#### THE POST HURRICANE SHORT RANGE TRANSPORTATION PLAN

TECHNICAL REPORT #3
SUMMARY OF SURVEY RESULTS
HOUSEHOLD TRAVEL AND
HURRICANE IMPACT SURVEY

### **BEHAVIORAL SCIENCE RESEARCH**

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#### THE POST HURRICANE SHORT RANGE TRANSPORTATION PLAN

# TECHNICAL REPORT #3 SUMMARY OF SURVEY RESULTS HOUSEHOLD TRAVEL AND HURRICANE IMPACT SURVEY

Prepared for:

BARTON-ASCHMAN ASSOCIATES, INC.

and

THE DADE COUNTY METROPOLITAN PLANNING ORGANIZATION

MAY 19, 1994



May 19, 1994

Mr. John D. Zegeer, P.E. Principal Associate BARTON-ASCHMAN ASSOCIATES, INC. 5310 NW 33rd Avenue, Suite 206 Fort Lauderdale, FL 33309

Re: DADE COUNTY GENERAL HOUSEHOLD TRAVEL

AND HURRICANE IMPACT SURVEY

Dear John:

Attached is the summary report of the results of the General Household Travel and Hurricane Impact Survey BSR conducted during November and December 1993 and January 1994. The survey was conducted among approximately 3,840 Dade County resident heads of household. These results include data received both from persons who agreed to complete the travel diary and those who refused.

The results of the travel diary phase of the assignment have been forwarded to Gannett-Fleming and the MPO under separate cover and is presented herewith as an Appendix volume to this report.

We have appreciated the opportunity of completing this assignment for you, Barton-Aschman Associates, Inc., and the MPO. Please contact me if you or your associates have any questions concerning the data included in this report and the supplementary travel diary presentations, or if any additional information is required at this time.

Most cordially,

Richard D. Roth

Vice President and Senior Project Director

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#### **EXECUTIVE SUMMARY**

#### HOUSEHOLD TRAVEL AND HURRICANE IMPACT SURVEY

The research summarized in this report presents findings from the Household Travel and Hurricane Impact Survey conducted by Behavioral Science Research in November and December of 1993 and January of 1994. This study, commissioned by the Metropolitan Planning Organization (MPO), was designed to determine the degree to which the aftermath of Hurricane Andrew is continuing to impact the daily lives of Dade County households. More specifically, a main objective of the research was to establish how travel in and about Dade County has changed in order to determine what effect, if any, there is on the County's current Travel Improvement Plan (TIP).

The findings reveal that while a large number of people and households continue to be impacted by the effects of Hurricane Andrew a full 16 months after the storm struck South Florida, the effects with respect to where people are now living, as compared with where they were residing prior to Andrew, are not as impactful on the County's Travel Improvement Plan. Among the more noteworthy findings:

#### 1. CHANGE IN RESIDENCE

The BSR Household Travel and Hurricane Impact survey revealed that the majority of households that were originally forced to move because of Hurricane Andrew have either moved back to their homes or have moved back to the same district in which they were living prior to the storm. This is evidenced by the fact that less than 6% of the County's total households are still living in a home other than the one they were living in at the time Andrew struck the area, and only 3% are living in a different district. The impact of this group of relocated households on the County's existing (pre-Andrew) plans for road construction and improvements, is negligible.

Approximately 39,400 households remain relocated from their pre-Andrew residence, representing close to 6% of the County's total pre-Andrew households. Nearly 8% of these still plan to return to their pre-Andrew residence, further reducing the long term impact.

The Southern zone (the area south of Kendall Drive) was the area of the County most effected by residential movement after the hurricane. Of the households that relocated within Dade County, 24,000 were originally located in this southern district. Even though the majority (17,000) relocated within the district, 7,200 households have permanently

relocated to other parts of the County. It has been estimated by various sources that another 15% to 25% may well have moved to Broward or Palm Beach Counties, or completely out of South Florida.

#### 2. CHANGE IN WORKPLACE

Only about 4% of the County's total heads of household are still working in different places of employment because of the aftermath of Hurricane Andrew. Moreover, with some 20% of these persons planning to return to their former, pre-Andrew workplace in the foreseeable future, the impact will be further reduced to close to 3% of all working heads of household.

The work locations of approximately 12,500 heads of households have permanently moved due to the effects of Hurricane Andrew. The South district is the area of Dade County most impacted by work relocations. Over 6,700 heads of households are permanently employed in a different location directly due to the effects of the hurricane. The vast majority, 75%, of these worker relocations were due to business relocations while the balance were due to the permanent closing of their previous place of employment.

#### 3. CHANGE IN SCHOOL LOCATION

Changes in school locations, impacted by the aftermath of Hurricane Andrew do not appear to be generating a major change in transportation patterns, for the short or long term, among this group of households, Countywide, or in the district most affected by the hurricane.

Among households where children are driven to school, only 1,200 were permanently forced to enroll their children in another school. While the majority of temporary relocations occurred in the South district, only a handful of permanent relocations occurred there. Half of the permanent relocations are in the West district (the area bounded by Okeechobee Road on the north, 826 on the east and Kendall Drive on the south) with the balance scattered throughout the remainder of Dade County.

Executive Summary: Household Travel

#### 4. EFFECTS ON WORK-RELATED TRAVEL

Approximately 21% of all the County's working heads of household continue to experience some impact or change in traveling to and from work as a result of the aftermath of Hurricane Andrew. Less than 10% describe their experience of change or impact as "dramatic" and about 12% report being "somewhat" impacted. Conversely, nearly 80% report their travel to and from work is not being affected.

Of those heads of households whose travel continues to be impacted, just over 90% report their time traveled to and from work is continuing to be affected; 56% continue to travel a different route than before the hurricane, 24% travel a different distance, and 11% continue to experience a change in the mode of travel they use, mostly reflecting an increasing incidence of the use of public transit.

Travel to and from work for approximately 82,000 heads of households in Dade County continues to be effected by the aftermath of Hurricane Andrew. Over 91% indicate an increase in their travel time and 50% indicate that they take a different route. Also, over 90% of individuals who indicated that their travel time was effected by Andrew said they had an increase in travel time to work of 22 minutes. Finally, respondents who indicated a change in the route taken to and from work, changed primarily from using major thoroughfares such as I-95, 826, the Turnpike and US 1 to using "local roads", while those who indicated a change in mode did so from automobiles to mass transit. The overwhelming majority of workers effected by the above-mentioned factors reside primarily in the South and West districts.

#### 5. EFFECTS ON SCHOOL-RELATED TRAVEL

Approximately 119,000 households in the County drive their children to school. Of these, 20% continue to experience change in their travel to and from their childrens' school. Conversely, 80% of these households are not experiencing any change in their trip to or from their childrens' school.

Driving time is the most noted impacted factor (by 90%), followed by route change (53%), distance travelled (28%),

Executive Summary: Household Travel

and change in travel mode (28%).

Approximately 23,000 heads of households who drive children to and from school continue to experience the effects of Hurricane Andrew. Over 90% continue to be effected in the form of increased travel time, while over 50% report a change in the route they take. Both changes in distance traveled and mode used continue to effect over one-fourth of the population. As with work-related travel, 90% indicated that their school-related travel time increased an additional 14 minutes. Those that indicated a change in route taken did so by increasing their use of "local roads", again at the expense of most major thoroughfares. Respondents noting a change in distance traveled indicated that they now travel an average of 7 miles further to school. The majority of the respondents who indicted their school-related travel was still effected by Hurricane Andrew reside in the South and West districts.

#### 6. EFFECTS ON OTHER TYPES OF TRAVEL

Travel related to grocery and other types of shopping, movie-going, and visiting friends continues to be impacted by the aftermath of Hurricane Andrew for between 18% and 25% of Dade County's households. There is less incidence of travel disruption concerning trips made to and from banks and for religious purposes.

Regardless of the trip purpose, over 90% of households whose travel continue to be impacted by the aftermath of Andrew, experience an increase in travel time. Distance traveled continues to impact over 40% of those households whose travel is still being effected.

#### 7. INCIDENCE OF ACTUAL AND LIKELY EVACUATION

The propensity or likelihood of pre-storm evacuation among the general population of the County is now nearly double the incidence of actual pre-storm evacuation that occurred in the days and hours immediately preceding the arrival of Hurricane Andrew.

Increased propensity to evacuate is most noticeable among the group of residents/households who experienced the brunt of Andrew, in South Dade, and among those who were forced to relocate their place of residence due to Hurricane Andrew.

Executive Summary: Household Travel

The impact on the various geographic districts of Dade County by those persons/households forced into a residential move will be negligible. This group as a whole now (16 months after Andrew) represents less than 6% of all Dade households. Only one-half of these households - less than 3% of all Dade households - moved to a district in the County that was different from their pre-Andrew district.

The survey results indicate that evacuation levels prior to the next hurricane will be approximately double of what they were prior to Hurricane Andrew. Approximately 24% of Dade County residents evacuated their homes at some point prior to Hurricane Andrew. Sixteen months after Andrew, 48% of Dade County residents report they will evacuate prior to the next major hurricane that threatens the area. The highest incidence of pre-Andrew evacuations occurred in the East district (the coastal zones). Indications are that even this level will be slightly greater for any future evacuations. The incidence to evacuate in all other districts of Dade County would more than double creating a tremendous strain on south to north travel.

Based on these findings, several recommendations are being offered for the MPO's consideration and review:

• Review the current TIP to accommodate the changes in routes taken for daily travel. Changes in routes taken, namely the increased use of "local roads" at the expense of major thoroughfares, may call for current and future transportation improvement projects to be re-prioritized based on this shift in travel.

It may also be necessary to determine if current improvement projects on the major thoroughfares will improve conditions enough for residents to increase their use of these roads, or if the funds available would be better spent on the roads currently experiencing the greatest increases in daily traffic. Special consideration for priority should be given to roads in the South and West districts since the majority of traffic congestion problems occur in these areas.

• Develop ways to increase use of mass transit, especially in the South and West districts. All data indicates that the majority of on-going travel related problems since Hurricane Andrew are occurring

Executive Summary: Household Travel and Hurricane Impact Survey

in these two districts. Due to this and the large population that reside in these areas, extra measures to help alleviate traffic congestion problems should be considered. The increased use of mass transit will translate into less automobiles on the roads, decreasing travel times.

- Schedule all road improvement projects for off-peak hours. This methodology is currently practiced when repair work is done on major thoroughfares. However, with the greater use of "local roads," this method of road repair and improvement needs to be practiced on smaller projects as well, helping to reduce travel time and eliminating the need for individuals to travel on alternative routes.
- The emergency evacuation plan for Dade County needs to be revised in order to reflect the increased amount of residents planning to evacuate prior to the next major disaster. It is estimated that at least 338,000 households (more than twice the amount of households that evacuated prior to Andrew) would evacuate prior to the next hurricane. A plan must not only be developed but also communicated prior to the upcoming hurricane season. This plan must take into account not only the overall increase in the number of people who plan to evacuate but the different locations their trips will be originating from. In the past, the highest incidence of evacuees came from the beaches and coastal areas. However, after Andrew, a large percentage of the county indicate that they would evacuate. It should also be noted that a large amount of people indicate that they would evacuate further north than Broward and Palm Beach Counties, reflecting the need for cooperation among the authorities in all counties to ensure the smooth flow of traffic outside of Dade County.

Executive Summary: Household Travel

# SUMMARY OF SURVEY RESULTS HOUSEHOLD TRAVEL AND HURRICANE IMPACT SURVEY

#### I. PURPOSE, SCOPE AND METHODOLOGY

#### A. OBJECTIVES

Behavioral Science Research (BSR) was retained by Barton & Aschman Associates, Inc. as sub-contractor to conduct the necessary marketing research supporting the Metropolitan Planning Organization's (MPO) objective to determine the effects of Hurricane Andrew on the County's short-range transportation plans. The main objectives of the research were to:

- 1. Establish how the affects of Hurricane Andrew continue to play a role in the daily lives of Dade County households with respect to where they reside, where they work and where they send their children to school;
- 2. Determine the extent to which the aftermath of the hurricane continues to play a role in how Dade County households and residents travel in and about the County, and
- 3. Ascertain current travel patterns of households and residents in order to determine what impact, if any, such patterns may have on the County's current Transportation Improvement Program (TIP).

#### **B.** METHODOLOGY

In order to accomplish the above objectives, BSR's research efforts consisted of the conduct of two surveys:

1. A contact survey (a copy of which is included in the Appendix to this report) conducted on the telephone among randomly selected Dade County heads of household, acquiring, among other information, how the aftermath of Hurricane Andrew is continuing affect the household's travel, and

2. A travel diary (a copy of which is included in the Appendix to this report) completed by households who agreed to complete the diary during the aforementioned telephone interview, detailing travel trips taken by household members during a specific, assigned day.

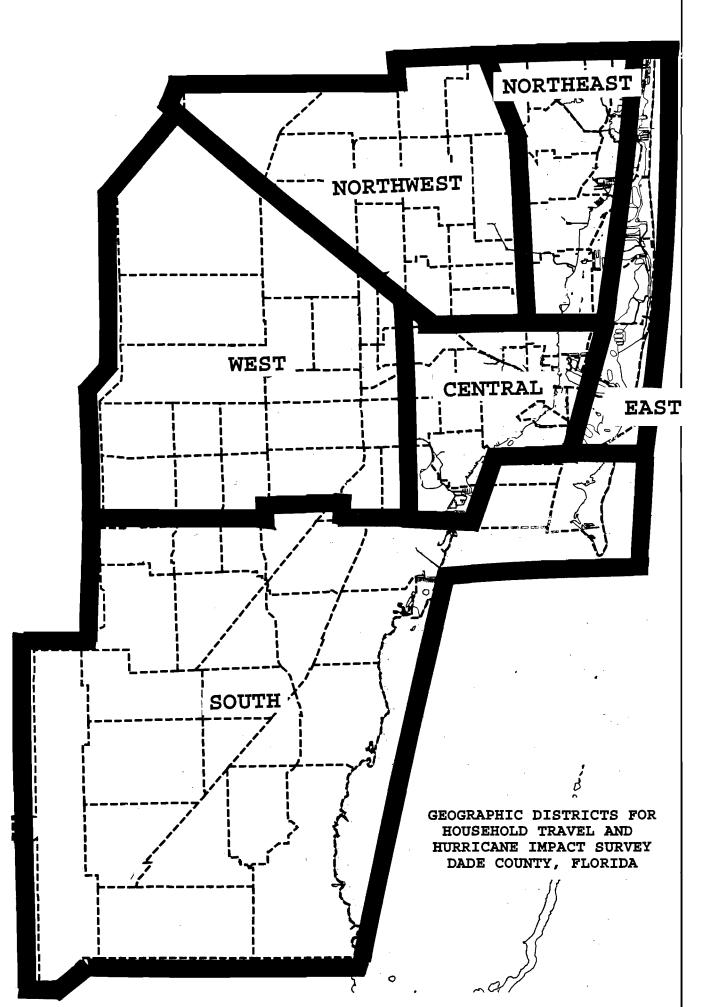
All questionnaire and diary forms, instructions and accompanying literature were produced, delivered and distributed in three languages: English, Spanish and Creole.

In order to insure that the contact survey reached a representative sample of the County's population, the County was divided into six geographic districts (see following map), with a quota-sample of at least 400 interviews (households), to be collected from within each district, based on the following criteria:

- 1. Age of the head of household, and
- 2. Household ethnic composition, distinguishing between Hispanic and non-Hispanic households.

The 1990 Census was the basis for creating a matrix of demographics (age and ethnicity) for each district, while updated population estimates prepared by the Dade County Planning Department were applied to determine numeric parameters for each district. The resulting sample was tested against this matrix using the Chi-square statistic. It was determined that there was not a significant difference between the Census/Planning Department data and the sample. It should be noted that the statistical matrix requirements were not considered for the South district because of the displacement of large numbers of its pre-Andrew residents in the aftermath of Hurricane Andrew.

The contact survey phase of the assignment required the completion of a minimum of 2,400 household travel and hurricane impact surveys, and the placement of travel diaries in 2,400 households. To obtain the quota of 2,400 completed diaries, a total of 3,750 completed Hurricane Impact surveys, and 3,499 abbreviated (demographics only) surveys were conducted. A total of 2,656 households participated in the diary phase of the project, generating a total of 3,855 completed diaries. The distribution of surveys and diaries according to the County's six geographic districts is shown on Page 4, following the map.



#### DISTRIBUTION OF SURVEYS AND DIARIES ACCORDING TO GEOGRAPHIC DISTRICTS NOVEMBER-DECEMBER 1993 AND JANUARY 1994

	COMPLETED ST	URVEYS	TRAVEL DIARIES COMPLETED			
DISTRICT	HURRICANE IMPACT	DEMOGRAPHIC	HOUSEHOLDS	DIARIES		
Eastern	701	396	437	566		
Northeastern	598	465	436	620		
Northwestern	667	592	406	562		
Western	564	803	478	815		
Central	679	857	486	635		
South	541	386	413	657		
Dade County	3,750	3,499	2,656	3,855		

The contact surveys were conducted by BSR interviewers from the firm's phone bank at its headquarters offices in Coral Gables, Florida. The majority of Hurricane Impact interviews were conducted during November and the first half of December, 1993. Interviewing was halted between December 15, 1993 and the first week in January 1994, to avoid the abnormal travel patterns and habits associated with the Christmas and New Year holidays. Likewise, all travel diaries were completed during non-holidays periods.

