the event you are adding a new route or revising an existing route, the following selection of media would channel your message to the appropriate audience:

Weekly newspaper(s) serving the area(s) affected by the route.  
Direct mailing to households two to four blocks on either side of the route.  
Community radio station (if available).  
Transit advertising in that area (if possible).

Use of mass media would, of course, depend on the amount of budget available for the project. It is at this point that expenditures must be viewed in terms of a cost-to-benefit ratio.

For communication of messages that affect the entire community, the following media mix might be appropriate:

- Radio station(s)
- Daily newspaper(s)
- Television station(s)
- City magazine
- Transit advertising

The cost of a direct mailing would be prohibitive in this instance.

Depending on the nature of the message and the audience for whom that message is intended, there are other communications channels available to the transit system. They are:

- Mailings to fraternal groups, civic groups, church groups, skiers, etc.

- Ads in specialty publications such as fraternal, church, civic, etc.

Any advertising, as a method to disseminate information, should be carefully approached and planned. It should be viewed as another tool to be used in disseminating transit information, and it should be developed within the context of the transit system's product improvement efforts and marketing goals and objectives.

The laboratory sessions provided some insight into user acceptance of media dissemination. Participants responded most favorably to having transit information sent to their homes in the mail. However, it should be remembered that not everyone makes even a cursory examination of advertising material received in the mail. In those laboratories where the question was asked 32% of the respondents said they usually look at mail advertisements, while 43% look at such mail sometimes.

Newspaper advertisements also ranked high as a means of obtaining schedule information, and daily newspapers were preferred to weekly newspapers for this purpose. The latter poses something of a problem in that it is much more economical to advertise particular routes via the weekly community newspapers than it is to advertise particular routes in an entire metropolitan area edition.

Persons in the laboratories were fairly neutral to the idea of door-to-door delivery of transit information. This method ranked as the one least preferred.

It should also be remembered that transit is newsworthy. As such, the public information process can be effective in funneling information to the community. Public information entails the use of news conferences, feature interviews with management and such operating personnel as drivers and information clerks.

An aggressive, professional public information approach can yield an impressive amount of radio, television, and newspaper coverage. This is particularly true when a transit system is changing or expanding. New equipment, added routes, special classes of service are legitimate news. A good public information program will insure that such happenings are treated as news.

To properly develop this dissemination channel, a rapport with the media is advisable. Be sure to keep the press alerted to special services, the announcement of new funding sources, appointment of new transit directors, etc. Prepare press releases including all of the vital information for distribution at press conferences. Media, if involved in developments, will be more receptive to providing professionals to cover events and to supplying space or time to carry transit news.

## Face-To-Face Channels

Face-to-face communication covers direct contacts between the public and transit representatives. It is very personal and it is two-way. Face-to-face communication will fall essentially into the following categories:

- Public speakers
- Information centers
- On board the bus
- On the street

The transit system that utilizes face-to-face channels of communication will likely be respected by the public as being a responsive institution.

In any city, the following types of locations or situations can be considered for a point of contact with potential riders:

- Building lobbies
- Parking areas and garages
- Shopping malls
- Schools
- Community centers
- Special interest centers
- Special events
- Fairs
- Tourist attractions
- Door to door
- Bus stops

# Public Speakers

Establishment of a speakers bureau for meeting with groups and organizations means selecting a group of representatives who can speak on all aspects of the transit operation. Speaking engagements should be actively pursued, specific aids prepared for each type of audience, and the speakers versed on the subject matter for each opportunity.

# Information Centers

Information outlets operated by staff people can offer all of the services provided at the most elaborate information display, but with a more personal touch. Staffed facilities can be very permanent, such as a customer service office in the downtown district which handles lost and found and is equipped to issue all types of passes and permits, arrange for charter service, and customer telephone inquiries. They can be semi-permanent kiosks located in shopping centers or suburban cities, or they can be temporary, mobile booths moved from place to place such as fairs, sports events, and university registration days. A specially equipped information bus can make an excellent mobile information facility, especially for fairs and school programs.

Portable booths can be inexpensively constructed. Designed to reflect a positive system image, these booths can be manned by marketing personnel, "detailed" drivers, or customer service representatives. During these times of public contact, it is important to maintain a profile as a concerned, qualitative agency that is offering an important service to the community.

# On Board the Bus

When dealing with the driver as a way to disseminate information aboard his bus, it is well to underscore the fact that every driver on every vehicle is positively or negatively face to face with your customer every day. Efforts will need to be coordinated between the driver and the dispatcher. Someone should be assigned the responsibility of maintaining an adequate supply of time schedules for each route which can be turned over to the drivers as they check out with the dispatcher.

Some transit systems have used customer service representatives on board the bus. Such personnel, if properly trained, can provide further customer assistance on board the vehicles. Services which can be provided by these representatives include:



- Trip planning advice
- Distribution of time schedules
- Distribution of brochures
- Sale of passes, tickets, tokens
- Data gathering for research

Many other uses can be found for service representatives to take the message of public transit to your community by simply using them as another means of solving problems.

## On the Street

System personnel can also be located at key points along a route to provide information and dissemination services. For example, inspectors or supervisors can stock and distribute data during their normal day at such points as regular key bus stops, at transfer points or at stations and malls. Other representatives can also be scheduled for such services during peak riding times, or for off-peak riding periods.

## Distribution Network Channels

Another method of contacting potential riders is with an effective distribution network. The network is comprised of business outlets that can be used to distribute such items as:

- Time schedules
- System maps
- Area maps
- Special maps
- Special service brochures
- Rider reports

These outlets should be geographically dispersed throughout the transit system service area in order to make information available to all riding groups. Public locations would include:

- Displays on the bus
- Walkways
- Parking lots
- Parks
- Most areas of high-volume pedestrian traffic

Locations in the private sector would include:

- Department stores
- Banks
- Building lobbies
- Fraternal organization offices
- Civic organization offices
- Schools
- Recreation and tourist facilities

There are benefits to private business participation in this program which should not be overlooked: possible foot traffic may be introduced to the business because of the service; the business would probably be mentioned in any advertising noting such locations. This means increased exposure and a profile as a publicly concerned operation. In dealing with other public agencies, it is important to note that this is an opportunity for the two to work together for the betterment of their community.

Important in securing outlets is assuring the manager or owner that the transit information will be properly stocked and serviced.

A system of holders and equipment to properly fit in with space allocations and the business atmosphere is important to an efficient use of the space, and to getting an initial approval for space from the outlet. A series of racks and printed collateral holders is necessary. The information needs of each location will be different; neighborhood stores (e.g. local convenient food stores) will take single route time schedules; area city halls or governmental offices may take information on routes serving that geographic area or corridor; core area buildings and major governmental offices will require data on all routes. All should be able to accommodate special information.

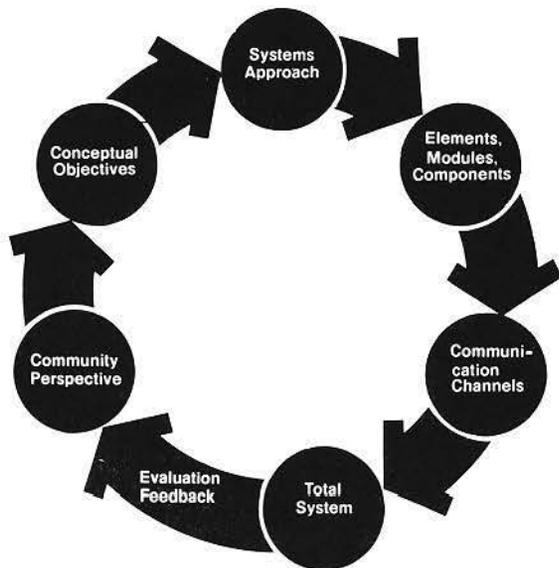
Racks might include a series of single pocket counter-top displays, three pocket counter-top racks or displays, wall-mounted racks that normally hold one quarter to one half of all route data, a free-standing rack that houses all system data (this should spin for easiest selection of material), and a three-to-five pocket rack for the bus. Beyond racks to distribute such general information data, space or information demands may suggest additional system services, such as ticket dispensers, change machines, or machines to dispense pocket time schedules for a nominal fee. The latter might best be in open, public areas where vandalism may be a problem.

A telephone number should be attached to each display rack or machine to be used in the event that the stock runs out. Further, when in a store or lobby, an employee should be given an extra store of material, so that if the supply should run out, it can be replenished without waiting for someone from the transit system.

Once outlets have been secured, how they will be serviced is important. The system should consider the staff required for this function. Possibilities include using detailed drivers, using inspectors during their normal rounds of the service area, or a

trained public information team. The latter might be best in that proper servicing means maintaining an inventory of each distribution point - including watching which pieces go most quickly at which points. This team should be equipped with some sort of vehicle and placed on regular rounds. The purpose of the regular rounds is not only to replenish stocks of information, but also to maintain a positive rapport with businesses and all the people that make distribution effective. By working with owners and managers, asking their opinion and listening to their suggestions, the transit information personnel can give their product the greatest chance of staying in front of the people, and not on a shelf under the counter.

# Part VI: Total System



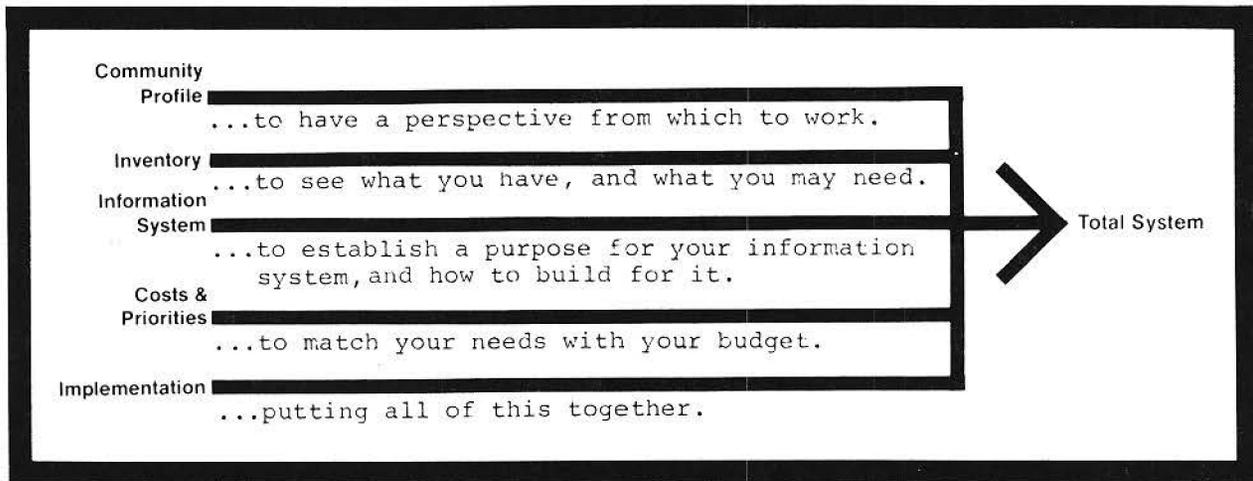
This handbook began with a general overview of transit information and a discussion of the contents of the handbook. In looking back on the preceding pages, it is important to keep in mind that they contained the "tools" that will be required in order to build your information system. Like any good carpenter, who must first learn how to use his tools, you must learn how to use the tools that have been presented in this handbook. With an understanding of those tools, you are now ready to put all of them to use to design a complete transit information system.

