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16. Abstract

This report presents the Small Transit Data Management Software (SST3) User's Manual developed by the Texas Transportation Institute for the Texas State Department of Highways and Public Transportation as part of a study entitled Computerized Dispatch Aids for Small Public Transportation Providers. SST3 is an enhancement of a GENERIC SMALL TRANSIT DATA MANAGEMENT SOFTWARE PROGRAM (TRANSIT) prepared by Bud Giangrande of the U.S. Department of Transportation/Transportation Systems Center. The TRANSIT program is distributed by the TIME SUPPORT CENTER under the name SST. SST (TRANSIT) was written in dBase II and is intended as a demonstration program.

Small Transit Data Management Software is the dBase III version of SST developed for Texas. SST3 has a number of enhancements, but is nevertheless modification of the basic SST concept. The principal functions of SST3 are keeping track of clients, vehicles, and reservations for service in a twenty-four hour advanced reservation type of demand responsive service. SST3 also prints driver logs on which trip data can be entered. Trip data must then be entered into SST3 in order to generate a variety of reports on system and vehicle utilization.

SST3 is intended as a dispatch aid and management tool for small special services transportation systems. The implementation of SST3 requires dBase III (or dBase III+), an IBM XT or compatible with MS-DOS 2.X or higher, 512K RAM, 10mb hard disk (20mb recommended), an 80 column IBM proprinter dot matrix printer or compatible, and a monochrome monitor. The dBase source code is provided with the program, so it can be customized by individual systems who have access to a dBase III programmer.

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Form DOT F 1700.7 (8-69)

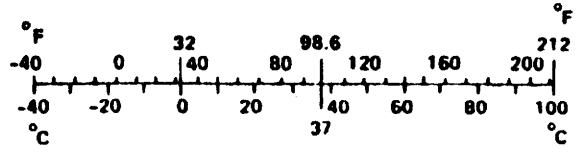
METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
		LENGTH		
in	inches	*2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
		AREA		
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.6	square kilometers	km^2
	acres	0.4	hectares	ha
		MASS (weight)		
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
		VOLUME		
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3
		TEMPERATURE (exact)		
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
		LENGTH		
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
		AREA		
cm^2	square centimeters	0.16	square inches	in^2
m^2	square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares (10,000 m^2)	2.5	acres	
		MASS (weight)		
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
		VOLUME		
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m^3	cubic meters	35	cubic feet	ft^3
m^3	cubic meters	1.3	cubic yards	yd^3
		TEMPERATURE (exact)		
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



* 1 in = 2.54 (exactly). For other exact conversions and more detailed tables, see NBS Misc. Publ. 286, Units of Weights and Measures, Price $2.25, SD Catalog No. C13.10:286.

SMALL TRANSIT DATA MANAGEMENT SOFTWARE (SST3) USER'S MANUAL

by

Thomas Urbanik II
Research Engineer

Technical Report 1092-1F
Study 2-10-86-1092

Sponsored by
Texas State Department of Highways
and Public Transportation
in cooperation with
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Urban Mass Transportation Administration

Texas Transportation Institute
Texas A&M University
College Station, Texas 77843

Version 1.0

September 1987

ABSTRACT

This report presents the SST3 Users Manual developed by the Texas Transportation Institute for the Texas State Department of Highways and Public Transportation as part of a study entitled **Computerized Dispatch Aids for Small Public Transportation Providers.** SST3 is an enhancement of a GENERIC SMALL TRANSIT DATA MANAGEMENT SOFTWARE PROGRAM (TRANSIT) prepared by Bud Giangrande of the U. S. Department of Transportation/Transportation Systems Center. The TRANSIT program is distributed by the TIME SUPPORT CENTER under the name SST. SST (TRANSIT) was written in dBase II and is intended as a demonstration program.

SST3 is the dBase III version of SST developed for Texas. SST3 has a number of enhancements, but is nevertheless modification of the basic SST concept. The principal functions of SST3 are keeping track of clients, vehicles, and reservations for service in a twenty-four hour advanced reservation type of demand responsive service. SST3 also prints driver logs on which trip data can be entered. Trip data must then be entered into SST3 in order to generate a variety of reports on system and vehicle utilization.

SST3 is intended as a dispatch aid and management tool for small special services transportation systems. The implementation of SST3 requires dBase III (or dBase III+), an IBM XT or compatible with MS-DOS 2.X or higher, 512K RAM, 10mb hard disk (20mb recommended), an 80 column IBM proprinter dot matrix printer or compatible, and a monochrome monitor. The dBase source code is provided with the program, so it can be customized by individual systems who have access to a dBase III programmer.

IMPLEMENTATION STATEMENT

Small public transportation systems in Texas have evolved out of the need to provide transportation in support of a number of social service and other programs. The systems have not had access to low cost tools to aid them in improving the efficiency of their transportation system. SST3 offers small transportation providers in Texas a cost effective means to improve vehicle scheduling and monitor system performance. Implementation of SST3 requires a small investment in a microcomputer and the desire to improve system performance.

DISCLAIMER

The contents of this report reflect the views of the author who is responsible for the opinions, findings and conclusions presented herein. The contents do not necessarily reflect the official views of the Texas State Department of Highways and Public Transportation or the U. S. Department of Transportation, Urban Mass Transportation Administration. This report does not constitute a standard, specification or regulation. Reference to product names is not an endorsement of any product, but is necessary to describe the equipment and software used in this implementation of SST3.

ACKNOWLEDGEMENTS

The study was done under the direction of Margot Massey, D-10 who was instrumental in identifying the need to undertake the study in order to improve the operation of small public transportation providers in Texas.

SUMMARY

The need to effectively use limited resources in the transportation of individuals who must rely on publicly supported systems makes it desirable to have an operational and management tool for small transit systems operating in a 24-hour advance reservation type of demand responsive service. A GENERIC SMALL TRANSIT DATA MANAGEMENT SOFTWARE PROGRAM (TRANSIT) was developed by Bud Giangrande of the U. S. Department of Transportation/Transportation Systems Center as a demonstration program to show the capability of a data base management system to assist special services transportation providers in the operation and management of their systems. The Urban Mass Transportation Administration offered seminars on TRANSIT using the acronym SST for Special Services Transportation. The program is also distributed by the TIME SUPPORT CENTER (now at Vanderbuilt University, P. O. Box 1563, Station B, Nashville, TN 37235). It is anticipated that SST3 will also be available through the TIME SUPPORT CENTER.

The original version of SST was limited by the fact it was implemented in dBase II which is now obsolete and the fact the program was intended as a demonstration program. The Texas State Department of Highways and Public Transportation decided to build upon the base established by SST and develop a Texas version of the program. SST3 represents the Texas version of SST3 implemented in dBase III. Although fundamentally tied to the dBase II structure of SST, SST3 does have a number of enhancements. In addition, the THETA system for sequencing the pickup of clients has been deleted from SST3. The SST3 development has also resulted in the removal of a significant number of bugs in the original SST. However, only through additional use can one be confidant that SST3 is totally bug free. Further enhancements are also desirable such as the ability to edit some files; however, no enhancements are planned at this time.

SST3 performs several functions, the most significant being the management of data on clients, reservations, and vehicles. In addition, SST3 provides a number of management reports necessary to determine both relative and historical trends in system performance. In order to accomplish these basic functions, SST3 also provides the necessary support in managing the

information in the system. SST3 is a menu driven program which is intended to minimize the amount of training necessary to use the system.

It should be noted that a significant commitment of time is required to initially establish SST3. Two major activities are the entering of client data and the establishment of routes. These activities must be undertaken before it is possible to use SST3. However, once the data base is established, the major task in maintaining the system involves post trip data entry. SST3 can then provide improved dispatching and reporting efficiency.

TABLE OF CONTENTS

INTRODUCTION

History

The Texas version of the Special Services Transportation (SST) program is called SST3. The original version of SST was called TRANSIT and was written in dBase II by Bud Giandgrande of the Transportation Systems Center of the U. S. Department of Transportation with assistance from the Taurio Corporation. The Texas Transportation Institute converted TRANSIT to dBase III and made some enhancements within the original structure of TRANSIT. SST3, while being implemented in dBase III is nevertheless functionally tied to the original dBase II programming structure.

General Functions

SST3 is a dispatch aid for small transit systems which take reservations on a 24-hour advance reservation basis. The system supports individual and standing trip requests. The SST system can support more than a 1000 "routes" and a like number of vehicles. However, the performance of such a large system is likely to be unsatisfactory. A more practical limit is likely to be less than 100 vehicles.

The system is composed of several major functions:

Data Base Management
Data Utilities
Reservations
Schedule Printing
Post Trip Data Entry and Report Posting
Reporting

The SST3 program is menu driven. Once the user becomes familiar with the system, moving through the various menus becomes straightforward.

Software and Hardware Requirements

SST3 is an application of the dBase III data base management system. The basic SST3 system will run under dBase III or dBase III+. SST3 should run with minimum modification on any computer which can run dBase III (or III+). The program is configured for an IBM Proprinter. Printers not compatible with the IBM Proprinter codes require modification (a memory variable PRINTCL.MEM contains the print control for easy modification by a dBase III programmer). SST3 is configured to run on an IBM PC/XT or compatible with MS-DOS 2.X, 512K RAM, 10mb hard disk, monochrome monitor, 80 column IBM Proprinter. A 20mb hard disk would be desirable.

Customization

Although the SST3 program was developed to handle typical small transit systems, it is not expected that it will exactly fit any one agency's needs.

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INSTALLING SST3

It is first necessary to copy all the programs from your distribution diskettes to the directory where you have dBase III (or dBase III+) installed. The programs required are all those ending in .PRG, .FRM, .NDX, .MEM, .DBF and .BAT. You can copy all programs using the following command assuming you have dBase III installed in a directory named \dBASE. Copy A:*.* C:\dBase. It is also necessary that you properly install dBase III (or dBase III+). Follow the instructions with your dBase III software.

GETTING STARTED

To start SST3, you need to be in the appropriate directory where you copied dBase III and SST3. At the prompt (e.g. C:\DBASE>) type [SST3] followed by a [RETURN]. Items shown in [ ] are commands you must type or keys you must press. UPPER CASE indicates an actual example, while lower case describes the type of data to be entered. [SST3] [RETURN] will get you the SST3 MAIN MENU (Figure 1). The SST3 program is menu driven. The normal response to most menus is a number from [1] to [5]. Some menus will present "highlighted" areas into which you would type information such as client names. As you complete each item, simply type a [RETURN] (or [ENTER] on some keyboards). Some examples indicate the general type of information required. For example, [route number] [RETURN] indicates that you should supply the appropriate route number followed by a return.

If you become lost or want to return to the MAIN MENU, just type [RETURN] until you are back at the MAIN MENU. One exception, which is noted on the screen, is that you must respond with the number [0] [RETURN] in order to exit the reservation data menu when asked for trip purpose.

If you make a mistake, use the [BACKSPACE] to erase mistakes. If you are entering data involving several items, such as name and address, you can use the up arrow to go back and the down arrow to go ahead.

Before you can use SST3, it is necessary that we enter the appropriate information concerning clients, routes, vehicles, etc. Each of these items will be explained in detail.

ESTABLISHING YOUR INITIAL DATABASE

Data base is a fancy word for a collection of information on your clients. The first data base we need to establish is essentially a file on the clients in your system. At the MAIN MENU of SST3, enter [2] [RETURN] (Figure 2) to obtain the DATA BASE MANAGEMENT MENU (Figure 3). Menu item [2] [RETURN] (Figure 2) is the selection we will be using to establish the various data bases. The DATA BASE MANAGEMENT MENU (Figure 3) is the result

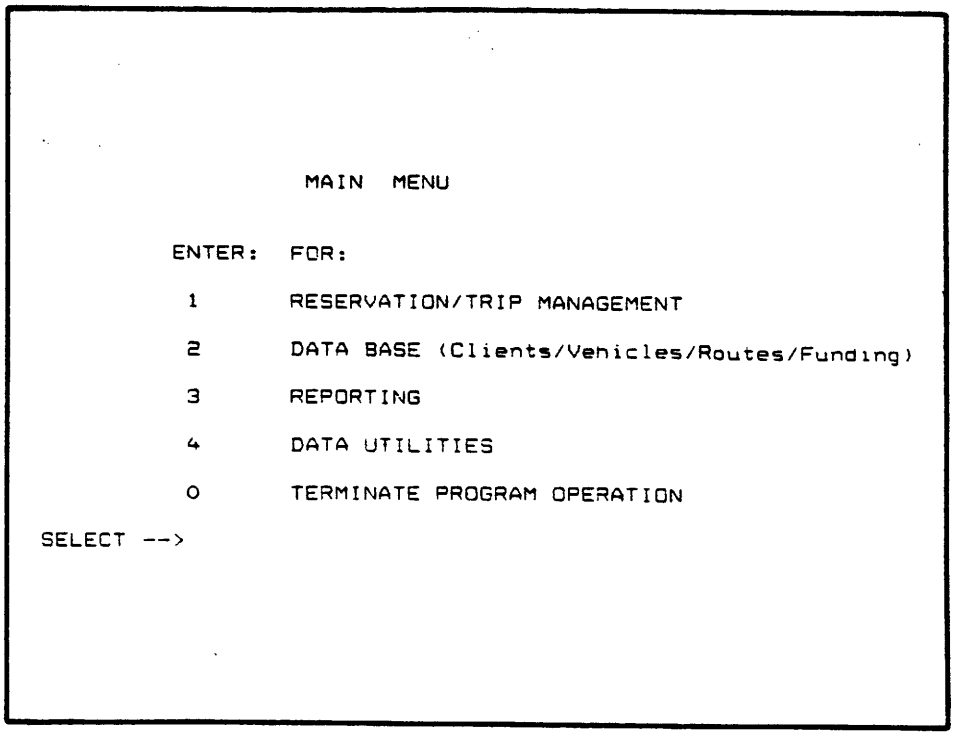


Figure 1

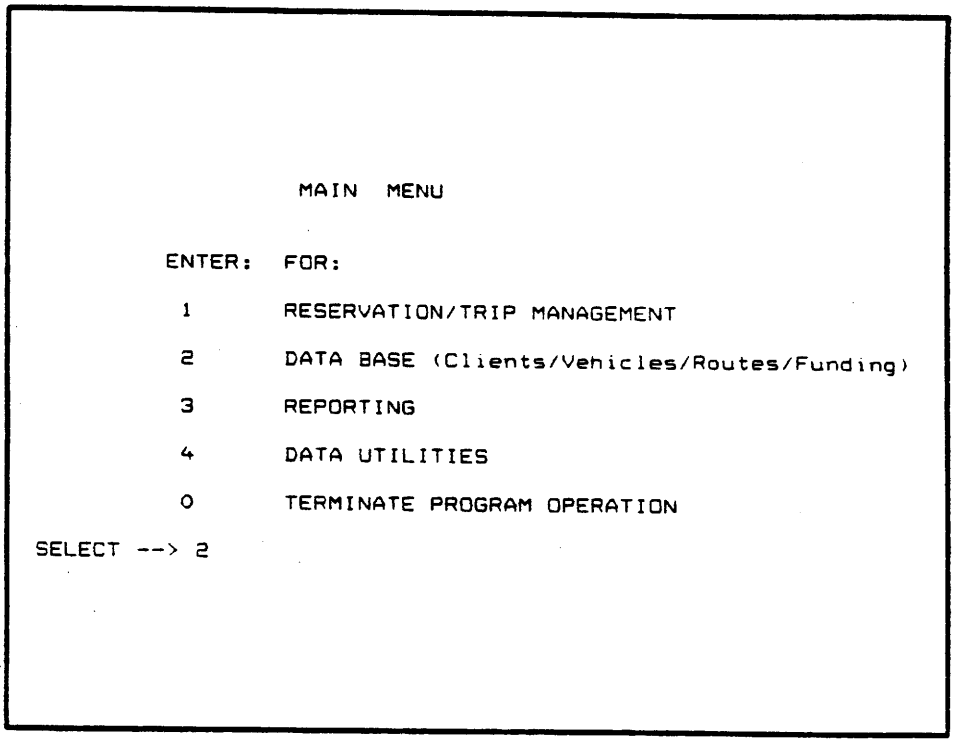


Figure 2

of entering a [2] [RETURN] at the MAIN MENU. Menu item [1] (Figure 4) on the DATA BASE MANAGEMENT MENU brings up the CLIENT DATA BASE MENU (Figure 5). Since we are just getting started, enter a [1] [RETURN] (Figure 6) to begin adding clients to your data base. This entry brings up the ENTER DATA menu (Figure 7).

Clients

Clients must have CLIENT ID NUMBERS. Each client must have his own number. Every member of a family must have a separate number. You may also use LETTERS in the CLIENT ID "NUMBER". The "NUMBER" must have 5 digits, but it may have both numbers and letters. One alternative is to start with 00001 and assign each client a number. Alternatively, you could have codes to indicate fare category. Full fare clients could begin with an "F" such as F0001 and half fare clients could begin with an "H" such as H0001. Each of the five digits can be either a letter or a number. If you try to use the same CLIENT ID twice, the computer will tell you the number is already assigned.

Let's begin with Client 00001. Enter [00001] [RETURN] for CLIENT ID NO. in the ENTER DATA (Figure 8) menu. The computer indicates that this CLIENT ID NO. has already been assigned (Figure 9). Press any key to continue. Enter [RETURN] without a CLIENT ID NO. to get back to the CLIENT DATA BASE MENU (Figure 6). Now enter [3] [RETURN] (Figure 10) so we can remove client 00001 (which is the only client in the system). Enter [1] [RETURN] (Figure 11) to delete client 00001. The computer will then display the relevant information (Figure 12) and give you a chance to change your mind. Enter [1] [RETURN] (Figure 13) to delete client.

Having deleted the client 00001, let's get back to our original task of entering a client. Enter [RETURN] with no CLIENT ID NO (Figure 14) to exit the deletion menu. At the CLIENT DATA BASE MENU (Figure 5), again enter [1] [RETURN] (Figure 6) to get the ENTER DATA menu (Figure 7). Now we can enter client 00001. Enter [00001] [RETURN] (Figure 8) and the ENTER DATA menu will expand (Figure 15), giving you the opportunity to enter NAME, ADDRESS, etc. You can move down the menu by entering [RETURN] when you finish a line, or if