The majority of the telephone sample for the research was generated by Survey Sampling, Inc., of Fairfield, CT, a marketing firm that specializes in computerized telephone number sample selection. With a quota of 400 interviews required for each of the six districts, respondents were selected from a list of approximately 12,000 randomly selected telephone numbers. Additionally, approximately 10% of the sampling was generated by random-digit dialing.

The sampling error associated with a sample size of 400 is +/-5%, at the 95% confidence interval. That is to say, any observation drawn from the sample of 400 cases would be no more than 5% from the true value. For the sample size of 3,750 (Household Travel and Hurricane Impact surveys) the sample error is +/-1.6%, at the 95% confidence interval.

Another assurance of the randomness and accuracy of the survey was provided by the establishment of a system of twenty centroids, geographically dispersed throughout each of the six delineated districts. The centroids were used as a control to insure a representative distribution of survey and diary respondents within each district. Approximately 5% of each district's completed household contact surveys, that resulted in an agreement to complete a diary, were dispersed around each centroid. Centroid maps for each of the six districts and centroid location descriptions are provided in the Appendix to this report.

Inasmuch as the data collection depended on the quota-sampling methodology - a minimum of 400 Hurricane Impact contact surveys were to be completed within each of the six County districts - the collected data had to be weighted to represent the County's true population distribution. The weighting factors applied were based on updated population and household estimates developed by the Dade County Planning Department.

WEIGHTING FACTORS HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY										
	DADE COUNTY DISTRICTS									
	TOTAL EASTERN EASTERN WESTERN CENTRAL SOUTH									
Sample	3,620*	700	578	633	548	652	509			
Weight Factors	1.0605	0.379	0.882	1.044	1.859	1.146	1.253			
Weighted Sample	3,839	265	510	661	1,018	747	638			

<sup>\*</sup>Excludes 221 missing observations

A total of 9,964 diaries were sent by BSR to 5,761 households that had agreed to participate in this second phase of the research, after completing the telephone Travel and Hurricane Impact interview. Of these, 2,656 households, or approximately 46%, responded with a total of 3,885 completed travel diaries, a 39% response rate. The following summarizes interview and diary completions.

#### SURVEY COMPLETIONS AND DIARIES SENT AND RECEIVED

#### **TELEPHONE SURVEYS**

<b>Total Telephone Surveys Completed:</b>	<u>7,249</u>
Travel/Hurricane Impact Surveys: Demographic Surveys Completed:	3,750 3,499
TRAVEL DIARIES	
Households Agreeing to Complete Diaries:	5,761
Households Returning Diaries: Response Rate	2,656 46%
Total Diaries Sent:	9,964
Completed Diaries Received: Completion Rate	3,855 39%

The diary format used was fashioned after an example provided by the Center for Urban Transportation Research, University of South Florida (CUTR), and included, among other elements, the origin and destination of each trip. These origins and destinations were geocoded according to Traffic Analysis Zones (TAZs) and tabulated according to type of trip, mode of travel, number of persons per trip and other distinctions, by BSR. The diary results have been presented in various formats to the Metropolitan Planning Organization, Barton-Aschman Associates, Inc., Gannett Fleming Engineers and Planners, and Post, Buckley, Schuh & Jernigan, Inc., other consultants engaged in this project. A complete set of these findings are attached herewith as the Travel Diary Addendum.

The following sections of this report present the major findings of the General Household Travel and Hurricane Impact Survey.

#### II. HURRICANE IMPACT

#### A. PRE-ANDREW DADE RESIDENTS

BSR's survey of Dade County heads of household during November and December 1993 and January 1994, revealed that 95% or approximately 662,500 of 697,500 current Dade County households, (or approximately 1.8 million of 1.9 million residents) had been residing in the County at the time Hurricane Andrew struck in August 1992. The difference of approximately 35,000 households and some 97,000 residents represents those households and populations that moved to the County after August 1992.

The County-wide incidence of pre-Andrew residency is mostly constant among households of the County's six delineated districts, ranging from a low of 92% among Eastern/Coastal residents, and a high of 98% in the Northwestern district.

LOCATION OF RESIDENCE DURING HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994									
	DADE COUNTY DISTRICTS								
HOUSEHOLDS	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH		
Total 1993	697,500	71,700	102,400	100,100	166,200	142,300	114,800		
Pre-Andrew: Percent	95.0%	92.2%	94.5%	97.9%	95.5%	95.5%	93.1%		
Households	662,400	66,100	96,800	98,000	158,700	135,900	106,900		
Post-Andrew: Percent 5.0% 7.9% 5.5% 2.1% 4.5% 4.5% 6.8									
New Dade Households	35,000	5,600	5,500	2,100	7,500	6,400	7,900		

#### B. CHANGE IN RESIDENCE

#### **SUMMARY**

The BSR Household Travel and Hurricane Impact survey reveals that the majority of households that were originally forced to move because of Hurricane Andrew have either moved back to their homes or have moved back to the same district in which they were living prior to the storm. This is evidenced by the fact that less than 6% of the County's total households are still living in a home other than the one they were living in at the time Andrew struck the area, and only 3% are living in a different district. The impact of this group of relocated households on the County's existing (pre-Andrew) plans for road construction and improvements, is negligible.

#### **ANALYSIS**

A number of studies and surveys were conducted in the months following Hurricane Andrew to determine the number of housing units lost to the storm. The Red Cross completed a survey of damaged housing units a few weeks after the storm, concluding that 25,500 housing units were destroyed and an additional 89,000 units damaged. A Metro-Dade Building and Zoning Department survey of mostly single-family units in unincorporated Dade County revealed approximately 7,900 units destroyed, some 19,200 with major damage and 56,200 with minor damage. A Miami Herald survey concluded that some 31,500 units were destroyed and 109,000 suffered major damage. The U.S. Post Office reported 67,000 changes of address filed in Dade County within two and-one-half months after the storm, with about two-thirds being for another address in Dade and about 25% being changes to Broward County.

BSR's survey among those heads of household who were living in Dade County in August, 1992, revealed that 14% are living in a different residence than before Hurricane Andrew. This represents approximately 91,500 households. Of these, 43% (nearly 39,400 households) were forced to move due to hurricane-related damage to their homes. The 39,400 households that remain in new post-Andrew housing represents only 6% of all Dade households. Moreover, only one-half of these households, or 3% of the County's total, are now living in a different district than they were prior to August 1992.

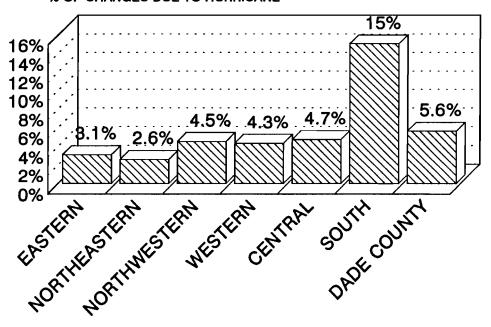
The most impacted district is the South where 75% or 17,200 of newly located households are hurricane-related, accounting for 15% of the district's total 1993 households. This represents 44% of all County-wide storm-related moves. Hurricane-related household relocations represent only between approximately 3% and 5% of the total 1993 households of the five other delineated districts.

# CHANGE IN RESIDENCE SINCE HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

		DADE COUNTY DISTRICTS						
RESIDENCE SINCE HURRICANE	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH	
Total Households	662,400	66,100	96,800	98,000	158,700	135,900	106,900	
% Different Residence	13.8%	13.1%	9.0%	11.2%	14.8%	12.3%	21.4%	
Households	91,500	8,700	8,700	11,000	23,500	16,700	22,900	
% Moved Due to Hurricane	43.1%	25.5%	31.4%	39.7%	29.1%	36.2%	75.0%	
Households	39,400	2,200	2,700	4,400	6,800	6,100	17,200	
% of Total Households	5.6%	3.1%	2.6%	4.5%	4.3%	4.7%	15.0%	

# CHANGE IN RESIDENCE DUE TO HURRICANE ANDREW POST-ANDREW RESIDENTIAL MOVES

#### % OF CHANGES DUE TO HURRICANE



DADE GEOGRAPHIC DISTRICTS

NOVEMBER/DECEMBER 1993 & JANUARY 1994

Nearly two-thirds (62% or approximately 24,400 households) of all households that moved because of the storm and have not returned to their pre-Andrew residence, were originally located in the Southern district. Thus, at least 7,200 pre-Andrew South Dade households were located elsewhere in Dade County sixteen months after the storm. (It has been estimated by various sources that another 15% to 25% may well have moved to Broward or Palm Beach Counties, or completely out of South Florida.)

The approximate dispersement of pre-Andrew South Dade residents to other sections of the County is shown on the following table. The areas of the County that appear to be most impacted are the Western and Northwestern districts, which combined, have absorbed approximately 5,900 households. This represents less than 1% of the County's total households.

·	HOUSEHOL	DISTRIBUTION OF P OUSEHOLD LOCATION OLDS FORCED TO MO LD TRAVEL AND HUR OVEMBER/DECEMBE	S ACCORDING OVE DUE TO HU RICANE IMPAC	TO DISTRICT URRICANE DAMAGE T CONTACT SURVEY	•						
	PRE-AND	REW LOCATION	POST-ANDREW LOCATION								
DISTRICTS	PERCENT	HOUSEHOLDS	PERCENT	HOUSEHOLDS	NET CHANGE						
Eastern	4.3%	1,700	5.5%	2,200	+ 500						
Northeastern	Northeastern 6.9% 2,700 6.9% 2,700										
Northwestern	4.8%	1,900	11.2%	4,400	+2,500						

17.3%

15.5%

43.6%

100.0%

3,400

5,300

24,400

39,400

Summary of Survey Results: Household Travel and Hurricane Impact Survey

Western

Central

Southern

TOTAL

8.6%

13.5%

61.9%

100.0%

+3,400

+ 800

- 7.200

6,800

6,100

17,200

39,400

Approximately 53% of all hurricane-related household moves (21,000 of 39,400 households) were the product of a totally destroyed dwelling. The remaining 47% (approximately 18,400 households) were forced to move because of extensive damage to their homes. Only 8% (approximately 3,000 households) of those who moved because of hurricane damage plan to return to their pre-Andrew residence. Thus, the location of better than 36,000 households will be permanently changed among households that remained within the confines of Dade County after the hurricane. Estimates of those households that moved to Broward and Palm Beach Counties bring this total to approximately 47,000 households, or another 20%.

Just over one-half, or 1,600 of those households planning to return to their pre-Andrew home currently live in the Southern district. Some return to (pre-Andrew) normalcy, then, can be anticipated for the Southern area in the foreseeable future. About one-third of the relocated households of the Central district are anticipating returning to their pre-Andrew homes, and between 10% and 7%, respectively, will be returning among Northwestern and Eastern district relocated households.

CHANGE IN RESIDENCE SINCE HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994									
			D	ADE COUNTY	Y DISTRICTS				
DIFFERENT RESIDENCE DUE TO HURRICANE	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH		
Total Households	39,400	2,200	2,700	4,400	6,800	6,100	17,200		
% Because Home Destroyed	53.4%	33.3%	47.1%	51.7%	65.2%	28.6%	61.2%		
Households	21,000	700	1,300	2,300	4,400	1,700	10,500		
% Because Home Damaged Or Other	46.6%	67.7%	52.9%	48.3%	34.8%	71.4%	38.8%		
Households	18,400	1,500	1,400	2,100	2,400	4,400	6,700		
% Planning to Return	7.7%	8.7%	0.0%	7.1%	0.0%	14.8%	9.4%		
Households	3,000	200	0	300	0	900	1,600		

#### C. CHANGE IN WORKPLACE

#### **SUMMARY**

Only about 4% of the County's total heads of household are still working in different places of employment because of the aftermath of Hurricane Andrew. Moreover, with some 20% of these persons planning to return to their former, pre-Andrew workplace in the foreseeable future, the impact will be further reduced to close to 3% of all working heads of household.

#### **ANALYSIS**

Approximately one-third of Dade's pre-Andrew heads of household (127,400) are currently employed at a different workplace than they were in August 1992. About 17% of these workplace changes (approximately 15,600 working heads of household) were brought about by Hurricane Andrew. Better than one-half (58%) of these hurricane-related changes resulted from forced business relocations, while 42% were the result of businesses that were forced to close. About one out of every five, or 20%, are planning to return to their pre-Andrew workplace. Ultimately, this will reduce the County's total number of displaced workers to approximately 12,500, or 3% of all working heads of household.

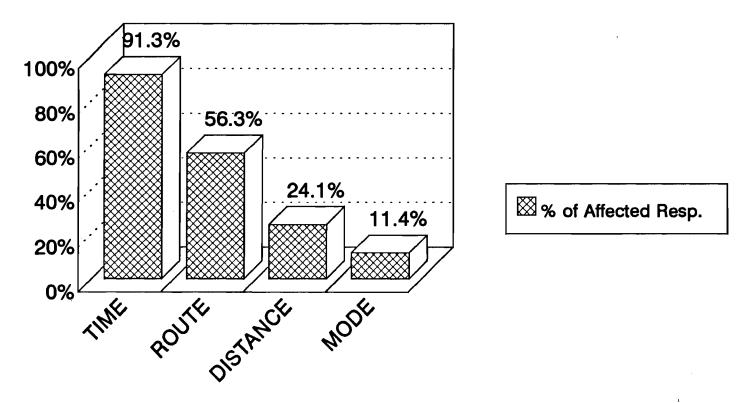
Among the six districts, South district employees continue to be the most impacted by Hurricane Andrew, as 39% (6,700 working heads of household) remain in a different workplace because of the hurricane. Of those whose pre-Andrew workplace changed because of the storm, nearly three-fourths resulted from business relocations, and some 26% were due to businesses forced to close. About 16% are still planning to return to their former workplaces, which will reduce the number of persons in new workplaces from 6,700 to approximately 5,700 in the foreseeable future. This will represent approximately 7% of the district's total number of working heads of household.

# CHANGE IN PLACE OF WORK SINCE HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

			****	DADE COUN	TY DISTRICTS		
WORKPLACE SINCE HURRICANE	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Working Heads of Household	389,600	35,300	49,000	56,800	101,100	70,600	76,900
% Different Workplace	32.7%	25.3%	36.7%	35.7%	30.2%	40.7%	22.2%
Households	127,400	8,900	18,000	20,300	30,500	28,700	17,100
% Change Due to Hurricane	16.7%	10.2%	7.8%	9.0%	8.9%	7.3%	39.0%
Households	15,600	900	1,400	1,800	2,700	2,100	6,700
% Business Relocation	58.4%	75.0%	55.6%	46.7%	57.1%	41.2%	74.3%
% Business Closed	41.6%	25.0%	44.4%	53.3%	42.9%	58.8%	25.7%
% Plan to Return	20.0%	25.0%	21.4%	18.8%	23.5%	23.1%	15.6%
Households Returning	3,120	230	300	340	630	490	1,050
Permanent Workplace Change	12,480	670	1,100	1,460	2.070	1,610	5,650
% All Working Hds/Hshld	3.2%	1.9%	2.2%	2.6%	2.1%	2.3%	7.4%

## **WORK TRAVEL IMPACTED BY ANDREW**

DISTRIBUTION OF FACTORS IMPACTED



TRAVEL FACTORS

NOVEMBER/DECEMBER 1993 & JANUARY 1994

#### D. CHANGE IN SCHOOL LOCATION

#### **SUMMARY**

Changes in school locations, impacted by the aftermath of Hurricane Andrew do not appear to be generating a major change in transportation patterns, for the short or long term, among this group of households, Countywide, or in the district most affected by the hurricane.

#### **ANALYSIS**

Among Dade households where children are driven to school, only some 4% are attending a different school than they were in August 1992, because of Hurricane Andrew. Moreover, better than three-fourths report that the pre-Andrew school will be reopened.

While South district households account for better than one-half of the County's hurricane-related school changes (among those households who drive their children to school), 93% of these involve schools anticipated to be reopened.

# CHANGE IN CHILDRENS' SCHOOL LOCATION SINCE HURRICANE ANDREW AMONG HOUSEHOLDS THAT DRIVE CHILDREN TO SCHOOL HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

				DADE COUN	TY DISTRICTS		
AFFECT ON LOCATION OF SCHOOL	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households Driving to School	121,300	2,200	9,000	20,000	43,800	14,700	31,500
% Same School	76.7%	77.3%	68.5%	76.0%	86.2%	90.8%	59.4%
Households	93,000	1,700	6,200	15,200	37,800	13,400	18,700
% Different School	23.3%	22.7%	31.5%	24.0%	13.8%	9.2%	40.6%
Households	20,800	400	1,900	3,600	6,100	1,200	7,600
		NEW POS	T-HURRICAN	E SCHOOL		-	
% Hurricane Related	25.0%	40.0%	5.9%	20.7%	24.0%	8.0%	35.0%
Households	5,300	200	100	700	1,500	100	2,700
% Old School to Reopen	76.9%			85.7%	63.6%		93.3%
Households Permanently Impacted	1,300	200	100	100	600	100	200
% of All Households Driving to School	1.1%	9.1%	1.1%	3.0%	3.4%	0.7%	0.6%

#### E. <u>EFFECTS OF HURRICANE ON WORK-RELATED TRAVEL</u>

#### **SUMMARY**

Approximately 21% of all the County's working heads of household continue to experience some impact or change in traveling to and from work as a result of the aftermath of Hurricane Andrew. Less than 10% describe their experience of change or impact as "dramatic" and about 12% report being "somewhat" impacted. Conversely, nearly 80% report their travel to and from work is not being affected.