Part VI continues to use America Transport Company as a convenient way of exemplifying the design process. Inherent throughout this process is the need for constant feedback from the community. They should be consulted before the initiation of service which will affect their lives. During the first-stage implementation of the service, they should again be asked to evaluate your efforts. Only through an effective feedback system will you be able to determine whether you are meeting the needs of the community. Constant checking must be done to keep pace with those needs.

As you go through this section, begin to supply the facts that pertain to your transit system.

The worksheets here represent America Transport; use the same sheets for your system.

These worksheets will cover the following areas:



## Drawing a Community Profile

The purpose of drawing a community profile is to have a setting in which to plan. First, examine what that community looks like right now. How large is it? Who are its people? Where do they live, work, play? How does transit serve these people today? Who uses this service? Who pays for it? When you get the answers to these questions, you can do a "situational analysis". That is, you can see if the ways in which you are currently operating are consistent with the present situation in the community. The situational analysis provides a basis for thinking about the future and developing plans.

Writing a scenario can be helpful to you in thinking about the future. A scenario is an account or synopsis of a future course of events, a "future history". It is recommended that you develop your present community profile by doing a current situational analysis, and then consider the future by writing short narratives about how you think certain things will be ten years from now.

Looking at today's needs and then thinking about tomorrow, in an organized fashion, will provide you with insights into the degree of flexibility that will be required for the transit information system you design.

The worksheets that follow look at:

- A1 - Service Area Boundaries
- A2 - Demographic Characteristics
- A3 - Transit Service Levels
- A4 - Ridership

Describe the transit system's service area boundaries today, and as you think they are likely to exist ten years from now.

TODAY:

The boundaries take in the City of America and the entire area of America County, which includes twenty suburban cities.

TEN YEARS FROM NOW:

The boundaries will include two adjoining counties, in addition to America County. The added counties have three cities in the 25-50,000 population range and eleven smaller communities.

Describe the geographic characteristics such as terrain and bodies of water in the service area as it now exists, and in the service area you think likely ten years from now.

TODAY:

The present service area includes a major river area which goes through downtown America. The major through corridors are on fairly flat terrain, except for the western county area, which contains numerous steep grades.

TEN YEARS FROM NOW:

The adjoining counties added to the system are primarily rolling plains area. They include no major bodies of water.

Write a narrative description of the community in today's service area, and another description that you think will reasonably picture the community that will be covered by the service area of ten years from now. Attach maps illustrating the locations of the characteristics described, and showing population densities.

## TODAY:

Greater America has a population of 1.5 million. The CBD is the highest density office and commercial area. The eastern area of America County contains the major suburban developments, although America City is surrounded on the other sides with a series of smaller communities, some more rural than suburban. The central city has a concentration of low-skilled factory workers whose jobs are in-city and in the southwest industrial area. Some more highly skilled

(see next  
page)

## TEN YEARS FROM NOW:

Population of Greater America will continue to expand, particularly for the next 5 years, and will level off at about the 2 million mark within 10 years. It is expected that more office and professional jobs will be located in the eastern suburban area, particularly in Oakton and Greenbelt. The far southern area is expected to remain stable, but the south and southwest manufacturing areas will expand. More manufacturing workers will likely live in the eastern suburban area and south half of America City. Shopping nodes

(see next page)



## Worksheet

A<sub>2</sub> "TODAY" continued

workers live in the western area and work at an electronics plant in the south. Many office and professional workers commute from the eastern suburbs to the core city.

"TEN YEARS FROM NOW" continued

are expected to greatly expand in both the western and eastern suburbs. Some increase in middle and upper income in-city living will occur in the CBD.

Describe the transit system as it exists today: its route structure, service level, modes, units of equipment, basic fare structure, and general financial picture. Then describe what you think the transit system will be like ten years from now. Include information on any other public or mass transportation modes that affect, or might affect, the transit system. Attach system maps for today, and as you envision the system map ten years from now.

TODAY:

America Transport is all bus, except for a new light rail service. It has 62 routes, 550 buses and 12 light rail vehicles. The basic fare is 25¢ with a five-cent transfer and two zones, each of which is an additional ten cents. The farebox provided 52% of revenue last year, with the remainder coming from a sales tax, a state subsidy, and UMTA operating assistance.

TEN YEARS FROM NOW:

America Transport will still be primarily a bus system, but will have added a branch line on the light rail system to provide more coverage in the dense eastern suburban corridor. Substantial express service will be offered between the western suburbs and the southern industrial areas along freeway exclusive lanes. Park and Ride will supplement the light rail in the eastern area. A series of transit stations will tie together the more rural areas with the

(see next page)



Describe current ridership. Include volume (comparisons over time) of peak and off-peak ridership, basic origin and destination patterns, demographic characteristics of riders, most and least used services. Then describe ridership as you think it will be ten years from now.

## TODAY:

AmTrans carries 100,000 passengers a day, 65,000 of those in the peak hours. The greatest peak volume is home to work to home, based on workers living in the city going to the southwest industrial area, eastern suburban residents working downtown, and the electronics workers living in the western suburbs traveling to the plant in the south end. There is also some school traffic in the peak. Off-peak traffic is primarily downtown shoppers, medical center, and university trips.

## TEN YEARS FROM NOW:

AmTrans will carry 175,000 passengers a day, 110,000 in the peak hours. Home to work to home will still be the prime peak trip, but the patterns will have changed to include more suburb-to-suburb trips and fewer suburb-to-CBD trips. Park and Ride, express, and light rail service will be much more utilized than in-city local service, except for in the CBD. More shopping trips will be to suburban shopping centers. Suburb-to-suburb off-peak pleasure and personal business trips will also increase.

# Inventorying Your Existing System

The next step in designing your information system is to take a detailed look at what you now have.

Start with an operating procedures summary that describes the route naming and numbering scheme now in use, and whether or not a corridor or sector system is used. Is color, letter, or symbol coding used, and is there a formal classification plan for services, such as shuttle, local, express? These are the operating constraints within which you will have to design your system. However, if the operating procedures summary appears to impose a significant limitation which is inconsistent with the ten-years-from-now scenarios which you prepared, it may be a better course to change the procedures than to plan within them.

After having looked at the operating procedures affecting your information system, review the checklists of aids and dissemination channels. Which ones do you now employ? Who is responsible for each?

Areas to be evaluated include:

- B1 - Operating Procedures Summary
- B2 - Information System Summary

Describe briefly the route naming and numbering system used. Note whether or not a corridor or sector system is used. Specify whether or not a classification plan is used defining type of service. Note whether or not color, letter, or symbol coding is used.

America Transport uses route numbers, reinforced by corridor letter designations as described below. Routes are named based on major final terminal points, which are usually an area or neighborhood rather than a street.

America Transport is a seven corridor service designated by the letters A through G. X denotes cross corridor service. Color is used for class of service, the classes being: express - blue; local - green; shuttle - orange.

Examine samples of the aids which you presently use. Can you find a pattern of common elements, modules, and components? Consider the timing of your aids and the audiences reached. In which areas do you provide the most information, and are there clear reasons evident to you which explain the differences?

While working your checklist, also consider your staff commitment to the information process. Under which operating division is the responsibility for developing your information programs at this time? What is their current budget, as a percentage of your operating budget? How many people are currently involved in this program? To whom do they report? What measurable results have been isolated for your information programs to date?

Finally, take a look at the dissemination channels being used. How many outlets are you currently using? Are they coordinated and well-planned? Look at the methods of dissemination being used. Are they balanced, mixed between different types? And, take a look at the staff you have involved in dissemination. Count the information clerks, service representatives, number of speakers available. How are your people used? What equipment is used? Is it adequate?

Compare your checklists and answers to your community profile worksheet. Does your present information system seem to be in harmony with your situation analysis of "today"? How would your present information system perform under the conditions you have described in the ten years from now scenarios? The answers will be inputs to the design of your information system.

# Information Sub-System Selection and Design

Division of your information system into sub-systems may make the systems design process more manageable and better serve the needs of program implementation and control. Before dividing the system into sub-systems, it is important to look at the basic goal of the system.

An information system goal statement should be prepared. The goal statement should reflect both the present and the future. Sub-systems can then be selected that will meet particular objectives that, when combined, will result in meeting the overall system goal.

Goals and objectives are formulated with full awareness of the audience. Nonetheless, it is important to successful communication to describe in specifics the audience to be served, as well as considering the audience while formulating the goals and objectives. This is exemplified on the sample worksheets.

For the purposes of the America Transport example, four sub-systems were chosen. Many transit operations may find these sub-systems suitable for their own use, but others will want to use different sub-system organizing principles which may be more helpful to their own situation.

The four example sub-systems are:

- Internal Communications
- On-Route Information
- Off-Route Trip Information
- General Educational Information

Together these sub-systems form a total transit information package.

The internal communications sub-system covers intra-transit system communications.

The on-route information sub-system encompasses the inter-related set of aids and communication channels that provides information to persons while they are using the transit system.

The off-route trip information sub-system covers those communications efforts dealing directly with trip information which are available to persons when they are not actually in the process of using the system.

The general educational sub-system is composed of those communications about transit not directly related to trip information.

The sub-systems, having been selected as subdivisions, must then be substantively designed. Mechanically, this design process is



the combination of already constructed components with the appropriate dissemination channels to form a sub-system. It should be recognized, however, that before a transit system can do this, it must first have created or defined its elements and modules, and from them have already constructed components.

The community profile and inventory processes are input to the conceptual design of the system. These conceptual design requirements also will influence the elements and modules that build the components which are ultimately used in sub-system construction.

The more difficult part of the decision process is choosing components and placing them in a configuration that will result in the sub-system's objective being reached. This requires analysis.

The analysis will have to consider system goal, sub-system objective, and the audiences to be served. The operational constraints will have to be considered. The immediate situation should be viewed in light of the likely future, which may mean rejecting a good immediate solution that involves a capital expenditure because it would be functionally obsolete before it was amortized.

The accompanying sample worksheets describe each of the America Transport sub-systems. You can try the same approach for your system using similar worksheets.

- C1 - Overall System Goal
- C2 - Sub-System
- C3 - Components and Channels
- C4 - Sub-System: Operation

**Worksheet**

**Sub-System Selection  
And Design  
C1**

State overall goal of the information system:

The goal of the system is to surround the patron with  
transit information and to create an aura of transit  
information availability in the community at large through  
a strong information product development effort. This  
(see next page)

Describe the audiences this system is intended to serve:

1. The existing patron, who is largely a regular peak rider.
2. The occasional rider, with the goal of increasing his  
usage.
3. The present non-rider who can be influenced by the  
presence of an expanded, visible information system.
4. The employee of transit.
5. The community and governmental leaders.

