NORTHWEST 27TH AVENUE ORIGIN-DESTINATION STUDY

METRO-DADE TRANSIT

NW 27 AVENUE
ORIGIN-DESTINATION STUDY

ON-BOARD AND TELEPHONE SURVEYS

MARCH, 1990

PREPARATION OF THIS REPORT HAS BEEN FINANCED IN PART THROUGH GRANTS FROM THE FLORIDA DEPARTMENT OF TRANSPORTATION AND THE URBAN MASS TRANSIT ADMINISTRATION.

FOR FURTHER INFORMATION, PLEASE CONTACT:

METRO-DADE TRANSIT AGENCY
TRANSIT SYSTEMS DEVELOPMENT
3300 NW 32 AVENUE
MIAMI, FLORIDA 33142

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EXECUTIVE SUMMARY

This report discusses the results of two origin-destination surveys (on-board and telephone) performed in April, May and June of 1989 within the Northwest Dade 27th Avenue Transit Corridor. These surveys followed recommendations from the Joint Participation Agreement of June 18, 1987, between Metro-Dade Transit Agency (MDTA) and the Florida Department of Transportation (FDOT).

Background

Both on-board bus and telephone origin-destination surveys were designed and implemented to determine the travel patterns of current transit and non-transit or potential transit travelers residing within, and traveling within or outside of the corridor. Survey results also will be used to estimate the accuracy of model-associated information for the study area such as: socioeconomic data by Traffic Analysis District (TAD), transit and auto trip patterns, modal split, etc.

To conduct the surveys, the Transit System and Development Division contracted the services of temporary surveyors and supervisors. The training of personnel as well as the design of survey tools such as the on-board survey form, procedure manuals, telephone interview form, etc., were in-house efforts. In-house efforts also included survey implementation, data processing and the final analysis.

On-Board Survey Findings

The on-board survey determined that transit users living within the NW 27th Avenue corridor tend to make short trips within the study area. External bus trips such as those south of Flagler Street, are relatively few in number. Compared to the volume of intra-corridor trips, these trips remain few. It was estimated that 60 percent of all on-board trips originated and terminated entirely within the study area.

Telephone Survey Findings

Random telephone interviews with residents who were generally transit non-users, confirmed a number of findings from the on-board survey. Internal trips, for example, although proportionally smaller than those from the on-board survey, still accounted for 41 percent of all trips.

Comparison of On-Board and Telephone Survey Findings

Both surveys showed low trip distributions to and from the CBD/downtown area (located south-east of the study area in TAD 38, Analysis Area 8). In short, only 3 percent of on-board trips and 4 percent of telephone survey trips interacted with the CBD. However, contrary to the on-board survey, telephone survey trips to and from Analysis Area 11 to the west, and Analysis Area 3B to the east, accounted for as much as 27 percent of all trips compared to 13 percent for the on-board survey.

Comparison of Survey Findings and Existing Service Structure

A comparison of survey travel patterns and bus route alignments within the study area revealed some differences between transit travel patterns and the existing service structure. Major differences were: the existence of long, north-south routes in an area where shorter trips are prevalent; scarce or almost non-existent east-west, cross-town bus service in areas of need; and, bus routes feeding Metrorail stations where the numbers of rail-to-bus and bus-to-rail transfers are insignificant.

Recommendations

Survey findings are being transmitted to the Service Planning and Scheduling Division for incorporation into future service planning. More specifically, this data will help to evaluate existing route alignments and schedules and assist in determining future directions for the bus system in this corridor. A starting point, indicated by the survey data may be the development of more local, circular and east-west, cross-town routes. This may be a viable approach to serving the large percentage of internal trips in the corridor. In addition, the shortening of the long, north-south trunk routes should be considered. Survey results indicate the prevalence of heavy, local traffic on these routes within the study area and moderate traffic between the study area and Analysis Area 6 to the south. However, within Analysis Area 6 few trips utilize the full extent of the routes. Therefore, implementing or increasing the number of turn-backs may allow for the shifting of resources to provide better service to those heavily traveled segments of the NW 27th Avenue corridor.

1.0 Study Purpose

In recent years, Metro-Dade Transit Agency (MDTA) has collected origin-destination data on a route-level basis for special projects such as the Kendall Area Transit (KAT), Route 95 (I-95 Traffic Mitigation/Tri-Rail coordination) and the 1987 Metrorail survey. However, in these cases, the data were useful only for their specific purpose and then discarded.

Metro-Dade Transit Agency (MDTA) will continue to collect origin-destination data for special studies. However, the data will now be standardized to allow it to be merged into a single, continuously, updated database covering all of Dade County. The data will be used to analyze travel patterns in Dade County for long-range planning, the Transit Development Program (5 year plan), line-up planning and special projects planning.

Because the Florida Department of Transportation (FDOT) has programmed the NW 27 Avenue corridor for service enhancements, the first application of the standardized approach will be the NW 27 Avenue corridor.

1.1 NW 27 Avenue Study Area

In 1987, the Florida Department of Transportation (FDOT) conducted a study of the NW 27 Avenue/University Drive corridor which resulted in several general recommendations for improving public transit service in the area. As part of the study, traffic data, major trip generator data and transit rider data were collected. However, because of the lack of available origin-destination data, it was not possible to analyze travel patterns within the study area in detail.

Because the transit service improvements recommended for the NW 27 Avenue corridor were not based on origin-destination information, it was agreed that a more detailed operations planning analysis (including the collection of origin-destination data) should be conducted before the implementation of services. On June 18, 1987, MDTA entered into a Joint Participation Agreement with FDOT to implement the above-mentioned recommendations, including the collection of origin-destination data and the identification of potential transit ridership and service improvements.

1.2 Study Area Description

The study area is situated in Northwest Dade County, bounded by the Dade-Broward County line to the north, SR-112 (Airport Expressway) to the south, I-95/Florida Turnpike to the east and NW 57 Avenue to the west (except the area bounded by NW 119 Street and NW 42 Avenue - TADs 28 and 33).

The study area consists of the following Traffic Analysis Districts: 11 (Carol City East), 12 (Carol City West), 20 (Opa Locka Airport), 21 (Opa Locka), 22 (West North Miami), 26 (North Liberty City), 27 (South Liberty City) and 34 (North Allapattah) (Exhibit 1). This represents a smaller study area than that recommended by FDOT. However, these districts represent a more cost-feasible area given the budget for the project.

The larger study area includes the following Traffic Analysis Districts: 9, 10, 11, 12, 20, 21, 22, 23, 24, 25, 26, 27, 28, 32, 33, 34 and 35.

1.3 Existing Routes in the Study Area

The five most important north-south crosstown routes in the study area are described below. Information about several east-west crosstown routes that make connections with the north-south routes is also provided.

Route 17

Route 17 provides service in North Allapattah, South Liberty City, North Liberty City, Opa Locka, West North Miami and Carol City East. The following east-west crosstown routes also provide service in these areas: 22, 28, 33, 36, 54, 62, 74, 75, 83, G, L and J.

Route 21

Route 21 provides service in North Allapattah, South Allapattah, South Liberty City, North Liberty City and Opa Locka. The following east-west crosstown routes also provide service in these areas: 28, 33, 36, 54, 62, 74, 75, L and J.

Route 22

Route 22 provides service in North Allapattah, South Allapattah, South Liberty City, North Liberty City, Opa Locka, West North Miami and the North Miami Beach/163 Street Corridor. The following east-west crosstown routes also provide service in these areas: 33, 36, 54, 62, 74, 75, G, L and E/V.

Route 27

Route 27 provides service in North Allapattah, South Allapattah, South Liberty City, North Liberty City, Opa Locka and Carol City

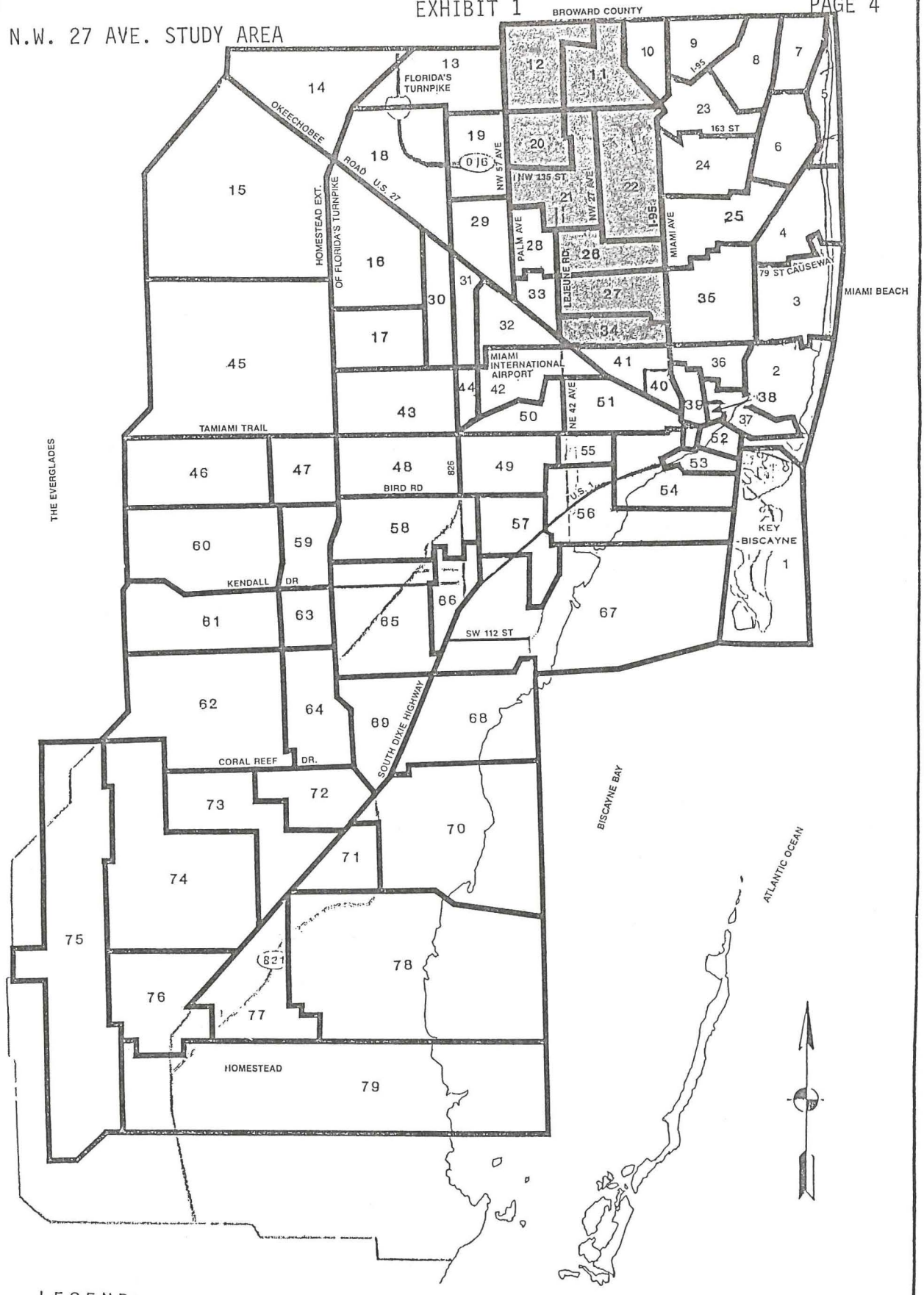
South Liberty City, North Liberty City, Opa Locka and Carol City West. The following east-west crosstown routes also provide service in these areas: 28, 33, 36, 54, 62, 74, 75, 83, and L.

Route 32

Route 32 provides service in North Allapattah, South Liberty City, North Liberty City, Opa Locka, Opa Locka Airport and Carol City West. The following east-west crosstown routes also provide service in these areas: 28, 33, 36, 54, 62, 74, 75, 83 and L.

EXHIBIT 1 PAGE 4

N.W. 27 AVE. STUDY AREA



LEGEND:

TRAFFIC ANALYSIS DISTRICT BOUNDARY

47 DISTRICT NUMBER

STUDY AREA

TRAFFIC ANALYSIS DISTRICTS

DISTRICT NUMBER	DISTRICT NAME
1	KEY BISCAYNE
2	SOUTH BEACH/LINCOLN ROAD
3	MID-BEACH
4	NORMANDY/SURFSIDE
5	NORTH BEACH/HAULOVER
6	INTERAMA
7	AVENTURA/TURNBERRY
8	CALIFORNIA CLUB
9	HIGHLAND LAKES
10	NORWOOD
11	CAROL CITY EAST
12	CAROL CITY WEST
13	PALM SPRINGS NORTH
14	NW DADE COUNTY - NORTH
15	NW DADE COUNTY - WEST
16	MEDLEY
17	DORAL
18	PENNSUCO/HIALEAH GARDENS/W HIALEAH
19	MIAMI LAKES
20	OPA LOCKA AIRPORT
21	OPA LOCKA
22	W NORTH MIAMI
23	NORTH MIAMI BEACH/163 ST CORRIDOR
24	NORTH MIAMI
25	MIAMI SHORES
26	N LIBERTY CITY
27	S LIBERTY CITY
28	E HIALEAH
29	HIALEAH
30	PALMETTO INDUSTRIAL CORRIDOR WEST
31	PALMETTO INDUSTRIAL CORRIDOR EAST
32	MIAMI SPRINGS
33	SE HIALEAH
34	N ALLAPATTAH
35	LITTLE HAITI/MORNINGSIDE
36	BUENA VISTA
37	OMNI/BAYSIDE/BAYFRONT PARK
38	CBD
39	OVERTOWN/CULMER
40	CIVIC CENTER
41	S ALLAPATTAH
42	MIAMI INTERNATIONAL AIRPORT

TRAFFIC ANALYSIS DISTRICTS

DISTRICT NUMBER	DISTRICT NAME
43	INTERNATIONAL MALL
44	AIRPORT WEST
45	TRAIL GLADES
46	TAMIAMI TRAIL WEST
47	TAMIAMI TRAIL EAST
48	WESTCHESTER
49	WEST MIAMI/W GABLES
50	KINLOCH/AIRPORT PLAZA
51	LITTLE HAVANA
52	BRICKELL
53	NORTH GROVE
54	SHENANDOAH
55	CORAL GABLES
56	S GABLES/SOUTH GROVE
57	UNIVERSITY/SOUTH MIAMI
58	TROPICAL PARK/MILLER ROAD
59	HORSE COUNTRY
60	WEST LAKES PLAZA/WEST KENDALL
61	THE HAMMOCKS/WEST KENDALL
62	TAMIAMI AIRPORT
63	DEVONAIRE/CALUSA
64	METROZOO
65	DADE SOUTH
66	DADELAND
67	PALMETTO/SUNILAND
68	PINECREST
69	RICHMOND HEIGHTS/W PERRINE
70	CUTLER RIDGE/SAGA BAY
71	GOULDS
72	SOUTH MIAMI HEIGHTS
73	CASTELLOW
74	REDLANDS
75	EAST EVERGLADES
76	HOMESTEAD
77	NARANJA/LEISURE CITY
78	HOMESTEAD AIRFORCE BASE
79	FLORIDA CITY

PART A - ON-BOARD SURVEY

2.0 Introduction

This section discusses findings from the on-board survey with the purpose of determining travel patterns of existing transit users in the Northwest 27 Avenue corridor.

2.1 Study Methodology

On-Board surveys were conducted on forty-seven of the fifty daily morning runs for the five (5) north-south routes traversing the study area (Table 1). Surveys were conducted over a five (5) weekday period. Any inferences derived from a sample this size (47) would have a 95 percent confidence level and a +/- 13 percent confidence interval. This assumes a population size of 250 runs (50 runs x 5 weekdays) and a worst case scenario where all weekday runs have different characteristics depending on the day the survey is conducted.

Three (3) trippers were not surveyed due to manpower and time constraints. However, the data have been extrapolated to compensate for this. The runs to be surveyed were randomly assigned to one of the five days and a team of two (2) surveyors was assigned to each run.

Every passenger (over the age of 12 years) who boarded a survey bus was handed a self-administered questionnaire form to complete. (See Appendix 1 "The Survey Manual" for a detailed description of survey procedures. The survey form (Exhibit 3) sought to gather the following information:

1. Trip origin (place type and address).
2. Mode of access to survey bus, including bus transfer information.
3. Destination (place type and address).
4. Mode of egress from survey bus, including bus transfer information.
5. Trip frequency (weekdays and weekends).
6. Car availability.
7. Gender.
8. Age.
9. Ethnicity.

Information collected through the surveys was entered into a computerized Metrobus Travel Survey System (MTSS).

Once the data were entered and verified, online and batch processes using a CICS MARS (Metro-Dade Address Reference System) were employed to group both origin and destination address information for each trip into Traffic Analysis Zones (TAZ'S) and later into Traffic Analysis Districts (TAD'S). (Exhibit 2).

TABLE 1
SURVEYED RUNS

ROUTE 17	ROUTE 21	ROUTE 22 *	ROUTE 27	ROUTE 32
5075	1030/1029	4	5087	1042/1046
5067/5081	1028	5	5088	1037/1047
5070	1026	2	5090	1038
5077	1027	3	5092	1040
5071/5078	1029/1031	6	5091	1041/1048
5072		7	5089	1044
5069		13	5094	1039
5074/5080		8	5096	1036
5073/5079		9	5100	1043
		1	5093	
			5097/5236	
			5095/5101	
			5099	
			5098	

* Run number format for Route 22 differs from that for other routes due to PEP (Private Enterprise Participation Program) - Greyhound numbering system.

F :spondent's Address

EXHIBIT 3
ON-BOARD SURVEY FORM

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
First-Class Mail Permit No. 20779 Miami, FL

Postage Will Be Paid By Addressee

METRO-DADE TRANSIT AGENCY
ATTN. PLANNING & DEVELOPMENT SURVEY
111 N.W. 1ST. STREET
MIAMI, FL. 33128-9963

METRO-DADE TRANSIT

METROBUS TRAVEL SURVEY

We want to improve Metrobus service in your area. Please help us by filling out this form and placing it in the return box as you exit. Thank you.

1. Where did you begin the trip that you are now making?
(Check ☑ one only, please).
   - ☐ Home
   - ☐ Work
   - ☐ School/College
   - ☐ Shopping
   - ☐ Personal business (bank, post office etc.)
   - ☐ Medical facility (doctor, dentist, hospital etc.)
   - ☐ Recreational site (park, beach, movie theatre etc.)
   - ☐ Other _____
   (Please Specify)

2. **Where is that? Please tell us the address or nearest street intersection or building or name of the place where you began the trip.**

_____ _____ _____
street address city zip code (if known)

3. How did you get to the bus stop where you got on this bus?
(Check ☑ one only, please).
   - ☐ Walked
   - ☐ Transferred from another bus (Route No.) _____
   - ☐ Transferred from Metrorail/Metromover
   - ☐ Drove and parked a car, truck or van
   - ☐ Dropped off
   - ☐ Passenger in a car, truck or van that parked

№ 3013

4. Where are you going? (Check ☑ one only, please).

- ☐ Home
- ☐ Work
- ☐ School/College
- ☐ Shopping
- ☐ Personal business (bank, post office etc.)
- ☐ Medical facility (doctor, dentist, hospital etc.)
- ☐ Recreational site (park, beach, movie theatre etc.)
- ☐ Other _____
  (Please Specify)

5. **Where is that? Please tell us the address or nearest street intersection or building or name of the place you are going to.**

_____ _____ _____
street address city zip code (if known)

6. When you get off this bus, how will you get to where you are going?

- ☐ Walk
- ☐ Transfer to another bus (Route No.) _____
- ☐ Transfer to Metrorail/Metromover
- ☐ Other (example: taxi, drive a car etc.) _____
  (Please Specify)

7. How many round trips (going and coming) do you make on this bus route per week?

	0	1	2	3	4	5	6 or more
Monday thru Friday	☐	☐	☐	☐	☐	☐	☐

	0	1	2	3	4 or more
On weekends	☐	☐	☐	☐	☐

8. Do you have a car available for your use?

☐ Yes ☐ No

9. Are you:

☐ Male ☐ Female

10. Is your age:

- ☐ Under 18
- ☐ 18-24
- ☐ 25-44
- ☐ 45-64
- ☐ 65 or older

11. Are you:

- ☐ Black, non-Hispanic
- ☐ Black, Hispanic
- ☐ White, Hispanic
- ☐ White, non-Hispanic
- ☐ American Indian
- ☐ Asian
- ☐ Other _____
  (Please Specify)

Comments: _____

_____

_____

Thank you very much!

useit!