Of those heads of households whose travel continues to be impacted, just over 90% report their time traveled to and from work is continuing to be affected; 56% continue to travel a different route than before the hurricane, 24% travel a different distance, and 11% continue to experience a change in the mode of travel they use, mostly reflecting an increasing incidence of the use of public transit.

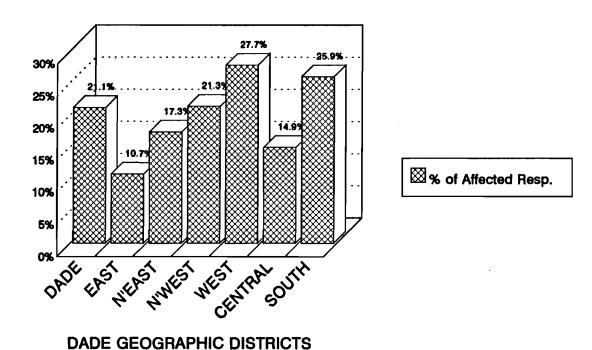
#### **ANALYSIS**

Travel to and from work continues to be dramatically or somewhat affected by the aftermath of Hurricane Andrew for just over 21% of all pre-Andrew working heads of household, or about 82,200, County-wide. The degree to which personal travel continues to be influenced by the effects of Andrew ranges from a low of about 11% among Eastern/Coastal Dade households, to a high of 28% by households of the County's Western district and 26% by households of the South district. (It should be noted that the Western district extends as far south as Coral Way in southwest Dade, an area where substantial hurricane damage occurred.)

# DEGREE TO WHICH TRAVEL TO AND FROM WORK AFFECTED BY HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

			DADE COUNTY DISTRICTS						
TRAVEL AFFECTED	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH		
Working Heads of Household	389,600	35,300	49,000	56,800	101,100	70,600	76,900		
Dramatically	8.8%	4.7%	6.4%	8.9%	11.6%	6.1%	10.6%		
Somewhat	<u>12.3%</u>	6.0%	<u>10.9%</u>	<u>12.4%</u>	<u>15.1%</u>	<u>8.8%</u>	<u>15.3%</u>		
SUB-TOTAL	21.1%	10.7%	17.3%	21.3%	27.7%	14.9%	25.9%		
Heads of Household	82,200	3,800	8,500	12,100	28,000	10,500	19,900		
Not Affected	78.9%	89.3%	82.7%	78.7%	73.3%	85.1%	74.1%		
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

## DEGREE TO WHICH WORK TRAVEL STILL IMPACTED BY ANDREW DISTRIBUTION ACCORDING TO GEOGRAPHIC DISTRICT



DADE GEOGRAPHIC DISTRICTS

NOVEMBER/DECEMBER 1993 & JANUARY 1994

Survey respondents whose travel to and from work continues to be impacted by the aftermath of Andrew were asked to define the manner in which their travel is affected. Travel time is the most frequently mentioned factor. County-wide, change in driving time continues to impact 91%, or about 75,000 working heads of household. The incidence is highest in the Western district, at 96%, and ranges from 82% (Eastern) to 93% (South) among the five remaining districts.

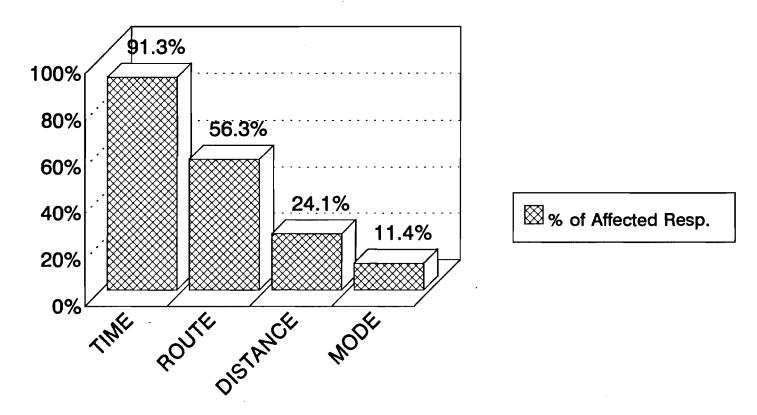
Just over one-half (56%) of these heads of household report they continue to use a different route driving to and from work, while approximately 24% report the distance traveled to work continues to be influenced. A change in travel mode is reported by 11%, County-wide. Household heads of the South district maintain the highest incidence of each of these modifications of their travel to and from work.

MANNER IN WHICH TRAVEL TO AND FROM WORK AFFECTED BY HURRICANE ANDREW* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994											
	DADE COUNTY DISTRICTS										
HOW TRAVEL AFFECTED	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WEST	CENTRAL	SOUTH				
Working Households*	82,200	3,800	8,500	12,100	28,000	10,500	19,900				
% Time Traveled	91.3%	81.8%	92.5%	89.5%	95.5%	82.8%	93.3%				
Households Affected	75,000	3,100	7,900	10,800	26,700	8,700	18,600				
% Change in Route	56.3%	38.1%	55.2%	45.2%	59.4%	44.4%	73.9%				
Households Affected	46,300	1,500	4,700	5,500	16,600	4,700	14,700				
% Distance Traveled	24.1%	27.3%	19.4%	23.4%	20.2%	17.2%	38.1%				
Households Affected	19,800	1,000	1,600	2,800	5,700	18,900	7,600				
% Change in Travel Mode	11.4%	14.3%	4.5%	12.9%	12.0%	7.1%	14.9%				
Households Affected	9,400	500	400	1,600	3,400	700	3,000				

<sup>\*</sup> Those households somewhat and dramatically affected

## WORK TRAVEL STILL IMPACTED BY ANDREW

DISTRIBUTION OF TRAVEL FACTORS IMPACTED



TRAVEL FACTORS IMPACTED

NOVEMBER/DECEMBER 1993 & JANUARY 1994

#### 1. Time Traveled

As noted, the time required to travel to and from work is the factor that continues to impact one in five Dade County residents whose work travel is still being influenced by Hurricane Andrew's aftermath. Better than 90% of those continuing to be (somewhat or dramatically) affected require an average of nearly 22 minutes more to get to work than the time they required prior to Andrew. The additional travel time requirement varies from a low of approximately 19 minutes for current Central district residents, to a high of 25 minutes for current South district residents. It is important to reiterate that the survey upon which this data is based was taken some sixteen months after the hurricane and is based upon where people were living and working during November and December 1993, and January 1994.

	DADE COUNTY DISTRICTS							
TRAVEL TIME AFFECTED	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WEST	CENTRAL	SOUTH	
Total Working Households*	82,200	3,800	8,500	12,100	28,000	10,500	19,900	
% Travel Time Affected	91.3%	81.8%**	92.5%	89.5%	95.5%	82.8%	93.3%	
Households Affected	75,000	3,100	7,900	10,800	26,700	8,700	18,600	
Mean Change in Minutes	+21.9	+20.0	+23.7	+20.0	+21.5	+19.2	+25.2	

<sup>\*</sup> Those households somewhat and dramatically affected

<sup>\*\*</sup> Sample cell size of less than 25

BSR's Hurricane Impact Survey shows that 630 out of 679 working heads of household respondents, whose travel to work continues to be affected by the storm, report their current work-related driving time continues to be influenced, as compared with their pre-Andrew driving time to work. The vast majority (590 of 630 or 94%) of the group report their drive to work takes longer - by some 22 minutes - than it did prior to Andrew. Conversely, only 38 respondents of this group, or 6%, report their drive to work is shorter since the storm.

As shown on the following table, sample size was adequate among all respondent groups but for the Eastern district, where the weighted respondent distribution of heads of household whose travel continues to be affected by Andrew's aftermath amounted to 21 (of a total weighted sample of 201 respondents).

### CHANGE IN TRAVEL TIME TO AND FROM WORK RESPONDENTS AFFECTED BY HURRICANE ANDREW\* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

			D	ADE COUNTY I	DISTRICTS		
	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WEST	CENTRAL	SOUTH
Sample: Travel Affected*	679	21	67	124	234	99	134
Sample: Travel Time Affected	630	18	62	111	232	82	125
Mean Change of Minutes	+21.9	+20.0	+23.7	+20.0	+21.5	+19.2	+25.2
Sample: More Time	590	16	59	106	219	80	110
Mean Additional Minutes	22.0	19.5	24.1	20.0	21.3	19.5	26.4
Sample: Less Time	38	2	2	5	12	2	15
Mean Fewer Minutes	19.9	23.6	15.0	19.0	26.4	10.0	16.5

<sup>\*</sup> Those households somewhat and dramatically affected.

#### **2.** Change in Route

The route taken to and from work is the factor that changed for over 56% of heads of household (approximately 46,300) whose travel continues to be dramatically and somewhat affected by Andrew's aftermath. This represents 12% of the County's total working heads of household. Close to 74% of (affected) households of the South district report a change in their work-related travel route since the hurricane. The incidence among Western and Northeastern district heads of household is 55% and 59%, respectively, and between 38% and 45% for the three remaining districts.

In total, only 12% of all working heads of household continue taking a different route to and from work than the route taken prior to Hurricane Andrew. Approximately 19% of the South district's working heads of household continue to drive a different route to and from work, 16% in the West and 10% among Northeastern working heads of household.

	CHANGE IN ROUTE TAKEN TO AND FROM WORK WORKING HOUSEHOLDS AFFECTED BY HURRICANE ANDREW* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994											
DADE COUNTY DISTRICTS												
TRAVEL AFFECTED BY ROUTE CHANGE	TOTAL	EASTERN	NORTH- NORTH- WEST CENTRAL SOUTH									
Working Households*	82,200	3,800	8,500	12,100	28,000	10,500	19,900					
% Change in Route	56.3%	38.1%	55.2%	45.2%	59.4%	44.4%	73.9%					
Households Affected	46,300	46,300 1,500 4,700 5,500 16,600 4,700 14,700										
% All Workings Heads of Household	11.9%	4.2%	9.6%	9.7%	16.4%	6.7%	19.1%					

Respondents who continue to experience a change in the route they take to work were asked to indicate the major thoroughfare(s) they used before the storm and the route they now take. The following two tables depict the results of these inquiries, indicating the households represented by the responses and the distribution of the actual sample responses. The major thoroughfares which were mentioned frequently enough for adequate sample sizes include the Florida Turnpike, Interstate Highway 95, U.S. One and State Road 826 (the Palmetto Expressway). A fifth category included all other roads referred to as "local roads."

The most substantial changes in major thoroughfare use occurred with I-95, indicating a 37% decline in usage among heads of household whose travel to work continues to be affected by the storm's aftermath. However, it is important to note that the data represents a response of only some 53 heads of household, which projects to approximately 6,400 households, County-wide. While this may have statistical relevancy on the County level, the projectable reliability for each of the six districts is limited.

Work-related travel by this same group of heads of household on State Road 826 (the Palmetto Expressway) also declined - by approximately 29% - and by 15% for U.S. One and 13% for the Florida Turnpike. Similar caution is required in projecting these values for the County's six geographic districts.

Conversely, there is an increase reported in the use of "local roads" for work-related travel, increasing from 33% pre-Andrew to 40% as of year-end 1993 and January 1994.

### CHANGE IN ROUTE TAKEN TO WORK DUE TO HURRICANE ANDREW\* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

			_	DADE COUNTY D	DISTRICTS		
ROUTE TAKEN	DADE COUNTY	EAST	NORTHEAST	NORTHWEST	WEST	CENTRAL	SOUTH
Households Changed Routes*	47,600	1,400	4,700	5,500	16,600	4,700	14,700
Fiorida Turnpike	7,200	70	100	400	2,500	400	3,700
Pre	13.7%	4.2%	2.3%	5.5%	13.9%	10.0%	24.7%
Post	13.3%	5.3	**	6.8%	15.2%	2.9%	25.7%
1-95	6,400	600	2,000	1,500	1,100	1,000	200
Pre	13.9%	41.7%	43.2%	27.3%	6.3%	20.0%	1.2%
Post	9.7%	36.8%	31.7%	22.0%	3.0%	8.6%	
U.S.1	6,600	300	200	100	700	900	4,400
Pre	11.6%	20.8%	4.5%	_	3.8%	17.5%	28.2%
Post	11.1%	15.8%	4.9%	1.7%	1.5%	17.1%	29.7%
S.R. 826	7,800	-	600	1,300	4,200	300	1,400
Pre	17.2%		13.6%	23.6%	25.3%	7.5%	9.4%
Post	13.5%		9.8%	22.0%	19.7%	5.7%	5.4%
Local	18,600	400	2,100	2,200	7,300	2,000	4,600
Pre	32.5%	20.8%	22.7%	34.5%	38.0%	35.0%	27.1%
Post	39.6%	26.3%	43.9%	40.7%	43.9%	42.9%	31.1%

<sup>\*</sup>Those households somewhat and dramatically affected

### CHANGE IN ROUTE TAKEN TO WORK DUE TO HURRICANE ANDREW\* RESPONDENTS TO HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

				DADE COUNTY D	ISTRICTS		
ROUTE TAKEN	DADE COUNTY	EAST	NORTHEAST	NORTHWEST	WEST	CENTRAL	SOUTH
Total Respondents Changed Routes	383	8	37	56	139	44	99
Florida Turnpike							
Pre	52	0	1	3	19	4	25
Post	45	0	-	4	18	1	22
1-95							
Pre	53	3	16	15	9	9	.1
Post	33	2	11	13	4	3	-
U.S.1							
Pre	45	2	2	_	5	8	28
Post	38	1	2	1	2	7	26
S.R. 826							
Pre	65	-	5	13	35	3	9
Post	46	-	3	13	23	2	5
Local							
Pre	124	2	18	19	53	15	27
Post	135	2	15	24	51	16	27

<sup>\*</sup>Those households somewhat and dramatically affected

#### 3. Distance Traveled

The distance traveled to and from work continues to impact about 24% of all County heads of household whose work-related travel continues to be affected by Andrew-related influences, or 5% of all working households. The mean changes in distance being traveled by this group (about 19,800 heads of household) to and from work is approximately 11 miles.

Household heads of the South district in this category (about 7,600) are travelling an additional 12 miles. Affected working East and Northeast household heads are travelling an additional 13 miles, and Northwest district workers, an additional 14 miles. Central and West district heads of household are travelling an additional eight and ten miles, respectively.

Only the sample among Eastern heads of household is of insufficient cell size (a total of 21 respondents) to be sufficient for projection purposes.

	CHANGE IN TRAVEL DISTANCE TO AND FROM WORK* HOUSEHOLDS AFFECTED BY HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994											
DADE COUNTY DISTRICTS												
TRAVEL DISTANCE AFFECTED	TOTAL	NORTH- NORTH- EASTERN WESTERN WEST CENTRAL SOUTH										
Total Working Households*	82,200	3,800	8,500	12,100	28,000	10,500	19,900					
% Distance Traveled	24.1%	27.3%**	19.4%	23.4%	20.2%	17.2%	38.1%					
Households Affected	19,800	1,000	1,600	2,800	5,700	1,800	7,600					
% All Working Hds/Hshld.	Hds/Hshld. 5.1% 2.8% 3.3% 4.9% 5.6% 2.5% 9.9%											
Mean Changes in Miles	+11.2	+12.9	+13.2	+14.1	+8.5	+10.1	+12.0					

<sup>\*</sup> Those households somewhat and dramatically affected

<sup>\*\*</sup> Sample cell of less than 25

### CHANGE IN TRAVEL DISTANCE TO AND FROM WORK RESPONDENTS AFFECTED BY HURRICANE ANDREW\* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

			DA	DE COUNTY	DISTRICT	S	
	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WEST	CENTRAL	SOUTH
Sample: Travel Affected*	679	21	67	124	234	99	134
Sample: Distance Affected	166	- 6	13	29	49	17	51
Mean Change in Miles	+11.2	+12.9	+13.2	+14.1	+ 8.5	+10.1	+12.0
Sample: More Miles	137	3	12	28	42	15	37
Mean Additional Miles	11.8	15.0	14.9	14.5	7.9	9.5	13.8
Sample: Less Miles	28	2	2	1	7	2	14
Mean Fewer Miles	8.3	9.3	2.0	1.0	12.0	14.0	6.9

<sup>\*</sup> Those households somewhat and dramatically affected.

#### 4. Change In Mode Of Travel

Only 11% of heads of household (9,400) whose work-related travel continues to be impacted by the aftermath of Hurricane Andrew (2% of all working households) report a change in mode of travel. The highest incidence of transportation mode change occurred among heads of household of the South (15%) and Eastern (14%) districts; the lowest incidence, 5%, is among Northeastern district household heads.