List the sub-systems which together make up the system, and describe how they inter-relate:

- A. Internal Communications. B. On-Route Information.
- C. Off-Route Trip Information. D. General Educational  
Information.

Together these sub-systems will reach all segments of the  
general community - both when making riding decisions and

(see next page)

**Additional  
Worksheet**

C<sub>1</sub> "State Overall Goal" continued

goal is based on the hypothesis that improved information  
will increase ridership.

"List the Sub-Systems" continued

when simply interested in data for later use, the employee  
groups who come in contact with those general groups, and  
all those other special groups who act on the transit  
operation.

Name of Sub-System:

On-Route Information

Objectives of Sub-System:

To provide the patron with a sufficient quantity and type of information at the times and places he needs it, so that he will feel comfortable using the system on an expanded basis. Further, to provide an educational resource about the whole transit system to the patron. Finally, to demon-

(see next page)

Description of Audience(s):

1. Riders, both regular and occasional.
2. Non-riders who observe the sub-system on the street.



**Worksheet**

**Sub-System Selection  
And Design  
C3**

Components Utilized:

Pocket time schedule, wallet-size time schedule, pocket maps,  
tickets, passes, CRT, pathfinders, driver, inspector, fixed  
signage, shelters, information displays, transit vehicle,  
change and ticket machines, time schedule dispensers.

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Channels Utilized:

Face to face, distribution network.

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Narrative description of the sub-system as envisioned in operation:

The sub-system ties together the transit vehicle and the place where it is boarded or exited. This is carried out by the related signage on the street and the vehicle. The place where the vehicle comes will be classified according to the characteristics of the service stopping there: local stop, simple transfer point, major transfer point, express or special service stop. The classification will govern the quantity of information presented. The information at stops will serve to provide connectors between stops, and increase the mental image of the transit vehicle connecting places together.

Pocket time schedules and the like will be dispensed at major stops and on the vehicles. The drivers and inspectors will be trained to respond to information requests. Drivers will sell ticket books but not passes. All architecture and product design will be coordinated with the system's intended image and visual identity.

# Applying Costs and Priorities

The cost of information systems and the priorities of various components will influence both the initial design of systems and the scheduling of implementation programs. Therefore the authors decided to treat these matters in between the discussions of design and scheduling, respectively.

There may well be very desirable components of a sub-system which are too expensive for a transit system to consider funding immediately. However, if the long term benefit of the component clearly outweighs the cost, it should probably be designed into the system initially, but scheduled for implementation at a later date. On the other hand, if the benefits will not exceed the costs even over the long term, or if there is simply no reasonable likelihood that the transit system will ever be able to afford the component within the life of the system being designed, then the component should be dropped from the design.

The value of each component to the system must be determined by the ratio of its costs to its benefits. A cost-benefit analysis should take into account not only the direct cost of obtaining the product or service, but also the future costs incurred or avoided, such as maintenance or labor costs.

Affordability is another factor. It comes down to whether or not the transit system has the resources to fund the product or service desired, although the cost-benefit ratio will weigh heavily in deciding how far it is prudent to "stretch" in a particular case.

A broad view is encouraged in cost-benefit analyses. For example, marketing implications should be fully considered. A marginal savings on the paper used in printing time schedules or a modest labor savings in closing a telephone information service early in the evening may not outweigh the harm done to the transit system. Sound cost decisions rest on separating what is really important from what is seemingly important. And what is really important ought to be based upon priorities that stem from goals and objectives.

A cost analysis does not necessarily result in an obvious "yes" or "no" answer in and of itself. But it does provide a better framework in which the decision maker can reach a choice, even if it is a difficult choice.

The cost analysis is tied closely to priorities, as is the scheduling of program implementation.

Cost-effectiveness in and of itself should not be the exclusive base for establishing priorities. Priorities should flow from goals and objectives - what decisions, the implementation of which programs, will most clearly and most quickly result in the



attainment of goals and objectives. Cost-effective programs that make significant contributions to goal or objective attainment will be at the top of any priority list that is rationally constructed. This assumes, of course, that the goals and objectives are current and based on a solid situational analysis and enlightened view of the future. If a system finds itself consistently setting priorities unrelated to its stated goals and objectives, that inconsistency may be a signal that it's time for a new situational analysis, a fresh planning session, and the revision of goals and objectives.

The accompanying sample worksheets use America Transport to demonstrate a cost analysis and a priority setting effort:

- D1 - Cost Analysis
- D2 - Priority Array

**Worksheet**

**Costs And Priorities  
D1**

**Cost Analysis**

Name of Project or Program:

Driver and Supervisor Marketing Training Program

Brief Description of Project or Program:

This program is part of the On-Route Information Sub-system.  
Its purpose is to provide the factual information and the  
sensitivity to customer information needs that will enable  
drivers and supervisors to effectively function as part of  
 (see next page)

COSTS

	1st yr.	2nd yr.	3rd yr.	4th yr.	5th yr.
Direct Labor (Including Fringe Benefits)	<u>13,500</u>	<u>15,000</u>	<u>20,000</u>	<u>22,500</u>	<u>25,000</u>
Materials and Supplies	<u>5,000</u>	<u>1,000</u>	<u>1,000</u>	<u>1,500</u>	<u>1,800</u>
Repair and Replacement	<u>          </u>	<u>150</u>	<u>200</u>	<u>300</u>	<u>400</u>
Other	<u>750</u>	<u>150</u>	<u>200</u>	<u>250</u>	<u>300</u>
	<u>19,250</u>	<u>16,300</u>	<u>21,400</u>	<u>24,550</u>	<u>27,500</u>

SOURCE OF FUNDING

Farebox Revenue	<u>1,075</u>	<u>815</u>	<u>21,400</u>	<u>24,550</u>	<u>27,500</u>
Local Government Subsidy	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
State Government Subsidy	<u>1,075</u>	<u>815</u>	<u>          </u>	<u>          </u>	<u>          </u>
	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
Other	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>



REVENUE

1st yr. 2nd yr. 3rd yr. 4th yr. 5th yr.

Show any direct revenue that will be generated by this program or project.

No direct revenue will be generated by this program.

Describe the alternatives to this project or program which were considered, and state explicitly why they were rejected in favor of this one.

This particular program is designed to offer a one day seminar to 100 drivers and inspectors each year, in classes of 10 each. It also provides for the installation of a special audio-visual information kiosk in the bull pen area, and maintenance to keep the kiosk equipment working and the information current. The alternative of no program is unacceptable since drivers and inspectors play a key role in the on-route information sub-system. A more expansive program was considered desirable, but financially unfeasible. The most realistic alternative would be to place increased emphasis on the bull pen kiosk and delete the seminars. However, it was felt that operating the seminars over a five year period would institutionalize the concept of the driver-inspector being an important information person.

List the top ten priority programs or projects of the transit system, stating the cumulative five-year cost for each, the cumulative five-year direct revenue for each, relating each to a specific goal or objective of the transit system, and succinctly stating the principal benefits to be derived from its implementation.

1. Graphic Identity Program. Establish corporate system image and provide basis of continuity for all information elements. Estimated cost: \$50,000. No revenue returned.
2. Employee Newsletter. Establish a regular monthly newsletter to keep employees informed about what is going on in the system. This relates to an effective internal communications system. The benefit is employees who care about transit and are oriented to convey that concern to the public. The cumulative five-year cost is estimated at \$120,000. No revenue is anticipated.
3. Driver and Supervisor Marketing Program. Train 100 drivers and supervisors a year and provide on-going follow-up to all drivers and supervisors. This program will equip drivers and supervisors to function as part of the on-route information system. The benefit will be increased public confidence in the information obtained from first-line transit employees. The five year cost is estimated at \$109,000. No revenue is expected.

4. Classification Criteria for On-Route Information Points.

This project will classify bus stops by type of service to establish what level of information should be applied where. This meets the objective of providing the patron with what information he needs where he needs it. Cost is estimated at \$24,000. No revenue is anticipated.

5. Fixed Signage Design and Implementation. Design of the

signage and its constituent elements, and installation thereof throughout the system. This meets the need of providing informational security to the patron and helps to link places within the system. Cost estimate is \$400,000. No revenue is returned.

6. Transit Vehicle Exterior Roller Signage and Interior

Display, Design and Implementation. This signage will be designed to coordinate with and complement the bus stop signage. It meets the objective of providing the rider with the information he needs where and when he needs it. Cost is estimated at \$200,000. No revenue is returned.

7. Telephone Information Expansion Project. This will provide 24-hour-a-day telephone information service and

(see next page)

## Additional Worksheet

D "PRIORITY ARRAY" continued

reduce waiting times for patrons by half. This will improve community perception of the ease with which transit can be used. Cost estimate is \$275,000. No direct revenue is estimated.

8. Ticket and Pass Program. Initiate a system of tickets, monthly and yearly passes. This will make fare payment easier to understand. Estimated cost is \$55,000. Net additional revenue that would not otherwise be obtained is estimated at \$225,000.

9. Pocket Time Schedules. Design an improved pocket time schedule for all routes, update quarterly. This will increase rider information and confidence. Cost estimate is \$300,000. No direct revenue.

10. School Program. Prepare presentation and materials on how to use transit and equip a special information bus. Implement a regular schedule of school visitations from primary grades through junior college. This will encourage ridership for the long term by teaching the youth of the community about transit's potential, and how to use it. Cost estimate is \$85,000. No direct revenue.

# Scheduling the Implementation Program

The implementation program for your information system will be strongly influenced by three major factors: Priorities, Planned Course of Action, and Affordability.

It is suggested that an implementation program be prepared for each sub-system, and a summary implementation program prepared for the total system. It will be useful to express the schedule in terms of immediate and longer range implementation. The definition of "immediate" and "longer range" as used by any particular transit system is dependent upon its own planning time frames. In the America Transport Company example, short term is considered within two years, and longer term is considered over two and up to five years. No attempt has been made to schedule system implementation beyond five years. Since it is likely that the progress of events will require revisions, it is recommended that transit systems update their implementation plan annually.

In general the implementation schedule will be a fairly direct repetition of the priority array. However, to the extent that the priority array represents the desirable, and the "immediate" section of the implementation schedule represents the actual, some high-priority items for which no means of funding exist will have to be further down the implementation schedule than their position on the priority list would indicate.

There will also be certain items not on the priority list, often because they are minor in overall program importance, yet in a planned course of action sense must of necessity be implemented before a more substantive program. For example, adopting a style manual may be far less important to the community than new transfer point signs; yet the planned course of action would dictate that a style manual be adopted before any large capital expenditure is undertaken involving a major use of graphics.

- E1 - System Summary - Short-Term
- E2 - System Summary - Long-Term
- E3 - Sub-System Implementation



## Worksheet

Scheduling An  
Implementation Program  
E1

## System Summary

Implementation Sequence  
Short Term

List below in order of imple-  
mentation those programs or  
projects to be implemented in  
the next two years.