After the data were grouped by TAD, a Statistical Analysis System (SAS) was used to analyze the data to determine travel patterns and socio-economic characteristics among riders in the corridor.

Travel patterns were analyzed between study area TAD'S and the rest of the county by examining trip information from:

1. The study area TAD'S to all TAD'S with ten (10) or more trips. This 10 trip requirement was used to reduce the size of the trip table matrix.

2. TAD'S with ten (10) or more trips to study area TAD'S.

To look at regional travel patterns, the county was divided into eleven (11) collective groupings of TAD'S or Analysis Areas (AA'S). (See Exhibits 4 and 5). To account for out of county travel a twelfth Analysis Area was created to include any area outside of Dade County. Trips to and from Broward county accounted for most of this travel.

The study thus continued to examine the following:

3. Trip information from the study area TAD'S to the Analysis Areas.

4. Trip information from the Analysis Areas to the study area TAD'S.

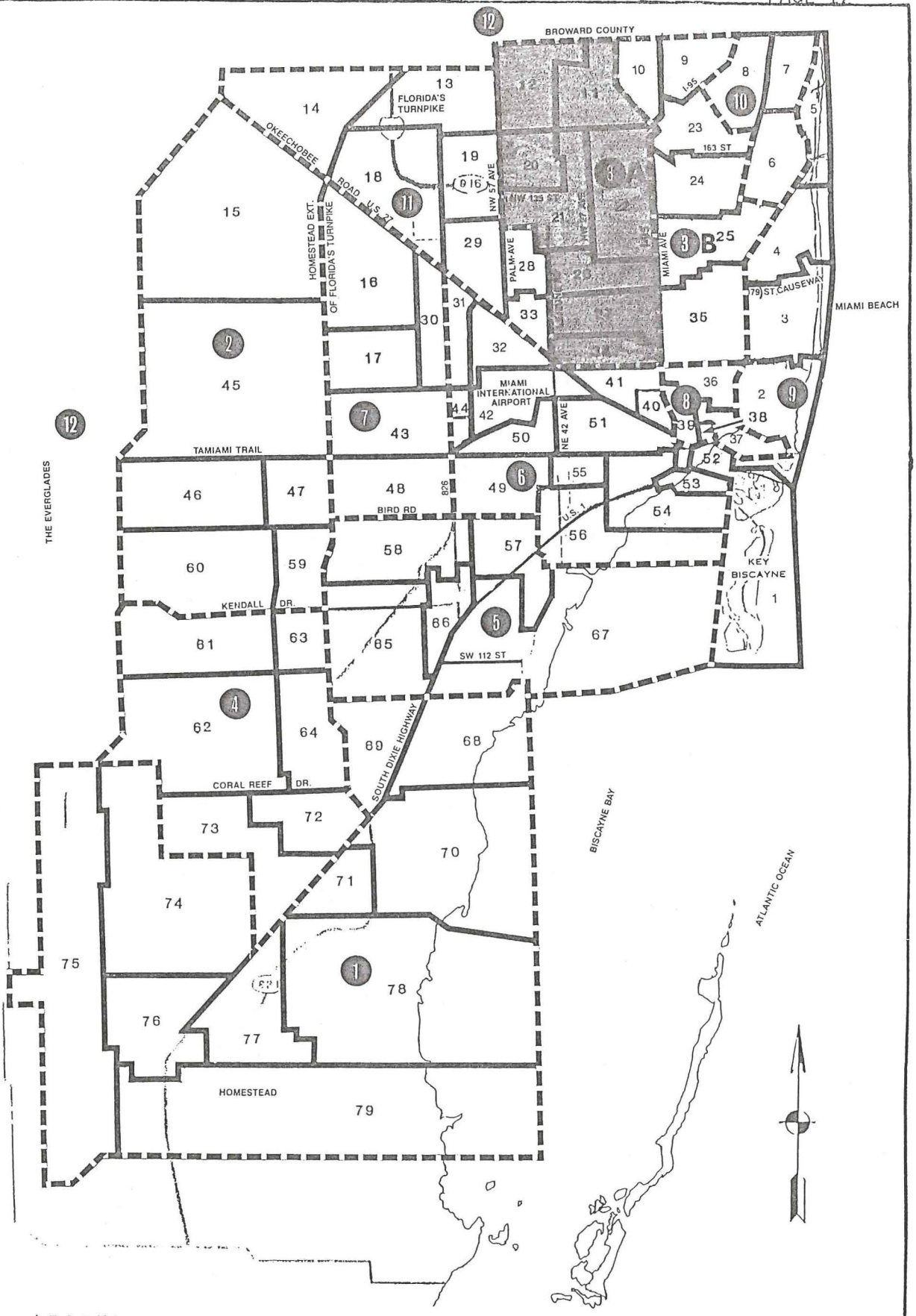
The above analyses were then conducted for three (3) time periods: the Pre-AM Peak period, the Peak period, and the Post-AM Peak period. All analyses were repeated for each of the five (5) routes surveyed.

2.2 Study Limitations

The survey design and implementation stages were generally very successful. This was evidenced by the higher than anticipated actual response rate (74.52 percent) versus a 40 percent response rate during the pilot test. The issuance of free one-day transit passes as an incentive to respondents participating in the survey was certainly a positive factor in improving the response rate from the pilot test. However, a number of deficiencies did become apparent during the course of the survey, which if overcome, could help to make future studies of this nature operationally smoother and more effective.

The main survey deficiencies were:

1. The questionnaire form was viewed as too complex for some riders. This was evidenced by the same address being provided for both the origin and the destination. Excuses such as "I forgot my glasses" were sometimes offered as a



DADE COUNTY ANALYSIS AREAS

ANALYSIS AREAS

ANALYSIS AREA NAME/NUMBER	CORRESPONDING TAD'S
1 SOUTH DADE/HOMESTEAD/CUTLER RIDGE	68,69,70,71,74,75, 76,77,78,79,
2 WEST KENDALL	15,45,46,47,59,60
3 CENTRAL NORTHWEST A STUDY AREA (NW 27 AVE CORR)	11,12,20,21,22,26, 27,34
B OUTSIDE STUDY AREA	9,10,23,24,25,35
4 REDLANDS	61,62,63,64,72,73
5 DADELAND	57,58,65,66,67
6 SOUTHWEST MIAMI/CORAL GABLES/ AIRPORT INNER WEST	31,32,40,41,42,44, 49,50,51,52,53,54, 55,56
7 AIRPORT WEST	16,17,30,43,48
8 MIAMI/CBD/INNER NORTHEAST	36,37,38,39
9 MIAMI BEACH/KEY BISCAYNE	1,2,3,4,5
10 OUTER NORTHEAST	6,7,8
11 OUTER NORTHWEST	13,14,18,19,28, 29,33
12 OUTSIDE DADE COUNTY	NONE
TOTAL: 12 ANALYSIS AREAS	79 TAD'S

refusal. In some cases, this was used to mask a suspected literacy problem.

2. Many respondents left the inside of the form blank, i.e., they did not open it to read past Question 3.

3. A low percentage of forms was received by the mail back option (5.7 percent), proving not to be worth the cost of opening up a Business Reply Mail Account.

4. A number of runs were missed and had to be rescheduled due to a few survey team members failing to show up on time.

2.3 Suggestions For Improvement

Based on the above survey limitations, some suggestions for improving future origin-destination studies are:

1. Provide more surveyors to offer assistance in explaining questions. Since no attitudinal questions are involved, the introduction of bias by surveyors is not felt to pose a major problem.

2. Print the survey forms on single page cards that do not have to be opened. Change the print to a larger type for easier legibility and provide more spacing between questions.

3. Delete the mail back option to save cost. Deleting this option will also free more space for making printing improvements.

4. Arrange to have at least one "backup" survey team available at each garage, to operate on an "as needed" basis.

3.0 Major Findings

The following discussion highlights major findings from the on-board surveys. Copies of the SAS MTSS reports upon which the discussion is based are housed in the Transit Systems Development Division and the Operations Planning and Scheduling Division.

3.1 Response Rate

From MTSSR001 - Report 1, it may be seen that 6839 survey forms were completed versus a sample size of 9177 resulting in a 74.52 percent actual response rate. However, a number of forms (1901) had to be voided due to erroneous or incomplete information being provided, resulting in a 53.81 percent valid response rate (MTSSR001 - Report 2).

In an attempt to estimate total ridership from the number of valid responses, the data were expanded by comparing boardings to valid responses, i.e. Boardings/Valid Responses. This resulted in an expanded sample size of 9477. Expansion factors have been consistently applied to all reports hereafter.

3.2 Boardings by Hour

The strongest concentration of boardings (24.08 percent) occurred from 6:30 - 7:30 am. (See MTSSR002). This was true for all routes with the exception of Route 32 which experienced its heaviest boardings between 5:30 and 6:30 am. Between 5:30 and 6:30 am also proved to be the second strongest period of concentration for all other routes, accounting for 20.24 percent of all boardings.

3.3 Origin-Destination of Total Boardings

1. Study Area TAD'S to TAD'S with 10 or More Trips

   The largest concentration of trips originated in TAD 34 (996) and the majority terminated in TAD 27 (186 trips), TAD 26 (106), TAD 34 (73) and TAD 22 (86). This was followed by trips originating in TAD 22 (899) with the majority terminating in TAD 22 (122 trips), TAD 11 (63), TAD 27 (75) and TAD 34 (79). (See MTSSR003 - Report 1).

   One area with a small concentration of trip origins was TAD 20 which accounted for only 0.79 percent of all outgoing trips.

2. TAD'S with 10 or more Trips to Study Area TAD'S

   The greatest concentration of trips going into the study area was to TAD 27 which received 18.82 percent (690) of all incoming trips. Many (186 or 27 percent) of these trips originated in TAD 34. TAD 27 was closely followed by TAD 22 which received 664 or 18.11 percent of all trips, with the greatest number coming from TAD 22 (122 or 18.32 percent). (See MTSSR003 - Report 2).

   TAD'S receiving the smallest number of trips were TAD'S 20 and 12 (1.89 and 5.94 percent respectively).

3. Study Area TAD'S to Analysis Areas

   The majority of trips from study area TAD'S (2775 or 50.23 percent) terminated in Analysis Area 3A (the study area section of Central Northwest) with the largest number (588 or 21.17 percent) being produced by TAD 34. Other TAD'S which generated a significant number of trips to Analysis Area 3A were: TAD 22 which generated 440 or 15.85 percent and TAD 27 which generated 427 or 15.37 percent. (See MTSSR003 - Report 3).

Analysis Area 6 (Southwest Miami/Coral Gables/Airport Inner West) received the largest number of trips outside of the study area (1175 or 21.27 percent) with the largest number coming from TAD 34 (279 or 23.77 percent).

Analysis Area 4 (Redlands) received the lowest number of trips (2 or 0.04 percent) followed by Analysis Area 1 (South Dade/Homestead/Cutler Ridge) which received 15 trips or 0.28 percent.

4. Analysis Areas to Study Area TAD'S

Analysis Area 3A (the study area) generated by far the largest number of trips (2776 or 68.04 percent). The majority of these trips terminated in study area TAD'S, notably in TAD 27 which received 565 or 20.36 percent, TAD 22 which received 437 or 15.76 percent and TAD 34 which received 413 or 14.86 percent. (See MTSSR003 - Report 4).

The only other Analysis Area to generate a significant number of trips was Analysis Area 6 (644 or 15.81 percent) with the majority of these trips terminating in TAD'S 34, 22 and 27 (188, 114 and 101 trips respectively).

3.4 Origin-Destination of Boardings in the Pre-AM Peak (Before 6:00 am)

1. Study Area TAD'S to TAD'S with 10 or more Trips

A large concentration of trips in the Pre-AM Peak period (84 or 28.05 percent) originated in TAD 22 with 27 or 31.67 percent of these trips going to TAD 23.

2. TAD'S with 10 or more Trips to Study Area TAD'S

A large concentration of trips originated in TAD 22 (48 or 28.10 percent) with a substantial number of these trips (17) going to TAD 34. Another concentration of trips (17) originated in TAD 21 and terminated in TAD 34.

3. Study Area TAD'S to Analysis Areas

A large concentration of trips (61) originated in TAD 22 and terminated in Analysis Area 3A. This was followed by trips originating in TAD 34 and terminating in Analysis Area 3A (56) and trips originating in TAD 21 and terminating in Analysis Area 3A (45).

4. Analysis Areas to Study Area TAD'S

The greatest number of trips originated in Analysis Area 3A (291 or 72.70 percent) with 68 or 23.21 percent terminating in TAD 34. This was followed by trips originating in Analysis Area 3A and terminating in TAD 27 (50 or 17.23 percent) and trips originating in Analysis Area 3A and terminating in TAD 22 (44 or 15.17 percent).

3.5 Origin-Destination of Boardings in the AM Peak (6:00-8:30 am)

1. Study Area TAD'S to TAD'S with 10 or more Trips

A large number of trips in the AM peak period originated in TAD 34 (511 or 22.77 percent) with 124 or 24.18 percent of these trips going to TAD 27. A significant number of trips was also generated in TAD 22 (434 or 19.33 percent) with 85 or 19.56 percent going to TAD 22.

The top destination TAD'S were TAD 27 which received 342 trips, TAD 22 which received 273 trips, TAD 21 which received 218 trips and TAD 34 which received 199 trips.

2. TAD'S with 10 or more Trips to Study Area TAD'S

A large number of trips originated in TAD 34 (329 or 17.95 percent) with 124 trips (37.57 percent) going to TAD 27. TAD 22 also generated a significant number of trips (248 or 13.53 percent) with 85 or 34.22 percent going to TAD 22.

3. Study Area TAD'S to Analysis Areas

By far, the largest destination of all trips was Analysis Area 3A which received 1516 trips or 51.97 percent. A large number of trips originated in TAD 34 (596 or 20.42 percent) with 336 or 56.42 percent going to Analysis Area 3A. TAD 22 also generated a significant number of trips (548 or 18.78 percent) with 255 or 46.59 percent of these trips also going to Analysis Area 3A.

The only area outside of the study area to receive a significant number of trips was Analysis Area 6 which received 584 trips or 20.03 percent, followed by Analysis Area 3B with 343 or 11.74 percent.

4. Analysis Areas to Study Area TAD'S

The largest number of trips was generated in Analysis Area 3A (1516 or 67.51 percent) with 349 or 23.03 percent of these trips going to TAD 27 and 279 or 18.37 percent going to TAD 22.

3.6 Origin-Destination of Boardings in the Post-AM Peak (8:30 am-end of survey)

1. Study Area TAD'S to TAD'S with 10 or more Trips

   A large concentration of trips originated in TAD 34 (277 or 21.22 percent) with 54 trips or 19 percent going to TAD 27 and 54 trips or 19 percent going to TAD 26. TAD 27 generated 233 trips (17.84 percent) with 48 trips or 20.63 percent going to TAD 26.

2. TAD'S with 10 or more Trips to Study Area TAD'S

   The largest concentration of trips originated in TAD 34 (190 or 17.24 percent) with 54 or 19 percent terminating in TAD 27 and 54 or 19 percent terminating in TAD 26. TAD 27 generated 170 trips with 48 or 28.33 percent terminating in TAD 26.

3. Study Area TAD'S to Analysis Areas

   A large concentration of trips originated in TAD 34 (355 or 19.30 percent) with 195 or 55 percent terminating in Analysis Area 3A. TAD 27 generated 185 trips to Analysis Area 3A and TAD 21 generated 137 trips to Analysis Area 3A.

4. Analysis Areas to Study Area TAD'S

   Analysis Area 3A generated the largest number of trips (1004 or 67.48 percent). Significant numbers terminated in all study area TAD'S (with the exception of TAD'S 20 and 12) with a large concentration going to TAD 26 (213 trips or 21.25 percent) and TAD 27 (173 or 17.24 percent).

3.7 Trip Purpose

The majority (8243 or 87 percent) of trips were Homebased, with the Homebased Work category accounting for 4003 trips or 42.2 percent of all trips. (See MTSSR004 - Report 1). This was followed by the Homebased School/College category which accounted for 2180 trips or 23.0 percent of the trips.

Non-Homebased trips (1234) accounted for 13 percent of all trips.

3.8 Mode of Access

The majority of riders (7502 or 79.2 percent) walked to access the bus. (See MTSSR005 - Report 1). The number transferring from another bus was fairly significant (1178 or 12.4 percent). Riders transferring from Metrorail or employing car pool, drop off, and park-and-ride modes of access were very few in numbers.

3.9 Mode of Access by Time of Day

Mode of access frequencies correlate to boardings by time of day with the majority of riders (4531 or 61 percent) walking to access the bus between 5:30 and 8:30 am. (See MTSSR005 - Report 2). Similarly, 735 riders or 62.34 percent transferring from another bus did so between 5:30 and 8:30 am.

3.10 Current Route vs. Access Route

Significant numbers of bus transfers (representing more than 1 percent) were as follows:

TABLE 2
ACCESS BUS TRANSFERS

Routes of Transfer	No. of Transfers	% of Total Transfers
L to 22	36	3.19
L to 27	55	4.87
L to 32	31	2.70
3 to 22	15	1.34
7 to 27	25	2.18
8 to 27	25	2.18
11 to 22	15	1.34
11 to 27	65	5.71
21 to 27	19	1.68
27 to 32	22	1.91
33 to 27	19	1.68
36 to 27	23	2.01
62 to 22	19	1.68
62 to 27	38	3.36
75 to 27	19	1.68
83 to 17	15	1.36
83 to 27	51	4.53

In total, Route L accounted for 144 transfers (12.73 percent); Route 11 accounted for 98 transfers (8.70 percent); Route 62 accounted for 91 transfers (8.04 percent); and Route 83 accounted for 81 transfers (7.17 percent). (See MTSSR005 - Report 4).

A significant number of transfers were to Route 27 (435 or 38.45 percent). This was followed by Route 32 with 247 transfers or 21.79 percent. Route 21 had the lowest number of transfers (121 or 10.66 percent).

3.11 Bus Transfer Access by Origin-Destination Pair

Riders originating in TAD 27 accounted for 25.09 percent of all access bus transfers. Riders from TAD 22 accounted for 19.11 percent of the transfers. Riders from TAD 34 accounted for 14.23 percent of the transfers. The lowest number of transfers were

among riders from TAD 20 which accounted for only 1.52 percent of the transfers. (See MTSSR012 - Report 1).

Approximately 61 percent of the transfers were internal, i.e., within the study area (study area TAD'S to Analysis Area 3A). Transfers from TAD 27 to Analysis Area 3A accounted for 14.52 percent of the bus transfers. Transfers from TAD 22 to Analysis Area 3A accounted for 9.96 percent and TAD 26 to Analysis Area 3A accounted for 9.64 percent. Twenty-one percent of the transfers were to Analysis Area 6 and 8.39 percent were to Analysis Area 3B.