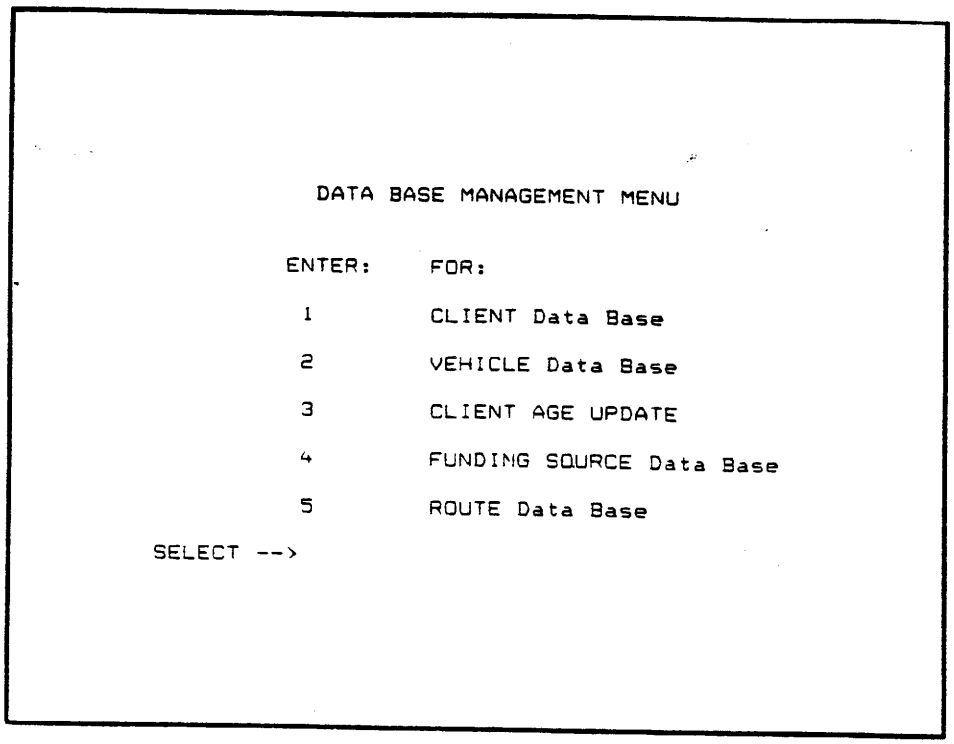


Figure 3

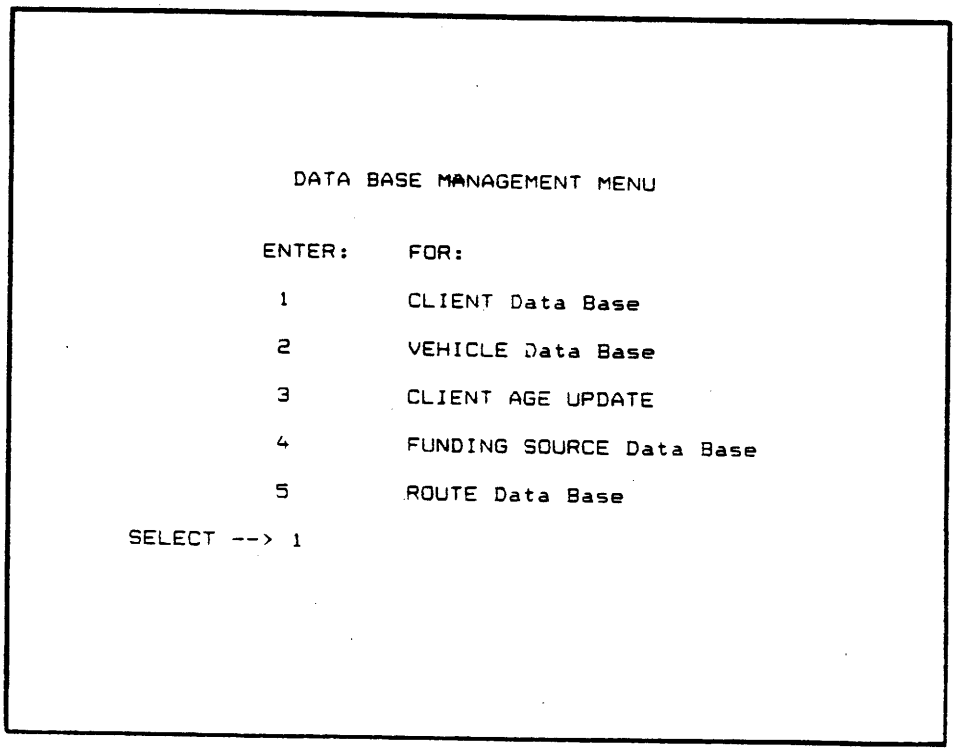


Figure 4

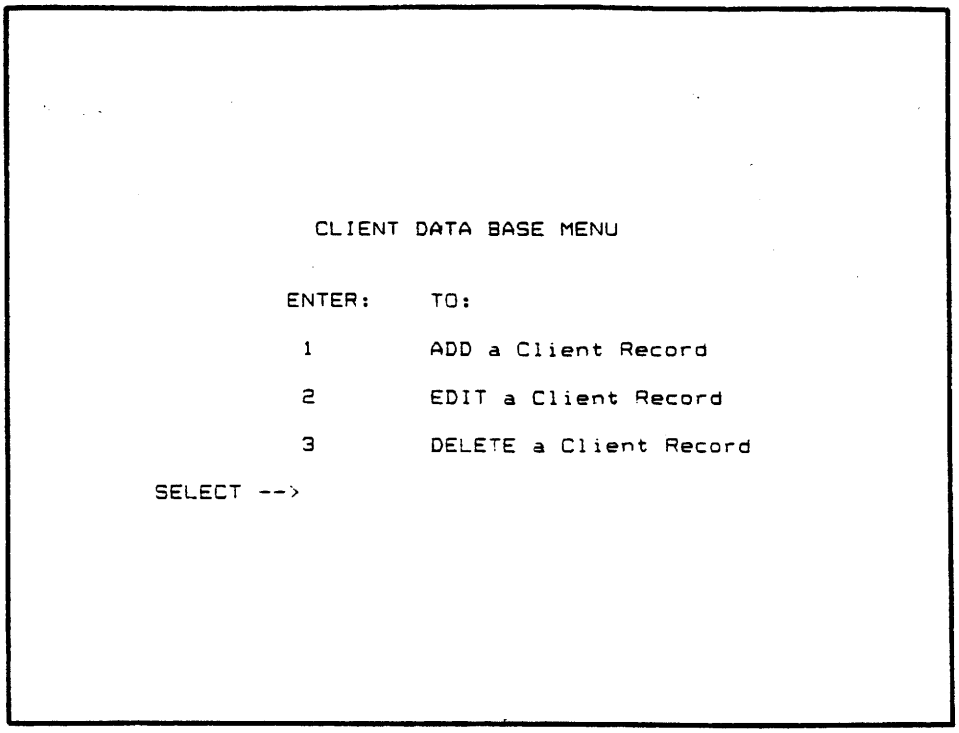


Figure 5

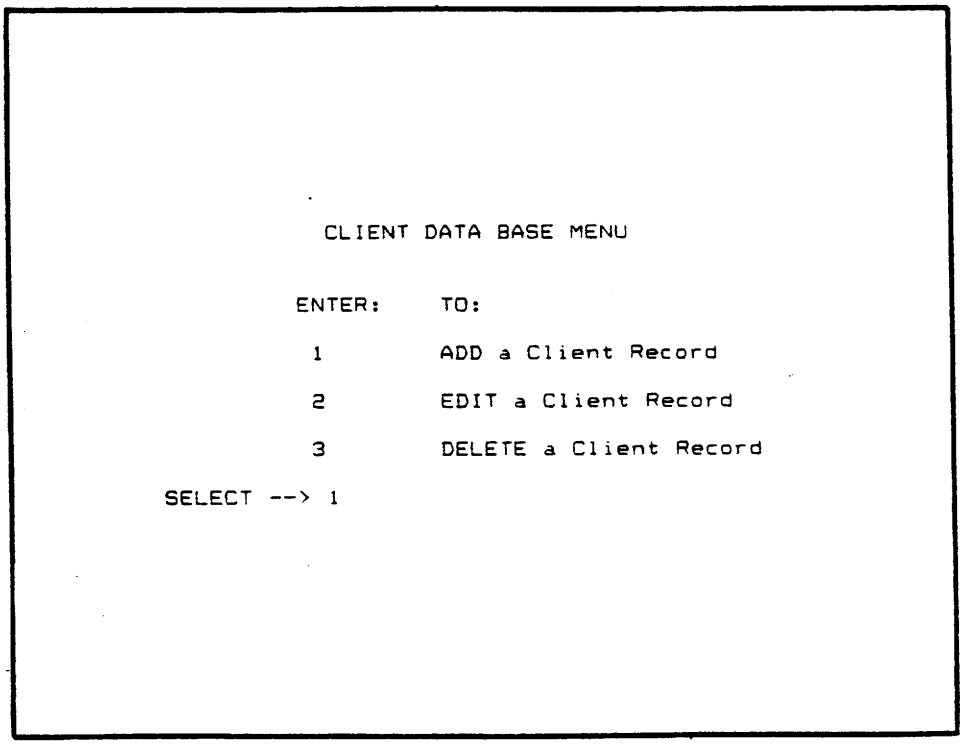


Figure 6

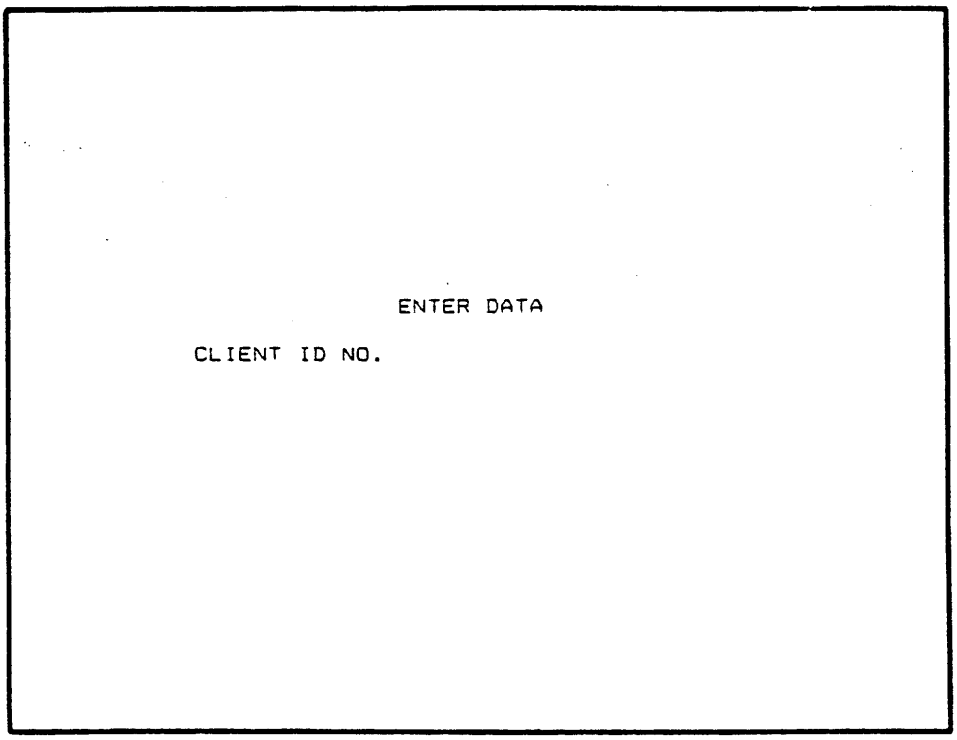


Figure 7

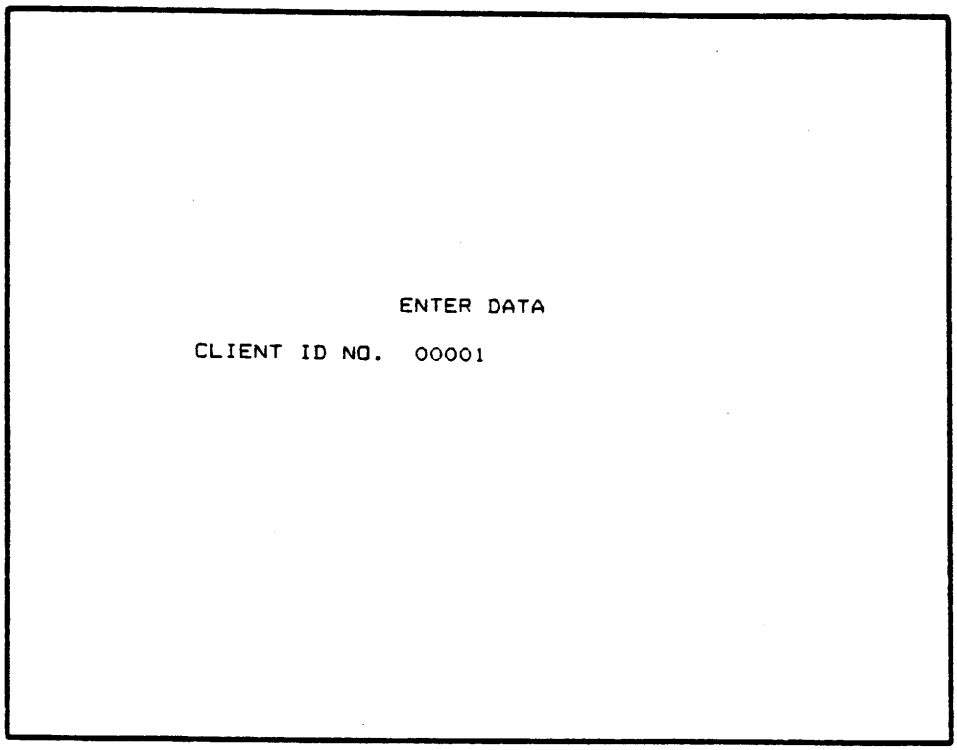


Figure 8

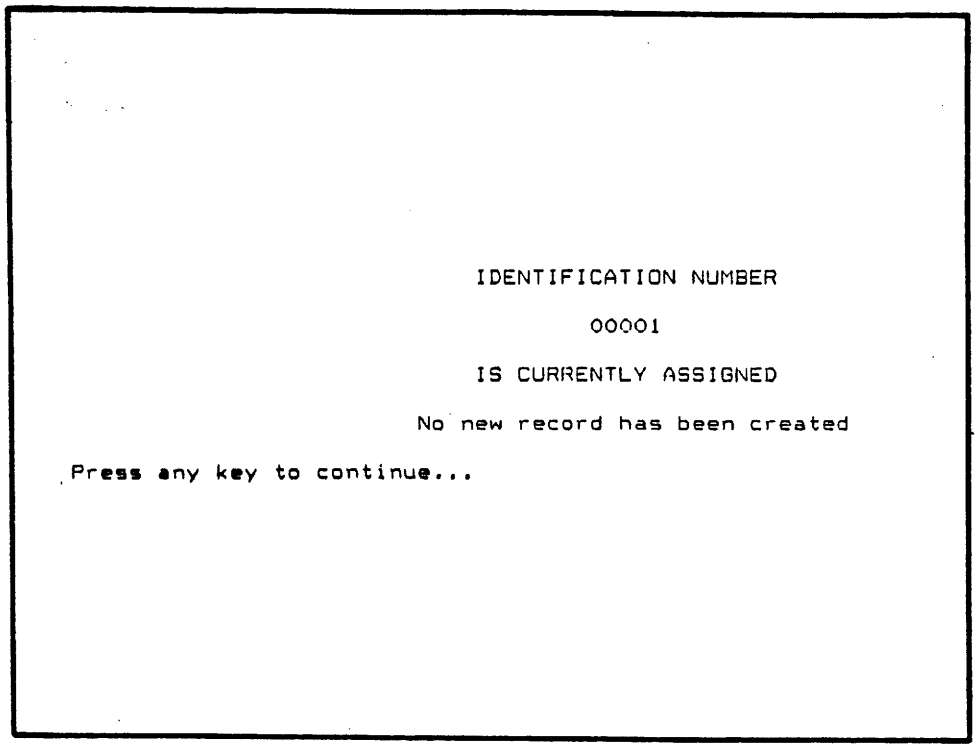


Figure 9

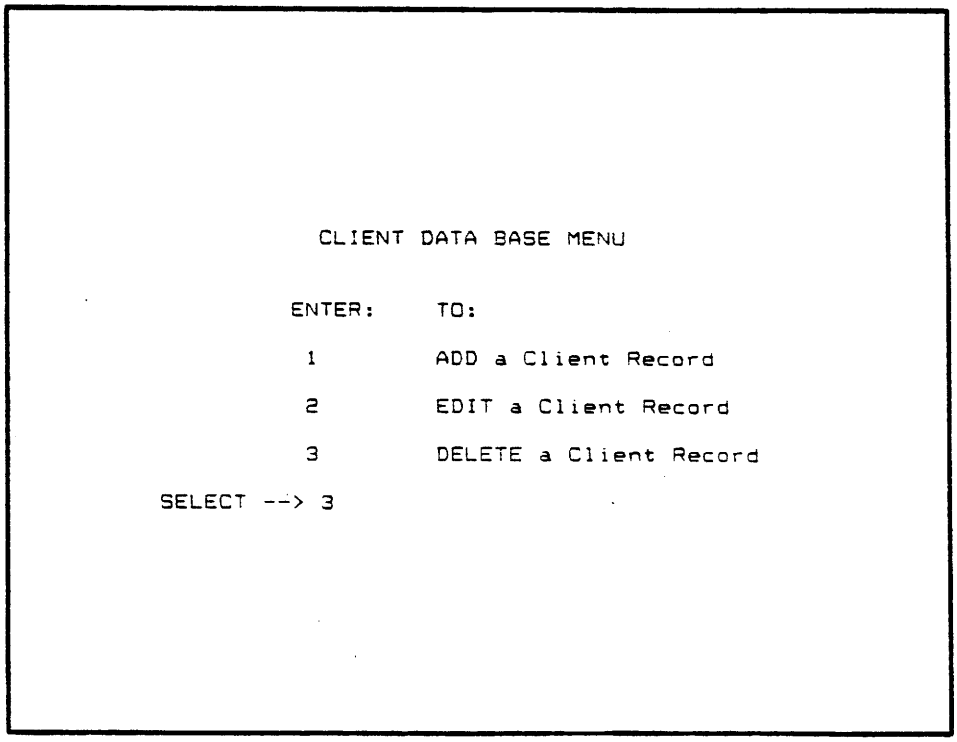


Figure 10

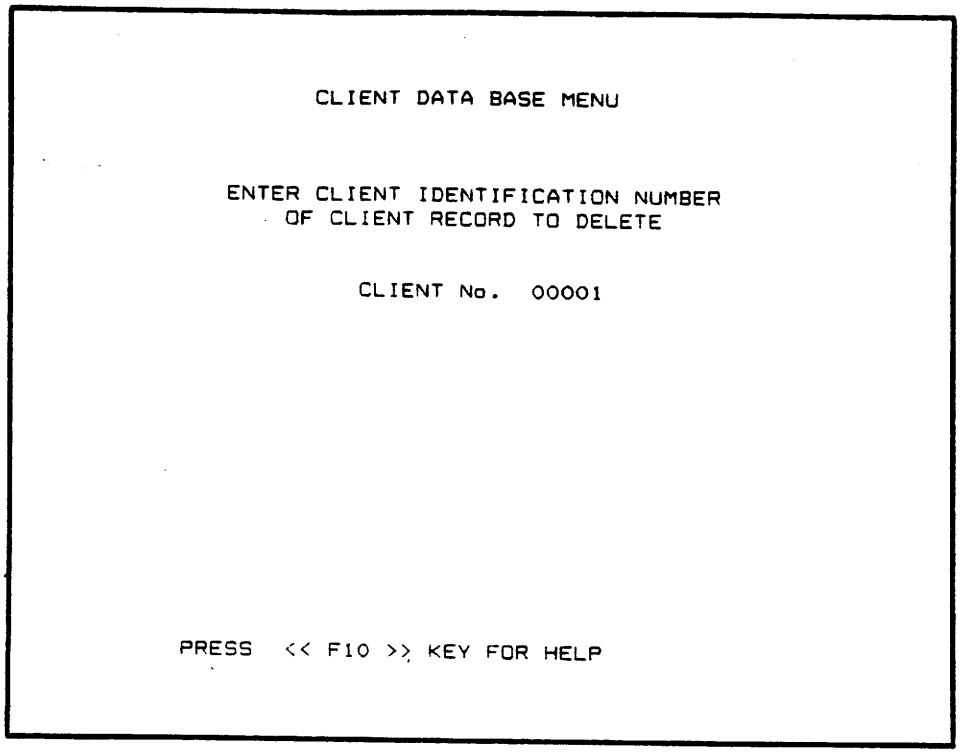


Figure 11

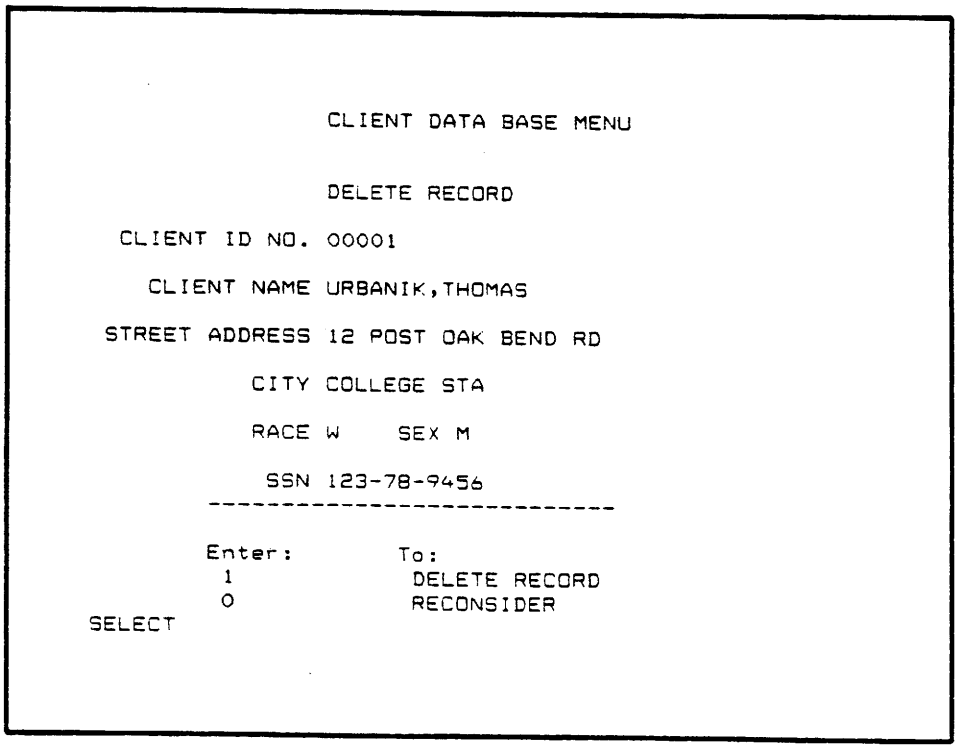


Figure 12

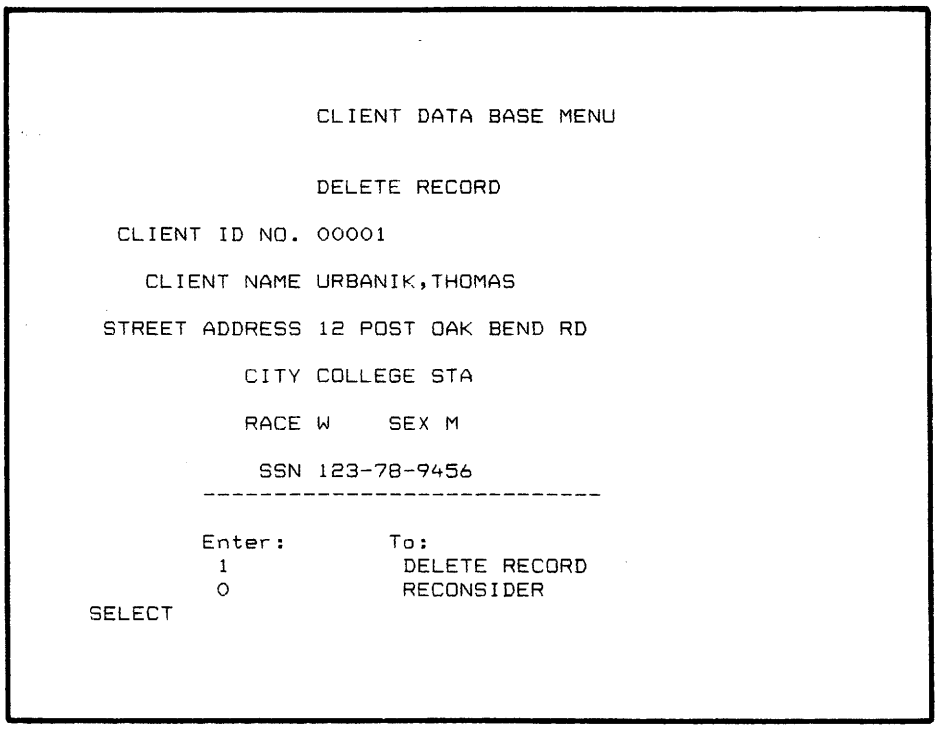


Figure 13

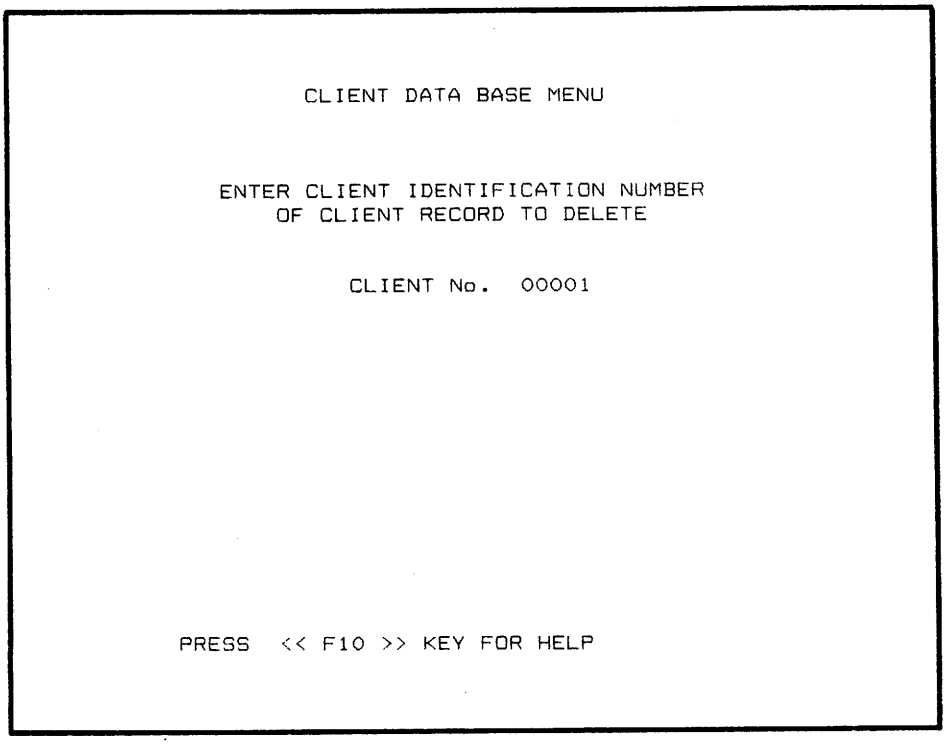


Figure 14

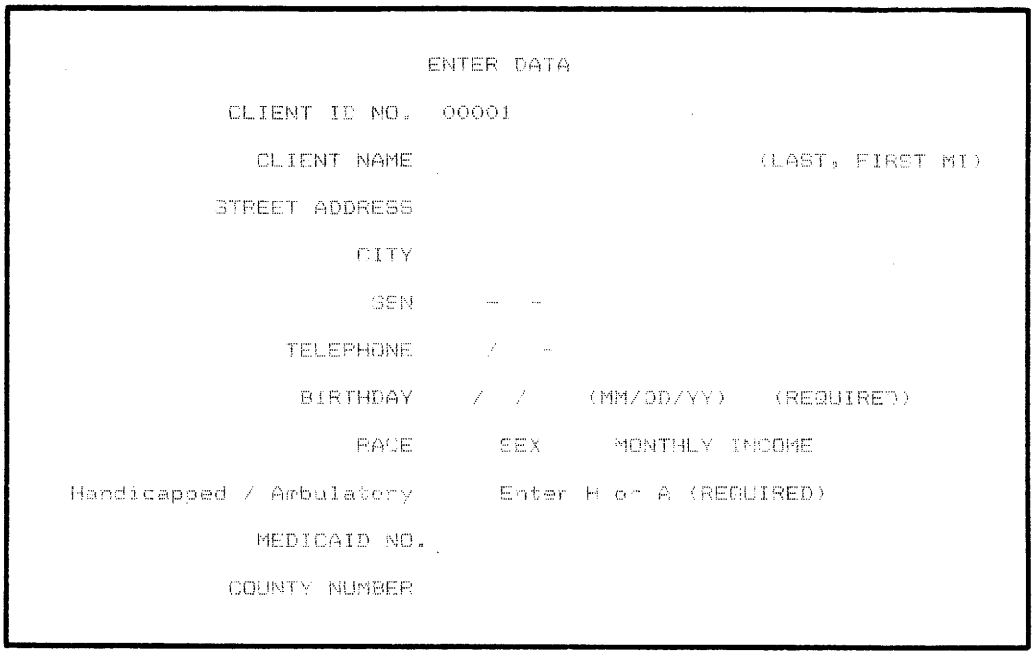


Figure 15

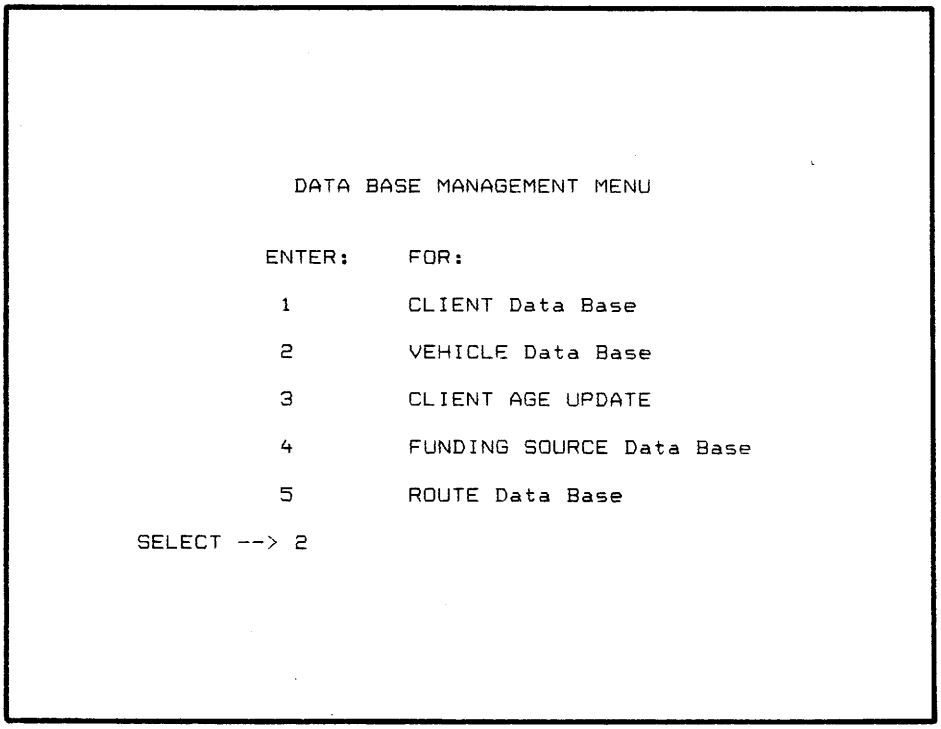


Figure 16

you wish to skip over an item (i.e. leave it blank). If you need to go back (before you finish all the lines) use the up arrow key. You then can use the [RETURN] key (or down arrow) to move back down the menu. Hitting the return key re-enters the data shown. It is not necessary to retype it. Also remember you have a menu item 2 in the CLIENT DATA BASE MENU (Figure 5) to edit a client record if the data changes or if you realize a mistake was made after you complete the data entry. Some items, as will be indicated later, must be entered into the data base. These items are used for generating reports and must be entered for the reports to be correct.

You are now ready to enter the client data. This is probably your most time consuming task if you have many clients. However, once it is done, you only need to edit, add or delete clients which is relatively simple.

A couple of comments are necessary concerning appropriate responses to the CLIENT data, but first enter a client name (Last Name, First Name followed by an optional middle initial). Now enter [RETURN] when you reach the end of the line to begin entering the street address. Again, enter [RETURN] to move to the CITY entry. Enter [RETURN] to move to the Social Security number line (SSN) which you can skip by entering [RETURN] if you wish. Remember, you can use the arrow keys (also backspace) to move back to a previous entry. Next, enter the telephone number including area code. Enter [RETURN] to move to BIRTHDAY.

The client BIRTHDAY (mm/dd/yy) must be entered into the data base because the system automatically computes client age from birthday for use in summary reports. Likewise, client SEX (M or F) must be entered into the client data base. Also, you must enter an H for Handicapped or A Ambulatory as this data is also used in summary reports. Enter a birthday followed by [RETURN]. The next item is RACE.

The categories use for race in SST3 are as follows:

C = Caucasian

B = Black

M = Mexican-American

O = Oriental
A = American-Indian
All other responses = Other

Enter race followed by [RETURN] to move to the SEX line. The enter for SEX is [M] for male or [F] for female followed by [RETURN]. The next entry is monthly income which is optional. Enter [RETURN] when done or to skip the selection. The next item is MEDICAID NUMBER which is also optional. Enter [RETURN] to reach the last client item, county number.

The county number is 3 digit number to identify county of residence. Texas County numbers are listed in Appendix A. After entering county number (if any), enter [RETURN] to complete the data entry. If you omit a REQUIRED item, SST3 will display all entered data and give you an opportunity to enter the required data. You can not exit the menu without the required data.

Vehicles