Project Name	1st Yr. Cost	Sub-system
Graphic Identity Program	\$50,000	Total System Application
Employee Newsletter	24,000	Internal Communications
Driver/Supervisor Training	19,250	On-Route Information
Classification Criteria	24,000	On-Route Information
Fixed Signage Design and Implementation Yr. 1 & 2	175,000	On-Route Information
Transit Vehicle Exterior Roller Signage and Interior Display, Design and Implementation Yr. 2	100,000	On-Route Information
Telephone Information Expansion Yr. 2	55,000	Off-Route Trip Info.
Pocket Time Schedules Yr 2	75,000	On and Off-Route Sub-systems.
School Program Yr. 2	25,000	General Educational Information

(Note: Sample is abbreviated for  
explanatory purposes. An actual  
summary might run many pages.)

**Worksheet**

**Scheduling An  
Implementation Program  
E2**

**System Summary**

Longer Term Implementation

List programs and projects grouped by sub-system and show first year cost estimate for each.

Circulation of Press	\$ 2,000	Internal Communications
Summary		
Fixed Signage Implemen-		
tation - Completion	225,000	On-Route Information
Ticket/Pass Program	55,000	On and Off Route Info.
Suburban Customer Assis-		
tance Office	150,000	Off-Route Trip Info.
Community Distribution		
Network	35,000	Off-Route Trip Info.
Town Hall Transit Forums	25,000	General Educational Info.
Citizens' Newsletter	30,000	General Educational Info.

(Note: Sample is abbreviated for explanatory purposes. An actual summary might run many pages.)

**Worksheet      Scheduling An      Sub-System**  
**Implementation Program      Implementation Program**  
**E3**

Name of Sub-System: On-Route Information

List each program or project by year of implementation, and by sequence within year, showing first-year cost and cumulative cost between year one and five of this schedule.

YEAR ONE

Project or Program Name	1st Yr. Cost	Cum. 5-Yr. Cost
Classification Criteria	\$24,000	
Fixed Signage: Route Naming		
and Numbering Program	15,000	
Graphic Identity Program	50,000	
Driver/Supervisor Marketing		
Training Program	19,250	\$109,000

YEAR TWO

Project or Program Name	1st Yr. Cost	Cum. 4-Yr. Cost
Transit Vehicle Signage	\$100,000	\$200,000
Pocket & Wallet Size Time Schedule:		
A. Design & Implementation	50,000	300,000
B. Pocket Map Design & Implementation	25,000	included
Fixed Signage:		
A. Design & Implementation	141,000	
B. CRT/Electronic System Feasibility Study	19,000	
Change, Ticket Machine/Disp.	9,000	

**Worksheet                      Scheduling An                      Sub-System Implementation**  
**Implementation Program                      Program, continued**  
**E3**

Name of Sub-System:                      On-Route Information

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YEAR THREE

Project or Program Name	1st Yr. Cost	Cum. 3-Yr. Cost
<u>Fixed Signage: Transit</u>		
Station Information		
Location & Process	\$ 5,500	
<u>CBD Transit Mall Infor-</u>		
mation System Process	6,000	
<u>Electronics System Program</u>		
	6,000	
<u>Kiosk System Feasibility</u>		
Study	4,500	

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Fixed Signage: Transit

Station Information

Location & Process                      \$ 5,500

CBD Transit Mall Infor-  
   mation System Process

6,000

Electronics System Program

6,000

Kiosk System Feasibility

Study

4,500

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YEAR FOUR

Project or Program Name	1st Yr. Cost	Cum. 2-Yr. Cost
<u>Fixed Signage: Transit</u>		
Station Information		
Design Program	9,000	
<u>CBD Mall Information System</u>		
Design Program	10,000	
Electronic System Design	5,000	
Kiosk System Design	5,000	

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Fixed Signage: Transit

Station Information

Design Program                      9,000

CBD Mall Information System

Design Program

10,000

Electronic System Design

5,000

Kiosk System Design

5,000

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# System Image: A Context for the User Information System

This handbook has considered the effort of designing a functional user information system for a transportation network. Illustrations of the America Transport Company have given visual evidence of the "typical" approaches that may be employed to reach an objective system of information components, communication channels, and subsequent programs or sub-systems.

A more detailed overview of the context into which an information system is placed is the subject of this final section of the handbook.

Image, in effect, is the totality of all things that a transportation system does. According to the dictionary definition, image is "the impressions of the policies, personnel and operations of a corporation that is imparted to the employees and to the public". Image includes such things as the visual identity of the system - its graphics, architecture, products, advertising, signage, vehicles, and user information system. Image also includes how the transportation system deals with public policy, how it responds to the community, how it responds to government, as well as how employees deal with the public - that is, their attitude and knowledge-ability. All of these points of image, whether good or bad, converge in the consumer's mind and define the direction of the countless "yes" and "no" transportation decisions that people make from day to day. More specific to a user information system are the values of visual identity and the identity that the employees bring to the public.

The basis for a good employee identity in the community generally stems from an understood substantive goal in the transit system, fair treatment, and knowledge of the system's activities and information. As discussed in the sub-system of employee communication, in order for employees to function as information outlets of transit knowledge, they must have channels open to them inside the transit system. In addition, they should have a sense of the mission of the system in the community, for this provides direction and a sense of purpose. With knowledge, directed motivation, and qualified personnel, the system's employees can produce an irreplaceable image-building force in the community.

Visual identity or how you are seen is gathered by the public from all visual, non-verbal, points of contact, from the archi-

tectural design of a shelter or a customer service office, to the packaging identity you give your pocket schedules and passes, to the format and image that your advertising conveys.

The ability to define the context in which people design visual items for the transit system comes from how well you state the image or profile you would wish to project in the community. Any creative effort for a client, whether it is being done by an architectural firm, a graphic design house, or an advertising agency, has to include the functional requirements of the efforts and the intended feel of the final product in the community. Without a clear understanding of this intended "image", the architect, the graphic designer, the artist, or the product designer can at best surmise through his own values the image that he feels is best. This lack of clear conceptual objective can, at best, result in a functional yet visually uncoordinated set of products for the transit system.

Care should be taken in all areas of visual display. Consider, for instance, the materials that you use for either products such as time schedule racks, or structures such as facilities and shelters. The materials that you choose should have a similar quality attached to their feel. This is not to say that all materials should be essentially the same; however, it does mean, for example, that if you choose to produce a series of high-quality shelters that have a certain feeling of openness and sophistication, then it would be best not to have the maintenance department fill those shelters with brush-painted, sheet metal time schedule racks. As with all visual aspects, the character of the selection of your materials should fulfill both function and a coordinated effort toward a determined image.

The environmental and product design approach in the system is critically important because of its long-range commitment to the project and the capital expense that it involves.

Environmental design includes your own offices, maintenance facilities, the interior of your drivers' rooms, and in the community, the customer service offices, shelters, park-and-ride sites, or downtown exclusive transit malls. The visual statement or impact of these types of projects on your employees and the community is significant in terms of the identity your system wishes to build.

Product design includes time schedule racks, change and ticket machines, and other items that distribute or house information. The same care should be applied even to these smaller items of visual identity.

Graphic design/communication art is the use of symbols, type, graphic illustrations, diagrams, photographs, or other communication parts, combined to communicate an idea or a mass of information. It is found in the system's time schedules, maps, signage, advertising, brochures, or other pieces that are formed to communicate information.

The approaches to graphic design are critically important in forming a total image, for these pieces are not necessarily found on a route or on a bus. Instead, they are spread throughout the community in a multitude of different ways and reach the potential rider at varying times in the day or during the week.

To tie the points of contact that are spread throughout the community with those found along the routes of the transit system itself will help to build a more total and comprehensive visual and image base of the total system.

Whatever profile or intended image the transit system wishes to convey to the public, it should be aware that everything that it produces either fulfills an intent or distracts from it. As with forming a coordinated and functional user information system, it is necessary to coordinate areas of identity that form an image.

## Costing the Information System

Budgeting for the developing information system will require a knowledge of the local costing situation. Costs to be budgeted for will be somewhere in three areas - at the initial point of concept and design, at the point of production, and for ongoing labor, maintenance, promotion or other items. These costs may be capital expenses; they may be fundable under other UMTA sections, through other federal departments, through state programs, or they may require local funding.

The cost for each project and the ranked activity for a given period of time will follow from use of the worksheets in Part IV of this handbook. An estimate of each ranked project will be necessary to match estimated costs with possible funding sources in order to arrive at an equitable program which maximizes your local expenditures. Costs for each step of any project will vary from area to area, material to material, and supplier to supplier, and will be offset by any revenue from the project. With any project it is advisable to see what comparable transit properties may be paying. Averages can be gathered, but it should be remembered that they are only averages; your projects will be unique to your community. The important point when gathering costs is to consider what you're getting. The cost benefit of concept, design, material, and operating programs may suggest that extra initial costs may pay off in the long run, or that short-lived projects may not call for the initial effort originally thought to be necessary.

As labor costs may be more easily assessed, the biggest variable will normally be the selection of the suppliers and materials to be used. This decision will, in part, affect any ongoing maintenance costs. By considering such devices as using colored paper stock when appropriate to save printing an additional color, or selecting a modular hardware system that takes advantage of basic



parts for various applications, you will be making the most of your investment. Ordering certain materials or final components in quantities may offer substantial discounts. But, most importantly, by following the guidelines of this handbook, you will have designed a system that should project you into the future, one that will let you see where there may be seemingly unrelated savings to take advantage of.

With all estimates prepared for the ranked projects, you can then attach those estimates to the possible funding sources for each and form a reasonable expectation of what your local budget will allow you to do.

# **Part VII: Research Summary, On Site Photographic Documentation, Bibliography**

## **Research Summary**

As background for this manual on developing transit user aids, potential aids were evaluated by 300 participants in laboratory research activities. The design of the citizen laboratory program was developed by Ilium/Octopus, Inc., Battelle Human Affairs Research Centers, and Dr. Douglas V. Leister. The laboratories were conducted by Ilium/Octopus, Inc. The evaluation of the research data was performed by M. G. Curry and M. T. Wood of the Battelle Human Affairs Research Centers. This section provides a summary of their major findings.

### Characteristics of Sample

Participants in the laboratory activities in the three cities (Seattle, Washington; Columbus, Ohio; and Dallas, Texas) were almost evenly split between riders and non-riders of transit and were representative of highly potential riding groups. Generally, participants were distributed between both sexes, all age groups with a slight emphasis on 16-25 and over 65, various ethnic groups, had either a high school education or some college, and reflected a number of occupations, but

especially students, homemakers, and retirees. Thus, while the sample does not necessarily show an accurate representation of the general population on all characteristics, it does, in large part, reflect characteristics of transit users.

### Attitudes Toward Public Transit

Responses to 34 attitude items regarding public transit were generally quite favorable. A factor analysis of these items revealed that three major attitude clusters accounted for most of the variance. These were (a) social impacts: political support, (b) personal convenience, and (c) personal discomforts. Most people favored governmental support of transit, cited a need for good transit systems, and endorsed convenience features of transit.