County-wide there continues to be a slight decline in automobile use among those heads of household who had to change their transportation mode because of the hurricane, from 138% (due to multiple mode combination responses) pre-Andrew to 120%, post-Andrew. Conversely there is an increase in the incidence of the use of public transit facilities. Use of Metro Bus by this group of heads of household increased from nearly 9% prior to Andrew, to almost 20%, since Andrew.

As was the case with the response to the inquiry of route change resulting from the hurricane, there is an insufficient sample size for at least one of the districts - the East - where there were only eight cases of modality change recorded. Marginally measurable sample cases were recorded for the Northeast (37), Central (44) and Northwest (56) districts, while more statistically reliable cells were recorded among South (99) and West (139) district respondents.

# CHANGE IN MODE OF TRAVEL TO WORK BECAUSE OF HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

				DADE COUNTY I	DISTRICT		
MODE USED	TOTAL	EAST	NORTHEAST	NORTHWEST	WEST	CENTRAL	SOUTH
Working Households*	82,800	3,800	8,500	12,100	28,000	10,500	19,900
% Mode Affected	11.4%	14.3%	4.5%	12.9%	12.0%	7.1%	14.9%
Households Affected	9,400	500	400	1,600	3,400	700	3,000
% All Working Hds/Hshld	2.4%	1.4%	0.8%	2.8%	3.4%	1.0%	3.9%
Automobile Use							
Pre-Andrew	137.8%	90.0%	100.0%	115.4%	160.9%	112.5%	133.3%
Post-Andrew	120.4%	110.0%		126.3%	144.4%	100.0%	112.5%
Metro Bus Use							
Pre-Andrew	8.8%	30.0%	40.0%	15.4%		37.5%	
Post-Andrew	19.8%	30.0%	100.0%	15.8%	22.2%		18.8%
Metro Rail Use							
Pre-Andrew	11.5%		20.0%	15.4%	4.3%		27.8%
Post-Andrew	25.4%	10.0%		10.5%	22.2%	20.0%	50.0%

<sup>\*</sup> Those households somewhat and dramatically affected

### CHANGE IN MODE OF TRAVEL TO WORK BECAUSE OF HURRICANE ANDREW BY RESPONDENTS HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

				DADE COUNTY DIS	STRICT	_	
MODE USED	TOTAL	EAST	NORTHEAST	NORTHWEST	WEST	CENTRAL	SOUTH
Households Changed Mode	382	8	37	56	139	44	99
Automobile							
Pre	125	3	4	15	65	10	28
Post	77	4	0	24	23	5	21
Metro Bus							
Pre	8	1	2	2	0	3	0
Post	13	1	2	3	4	0	4
Metro Rail							
Pre	10	0	1	2	2	0	6
Post	16	0	0	2	4	1	9
Other							
Pre	13	1	0	0	11	. 1	0
Post	5	1	0	2	0	1	1

#### F. EFFECTS OF HURRICANE ON SCHOOL-RELATED TRAVEL

#### **SUMMARY**

Approximately 119,000 households in the County drive their children to school. Of these, 20% continue to experience change in their travel to and from their childrens' school. Conversely, 80% of these households are not experiencing any change in their trip to or from their childrens' school.

Driving time is the most noted impacted factor (by 90%), followed by route change (53%), distance travelled (28%), and change in travel mode (28%).

#### **ANALYSIS**

Approximately 20% of all Dade heads of household (22,900) who drive their children to school continue to experience varying degrees of change taking children to and from school. Conversely, 80% of this group are not experiencing any change taking their children to school, since the hurricane. The greatest impact is being experienced in the South and Western districts of the County, by 26% and 23% of these households, respectively.

# DEGREE TO WHICH TRAVEL TO AND FROM CHILDRENS' SCHOOL HAS BEEN AFFECTED BY HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

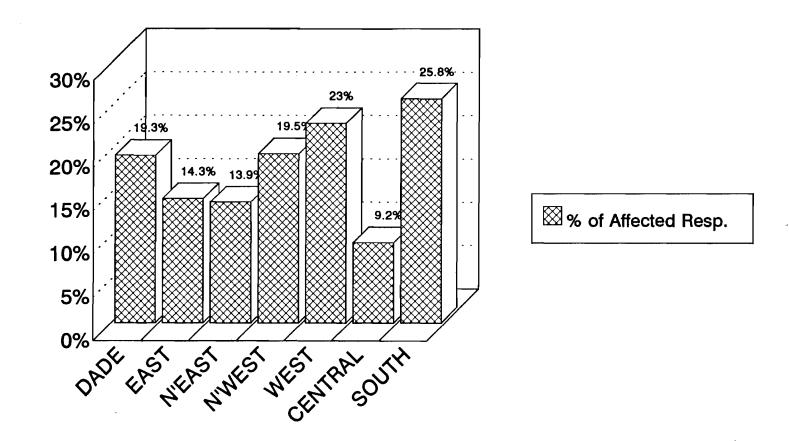
				DADE COUN	TY DISTRICTS		
TRAVEL AFFECTED	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households	118,600	8,600	13,200	21,200	31,200	15,800	28,600
% Dramatically	5.7%	4.4%**	2.5%	3.6%	8.3%	1.3%	9.6%
Households	6,800	400	300	800	2,600	200	2,500
% Somewhat	13.6%	9.9%	11.4%	15.9%	14.7%	7.9%	16.2%
Households	16,100	800	1,500	3,400	4,600	1,200	4,600
% Affected	19.3%	14.3%	13.9%	19.5%	23.0%	9.2%	25.8%
Households Affected	22,900	1,200	1,800	4,100	7,200	1,500	7,100
% Not Affected	80.7%	85.7%	86.1%	80.5%	77.0%	90.8%	74.3%
Households Not Affected	95,700	7,400	11,400	17,100	24,000	14,300	21,500

<sup>\*</sup> Those households somewhat and dramatically affected

<sup>\*\*</sup> Sample cells of less than 20

### SCHOOL TRAVEL IMPACTED SINCE ANDREW

AMONG HOUSEHOLDS THAT DRIVE CHILDREN TO SCHOOL



NOVEMBER/DECEMBER 1993 & JANUARY 1994

For approximately 90% of the 22,900 households still being affected, time spent driving children to school is still being impacted. Better than one-half of this group is being affected by a change in the route they take, 28% are impacted based on the distance they have to travel, a change in travel mode continues to affect 25%.

	MANNER IN WHICH TRAVEL DRIVING CHILDREN TO SCHOOL AFFECTED BY HURRICANE ANDREW* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994											
	•		D	ADE COUNTY	DISTRIC	ΓS						
HOW TRAVEL AFFECTED	TOTAL	NORTH- NORTH- WESTERN WEST CENTRAL SOUTH										
Affected Households Driving Children to School	22,900	1,200	1,800	4,100	7,200	1,500	7,100					
% Time Spent	90.2%	100.0%**	77.8%	96.3%**	84.1%	100.0%**	95.1%					
Households Affected	20,700	1,200	1,400	500	900	900	6,800					
% Change in Route	53.4%	25.0%**	33.3%**	29.6%**	59.1%	62.5%**	65.9%					
Households Affected	12,200	300	600	1,200	4,300	900	4,700					
% Distance Traveled	27.8%	25.0%**		18.5%	11.4%	12.5%**	61.0%					
Households Affected	6,400	300	-	800	800	200	4,300					
% Change in Travel Mode	27.5%	25.0%**		14.8%**	37.7%	25.0%**	29.8%**					
Households Affected	6,300	300	1	600	2,700	400	2,100					

<sup>\*</sup> Those households somewhat and dramatically affected

<sup>\*\*</sup> Sample cells of less than 20

#### 1. Time Traveled

The mean change in travel time for heads of household driving their children to school (among those whose travel to school is still affected by the aftermath of Andrew) is an additional 14 minutes. As shown on the following table, there is sufficient sample in only three of the six districts - the Northwest, West and South - for analysis or projection purposes.

### CHANGE IN TRAVEL TIME TO AND FROM SCHOOL HOUSEHOLDS AFFECTED BY HURRICANE ANDREW\* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

			D	ADE COUNTY I	DISTRICTS		
-	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WEST	CENTRAL	SOUTH
Households: School Affected*	22,900	1,200	1,800	4,100	7,200	1,500	7,100
% Travel Time Affected	90.2%	100.0%**	77.8%	96.3%**	84.1%	100.0%**	95.1%
Households Affected	20,700	1,200	1,400	500	900	900	6,800
Mean Change of Minutes	+14.4	+16.6	+11.2	+12.6	+16.1	+14.7	+14.5
% More Time	90.8%	75.0%*	77.8%*	88.9%	79.5%	87.5%*	84.6%
Households More Time	18,800	900	1,100	400	700	800	6,000
Mean Additional Minutes	14.6	16.6	11.2	12.2	16.6	12.5	15.2
% Less Time	9.2%			7.7%	5.4%	12.5%	15.4%
Households Less Time	1,900	-		40	50	100	1,000
Mean Fewer Minutes	12.4		***	17.5	5.0	28.0	10.6

<sup>\*</sup> Those households somewhat and dramatically affected.

<sup>\*\*</sup> Sample cells of less than 20

#### CHANGE IN TRAVEL TIME TO AND FROM SCHOOL RESPONDENTS AFFECTED BY HURRICANE ANDREW\* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

			D	ADE COUNTY I	DISTRICTS		
	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WEST	CENTRAL	SOUTH
Sample: Travel Affected*	133	4	9	27	44	8	41
Sample: Travel Time Affected	120	4	7	26	37	8	39
Mean Change of Minutes	+14.4	+16.6	+11.2	+12.6	+16.1	+14.7	+14.5
Sample: More Time	109	3	7	24	35	7	33
Mean Additional Minutes	14.6	16.6	11.2	12.2	16.6	12.5	15.2
Sample: Less Time	- 11	0	0	2	2	1	6
Mean Fewer Minutes	9.2			17.5	5.0	28.0	10.6

<sup>\*</sup> Those households somewhat and dramatically affected.

#### 2. Change in Route

As previously noted, better than one-half (53%) of those affected heads of household report a change in the route on which they drive their children to school as compared to before the hurricane. Projection of this rate of incidence indicates total households continuing to be impacted in this manner at approximately 12,200 as of year-end 1993 and January 1994.

District-wide, sample size was sufficient for some marginal degree of measurement in only the Western and Southern districts, where sample cell sizes consisted of 26 and 27 responses, respectively.

### CHANGE IN ROUTE TAKEN TO SCHOOL DUE TO HURRICANE ANDREW\* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

				DADE COUNTY I	DISTRICTS		
ROUTE TAKEN	DADE COUNTY	EAST	NORTHEAST	NORTHWEST	WEST	CENTRAL	SOUTH
Households Changed Routes to School*	12,200	300**	600**	1,200**	4,300	900**	4,700
Florida Tumpike	2,000	0	200	0	700	0	900
Pre	12.3%				15.4%		18.5%
Post	6.7%		33.3%				7.4%
1-95	250	0	0	150	0	100	0
Pre	12.5%			12.5%		20.0%	
Post	12.5%			12.5%		20.0%	
U.S.1	1,800	0	0	100	600	0	1,100
Pre	7.0%			**	7.7%		14.8%
Post	20.0%			1.7%	16.7%		22.2%
S.R. 826	2,200	0	600	500	1,100	0	0
Pre	9.6%	<b></b>	33.3%	12.5%	15.4%		
Post	1.8%			9.1%			••
Local	8,000	200	400	800	3,000	500	3,100
Pre	62.9%	100.0%	67.7%	62.5%	69.2%	60.0%	66.7%
Post	74.2%	25.0%	67.7%	63.6%	85.7%	80.0%	70.4%

<sup>\*</sup> Those households somewhat and dramatically affected

<sup>\*\*</sup> Sample cells of less than 20 respondents

### CHANGE IN ROUTE TAKEN TO SCHOOL DUE TO HURRICANE ANDREW\* RESPONDENTS TO HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

				DADE COUNTY D	DISTRICTS		
ROUTE TAKEN	DADE COUNTY	EAST	NORTHEAST	NORTHWEST	WEST	CENTRAL	SOUTH
Total Respondents Changed Route to School*	70	1	3	8	26	5	27
Florida Tumpike							
Pre	8	0	0	0	4	0	5
Post	3	0	1	0	0	0	2
1-95							
Pre	2	0	0	1	0	1	0
Post	2	0	0	1	0	1	0
U.S.1							
Pre	5	0	0	0	2	0	4
Post	9	0	0	1	2	0	6
S.R. 826							
Pre	6	0	1	1	4	0	0
Post	1	0	0	1	0	0	0
Local							
Pre	47	1	2	5	18	3	18
Post	45	1	2	7	12	4	19

<sup>\*</sup> Those households somewhat and dramatically affected

#### 3. Distance Traveled

County-wide, 28% or approximately 6,400 households (based on 37 of 133 eligible survey respondents) reported a change in travel distance to their childrens' school. The mean increase reported is some seven miles. Nearly two-thirds of these respondents were South district heads of household (62%), who also reported a mean increase of just over seven miles.

### CHANGE IN TRAVEL DISTANCE TO AND FROM SCHOOL\* HOUSEHOLDS AFFECTED BY HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

			D.	ADE COUNTY I	DISTRICTS		
	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WEST	CENTRAL	SOUTH
Households: Drive to School Affected*	22,900	1,200	1,800	4,100	7,200	1,500	7,100
% Travel Distance Affected	27.8%	25.0%**		18.5%	11.4%	12.5%**	61.0%
Households Affected	6,400	300		800	800	200	4,300
Mean Change of Miles	+ 6.9	+12.0		+ 6.4	+ 6.0	+ 1.0	+ 7.3
% More Miles	78.4%			80.0%	100.0%	100.0%	76.0%
Households More Miles	4,900			600	800	200	3,300
Mean Additional Miles	13.8			5.5	6.0	1.0	8.2
% Less Miles	21.6%	100.0%		20.0%			24.0%
Households Less Miles	1,500	300		200			1,000
Mean Fewer Miles	5.9	12.0		10.0			4.2

<sup>\*</sup> Those households somewhat and dramatically affected

<sup>\*\*</sup> Sample cells of less than 20

# CHANGE IN TRAVEL DISTANCE TO SCHOOL RESPONDENTS AFFECTED BY HURRICANE ANDREW\* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

			DA	DE COUNTY	DISTRICT	S	
	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WEST	CENTRAL	SOUTH
Sample: Travel Affected*	133	4	9	27	44	8	41
Sample: Distance Affected	37	1	0	5	5	1	25
Mean Change in Miles	+ 6.9	+12.0		+ 6.4	+ 6.0	+ 1.0	+ 7.3
Sample: More Miles	29	0	0	4	5	1	19
Mean Additional Miles	13.8	14.0	<u></u>	5.5	6.0	1.0	8.2
Sample: Less Miles	8	1	0	1	0	0	6
Mean Fewer Miles	5.9	12.0		10.0		<del></del>	4.2

<sup>\*</sup> Those households somewhat and dramatically affected.

#### 4. Change In Mode Of Travel

Just over one-fourth (26%) of those heads of household whose travel continues to be affected by the aftermath of Andrew had to change their mode of transportation to take their children to school. This projects to approximately 6,000 households, or 5% of all households that drive their children to school.

All respondents indicating a mode change, changed from automobile use. However, there was insufficient response to determine the new modes of transportation that supplanted automobile use. There were no changes noted impacting a reduction or increase in the use of public transit for this type of travel.

	CHANGE IN MODE OF TRAVEL TAKING CHILDREN TO SCHOOL  BECAUSE OF HURRICANE ANDREW  HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY  NOVEMBER/DECEMBER 1993 & JANUARY 1994											
DADE COUNTY DISTRICT												
MODE USED	TOTAL	AL EAST NORTHEAST NORTHWEST WEST CENTRAL SOUTH										
Affected School Drive Households*	22,900	1,200 1,800 4,100 7,200 1,500 7										
% Mode Affected	26.2%	25.0%**	0	18.5%**	37.7%	12.5%**	29.8%**					
Households Affected	6,000	300		800	2,700	200	2,000					
Automobile Use												
Pre-Andrew	Pre-Andrew 85.4% 80.0% 90.0% 100.0% 85.7%											
Post-Andrew	72.7%			50.0%	100.0%		80,0%					

<sup>\*</sup> Those households somewhat and dramatically affected

<sup>\*\*</sup> Sample cells of less than 20

### CHANGE IN MODE OF TRAVEL TO SCHOOL BECAUSE OF HURRICANE ANDREW BY RESPONDENTS\* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

			DADE COUNTY DISTRICT								
MODE USED	TOTAL	EAST	NORTHEAST	NORTHWEST	WEST	CENTRAL	SOUTH				
Households Changed Mode	25	1	0	4	11	2	8				
Automobile											
Pre	35	0		4	18	2	12				
Post	8	0		2	2		4				

<sup>\*</sup> Those households somewhat and dramatically affected

#### G. EFFECTS OF HURRICANE ON OTHER TYPES OF TRAVEL

#### **SUMMARY**

Travel related to shopping, movie-going, and visiting friends continues to be impacted by the aftermath of Hurricane Andrew for between 19% and 25% of Dade County's households. There is less incidence of travel disruption concerning trips made to and from banks and churches than for other shopping or banking.