The second data base that needs to be established concerns vehicles. This data base serves two functions. First, the data is an inventory of information on each vehicle. This inventory information is unrelated to the operation of SST3. The computer is keeping track of the information so that it is all readily available in a single location. The second function of the vehicle data base is that statistics are kept on the operation and maintenance of each vehicle. It is, therefore, necessary that the vehicle data base be established for statistical purposes.

Assuming we are at the MAIN MENU (Figure 1) (enter [RETURN] as many times as required to obtain the MAIN MENU), enter [2] [RETURN] to obtain the DATA BASE MANAGEMENT MENU (Figure 2). Enter [2] [RETURN] at the DATA BASE MANAGEMENT MENU (Figure 16) to obtain the VEHICLE DATA BASE.

The items in the vehicle data base are: registration number (license plate number), vehicle ID number (VIN), owner, radio (Y or N), wheelchair equipped (Y or N), make (manufacturer), model, year, capacity, and a place for remarks. The critical items to remember are that all vehicles must be

entered into the system so that SST3 knows they exist. However, none of the data in the vehicle data base is actually used by the system. This is especially important with regards to vehicle capacity. The reservation system to be discussed later uses a standard size vehicle with a capacity of 18 including two wheelchair positions. The dispatcher must know what size vehicle is going to be assigned to a particular trip when making a reservation as SST3 does not have this information directly available for use by the dispatcher.

The VEHICLE DATA BASE MENU (Figure 17) has three options. When adding vehicles, enter [1] [RETURN] (Figure 17). Existing vehicles can have their data edited using the edit function which is begun by entering [2] [RETURN] at the VEHICLE DATA BASE MENU (Figure 17). It is also possible to remove vehicles by entering [3] [RETURN] at the VEHICLE DATA BASE MENU (Figure 17). The delete procedure requires you to confirm that you want a particular vehicle deleted by displaying the data and asking you to enter either a [1] to confirm deletion or [0] if you made a mistake.

In each of the VEHICLE DATA BASE MENU (Figure 17) options: 1 add, 2 edit, and 3 delete, you are prompted for the appropriate vehicle number. The vehicle "number" can be 3 character combination of numbers and letters. When you are done adding, editing, or deleting vehicles, simply enter a [RETURN] for vehicle number to obtain the previous menu.

To add vehicle number 1, at the VEHICLE DATA BASE MENU (Figure 17), enter [1] [RETURN] to obtain the ENTER DATA screen. Enter 1 for vehicle number 1 (Figure 18) and SST3 will ask for the appropriate vehicle information (Figure 19). Remember, although the information is all optional, you must nevertheless go through this step for all vehicles you intend to use in the system.

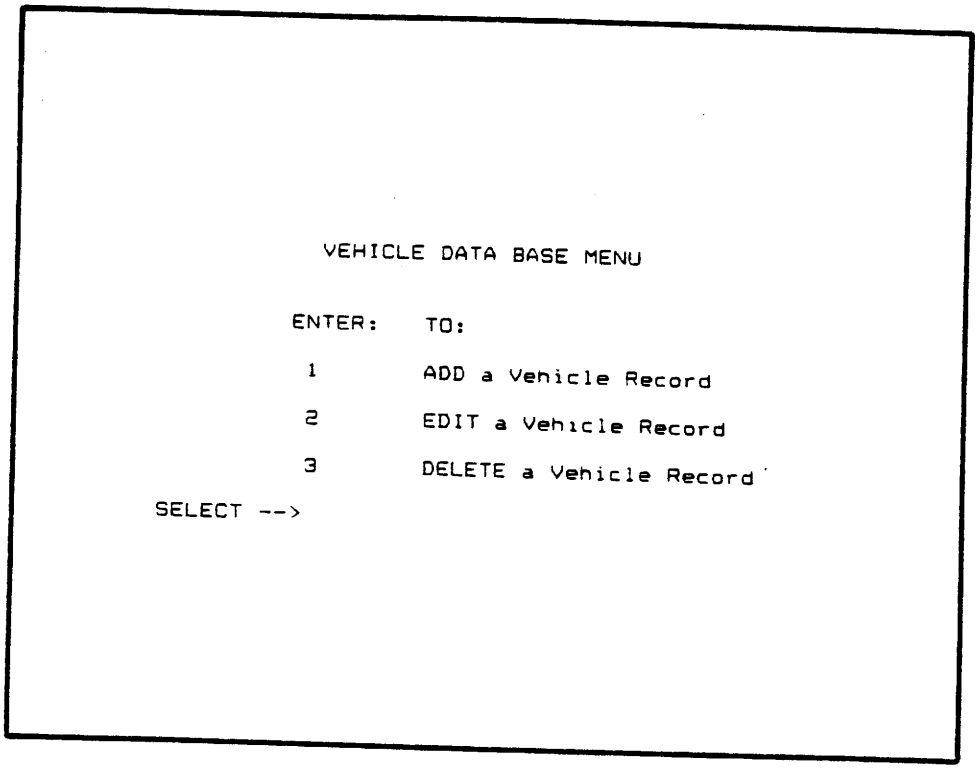


Figure 17

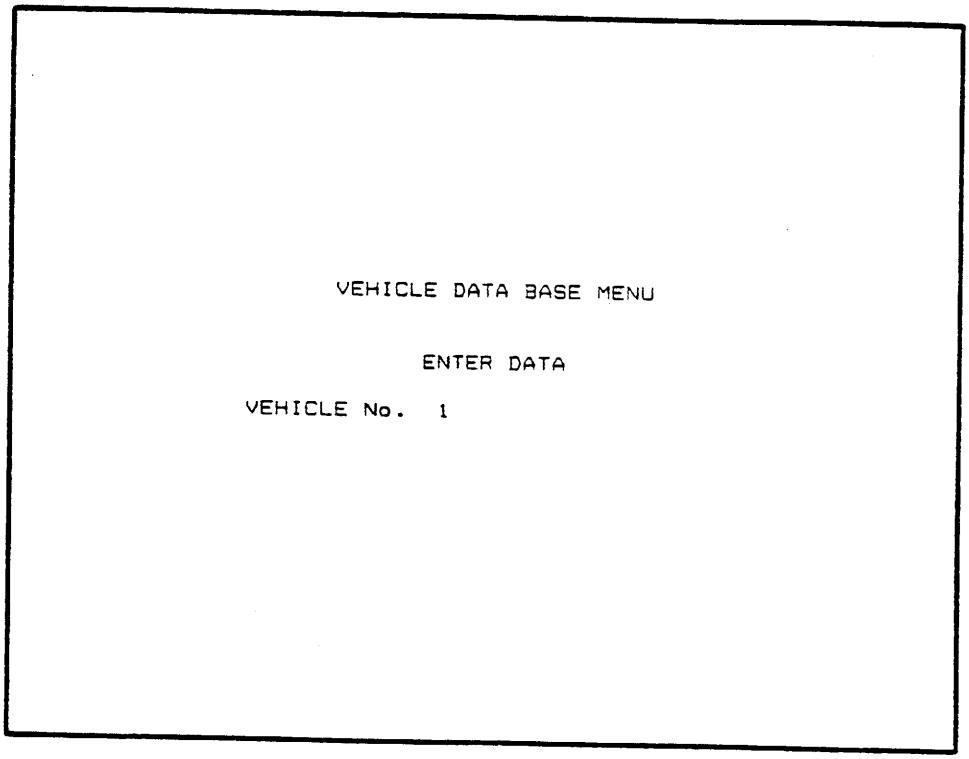


Figure 18

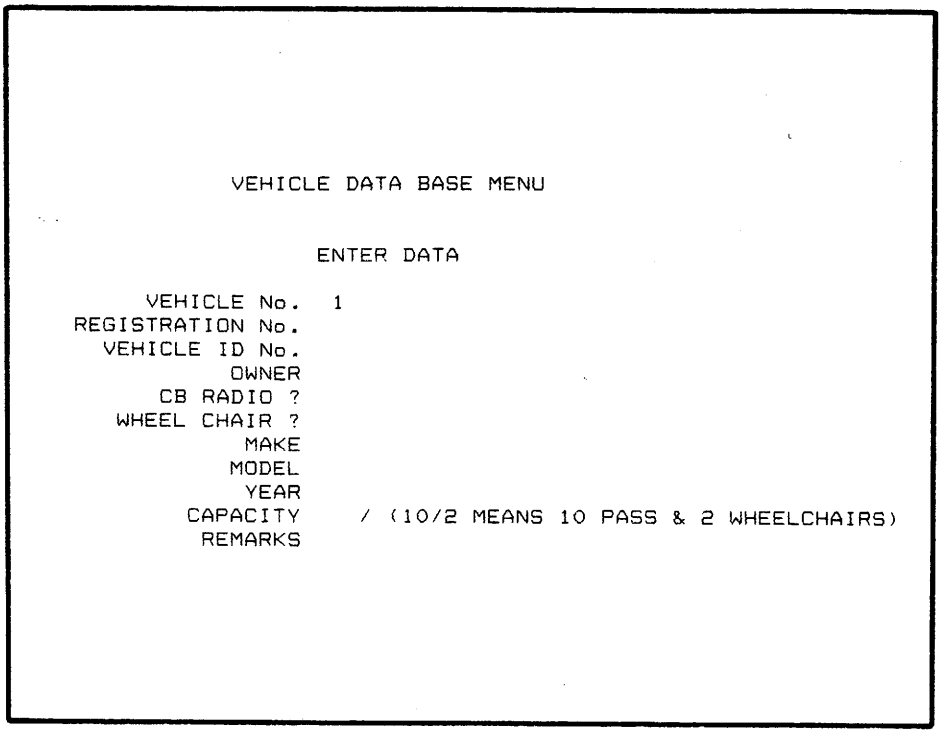


Figure 19

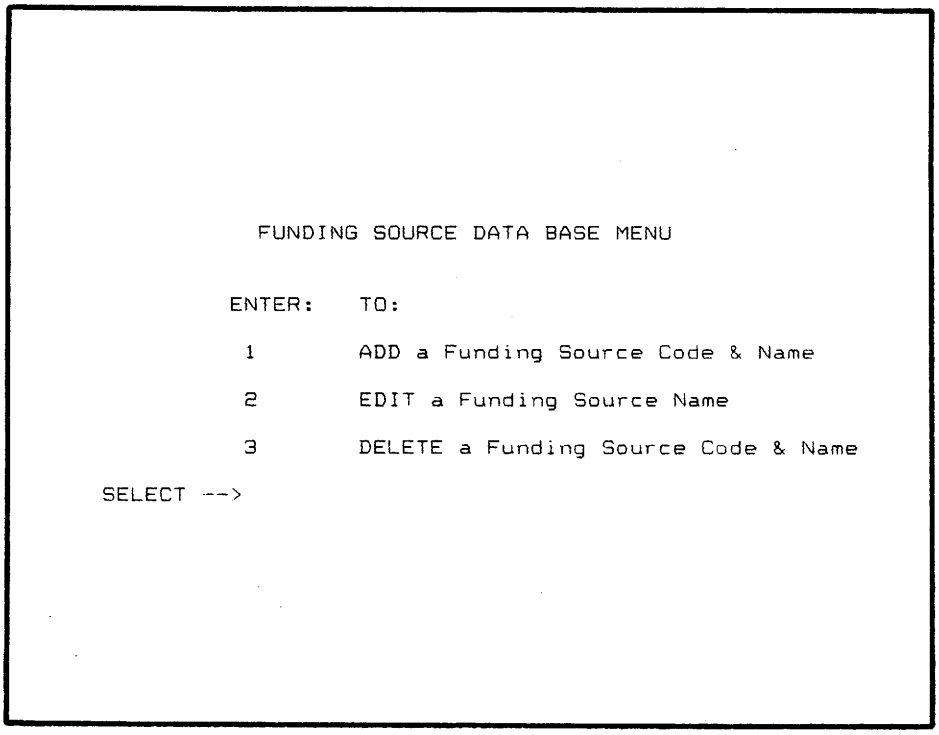


Figure 20

Funding Source

The third data base item to be entered is actually item 4 on the DATA BASE MANAGEMENT MENU (Figure 3). Item 3 is actually the client age update routine which is automatically used by the reporting system. It is unlikely that item 3 would need to be used directly. At the DATA BASE MANAGEMENT MENU (Figure 3) (item 2 in the MAIN MENU (Figure 1)) enter [4] [RETURN] to obtain the FUNDING SOURCE DATA BASE MENU.