Attitudes varied with the person's age, educational background, and extent to which he/she rides the bus. Older persons showed significantly more favorable social and convenience attitudes and less favorable discomfort attitudes than younger respondents. This same trend also held for riders who use the bus more frequently. Additionally, higher education was correlated with less favorable personal convenience attitudes.

Overall, the relationships of personal characteristics to convenience attitudes were of especially strong magnitude. Attitudes differed across the three test cities with more favorable social-political attitudes in Columbus. Attitudes did not change in a post-attitude survey administered after the laboratory activities.

### Preferences for Information Aids

As a first step in the actual review of transit aids, participants were asked to rank eight aids for their overall usefulness: pocket schedule, telephone, bus stop information, other people at the bus stop, fold-out map, electronic route finder, bus driver, and sign on the front of the bus. The pocket schedule was clearly the preferred aid, ranking a full point above the second aid, telephone. The other aids were fairly closely ranked with the exception of other people, which was markedly the least preferred aid. Preferences were not distinguished by a particular set of characteristics except possibly personal contact (bus driver, other people ranked less helpful). Age, sex, and education significantly related to the rank position of some of the aids with older people, less educated persons, and women showing higher preferences for drivers, bus signs, other people, and bus stop information (except for women on the latter two) than their counterparts. Blacks preferred those same aids (except bus signs) as well as schedules, telephone, and maps more than did Whites and Mexican-Americans. Finally, riders showed higher preferences for schedules, other people, drivers, and signs than did non-riders. There were no differences among cities, and these rankings did not change at the end of the laboratory activities when participants repeated this task. Rankings of the aids were, however, related to transit attitudes. Those with favorable personal convenience attitudes gave a higher rank to other people, bus drivers, on-vehicle signs, bus stop signs, schedules, and telephones. Those who showed favorable social/political attitudes had higher preferences for maps, schedules, and bus signs.

## Bus Stop Signs

Laboratory participants were shown a series of slides regarding five aspects of bus stop signs - color, shapes, symbols, information elements, and information combinations. Preferences for these are briefly outlined below.

Of four shapes (square, circle, triangle, special graphic), the special graphic was rated as the most identifiable followed by the square, circle, and triangle. However, when these same shapes were ranked for attractiveness the square was ranked first, then the circle, triangle, and the special graphic last. Older people, less educated persons, and women preferred the square, circle, and triangle shapes more and the special graphic less than did younger, more highly educated groups and men. The use of a specially designated color for transit signage was considered important by a majority of participants, particularly to older, less educated, and female respondents. When asked to rank four colors for identifiability (yellow, blue, green, and red), blue was ranked most identifiable, followed by yellow, red, and green ranked last. Again older, less educated, and female respondents ranked colors blue and yellow higher than their counterparts.

A majority of the laboratory participants felt that a standard transit symbol would be quite meaningful, understandable, and identifiable, though they were less certain of its identifiability and of the necessity for the words "bus stop" on signs. Also they preferred the T-transit symbol over a regional symbol. In ranking the usefulness of four types of symbols (bus stop, picture, bus stop words, T-transit, and regional symbol), the symbols with a bus stop picture or words were preferred over the T-transit and regional symbols. Older persons, men, and non-riders felt standard symbols were more important. Also, men and non-riders ranked higher identifiability and the need for words to accompany a standard symbol.

Next, participants viewed and assessed the usefulness of four information elements: route name, route number, route map, and departure times. Overall, route names and departure times were ranked more useful than route numbers and maps, but the mean ranks of all were ranked fairly high. Younger respondents and riders preferred the map more than other groups, and older and less educated persons showed a higher preference for route name and number.

Finally, in this exercise on bus stop, five information combinations of varying complexity were ranked by participants: (a) route number, (b) route name, (c) route number and name, (d) route number, name, and map, (e) route number, name, map and departure times. Generally, more information was preferred to less. The bus sign with four pieces of information was not perceived as having too much information while one-element items were least preferred. Higher ranks for complex combinations were given particularly by older, less

educated females and rider groups. There were some city differences with Seattle groups ranking combinations higher; Columbus groups ranking them moderately, and Dallas groups lower. However, these were moderate differences, not exceeding a 1.0 rank.

### Transit System Maps

In general, the pocket map was preferred over the larger fold-out map by all subgroups, as was the detailed map over the schematic map. There were insignificant differences in preferences for (a) designating routes by number or color and (b) for using color codes to designate class of service or geographic destination. There were few differences by sex and ridership except in coding routes where males and non-riders preferred color coding. Blacks and Mexican Americans had a higher preference for number coding; Whites for color coding. There were some city differences with Columbus participants preferring color coding; Seattle and Dallas number coding. While Columbus groups were about equally divided on pocket versus fold-out map, Seattle groups showed a strong preference for the pocket map (2-1).

### Transit Exercise

The use of schedules and maps was tested through two transit exercises; one concrete and specific to the city, and one abstract. Performance generally was not high but varied between the two exercises. The most successful performance was on the identification of route in the concrete task; fewer persons correctly identified the departure time.

There was a lower but more consistent success level on the abstract exercise with less than half correctly identifying the right routes and even fewer, the correct departure time. Lowest success rate was on identifying transfer points and trip time. Older persons, women, and riders were more likely to correctly identify departure times than their counterparts; but there was no correlation for education. Among the transit attitudes, the personal convenience cluster also was related to correct identification of times. Performance among cities differed significantly, with Dallas respondents having the highest success rate with 71%, Seattle the second with almost half, and Columbus the least (less than one-third). Finally, success on the concrete exercise increased a person's likelihood of success on the abstract exercise.

Respondents were also asked to rate the different aids they used after completing the exercises. Schedules had higher ratings on the characteristic of usefulness and the map was least useful. Older persons found the schedule more useful while more highly educated persons attributed less usefulness to the information person. Higher usefulness also was attributed to the schedule and the map by those who were successful on the exercise.

Finally, in the abstract exercise, the schematic map with a legend was perceived as most useful; and the detailed map as hard to use. However, the detailed map was greatly preferred for riding the bus in going to a new, unfamiliar destination.

## Information Person

Having a person available to provide transit information was considered a desirable aid by more than half of the respondents, although these persons were equally divided concerning the ease of getting information from (1) an information person; or (2) a transit map or schedule. Reasons given for liking the information person stressed more the pleasantness and the social nature of the aid than the ease of obtaining information. The information person was viewed as a moderately helpful aid (between the schedule and the map), and was ranked more helpful by those who performed the exercise successfully, especially those correctly identifying travel times. Older and less educated people viewed the information person as more helpful while females and riders liked to use the information person more than in other groups.

The information person was viewed essentially as supplemental to other aids when they fail to provide enough information. This is a more passive, responsive aid rather than one which can stimulate transit use.

## Dissemination Techniques

In general, there was a favorable response to whether the dissemination of transit information would increase persons' likelihood of using transit. Mail transit advertisements were seen as the most useful dissemination technique, but many persons reported that they did not always look at mail advertisements. Respondents were almost as favorable toward schedules printed in daily newspapers; and a short course in the schools in using public transit was considered useful. Respondents said they were only somewhat likely to pick up flyers and handouts and were neutral to negative on door-to-door delivery as a dissemination technique, thus indicating that these techniques might not be effective. In general, less educated persons found the dissemination techniques more helpful than others; there were no significant relationships with other individual characteristics or to the ranking of the eight transit aids.

## Methods of Fare Payment

There was a substantial amount of agreement on the ranking of three alternative methods of payment: coins, tokens, and tickets. There was a clear preference for coins over tokens; tickets were least preferred. There were few differences among cities although Columbus participants showed more agreement on the ranking than Seattle and Dallas participants.

## CONCLUSIONS

Laboratory participants' attitudes toward transit were generally quite favorable. However, individual differences accounted for variation in attitudes reflecting social impacts and political support of transit and its personal conveniences. Thus, specific

system changes designed to improve attitudes should be considered in light of the population characteristics of potential users. Attitudes were favorable among both riders and non-riders. This indicates a need for caution in assuming that transit system changes will stimulate increased ridership through enhancement of attitudes. The pattern of individual differences suggests that attitudes are more favorable among those who are more likely to be "transit-dependent". This attitude pattern extended to preferences for kinds of transit information aids. The elderly, the less educated, females, and riders tended to evaluate information aids and their features more favorably. Overall, pocket schedules were preferred as the most useful kind of aid, while direct contact with other people (the general public at bus stops) was considered least helpful.

The rankings and assessments of particular aids and specific characteristics of aids (e.g., color, shape) generally indicate that people prefer familiar information aids and dissemination techniques - those that are currently used or are similar to other types of information systems. Also they tend to prefer those aids which provide the most specific and accessible information regarding the use of transit (e.g., pocket schedule, telephone, and bus stop information).

However, there is substantial evidence in the findings that it would be worthwhile to develop and test some new types of aids/characteristics in transit information systems. For example, while the special graphic shape for bus stop signs was ranked lowest for attractiveness, it was ranked highest for identifiability. Some modification of such a special graphic might be developed which would not only be identifiable but also would be perceived as attractive to the public. Regarding specific characteristics of aids, preferences are highest for descriptive words and pictures, which are specific and easily understood, rather than for more abstract representations of information.

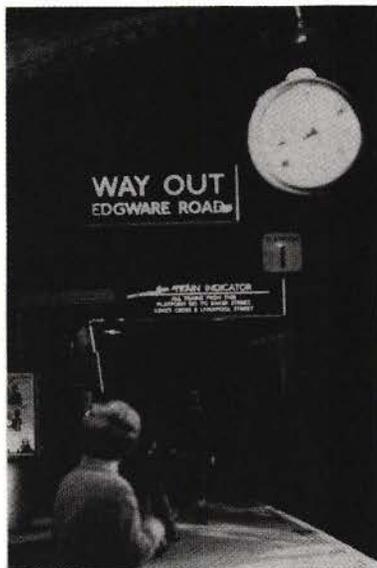
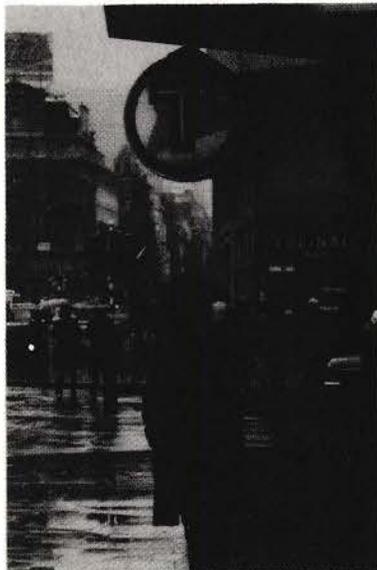
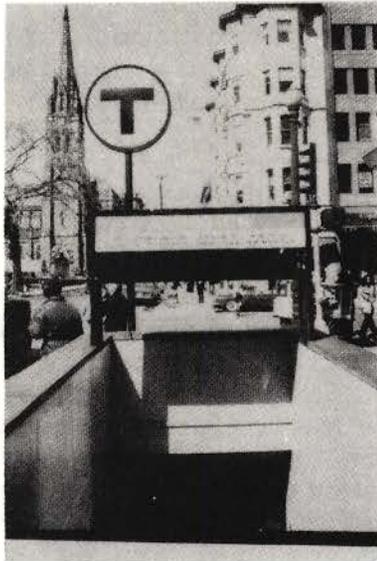
The transit exercise provided some valuable insights into the differences between preferences for aids and behavior in using them. In a mock transit-trip exercise, preferences for map types differed when participants used them. When simply judging pictures of map types, a detailed map was greatly preferred over a schematic map. In the exercise, participants found the schematic map with a legend most useful, but still preferred the detailed map (by a 7-1 margin) for riding the bus in a new setting. This seemingly contradictory finding indicates needs to: (1) pre-test the acceptability of new forms and types of aids before making significant changes in information system elements; (2) make any changes gradually; and (3) adequately educate people to use new aids.