#### **ANALYSIS**

#### 1. <u>Incidence</u>

The most impacted categories of (non-work and non-school) travel among pre-Andrew Dade County residents are trips to visit friends and for shopping other than for groceries. However, only 26% report continuing impacts on their travel for visiting friends and only 24% continue to be similarly impacted for other shopping travel. There is even less incidence of travel disruption concerning trips made for banking and religious purposes

	DEGREE TO WHICH TRAVEL FOR SHOPPING AND BANKING  HAS BEEN AFFECTED* BY HURRICANE ANDREW  HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY  NOVEMBER/DECEMBER 1993 & JANUARY 1994											
PURPOSE OF TRAVEL AFFECTED												
Total Households	662,400	66,100	96,800	98,000	158,700	135,900	106,900					
% GROCERY SHOPPING	17.9%	7.1%	8.9%	14.6%	19.8%	19.5%	31.0%					
%Households	118,600	4,700	8,600	14,300	31,400	26,500	33,100					
% OTHER SHOPPING	24.0%	9.3%	11.0%	17.2%	20.9%	22.4%	58.0%					
Households	159,200	6,100	10,600	16,900	33,200	30,400	62,000					
% BANKING 11.4% 4.3% 7.7% 10.5% 16.0% 15.0% 8.2%												
Households	75,200	2,800	7,500	10,300	25,400	20,400	8,800					

<sup>\*</sup> Those households somewhat and dramatically affected

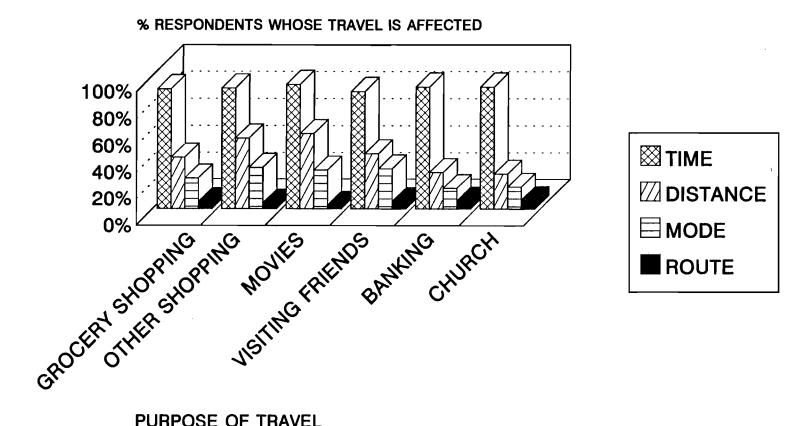
Summary of Survey Results: Household Travel and Hurricane Impact Survey

# DEGREE TO WHICH TRAVEL FOR RECREATION AND RELIGION HAS BEEN AFFECTED\* BY HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

				DADE COUN	TY DISTRICTS		
PURPOSE OF TRAVEL AFFECTED	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households	662,400	66,100	96,800	98,000	158,700	135,000	106,900
% GOING TO THE MOVIES	19.0%	6.5%	6.1%	8.6%	15.4%	16.0%	57.3%
Households	125,900	4,300	5,900	8,400	24,400	21,600	61,300
% VISITING FRIENDS	25.8%	12.4%	16.9%	21.3%	25.6%	24.0%	48.8%
Households	170,800	8,200	16,400	21,000	40,600	32,400	52,200
% RELIGIOUS	9.8%	5.8%	5.3%	9.2%	12.2%	14.2%	8.1%
Households	65,200	3,800	5,100	9,000	19,400	19,200	8,700

<sup>\*</sup> Those households somewhat and dramatically affected.

#### MANNER IN WHICH TRAVEL STILL AFFECTED BY ANDREW GROCERY/OTHER SHOPPING, MOVIES, VISIT FRIENDS, BANK, CHURCH



**PURPOSE OF TRAVEL** 

**NOVEMBER/DECEMBER & JANUARY 1994** 

#### 2. How Travel is Affected

The vast majority (between 88% and 93%) of people whose travels in Dade County continue to be impacted by Hurricane Andrew, regardless of their purpose of trip, continue to experience difficulties in terms of the **amount of time they have to travel**. Distance traveled (43%) is the second-most impacted travel factor (between 27% and 57%), followed by mode of transportation (16% to 31%) and route taken (3% to 7%).

	INCIDENCE OF TRAVEL FACTORS AFFECTED BY HURRICANE ANDREW ACCORDING TO PURPOSE OF TRAVEL HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994											
INCIDENCE OF TRAVEL FACTORS AFFECTED BY HURRICANE ANDREW ACCORDING TO PURPOSE OF TRAVEL												
HOW TRAVEL AFFECTED												
Total Households*	118,600 125,900 170,800 157,200 75,200 65,200											
% Time Traveled	89.8%	89.8% 93.2% 88.1% 90.4% 91.4% 91.4%										
Households	106,500	117,300	150,500	142,100	68,700	59,600						
% Distance Traveled	38.9%	56.7%	41.8%	53.3%	27.7%	26.6%						
Households	46,100	71,400	71,400	83,800	20,800	17,300						
% Travel Mode Used	23.2%	29.5%	30.5%	31.4%	15.7%	16.7%						
Households	27,500	37,100	52,100	49,400	11,800	10,900						
% Route Taken	5.4%	2.8%	5.8%	4.4%	6.3%	6.8%						
Households	6,400	3,500	9,900	6,900	4,700	4,400						

<sup>\*</sup> Those households somewhat/dramatically affected

Summary of Survey Results: Household Travel and Hurricane Impact Survey

#### MANNER IN WHICH TRAVEL TO AND FROM GROCERY SHOPPING AFFECTED BY HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

				DADE COUNT	Y DISTRICTS		
TRAVEL FACTORS AFFECTED	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households*	118,600	4,700	8,600	14,300	31,400	26,500	33,100
Time Traveled	89.4%	76.6%	81.3%	83.3%	95.3%	92.2%	88.3%
Households	106,000	3,600	7,000	11,900	29,900	24,400	29,200
Distance Traveled	38.6%	21.3%	25.0%	26.9%	19.6%	25.0%	78.6%
Households	45,800	1,000	2,200	3,800	6,200	6,600	26,000
Route Taken	5.7%	12.8%	12.5%	12.8%	1.9%	6.9%	2.6%
Households	6,800	600	1,100	1,800	600	1,800	900
Travel Mode Used	22.9%	21.3%	20.8%	28.2%	15.9%	7.8%	40.3%
Households	27,200	1,000	1,800	4,000	5,000	2,100	13,300

<sup>\*</sup> Those households somewhat/dramatically affected

### MANNER IN WHICH TRAVEL TO AND FROM THE MOVIES AFFECTED BY HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

				DADE COUNT	Y DISTRICTS		
TRAVEL FACTORS AFFECTED	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households*	125,900	4,300	5,900	8,400	24,400	21,600	61,300
Time Traveled	92.8%	68.4%	86.7%	81.3%	93.9%	94.0%	95.9%
Households	116,800	2,900	5,100	6,800	22,900	20,300	58,800
Distance Traveled	59.1%	26.3%	23.3%	34.4%	20.7%	25.0%	95.5%
Households	74,400	1,100	1,400	2,900	5,100	5,400	58,500
Route Taken	3.3%	15.8%	6.7%	12.5%	0.0%	4.8%	1.4%
Households	4,100	700	400	1,100	0	1,000	900
Travel Mode Used	30.6%	23.7%	30.0%	31.3%	14.6%	7.1%	45.7%
Households	38,500	1,000	1,800	2.600	3,600	1,500	28,000

<sup>\*</sup> Those households somewhat/dramatically affected

# MANNER IN WHICH TRAVEL TO AND FROM VISITING FRIENDS AFFECTED BY HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

				DADE COUNT	Y DISTRICTS		
TRAVEL FACTORS AFFECTED	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households*	170,800	8,200	16,400	21,000	40,600	32,400	52,200
Time Traveled	88.2%	79.7%	82.8%	83.5%	88.0%	93.7%	90.1%
Households	150,700	6,500	13,600	17,500	35,700	30,400	47,000
Distance Traveled	44.3%	36.7%	37.6%	39.4%	28.9%	28.9%	78.0%
Households	75,600	3,000	6,200	8,300	11,700	9,400	37,000
Route Taken	5.7%	6.3%	8.6%	11.0%	3.5%	4.9%	5.0%
Households	9,800	500	1,400	2,300	1,400	1,600	2,600
Travel Mode Used	32.8%	16.5%	30.1%	35.8%	28.2%	9.2%	53.2%
Households	56,000	1,400	4,900	7,500	11,400	3,000	27,800

<sup>\*</sup> Those households somewhat/dramatically affected

### MANNER IN WHICH TRAVEL TO AND FROM OTHER SHOPPING AFFECTED BY HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

		DADE COUNTY DISTRICTS					
TRAVEL FACTORS AFFECTED	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households*	159,200	61,000	10,600	16,900	33,200	30,400	62,000
Time Traveled	89.7%	75.4%	68.9%	85.1%	91.3%	88.8%	96.1%
Households	142,800	4,600	7,300	14,000	30,300	27,000	59,600
Distance Traveled	52.8%	29.8%	34.4%	24.1%	28.7%	23.9%	93.3%
Households	84,100	1,800	3,600	4,100	9,500	7,300	57,800
Route Taken	4.7%	12.3%	8.2%	10.3%	0.9%	7.5%	2.5%
Households	7,500	700	900	1,700	300	2,300	1,600
Travel Mode Used	31.3%	21.1%	29.5%	27.6%	19.1%	11.2%	49.6%
Households	49,900	1,300	3,100	4,700	6,300	3,400	30,800

<sup>\*</sup> Those households somewhat/dramatically affected

# MANNER IN WHICH TRAVEL TO AND FROM BANKING AFFECTED BY HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

		DADE COUNTY DISTRICTS					
TRAVEL FACTORS AFFECTED	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households*	75,200	2,800	7,500	10,300	25,400	20,400	8,800
Time Traveled	91.2%	89.3%	82.5%	90.6%	93.2%	94.3%	87.8%
Households	68,600	2,500	6,200	9,300	23,700	19,200	7,700
Distance Traveled	25.9%	17.9%	27.5%	20.8%	23.9%	17.2%	70.7%
Households	19,500	500	2,100	2,100	6,100	3,500	6,200
Route Taken	6.9%	14.3%	7.5%	17.0%	1.1%	5.7%	9.8%
Households	5,200	400	600	1,800	300	1,200	900
Travel Mode Used	15.7%	14.3%	12.5%	22.6%	11.4%	6.9%	41.5%
Households	11,800	400	1,100	2,300	2,900	1,400	3,700

<sup>\*</sup> Those households somewhat/dramatically affected

### MANNER IN WHICH TRAVEL TO AND FROM CHURCH AFFECTED BY HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

		DADE COUNTY DISTRICTS						
TRAVEL FACTORS AFFECTED	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH	
Total Households*	65,200	3,800	5,100	9,000	19,400	19,200	8,700	
Time Traveled	91.1%	88.6%	86.2%	84.4%	97.0%	92.7%	85.4%	
Households	59,400	3,400	4,400	7,600	18,800	17,800	7,400	
Distance Traveled	26.5%	20.0%	31.0%	26.7%	13.6%	19.5%	70.7%	
Households	17,300	800	1,600	2,400	2,600	3,700	6,200	
Route Taken	7.4%	17.1%	20.7%	13.3%	1.5%	3.7%	9.8%	
Households	4,800	600	1,100	1,200	300	700	900	
Travel Mode Used	16.6%	17.1%	13.8%	24.4%	6.1%	7.3%	53.7%	
Households	10,800	600	700	2,200	1,200	1,400	4,700	

<sup>\*</sup> Those households somewhat/dramatically affected

#### H. INCIDENCE OF ACTUAL AND LIKELY EVACUATION

The results of the BSR Household Travel and Hurricane Impact survey has generated information concerning the incidence of pre-storm evacuation and the propensity of residents to evacuate their homes prior to the next hurricane that threatens the area. These survey results will be useful in assisting emergency preparedness agencies in their evaluations of the community's reactions to Andrew prior to that storm's arrival, and the impact Andrew has had on similar actions that may be taken by Dade residents in the future.

#### **SUMMARY**

The propensity or likelihood of pre-storm evacuation among the general population of the County is now nearly double the incidence of actual pre-storm evacuation that occurred in the days and hours immediately preceding the arrival of Hurricane Andrew.

Increased propensity to evacuate is most noticeable among the group of residents/households who experienced the brunt of Andrew, in South Dade, and among those who were forced to relocate their place of residence due to Hurricane Andrew.

The impact on the various geographic districts of Dade County by those persons/households forced into a residential move will be negligible. This group as a whole now (16 months after Andrew) represents less than 6% of all Dade households. Only one-half of these households - less than 3% of all Dade households - moved to a district in the County that was different from their pre-Andrew district.

#### **ANALYSIS**

#### 1. Pre-Andrew Evacuation Incidence

Approximately 24% of all (pre-Andrew) Dade County residents evacuated their homes prior to Hurricane Andrew's landfall, early Monday morning, August 24, 1992. This accounted for approximately 161,300 households. Conversely, more than 500,000 households or 76% of the County's households didn't evacuate their homes.

Summary of Survey Results: Household Travel and Hurricane Impact Survey

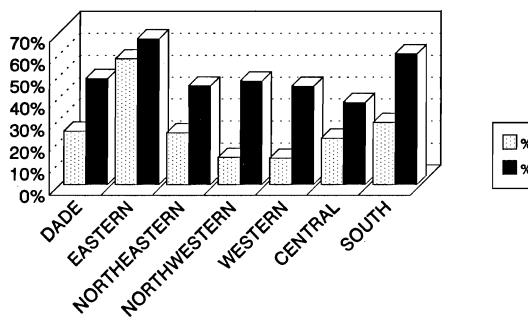
The section of the County experiencing the greatest incidence of household evacuation was the East district, all portions of which were included in the pre-storm mandatory evacuation zone declared by the County. Better than one-half (58%) of Eastern district households (approximately 41,200) evacuated their homes prior to the storm. This accounted for one-fourth of all Dade households that evacuated prior to the storm's landfall. The East accounted for approximately one-fourth of all evacuations that occurred in the County.

The next highest incidence of evacuation occurred among South district households, where 28% evacuated, followed by 24% in the Northeast and 21% among Central district households. The lowest incidence was 12%, among Northwestern and Western district households.

INCIDENCE OF EVACUATION PRIOR TO HURRICANE ANDREW AMONG ALL DADE HOUSEHOLDS HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994								
DADE COUNTY DISTRICTS								
ALL HOUSEHOLDS BASED ON POST-ANDREW ADDRESS								
INCIDENCE OF EVACUATION	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH	
Total Households	662,400	71,700	102,400	100,100	166,200	142,300	114,800	
% Evacuated Prior to Andrew	24.4%	57.5%	23.7%	12.6%	12.2%	21.3%	28.4%	
Households	161,300	41,200	24,300	12,600	20,300	30,300	32,600	

### INCIDENCE/PROPENSITY TO EVACUATE DUE TO HURRICANE BASED ON POST-ANDREW ADDRESS





DADE GEOGRAPHIC DISTRICTS

NOVEMBER/DECEMBER 1993 & JANUARY 1994

As noted earlier in this report (Page 9), less than 6% of all Dade households (approximately 39,400) are residing in different homes than they were prior to August 1992 because of damage sustained to their homes during the hurricane. Of these households, close to 40% had evacuated their homes prior to the storm's landfall. Based on their pre-Andrew residence location, nearly 82% of Eastern district households (who were forced to move because of storm damage) had evacuated their homes prior to the arrival of the storm (as compared with 58% of all current Eastern district households). Relocated households from Western and Central Districts also demonstrated a higher incidence of prestorm evacuation, 29% and 30% respectively, as compared with their post-storm counterparts, at 12% and 21%, respectively. The incidence of evacuation among pre-Andrew Northeastern and Northwestern households was lower (10% and 7% respectively), as compared with their post-Andrew counterparts, (24% and 13%, respectively).

INCIDENCE OF EVACUATION PRIOR TO HURRICANE ANDREW AMONG ALL RELOCATE DADE HOUSEHOLDS, FORCED TO MOVE AFTER ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994										
DADE COUNTY DISTRICTS										
INCIDENCE OF EVACUATION	TOTAL	TOTAL EASTERN EASTERN WESTERN WESTERN CENTRAL SOUTH								
·		RELOCAT	ED HOUSEH	OLDS *						
Total Households	39,400	2,200	2,700	4,400	6,800	6,100	17,200			
% Evacuated Prior To Andrew	38.5%	81.8%	10.0%	7.1%	29.4%	30.4%	43.8%			
Households 15,200 1,800 300 300 2,000 1,900 7,500										
% of Total Households	2.3%	2.5%	0.3%	0.3%	1.2%	1.3%	6.5%			

<sup>\*</sup> Based on post-Andrew address

#### 2. **Propensity For Future Evacuation**

Close to one-half (49%) of all Dade households would evacuate prior to another hurricane impacting the area, approximately double the pre-Andrew evacuation incidence of 24%.