The FUNDING SOURCE DATA BASE MENU (Figure 20) allows 3 options just as in the vehicle data base. Use item 1 to ADD data, item 2 to EDIT data and item 3 to DELETE data. Enter [1] [RETURN] to add a funding source.

The ENTER DATA (Figure 21) menu asks for a 3 character funding code. You could use [S18] for example to indicate Section 18 as a funding source. After you enter [S18] [RETURN], SST3 asks you for a 20 character source name (Figure 22). You could enter [SECTION 18] [RETURN] to indicate that S18 is the code for the Section 18 funding source.

The funding source code is required in the post trip data entry process for use in the generation of the summary reports. Trips are tabulated and summarized by funding source.

Routes

The last menu item in the DATA BASE MANAGEMENT MENU (Figure 3) is item 5, ROUTE DATA BASE. This is the most complex part in establishing your SST3 data base. The concept of a route can take several forms. SST3 allows a three character route designation. In the original formulation of SST, the first character was a letter indicating a time period. Letter A, for example, could be 7:00 to 8:00 a.m., B could be 8:00 to 9:00 a.m., etc. A total of 26 time periods would be possible. The second digit indicates the zone (area) where the trip begins. A total of nine zones would be possible using numbers, 26 using letters, for a total of 35 zones. Likewise, 35 zones

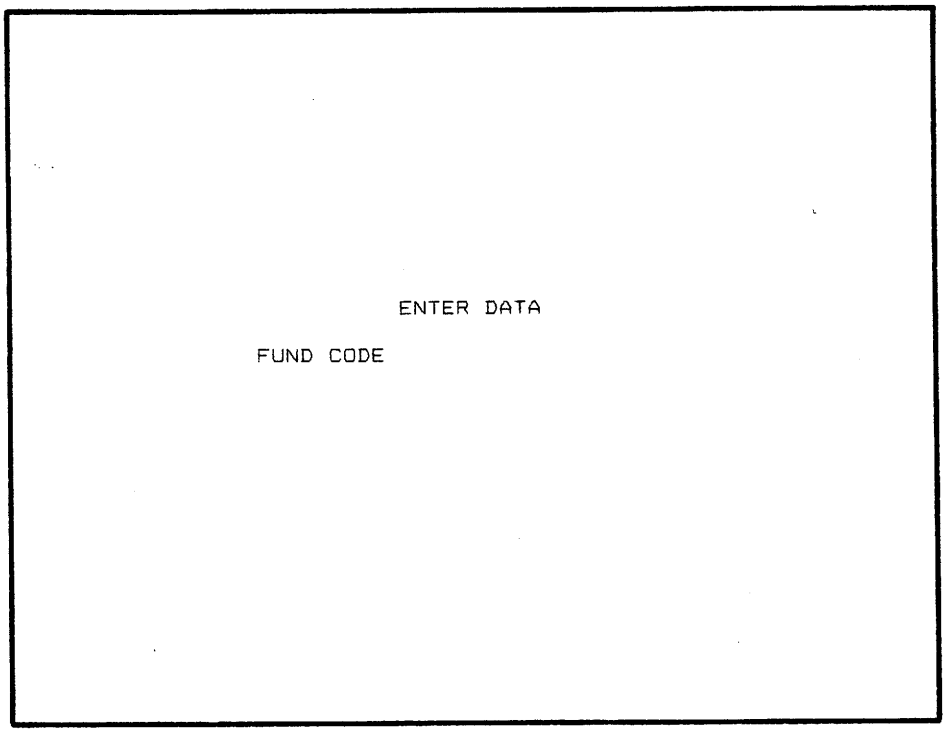


Figure 21

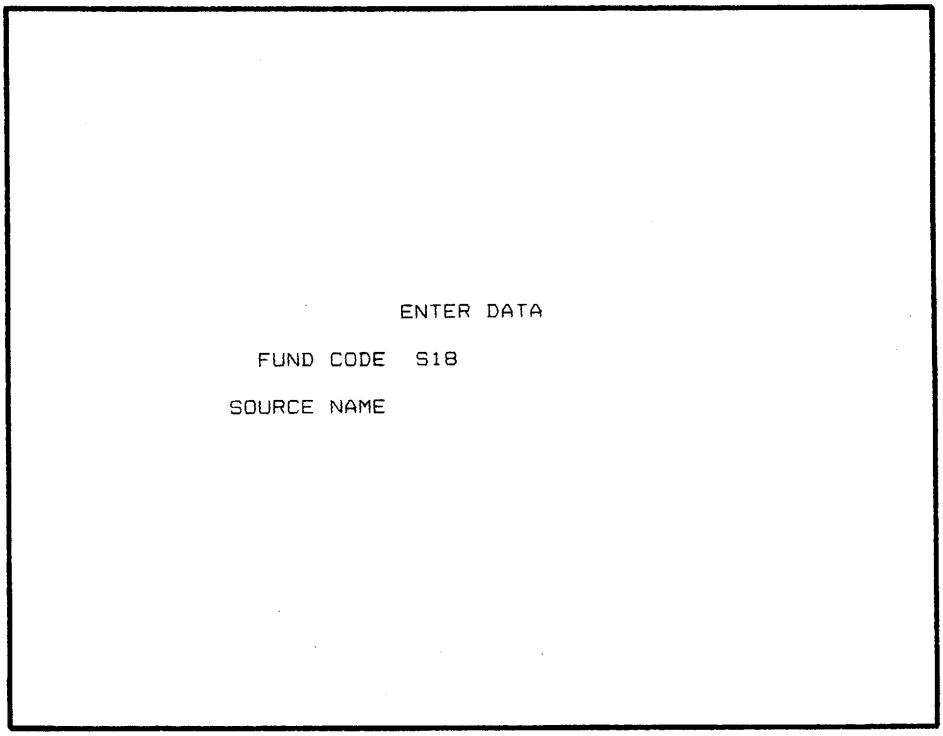


Figure 22

could be designated using the third character in the ROUTE code. For example, route A13 would be a trip from zone one to zone three during the 8:00 to 9:00 a.m. time period.

The zone concept may not be appropriate in many systems. Another ROUTE concept is to use the first character as a time designator as above, but to assign the second two digits as a route number. Each route would be the work done a single vehicle during any time period. Therefore, you would not have any more routes in a time period than you would have buses available. Furthermore, you would be limited to a total of 100 routes if you used only number as route designators. More routes would be possible using 2 character combinations of numbers and letters, but it would be unlikely that satisfactory system performance would be achieved with a very large number of routes.

It is important to realize that reservations for service are assigned to routes. Therefore, the route structure must agree with your operating procedure. Each route can hold a maximum of 18 reservations including two wheelchairs.

To establish a new route, enter [5] [RETURN] at the DATA BASE MANAGEMENT MENU (Figure 3). The ROUTE DATA BASE MENU (Figure 23) has two options, select [1] [RETURN] to begin adding a route. The ENTER DATA MENU (Figure 24) is used to enter route name and standard mileage. Let's assume a system which will take reservations during 11 time periods between 7:00 a.m. and 6:00 p.m. and has 6 vehicles. The following codes could be used for time period and route number.

Time	Time Code	Route	Route Code
7:00- 8:00 a.m.	A	1	01
8:00- 9:00 a.m.	B	2	02
9:00-10:00 a.m.	C	3	03
10:00-11:00 a.m.	D	4	04
11:00-12:00 noon	E	5	05
12:00- 1:00 p.m.	F	6	06
1:00- 2:00 p.m.	G		
2:00- 3:00 p.m.	H		
3:00- 4:00 p.m.	I		
4:00- 5:00 p.m.	J		
5:00- 6:00 p.m.	K		

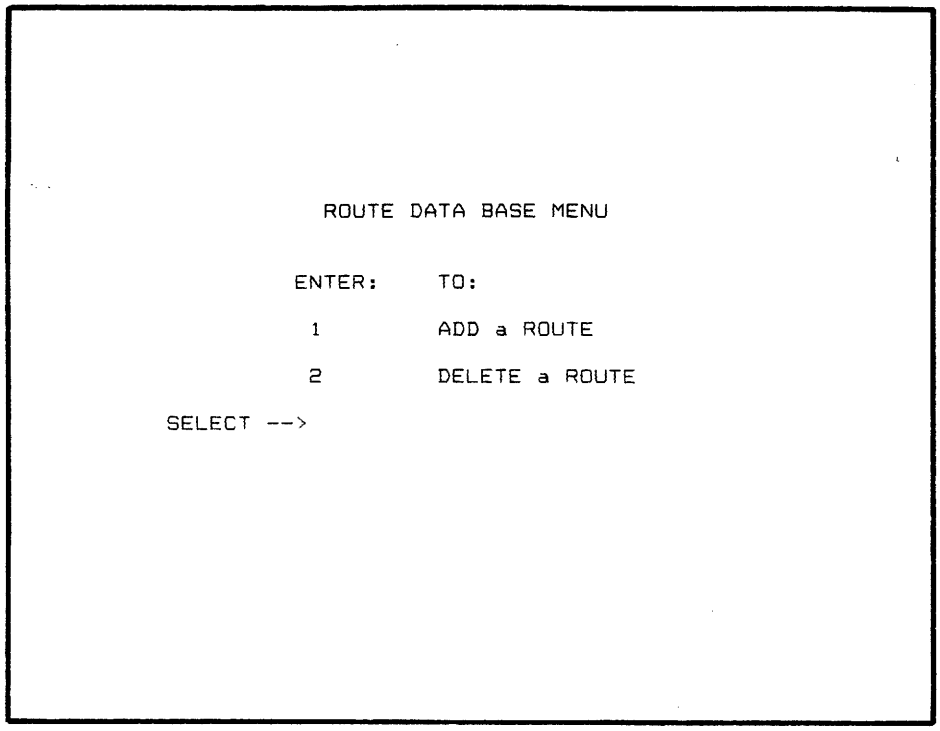


Figure 23

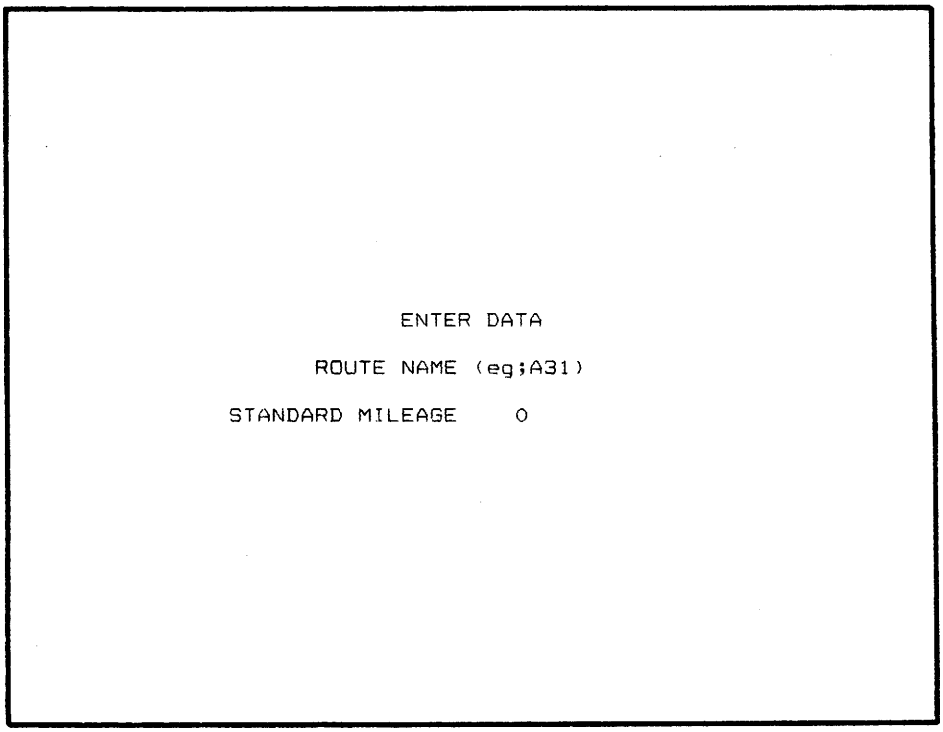


Figure 24

This route structure would result in a total of 66 route names as follows:

A01	A02	A03	A04	A05	A06
B01	B02	B03	B04	B05	B06
C01	C02	C03	C04	C05	C06
D01	D02	D03	D04	D05	D06
E01	E02	E03	E04	E05	E06
F01	F02	F03	F04	F05	F06
G01	G02	G03	G04	G05	G06
H01	H02	H03	H04	H05	H06
I01	I02	I03	I04	I05	I06
J01	J02	J03	J04	J05	J06
K01	K02	K03	K04	K05	K06

Enter [A01] to establish the first route. The second entry is the standard mileage. Enter [RETURN] to use odometer readings. SST3 will then add ROUTE A01 to the data base. Continuing adding routes until all your routes have been established.

DATA UTILITIES

A few preliminary activities are required before reservations can be taken. The DATA UTILITIES MENU has five options: ZERO REPORTS, ADD NEW SCHEDULE DAY, UPDATE AGENCY TITLE, REINDEX FILES, and BACKUP FILES. Each of these items will be discussed separately.

Zero Reports. At the MAIN MENU (Figure 1), select [4] [RETURN] to obtain the DATA UTILITIES MENU (Figure 25). The first MENU item is ZERO REPORTS. **NEVER** select this item before the end of a reporting period. It is necessary to select a reporting period suitable for your system. This would typically be a calendar month. At the end of the reporting period (typically a calendar month), the necessary post trip data should be entered and posted. Once the data is in the system, the appropriate system utilization and vehicle utilization reports should be printed. It is then appropriate and necessary to zero reports before posting the next month's data. Before selecting the zero reports option, you must have a blank formatted diskette. If you do not know how to format a diskette, check your DOS manual for instructions. To zero reports and make a copy of your data files, type [1] [RETURN] at the DATA UTILITIES MENU (Figure 25). You will be

returned to the DATA UTILITIES MENU when the data is copied to diskette and the reports zeroed.

Add New Schedule Day. The second data utility program creates new schedule days. New schedule days are not created until needed because the system automatically schedules standing trips. Standing trips will be discussed in detail under making reservations. The purpose of standing trips is to allow a single reservation for a trip made at the same time each week. Because standing reservations will change from time to time, the creation of a new schedule day should be done as close as practical to the actual day. This might be as little as two days in advance or perhaps more typically a week in advance.

At the DATA UTILITIES MENU (Figure 25) enter [2] [RETURN] to add a new schedule day. The SST3 system will tell you the last schedule day in the system (Figure 26). You will then be asked to provide the date [/ /] and the day of the week [ ]. The date is entered as 2 numbers each for month, day and year. The day of the week is entered using the first three letters of the name (e.g. THU). When you have entered the date and the day, the system will create the day and reserve the current standing orders.

Update Agency Title. The update agency title selection is normally used once to tell SST3 the agency's name. SST3 prints the agency name on all reports for identification. If the agency name is changed, this menu item can be used to change the agency name.

To update the agency title, at the DATA UTILITIES MENU (Figure 25) enter [3] [RETURN]. Then type in the agency name in the space provided (Figure 27).

Reindex Files. The reindex files menu item is provided in case of a computer failure in the middle of using SST3. SST3 program uses files that are indexed or cross referenced. If a computer problem occurs when an indexed file is being used, it is possible for the index to become scrambled.

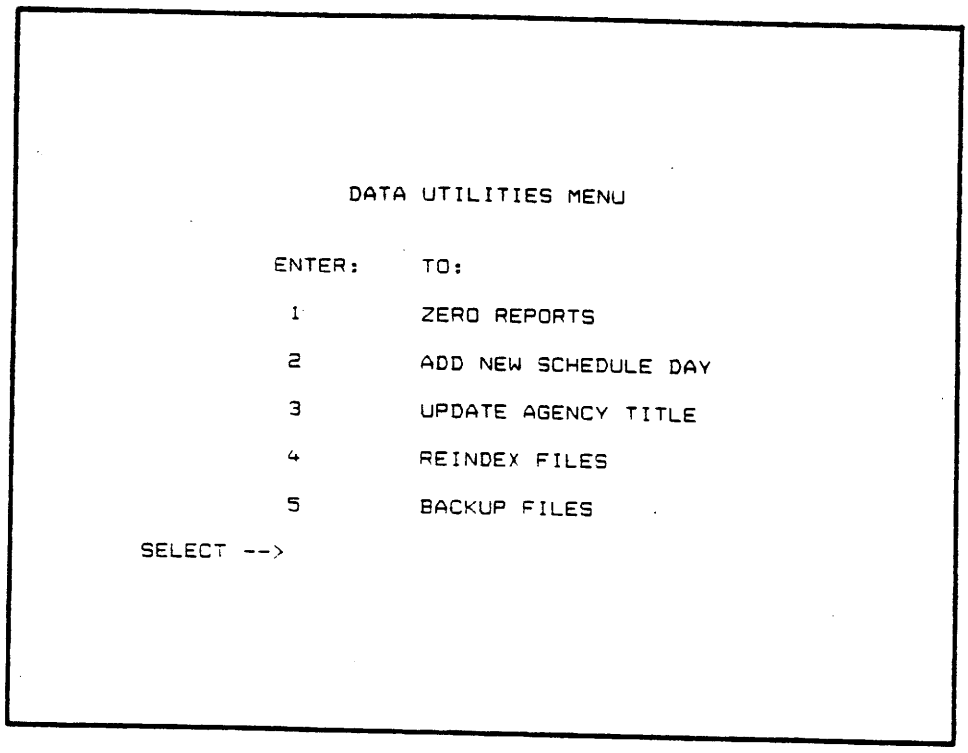


Figure 25

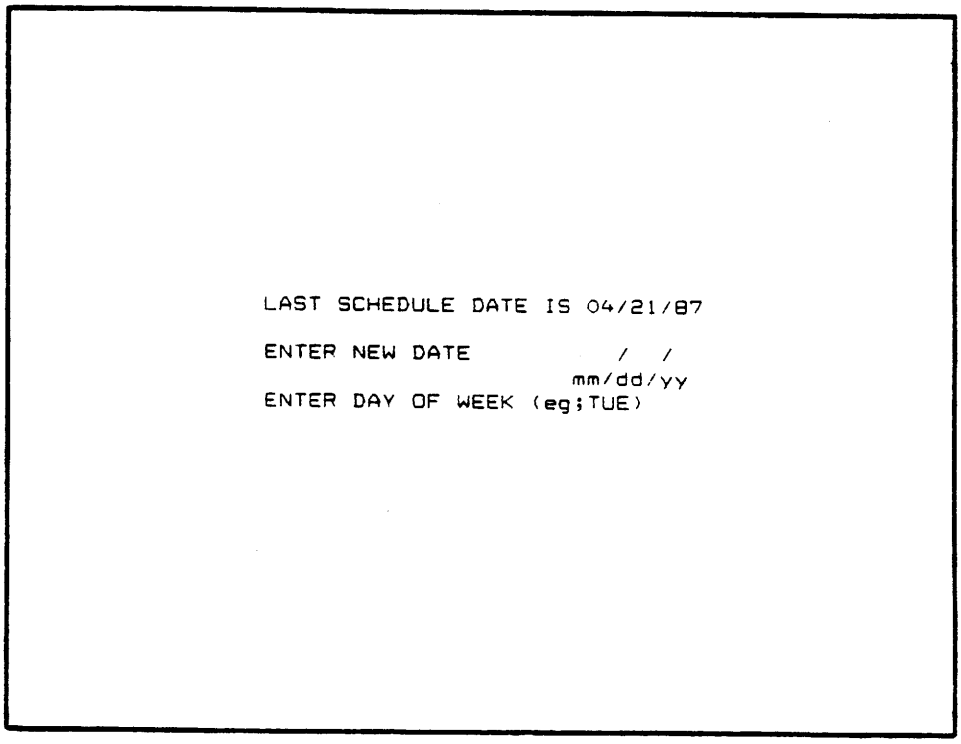


Figure 26

If you are having problems with SST3 and suspect problems with the CLIENT, or RESERVATION data base, try re-indexing the files. There is no harm in using this menu item even if not needed.