Approximately 49 percent of transfers from Analysis Areas to the study area occurred from Analysis Area 3 to the study area TAD's with the majority going to TAD 22 (121 or 20.60 percent), TAD 21 (115 or 19.65 percent) and TAD 27 (93 or 15.85 percent). (See MTSSR012 - Report 3).

3.12 Rail Transfer Access by Origin-Destination Pair

Forty-two riders (44.62 percent) accessed the bus by rail transfer within the study area (study area TAD'S to Analysis Area 3A). The greatest number of those who transferred from Metrorail were those from TAD 27 (21 or 22.47 percent) with 13 riders (14.09 percent) transferring to get to Analysis Area 3A. (See MTSSR012 - Report 1).

The greatest number of riders who transferred to a survey bus were those originating in Analysis Area 3A - the study area (42 or 34.04 percent) with a significant number (15 or 12.31 percent) going to TAD 21. Thirteen riders (10.42 percent) originated in Analysis Area 6 and 6 riders (4.51 percent) originated in Analysis Area 3B. (See MTSSR012 - Report 4).

3.13 Mode of Egress

The majority of respondents (6392 or 67.4 percent) indicated that they would walk to their destination once they disembarked from the survey bus. A significant number (2060 or 21.7 percent) indicated that they would transfer to another bus to get to their destination. Only 588 or 6.2 percent indicated that they would transfer to Metrorail/Metromover to get to their destination upon disembarkation from the survey bus. (See MTSSR006 - Report 1).

The largest number of riders who walked to their destination as a means of egress (1976 or 20.85 percent) were those disembarking from Route 27. Similarly, the largest number of those transferring to another bus (819 or 8.64 percent) and the largest number of those transferring to Metrorail/Metromover (253 or 2.67 percent) were from Route 27. (See MTSSR006 - Report 1).

3.14 Egress Bus Transfers (Current Route vs. Egress Route)

Significant numbers (over 1 percent) of egress bus transfers were as follows:

TABLE 3
EGRESS BUS TRANSFERS

Routes of Transfer	No. of Transfers	% of Total Transfers
27 to J	53	2.65
17 to L	24	1.21
22 to L	21	1.04
27 to L	68	3.41
32 to L	50	2.51
17 to 11	57	2.85
22 to 11	21	1.04
27 to 11	97	4.83
27 to 12	27	1.33
27 to 29	29	1.42
32 to 27	32	1.62
22 to 3	23	1.14
27 to 32	30	1.52
27 to 33	48	2.37
32 to 33	36	1.80
17 to 36	26	1.32
22 to 36	29	1.42
27 to 36	44	2.18
27 to 54	25	1.23
17 to 62	33	1.65
27 to 62	48	2.37
27 to 7	42	2.09
27 to 75	49	2.46
27 to 83	76	3.79
32 to 83	34	1.71

The largest number of egress bus transfers were to Route 11 (191 or 9.54 percent) followed by Route L (175 or 8.72 percent), Route 62 (132 or 6.58 percent) and Route 36 (124 or 6.18 percent). (See MTSSR006 - Report 2).

The largest number (781 or 38.96 percent) of egress bus transfers were from Route 27. (See MTSSR007 - Report 1).

3.15 Weekday Frequency of Trips

A large number of riders (3055 or 32.2 percent) made five (5) weekday round trips per week. An almost equal number (3047 or 32.2 percent) made six (6) or more round trips per week.

3.16 Weekend Frequency of Trips

A large number of riders (4104 or 43.3 percent) did not respond to the weekend trip frequency section. It would, however, be fairly safe to assume that most of these respondents made no trips on weekends and that this category was omitted since it was felt to be inapplicable. (The "No Response" category for the weekday section was only 4.3 percent). (See MTSSR007 - Report 2).

Approximately 16 percent or 1543 respondents indicated that they made no trips on weekends.

3.17 Car Availability

The majority of riders (7547 or 79.6 percent) did not have a car available to them. Only 1426 or 15 percent indicated that they had a car available. (See MTSSR008 - Report 1). This suggests that a very high percentage of residents in the corridor are captive transit riders.

3.18 Car Availability by TAD of Origin

The largest number of riders that did not have a car available for use were those originating in TAD 34 (876 or 20.08 percent). This was followed by TAD 22 with 787 riders (18.02 percent). Similarly, the largest number of riders that had a car available for use were those originating in TAD 34 (181 or 18.82 percent) followed by TAD 22 (168 or 17.45 percent). (See MTSSR008 - Report 2).

3.19 Gender Distribution

The majority of riders (5286 or 55.8 percent) were female. Approximately forty-one percent (3858) were male. (See MTSSR009 - Report 1).

3.20 Age Distribution

The majority of riders were of working age with 22.4 percent or 2124 being in the 18-24 age category and 3338 or 35.2 percent being in the 25-44 age category. However, a significant number of riders were of high school age, i.e., between 12 and 18 years (1677 or 17.7 percent). A very small percentage (5.8) or 533 were 65 years or older. (See MTSSR010 - Report 1).

3.21 Ethnic Distribution

The majority of riders (5925 or 62.5 percent) were "Black, non-Hispanic". This category was followed by the "White, Hispanic" category which accounted for 20.2 percent or 1919 riders. (See MTSSR011 - Report 1).

4.0 Conclusion

On-board survey results revealed that the majority of trips (5550 or 58.5 percent) occurred within the study area. (See Exhibit 6). The only significant concentration of trips resulting from interactions between the study area and outside Analysis Areas was that between the study area (Analysis Area 3A) and Analysis Area 6 (1820 or 19.20 percent).

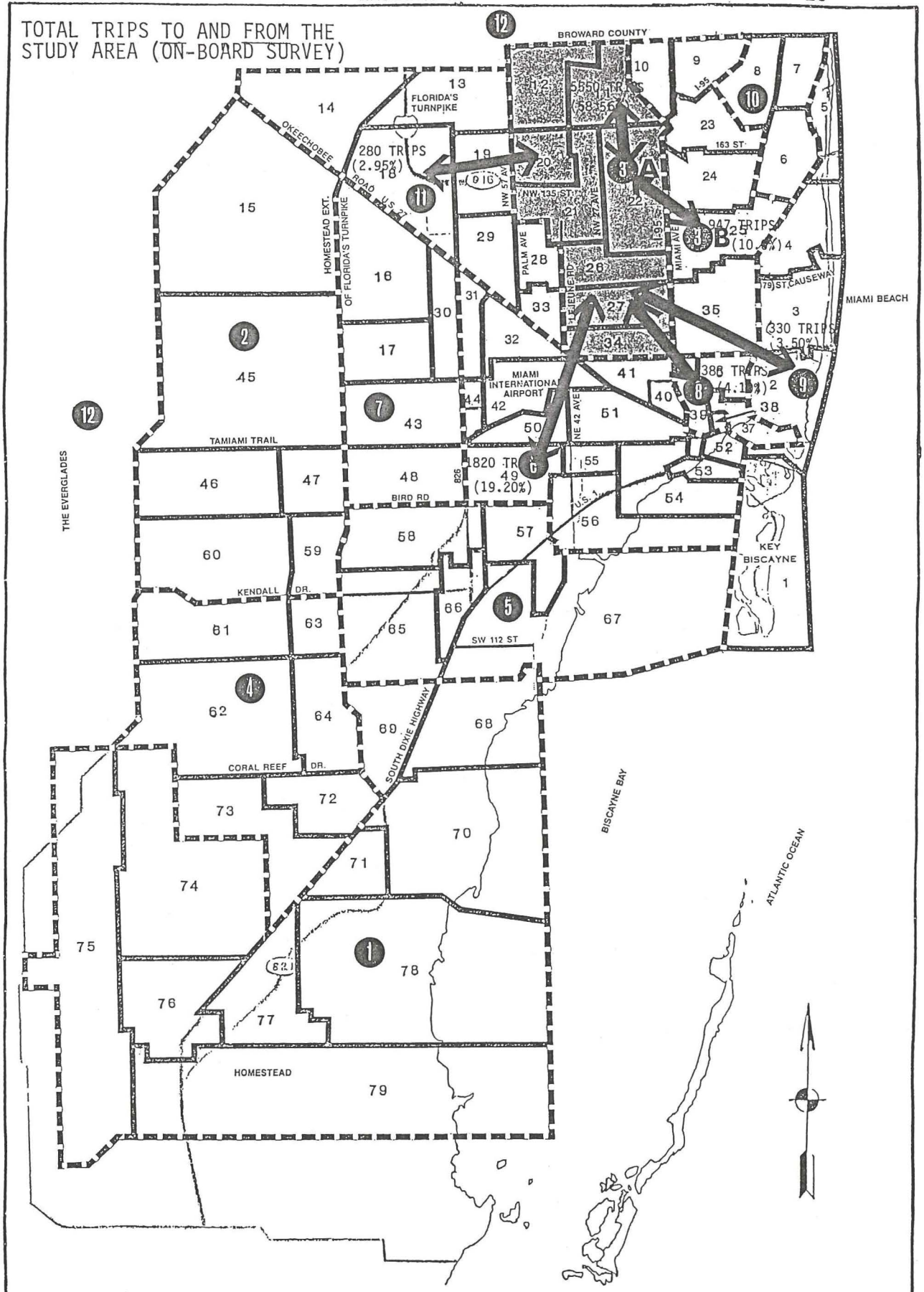
For trips occurring within Analysis Area 6, the number south of Tamiami Trail (SW 8th Street) was minimal. Of those trips, only 45 occurred in the southbound direction and approximately 52 occurred in the northbound direction. (See Report MTSSR003). North of Tamiami Trail there was a significant increase in trips to and from the study area with TAD'S 51, 50, 42, 41 and 40 being the largest origin with 932 trips, and TAD'S 40, 41 and 51 being the largest destination with 502 trips.

Trips between the study area and other adjacent Analysis Areas were also calculated. There were 947 trips (10 percent) to and from Analysis Area 3B; 388 trips (4.1 percent) to and from Analysis Area 8, 330 trips (3.5 percent) to and from Analysis Area 9; and 280 trips (2.9 percent) to and from Analysis Area 11. These travel patterns indicate that the majority of riders within the study area tend to make shorter, more local trips than the long inter-Analysis Area trips predominant in other transit corridors.

Currently, there are five routes (17, 21, 22, 27 and 32) providing service in this area and most of them (except for Route 32) have long north-south alignments with the northern end situated within the study area and the southern end linked to various Metrorail stations located outside of the study area.

The insignificant number of rail transfers, as well as the small number of trips originating and ending south of Tamiami Trail, provides information to possibly improve transit service within the corridor by means of route re-alignments, with emphasis on short length and circular route designs. This approach has two major advantages: firstly, shorter routes need a smaller number of buses than long routes; and secondly, shorter routes allow for better schedule maintenance. Attention should also be paid to transfers originating and ending in Analysis Area 3B. If afternoon trips are considered to be a mirror image of morning trips, then the large number of total trips to and from these two areas (Analysis Areas 3A and 3B) would make an "L" shape route alignment a feasible option.

TOTAL TRIPS TO AND FROM THE STUDY AREA (ON-BOARD SURVEY)



LEGEND:

- ANALYSIS AREA BOUNDARY
- DISTRICT NUMBER
- STUDY AREA

PART B - THE TELEPHONE SURVEY

5.0 Introduction

This report discusses the results of the telephone survey. The telephone survey sought to determine travel patterns of randomly selected residents in the NW 27 Avenue corridor regardless of mode of travel. As such, the study seeks to provide information on potential transit ridership and complement the on-board survey which provides information on travel patterns among existing transit users.

5.1 Study Methodology

To collect information on travel patterns among household residents in the NW 27 Avenue corridor, telephone interviews were conducted by trained surveyors over a one month period (May 16 - June 17, 1989). Other methods of conducting interviews with household residents such as a home interview or a mail-back survey were considered. However, it was concluded that a telephone survey would offer a quick means of providing travel pattern information, at a much lower cost than a household or face-to-face interview survey with a higher response rate than a mail-back survey.

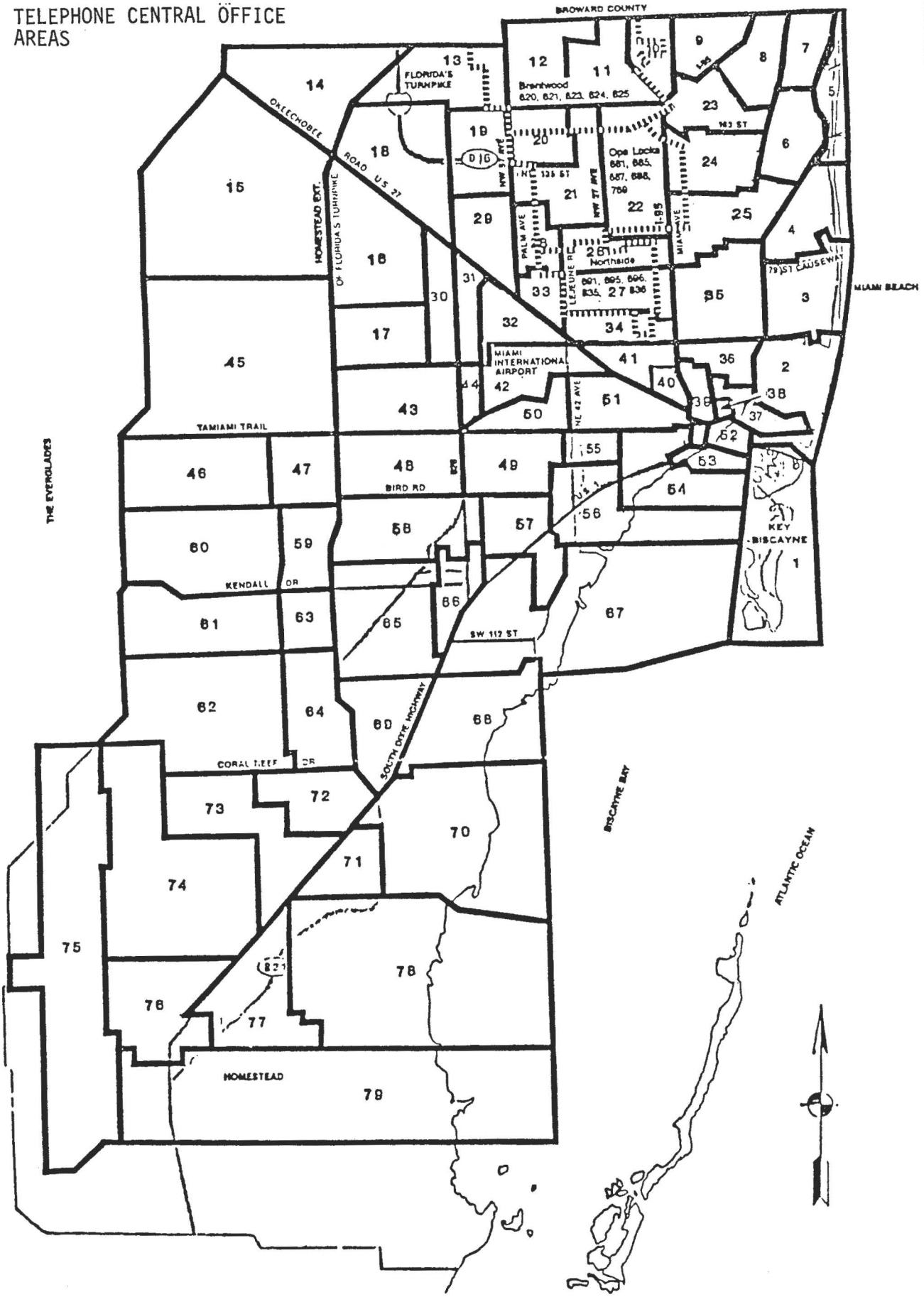
The Random Digit Dialing Program:

To maximize the number of responses, calls were placed when household members were most likely to be at home, during the early evening hours of 5-9 pm and during a 7 hour period (11 am-6 pm) on Saturdays. Since the survey was designed to obtain travel information for a typical weekday (the day prior to the interview) Sundays and Mondays were not considered.

Households were randomly selected by employing a Random Digit Dialing program which produced a set of random telephone numbers. Directory sampling was rejected due to its inability to include unlisted numbers and new listings not yet in the directories.

To employ the Random Digit Dialing Program, Southern Bell Central Office Areas contained within the study area were first identified. The related Central Office Areas were: Brentwood, Opa Locka and Northside. (See Table 4 for a list of telephone exchanges or prefixes (first 3 digits of a phone number) belonging to these areas) and Exhibit 7 for a map of the Central Office Areas). For each prefix code in the study area, a random set of four digits was produced by the computer using an ALL-IN-ONE 20/20 Random Digit program. Putting these four digits together with the prefix code produced a telephone number (Exhibit 8). Surveyors were then provided with a list of phone numbers to be called each day.

TELEPHONE CENTRAL OFFICE AREAS



LEGEND:

TRAFFIC ANALYSIS DISTRICT BOUNDARY

47 DISTRICT NUMBER

GENERAL BOUNDARIES OF TELEPHONE CENTRAL OFFICE AREAS IN THE STUDY AREA

FILE=RNDM400.W20, PRINTED TO RNDM400.PRT

ORDINAL	---UNSORTED----- RANDOM NUMBER	INTERGER EQUIVALENT	-----SORTED----- ORIGINAL RANDOM NUMBER	INTERGER EQUIVALENT	TELEPHONE EXCHG-NUMBER	0 DUPLICATES DUPLICATES INDICATED BY "1"
197	22137.6	22137	89532.3	89532 =>	685 - 9531	
198	95032.2	95032	90013.8	90013 =>	687 - 12	
199	191407.6	191407	90039.7	90039 =>	687 - 38	
200	39039.3	39039	90108.7	90108 =>	687 - 107	
201	7121.2	7121	90321.0	90320 =>	687 - 319	
202	37355.2	37355	90368.8	90368 =>	687 - 367	
203	43372.3	43372	90667.0	90667 =>	687 - 666	
204	12821.1	12821	90993.5	90993 =>	687 - 992	
205	120145.4	120145	91205.3	91205 =>	687 - 1204	
206	156276.4	156276	91411.5	91411 =>	687 - 1410	
207	123988.2	123988	91623.9	91623 =>	687 - 1622	
208	55180.8	55180	91685.3	91685 =>	687 - 1684	
209	45351.9	45351	91690.2	91690 =>	687 - 1689	
210	79749.1	79749	91826.6	91826 =>	687 - 1825	
211	113020.2	113020	92701.8	92701 =>	687 - 2700	
212	17371.2	17371	93092.3	93092 =>	687 - 3091	
213	144719.1	144719	93109.4	93109 =>	687 - 3108	
214	161323.1	161323	93170.6	93170 =>	687 - 3169	
215	93545.7	93545	93336.2	93336 =>	687 - 3335	
216	59383.5	59383	93545.7	93545 =>	687 - 3544	
217	127276.1	127276	93755.5	93755 =>	687 - 3754	
218	86956.4	86956	93881.2	93881 =>	687 - 3880	
219	106911.1	106911	94470.9	94470 =>	687 - 4469	
220	102657.8	102657	95032.2	95032 =>	687 - 5031	
221	106987.9	106987	95042.9	95042 =>	687 - 5041	
222	47061.0	47061	95140.0	95139 =>	687 - 5138	
223	118234.3	118234	95605.5	95605 =>	687 - 5604	
224	32402.1	32402	95974.8	95974 =>	687 - 5973	
225	168063.5	168063	96306.1	96306 =>	687 - 6305	
226	17533.4	17533	97949.5	97949 =>	687 - 7948	
227	61204.6	61204	97980.6	97980 =>	687 - 7979	
228	143271.2	143271	98970.7	98970 =>	687 - 8969	
229	56435.2	56435	99041.9	99041 =>	687 - 9040	
230	193518.8	193518	99190.9	99190 =>	687 - 9189	
231	130929.7	130929	99381.4	99381 =>	687 - 9380	
232	22154.6	22154	99400.4	99400 =>	687 - 9399	
233	116159.9	116159	100014.2	100014 =>	688 - 13	
234	119660.6	119660	100330.6	100330 =>	688 - 329	
235	193578.7	193578	100432.1	100432 =>	688 - 431	
236	161824.2	161824	101129.4	101129 =>	688 - 1128	
237	89492.6	89492	101964.3	101964 =>	688 - 1963	
238	160583.4	160583	102131.7	102131 =>	688 - 2130	
239	81573.2	81573	102565.3	102565 =>	688 - 2564	
240	99190.9	99190	102657.8	102657 =>	688 - 2656	
241	99381.4	99381	103086.8	103086 =>	688 - 3085	
242	55361.1	55361	103625.6	103625 =>	688 - 3624	
243	43073.9	43073	103815.8	103815 =>	688 - 3814	
244	171920.8	171920	103939.6	103939 =>	688 - 3938	
245	33134.1	33134	104351.3	104351 =>	688 - 4350	

To provide a means of reassuring skeptical residents and increase the credibility of the survey, a verifiable telephone number for the Agency was offered in the Introduction (Exhibit 9). A supervisor who was hired to monitor the work flow, was responsible for handling inquiries of this nature.