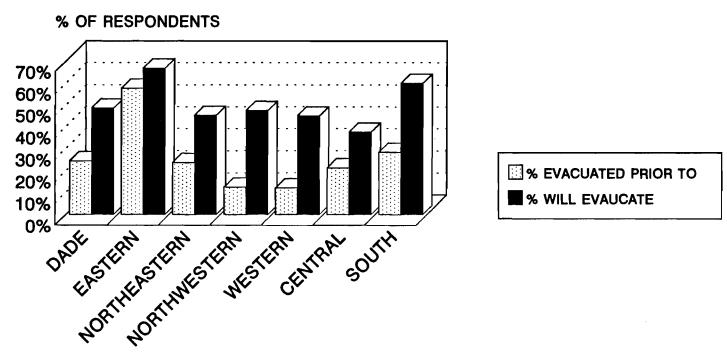
Households in every section of the County demonstrate a higher propensity for future pre-storm evacuation, including the East where pre-Andrew evacuation was mandatory.

All sections of the County have been impacted by the disaster that struck South Dade regarding evacuation as an alternative to dealing with the next hurricane that threatens to strike the area. This is especially noticeable for the Northwestern and Western districts, where pre-Andrew evacuation levels were at approximately only 12%. Sixteen months later, nearly one-half the households of each of these districts indicate they will evacuate in the future. Moreover, these are minimal numbers as they do not include those households who would evacuate if they were in a declared evacuation zone.

# COMPARISON AMONG PRE-ANDREW EVACUATION AND PROPENSITY TO EVACUATE PRIOR TO NEXT HURRICANE HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

			1	DADE COUNT	Y DISTRICTS		-
	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
	EVACU.	ATED PRIOR	TO HURRICA	NE ANDREW			
Total Households	697,500	71,700	102,400	100,100	166,200	142,300	114,800
% Households Evacuated	24.4%	57.5%	23.7%	12.6%	12.2%	21.3%	28.4%
Total Households	161,300	41,200	24,300	12,600	20,300	30,300	32,600
	WILLEY	ACUATE PR	OR TO NEXT	HURRICANE			
% Households Will Evacuate	48.5%	66.6%	45.1%	47.4%	44.9%	37.5%	59.8%
Total Households	338,200	47,800	46,200	47,500	74,600	53,400	68,700
CHANGE BETWEEN P	RE-ANDREW	'EVACUATIO	N AND PROP	ENSITY FOR I	EVACUATION	IN FUTURE	
Households	176,900	6,600	21,900	34,900	54,300	23,100	36,100
Percent	109.7%	16.0%	90.1%	277.0%	267.5%	76.2%	110.7%

### INCIDENCE/PROPENSITY TO EVACUATE DUE TO HURRICANE BASED ON POST-ANDREW ADDRESS



**DADE GEOGRAPHIC DISTRICTS** 

NOVEMBER/DECEMBER 1993 & JANUARY 1994

Nearly two-thirds (63%) of households that would not evacuate prior to the next hurricane that threatens South Florida, would evacuate if they were living in a declared, mandatory evacuation zone. Thus, only about one-third of all Dade households would not evacuate, whether they were living in a designated evacuation zone or not.

Western district households display the highest propensity to not evacuate (43%) when confronted by the next hurricane to threaten South Florida.

PROPENSITY TO EVACUATE HOME PRIOR TO NEXT HURRICANE AMONG HOUSEHOLDS THAT WOULD NOT EVACUATE UNLESS IN AN EVACUATION ZONE HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994											
DADE COUNTY DISTRICTS											
PROPENSITY FOR EVACUATION TOTAL EASTERN NORTH- WESTERN CENTRAL SOUTH											
WOULD NOT EVACUATE PRIOR TO NEXT HURRICANE											
Total Households	359,300	23,900	56,200	52,600	91,600	88,900	46,100				
	WOULD	EVACUATE	IF IN EVACU	ATION ZONE							
% Households	63.2%	62.2%	64.8%	67.5%	56.5%	67.3%	61.9%				
Total Households	226,900	14,900	36,400	35,500	51,800	59,800	28,500				
Wi	DULD NOT	EVACUATE I	EVEN IF IN E	VACUATION	ZONE						
% Households	% Households 36.8% 37.8% 35.2% 32.5% 43.5% 32.7% 38.1%										
Total Households	132,400	9,000	19,800	17,100	39,800	29,100	17,600				

#### 3. Evacuation and Propensity to Evacuate Among Relocated Households

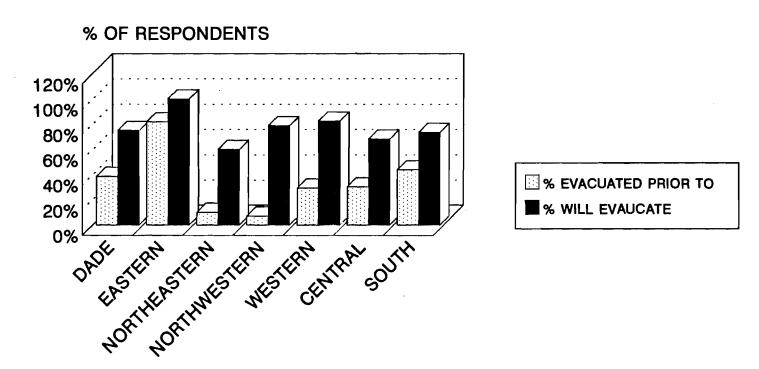
An important consideration for planners and engineers considering the continuing impact of Hurricane Andrew on the County's transportation needs could be the impact of relocated households, and their propensity to evacuate in the future, on the district to which they have relocated. As noted, hurricane-related household relocations now account for less than 6% of the County's total households. An analysis of the pre-Andrew zip codes of this group reveals that less than one-half (41%), or under 3% of the County's total households are now living in a district other than where they were living prior to Andrew's onslaught. Thus, despite the fact that relocated households will be more likely to evacuate the next time a hurricane threatens the South Florida, the presence of Andrew-driven relocated households, dispersed throughout the County, will have only negligible impacts, if any, on the general behavior of individual district populations.

For informational purposes, the following tables depict the incidence of pre-Andrew evacuation among those households forced to relocate because of storm damage and their propensity to evacuate in the face of the next hurricane to threaten South Florida. The district distribution for this data is according to the pre-Andrew home address.

# COMPARISON AMONG PRE-ANDREW EVACUATION AND PROPENSITY TO EVACUATE PRIOR TO NEXT HURRICANE AMONG ANDREW-FORCED RELOCATED HOUSEHOLDS NOVEMBER/DECEMBER 1993 & JANUARY 1994

				DADE COUNT	Y DISTRICTS		
	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
	EVACUA	ATED PRIOR	TO HURRICA	NE ANDREW			
Total Households	39,400	2,200	2,700	4,400	6,800	6,100	17,200
% Households Evacuated	38.5%	81.8%	10.0%	7.1%	29.4%	30.4%	43.8%
Total Households	15,200	1,800	300	300	2,000	1,900	7,500
	WILL EVA	CUATE PRIC	OR TO FUTUR	Œ HURRICAN	E		
% Households Will Evacuate	74.9%	100.0%	60.0%	78.6%	82.4%	68.2%	73.4%
Total Households	29,500	2,200	1,600	3,500	5,600	4,200	12,600
CHANGE BET	WEEN PRE-	ANDREW AN	D PROPENSI	TY TO EVACE	ATE IN FUTU	JRE .	
Households	14,300	400	1,300	3,200	3,600	2,300	5,100
Percent	94.1%	22.2%	433.3%	1,066.7%	180.0%	121.1%	68.0%

### INCIDENCE/PROPENSITY TO EVACUATE DUE TO HURRICANE BASED ON PRE-ANDREW ADDRESS



**DADE GEOGRAPHIC DISTRICTS** 

NOVEMBER/DECEMBER 1993 & JANUARY 1994

## PROPENSITY TO EVACUATE HOME PRIOR TO NEXT HURRICANE AMONG HOUSEHOLDS THAT MOVED BECAUSE OF ANDREW - BASED ON PRE-ANDREW RESIDENCE HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

				DADE COUNT	Y DISTRICTS		
PROPENSITY FOR EVACUATION	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
	WC	OULD NOT EV	ACUATE IN	FUTURE			
Total Households	9,700	0	1,100	900	1,200	1,900	4,600
	WOULD	EVACUATE	IF IN EVACU	ATION ZONE			
% Households	73.7%		66.7%	80.0%	91.7%	81.3%	73.1%
Total Households	7,300		700	700	1,100	1,500	3,400
W	OULD NOT	EVACUATE I	EVEN IF IN E	VACUATION 2	ZONE		
% Households	26.3%	<del></del>	33.3%	20.0%	8.3%	18.8%	26.9%
Total Households	2,600		400	200	100	400	1,200

#### 4. Time of Evacuation

The majority (60%) of those who left their homes prior to Andrew's landfall, evacuated after noon on Sunday, the afternoon and evening before the storm reached land. Another 21% evacuated between 6 p.m. and midnight, Sunday. The largest surge of evacuations occurred between noon and 6 p.m. Sunday, when 40% or approximately 64,000 households left their homes.

The major differences in evacuation timing geographically, occurred between the Eastern and Northeastern districts, where all or portions of the districts were included in the declared evacuation zones. All but 10% of those evacuating in the East district were out of their homes prior to 6 p.m. Sunday, and all but 13% among Northeastern households were out by 6 p.m. Among the remaining districts, between 23% and 31% of those households that ultimately evacuated waited until after 6 p.m. Sunday. The South district contained the highest incidence of post Sunday, 6 p.m. evacuees among all six districts.

### TIME OF EVACUATION PRIOR TO HURRICANE ANDREW HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

				DADE COUNT	TY DISTRICTS		
EVACUATION TIME	TOTAL	EASTERN	n'east	N'WEST	WESTERN	CENTRAL	SOUTH
Total Households	161,300	41,200	24,300	12,600	20,300	30,300	32,600
% Left Before Saturday	7.0%	7.5%	5.9%	4.1%	13.2%	9.6%	2.1%
Households	11,300	3,100	1,400	500	2,700	2,900	700
% Left Saturday	10.8%	13.2%	8.9%	9.6%	11.8%	15.5%	4.9%
Households	17,500	5,400	2,200	1,200	2,400	4,700	1,600
% Left Sunday, Before Noon	18.7%	26.4%	25.9%	5.5%	11.8%	14.8%	16.2%
Households	30,100	10,900	6,300	700	2,400	4,500	5,300
% Left Sunday, Before 6 p.m.	39.7%	40.4%	41.5%	52.1%	38.2%	30.4%	42.3%
Households	64,100	16,600	10,100	6,600	7,800	9,200	13,800
% Left Sunday, 6pm - 12pm	21.1%	9.7%	13.4%	24.6%	23.5%	28.9%	31.0%
Households	34,000	4,000	3,300	3,100	4,800	8,800	10,100
Other	2.7%	2.7%	4.4%	4.1%	1.5%	0.8%	3.5%
Households	4,300	1,100	1,100	500	300	200	1,100

#### III. SURVEY DEMOGRAPHICS

- The weighted mean number of persons per household among all contact survey respondents is 2.9.
- The weighted mean head of household age is 49 years. Nearly one-third of all respondents are 60 years or over. Heads of household of the Eastern district maintain the oldest mean age at just over 53, followed by Northeastern heads of household at between 52 and 53, and heads of household of the Central district, at just under 52. South district heads of household maintain the youngest mean age at 45.6.
- Better than one-half (56.8%) of all respondents reside in single-family houses; 27% live in apartments. The balance reside in mobile homes, villas and other dwellings.
- Nearly two-thirds (64.8%) of all survey respondents own their own home, while approximately 35% are renters.
- Just over 43% of all survey respondents are Hispanics; 38% are non-Hispanic and 19% are non-white.
- Nearly 57% of all respondents work full or part time; 27% are retired, 6% are homemakers and just under 6% are unemployed.
- Better than one-third (34.3%) of all respondents report their household has one vehicle; 38% have two vehicles, better than 16% have three or more and 12% have none.
- Households with disabled persons represent about 12% of all respondent households, with about 41% being mobility disabilities.

- The estimated mean 1992 household income of all respondents is approximately \$35,200. Better than 16% of all respondents report their 1992 annual household income at \$60,000 or more; 19% report 1992 household income of under \$10,000.
- Approximately 27% of all respondents completed the contact survey in Spanish; 79% of these persons use Spanish most of the time.
- Females represent 62% of all survey respondents; 38% are males.

#### NUMBER OF PERSONS PER HOUSEHOLD HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

			_	DADE COUNT	TY DISTRICTS		
NUMBER OF PERSONS	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households	697,500	71,700	102,400	100,100	166,200	142,300	114,800
One	20.2%	38.3%	29.7%	11.4%	13.8%	22.6%	14.5%
Households	141,000	27,500	30,400	11,400	22,900	32,200	16,600
Two	32.2%	36.0%	32.8%	27.5%	29.9%	34.8%	33.4%
Households	224,400	25,800	33,600	27,500	49,700	49,500	38,300
Three	18.3%	12.5%	15.7%	19.8%	21.6%	17.3%	19.3%
Households	127,500	9,000	16,100	19,800	35,900	24,600	22,100
Four	15.6%	8.3%	10.8%	17.4%	21.3%	13.7%	17.0%
Households	108,900	6,000	11,100	17,400	35,400	19,500	19,500
Five Or More	13.6%	4.9%	11.0%	23.9%	13.4%	11.6%	15.8%
Households	95,100	3,500	11,200	23,900	22,300	16,500	17,700
MEAN	2.9	2.1	2.5	3.3	3.0	2.6	3.1

#### AGE OF HEAD OF HOUSEHOLD HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

				DADE COUNT	TY DISTRICTS		
AGE CATEGORIES	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households	697,500	71,700	102,400	101,100	166,200	142,300	114,800
Under 24 Years	5.8%	3.7%	5.8%	5.2%	7.7%	5.5%	5.4%
Heads of Household	40,700	2,700	5,900	5,300	12,800	7,800	6,200
25 to 34 Years	15.0%	12.0%	11.3%	14.8%	18.0%	11.5%	20.0%
Heads of Household	104,500	8,600	11,600	15,000	29,900	16,400	23,000
35 to 44 Years	21.2%	17.5%	16.0%	25.1%	22.8%	18.4%	26.1%
Heads of Household	148,400	12,500	16,400	25,400	37,900	26,200	30,000
45 to 54 Years	13.4%	8.8%	11.3%	13.2%	14.1%	11.8%	18.9%
Heads of Household	93,100	6,300	11,600	13,300	23,400	16,800	21,700
55 to 59 Years	13.7%	15.0%	14.3%	15.0%	12.7%	15.9%	10.1%
Heads of Household	95,900	10,800	14,600	15,200	21,100	22,600	11,600
60 Years and Over	29.9%	43.0%	41.3%	26.7%	24.6%	36.9%	19.5%
Heads of Household	215,900	30,800	42,300	27,000	40,900	52,500	22,400
MEAN AGE	49.0	53.2	52.5	48.4	46.7	51.6	45.6

## AGE OF OTHER MEMBERS OF HOUSEHOLD HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY DADE COUNTY

#### NOVEMBER/DECEMBER 1993 & JANUARY 1994

·		AVERAGE AGE OF HEAD OF HOUSEHOLD									
AGE CATEGORY	UNDER 20	20 - 24	25 - 34	35 - 44	45 - 54	55 - 59	60 +	MEAN			
	A	VERAGE	NUMBER	OF PERSO	)NS BY A	GE IN HO	USEHOLI	)			
Under 9 Years	1.16	1.63	1.72	1.57	1.85	2.16	1.56	1.70			
9 to 14 Years	1.21	1.35	1.41	1.35	1.34	1.67	1.20	1.40			
15 to 19 Years	1.29	1.31	1.22	1.26	1.28	1.19	1.37	1,30			
20 to 24 Years	1.25	1.19	1.28	1.14	1.22	1.29	1.13	1.20			
25 to 34 Years	1.00	1.15	1.18	1.17	1.19	1.31	1.20	1.10			
35 to 44 Years	1.78	1.23	1.05	1.10	1.01	1.23	1.18	1.10			
45 to 54 Years	1.52	1.52	1.19	1.06	1.05	1.06	1.07	1.10			
55 to 59 Years	1.54	1.38	1.21	1.09	1.04	1.11	1.13	1.10			
60 Years & Over	1.67	1.54	1.36	1.30	1.18	1.22	1.09	1.20			

#### TYPE OF RESIDENCE OF HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

				DADE COUNT	TY DISTRICTS		
TYPE OF RESIDENCES	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households	697,500	71,700	102,400	100,100	166,200	142,300	114,800
Single-Family House	55.2%	22.2%	45.4%	73.4%	50.9%	54.6%	75.6%
Households	385,000	15,900	46,500	73,500	84,600	77,700	86,800
Apartment	29.0%	66.7%	35.5%	14.1%	27.2%	33.3%	9.9%
Households	202,300	47,800	36,300	14,100	45,200	47,400	11,400
Townhouse	5.5%	1.7%	3.7%	2.7%	12.6%	2.2%	5.5%
Households	38,100	1,200	3,800	2,700	20,900	3,100	6,300
Duplex	3.7%	1.1%	3.3%	5.3%	2.6%	6.3%	2.4%
Households	25,500	800	3,400	5,300	4,300	9,000	2,800
Mobile Home	1.5%	0.0%	0.3%	2.9%	2.1%	0.4%	2.7%
Households	10,400	0	300	2,900	3,500	600	3,100
Other	5.2%	8.3%	11.8%	1.6%	4.6%	3.2%	3.9%
Households	36,300	6,000	12,100	1,600	7,600	4,600	4,500