To reindex files, at the DATA UTILITIES MENU (Figure 25) enter [4] [RETURN]. The files will automatically be indexed and you will be returned to the DATA UTILITY MENU.

Backup Files. The backup files menu item (Figure 25) is a very important utility that should be used daily. The backup files utility is intended to provide three backup copies labeled A, B, and C. Two backup copies is the absolute minimum you should have because one copy could be destroyed in the backup process if the computer was to malfunction. Three copies provide an extra measure of safety.

The backup routine is setup to store data on three diskettes. This is done because larger systems may have more data than will fit on one diskette. The disk operating system (DOS) does not allow you (currently) to copy onto more than one diskette at a time except by using the complicated RESTORE procedure. For simplicity, SST3 allows backup onto three diskettes called CLIENT, VEHICLE and TRIPLIST. However, if your data will fit on one diskette, you do NOT have to change diskettes when SST3 asks for the second (vehicle) and third (triplist) diskettes. That is, for small systems, the CLIENT, VEHICLE and TRIPLIST (i.e., reservations) data can be placed on one diskette labeled either A, B, or C. If your data base is large, then you would have nine diskettes labeled A-CLIENT, A-VEHICLE, A-TRIPLIST, B-CLIENT, B-VEHICLE, B-TRIPLIST, C-CLIENT, C-VEHICLE, and C-TRIPLIST.

To back up files, enter [5] [RETURN] at the DATA UTILITIES MENU (Figure 25). SST3 then indicates which set of diskettes, A, B, or C should be used (Figure 28). Press any key and SST3 requests the appropriate client diskettes (Figure 29). When complete, press any key to continue and SST3 requests the appropriate vehicle diskette (Figure 30). Remember, you can initially use the same diskettes for CLIENT and VEHICLE FILES until your data base becomes large. The last set of files to be backed up is the triplist.

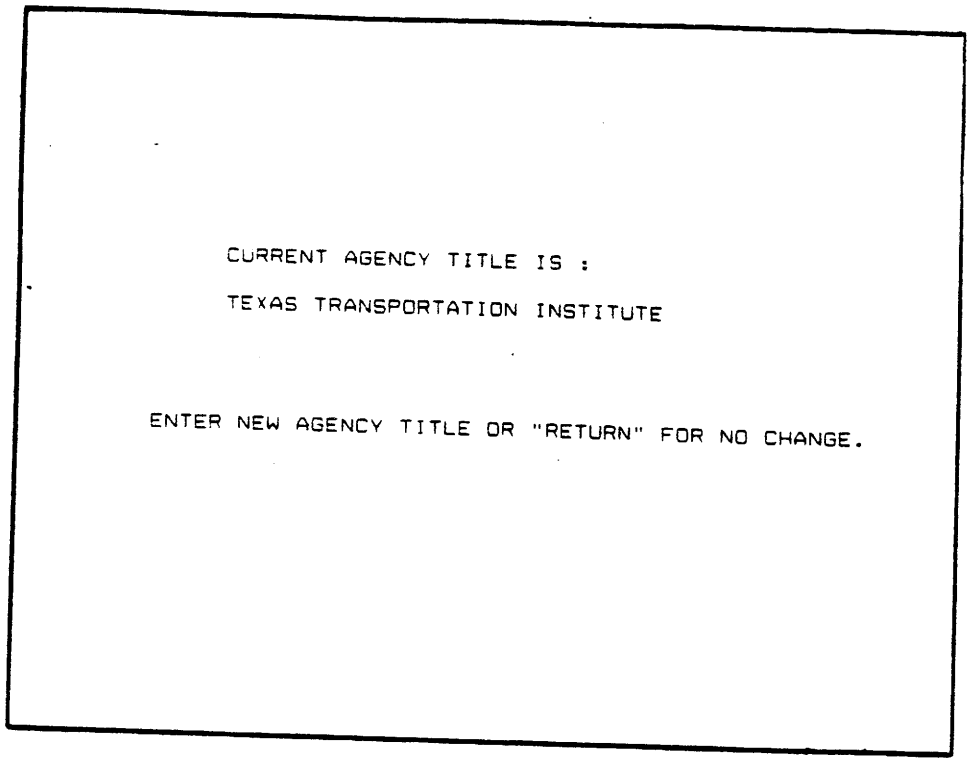


Figure 27

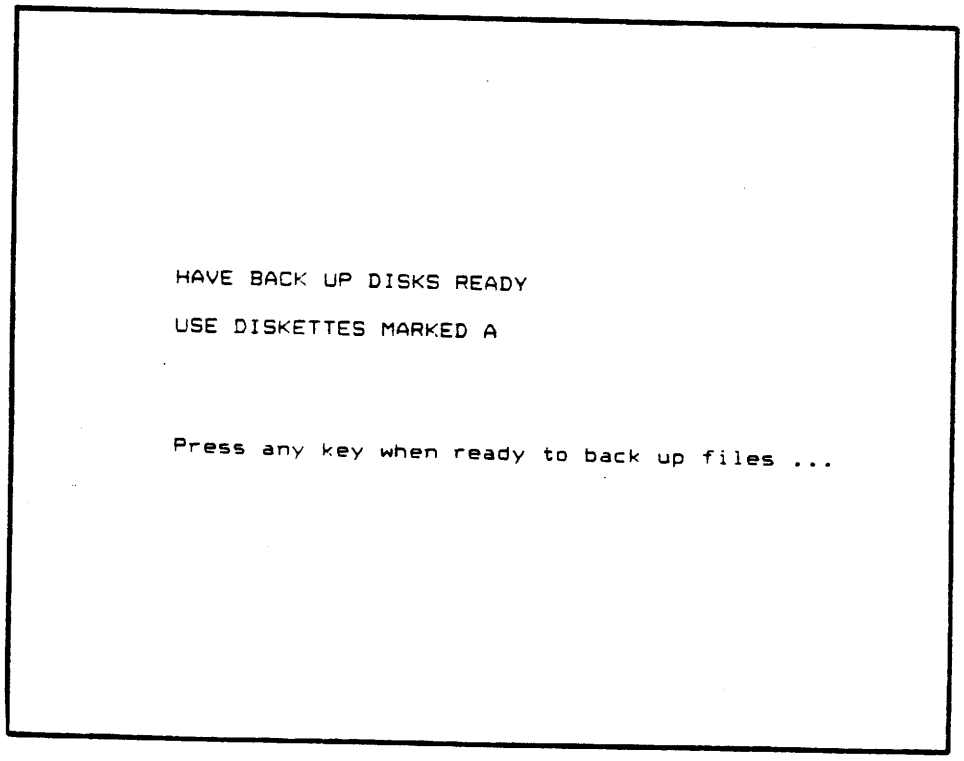


Figure 28

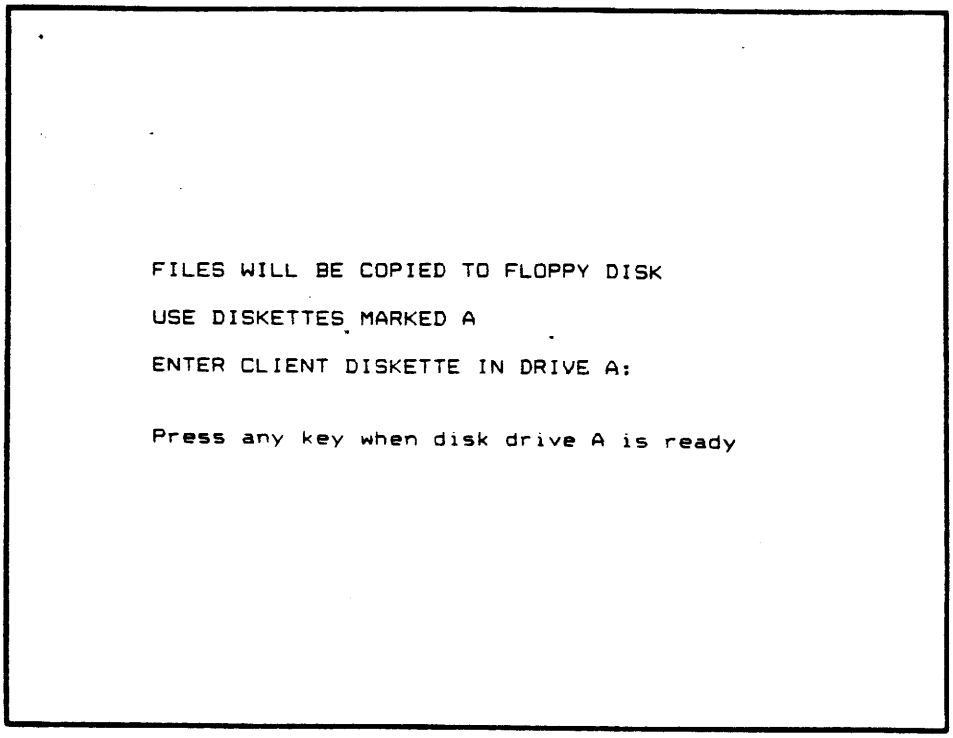


Figure 29

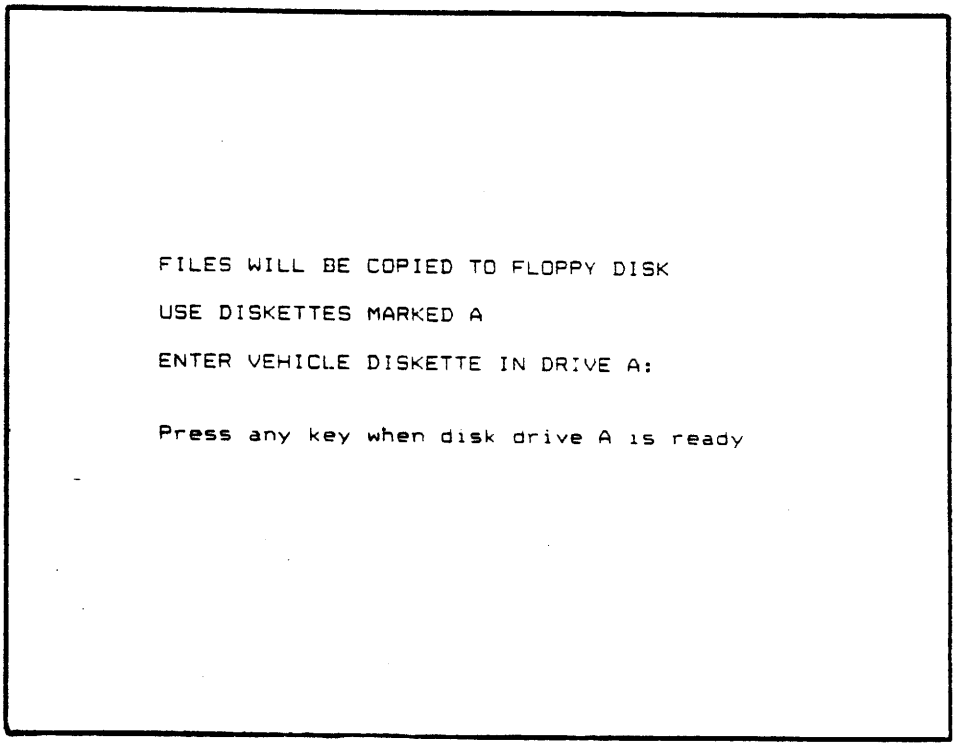


Figure 30

(Figure 31). This is likely the largest set of files. Again, you can use a single diskette for CLIENT, VEHICLE and TRIPLIST data until storage requirements exceed one diskette. However, you should always have at least three separate backups labeled A, B, and C regardless of whether you use one or three diskettes to store your client, vehicle and trip list data.

RESERVATIONS

One of the principal features of SST3 is the ability to record and summarize reservation data. Once the data base is established, SST3 can begin paying dividends in terms of improved system operation. First it is necessary to understand the two basic types of reservations that SST3 can accommodate. An individual trip reservation is for a single one-way trip. A round trip from home to shopping and then back home is two individual trips. The reservation would be made for the date and time of the trip shopping and a separate individual trip would be made for the date and time of the trip home. Both trips can **NOT** be made to the same route.

A standing trip differs from an individual trip only in the fact that the trip is made every week until canceled. A trip made every Monday to the doctor could be reserved as a standing trip, precluding the need to make a reservation every week. The computer keeps track of standing trips and automatically makes a reservation when you create a schedule day. A separate standing reservation would also need to be made for the return trip. If a standing trip needs to be made every day of the week, then separate standing trip reservations need to be made for each day of the week that the trip will take place. Again, when creating a schedule day, SST3 asks for the day of the week so that it knows which standing trip requests are to be automatically entered into that schedule for the day.

To obtain the RESERVATION TRIP DATA MANAGEMENT MENU, enter [1] [RETURN] at the MAIN MENU (Figure 1). At the RESERVATION/TRIP DATA MANAGEMENT MENU (Figure 32), enter 1 to obtain the RESERVATION DATA MENU (Figure 33). The RESERVATION DATA MENU has six options for entering/editing, canceling, and viewing either individual trips or standing trips.

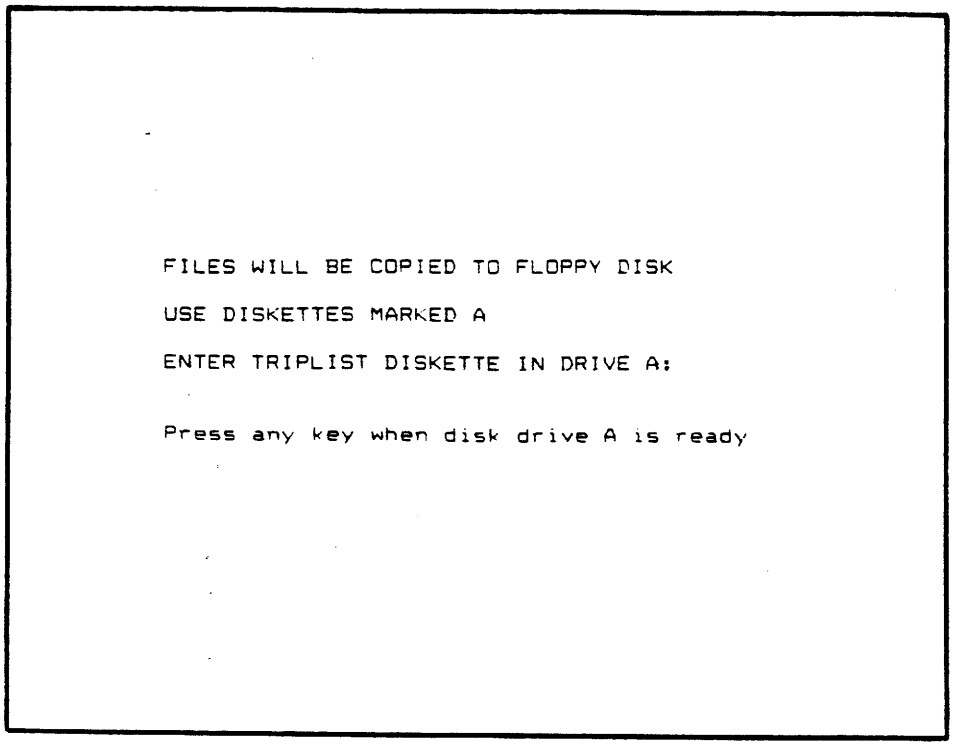


Figure 31

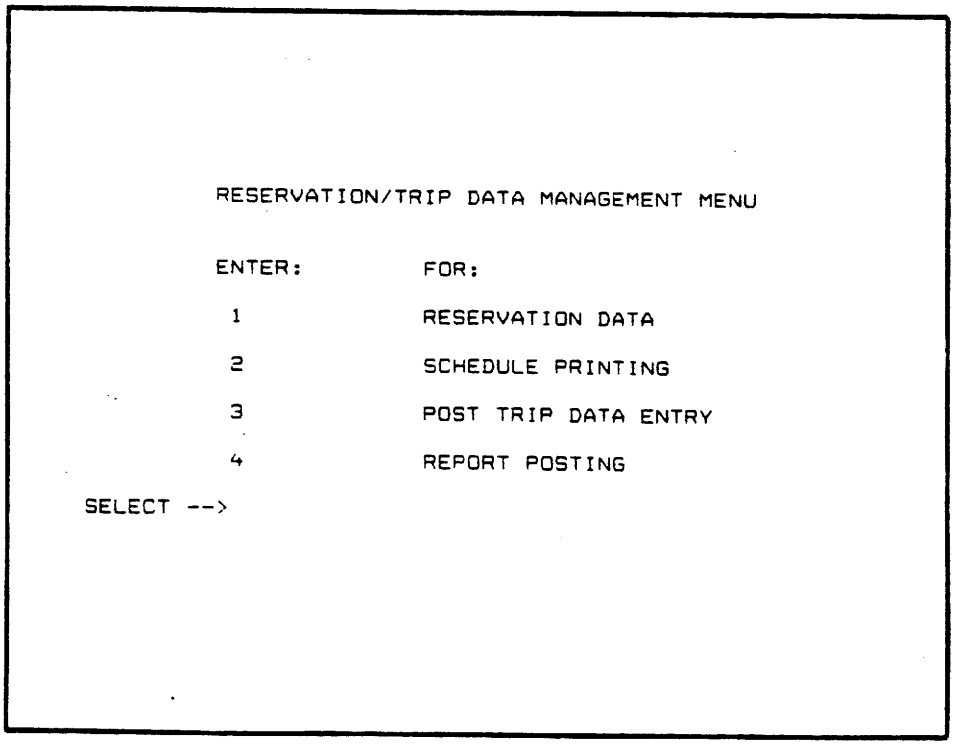


Figure 32

To begin making reservations, enter [1] [RETURN] at the RESERVATION DATA ENTRY MENU (Figure 33). You will be asked to enter a CLIENT ID NUMBER (CIDNO). If you do not know the client ID number, SST3 allows you to find the client ID number by pressing [F10]. The F10 function key brings up a screen that asks you for the clients last name. Enter [client last name] [RETURN] and SST3 then displays the client data for all clients with the last name specified (Figure 35). Once you have the clients ID number, press any key to return to the previous menu.

Enter [client ID number] [RETURN] (Figure 34) using a valid client ID number to begin making a reservation. SST3 will display the client data (Figure 36) including name, address, etc. and request a trip purpose code. SST3 has 10 preassigned trip purpose codes as follows:

11 Medical
12 Shopping
13 Recreation
14 Personal Business
15 School/Education
16 Social Services
17 Work
18 Senior Centers/Nutrition
19 Home
20 Attendant/Escort

In addition, 10 "Other codes" are numbered 21 through 31. The SST3 trip purpose codes are actually programmed in two parts of SST3, so it is necessary to modify three data base files (FORM3.DBF, VP.DBF and UNMET3.DBF) to change the trip purpose codes. The only way to exit from the make reservation menu is to enter a 0 (zero) for the trip purpose.