The Selection of Respondents:

In order not to bias the results towards one demographic group who could be predominant among telephone answering persons, it was necessary to interview a randomly selected adult in each household. Using a Respondent-Selection Matrix (Exhibit 10), two screening questions were designed to locate this person. The first question asked for the number of persons 12 years and older that lived in the household. The second question asked for the number of this group that were men. Identifying the column and row that corresponded to answers to these questions resulted in the selection of the respondent at the intersection of the matrix.

The Survey Form:

The Survey Form or Travel Sheet (Exhibit 11) sought to gather the following information about travel patterns for the weekday immediately preceding the survey:

1. Household size, i.e. the number of people 5 years or older in the household.
2. Age.
3. Ethnicity.
4. Gender.
5. The number of cars available to the household.
6. The number of "oneway" trips made "yesterday".

For each trip:

1. Place of origin (place type and address).
2. Trip start time.
3. Destination (place type and address).
4. Trip arrival time.
5. Mode of travel.

Each questionnaire contained a cover page known as a "call sheet" (Exhibit 12) which was used by interviewers to record the following: telephone number; date of the call; starting and ending time of the call; disposition code based on outcome; and, the interviewer's initials. Four contact attempts were allowed per call since many interviews could not be completed on the first attempt. The majority of interviews were, however completed by the second attempt or call back.

Call sheets were later used by MDTA supervisory staff to sort questionnaires into appropriate categories such as disconnected phones, call back tommorrow etc. Call-backs due to unavailable

METROPOLITAN DADE COUNTY HOUSEHOLD TRANSIT SURVEY
INTRODUCTION

Telephone No._____

INITIAL INTRODUCTION: [FOR PERSON ANSWERING THE PHONE]

Hello, my name is _____ from the METRO DADE TRANSIT AGENCY. We are doing a public transportation study to determine how to make Metrobus service available to more people in the Northwest Dade area. First I would like to verify that I have called the correct number. Is this _____? and is this a home number?_____ IF A BUSINESS, TERMINATE THE INTERVIEW POLITELY. IF NUMBER IS A HOME OR BUSINESS IS ALSO A HOME, PROCEED]..

Before we begin, let me assure you that all information provided will remain confidential.

Are you 12 years or older?_____
[IF YES, GO TO A RESPONDENT SELECTION SHEET.
IF NO, ASK TO SPEAK WITH SOMEONE WHO IS AND REPEAT INTRODUCTION]

SECOND INTRODUCTION: [FOR SELECTED RESPONDENT]

Hello, my name is _____ from the METRO DADE TRANSIT AGENCY. We are doing a public transportation study to determine how to make Metrobus service available to more people in the Northwest Dade area.

Do you have a few minutes to answer some questions about your travel patterns? _____[IF YES, PROCEED.. IF NO, ARRANGE A SUITABLE TIME TO CALL BACK].

Before we begin, let me assure you that everything you say will remain confidential. Also, I will be happy to answer any questions you might have about the study. If you require further information about our transit system, you may dial 638-6700 and one of our representatives would be glad to assist you.

[NOW TURN TO A TRAVEL SHEET]

RESPONDENT SELECTION PROCEDURE
VERSION III

It is important that we interview a man in some households and a woman in others so that the results will truly represent all the people of Dade county. To find out who I need to talk to in your household, I need to ask two short questions.

1. The first one is, how many people 12 years and older live in this household? This includes yourself._____
CIRCLE NUMBER IN THIS ROW

2. How many of them are men?

CIRCLE NUMBER IN THIS COLUMN

	1	2	3	4+
0	WOMAN (12 years or more)	YOUNGEST WOMAN (12 years or more)	OLDEST WOMAN (12 years or more)	OLDEST WOMAN (12 years or more)
1	MAN (12 years or more)	WOMAN (12 years or more)	MAN (12 years or more)	YOUNGEST WOMAN (12 years or more)
2		YOUNGEST MAN (12 years or more)	OLDEST MAN (12 years or more)	OLDEST MAN (12 years or more)
3			OLDEST MAN (12 years or more)	YOUNGEST MAN (12 years or more)
4+				YOUNGEST MAN (12 years or more)

INTERVIEWER: CIRCLE ANSWER AT INTERSECTION AND USE IN THIS SENTENCE

Okay, according to, the method used by the Metro Dade Transit Agency, I need to interview the _____ in your household.

Would that be you? DO NOT ASK IF RESPONDENT IS A DIFFERENT SEX

[ ] Yes IF YES, GO TO A TRAVEL SHEET

[ ] No IF NO, ASK TO SPEAK WITH THE PERSON AND READ SECOND INTRODUCTION

TELEPHONE NUMBER_____ TRAVEL SHEET

Now let me ask you a few questions:

Q.1 How many cars are available to this household?

_____

I would now like to talk with you about the oneway trips you made yesterday.

[EXPLAIN] "As an example, a oneway trip is going from home to the grocery store. When you go back home, this is another oneway trip."

Q.2 How many oneway trips did you make yesterday?

_____

	Q.3	Q.4	Q.5	Q.6	Q.7	Q.8	Q.9
Lets talk about trip ↓	Where did you begin the trip? DO NOT READ CHOICES 1.Home 2. Work 3.School/College 4.Shopping site 5.Personal business 6.Medical facility 7.Recreational site 8 Other	Where is that? Please tell me the address of the place the trip was from. IF RESPONDENT DOES NOT KNOW ADDRESS, ASK FOR NEAREST INTERSECTION, BUILDING OR PLACE NAME	At what time did you start the trip?	Where were you going DO NOT READ CHOICES 1.Home 2. Work 3.School/College 4.Shopping site 5.Personal buisness 6.Medical facility 7.Recreational site 8.Other	Where is that? Please tell me the address of the place the trip was to. IF RESPONDENT DOES NOT KNOW ADDRESS, ASK FOR NEAREST INTERSECTION, BUILDING OR PLACE NAME.	At what time did you get there?	How did you get there? DO NOT READ CHOICES 1.Drove a car, truck or van 2.Got dropped off 3.Passenger in a car, truck or van that parked 4.Walked 5.Took a bus 6.Took Metrorail 7.Took Metromover 8.Other
NO.1	|____|	site address city zip code	__:__ am pm	|____|	site address city zip code	__:__ am pm	|____| IF #5, GET ROUTE NUMBER _____
NO.2	GO TO Q.5 →		__:__ am pm	|____|	site address city zip code	__:__ am pm	|____| IF #5, GET ROUTE NUMBER _____
NO.3	GO TO Q.5 →		__:__ am pm	|____|	site address city zip code	__:__ am pm	|____| IF #5, GET ROUTE NUMBER _____
NO.4	GO TO Q.5 →		__:__ am pm	|____|	site address city zip code	__:__ am pm	|____| IF #5, GET ROUTE NUMBER _____

– TELEPHONE NUMBER_____

Lets talk about trip ↓	Q.3 Where did you begin the trip? DO NOT READ CHOICES 1.Home 2. Work 3.School/College 4.Shopping site 5.Personal business 6.Medical facility 7.Recreational site 8 Other	Q.4 Where is that? Please tell me the address of the place the trip was from. IF RESPONDENT DOES NOT KNOW ADDRESS, ASK FOR NEAREST INTERSECTION, BUILDING OR PLACE NAME	Q.5 At what time did you start the trip?	Q.6 Where were you going DO NOT READ CHOICES 1.Home 2. Work 3.School/College 4.Shopping site 5.Personal buisness 6.Medical facility 7.Recreational site 8.Other	Q.7 Where is that? Please tell me the address of the place the trip was to. IF RESPONDENT DOES NOT KNOW ADDRESS, ASK FOR NEAREST INTERSECTION, BUILDING OR PLACE NAME.	Q.8 At what time did you get there?	Q.9 How did you get there? DO NOT READ CHOICES 1.Drove a car, truck or van 2.Got dropped off 3.Passenger in a car, truck or van that parked 4.Walked 5.Took a bus 6.Took Metrorail 7.Took Metromover 8.Other
NO.5	GO TO Q.5 →		__:__ am pm	|____|	site address city zip code	__:__ am pm	IF #5, GET ROUTE NUMBER |____|
NO.6	GO TO Q.5 →		__:__ am pm	|____|	site address city zip code	__:__ am pm	IF #5, GET ROUTE NUMBER |____|
NO.7	GO TO Q.5 →		__:__ am pm	|____|	site address city zip code	__:__ am pm	IF #5, GET ROUTE NUMBER |____|
NO.8	GO TO Q.5 →		__:__ am pm	|____|	site address city zip code	__:__ am pm	IF #5, GET ROUTE NUMBER |____|
NO.9	GO TO Q.5 →		__:__ am pm	|____|	site address city zip code	__:__ am pm	IF #5, GET ROUTE NUMBER |____|
NO.10	GO TO Q.5 →		__:__ am pm	|____|	site address city zip code	__:__ am pm	IF #5, GET ROUTE NUMBER |____|

AFTER INFORMATION ABOUT LAST TRIP IS RECORDED, SAY "And now I would would like to ask you three short questions."
PROCEED TO Q.10

Q.10 How many people 5 years of age or older live in this household

_____

Q.11 Is your age: READ THE CATEGORIES

[ ] under 18
[ ] 18 - 24
[ ] 25 - 44
[ ] 45 - 64
[ ] 65 or over

Q.12 Which of the following groups do you belong to? READ THE CATEGORIES

[ ] Black, non-Hispanic
[ ] Black, Hispanic
[ ] White, Hispanic
[ ] White, non-Hispanic
[ ] American Indian
[ ] Asian
[ ] Other_____
(please specify)

Q.13 NOTE SEX: [DO NOT ASK!
MAKE DETERMINATION
FROM VOICE AND CHECK]

[ ] Male [ ] Female

SAY "That completes our interview. Thank you for your time."
TERMINATE THE CALL.

COMMENTS: (IF ANY) [DO NOT ASK!]

_____

_____

_____

CALL SHEET

Telephone Number_____

Contact Attempts	Date	Time	Disposition Code	Interviewer's Initials
1	__/__	__:__	___ ___	___ ___
2	__/__	__:__	___ ___	___ ___
3	__/__	__:__	___ ___	___ ___
4	__/__	__:__	___ ___	___ ___

NOTES

1. _____
2. _____
3. _____
4. _____

Disposition code	Explanation
N A	No answer after seven rings
B U	Busy, after one immediate redial
A M	Answering machine
L B H	Language barrier - household
L B R	Language barrier - respondent
H R	Household refusal
D I S C	Disconnected
N W	Nonworking
N R	Nonresidence (business etc.)
N E	Not eligible
R T U	Respondent(s) temporarily unavailable
R U	Respondent(s) unavailable during survey
R U H	Respondent(s) unavailable - handicap
R R	Respondent(s) refusal
P I	Partial interview
C I	Completed interview
O	Other (please specify)

respondents and language barriers were scheduled for the appropriate times or re-routed to bilingual interviewers, as necessary. Counts of completed questionnaires for each interviewer were also made and questionnaires were checked for accuracy and completeness.

Data Processing:

Information collected through the surveys was computer coded and entered into a computerized standard data set known as the Metrobus Travel Survey System (MTSS).

Once the data were entered and verified, online and batch processes using a CICS MARS (Metro-Dade Address Reference System) were employed to geocode both origin and destination address information for each trip by Traffic Analysis Zones (TAZ'S). TAZ'S were later converted into Traffic Analysis Districts (TAD'S) for statistical and analytical purposes (Exhibit 2).

TABLE 4

STUDY AREA TELEPHONE EXCHANGES
BY SOUTHERN BELL CENTRAL OFFICE AREA

CENTRAL OFFICE AREA	TELEPHONE EXCHANGES
BRENTWOOD	620, 621, 623, 624, 625
OPA LOCKA	681, 685, 687, 688, 769
NORTHSIDE	691, 695, 696, 835, 836

Data Analysis:

After the data were grouped by TAD, a Statistical Analysis System (SAS) was used to manipulate the data and generate reports to determine travel patterns and socio-economic characteristics of residents in the corridor.

Travel patterns were analyzed between study area TAD'S and the rest of the county by examining trip information:

1. Among the study area TAD'S (study area TAD'S to study area TAD'S).

To look at regional travel patterns, the county was divided into eleven (11) collective groupings of TAD'S or Analysis Areas (AA'S). (See Exhibits 4 and 5). To account for out of county travel, a twelfth Analysis Area was created to include any area outside of Dade County. Trips to and from Broward County accounted for most of this travel.

The study thus continued to examine the following:

2. Trip information from the study area TAD'S to the outside Analysis Areas (i.e. all Analysis Areas excluding 3A).

4. Trip information from the outside Analysis Areas (all Analysis Areas excluding 3A) to the study area TAD'S.

The above analyses were then conducted for seven (7) time periods:

1. The Pre-AM Peak (before 6:00 am).
2. The AM Peak (6:00 am - 8:30 am).
3. The Post-AM Peak (8:30 am - 12:00 noon).
4. The PM Midday (12:00 pm - 3:30 pm).
5. The PM Peak (3:30 - 6:00 pm).
6. The Evening (6:00 - 10:00 pm).
7. The Late Evening (10:00 pm - 12:00 am).

5.2 Study Limitations and Suggestions for Improvement

Significant improvements were made to the survey mechanism after it was pre-tested one month before the final survey. However, implementation of the final survey revealed 3 additional weaknesses:

1. Question 10 of the questionnaire, "How many people 5 years of age or older live in this household?" seemed to confuse a lot of respondents and erroneous answers (ones that conflicted with Question 1 on the Respondent-Selection Procedure) were often given. The re-wording of this question to read "How many people over the age of 5 live in this household?" may be easier understood and produce better results.

2. Data entry could be speeded up if all questions relating to each data entry screen were grouped together on one page.

3. Random Digit Dialing Programs generate both residential and business numbers that may or may not be in service. The large amount of time spent calling non-serviceable or non-residential numbers (Table 5) suggests the need to utilize a prescreening method to eliminate non-serviceable and non-residential numbers.

TABLE 5

DISPOSITION OF TELEPHONE CALL OUTCOMES

DISPOSITION	DAILY AVERAGE	PERCENT
NO ANSWER	192	22.2
BUSY	24	1.8
ANSWERING MACHINE	29	3.3
DISCONNECTED/NON-WORKING	268	30.8
NON-RESIDENCE (BUSINESS, ETC.)	57	6.5
NOT ELIGIBLE	11	1.3
HOUSEHOLD REFUSAL	90	10.4
RESPONDENT REFUSAL	8	0.9
RESPONDENT UNAVAILABLE	41	4.7
LANGUAGE BARRIER	17	2.0
PARTIAL INTERVIEW	2	0.3
COMPLETED INTERVIEW	120	13.9
OTHER	17	1.9
TOTAL	868	100.0

6.0 Major Findings

The following discussion highlights major findings from the telephone survey. Copies of the SAS MTSTR reports upon which the discussion is based are housed in the Transit Systems Development Division and the Operations Planning and Scheduling Division.

6.1 Response Rate

A 39.24 percent actual response rate was achieved considering all interviews completed (3,047) in relation to calls placed to serviceable, residential numbers (7,765). Serviceable, residential numbers included numbers assigned to the following Disposition categories: Household Refusal, Respondent Refusal, Respondent Unavailable, Not Eligible, Language Barrier, Partial Interview, Completed Interview, and Other (Table 5). However, a number of interviews had to be voided due to erroneous or incomplete information being provided, resulting in a final number of 2,784 valid interviews and a 35.8 percent valid reponse rate.

The average number of interviews completed on a daily basis was 120 versus a daily average of 868 calls placed. (See Table 5).

6.2 Weekday Trip Frequency

The majority (1475 or 53.0 percent) of respondents made 2 trips per weekday. (See MTSTR013). One hundred and eighty-three (6.6 percent) of the respondents made 3 trips and 316 (11.4 percent) made 4 trips. Lower numbers of respondents (155 or 5.6 percent) made 5 or more trips and a small number (33 or 1.2 percent) made 1 trip. However, a significant number (609 or 21.9 percent) made no weekday trips.

The average number of weekday trips per person was 2.06 (MTSTR014).

6.3 Trip Start Time

A large number (1540 or 27.40 percent) of all trips occurred during the morning hours of 5:31-8:30 am with the 6:31-7:30 am period being the hour of greatest trip activity. During this time, 724 or 12.9 percent of the trips occurred (MTSTR008).

Trip numbers fell to 3-4 percent in the Post-AM peak (8:30 - 12:00 noon) and remained low until 1:30 pm. An afternoon peak, begining at 1:31 pm and lasting until 5:30 pm was observed. During this time, 1936 or 34.40 percent of all trips occurred. Five hundred and eight or 10.3 percent of the trips occurred in the late evening (between 5:30 and 7:30 pm).

6.4 Origin-Destination of Total Trips

1. Study Area TAD'S to Study Area TAD'S

A total of 1916 trips were made within the study area (study area TAD'S to study area TAD'S). Most of these trips occurred within TAD'S 11, 12 and 22 (MTSTR11A - Report 0001). TAD 11 generated 404 trips (21.09 percent), TAD 12 generated 401 trips (20.93) percent and TAD 22 generated 387 trips (20.20 percent).

Four hundred and seven trips (21.24 percent) terminated in TAD 11, 397 trips or 20.72 percent terminated in TAD 12 and 392 trips or 20.46 percent terminated in TAD 22.

Of the trips generated by TAD 11, 183 or 9.55 percent terminated within TAD 11. Similarly, of the trips generated by TAD 22, 183 or 9.55 percent terminated within TAD 22.

2. Study Area TAD'S to Outside Analysis Areas

A total of 1351 trips occurred from the study area TAD'S to outside Analysis Areas. A large number (329 or 23.35 percent) of these trips was generated by TAD 11. One hundred and four of the trips (31.61 percent) generated by TAD 11 terminated in Analysis Area 3B. Large numbers of trips were also generated by TAD 12 (37 or 27.46 percent). Of the trips generated by TAD 12, 115 or 31 percent terminated in Analysis Area 11.

TAD 22 was another significant trip generator, producing 264 or 19.54 percent of the trips, with most of these trips going to Analysis Areas 3B (343 or 25.39 percent), 11 (281 or 20.80 percent) and 6 (235 or 17.39 percent).