### HOUSING TENURE HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

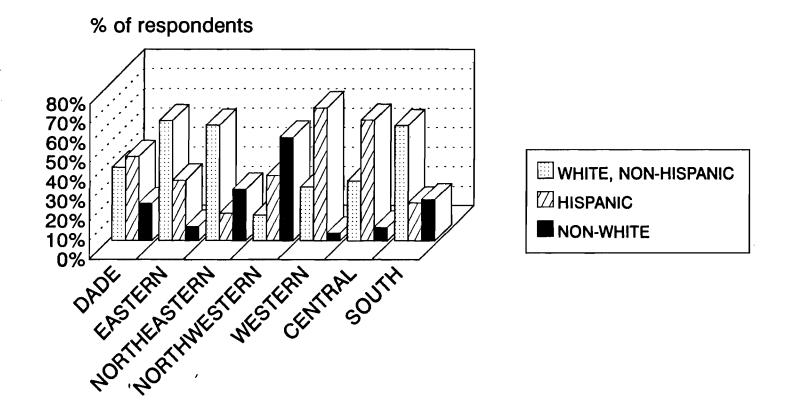
			DADE COUNTY DISTRICTS							
HOUSING TENURE	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH			
Total Households	697,500	70,900	102,400	100,100	166,200	142,300	114,800			
% Own Home	63.8%	44.0%	64.2%	67.0%	68.5%	53.1%	79.3%			
Households	444,800	31,200	65,700	67,100	113,900	75,600	91,000			
% Rent Home	36.2%	56.0%	35.8%	33.0%	31.5%	46.9%	20.7%			
Households	252,700	39,700	36,600	33,000	52,400	66,800	23,800			

#### ETHNIC AND RACE CHARACTERISTICS OF HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

			<u> </u>	DADE COUNT	Y DISTRICTS		_
ETHNIC/RACE CATEGORIES	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households	697,500	71,700	102,400	100,100	166,200	142,300	114,800
White, Non-Hispanic	39.6%	61.6%	59.3%	13.2%	27.8%	31.0%	59.2%
Households	276,400	44,200	60,700	13,200	46,200	44,100	67,900
Hispanic	42.2%	31.1%	14.1%	33.6%	68.3%	62.0%	19.5%
Households	294,500	22,200	14,400	33,600	113,500	88,300	22,400
Non-White	18.2%	7.3%	26.6%	53.2%	3.9%	7.0%	21.3%
Households	126,600	5,200	27,200	53,300	6,500	10,000	24,400

### ETHNIC AND RACIAL CHARACTERISTICS

#### HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY



NOVEMBER/DECEMBER & JANUARY 1994

#### EMPLOYMENT STATUS OF HEADS OF HOUSEHOLD HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

		DADE COUNTY DISTRICTS					
EMPLOYMENT STATUS CATEGORIES	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households	697,500	71,700	102,400	100,100	166,200	142,300	114,800
Work Full- & Part-Time	55.9%	50.1%	47.9%	56.7%	60.8%	49.6%	67.0%
Heads of Household	389,600	35,300	49,000	56,800	101,100	70,600	76,900
Retired	27.6%	39.0%	39.3%	25.6%	21.5%	30.6%	17.0%
Heads of Household	192,600	28,000	40,200	25,600	35,700	43,600	19,500
Homemaker	5.9%	3.7%	4.1%	6.5%	6.8%	6.7%	6.3%
Heads of Household	41,400	2,700	4,200	6,500	11,300	9,500	7,200
Student	1.9%	1.1%	2.1%	0.0%	3.3%	1.6%	2.2%
Heads of Household	13,200	800	2,200	0	5,500	2,300	2,500
Unemployed	5.7%	3.7%	4.1%	5.9%	6.2%	6.8%	6.0%
Heads of Household	39,600	2,700	4,200	5,900	10,300	9,700	6,900
Other	2.9%	2.4%	2.5%	5.3%	1.4%	4.7%	1.5%
Heads of Household	20,300	1,700	2,600	5,300	2,300	6,700	1,700

#### NUMBER OF VEHICLES PER HOUSEHOLD HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

	_	DADE COUNTY DISTRICTS					
NUMBER OF VEHICLES	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households	697,500	71,700	102,400	100,100	166,200	142,300	114,800
One	34.8%	42.2%	42.1%	37.0%	28.5%	38.6%	26.2%
Total	242,800	30,300	43,100	37,100	47,400	54,900	30,100
Two	37.4%	25.1%	31.6%	33.5%	44.0%	34.9%	47.8%
Total	260,900	18,000	31,700	33,500	73,100	49,700	54,900
Three	10.7%	5.4%	6.6%	9.6%	15.0%	9.4%	14.0%
Total	74,600	3,900	6,800	9,600	24,900	13,400	16,100
Four or More	4.9%	1.7%	3.6%	5.2%	6.5%	4.0%	6.6%
Total	34,200	1,200	3,700	5,200	10,800	5,700	7,600
None	12.1%	25.6%	16.1%	14.7%	6.0%	13.1%	5.4%
Total	84,400	18,400	16,500	14,700	10,000	18,600	6,200

### PRESENCE OF DISABLED PERSONS IN HOUSEHOLD HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

		DADE COUNTY DISTRICTS					
DISABLED PERSONS	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households	697,500	71,700	102,400	100,100	166,200	142,300	114,800
% With Disabled	11.6%	12.0%	12.4%	15.8%	7.8%	12.6%	11.4%
Households	81,100	8,600	12,700	15,800	13,000	17,900	13,100
% No Disabled	88.4%	88.0%	87.6%	84.2%	92.2%	87.4%	88.6%
Households	616,400	63,100	89,700	84,300	15,300	124,400	101,700
		TYPE	OF DISABIL	ITY			
Total Households	80,808	8,600	12,700	15,800	12,900	17,800	13,000
% Mobility	41.2%	46.7%	47.5%	40.6%	34.2%	38.3%	42.6%
Households	33,300	4,000	6,000	6,400	4,400	6,900	5,600
% Visual	10.3%	13.3%	10.0%	5.9%	18.4%	9.9%	6.6%
Households	8,300	1,100	1,300	900	2,400	1,800	900
% Hearing	3.7%	3.3%	2.5%	4.0%	0.0%	4.9%	6.6%
Households	3,000	300	300	600	0	900	900
% Other	44.9%	36.7%	40.0%	49.5%	47.4%	46.9%	44.2%
Households	36,300	3,100	5,100	7,800	6,100	8,400	5,800

#### ESTIMATED TOTAL 1992 HOUSEHOLD INCOME HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

		DADE COUNTY DISTRICTS					
INCOME CATEGORIES	TOTAL	EASTERN	NORTH- EASTERN	NORTH- WESTERN	WESTERN	CENTRAL	SOUTH
Total Households	697,500	71,700	102,400	100,100	166,200	142,300	114,800
Under \$10,000	19.7%	21.2%	25.2%	26.2%	12.7%	25.1%	11.5%
Households	137,300	15,200	25,800	26,300	21,100	35,700	13,200
\$10,000 to \$19,999	21.6%	21.2%	21.8%	27.8%	20.9%	23.7%	15.0%
Households	151,000	15,200	22,300	27,800	34,800	33,700	17,200
\$20,000 to \$39,999	28.0%	25.6%	26.0%	27.7%	33.7%	24.4%	27.7%
Households	195,200	18,400	26,600	27,700	56,000	34,700	31,800
\$40,000 to \$59,999	14.5%	14.4%	14.1%	11.4%	15.6%	10.7%	20.8%
Households	101,300	10,300	14,500	11,400	26,000	15,200	23,900
\$60,000 to \$79,999	7.5%	6.0%	5.7%	4.9%	8.2%	5.6%	13.5%
Households	52,100	4,300	5,800	4,900	13,600	8,000	15,500
\$80,000 +	8.7%	11.6%	7.2%	2.0%	8.9%	10.5%	11.5%
Households	60,600	8,300	7,400	2,000	14,800	14,900	13,200
MEAN	\$35,192	\$51,052	\$31,019	\$25,543	\$36,513	\$32,613	\$42,699

### GENDER OF RESPONDENTS HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

		DADE COUNTY DISTRICTS							
GENDER	TOTAL	EASTERN	NORTH- NORTH- WESTERN WESTERN CENTRAL SOUTH						
Total Sample*	3,820	264	505	659	1,013	742	637		
Female	61.6%	62.5%	63.3%	65.4%	60.5%	59.0%	61.1%		
Male	38.4%	37.5%	36.7%	34.6%	39.5%	41.0%	38.9%		
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

<sup>\*</sup>Includes diary and non-diary contact survey respondents

#### APPENDIX

#### DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS WHO EVACUATED THEIR HOMES PRIOR TO HURRICANE ANDREW

### AGE OF HEAD OF HOUSEHOLD ACCORDING TO EVACUATION STATUS\* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

	DADE (	COUNTY	EASTERN	N DISTRICT
AGE CATEGORIES	PERCENT EVACUATED	HOUSEHOLDS EVACUATED	PERCENT EVACUATED	HOUSEHOLDS EVACUATED
UNDER 24	4.8%	7,200	2.8%	1,100
25 TO 34	14.5%	21,400	13.8%	5,200
35 TO 44	21.9%	33,000	21.6%	8,200
45 TO 54	11.1%	16,700	9.5%	3,600
55 TO 59	13.5%	20,400	15.3%	5,800
60 YEARS +	34.2%	51,600	36.9%	13,900
TOTAL	100.0%	150,900	100.0%	37,800

<sup>\*</sup> Based on 1993/1994 address

### ESTIMATED 1992 HOUSEHOLD INCOME ACCORDING TO EVACUATION STATUS\* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

	DADE	COUNTY	EASTERN	DISTRICT
INCOME CATEGORIES	PERCENT EVACUATED	HOUSEHOLDS EVACUATED	PERCENT EVACUATED	HOUSEHOLDS EVACUATED
UNDER \$10,000	22.0%	33,200	21.8%	8,200
\$10,000 to \$19,999	21.0%	31,700	21.0%	7,900
\$20,000 to \$39,999	27.9%	42,100	24.7%	9,300
\$40,000 to \$59,999	13.5%	20,400	13.7%	5,200
\$60,000 to \$79,999	5.7%	8,600	6.0%	2,300
\$80,000 +	9.9%	14,900	13.0%	4,900
TOTAL	100.0%	150,900	100.0%	37,800

<sup>\*</sup> Based on 1993/1994 address

### HOUSING TENURE ACCORDING TO EVACUATION STATUS\* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

	DADE	DADE COUNTY EASTERN DISTRICT		
HOUSING TENURE	PERCENT EVACUATED	HOUSEHOLDS EVACUATED	PERCENT EVACUATED	HOUSEHOLDS EVACUATED
OWN	54.0%	81,500	42.0%	15,900
RENT	46.0%	69,400	58.0%	21,900
TOTAL	100.0%	150,900	100.0%	37,800

<sup>\*</sup> Based on 1993/1994 address

### TYPE OF RESIDENCE ACCORDING TO EVACUATION STATUS\* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

	DADE	COUNTY	EASTERN	DISTRICT
TYPE OF RESIDENCE	PERCENT EVACUATED	HOUSEHOLDS EVACUATED	PERCENT EVACUATED	HOUSEHOLDS EVACUATED
SINGLE-FAMILY	37.7%	56,900	23.1%	8,700
APARTMENT	45.9%	69,300	68.5%	25,800
TOWNHOUSE	3.2%	4,800	1.2%	500
DUPLEX	2.8%	4,200	0.7%	300
MOBILE HOME	3.7%	5,600	0%	0
OTHER	6.7%	10,100	6.5%	2,500
TOTAL	100.0%	150,900	100.0%	37,800

<sup>\*</sup> Based on 1993/1994 address

### NUMBER OF VEHICLES ACCORDING TO EVACUATION STATUS\* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

	DADE	COUNTY	EASTERN	DISTRICT
NUMBER OF VEHICLES	PERCENT EVACUATED	HOUSEHOLDS EVACUATED	PERCENT EVACUATED	HOUSEHOLDS EVACUATED
ONE	38.9%	58,700	41.6%	15,700
TWO	34.1%	51,400	27.7%	10,500
THREE	7.9%	11,900	6.5%	2,500
FOUR +	2.3%	3,500	0.9%	300
NONE	16.8%	25,400	23.3%	8,800
TOTAL	100.0%	150,900	100.0%	37,800

<sup>\*</sup> Based on 1993/1994 address

### EMPLOYMENT STATUS ACCORDING TO EVACUATION STATUS\* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

	DADE	COUNTY	EASTER	N DISTRICT
EMPLOYMENT STATUS	PERCENT EVACUATED	HOUSEHOLDS EVACUATED	PERCENT EVACUATED	HOUSEHOLDS EVACUATED
EMPLOYED	54.8%	82,700	56.3%	21,300
RETIRED	29.0%	43,800	32.0%	12,100
HOMEMAKER	5.2%	7,800	3.8%	1,400
STUDENT	2.0%	3,000	1.3%	500
UNEMPLOYED	5.1%	7,700	4.3%	1,600
OTHER	3.9%	5,900	2.3%	900
TOTAL	100.0	150,900	100.0%	37,800

<sup>\*</sup> Based on 1993/1994 address

### PRESENCE OF DISABLED PERSONS ACCORDING TO EVACUATION STATUS\* HOUSEHOLD TRAVEL AND HURRICANE IMPACT CONTACT SURVEY NOVEMBER/DECEMBER 1993 & JANUARY 1994

	DADE	COUNTY	EASTERN	DISTRICT
DISABLED PERSONS	PERCENT EVACUATED	HOUSEHOLDS EVACUATED	PERCENT EVACUATED	HOUSEHOLDS EVACUATED
YES	12.0%	18,100	10.5%	4,000
NO	88.0%	132,800	89.5%	33,800
TOTAL	100.0%	150,900	6.5%	37,800
TYPE OF DISABILITY				
VISUAL	10.6%	1,900	14.6%	500
MOBILITY	45.1%	8,200	48.8%	2,000
HEARING	3.5%	600	2.4%	100
OTHER	40.8%	7,400	34.1%	1,400
TOTAL	100.0%	18,100	100.0%	4,000

<sup>\*</sup> Based on 1993/1994 address

### HOUSEHOLD TRAVEL AND HURRICANE IMPACT QUESTIONNAIRE AND INTERVIEWER INSTRUCTIONS

 COD:	 E / ENTER	HOUSEHOLD	ΓRAVI	EL/HURRICANE IN	APACT	Respondent #
ZON	E					SAMPLE:
Metro				Science Research in Mianth Florida, and to collect		
<b>AND</b>	WHO IS A FU			THE HEAD OF HOUSE IN THE AREA 6 MON		
				ASK FOR ELIGIBLE P SENT, THANK AND T		
ABO	UT YOUR HOU		SSIFICA	ROPERLY, WE NEED TION PURPOSES. AL		
1.	INCLUDING	YOURSELF, HOW M	MANY P	EOPLE LIVE IN THIS	HOUSEHOLI	)?
					I	111
2. 	WHICH OF 1	THE FOLLOWING GI	ROUPS I	INCLUDES YOUR AGE	?	
	1 UNDE 2 20 to 2 3 25 to 3 4 35 to 4	34	45 TO 6. 7. 9.	O 54 YEARS 55 TO 59 YEARS 60 AND OVER REFUSED/DK/NA		
2A.		T ARE THE AGES OF LL ME HOW MANY		THER MEMBERS OF Y	OUR HOUS	EHOLD?
	1.	9 & UNDER			l	!!!
	2.	9 TO 14			l	
	3.	15 TO 19			l	
	4.	20 TO 24	•		l	
	5.	25 TO 34			1	
	6.	35 TO 44			I	
	7.	45 TO 54			l	
	8.	55 TO 59				

3.				SIDENCE A					AT IS,			
		1.	SING	LE-FAMII	JY (D	ETACHE	ED) UN	IT	5.	APARTM	ENT	
		2.	TOWN	HOUSE					6.	DUPLEX	<del>-</del>	
		з.	VILL	Ą					7.	OTHER	(SPECIFY)	
		4.	MOBI	LE HOME						<del></del>		_
3A.	AND D	DOY O	OWN (	OR RENT	YOUR	HOME:	?					11
		1.	OWN	2	·	RENT		9.	REFUS	ED/NA/	DK	
4.				ANALZYE YOUR ETI				THIS	SURVEY	APPRO	PRIATELY,	
		1. F	HISPAN	IC								
		2. 2	AFRICA	N-AMERI	CAN		4.	OTHER	R (SPEC	CIFY)_		_
		3. V	WHITE	NON-HIS	PANI	С	9.	REFUS	SED/DK/	'NA		
				ASK YOU TRAVEL		E QUES	TIONS	CONC	ERNING	HOW H	URRICANE A	NDREW HAS
5.	WERE STRUC			IN DADI	E COU	A YTNU	THE	TIME	HURRIC	ANE AN	DREW	_1
	1.	YES (	(INT:	CONTINU	E)	2.	ио (	INT:	SKIP T	O Q.16	)	
6.		NTLY	LIVIN	G THE SA							YOU ARE BEFORE	
	1.	YES (	(INT:	SKIP TO	Q.7	)	2.	NO	(INT: A	sk Q.	6 <b>A</b> )	11
		6A.		YOUR CHA					ANY WA	YTHE	RESULT OF	THE
			1.	YES (I	NT:	ASK Q.	6B, 6	C & 6	E) 2	2.NO	(INT: SKIP	TO Q.7)
		6B.		WERE THE					NCES T	НАТ СА	USED YOU 1	0
			1.	HOUSE/	HOME	DESTR	OYED.	2.	HOUS	SE/HOMI	E DAMAGED	11
			3.	OTHER	(SPE	CIFY)						
			9.	REFUSE	D/DK	/NA						•
		6C.		IS THE DENCE?	ZIP	CODE 2	AND NE	EAREST	T INTER		N TO YOUR	
							_AND				CITY	
								(TAZ	) l	11		1