After the trip purpose code is entered for the client, the route and trip date (mm/dd/yy) must be entered (Figure 37). If the route or trip date do not exist, a message will be issued and you will be returned to the previous menu. Once a valid route and trip date are entered, SST3 will display the current reservations for the route and date (Figure 38). The

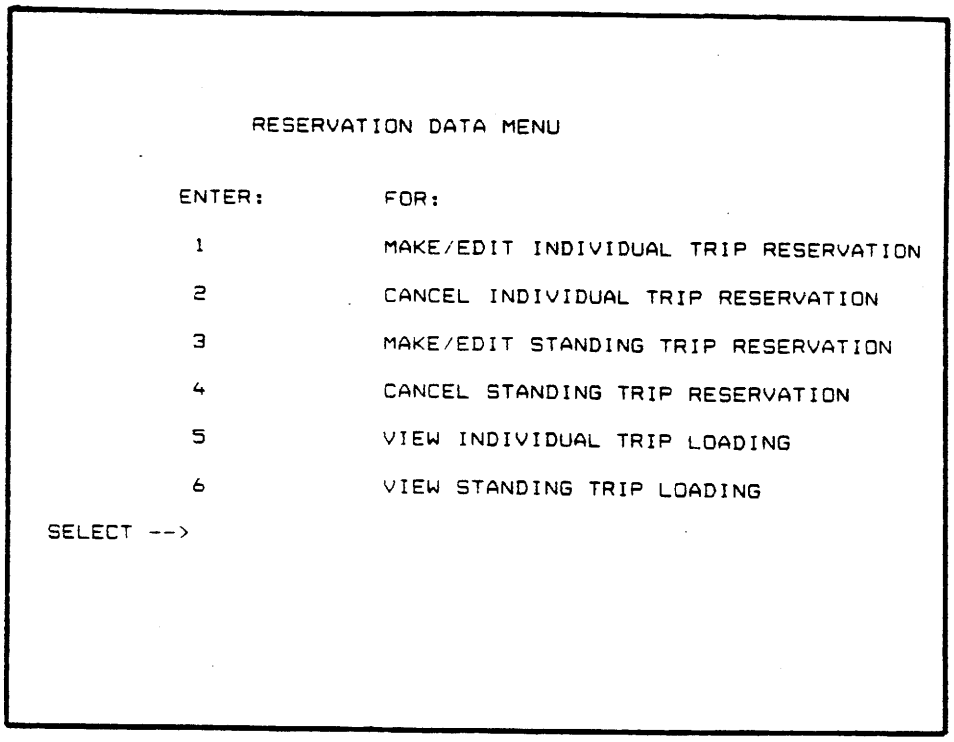


Figure 33

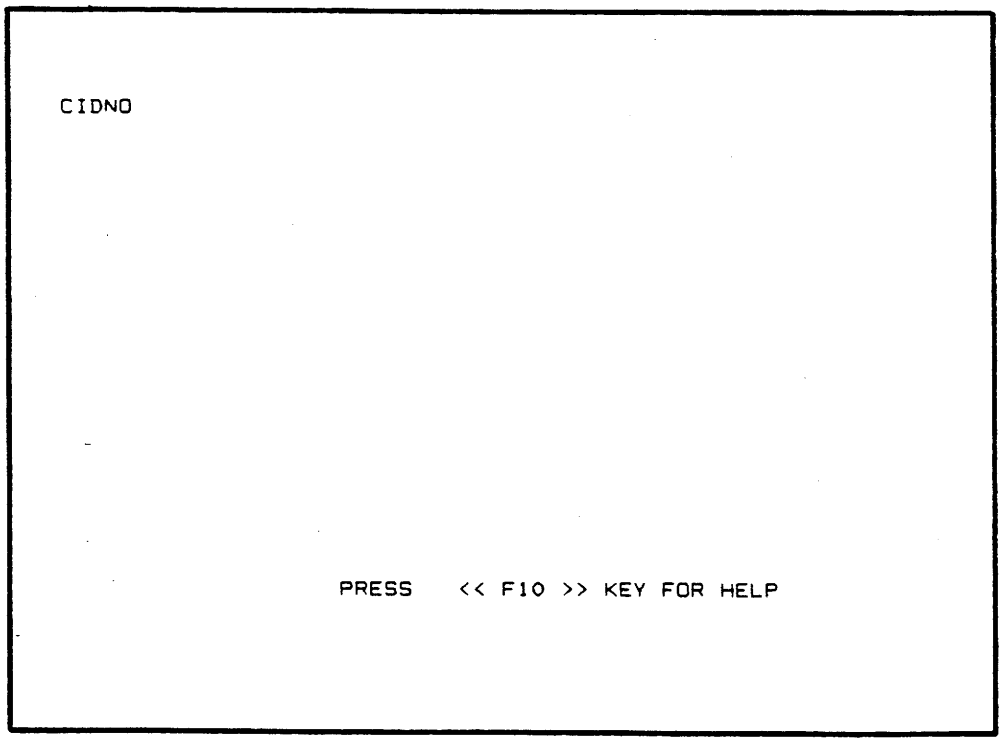


Figure 34

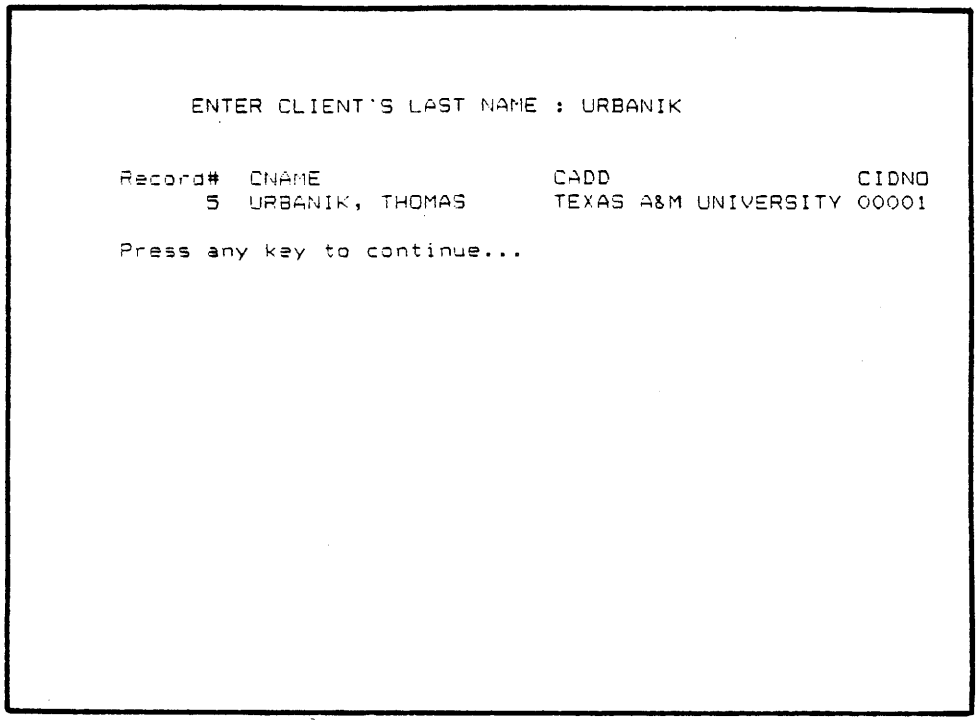


Figure 35

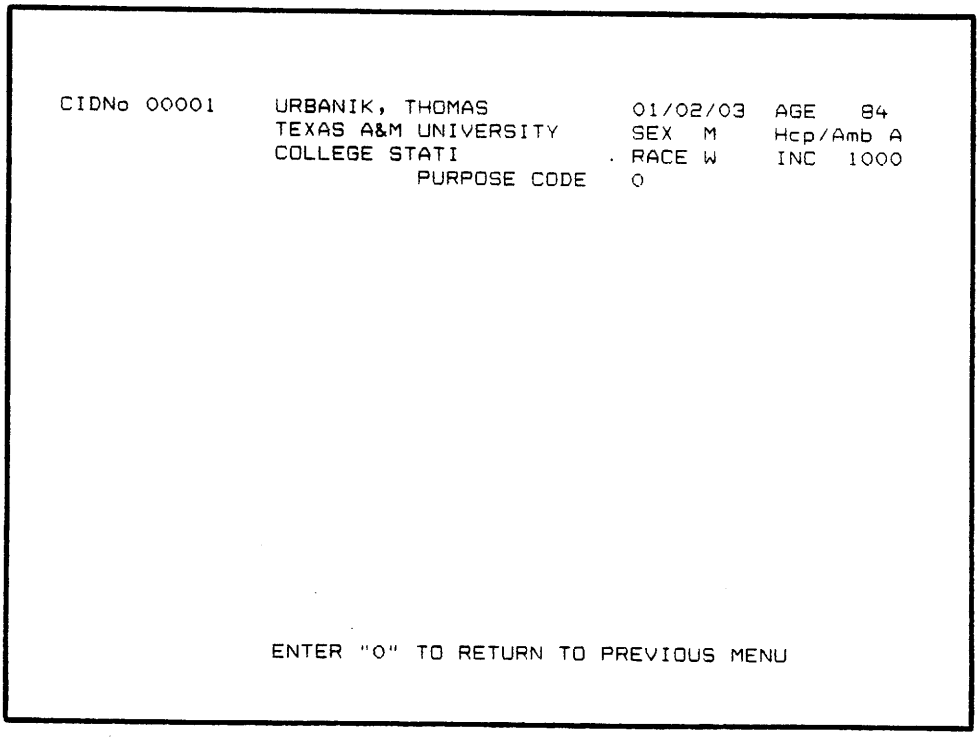


Figure 36

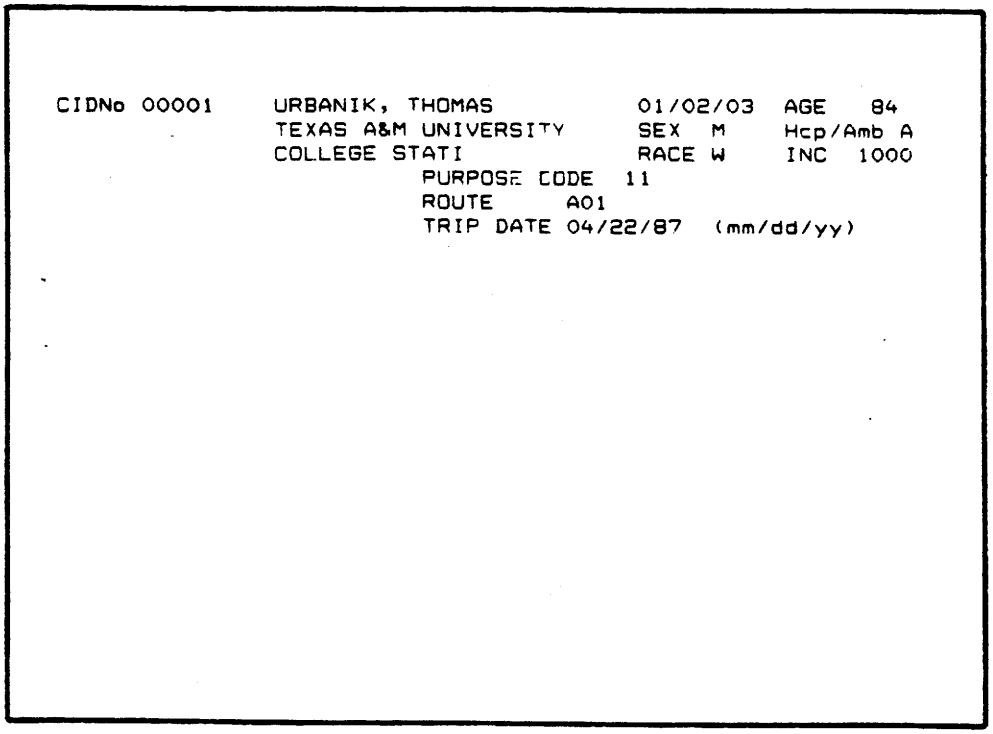


Figure 37

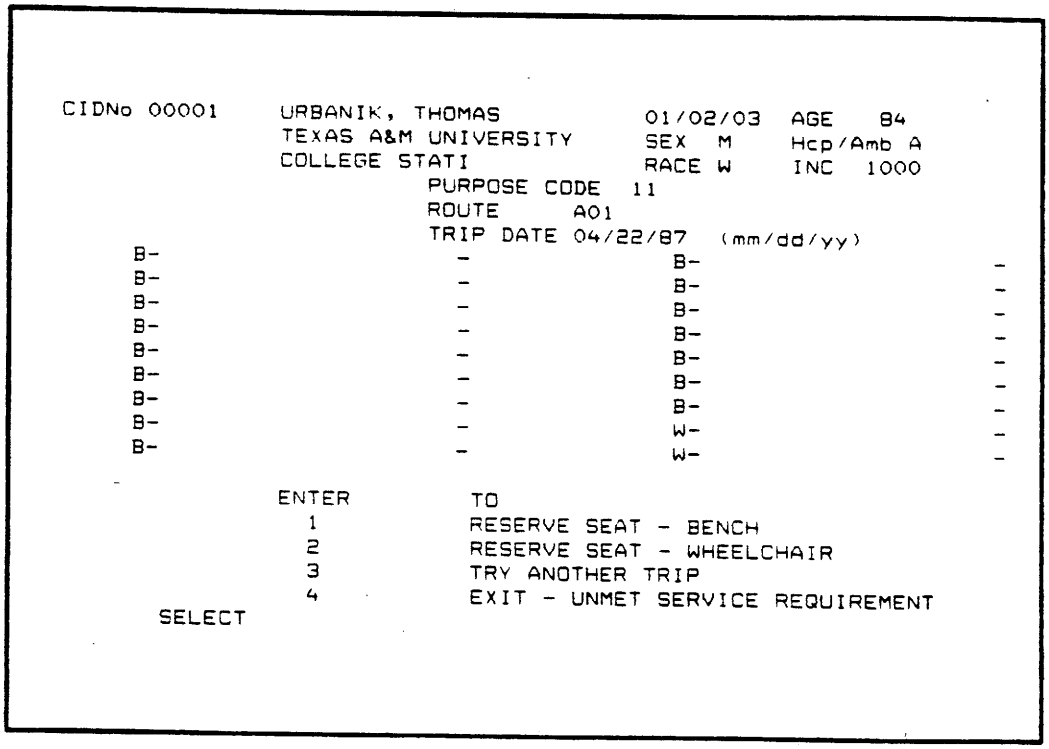


Figure 38

standard display has places for 16 bench seat passengers and 2 wheelchair passengers. This is a standard form which can only be changed be modifying the SST3 program. The person taking the reservation must know what type of vehicle is going to be assigned to the route. SST3 will allow each vehicle to have up to 18 passengers. The person taking the reservation must limit the number of passengers to a lesser number if the vehicle is smaller or the capacity of the system is less than the capacity of the vehicle.

SST3 then gives four options concerning the reservation (Figure 38). If space is available, you can select [1] [RETURN] to make a bench seat reservation or [2] [RETURN] to make a wheelchair reservation. If there is not space on the vehicle, you have another two choices. Enter [3] [RETURN] if you want to try another trip. If you cannot service the request because there are no other trips or the client cannot go at a different time, enter [4] [RETURN] to record an unmet service request. One of the SST3 standard reports is a summary of unmet service requests. This report can be helpful in documenting the need for additional service. If a reservation is made, SST3 requests the pick up and drop off addresses (Figure 39). SST3 will accept HOME for pickup or drop-off address and appropriately substitute the home address from the CLIENT file. Space is also provided for a note concerning pickup time or any other information to be conveyed to the driver on the driver log.

If it is necessary to cancel a reservation, enter [2] [RETURN] at the RESERVATION DATA MENU (Figure 33). SST3 will display the reservation data and ask you to enter [1] [RETURN] to cancel the reservation. If you made a mistake, simply enter [RETURN] to exit to the previous menu.

In a similar manner, it is possible to make and cancel standing trip reservations. To make a standing trip reservation, enter [3] [RETURN] at the RESERVATION DATA MENU (Figure 33). SST3 will then ask for a client ID number. Enter [client ID number] [RETURN] and SST3 will display the client data and ask for a trip purpose code. Enter a two digit trip purpose code [purpose code] followed by a [RETURN] and SST3 will ask for a ROUTE and TRIP DAY. Enter a valid three digit route [ ] followed by the first three characters of the day of the week [day of week code] followed by a [RETURN].

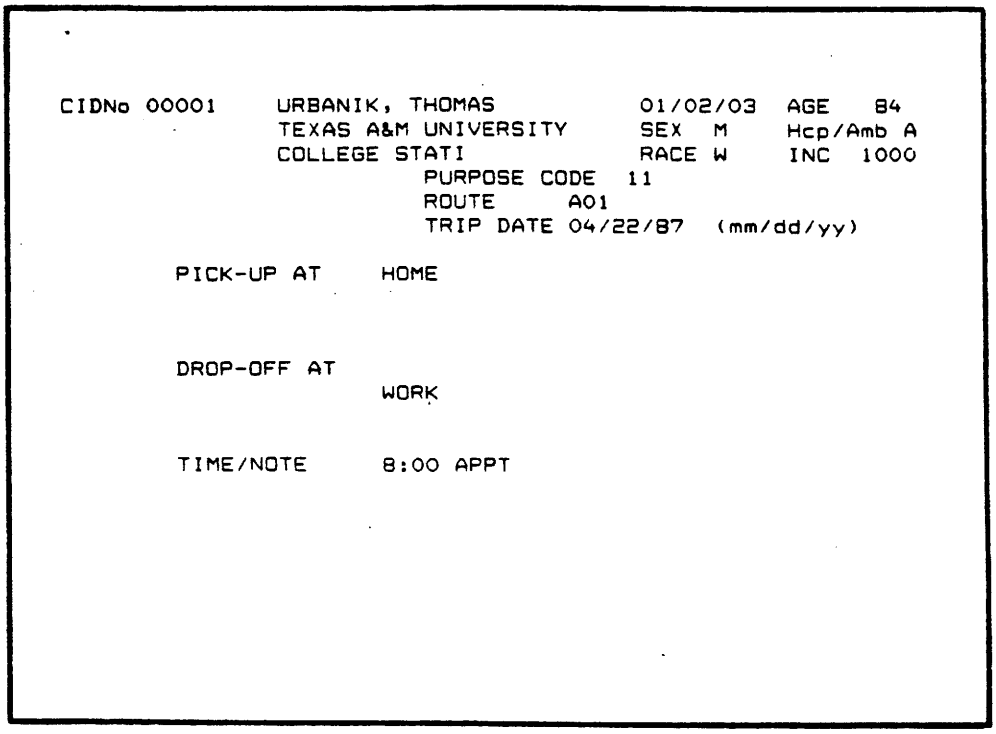


Figure 39

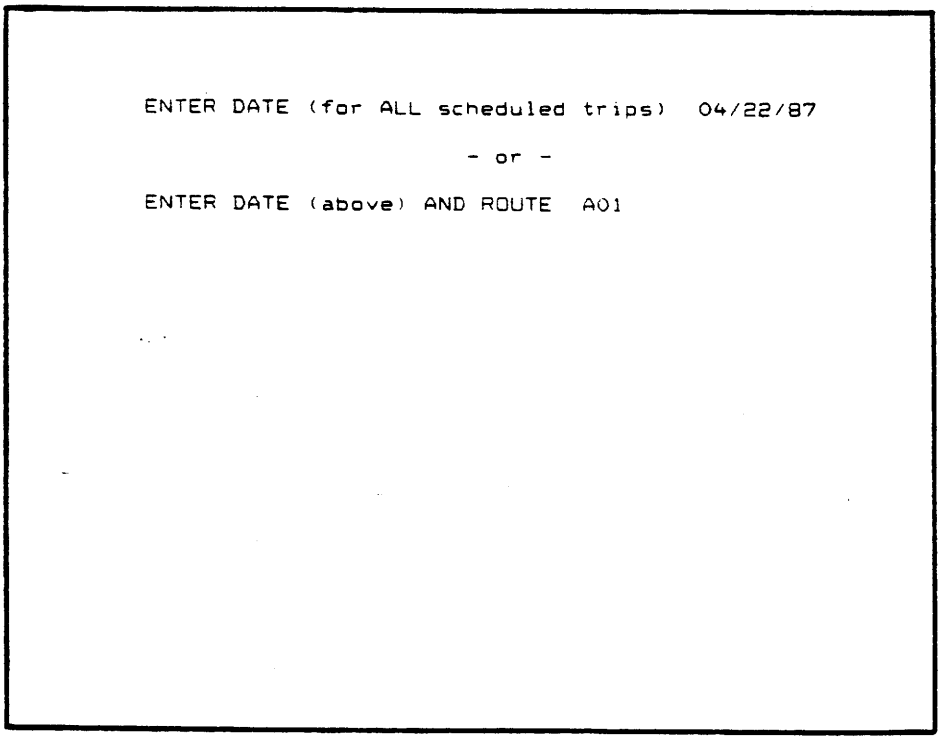


Figure 40

SST3 will display all current standing trips for the route and day. You then have three choices: [1] to reserve a bench seat, [2] to reserve a wheelchair seat, or [3] to try another trip. Select the appropriate alternative and SST3 will ask you for the appropriate trip information including pick up address, drop-off address, and any additional information that may be helpful to the dispatcher or driver. An example of useful information would be the time of the client's appointment or the need for special assistance. Once the data is entered, SST3 will return you to the previous menu which allows the making of another reservation for the client, or alternatively moving to the previous menu by enter [0] [RETURN] for the trip purpose code.

To cancel a standing reservation, enter [4] [RETURN] at the RESERVATION DATA ENTRY MENU (Figure 33). SST3 will ask for a ROUTE and TRIP DAY. Enter these two items [route] [trip day] followed by a [RETURN]. SST3 will ask for a client ID number. Enter [client ID number] [RETURN] and SST3 will display the trip data. Enter [1] [RETURN] to cancel the standing order or [RETURN] to reconsider.