3. Analysis Areas to Study Area TAD'S

A total of 1328 trips took place from the outside Analysis Areas to the study area TAD'S. Large numbers of trips originated in Analysis Area 3B (348 or 26.20 percent), Analysis Area 11 (277 or 20.86 percent) and Analysis Area 6 (223 or 16.79 percent). Of the trips originating in Analysis Area 3B, 100 or 28.74 percent terminated in TAD 11, 100 or 28.74 percent terminated in TAD 22 and 66 or 18.97 percent terminated in TAD 12.

Of the trips originating in Analysis Area 11, a significant number (121 or 43.68 percent) terminated in TAD 11. Of the trips originating in Analysis Area 6, 48 or 21.52 percent terminated in TAD 12, 44 or 19.73 percent terminated in TAD 22, 38 or 17.86 percent terminated in TAD 11, and 35 or 15.70 percent terminated in TAD 26.

Overall, the majority of trips from outside Analysis Areas terminated in TAD'S: 12 (370 or 27.86 percent), 11 (313 trips

or 23.57 percent) and 22 (260 trips or 19.58 percent). This reflects proportional return trips from the study area TAD'S to the Analysis Areas.

6.5 Origin-Destination of Trips in the Pre-AM Peak

1. Study Area TAD'S to Study Area TAD'S

A total of 37 trips were made within the study area during the Pre-AM peak. Small numbers (between 3 and 10) of trips were made to and from each of the study area TAD'S.

2. Study Area TAD'S to Outside Analysis Areas

Eighty-one trips were made to outside Analysis Areas in the Pre-AM peak, with many of these trips (26 or 32.10 percent) coming from TAD 12, and 17 trips (20.99 percent) coming from TAD 11. Analysis Areas receiving most of these trips were Analysis Area 6 which received 19 trips or 23.46 percent, Analysis Area 12 which received 18 trips or 22.22 percent and Analysis Area 8 which received 13 trips or 16.05 percent.

3. Analysis Areas to Study Area TAD'S

Fourteen trips were made from the Analysis Areas to the study area during the Pre-AM peak. Small numbers (between 1 and 4) came from each of the following Analysis Areas: 3B, 6, 8, 9, 11 and 12 and small numbers (between 1 and 5) went to all of the TAD'S.

Origin-Destination of Trips in the AM Peak (6:00-8:30 am)

Study Area TAD'S to Study Area TAD'S

A total of 435 trips were made within the study area during the AM Peak (MTSTR11C). Of these, 124 trips (28.51 percent) originated in TAD 12, 103 (23.68 percent) originated in TAD 11 and 78 (17.93 percent) originated in TAD 22. By far, the majority of these trips terminated in TAD'S 22 and 11 which received 107 trips (24.60 percent) and 94 trips (21.61) percent respectively.

2. Study Area TAD'S to Outside Analysis Areas

A large number of trips (641) were made from the study area TAD'S to the Analysis Areas during the AM Peak. A large number (176 or 27.40 percent) of trips originated in TAD 11. Of these, 50 (28.25 percent) terminated in Analysis Area 11. TAD 12 generated 177 trips or 27.61 percent) with 49 of these trips (27.84 percent) terminating in Analysis Area 3B.

Overall, major destinators were Analysis Area 3B, which received 138 trips (21.53 percent), Analysis Area 6 which received 129 trips (20.12 percent) and Analysis Area 11 which received 122 trips (19.03 percent).

3. Analysis Areas to Study Area TAD'S

Ninety-three trips were made from the outside Analysis Areas to study area TAD'S. Thirty of these trips (32.26 percent) originated in Analysis Area 3B and 27 trips (29.03 percent) originated in Analysis Area 11. TAD'S 12 and 22 each received 21 trips (22.50 percent).

6.7 Origin-Destination of Trips in the Post-AM Peak (8:30am-12:00pm)

1. Study Area TAD'S to Study Area TAD'S

Three hundred and four trips were made from study area TAD's to study area TAD'S. Sixty-four of these trips (21.05 percent) originated in TAD 12, 56 trips (18.42 percent) originated in TAD 22 and 50 trips (16.45 percent) originated in TAD 11. Of the trips originating in TAD 12, 35 (54.69 percent) terminated in TAD 12.

Overall, the strongest concentration (68 or 22.37 percent) of trips among the study area TAD'S terminated in TAD 22. This was followed by trips terminating in TAD 12 (59 or 19.41 percent) and TAD 11 (52 or 17.11 percent).

2. Study Area TAD'S to Analysis Areas

Two hundred and twenty-three trips were made from study area TAD'S to outside Analysis Areas during the Post-AM Peak (8:30am - 12:00pm). Sixty of these trips (26.91 percent) originated in TAD 12, 52 (23.32 percent) originated in TAD 11 and 44 (19.73 percent) originated in TAD 11.

A large number (74 or 33.18 percent) terminated in Analysis Area 3B, with 20 of these trips (27.03 percent) coming from TAD 11, 20 (27.03 percent) coming from TAD 22 and 16 (21.62 percent) coming from TAD 12.

Other Analysis Areas receiving significant numbers of trips were Analysis Areas 6 (33 or 14.80 percent) and Analysis Area 11 (32 or 14.35 percent).

3. Analysis Areas to Study Area TAD'S

One hundred and five trips were made from the outside Analysis Areas to the study area TAD'S during the Post-AM Peak period. A significant number (37 or 35.24 percent) of these trips originated in Analysis Area 3B with 13 or 35.14 percent of these terminating in TAD 22. Twenty-three (21.90 percent) of the Post-AM peak trips originated in Analysis

Area 11 with 11 (47.83 percent) of these terminating in TAD 12.

Overall, the majority of trips terminated in TAD'S 12 (30 or 28.57 percent) and 22 (29 or 27.62 percent).

6.8 Origin-Destination of Trips in the Midday (12:00-3:30pm)

1. Study Area TAD'S to Study Area TAD'S

A total of 350 trips were made from study area TAD'S to study area TAD'S during the Midday period. Ninety-eight trips (28 percent) originated in TAD 11 and 75 trips (21.43 percent) originated in TAD 22. Eighty trips (22.86 percent) terminated in TAD 12, 77 trips (22 percent) terminated in TAD 11 and 64 trips (18.29 percent) terminated in TAD 22.

2. Study Area TAD'S to Analysis Areas

A total of 117 trips were made from study area TAD'S to Analysis Areas during the Midday period. Thirty-four (29.06 percent) of these trips originated in TAD 12, 25 (21.37 percent) originated in TAD 11 and 20 (17.09 percent) originated in TAD 22.

The majority of trips terminated in Analysis Areas 3B (37 or 31.62 percent) and 11 (37 or 31.62 percent).

3. Analysis Areas to Study Area TAD'S

A total of 289 trips were made from the Analysis Areas to study area TAD'S during the Midday period. Eighty-five (29.41 percent) of these trips originated in Analysis Area 3B and 70 (24.22 percent) originated in Analysis Area 11.

TAD'S 11 and 12 received the majority of trips during this period (71 or 24.57 percent) and (84 or 29.07 percent) respectively. Of the trips originating in Analysis Area 11, 41 or 58.57 percent terminated in TAD 12.

6.9 Origin-Destination of Trips in the PM Peak (3:30-6:00 pm)

1. Study Area TAD'S to Study Area TAD'S

Three hundred and seventy-six trips were made from study area TAD'S to study area TAD'S during the PM Peak period. Eighty-four (22.34 percent) of these trips originated in TAD 22, 66 trips (17.55 percent) originated in TAD 11 and 61 trips (16.22 percent) originated in TAD 12.

Of the trips originating in TAD 12, the majority (37 or 60.66 percent) terminated in TAD 12. Of the trips originating in

TAD 22, 32 or 38.10 percent terminated in TAD 22.

Overall, 93 trips (24.73 percent) terminated in TAD 12, 87 trips (23.14 percent) terminated in TAD 11 and 74 trips (19.68 percent) terminated in TAD 22.

2. Study Area TAD'S to Analysis Areas

One hundred and thirty-six trips were made from study area TAD'S to the Analysis Areas. Most of these trips originated in TAD'S 11, 12 and 22 with most of these trips terminating in Analysis Area 3B (46 or 33.82 percent) and Analysis Area 11 (49 or 36.03 percent).

3. Analysis Areas to Study Area TAD'S

Five hundred and fourteen trips were made from the Analysis Areas to study area TAD'S in the PM Peak. One hundred and eight trips (21.01 percent) originated in Analysis Area 6, 97 (18.87 percent) originated in Analysis Area 3B and 91 trips (17.70 percent) originated in Analysis Area 11. Of the trips that originated in Analysis Area 3B, 33 (34.02 percent) terminated in TAD 11, 23 (23.7 percent) terminated in TAD 22 and 22 (22.68 percent) terminated in TAD 12.

In general, the majority of trips terminated in TAD'S 12 (139 or 27.04 percent), 11 (135 or 26.26 percent) and 22 (104 or 20.23 percent).

6.10 Origin-Destination of Trips in the Evening (6:00-10:00pm)

1. Study Area TAD'S to Study Area TAD'S

Three hundred and seventeen trips were made among the study area TAD'S in the Evening (6:00 pm- 10:00 pm). Seventy-nine (24.92 percent) of these trips originated in TAD 12, 70 trips (22.08 percent) originated in TAD 22 and 61 (19.24 percent) originated in TAD 11. Of the trips originating in TAD 12, 54 (68.35 percent) terminated in TAD 12. Of the trips originating in TAD 11, 33 or 54.10 percent terminated in TAD 11.

Overall, 97 trips (30.60 percent) terminated in TAD 12, 71 trips (22.40 percent) terminated in TAD 11 and 58 trips (18.30 percent) terminated in TAD 22.

2. Study Area TAD'S to Analysis Areas

One hundred and twelve trips were made from study area TAD'S to Analysis Area's during the Evening period. Thirty (26.79 percent) originated in TAD 12, 25 (22.32 percent) originated in TAD 11 and 23 (20.54 percent) originated in TAD 22. Most of these trips terminated in Analysis Area 3B (30 or 26.79

percent) and Analysis Area 11 (30 or 26.79 percent). This was followed by trips terminating in Analysis Area 6 (17 or 15.18 percent).

3. Analysis Areas to Study Area TAD'S

A total of 241 trips were made from the Analysis Areas to study area TAD'S during the Evening period, seventy-three (30.29 percent) of which originated in Analysis Area 3B. Of the trips originating in Analysis Area 3B, 23 (31.51 percent) terminated in TAD 22 and 21 (28.77 percent) terminated in TAD 11.

Overall, the majority of trips terminated in TAD'S 12 (77 or 31.95 percent), 11 (58 or 24.07 percent) and 22 (44 or 18.26 percent).

6.11 Origin-Destination of Trips in the Late Evening (10:00 pm -12:00 midnight)

1. Study Area TAD'S to Study Area TAD'S

Eighty-three trips were made among study area TAD'S in the Late Evening. Most of these trips originated and terminated in TAD'S 11, 12 and 22.

2. Study Area TAD'S to Analysis Areas

Thirty-seven trips were made from study area TAD'S to Analysis Areas in the Late Evening. Most of these trips originated in TAD 11 (11 or 29.73 percent) and TAD 12 (14 or 37.84 percent) and terminated in Analysis Areas 3B (7 or 18.92 percent), 6 (10 or 27.03 percent) and 9 (7 or 18.92 percent).

3. Analysis Areas to Study Area TAD'S

Sixty-two trips were made from the Analysis Areas to study area TAD'S. Most of these trips originated in Analysis Area 3B (16 or 25.81 percent), Analysis Area 6 (13 or 20.97 percent) and Analysis Area 11 (12 or 19.35 percent). Most of these trips terminated in TAD 11 (16 or 25.81 percent), TAD 12 (16 or 25.81 percent) and TAD 26 (12 or 19.35 percent).

6.12 Percentage of Transit Trips (Modal Split)

One hundred and forty-four (13.21 percent) of the trips originating in the study area were made by transit in the AM Peak period (6:00-8:30 am). One hundred and thirty-six (12.48 percent) of trips were made by bus and 8 trips (0.73 percent) were made by Metrorail (MTSTR015).

In the off-peak period (9:00 am - 4:00 pm), 108 trips (9.69

percent) were made by bus and 4 (0.36 percent) were made by Metrorail.

6.13 Trip Purpose

The majority (4005 or 89.28 percent) of trips were Homebased, with the Homebased Work category accounting for 1744 or 38.88 percent of all trips (MTSTR009). This was followed by fairly even distributions in the Homebased Shopping (663 or 14.78 percent), Homebased School/College (644 or 14.36 percent) and Homebased Personal Business (632 or 14.09 percent) categories. Small numbers of trips were seen in the Homebased: Medical, Recreational and Other categories. Four hundred and sixty-seven (10.41 percent) of all trips were Non-Homebased.

These distributions were generally seen in all TAD'S in the study area.

6.14 Mode of Travel

Within the study area, the majority of trips (2324 or 70.19 percent) took place as independent car trips. Two hundred and forty-eight or 7.49 percent of the trips involved respondents who were dropped off, 124 or 3.75 percent of the trips were made by car pool, 197 or 5.95 percent were made by walking and 312 or 9.42 percent were made by bus (MTSTR015). A minimal number of trips (14 or 0.42 percent) were made by Metrorail.

6.15 Bus Boardings By Route Number

Route information was obtained for 280 of the 312 bus trips made. (See MTSTR016). Of these, 55 respondents (19.64 percent) took Route 27, 37 respondents (13.21 percent) took Route 22 and 27 respondents (9.64 percent) took Route 32. Twenty seven respondents (9.64 percent) took Route 83, 25 respondents (8.93 percent) took Route 17 and 20 respondents (7.14 percent) took Route 62. Smaller numbers of trips were made on 21 other routes. (See MTSTR016).

6.16 Car Availability

The majority of respondents (2142 or 77.10 percent) had 2 or more cars available to them (MTSTR003). Six hundred and nine respondents (21.9 percent) had no cars.

The average number of cars per household was 1.84 (MTSTR300).

6.17 Household Size

The majority (1853 or 66.5 percent) of households were comprised of 2 to 4 persons 5 years or older (MTSTR002). Four hundred and seventy-nine (17.2 percent) of the households were comprised of 1 person, 254 or 9.1 percent were comprised of 5 persons and 174 or 6.3 percent were comprised of 6 or more persons.

6.18 Gender Distribution

The majority of respondents (1637 or 58.8 percent) were female. Approximately forty-one percent (1131) were male. (See MTSTR007).

6.19 Age Distribution

The majority (1778 or 63.8 percent) of respondents were of working age i.e., between 25 and 64 years of age with 1142 (41 percent) falling in the 25-44 age category (MTSTR005).

A small number (316 or 11.4 percent) of respondents were 65 years or older, 373 or 13.4 percent were 18-24 and 301 or 10.8 percent were under 18 years old.

6.20 Ethnic Distribution

The majority of respondents (1639 or 58.9 percent) were "Black, non-Hispanic". This category was followed by the "White, Hispanic" category which accounted for 637 or 22.9 percent of the respondents. (See MTSTR006).

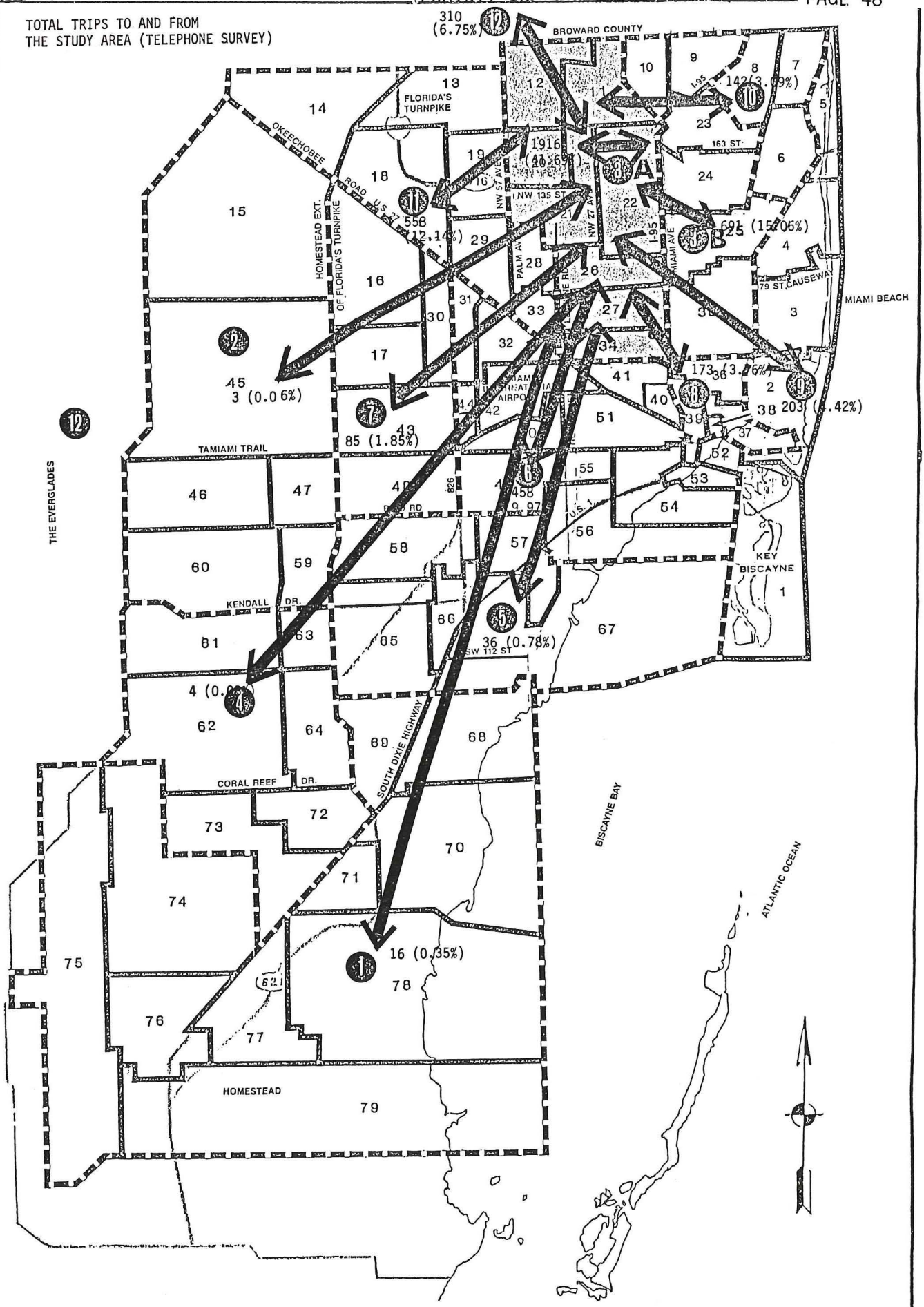
7.0 Conclusion

The telephone survey examined the travel patterns of a statistical sample of **all** travelers residing within the study area, and included respondents who traveled by automobile as well as the minority who employed transit.

Results of the telephone survey indicate four important findings: a high percentage of intra-corridor trips; moderate interaction with the Analysis Area immediately south of the study area (Analysis Area 6); moderate, but stronger interactions between the study area and the Analysis Areas flanking the corridor to the east and west (Analysis Areas 3B and 11); and, a very small percentage of trips to the CBD/downtown area. (See Exhibit 13).

Of the trips made by respondents, the largest percentage occurred entirely within the study area. These intra-corridor trips accounted for 42 percent of all travel. Approximately 10 percent of all trips occurred between the study area and Analysis Area 6 to the south. Travel between the study area and Analysis Area 11 (immediately west of the study area) accounted for 12 percent of all trips, while 15 percent of all trips occurred between the study area and Analysis Area 3B to the immediate east.