Additional conclusions drawn from the analysis of the laboratory evaluation activities are that: (1) favorable attitudes toward transit do not necessarily lead to actual use of transit and (2) brief exposure to transit information system components does not seem to change reported attitudes or behavioral intention to ride transit, particularly among non-riders, at least as reported by

participants at the end of laboratory activities. On the other hand, it was clearly pointed out in the "focus group" probing that inadequate or the lack of information was a deterrent to ridership and also served to negatively reflect upon the system's operational efficiency as a whole.

However, transit information aids do provide essential information to transit users, some providing primary information, others serving to provide supplemental information to those primary aids. While there was a substantial amount of agreement regarding preferences for various sets of aids, there were distinct differences among some sub-population groups regarding the specific characteristics of the transit aids. These findings should provide an adequate basis for developing general guidelines for standard sets of transit user information aids, with choices among aid characteristics based on city and area differences. Another approach which might be considered would be to design aids specifically for selected target populations (i.e., groups that are potential transit riders) without making the information unusable by current riders. The latter approach particularly would require further research to ascertain what mixes of information aid types and characteristics could be designed successfully to implement such a strategy.

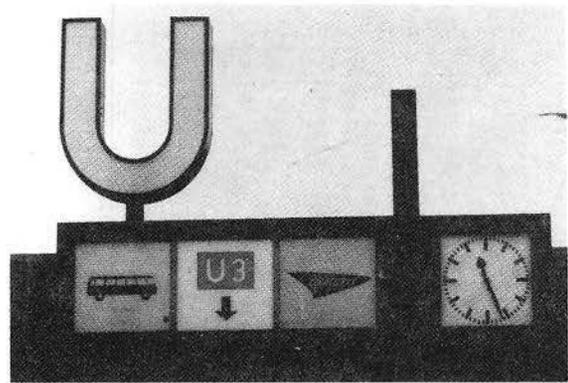




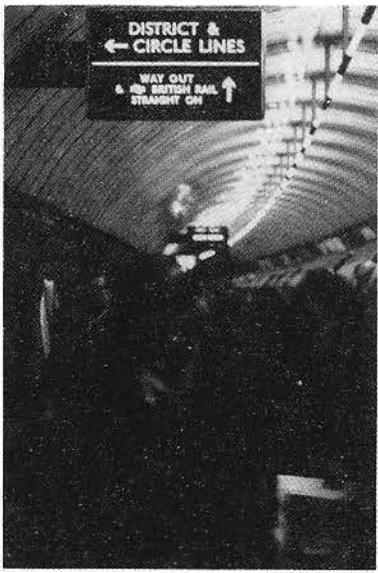
SAMPLE  
RAIL STATION  
DIRECTIONAL SIGNAGE

## Sample of Photographic Inventory

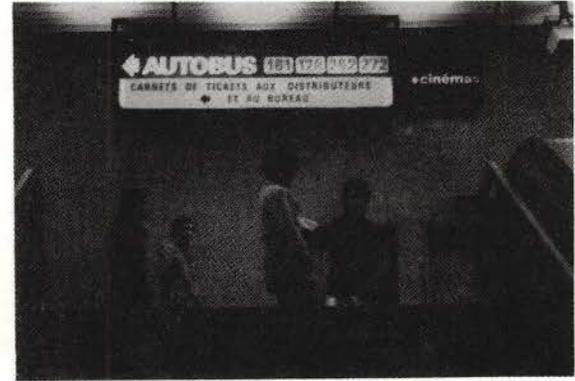
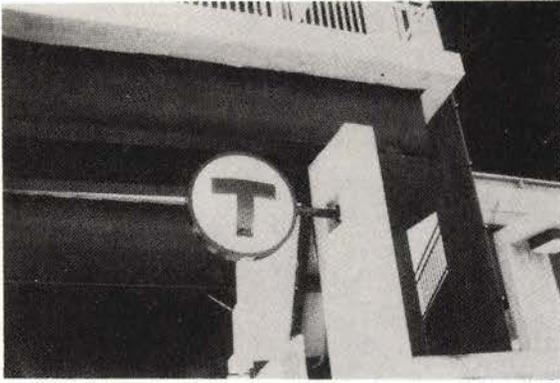




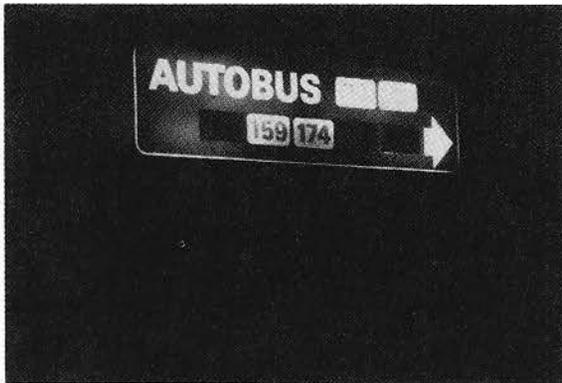
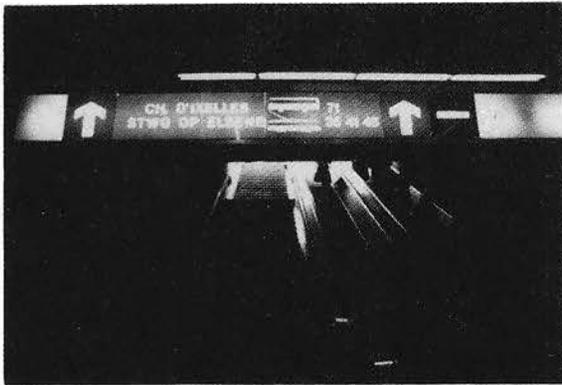
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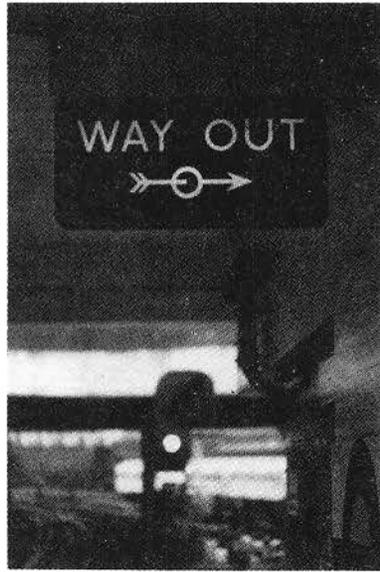
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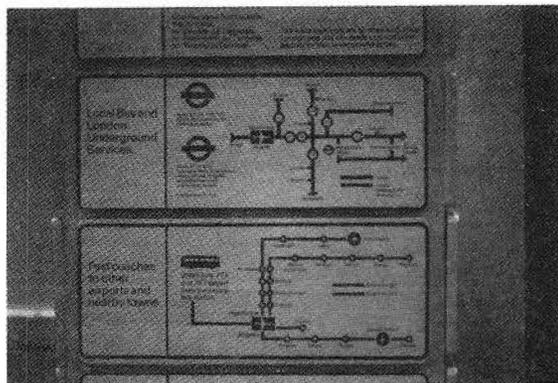
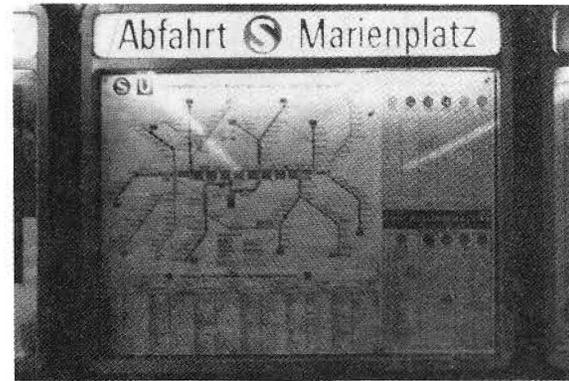
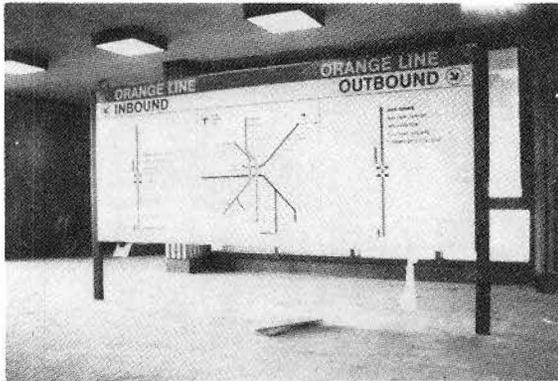
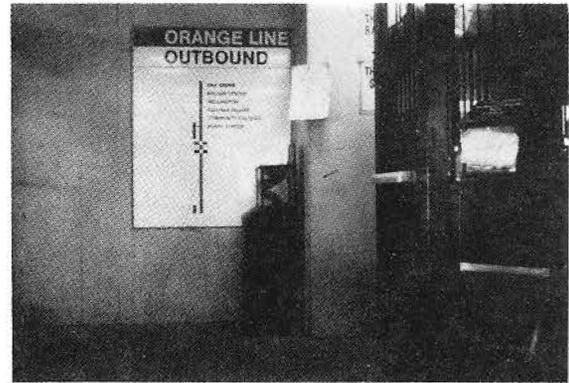
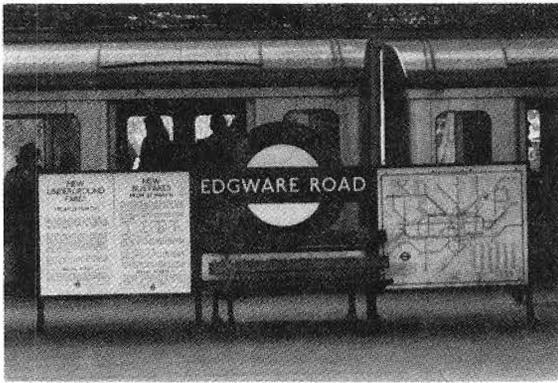
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SAMPLE  
RAIL STATION  
INFORMATIONAL SIGNAGE