To view the current schedule of trips for a particular <u>date</u> (e.g. 01/01/87), enter [5] [RETURN] at the RESERVATION DATA ENTRY MENU (Figure 33). SST3 will ask for the ROUTE and TRIP DATE. Enter [route] [date] [RETURN] and SST3 will display all currently scheduled reservations.

To view the current standing trips for a particular <u>day</u> (e.g. THURSDAY), enter [6] [RETURN] at the RESERVATION DATA ENTRY MENU (Figure 33). SST3 will ask for the ROUTE and TRIP DAY. Enter [route] [day code] [RETURN] and SST3 will display all currently scheduled standing trips.

This completes the discussion of the reservation process. A key point to remember is to create the schedule day before making reservations. Once all reservations are made, the next process is to print schedules.

SCHEDULE PRINTING

To print schedules, from the MAIN MENU (Figure 1) enter [2] [RETURN] to obtain the RESERVATION/TRIP DATA MANAGEMENT MENU (Figure 32). Enter [2] [RETURN] and then enter the date [mm/dd/yy] [RETURN] for the specific schedule day you want printed. If you only want a single ROUTE, then enter [route] [RETURN], otherwise enter [RETURN] to print all scheduled trips for the date. To print the schedule on 4/22/87 for Route A01, enter the data (Figure 40) and SST3 prints the driver log (Figure 41).

The print routine is setup for an IBM Proprinter which is compatible with many dot matrix printers. The primary printer consideration is that the schedule requires the compressed print mode to use 8 1/2 inch paper. The PRINTCL.MEM memory variable holds two variables, PRINTCON which holds the condensed print control commands and PRINTREG which holds the regular print control characters. These print controls can easily be changed by a dBASE III programmer.

POST TRIP DATA ENTRY

The post trip data entry consists of two separate parts: the first is for passenger data and the second is for vehicle data. To begin post trip data entry, type [3] [RETURN] at the RESERVATION/TRIP DATA MANAGEMENT MENU (Figure 32) and SST3 displays the POST-TRIP DATA ENTRY MENU (Figure 42). To begin passenger trip data entry, enter [1] [RETURN] and SST3 asks for a ROUTE NUMBER, VEHICLE NUMBER and TRIP DATE (Figure 43). Enter the [route] [vehicle] and [trip date] followed by a [RETURN] if you want to use odometer readings, otherwise you must enter an [N] before the return. Odometer readings are the preferred way to obtain the passenger miles data. The alternative is to use standard mileage for each route. The standard mileage for routes is entered when routes are created. If standard mileage is used, all trips on the route are assumed to be the same length.

If odometer readings are used, SST3 displays the passenger names, one at a time for the trips and asks for an odometer reading and a funding source. Enter [beginning odometer reading] [funding source code] [RETURN] (Figure 44)

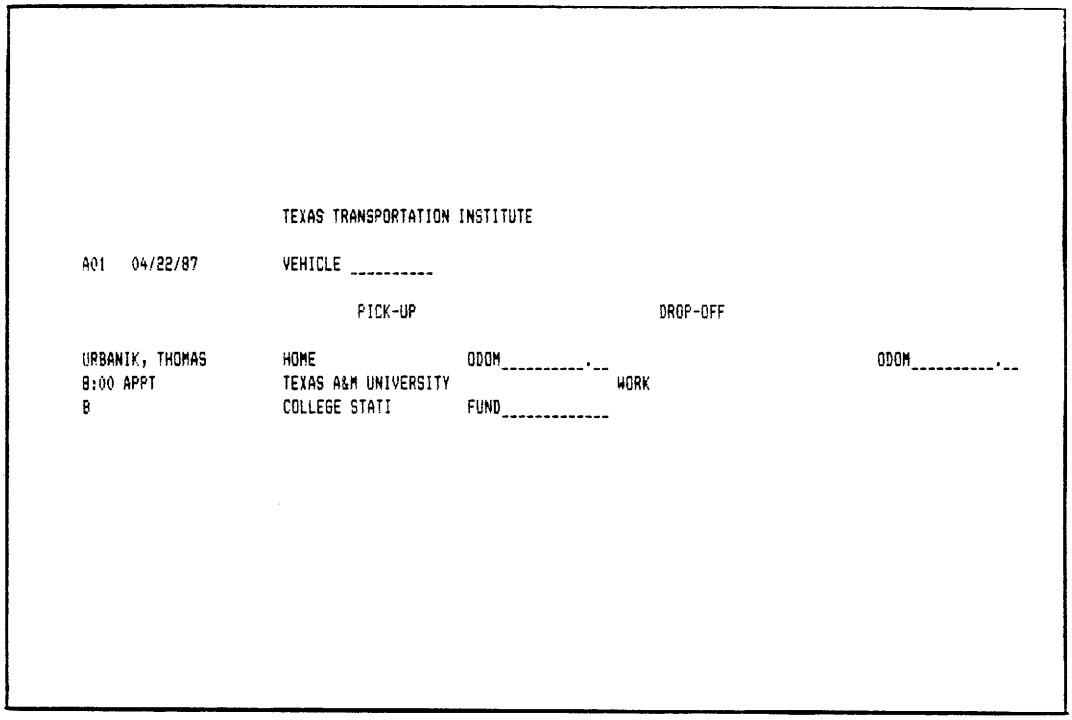

TEXAS TRANSPORTATION INSTITUTE
A01 04/22/87
VEHICLE _____
PICK-UP
DROP-OFF
URBANIK, THOMAS
8:00 APPT
B
HOME
TEXAS A&M UNIVERSITY
COLLEGE STATI
ODOM_____.__
FUND_____
WORK
ODOM_____.__

Figure 41

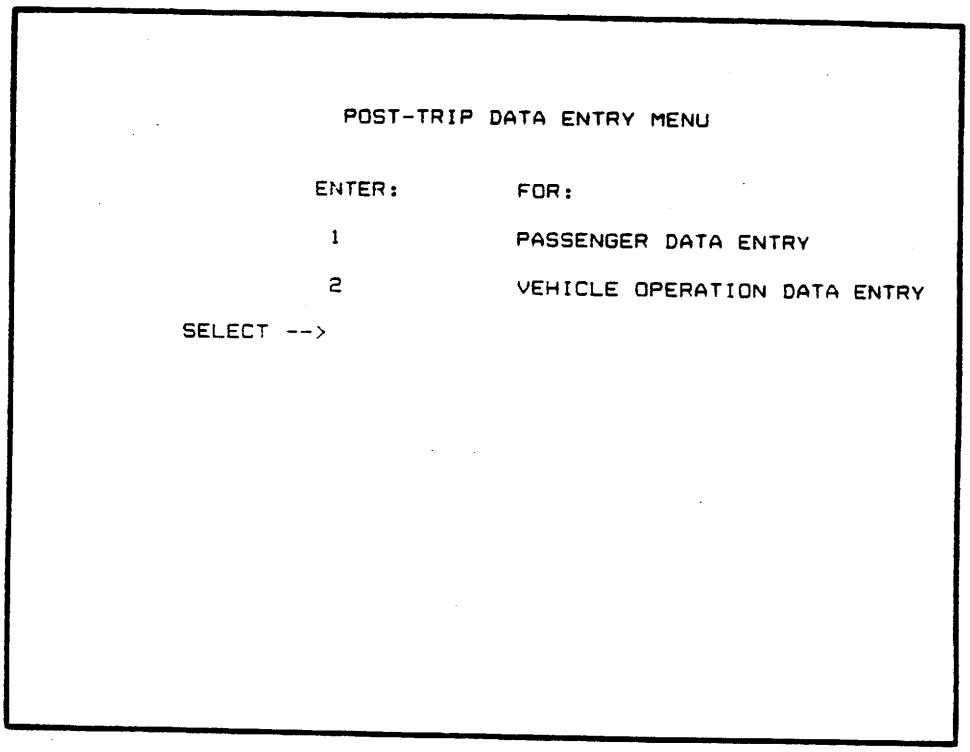


Figure 42

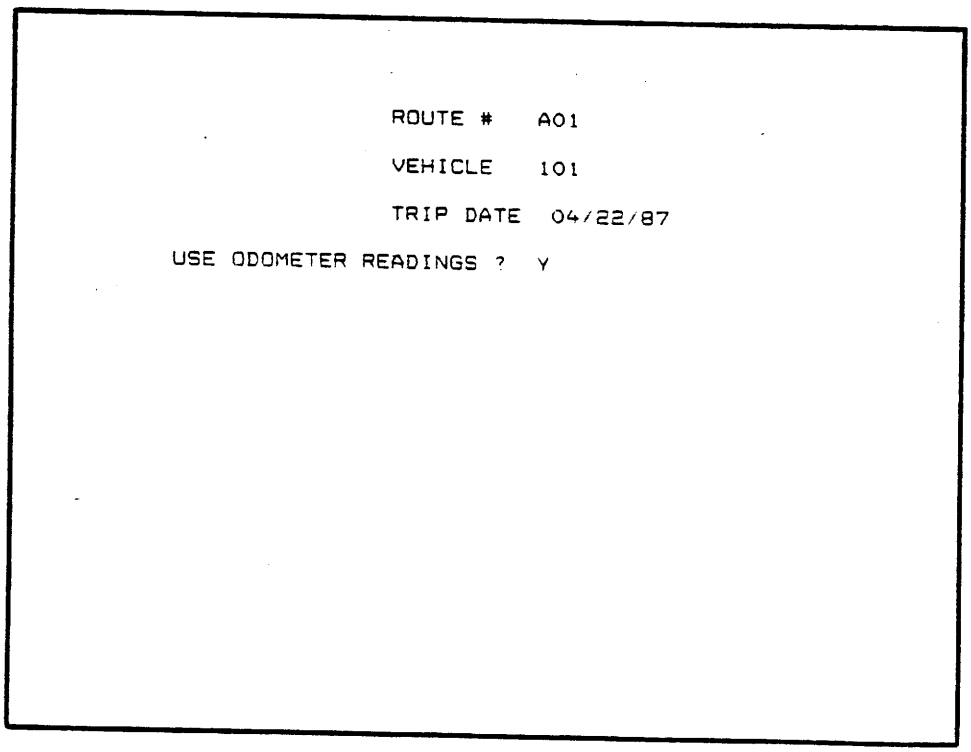


Figure 43

and SST3 asks for a second odometer reading (Figure 45). Enter [ending odometer reading] [RETURN] and the next client is displayed. NOTE: IF THE CLIENT IS A NO SHOW, ENTER NO MILEAGE OR FUNDING CODE AND THE TRIP WILL NOT BE RECORDED IN THE REPORTING STATISTICS.

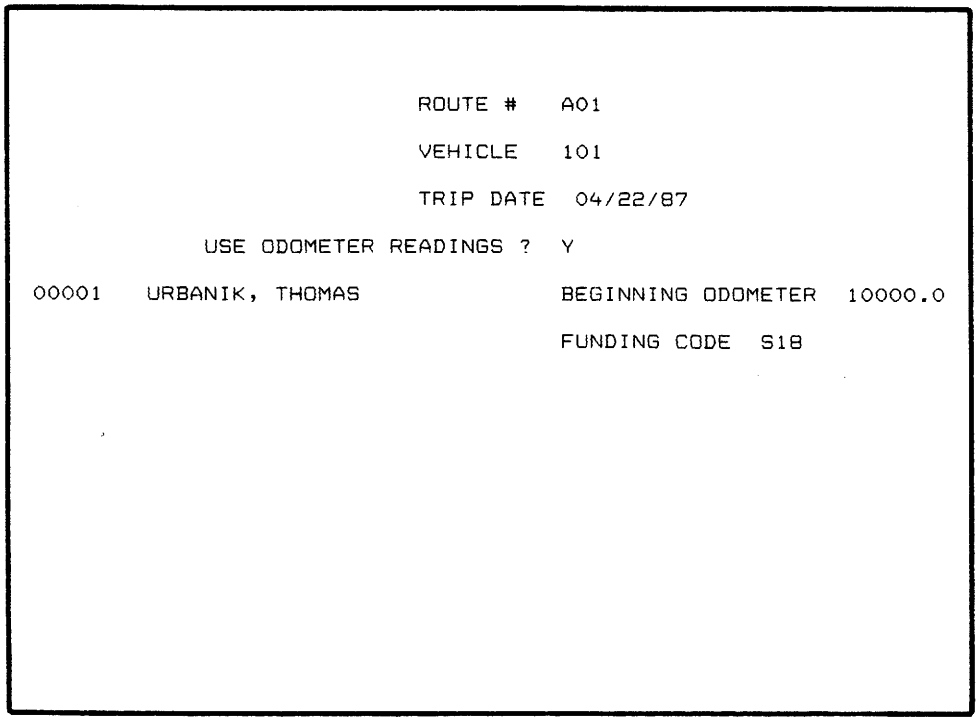
At the POST-TRIP DATA MENU (Figure 42) enter [2] [RETURN] to enter daily vehicle operation data. SST3 will ask for a VEHICLE NUMBER and DATE. Enter [vehicle number] [mm/dd/yy] [RETURN] (Figure 46) and SST3 will display a screen (Figure 47) on which the following information can be entered: driver, start time, end time, starting odometer, ending odometer, fuel cost, fuel quantity, maintenance cost, and maintenance description. This data is summarized at the end of the reporting period in one of the standard SST3 reports.

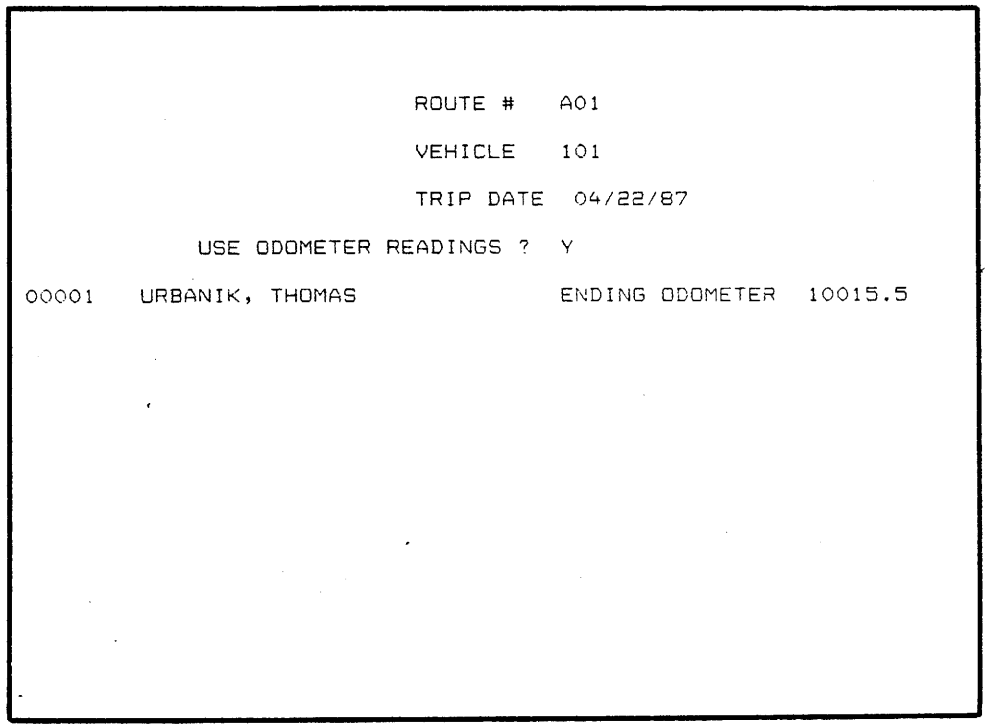
REPORT POSTING

Report posting is the process of summarizing all the client data in preparation for printing reports. This can be a time consuming task as the number of trips increases. For that reason, the actual posting process was made separate from the post trip data entry. This allows the report posting to be done at a time when the computer is not needed for other tasks. This could be done at the beginning of the day, during lunch, at the end of the day, or overnight. To post reports, enter [4] [RETURN] at the RESERVATION /TRIP DATA MANAGEMENT MENU (Figure 32). SST3 returns to the RESERVATION /TRIP DATA MANAGEMENT MENU (Figure 33) when done.

REPORTING

The final result of the SST3 data base system is the reports it generates to aid in the management or the system and reporting to various funding sources. At the MAIN MENU (Figure 1), enter [3] [RETURN] to obtain the REPORTING MENU (Figure 48) which has two options, the first for system utilization reports and the second for vehicle utilization reports. Enter [1] [RETURN] to print SYSTEM UTILIZATION reports. These reports, which are shown in Appendix B, give summaries of the current clients, trips by client demographics, trips by trip purpose, funding source summary, and unmet


ROUTE # A01
VEHICLE 101
TRIP DATE 04/22/87
USE ODOMETER READINGS ? Y
00001 URBANIK, THOMAS
BEGINNING ODOMETER 10000.0
FUNDING CODE S18


ROUTE # A01
VEHICLE 101
TRIP DATE 04/22/87
USE ODOMETER READINGS ? Y
00001 URBANIK, THOMAS
ENDING ODOMETER 10015.5

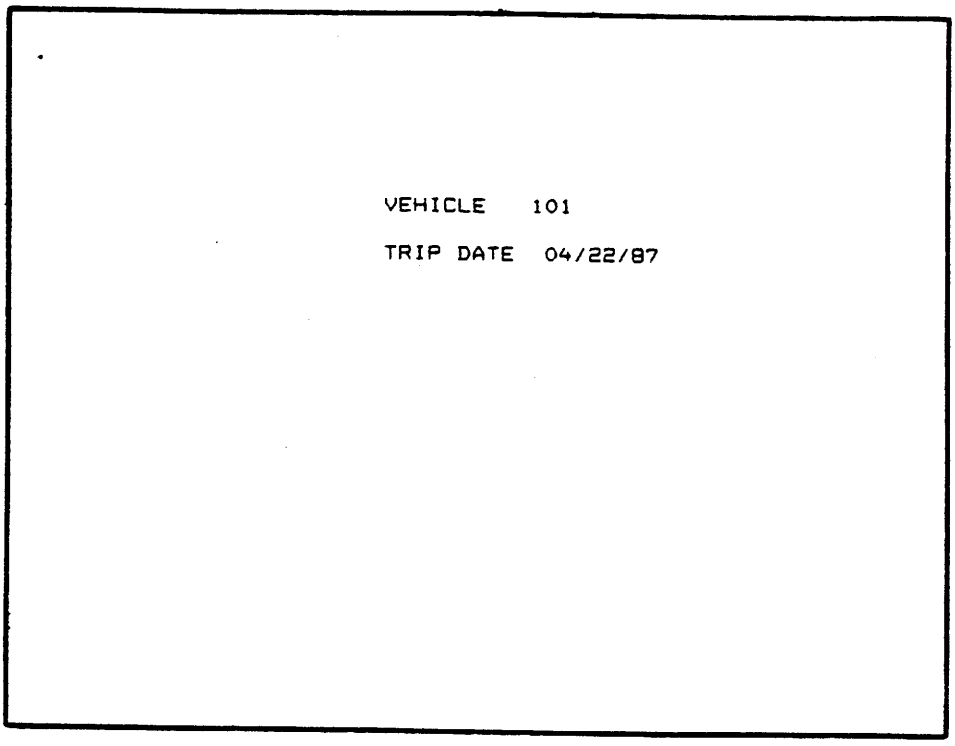


Figure 46

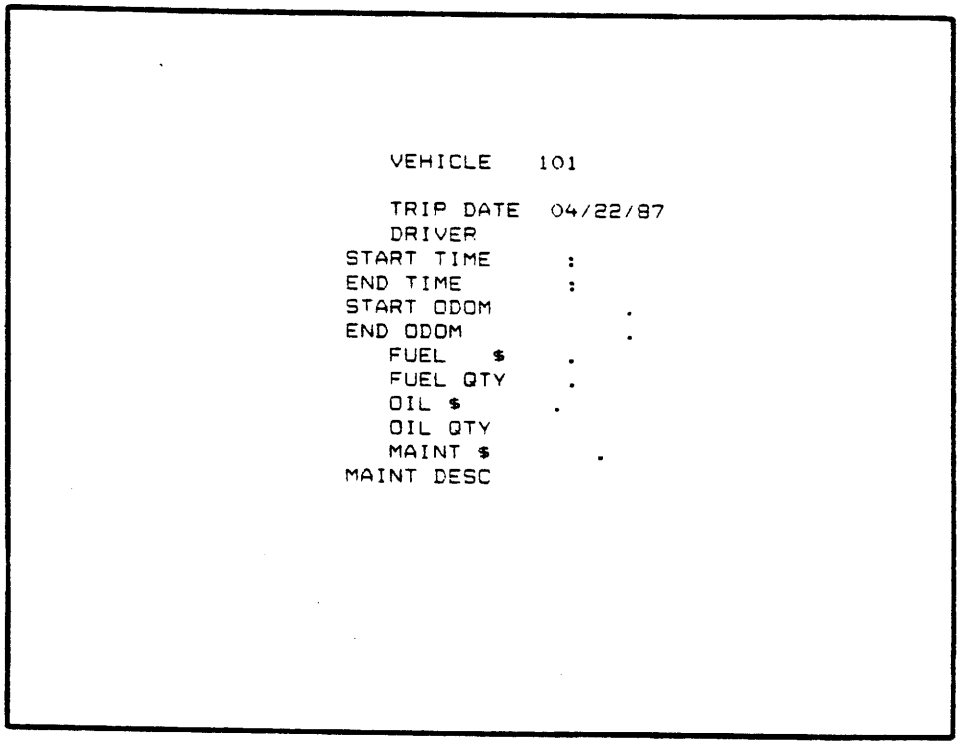


Figure 47

service. Enter [2] [RETURN] to print VEHICLE UTILIZATION reports. The vehicle utilization reports, which are shown in the Appendix B include summaries by vehicle of client demographics, trip purpose, and a vehicle operation data.