Only 4 percent of all study area trips were to or from the CBD/downtown area. Finally, only 0.5 percent of all travelers surveyed by telephone used Metrorail for all or part of their journey.


TOTAL TRIPS TO AND FROM
THE STUDY AREA (TELEPHONE SURVEY)
310 (6.75%)
BROWARD COUNTY
FLORIDA'S TURNPIKE
OKEECHOBEE ROAD
HOMESTEAD EXT. OF FLORIDA'S TURNPIKE
1916 (40.65%)
558 (12.14%)
691 (15.06%)
142 (3.09%)
173 (3.76%)
203 (4.42%)
45
3 (0.06%)
85 (1.85%)
458
36 (0.78%)
4 (0.
16 (0.35%)
MIAMI BEACH
79 ST. CAUSEWAY
163 ST.
NW 135 ST.
TAMIAMI TRAIL
KENDALL DR.
CORAL REEF DR.
SOUTH DIXIE HIGHWAY
SW 112 ST
HOMESTEAD
THE EVERGLADES
KEY BISCAYNE
BISCAYNE BAY
ATLANTIC OCEAN
LEGEND:
ANALYSIS AREA BOUNDARY
DISTRICT NUMBER
STUDY AREA

8.0 Comparison of On-Board and Telephone Survey Findings and Recommendations

A comparison of on-board and telephone surveys mutually confirms two significant findings. First, the highest percentage of all travel remains entirely within the corridor studied. Second, only a small percentage of travel occurs between the downtown/CBD Area and the corridor.

Conversely, significant differences between results of the two surveys occur when comparing tripmaking between the study area and the two Analysis Areas flanking the corridor. First, telephone survey trips to and from Analysis Area 11 accounted for 12 percent of **all** trips compared to only 3 percent in the on-board survey of transit-only trips. Second, of all trips made by on-board respondents, 15 percent occurred between the corridor and Analysis Area 3B compared to 10 percent of transit trips.

The differences in trip distributions between the surveys imply that a higher number of east-west cross-town trips occur among non-transit users than among transit users.

A review of current cross-town transit service provided between the study area and Analysis Area 11 immediately to the east reveals only two major line-haul local bus routes with east-west alignments: Route 33, providing service on NW 103rd Street, and Route 83 serving NW 183rd Street. Four additional routes provide more limited east-west transit connections between these two regions: Route 75 which provides cross-town service as far west as the Miami Lakes Technical Educational Center on NW 57th Avenue (the border between Analysis Area 11 and the study area); Route 28, which bisects the study area on NW 135th Street, but turns south on NW 47th Avenue just after entering Analysis Area 11 (thereupon acting as a north-south route); Routes 36, 54,and 74 traveling along NW 36th, 54th, and 71st Streets respectively in the southernmost part of the study area (thereby serving little of the study area); and Route L, providing east-west bus service along NW 79th Street through the study area, barely westward into Hialeah. Between NW 103rd and NW 183rd Streets, east-west cross-town service is non-existent.

There are numerous routes serving both Analysis Area 3B and the study area. Route 28 on NW 135th Street, Route 33 on NW 95th and 103rd Streets, the northern leg of Route 75 on NW 183rd and 163rd Streets, the southern leg of Route 75 on West Dixie Highway and NW 119th St, and Route 83 on NW 183rd and 163rd Streets all supply major east-west line-haul bus service linking the two areas. Eight additional routes provide three types of more limited east-west transit connections between Analysis Area 3B and the study area. First, Routes 22 and G traverse Analysis Area 3B on NE/NW 167th and 125th Streets respectively, and after

entering the study area become north-south routes on NW 22nd Avenue. Second, Routes L, 54, 62, and 74 traverse both the study area and Analysis Area 3B, but only in the southernmost quarters of each, on NE/NW 79th, 54th, 62nd, and 71st Streets respectively, thereby serving limited portions of each area. Third, Routes J and 36, aligned along NE/NW 36th Street (the southern border of both areas), directly serve few people of either area.

The alignments of routes connecting Analysis Areas 11 and 3B with the study area share two common characteristics: much wider route spacing than those serving the corridor along north-south alignments, and generally less mutual penetration of both adjacent areas, especially to the west (Analysis Area 11). This is probably a direct result of the limited availability of through streets in the northeast area, and the limited number of east-west streets in the northwest. These two apparent limitations of relatively low numbers of east-west cross-town local bus routes and greater than average route spacing (due to geographical constraints) appear to be substantial impediments in attracting non-transit users to transit routes aligned in an east-west direction.

Of **all** trips from the telephone survey, only 0.5 percent (one-half of one percent) occurred by Metrorail. This is a low percentage considering the number of bus routes, especially those with north-south alignments feeding Metrorail stations in the area. This finding also correlates to the low percentage of transit trips between the study area and downtown. It is realized that a low number of CBD trips on the on-board survey may have resulted in part from a systematic misinterpretation of the traveler's path. For example a CBD-bound rider traveling southbound on Route 27 and then transferring to Route 11 bound east for downtown, may have indicated the transfer point on Route 27 as his destination. However, when one compares the on-board data with the trip distribution results from telephone interviews, the low on-board CBD percent distribution appears to be consistent. This suggests a low likelihood of a systematic bias in the recording of CBD-bound travel, thereby confirming the validity of the data.

In general, the above findings tend to conflict with the radial transportation system design for rapid transit extensions currently proposed for the Year 2010 Long Range Plan. This system emphasizes converging transit corridors, with the downtown/CBD as the major central attractor. However, both existing and proposed transit systems, in toto, are neither wholly radial nor gridded, but hybrids, so mixed-path trips between areas are not only likely to occur, but in fact encouraged to do so.

Finally, in light of the survey data, it is believed that the development of more local, circular, and east-west cross-town routes may prove to be a viable approach to serving the large percentage of internal trips in the corridor. Moreover, the shortening of the long, north-south trunk routes should also be considered. Survey results indicate heavy, local traffic on these routes within the study area and moderate traffic between the study area and Analysis Area 6. However, within Analysis Area 6, few trips utilize the full extent of the routes. Therefore, implementing or increasing the number of turn-backs may allow for the shifting of resources to provide better service to those heavily traveled segments of the NW 27th Avenue corridor.

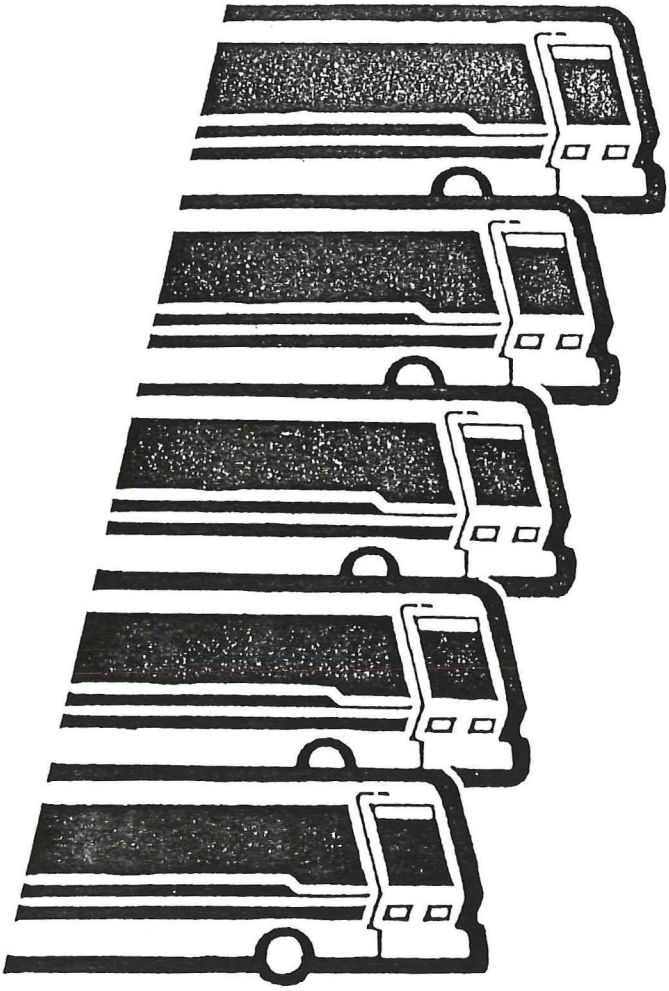
APPENDIX A

ON-BOARD BUS SURVEY- SURVEYOR'S MANUAL

APPENDIX A

ON-BOARD BUS SURVEY

SURVEYOR'S MANUAL



METRO-DADE TRANSIT

TABLE OF CONTENTS

INTRODUCTION

This manual discusses major points and guidelines necessary for survey workers to conduct transit needs surveys.

The survey workers hired to participate in the surveys have been selected because in our opinion they are the type of responsible person we need. We have spent considerable time, effort and money designing the survey instruments and procedures to obtain essential information from bus riders to improve transit service in Dade County. Regardless of the quality of these preparations, the surveys will fail if the survey worker's job is not performed in a professional manner.

Surveyors must be familiar with all the procedures in this manual and must be able to answer questions from bus riders. Overall, the surveyor is a representative of Dade County and of the Metropolitan Dade Transit Agency (MDTA). They are our contact with the public. The surveys ask people to give us several minutes of their time. Whether or not they cooperate will largely depend on the image the surveyor projects.

The main purpose of the surveys is to provide the Transit Agency with information about bus riders and how they use the transportation system. This information should help in planning the best ways to serve people with our Metrobus fleet and Metrorail transit system.

The surveys are designed to collect two primary kinds of information:

- Origin-Destination trip data including the reason for the trip, the origin and destination of the trip, the means of travel used and the like.

- Household characteristics or demographic data such as the person's age and gender and the availability of motor vehicles.

1.0 SURVEYOR'S RESPONSIBILITIES AND SCHEDULE

The surveyor is responsible for handing out questionnaire forms to all passengers on a sample of bus trips, for recording certain aspects of the trip, for assisting where necessary, any person completing a survey form and for collecting the completed questionnaire forms.

In this survey, we need to distribute survey forms to as many passengers as possible on the selected trips. We also need to have as many as possible of those forms completed and returned on the bus. To do this, a team of 2 surveyors will ride on the sampled buses. Surveyors will not be required to interview passengers, although they may provide assistance when asked, if they are free to do so at the time.

There are four basic principles that the surveyor must observe:

1. Safety. The bus driver has overall responsibility for the safe operation of the bus and the safe transit of the passengers. At all times, obey the driver, if he or she requests that you change your procedure, or indicates that you are jeopardizing safety.

2. Noninterference with the operation of the bus system. Survey activities must not impede the operation of the bus, by delaying its departure from stops, extending the loading time for passengers, or otherwise interfering with the normal operation of the vehicle.

3. Avoidance of littering. Keep a lookout for survey forms and pencils that may have been left on bus seats, dropped on the floor, or discarded inappropriately. Pick up any of these materials, but ensure that you do not mix discarded forms with those that have not yet been distributed or completed ones that have been returned.

4. Politeness. Be courteous and polite at all times. We are seeking voluntary cooperation from the public. We also want to keep them riding the buses. However, do not get trapped into lengthy conversations that prevent you from conducting your primary tasks.

We are using a random sample of bus runs. In order to collect the necessary data, surveyors must work the designated buses at the required times. We have spent a considerable amount of time to carefully plan schedules for each interviewer's shift. These schedules will work only if each person is **PUNCTUAL** and begins and ends his or her shift as instructed. We will be riding buses from the begining of a morning run or shift until late morning or early afternoon. Plan to arrive at the location where the bus run is scheduled to start at least 15 minutes before the expected departure. Short breaks of approximately 10 minutes may be taken at the layover point between each trip.

2.0 STARTING AND ENDING A BUS RUN

Everyday, before you start the run, your first responsibility is to obtain the necessary supplies. Supplies will be stored at the bus garage and at the Transit Agency (see addresses in the **HELP** section). You must make sure that you have the necessary materials. If you notice an item being depleted, inform us immediately.

2.1 Supplies

The following items will be required for the surveys:

- Two sets of signs to be placed on the bus
  a) SURVEY IN PROGRESS...

  b) COMPLETED
     SURVEY
     FORM
     THANK YOU

- Tape for mounting the signs

- Rubberbands and orange colored paper to band the collected forms for each trip

- A clipboard with log sheets

- A supply of sequentially numbered survey forms

- Pencils

- Two boxes marked "SURVEY FORM RETURN BOX" for the return of completed forms

All of these items will be provided in a large box which is to be placed under a seat at the front of the bus. The box will be used to keep unused survey cards, returned forms and discarded forms. It will also be used to collect the signs and return boxes before disembarking from the bus.

2.2 "Dressing" the Bus

- After you introduce yourself to the driver, your first responsibility is to "dress" the bus. We refer here to placing the appropriate survey apparatus such as signs on the bus.

- Hang return boxes in the bus. One box should be placed opposite the front door, behind the driver. Place a sign above the box on the panel behind the driver. The second box should be near the rear exit door. Facing out, place the box on the back of the seat to the right of the door. Place the sign indicating the location of this box on the window above the box. Place another sign on the panel to the right of the exit steps.

- Hang four "Survey in Progress .." signs inside the bus. One should be placed on the middle window on each side of the bus at eye level. Two should be placed on the rear wall

taking care not to block the engine vents or existing signage.

NOTE: You must always check with the driver after mounting the signs to ensure that you are not blocking his vision or violating any safety regulations.

- The last responsibility is to "undress" the bus i.e. remove the signs and all survey-related materials from the bus. This should occur only at the end of the scheduled run.

3.0 SURVEY PROCEDURES

- Make sure that you have boarded the correct bus. Verify the run number with the driver.

- Take a look at the route map to ensure that you are familiar with the area in which the bus is going.

- Fill in all preliminary information on the log form as described in section 4.0.

- A team of 2 surveyors will ride on each bus. One surveyor will stand behind the driver facing the entrance door and ask each boarding passenger (with the exceptions noted later) to take and complete a survey form. If many people are boarding the bus at once,stop and move three or four steps towards the back of the bus temporarily, to facilitate passenger flow. **You will often find it convenient to let people sit down first and then hand them a form and a pencil after a brief explanation of the survey.**
  The other surveyor will stand near the rear exit door and try to collect completed survey forms as passengers proceed to depart from the bus. The 2 surveyors should change places at the starting point of each trip.
  NOTE: If many people board the bus at once, assistance to distribute the forms must be provided from the surveyor at the back.

- Hand survey forms to everyone who appears to be 12 years of age or older. Make sure you log all refusals as described in section 4.0. Do not give survey forms to children you judge to be under 12 years of age.

- Pencils do not have to be returned although this is preferable. If passengers have left pencils on the floor, retrieve them as soon as possible as they could cause an accident.

- Scan passengers for those who have completed their forms. Many will expect you to come and collect the forms from them. To avoid vandalism affecting the survey, keep an eye on the return boxes. **Also retrieve completed forms from the return boxes at the end of each trip and wrap each bundle in a sheet of orange paper, secured by a rubberband**. Place these bundles in the large box under the seat as soon as possible. Each bundle should have the date, route, run and trip number clearly marked.

bundles in the large box under the seat as soon as possible. Each bundle should have the date, route, run and trip number clearly marked.

- o Stress the importance of respondents providing us with correct answers especially with their origin and destination addresses. Where possible check the returned forms for completeness before they are deposited in the return box.

- o The surveyor should reassure each passenger of the confidentiality and annonymity of the survey.

- o Everytime you believe someone has heard you offer them a form, and if they refuse to take it, record that action on the log form as a refusal.

- o Thank respondents for their time and help when the forms are being returned.

- o At the end of the run, be extremely careful to "undress" the bus and thank the driver for his cooperation.

4.0 THE LOG SHEET

On the next page is an example of the log sheet to be filled in according to the following instructions. The information on the log sheets is vital to the survey. Among other things, this information reveals where and when each survey form was distributed. In filling out some sections of the log sheet, a best estimate is often all that is needed. If counts or times are slightly "off" this is no great problem, but if the forms are not filled out at all, this poses a serious problem.

You will be provided with a clipboard and log sheets for each route and run to be surveyed. For the log sheets to function, it is important to keep the prenumbered survey forms in the sequence they were given to you. The forms must be handed out from top to bottom in correct numerical order.

Information at the top of the sheet such as the Surveyor's Name, Date, Starting Location and Time, Ending Location and Run Number will all be filled in for you and will serve as instructions.

The following need to be completed by you:

1. Trip No. - Number each trip (starting location to ending location) in consecutive order.

2. Time trip departed - Enter the time the bus left the starting location.

3. Direction - Enter the direction - North (N) or South (S) of each trip.

4. Starting Form No. - Enter the number (from the lower right hand corner of the questionnaire) of the first questionnaire form you will distribute on each trip.

METROPOLITAN DADE COUNTY ON BOARD TRANSIT SURVEY LOG SHEET

SURVEYOR'S NAME_____ DATE_____

STARTING LOCATION_____TIME____ ENDING LOCATION_____TIME____

ROUTE NO._____ RUN NO._____

TRIP NO.	TIME TRIP DEPARTED	DIRECTION N	DIRECTION S	STARTING FORM NO.	ENDING FORM NO.	NUMBER OF REFUSALS

REMARKS:_____

5. Ending Form No. - Enter the number of the last questionnaire form distributed for each trip. If the surveyor working the back of the bus is using a batch of forms to assist with the distribution, care must be employed to account for each of these forms at the end of each trip. Those not used should be marked "void" and batched with the rest of the forms which were used for that trip.

6. Number of Refusals - Post marks (grouped in fives eg ~~𝍸~~) should be placed in this column to indicate the number of refusals on each trip. This is the only count you need to keep track of continuously.

7. Remarks - This section may be used to briefly describe things such as unusual weather conditions, breakdowns, inquiries and comments passengers had about the survey. You may continue on the back of the sheet if additional space is required.

5.0 THE QUESTIONNAIRE

As stated in the introduction, the questionnaire (shown on the next two pages) is designed to collect two primary kinds of information:

- Origin-Destination trip data including the reason for the trip, the origin and destination of the trip, the frequency of the trip, etc.

- Demographic data such as the ages of passengers, their gender and availabilty of motor vehicles.

As many riders as possible should fill out the form and return it before they get off the bus. However, the form can be taken home, filled out and mailed back to us if it is not possible to complete the form on board the bus. A return mail option is printed on the back of the questionnaire to allow people to send it back at no charge to them.

This is a self-administered questionnaire, i.e. respondents should complete the forms with no help from a surveyor. However, do respond to inquiries and be courteous.

8

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL
First-Class Mail Permit No. 20779 Miami, FL

Postage Will Be Paid By Addressee

METRO-DADE TRANSIT AGENCY
ATTN. PLANNING & DEVELOPMENT SURVEY
111 N.W. 1ST. STREET
MIAMI, FL. 33128-9963

METRO-DADE TRANSIT

METROBUS TRAVEL SURVEY

We want to improve Metrobus service in your area. Please help us by filling out this form and placing it in the return box as you exit. Thank you.