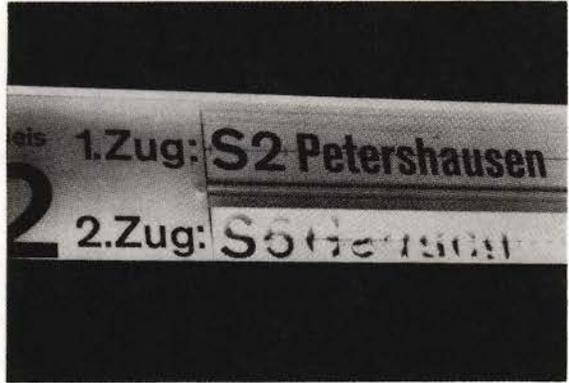


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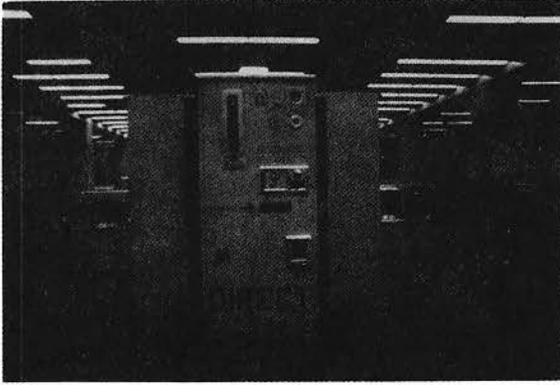


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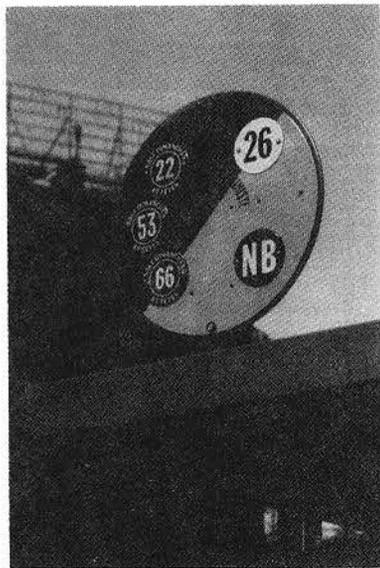
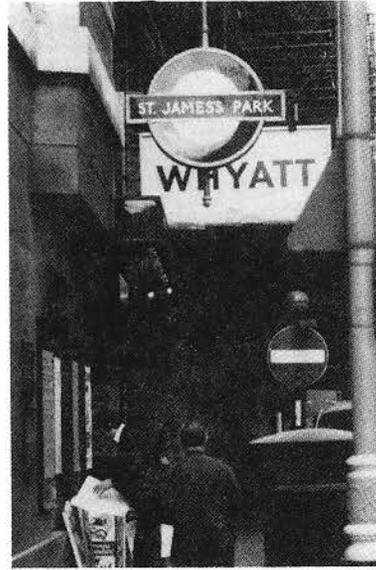




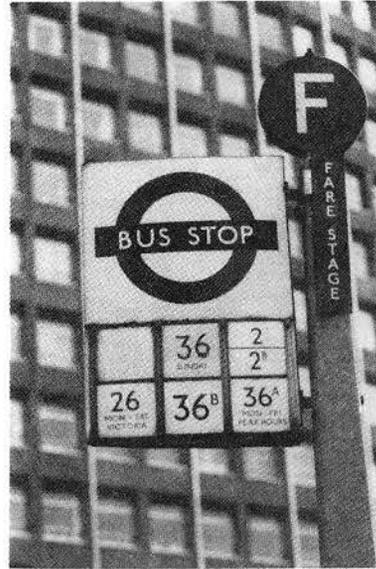
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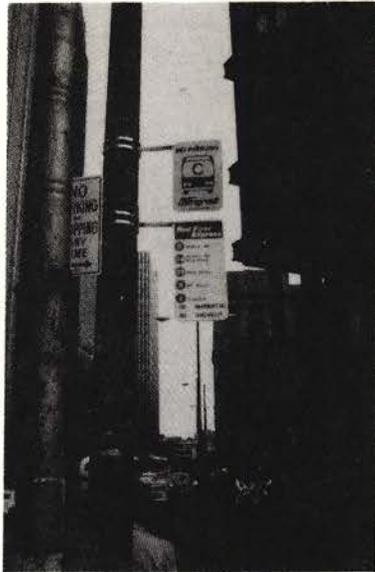
SAMPLE  
RAIL STATION  
DIRECTIONAL SIGNAGE



SAMPLE  
BUS AND TRAM  
PRIMARY IDENTIFICATION SIGNAGE



SAMPLE  
BUS AND TRAM  
PRIMARY IDENTIFICATION SIGNAGE



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PRIMARY IDENTIFICATION SIGNAGE



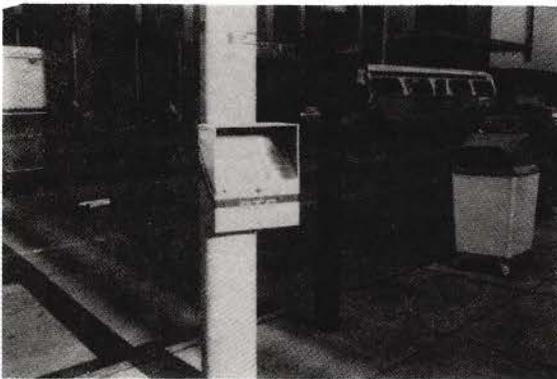
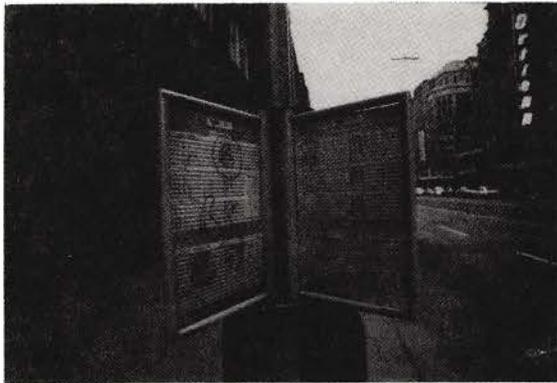
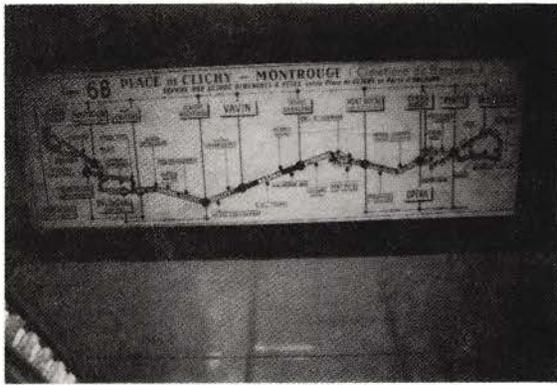
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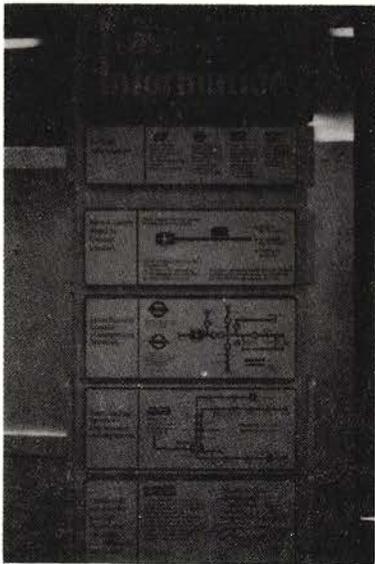
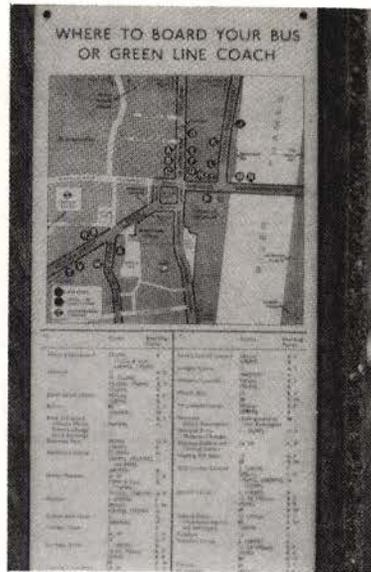
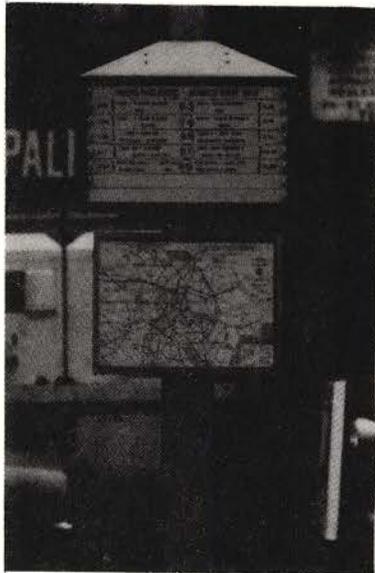