EXITING

It is important that files be closed when exiting SST3. At the MAIN MENU (Figure 1), select [0] [RETURN] terminate program operation. This action returns the computer to dBASE III (Figure 49). To exit dBASE III, type [QUIT] [RETURN] at the . (dot) .

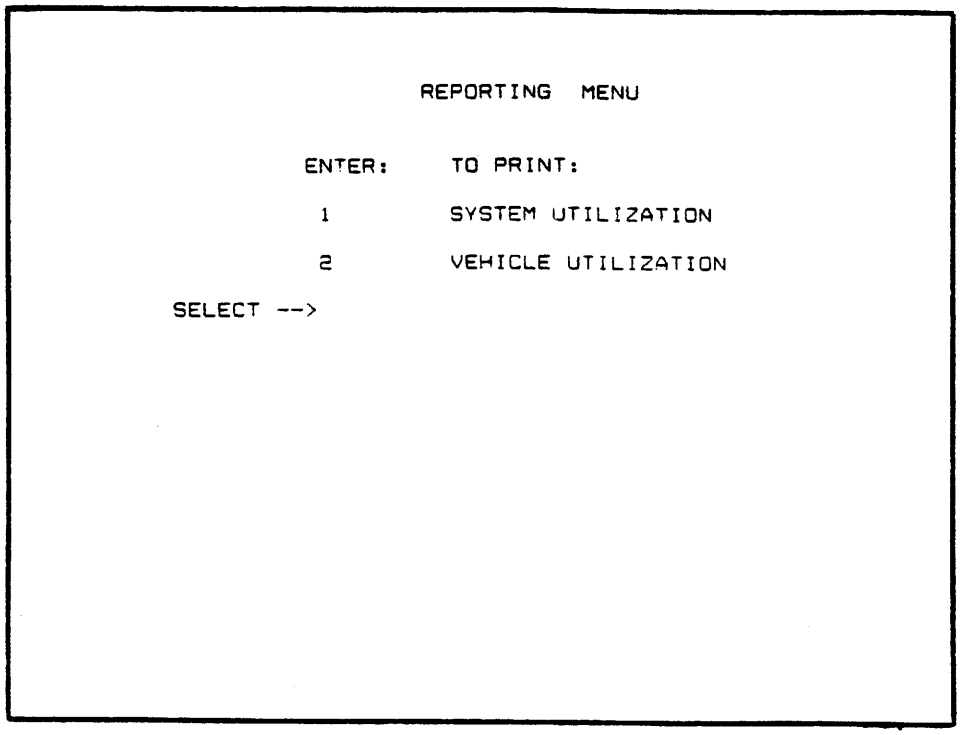


Figure 48

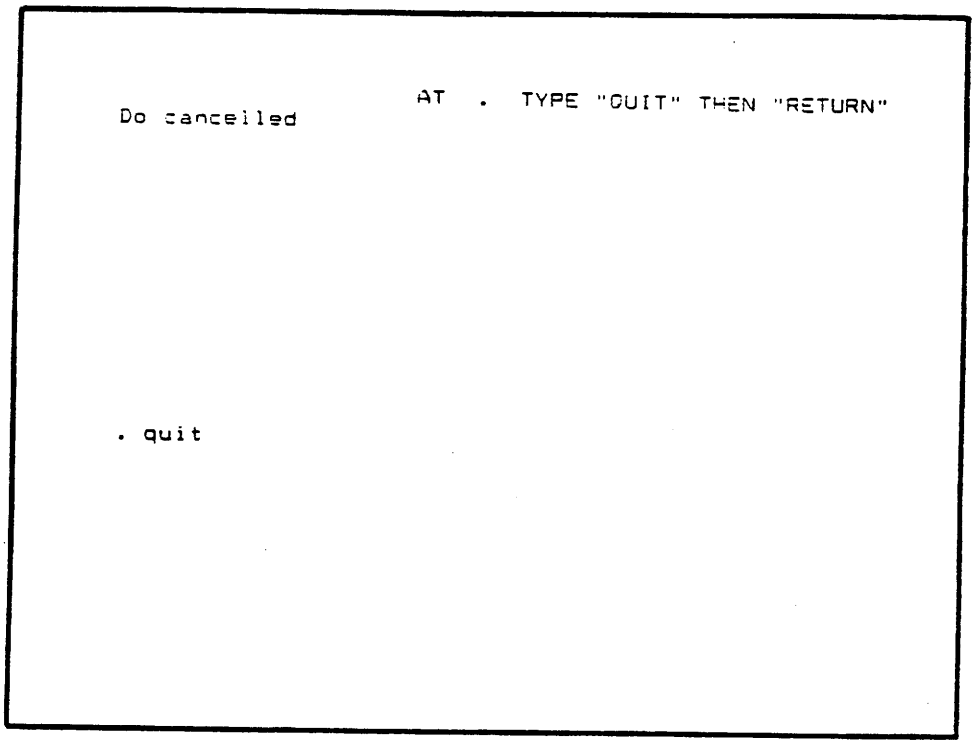


Figure 49

APPENDIX A

TEXAS COUNTY CODES

COUNTIES OF TEXAS

COUNTY NUMBER	COUNTY NAME	COUNTY NUMBER	COUNTY NAME
1	ANDERSON	72	ERATH
2	ANDREWS	73	FALLS
3	ANGELINA	74	FANNIN
4	ARANSAS	75	FAYETTE
5	ARCHER	76	FISHER
6	ARMSTRONG	77	FLOYD
7	ATASCOSA	78	FOARD
8	AUSTIN	79	FORT BEND
9	BAILEY	80	FRANKLIN
10	BANDERA	81	FREESTONE
11	BASTROP	82	FRIO
12	BAYLOR	83	GAINES
13	BEE	84	GALVESTON
14	BELL	85	GARZA
15	BEXAR	86	GILLESPIE
16	BLANCO	87	GLASSCOCK
17	BORDEN	88	GOLIAD
18	BOSQUE	89	GONZALES
19	BOWIE	90	GRAY
20	BRAZORIA	91	GRAYSON
21	BRAZOS	92	GREGG
22	BREWSTER	93	GRIMES
23	BRISCOE	94	GUADALUPE
24	BROOKS	95	HALE
25	BROWN	96	HALL
26	BURLESON	97	HAMILTON
27	BURNET	98	HANSFORD
28	CALDWELL	99	HARDEMAN
29	CALHOUN	100	HARDIN
30	CALLAHAN	101	HARRIS
31	CAMERON	102	HARRISON
32	CAMP	103	HARTLEY
33	CARSON	104	HASKELL
34	CASS	105	HAYS
35	CASTRO	106	HEMPHILL
36	CHAMBERS	107	HENDERSON
37	CHEROKEE	108	HIDALGO
38	CHILDRESS	109	HILL
39	CLAY	110	HOCKLEY
40	COCHRAN	111	HOOD
41	COKE	112	HOPKINS
42	COLEMAN	113	HOUSTON
43	COLLIN	114	HOWARD
44	COLLINGSWORTH	115	HUDSPETH
45	COLORADO	116	HUNT
46	COMAL	117	HUTCHISON
47	COMANCHE	118	IRION
48	CONCHO	119	JACK
49	COOKE	120	JACKSON
50	CORYELL	121	JASPER
51	COTTLE	122	JEFF DAVIS
52	CRANE	123	JEFFERSON
53	CROCKETT	124	JIM HOGG
54	CROSBY	125	JIM WELLS
55	CULBERSON	126	JOHNSON
56	DALLAM	127	JONES
57	DALLAS	128	KARNES
58	DAWSON	129	KAUFMAN
59	DEAF SMITH	130	KENDALL
60	DELTA	131	KENEDY
61	DENTON	132	KENT
62	DE WITT	133	KERR
63	DICKENS	134	KIMBLE
64	DIMMIT	135	KING
65	DONLEY	136	KINNEY
66	DUVAL	137	KLEBERG
67	EASTLAND	138	KNOX
68	ECTOR	139	LAMAR
69	EDWARDS	140	LAMB
70	ELLIS	141	LAMPASAS
71	EL PASO	142	LA SALLE

COUNTIES OF TEXAS

COUNTY NUMBER	COUNTY NAME
143	LAVACA
144	LEE
145	LEON
146	LIBERTY
147	LIMESTONE
148	LIPSCOMB
149	LIVE OAK
150	LLANO
151	LOVING
152	LUBBOCK
153	LYNN
154	MCCULLOCH
155	MCLENNAN
156	MCMULLEN
157	MADISON
158	MARION
159	MARTIN
160	MASON
161	MATAGORDA
162	MAVERICK
163	MEDINA
164	MENARD
165	MIDLAND
166	MILAM
167	MILLS
168	MITCHELL
169	MONTAGUE
170	MONTGOMERY
171	MOORE
172	MORRIS
173	MOTLEY
174	NACOGDOCHES
175	NAVARRO
176	NEWTON
177	NOLAN
178	NUECES
179	OCHILTREE
180	OLDHAM
181	ORANGE
182	PALO PINTO
183	PANOLA
184	PARKER
185	PARMER
186	PECOS
187	POLK
188	POTTER
189	PRESIDIO
190	RAINS
191	RANDALL
192	REAGAN
193	REAL
194	RED RIVER
195	REEVES
196	REFUGIO
197	ROBERTS
198	ROBERTSON
199	ROCKWALL
200	RUNNELS
201	RUSK
202	SABINE
203	SAN AUGUSTINE
204	SAN JACINTO
205	SAN PATRICIO
206	SAN SABA
207	SCHLEICHER
208	SCURRY
209	SHACKELFORD
210	SHELBY
211	SHERMAN
212	SMITH
213	SOMERVELL
214	STARR
215	STEPHENS
216	STERLING
217	STONEWALL
218	SUTTON
219	SWISHER
220	TARRANT
221	TAYLOR
222	TERRELL
223	TERRY
224	THROCKMORTON
225	TITUS
226	TOM GREEN
227	TRAVIS
228	TRINITY
229	TYLER
230	UPSHUR
231	UPTON
232	UVALDE
233	VAL VERDE
234	VAN ZANDT
235	VICTORIA
236	WALKER
237	WALLER
238	WARD
239	WASHINGTON
240	WEBB
241	WHARTON
242	WHEELER
243	WICHITA
244	WILBARGER
245	WILLACY
246	WILLIAMSON
247	WILSON
248	WINKLER
249	WISE
250	WOOD
251	YOAKUM
252	YOUNG
253	ZAPATA
254	ZAVALA

APPENDIX B

SAMPLE REPORTS

TEXAS TRANSPORTATION INSTITUTE

09/09/87

CLIENT MASTER LIST

<CIDNO	<CLIENT NAME	<CLIENT ADDRESS	<CITY	<DOB	>AGE	<SEX	<RACE	>MINC	<H/A	>TTD
00001	URBANIK,THOMAS	12 POST OAK BEND RD	COLLEGE STA	02/15/46	41	M	W	1000	A	1
00002	SMITH, SALLY	1 FIRST STREET	ANYTOWN, USA	01/01/01	0	F	B	1500	H	0
00003					87	F		0	A	0
H0001				01/01/01	0	F		0	A	0
HELP					0			0		0
*** Total ***										1

TOTAL CLIENTS THIS PERIOD 3
UNDUPLICATED TRIPS PERIOD 1

TEXAS TRANSPORTATION INSTITUTE

TRANSIT DATA MANAGEMENT SYSTEM
SYSTEM UTILIZATION BY CLIENT DEMOGRAPHICS

AGE	0-20	21-40	41-59	60+
ANNUAL INCOME				
0- 499	0	0	0	0
500- 999	0	0	0	0
1000-1499	0	0	0	0
1500-1999	0	0	0	0
2000-2499	0	0	0	0
2500-2999	0	0	0	0
3000-3999	0	0	0	0
4000-4999	0	0	0	0
5000-5999	0	0	0	0
6000-6999	0	0	0	0
7000-7999	0	0	0	0
8000-OVER	0	0	1	0
RACE				
CAUCASIAN	0	0	0	0
BLACK	0	0	0	0
MEXICAN-AMERICAN	0	0	0	0
ORIENTAL	0	0	0	0
AMERICAN-INDIAN	0	0	0	0
OTHER	0	0	1	0
SEX				
MALE	0	0	1	0
FEMALE	0	0	0	0
***** TOTAL *****	0	0	1	0

TEXAS TRANSPORTATION INSTITUTE

TRANSIT DATA MANAGEMENT SYSTEM
SYSTEM UTILIZATION BY PURPOSE

	AGE	0-20	21-40	41-59	60+	MLG
11	MEDICAL	0	0	1	0	10.0
12	SHOPPING	0	0	0	0	0.0
13	RECREATION	0	0	0	0	0.0
14	PERSONAL BUSINESS	0	0	0	0	0.0
15	SCHOOL / EDUCATION	0	0	0	0	0.0
16	SOCIAL SERVICES	0	0	0	0	0.0
17	WORK	0	0	0	0	0.0
18	SENIOR CENTERS / NUTRITION	0	0	0	0	0.0
19	HOME	0	0	0	0	0.0
20	ATTENDENT / ESCORT	0	0	0	0	0.0
21	OTHER 1	0	0	0	0	0.0
22	OTHER 2	0	0	0	0	0.0
23	OTHER 3	0	0	0	0	0.0
24	OTHER 4	0	0	0	0	0.0
25	OTHER 5	0	0	0	0	0.0
26	OTHER 6	0	0	0	0	0.0
27	OTHER 7	0	0	0	0	0.0
28	OTHER 8	0	0	0	0	0.0
29	OTHER 9	0	0	0	0	0.0
30	OTHER 10	0	0	0	0	0.0

TEXAS TRANSPORTATION INSTITUTE
09/09/87

FUNDING SOURCE SUMMARY

>CODE	<FUNDING SOURCE	>PAX TRIPS	>PAX MILES
18	Section 18	0	0
19	Title 19	0	0
3B	Title 3b	0	0
F	Fares/Donation	0	0
O	Other	0	0
S18	SECTION 18	0	0

TEXAS TRANSPORTATION INSTITUTE

TRANSIT DATA MANAGEMENT SYSTEM
UNMET SERVICE REQUESTS BY CLIENT DEMOGRAPHICS

AGE	0-20	21-40	41-59	60+
ANNUAL INCOME				
0- 499	0	0	0	0
500- 999	0	0	0	0
1000-1499	0	0	0	0
1500-1999	0	0	0	0
2000-2499	0	0	0	0
2500-2999	0	0	0	0
3000-3999	0	0	0	0
4000-4999	0	0	0	0
5000-5999	0	0	0	0
6000-6999	0	0	0	0
7000-7999	0	0	0	0
8000-OVER	0	0	0	0
RACE				
CAUCASIAN	0	0	0	0
BLACK	0	0	0	0
MEXICAN-AMERICAN	0	0	0	0
ORIENTAL	0	0	0	0
AMERICAN-INDIAN	0	0	0	0
OTHER	0	0	0	0
SEX				
MALE	0	0	0	0
FEMALE	0	0	0	0
***** TOTAL *****		0	0	0

TEXAS TRANSPORTATION INSTITUTE

TRANSIT DATA MANAGEMENT SYSTEM
UNMET SERVICE REQUESTS BY PURPOSE

	AGE	0-20	21-40	41-59	60+
11	MEDICAL	0	0	0	0
12	SHOPPING	0	0	0	0
13	RECREATION	0	0	0	0
14	PERSONAL BUSINESS	0	0	0	0
15	SCHOOL /EDUCATION	0	0	0	0
16	SOCIAL SERVICES	0	0	0	0
17	WORK	0	0	0	0
18	SENIOR CENTERS /NUTRITION	0	0	0	0
19	HOME	0	0	0	0
20	ATTENDENT / ESCORT	0	0	0	0
21	OTHER 1	0	0	0	0
22	OTHER 2	0	0	0	0
23	OTHER 3	0	0	0	0
24	OTHER 4	0	0	0	0
25	OTHER 5	0	0	0	0
26	OTHER 6	0	0	0	0
27	OTHER 7	0	0	0	0
28	OTHER 8	0	0	0	0
29	OTHER 9	0	0	0	0
30	OTHER 10	0	0	0	0

Page No. 1 TEXAS TRANSPORTATION INSTITUTE
09/09/87

VEHICLE OPERATION DATA

<VNO	<DATE	<DRIVER	<OUT	<IN	>START	>END	>GAS $	>GAS @	>OIL $	> OIL @	>MAINT $	<MAINT DESC
*** Total ***							0	0	0	0	0	

TEXAS TRANSPORTATION INSTITUTE

TRANSIT DATA MANAGEMENT SYSTEM

VEHICLE 101 UTILIZATION BY CLIENT DEMOGRAPHICS

AGE	PAX	ANNUAL INCOME	PAX	RACE	PAX	SEX	PAX
0 TO 20	0	0 TO 499	0	CAUCASIAN	0	MALE	1
21 TO 40	0	500 TO 999	0	BLACK	0	FEMALE	0
41 TO 59	1	1000 TO 1999	0	MEXICAN-AMER	0		
60 AND UP	0	1500 TO 1999	0	ORIENTAL	0		
		2000 TO 2499	0	AMER-INDIAN	0		
		2500 TO 2999	0	OTHER	1		
		3000 TO 3999	0				
		4000 TO 4999	0				
		5000 TO 5999	0				
		6000 TO 6999	0				
		7000 TO 7999	0				
		8000 AND UP	1	HANDICAPPED	0		

TEXAS TRANSPORTATION INSTITUTE

09/09/87

VEHICLE UTILIZATION BY PURPOSE CODE

>CODE	<PURPOSE	>PAX TRIPS	>PAX MILE
11	MEDICAL	1	10
12	SHOPPING	0	0
13	RECREATION	0	0
14	PERSONAL BUSINESS	0	0
15	SCHOOL /EDUCATION	0	0
16	SOCIAL SERVICES	0	0
17	WORK	0	0
18	SENIOR CENTERS /NUTRITION	0	0
19	HOME	0	0
20	ATTENDENT /ESCORT	0	0
21	OTHER	0	0
22	OTHER 2	0	0
23	OTHER 3	0	0
24	OTHER 4	0	0
25	OTHER 5	0	0
26	OTHER 6	0	0
27	OTHER 7	0	0
28	OTHER 8	0	0
29	OTHER 9	0	0
30	OTHER 10	0	0
0		0	0
*** Total ***		1	10

TEXAS TRANSPORTATION INSTITUTE

TRANSIT DATA MANAGEMENT SYSTEM

VEHICLE 102 UTILIZATION BY CLIENT DEMOGRAPHICS

AGE	PAX	ANNUAL INCOME	PAX	RACE	PAX	SEX	PAX
0 TO 20	1	0 TO 499	0	CAUCASIAN	1	MALE	4
21 TO 40	1	500 TO 999	0	BLACK	3	FEMALE	5
41 TO 59	2	1000 TO 1999	0	MEXICAN-AMER	2		
60 AND UP	5	1500 TO 1999	0	ORIENTAL	0		
		2000 TO 2499	0	AMER-INDIAN	1		
		2500 TO 2999	0	OTHER	2		
		3000 TO 3999	0				
		4000 TO 4999	0				
		5000 TO 5999	0				
		6000 TO 6999	2				
		7000 TO 7999	4				
		8000 AND UP	3	HANDICAPPED	1		

TEXAS TRANSPORTATION INSTITUTE
09/09/87

VEHICLE UTILIZATION BY PURPOSE CODE

>CODE	<PURPOSE	>PAX TRIPS	>PAX MILE
11	MEDICAL	0	0
12	SHOPPING	0	0
13	RECREATION	0	0
14	PERSONAL BUSINESS	0	0
15	SCHOOL /EDUCATION	0	0
16	SOCIAL SERVICES	0	0
17	WORK	0	0
18	SENIOR CENTERS /NUTRITION	0	0
19	HOME	0	0
20	ATTENDENT /ESCORT	0	0
21	OTHER 1	0	0
22	OTHER 2	0	0
23	OTHER 3	0	0
24	OTHER 4	0	0
25	OTHER 5	0	0
26	OTHER 6	0	0
27	OTHER 7	0	0
28	OTHER 8	0	0
29	OTHER 9	0	0
30	OTHER 10	0	0
0		0	0
*** Total ***		0	0