1. Where did you begin the trip that you are now making?
(Check ☑ one only, please).

- ☐ Home
- ☐ Work
- ☐ School/College
- ☐ Shopping
- ☐ Personal business (bank, post office etc.)
- ☐ Medical facility (doctor, dentist, hospital etc.)
- ☐ Recreational site (park, beach, movie theatre etc.)
- ☐ Other _____
(Please Specify)

2. **Where is that? Please tell us the address or nearest street intersection or building or name of the place where you began the trip.**

_____ _____ _____
street address city zip code (if known)

3. How did you get to the bus stop where you got on this bus?
(Check ☑ one only, please).

- ☐ Walked
- ☐ Transferred from another bus (Route No.) _____
- ☐ Transferred from Metrorail/Metromover
- ☐ Drove and parked a car, truck or van
- ☐ Dropped off
- ☐ Passenger in a car, truck or van that parked
- ☐ Other _____ (Please Specify)

see inside

4. Where are you going? (Check ☑ one only, please).

- ☐ Home
- ☐ Work
- ☐ School/College
- ☐ Shopping
- ☐ Personal business (bank, post office etc.)
- ☐ Medical facility (doctor, dentist, hospital etc.)
- ☐ Recreational site (park, beach, movie theatre etc.)
- ☐ Other _____
  (Please Specify)

5. **Where is that? Please tell us the address or nearest street intersection or building or name of the place you are going to.**

_____ _____ _____
street address city zip code (if known)

6. When you get off this bus, how will you get to where you are going?

- ☐ Walk
- ☐ Transfer to another bus (Route No.) _____
- ☐ Transfer to Metrorail/Metromover
- ☐ Other (example: taxi, drive a car etc.) _____
  (Please Specify)

7. How many round trips (going and coming) do you make on this bus route per week?

	0	1	2	3	4	5	6 or more
Monday thru Friday	☐	☐	☐	☐	☐	☐	☐

	0	1	2	3	4 or more
On weekends	☐	☐	☐	☐	☐

8. Do you have a car available for your use?

☐ Yes ☐ No

9. Are you:

☐ Male ☐ Female

10. Is your age:

- ☐ Under 18
- ☐ 18-24
- ☐ 25-44
- ☐ 45-64
- ☐ 65 or older

11. Are you:

- ☐ Black, non-Hispanic
- ☐ Black, Hispanic
- ☐ White, Hispanic
- ☐ White, non-Hispanic
- ☐ American Indian
- ☐ Asian
- ☐ Other _____
  (Please Specify)

Comments: _____

_____

_____

Thank you very much!

6.0 ATTIRE

The following are a few important points to keep in mind for your personal appearance, comfort and safety as well as for the effective undertaking of the survey.

- **CLOTHING: Wear smart, but cool and comfortable clothing.** Many buses are not air-conditioned and you may find it quite warm on the bus. Make sure you are not wearing clothing that can easily be caught or snagged. Ideal clothing for both men and women is slacks and a light shirt. You should not wear jeans or shorts. These are not smart and the latter may, for women be an invitation for undesired advances and comments. Wear sensible shoes: closed toe with low heels.
  You should wear a watch to record time. Make sure your watch is accurate by checking the clock in the garage before you board the bus.

- **PURSES: Do not carry a purse or a wallet.** Use pockets or a brown paper lunch bag for necessities while you are surveying.

- **BREAKS:** At certain times on the shift (at most of the layovers) the driver will take a break. You may disembark and take a break too. However, you should ensure that the driver has locked the doors before you leave the survey tools unguarded. It is often possible to purchase a light snack or drink at these layovers, but be sure to find out from the driver the length of the break and be back on board before the scheduled departure time. If there is any medication or other necesities that you must have with you, place it in the bag.

- **MEDICINES: You may be standing on a moving bus for hours.** If you are prone to motion sickness, you may wish to take medication before boarding the bus. Eat lightly. You will also be doing a lot of talking on a noisy bus, so stock up on cough drops or hard candy for throat relief if necessary.

- **APPEARANCE: Projecting a good image is of great importance.** Do not smoke or chew gum (the former is against the law on a bus, anyway). Please be careful about body or breath odor.

- **BUS PASSES: Your badge is your bus pass that allows you to ride the buses during the survey.** These badges are the property of MDTA and must be returned to the project staff before you leave at the end of the survey. YOU MUST WEAR YOUR BADGE AT ALL TIMES WHEN YOU ARE ON THE BUS.

7.0 IMPORTANT POINTS TO REMEMBER

Here are a few very important facts that you need to remember at all times during the survey:

- The survey is voluntary, i.e. dependent upon peoples' willingness to take the forms and complete them. However, the survey is truly successful only if everyone takes and completes a form. Please do your best to help us get the highest cooperation possible from our riders.

- The survey is secondary to MDTA service. At no time can your survey activites be allowed to interfere with the safe and timely operation of the buses.

- Cooperate with the driver and you will find the driver to be very helpful to you. Remember, it is his bus and he is responsible for the passengers and for keeping the bus on time. Do not hinder the driver in any way.

- The runs that have been allocated to you to survey have been selected by a careful random process. This allows the survey sample to be viewed as representative of the entire bus system in the study area. Therefore, it is essential that you survey the designated runs only. If you miss a run, or survey the wrong run, you distort and bias the sample quite seriously. In the unlikely event that you miss your run, you must contact a Survey Administrator as soon as possible for instructions on what to do. Please see page 14 for a complete set of telephone numbers.

8.0 HANDLING PASSENGERS QUESTIONS

Results of previous surveys indicate that few questions will be generated during the survey. Nevertheless, the following are some questions you may encounter on board the buses and some suggested answers.

Q. Why are you doing the survey?

A. Because Metro Dade Transit Agency needs to collect information about the way people use the bus system to help make changes for better service.

Q. I filled one out yesterday.

A. Well, this is another bus ride. Could you please fill out a form again. As you know, it only takes a few minutes.

Q. Why was my bus chosen?

A. It would be too expensive to go on all bus routes and ask all passengers to help us. Instead, we selected a sample of routes at random.

Q. Can I have a form for my wife?

A. No, I am sorry, we can give only one form to each bus rider. Since she did not ride today, she is not considered a rider.

Q. The Route No. _____ bus does not run often.

A. That is the type of information needed. There is room on the forms for comments. Please fill out the forms and write what you just told me in the comments section.

Q. I don't know what bus I will transfer to, it depends on which one comes first.

A. Put the one you think is most likely to come first. If you are not sure, put down both.

Q. Why do you need to know if I have a car available for my use?

A. If most people on a route do not have cars, increased service is required on that route.

Q. Why do you need to know my sex and my age?

A. The federal government requires that this information be obtained to show that all groups are getting served. Much of the money for improvements comes from the federal government. Don't worry, this information is all kept confidential.

Q. I do not remember my zip code.

A. Don't worry, we can fill it in. Please just make sure you write SW, NW, SE or NE with your street address.

Q. Can I mail in the form?

A. Yes, but it only takes a few minutes to fill out and we would really appreciate it if you would fill out the form now.

Q. There are no seats and that box you have is taking one up.

A. I am sorry. Our goal here is to collect information so that we can provide enough buses on each route so that people don't have to stand. It is against insurance rules to put the box in the aisle on the floor.

These replies are suggested. They need not be memorized. Be yourself. Do not avoid questions (unless you are genuinely too busy to answer them), but do not encourage them either.

9.0 COMMON SPANISH PHRASES

ENGLISH	SPANISH
Good Morning	Buenos Dias
Good Afternoon	Buenas Tardes
Please	Por Favor
Thank you	Gracias

Mail	Por Correo
Hello	Hola
Please help us improve the bus service by filling out this form. It only takes a few minutes. You can mail it back to us at no cost if you can't complete it now.	Ayudenos a mejorar el sistema de autobus. Llene esta forma ahora. Solamente le tomara unos minutos. Mande la forma gratis por correo, si no puede completarla ahora.
You're welcome	De nada
Questionnaire	Formulario
This is important	Esto es importante
Wait a minute	Un momento, por favor
Do you need a pencil?	Necesita un lapiz?
Yes	Si
No	No
Please put it in the box	Echelo en la caja, por favor
Mr.	Senor
Mrs.	Senora
Miss	Senorita (younger woman)
Pencil	Lapiz
How do you say _____ in Spanish	Como se dice _____ en Espanol
English	Ingles
Spanish	Espanol
Bus	Autobus/Omnibus
Dade County	Condado de Metro Dade
Now	Ahora
I don't understand	No comprendo
This is a survey to find out how passengers travel by bus in this area.	Esto es una encuesta para investigar como pasajeros viajan en autobus por esta area.

NOTE: We will try to schedule at least one person with Spanish language abilities on each bus. However, the above phrases should be of some assistance to those with limited or no Spanish language speaking ability.

NOTE: Results from our pretest indicated that Spanish speaking people are very appreciative if you try to speak with them. Thus, dropping a phrase or two can often be helpful in increasing response rates.

10.0 HELP NUMBERS

SURVEY ADMINISTRATORS	Office Phone Numbers	Home Phone Numbers
Mr. Hugo Salazar	375-1837	279-4425
Ms. Diana Ragbeer	375-1842	233-9117
Ms. Esther Alonso	375-1744	887-0940
Mr. Frank Baron	375-5000	856-0057

OFFICES

Metro Dade Transit Agency
(MDTA)
111 NW 1st St - 9th floor
375 -5000

Metrobus N.E. Garage
360 NE 185 St.
652-8777 or 652-8797

Metrobus Central Garage
3300 NW 32 Ave.
638-6045

Greyhound Bus Lines, Inc.
51 NW 11 St.
371-8711

If you experience any trouble while working:

1. Call the MDTA office and ask for a Survey Administrator or the garage you are scheduled to leave from and ask for a supervisor.

2. If a problem occurs after office hours, call a Survey Administrator at home. However, you should call the garage you are to leave from and ask for a Survey Administrator if you experience any difficulties within half an hour of your scheduled starting time.

3. If an accident or breakdown occurs, adhere to the following procedures:

a) Stay with the driver if no one is hurt. If a replacement bus is sent out, transfer all survey materials onto that bus, and continue to survey the scheduled run. If passengers are to transfer to the next bus, Metrobus will send out a pick up for the driver and will also bring you back to the garage.

b) If you are hurt, try to make arrangements to go to the nearest hospital and contact a Survey Administrator as soon as possible. You need not worry about the survey materials on the bus in this event.

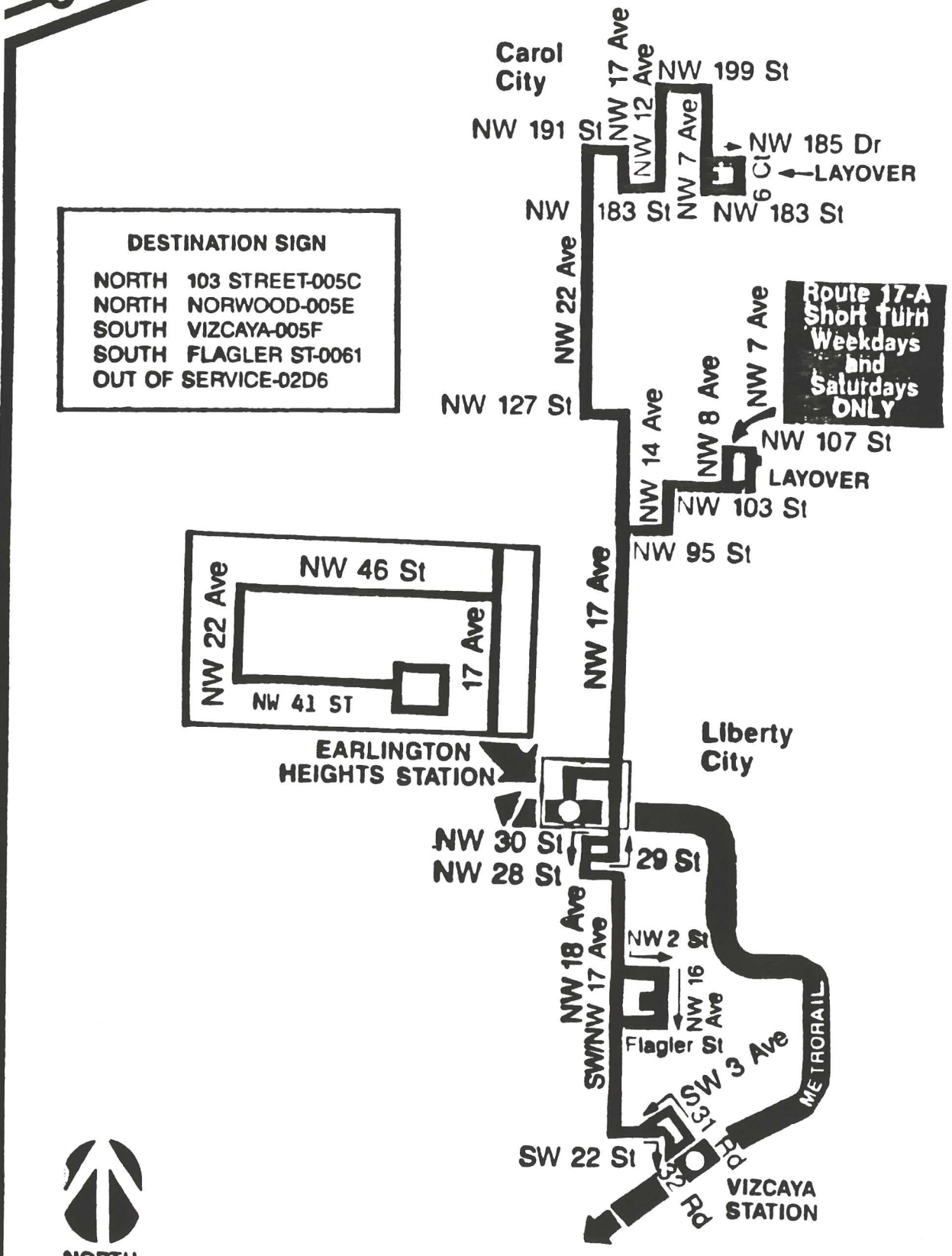
c) If you are not hurt, but others are, remain at the scene of the accident until Metrobus supervisors or the police allow you to go. Contact a Survey Administrator as soon as possible and follow instructions as in 2 a.

11.0 ROUTE MAPS

The next few pages contain maps of the routes to be surveyed. You should make sure you are familiar with the routes you will be surveying prior to boarding the buses. You will be provided with a bus schedule for each route you will be surveying.

METROBUS Operator Guide

Route 17



DESTINATION SIGN

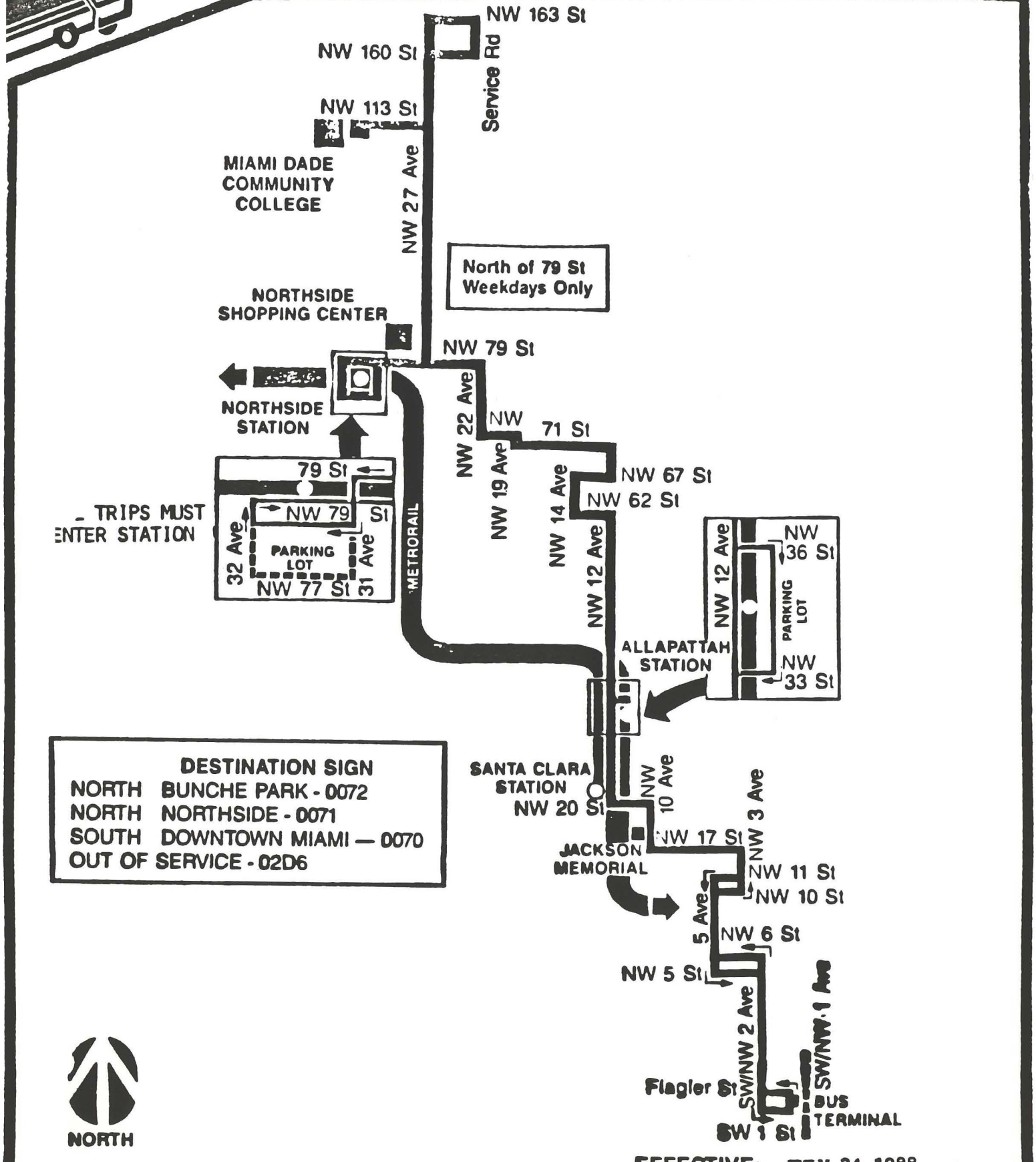
NORTH 103 STREET-005C
NORTH NORWOOD-005E
SOUTH VIZCAYA-005F
SOUTH FLAGLER ST-0061
OUT OF SERVICE-02D6