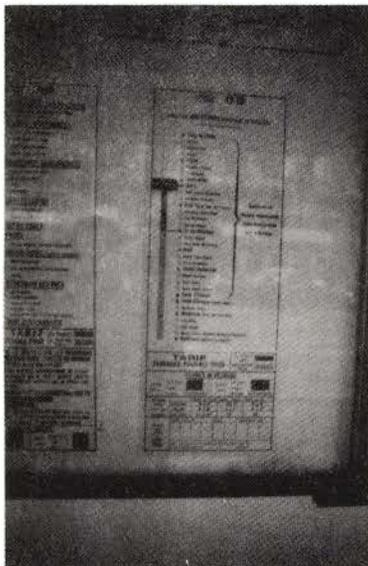
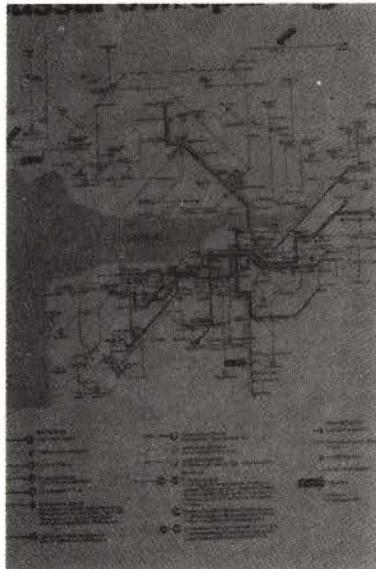
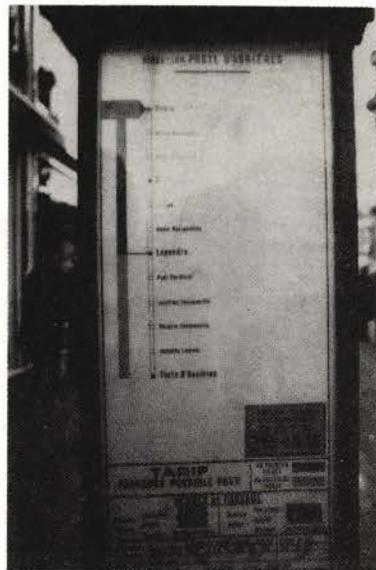
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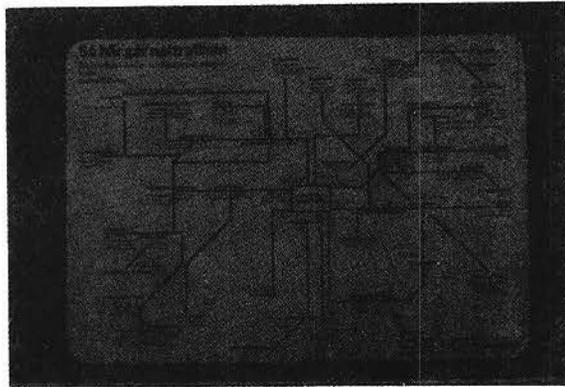
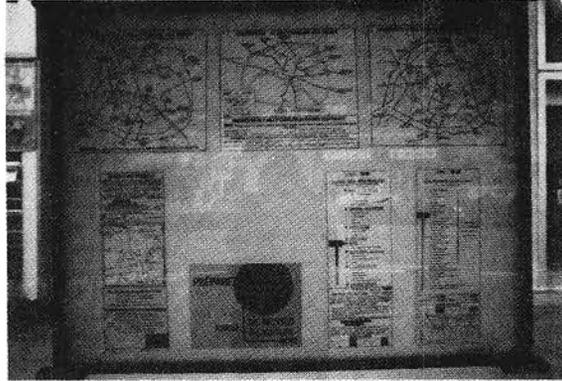
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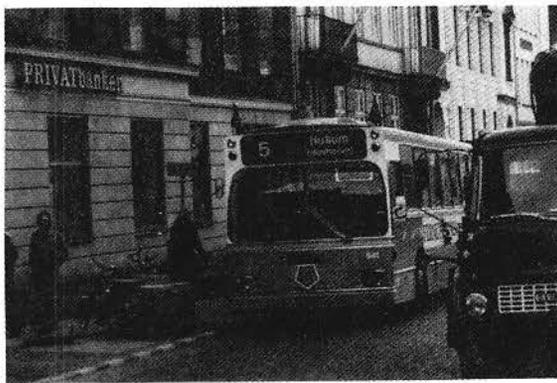
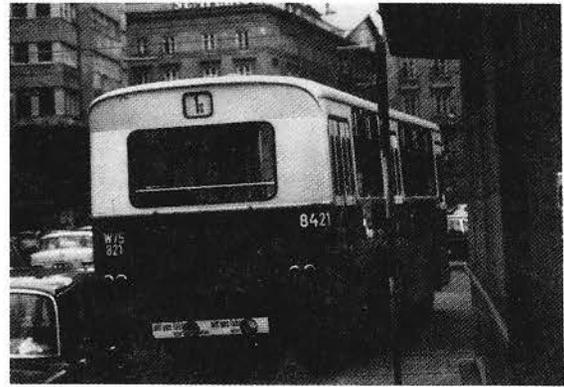
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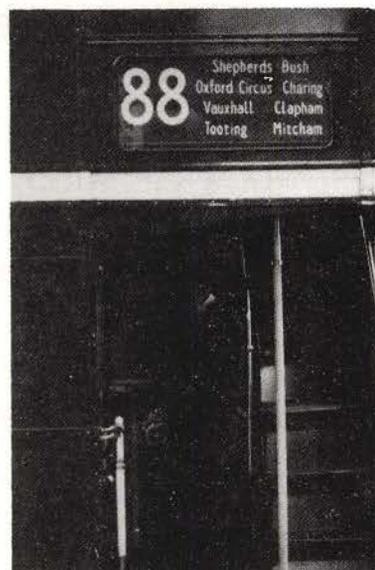
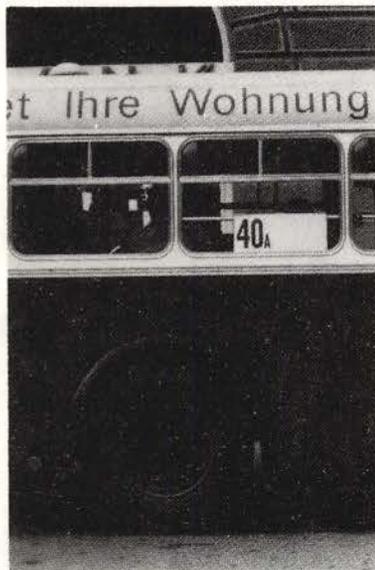
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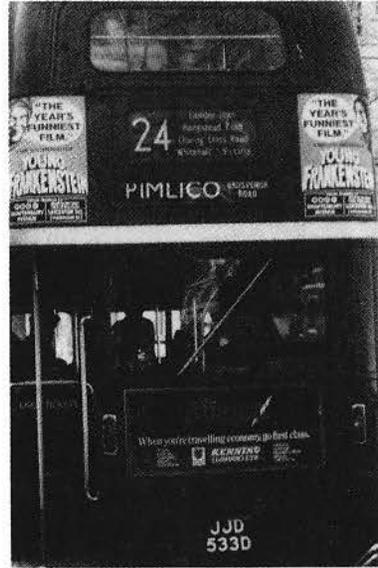
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BUS AND TRAM  
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SAMPLE  
VEHICLE EXTERIOR SIGNAGE

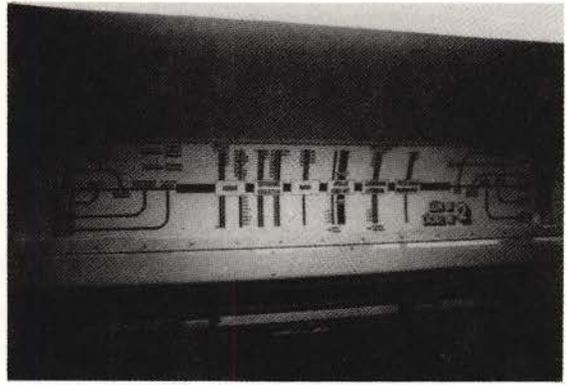
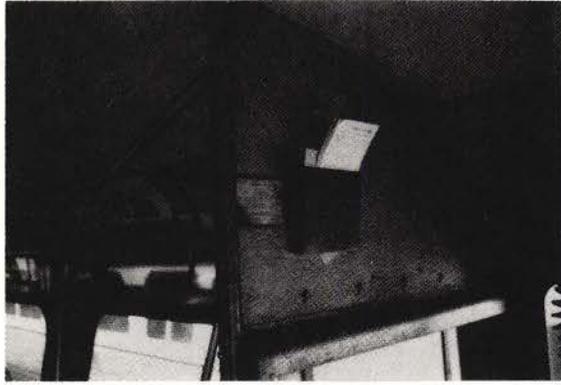


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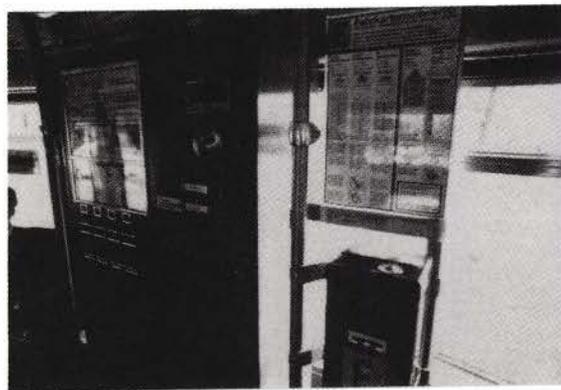


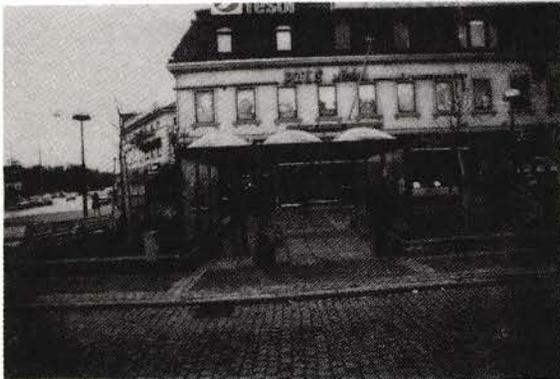
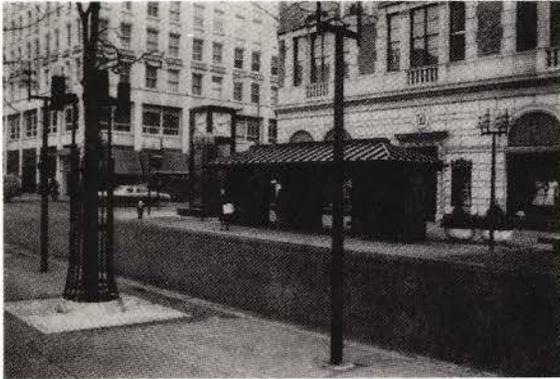
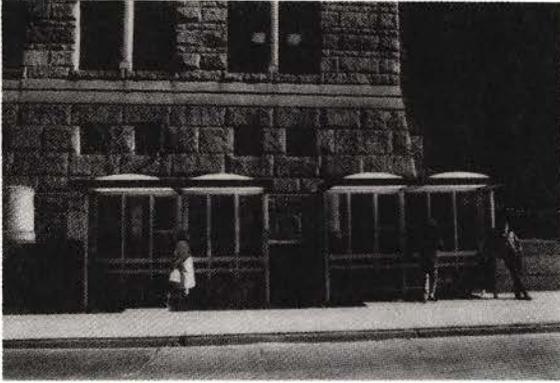
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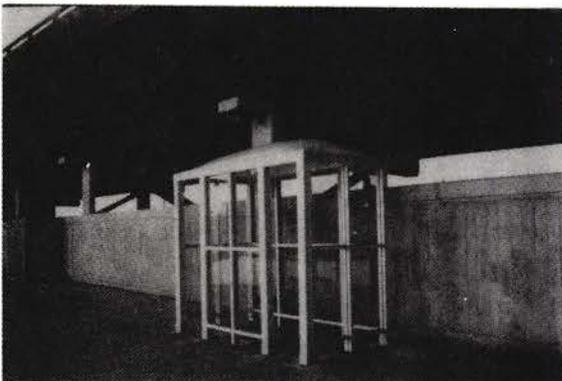
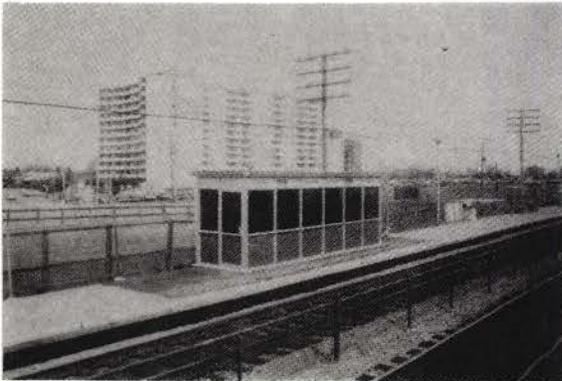


SAMPLE  
VEHICLE INTERIOR SIGNAGE





SAMPLE  
SHELTER SYSTEMS



SAMPLE  
SHELTER SYSTEMS

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