NORTH

EFFECTIVE: JUNE 12, 1988

METROBUS Operator Guide

Route 21



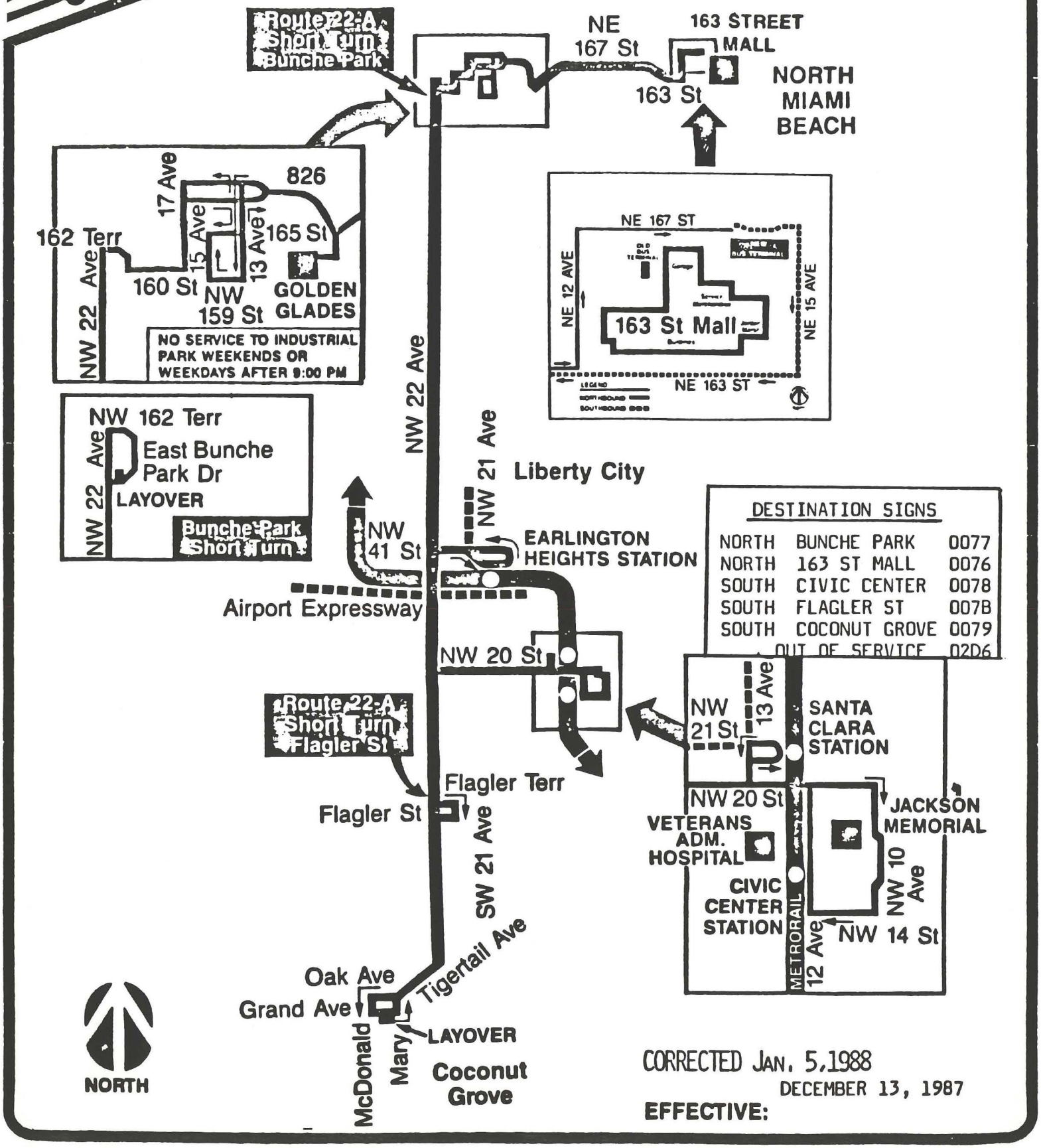
DESTINATION SIGN

NORTH BUNCHE PARK - 0072
NORTH NORTHSIDE - 0071
SOUTH DOWNTOWN MIAMI — 0070
OUT OF SERVICE - 02D6

EFFECTIVE: JULY 24, 1988

METROBUS Operator Guide

Route 22



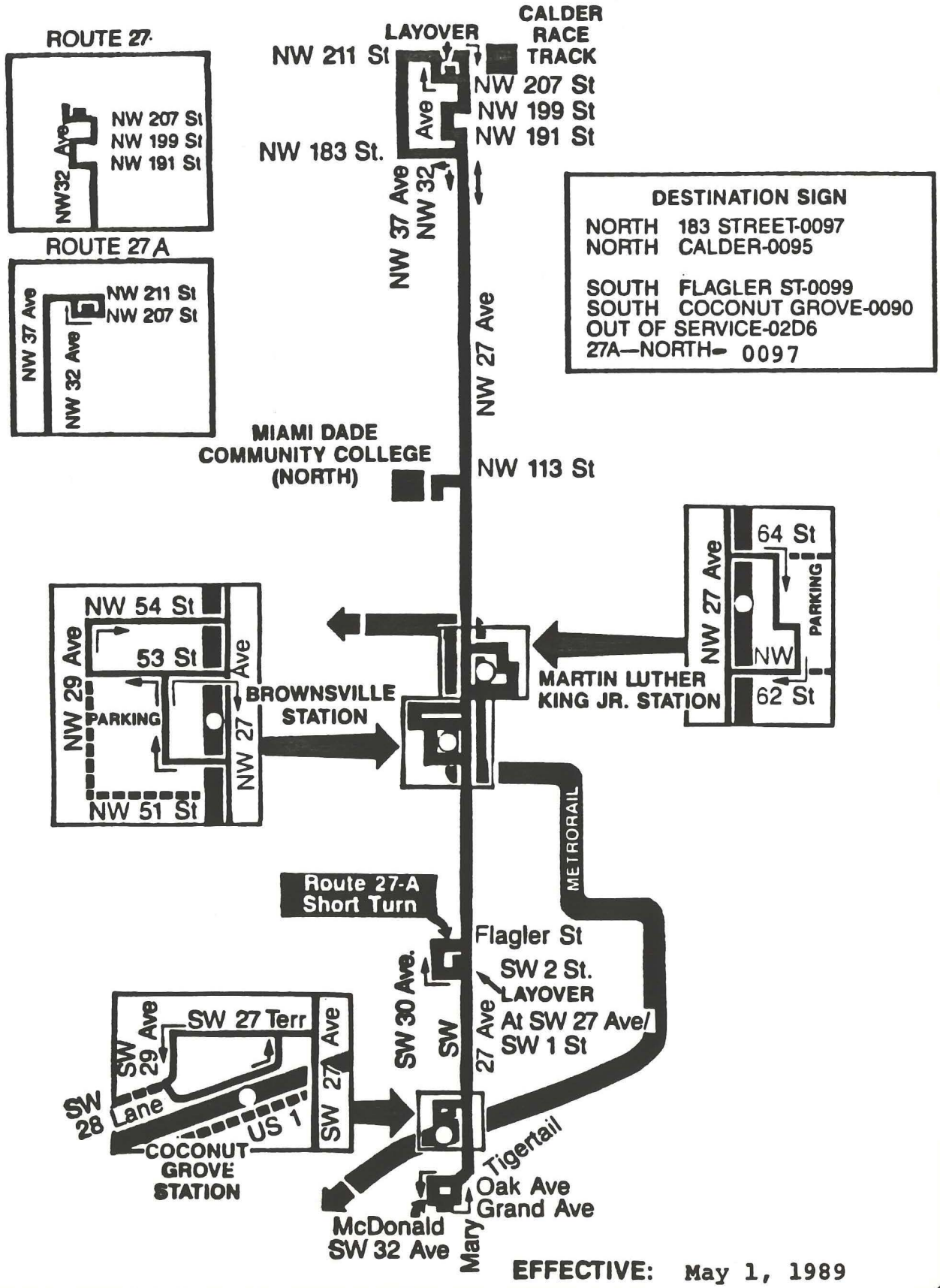
CORRECTED JAN. 5,1988

DECEMBER 13, 1987

EFFECTIVE:

METROBUS Operator Guide

Route 27



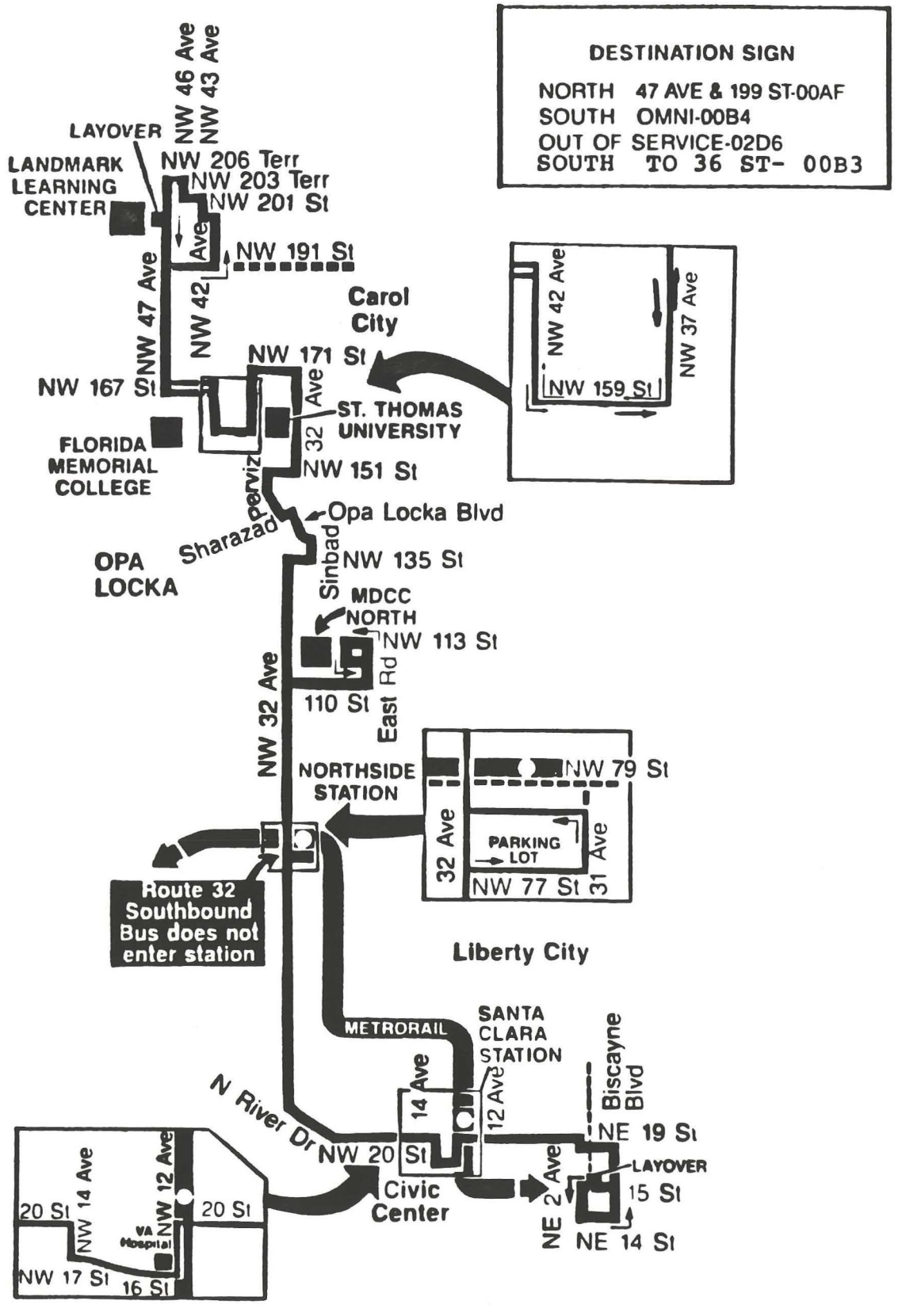
EFFECTIVE: May 1, 1989

METROBUS Operator Guide

Route 32

DESTINATION SIGN

NORTH 47 AVE & 199 ST-00AF
SOUTH OMNI-00B4
OUT OF SERVICE-02D6
SOUTH TO 36 ST- 00B3



EFFECTIVE: April 30, 1989

APPENDIX B

METROBUS TELEPHONE SURVEY - SURVEYOR'S MANUAL

APPENDIX B

METROBUS TELEPHONE SURVEY

SURVEYOR'S MANUAL

METRO-DADE TRANSIT AGENCY

1.0 INTRODUCTION

The telephone surveyor is responsible for conducting a series of interviews to obtain information about travel patterns from randomly selected household members. The data obtained from the telephone interview will be used in addressing travel needs for the study area. However, if errors are made in collecting the data, the study's results will be useless, and unrealistic bus routes and schedules could be applied to the study area for the next several years. Because of the importance of the surveyor's position, a supervisor will be checking and verifying the work of each surveyor during the course of the survey.

2.0 INTERVIEWER'S GENERAL RESPONSIBILITIES

We need to contact a minimum of 2,700 household respondents. You have been hired to ensure that we meet this commitment. Your telephone interview assignments must be completed in four weeks. To meet this, we estimate that you must complete a minimum of 15 telephone interviews per weekday and 25 interviews on Saturdays. On weekdays, we will have a 4 hour schedule and on Saturdays we will have a 7 hour schedule.

There are three basic principles that you as an interviewer must maintain:

1. **Never betray the respondent's assurance of confidentiality.** Do not discuss the specific details of an interview with anyone. We assure the respondent that his or her answers will remain confidential. This is a survey principle that all responsible surveyors must abide by.

2. **Consistency.** All surveyors must do everything in exactly the same way, at all times. If you have any questions about a procedure, ask your supervisor.

3. **Always be polite to the respondent.** We are seeking voluntary cooperation from people and we need their help. It is thus imperative that you be courteous.

We do not wish to disturb or antagonize people. We also wish to maximize our response rates by placing calls at times when respondents are most likely to to be at home. Further, since the study is primarily concerned with travel patterns of the typical weekday immediately preceding the survey, we have chosen to conduct telephone interviews between 5:00 pm and 9:00 pm, Tuesdays through Fridays and between 11:00 am and 6:00 pm on Saturdays. Because of the restricted hours in which we can make telephone calls, it is essential that you always arrive on time to begin your work and that you stay until the designated times to complete your calling. Your schedule will usually require that you arrive 15 minutes before the calling period starts, so that you can assemble all the materials you need and make sure you are ready and prepared to start on time.

3.0 THE SELECTION OF HOUSEHOLDS

Our method of selecting households is to use the computer to produce random telephone numbers. For each of the prefix codes (first 3 digits) in the study area, a random set of four digits is produced by the computer. Putting these four digits together with the prefix code produces a telephone number. However, when these numbers are generated, we do not know if they are in service. We also do not know if these numbers are business or residential numbers. Since the study requires that you contact residences only, we require that you verify that you have in fact reached a residential number each time you make a call. If and only if you have verified that the number reached is a residence, will you proceed with the interview.

On the first day, you will be provided with a computer printout containing a list of telephone numbers to be dialed. Keep strictly to the order in which these numbers are given to you, and work through as many as you can during your calling period. Make sure that you note the outcome of the call i.e. the disposition on the call sheet when you dial the number. If the number is not in

service, you will hear a recorded message telling you this. If the number rings, allow it to ring up to seven times (count them). If there is no answer, record it as such. If it is busy, hang up and redial once. If it is still busy, note that it was busy. If it is answered, proceed to introduce yourself, using the text specified in the introduction and find out if the number called is for a residence or not. If not, note that and terminate the call. If it is for a residence, proceed with the introduction and with the respondent-selection procedure. An interview form should be used only if the selected respondent has been chosen.

4.0 THE INTERVIEW

We have provided you with a fairly complete text for the interview. You must use this text exactly as given, deviating only as indicated in the Question and Answer section of this manual.

In order not to bias the results towards one demographic group who could be predominant among telephone answering persons, we want you to interview a randomly selected adult in each household. Questions 1 and 2 are intended to try to locate this person. The first question asks for the number of persons 12 years and older that live in the household. This number is then circled in the first row of the respondent-selection matrix. The second question asks for the number of this group that are men. This number is then circled, in the first column. The surveyor should then circle the category at the intersection of the row and column selected and ask to speak to this person. If the person you are supposed to interview is not available or at home at the time of your call, try to get a day and time to call back. You will be reassigned this call on the appropriate day. If the person asks for a call to be made at a time other than when we are usually interviewing, record it and bring it to your supervisor's attention. We will be making a few prior-appointment calls at other times of the day.

From your earlier questions, you should be able to identify the sex of the person you are interviewing. Check the appropriate box

in Question 13. Remember that most people would be insulted if you could not recognize their gender from their voice.

For Questions 1 through 12, check the appropriate box or write in the information if it is required.

5.0 RECORD KEEPING FOR THE INTERVIEWS - COMPLETING THE CALL SHEET AND QUESTIONNAIRE

Before you start:

- o Fill in the telephone number to be called.
- o Enter the date, starting time and your initials on the call sheet.
- o Fill in the disposition code based on the outcome and list of codes at the bottom of the sheet.

After you complete the interview OR if you obtain a refusal or termination:

- o Make sure that you have filled out the answers to all questions or have indicated a reason for the termination or refusal on the call-sheet.

6.0 THE SURVEY INSTRUMENT: INTERVIEWING TACTICS

Each question in the survey will be explained in detail in the training session. There are however, some general guidelines to be followed in administering the survey and recording the responses:

- o Be familiar with the questionnaire.
- o Do all work in pencil.
- o Record responses exactly as given.

- If you record a response incorrectly, do not erase it; just cross it out and write in the correct response. If you are checking boxes, and check the wrong one, put a line through the wrong one and check the correct one.

- Read the questions in the exact order and wording in which they are written.

- Mark "No response" for questions which the respondent is not able to or does not wish to answer. However, do not be too quick to mark "No response". Give the person time to think and repeat the question if necessary.

- Keep talking as you write. Ask the second question as you record the response to the first. **If you let a silence grow, the respondent is likely to hang up on you.**

- **Check over your work at the end of each interview while the information is still fresh in your mind.** Make sure everything is completed properly.

- **Do not correct errors you are unsure of** without discussing them with a supervisor.

7.0 PRINCIPLES OF NEUTRALITY AND CONSISTENCY

Survey research is based on the assumption that each question will mean exactly the same thing to each respondent. The interviewer should not influence the respondent's answers in any way. In other words, the interviewer must function as a medium through which data are collected, not interpreted. As an interviewer, you must keep the following points in mind:

- **Never indicate surprise, pleasure, or disapproval at any of the responses.** Even a slight gasp can be interpreted as a reaction to a respondent's answer.

- Never suggest an answer and never voice your opinions.

- If the respondent doesn't understand a question, repeat it exactly as written. **Never attempt to interpret it in your own words as each interviewer may provide a different interpretation.** This could make the response invalid.

- **Each respondent and each interview is equally important.** In other words, you must be gracious to everyone, but adaptable to changing needs. Each person you contact poses different situations. The important thing is to inspire the confidence of every respondent regardless of sex, age, residence or anything else. Also bear in mind that how you conduct this survey will affect how people respond to other surveys in the future.

8.0 THE IMPORTANCE OF AVOIDING REFUSALS: HELPFUL ANSWERS TO COMMON QUESTIONS

The quality of any survey is affected by the number of refusals. If the refusal rate is too high, faulty conclusions may be drawn from the data. In other words, having too few respondents creates the risk that the characteristics of those who respond are not representative of the total population being considered.

Refusals are many times the result of the prospective respondent's lack of knowledge about the importance of the survey. It is the surveyor's job to explain the significance of the study to the respondent. Some refusals can be avoided if the following guidelines are observed:

- Do not give up when the prospective respondent says he or she does not wish to participate. Emphasize the importance of the study, and stress the fact that the selected person is being given the opportunity to represent the community in ways that will affect transit planning for the area.

- Explain that future decisions will be based, in part on the

results of the study.

- Explain that only a select number of households have been chosen to represent the study area, therefore the opinions of those selected are extremely valuable and important.

- Assure the respondent that strict confidentiality will be maintained. At no time will any person be identified in any data that are reported.

The following are some questions that may arise at the onset of the telephone interview. Possible answers are provided:

Q. Who is doing this study?

A. The study is being conducted by the Metro Dade Transit Agency to obtain information on travel patterns in your area.

Q. Is the purpose of the study to cut service?
A. No. The Agency wants to improve service in the area and the survey will provide us with information as to how to do this.

Q. How can I verify who you are?
A. My name is _____ and I am a professional interviewer hired by the Metro Dade Transit Agency to conduct the telephone interviews. You can reach someone at the Agency at 375-5000 and they will be glad to verify this and explain the study to you.

Q. How did you get my phone number? My number is privately listed.
A. All numbers that we are calling were randomly selected. The privacy of your number will remain confidential.

Q. I don't have a lot of time. How long will this take?
A. The questions won't take long, about 5-10 minutes. If you don't have the time right now, we can call back at a more convenient time. When would that be?

9.0 HELP NUMBERS

The nature of the survey requires that you work as independently as possible. However, a supervisor will be on duty at all times to monitor the quality of your work and to assist you with any difficulties that may arise. If there is a serious problem or an emergency, or if you know ahead of time that you will not be able to attend work on a particular day, contact one of the Survey Administrators as soon as possible.

SURVEY ADMINISTRATORS	OFFICE PHONE NUMBERS
Hugo Salazar	375-1837
Diana Ragbeer	375-1842