	6D.	WHAT IS THE ZIP CODE AND MEAREST YOU WERE LIVING IN PRIOR TO HURR	ICANE ANDREW?
		And	3 3     CITY
		(TAZ)	
	6E.	ARE YOU PLANNING TO RETURN TO YOU	1
		RESIDENCE?	
		1. YES (INT: ASK Q.6F)	
		2. NO (INT: GO TO Q.7)	
		9. REFUSED/DK/NA (INT: GO TO (	2.7)
	6F.	BY WHEN?	ll
	·	1. BY THE END OF 1993.	4. FOURTH QUARTER, 1994
		2. FIRST QUARTER, 1994	9. REFUSED/DK/NA
		3. 2ND/3RD QUARTER, 1994	
OUR	LOCAL TRAV	NT TO ASK YOU SOME QUESTIONS ABOUT EL, BUT FIRST I WANT TO ASK YOU AB A RESULT OF THE HURRICANE.	
•		ABOUT YOUR PLACE OF EMPLOYMENT: IS N THE SAME LOCATION AS BEFORE HURRI	
		1. YES (INT: SKIP TO Q.8)	.
		2. NO (INT: ASK Q. 7A)	
	7A.	WAS THIS CHANGE IN YOUR WORK LOCA	ATION RELATED TO
		1. CHANGE IN EMPLOYMENT, UNRELL ANDREW. (INT: SKIP TO Q.8)	
		2. HURRICANE-RELATED RELOCATION (INT: ASK Q. 7B, 7C & 7D)	N OF WORK PLACE.
		3. HURRICANE-RELATED CLOSE OF 1 (INT: ASK Q.7B, 7C & 7D).	BUSINESS.
		4. OTHER (INT: ASK Q.7B, 7C & 7D).	
		9. REFUSED/DK/NA (INT: SKIP TO	Q.8)
	7B.	WHAT IS THE ZIP CODE AND LOCATION AND CITY OF YOUR CURRENT PLACE	
			3 3
		AND	CITY
		(TAZ)	ll

7C.	WHAT WAS THE ZIP CODE/LOCATION (NEAREST INTERSECTION) AND CITY OF YOUR PLACE OF EMPLOYMENT PRIOR TO HURRICANE ANDREW?
	3 3
	AND CITY
	(TAZ)
<b>7</b> D.	IS YOUR EMPLOYER PLANNING TO RETURN TO THE PRE-ANDREW WORK LOCATION?
	1. YES
	2. NO
	9. REFUSED/DK/NA
	KE TO ASK YOU A FEW QUESTIONS CONCERNING ANY SCHOOL-AGED Y BE LIVING AT HOME WITH YOU.
	YOU HAVE CHILDREN LIVING AT HOME ATTENDING A SCHOOL THAT NOT ATTENDING PRIOR TO HURRICANE ANDREW?
	1. YES (INT: ASK Q.8A)
•	2. NO (INT: SKIP TO Q.9)
	9. REFUSED/DK/NA (INT: SKIP TO Q.9)
BA.	WAS THIS CHANGE IN SCHOOL LOCATION RELATED TO:
	1. CHANGE IN SCHOOL/OR GRADE LEVEL, UNRELATED TO HURRICANE ANDREW. (INT: SKIP TO Q.9)
	2. HURRICANE-RELATED RELOCATION OF SCHOOL. (INT: ASK Q. 8B, 8C & 8D)
	3. HURRICANE-RELATED CLOSE OF SCHOOL. (INT: ASK Q.8B, 8C & 8D).
	4. HURRICANE-RELATED RESIDENTIAL MOVE. (INT: ASK Q.8B, & 8C)
	5. OTHER (INT: ASK Q.8B, 8C & 8D).
	9. REFUSED/DK/NA (INT: SKIP TO Q.9)
8B.	WHAT IS THE NAME OR LOCATION (NEAREST INTERSECTION) OF THE SCHOOL YOUR CHILD/CHILDREN IS CURRENTLY ATTENDING?
	SCHOOL NAME
	ORAND
	(TAZ)

	<b>.</b>	THE S	SCHOOL	YOUR CHIL ANE ANDREW?	D/CHILI							
		SCHOO OR	DL NAM	4E				<u></u>	-			
				<del></del>	A	ND			<del></del>			
						(TAZ	ə1 <u></u>	_11	I	11.		.1
	BD.			PLANS TO R	EOPEN 1	THE C	LOSED	<b>S</b> CHOOL	AT IT	S PRI	5 <b>-</b>	
		1.	YES	2.	NO		9.	REFUSE	O/DK/N	A	l	_
	NOW, I WOU AFFECTED S							OCAL T	RAVEL	HAS C	Hangi	ED O
<b>.</b>		RAVEL WOU	HAS I		ED, WIT	TH RE	SPECT TO AN	TO TRA	VELING WORK	HAS		ı
	1. DRAMAT	CALL	Y	2. SOMEW	нат	3.	NOT A	LIA 1	(INT:	SKIP	TO Q	 !-11)
10.		YOUR !	TRIP :	NG TRAVEL F TO WORK, SI WERS)					YOU,	WITH		
		1.	DIST	ANCE TRAVE	LED							
			<del></del>	MIL	ES 1.	MORE	E 2	. LESS		l	-11/_	_
		2.	TIME	SPENT TRA	VELING							
				MIN.	1. M	ORE	2.	LESS			_	I,
		3.	THE	ROUTE TAKE	N						1	!
			OLD	ROUTE	<del></del>	<u> </u>						
			NEW	ROUTE							•	
		4.	CHAN	GED MODE O	F TRAVE	L FRO	T	o		1	_11	
		•		GE FROM:			GED T	O: MOBILE			11	
			_	AUTOMOBILE METRO BUS		1. 2.		MOBILE		l <u></u> -	_11	
				METRORAIL		3.		CORAIL		<u>_</u> .	_11_	1
				METROMOVER		4.		OMOVER				
				JITNEY		5.	JITN			l	_	
				TAXI		6.	IXAT					
				TRI-RAIL	CIPV	7. 8.		RAIL ER (SPE	CTEV			
			٥.	OTHER (SPE	CIFI)	٠.	OIRE	A (OFE	-1 F 1 )			

11.	YOUR SPOUSE TO					HOUS	SEHOLD THAT RELY	ON YOU	OR
	1.	YES	(INT:	ASK	Q.11A)				11
	2.	No	(INT:	SKIP	TO Q.	13)		-	
	9.	REFU	sed/dk/	NO					
11 <b>A.</b>	AFFECTED, WITH	RESPEC	OUR TRA	AKINO VEL 1	YOUR O AND	CHILD FROM	CAL TRAVEL HAS EDREN TO AND FROM SCHOOL HAVE CHA	SCHOOL	7\$
	1.	DRAM	ATICALI	Y					ll
	2.	SOME	TAHW						
	3.	NOT .	AT ALL	(IN	r: ski	P TO	Q.13)		
	9.	REFU	SED/DK/	NO	(INT:	SKI <b>P</b> :	ro Q.13)		
12.							FOR YOU, WITH		
	1.	DIST	ANCE TR	AVEL	ED				
		<del>-,</del>		MILE	s 1. 1	MORE	2. LESS	1	-111
	2.	TIME	SPENT	TRAV	ELING				
		Van. 100 100 100 100 100 100 100 100 100 10	и	N.	1. M	ORE	2. LESS		_    ,
	3.	THE	ROUTE I	AKEN					l 1
		OLD	ROUTE _						
		NEW	ROUTE						
	4.	CHAN	GED MOI	E OF	TRAVE	L FROI	мто		_
		1. 2. 3. 4. 5. 6.	GE FROM AUTOMOE METRO E METROMO JITNEY TAXI TRI-RAI OTHER	BILE BUS AIL OVER	IFY)	CHANC 1. 2. 3. 4. 5. 6. 7.	GED TO: AUTOMOBILE METRO BUS METRORAIL METROMOVER JITNEY TAXI TRI-RAIL OTHER (SPECIFY	   	_     _     _

13. NOW, I AM GOING TO READ YOU A LIST OF SOME OTHER DESTINATIONS PEOPLE NORMALLY TRAVEL TO AND FROM. FOR EACH DESTINATION, I WANT YOU TO TELL ME THE DEGREE TO WHICH YOUR TRAVEL TO THAT DESTINATION, IN TERMS OF TIME AND DISTANCE TRAVELED, MODE OF TRAVEL, OR THE ROUTE YOU TAKE, HAS CHANGED SINCE HURRICANE ANDREW. IF A PARTICULAR TYPE OF TRIP DOES NOT APPLY TO YOU, PLEASE TELL ME. HAS YOUR TRIP TO (INT: READ FROM LIST) CHANGED (1) DRAMATICALLY, (2) SOMEWHAT, OR (3) NOT AT ALL SINCE HURRICANE ANDREW? (INT: CIRCLE ANSWER GIVEN FOR EACH CATEGORY)

Destinations	1	2	3	9
GROCERY SHOPPING	1	2	3	9
MOVIES	1	2	3	9
VISIT FRIENDS/RELATIVES	1	2	3	9
SECONDARY SHOPPING (CLOTHING, FURNITURE, ETC.)	1	2	3	9
BANKING	1	2	3	9
RELIGIOUS (CHURCE, ETC.)	1	2	3	9

14. FOR THOSE TRAVEL DESTINATIONS YOU INDICATED WERE AFFECTED BY HURRICANE ANDREW, PLEASE TELL ME WHICH OF THE FOLLOWING FACTORS - (1) TIME SPENT TRAVELING, (2) DISTANCE TRAVELED, (3) THE ROUTE YOU TAKE AND (4) THE MODE OF TRANPSORTATION USED - WERE AFFECTED OR CHANGED FOR EACH TYPE OF DESTINATION? (INT: CIRCLE CORRESPONDING RESPONSE NUMBER; ACCEPT ALL ANSWERS; CIRCLE #9 IF NOT APPLICABLE)

DESTINATIONS	TIME	DISTANCE	MODE	ROUTE	N/A
GROCERY SEOPPING	1	2	3	4	9
MOVIES	1	2	3	4	9
VISIT FRIENDS/RELATIVES	1	2	3	4	9
SECONDARY SHOPPING (CLOTHING, FURNITURE, ETC.)	1	2	3	4	9
BANKING	1	2	3	4	9
RELIGIOUS (CHURCH, ETC.)	1	2	3	4	9

15.	NOW,	THINKING	ABOUT	YOUR	ACTIVIT	TIES J	<b>JUST</b>	BEFORE	HURRICANE	ANDREW;
	DID '	YOU EVACUA	ATE PRI	IOR TO	THE ST	TORM?				

	1.	YES	(INT:	ASK C	. 15A	£ 15E	)			<u> </u>
	2.	NO	(INT:	SKIP	TO Q.	16)				
15A.	WHER	E DII	YOU G	<b>60</b> ?						
(SPE	CIFIC	PLAC	E/LOCA	TION)_	<del></del>				 <u>.</u>	
						(TA	Z)		 11_	
	9.	REF	USED/D	K/NA						_1

		15B.	EVACU	ATE? A	NDREW STR	UCK E	BURRICANE STRUCK, DID Y ARLY MONDAY MORNING, AV HOME	
			1.	BEFORE	SATURDAY	4.	SUNDAY, BEFORE 6 PM	<u> </u>
			2.	SATURDA	Y	5.	SUNDAY, 6PM TO MIDNIG	HT
			3.	SUNDAY,	BEFORE N	OON 6	OTHER (SPECIFY)	<del></del>
16.			THER I		E THREATE	n sou	TH FLORIDA IN THE FUTU	RE,
			1.	YES (IN	T: ASK Q.	16A 4	i 16B)	ll
			2.	NO (IN	T: SKIP T	o Q.1	17)	
		16A.					T MAJOR ROUTE (ASSUMING DO YOU NOW PLAN ON TAI	
		EVACU	JATE T	O (SPECI	FIC PLACE	s/Loci	ATION)	· · · · · · · · · · · · · · · · · · ·
							(TAZ)	
		GET T	HERE	BY TAKIN	G (ROAD/E	ROUTE	)	
		16B.		YOU EVA		THER	OR NOT YOU ARE IN A DE	CLARED
			1.	YES				11
			2.	No				
			9.	REFUSED	/DK/NA			
ANAL	SIS.	AS I	SAID E	EFORE, 1	OUR ANSW	ERS A	T WE USE FOR OUR STATIS RE CONFIDENTIAL AND WIT 2,500 OTHER HOUSEHOLDS	LL BE TABULATE!
17.	WHAT	IS YO	UR PRI	esent em	PLOYMENT	STATU	S?	11
	1.	WORK	ING FU	LL TIME	5.	HOME	MAKER	
	2.	WORK	ING PA	RT TIME	6.	UNEM	PLOYED, LOOKING FOR WO	R.K
	3.	RETI	RED		7.	OTHE	R	
	4.	STUDI	ENT		9.	REFU	SED/DK/NA	

18.	HOW MANY I	MOTOR VEHICLES ARE AVAILABLE FOR TRAVEL AMONG MEMBERS OF EHOLD?	,
	1. ONE	5. FIVE	ll
	2. TWO	6. MORE THAN FIVE	
	3. THRE	E 7. NONE	
	4. FOUR	9. REFUSED/DK/NA	
19.	ARE ANY MI	EMBERS OF YOUR HOUSEHOLD DISABLED?	
	1. YES	(INT: ASK Q.19A) 2. NO (INT: SKIP TO Q.20)	
	19A.	PLEASE TELL ME THE TYPE OF DISABILITY.	II
		1. VISUAL	
		2. MOBILITY (CONFINED TO WHEELCHAIR, ETC.)	
		3. HEARING	
		4. SPEECH	
		5. OTHER (SPECIFY)	
20.	WHICH OF !	THE FOLLOWING CATEGORIES INCLUDES YOUR TOTAL HOUSEHOLD R 1992?	1 1
	1.	UNDER \$10,000 4. \$40,000 - \$59,999	ll
	2.	\$10,000 - \$19,999 5. \$60,000 - \$79,999	
	3.	\$20,000 - \$39,999 6. \$80,000 or more	
		9. Refused/DK/NA	
21.	(INT:DO N	OT READ) LANGUAGE THIS SURVEY WAS CONDUCTED IN:	
		1. ENGLISH	
		2. SPANISH (INT: ASK Q.21A)	
		3. CREOLE (INT: ASK Q.21A)	
	21A.	WHAT LANGUAGE DO YOU USE MOST OF THE TIME?	
		1. ALL OR MOSTLY ENGLISH	[]
		2. HALF ENGLISH, HALF SPANISH	
		3. ALL OR MOSTLY SPANISH	
		4. HALF ENGLISH, HALF CREOLE	
		5. ALL OR MOSTLY CREOLE	•
		9. REFUSED/DK/NA	
22.	(INT: DO	NOT READ) GENDER	
		1. MALE 2. FEMALE	1 !

THANK YOU FOR PROVIDING US WITH THIS INFORMATION; IT WILL BE VERY IMPORTANT FOR THE COUNTY'S TRANSPORTATION PLANNING. AS PART OF THIS PROJECT, WE WOULD LIKE TO INVITE YOU AND THE OTHER MEMBERS OF YOUR HOUSEHOLD TO PARTICIPATE IN OUR TRIP/DIARY PROJECT. YOU WOULD DO THIS BY KEEPING A RECORD OF ALL THE TRIPS YOU TAKE LOCALLY FOR JUST ONE DAY NEXT WEEK. WE WILL SEND YOU & ONE DAY TRAVEL DIARY FOR EACH PERSON THAT RESIDES IN YOUR HOUSEHOLD WHO TRAVELS INDEPENDENTLY, TO KEEP TRACK OF YOUR AND THEIR LOCAL TRAVEL ACTIVITIES DURING ONE PARTICULAR DAY. YOU WILL HAVE A SELF-ADDRESSED, POSTAGE PAID ENVELOPE IN WHICH TO RETURN THE DIARIES WHEN THEY HAVE BEEN COMPLETED. AS A TOKEN OF OUR APPRECIATION FOR YOUR CONTRIBUTION TO THIS IMPORTANT PROJECT, WE WILL SEND YOU A CRISP, NEW COMMEMORATIVE TWO DOLLAR BILL. CAN WE COUNT ON YOU AND YOUR HOUSEHOLD TO PARTICIPATE IN THIS CRITICAL PHASE OF THE PROJECT?

1. YES (I	NT: CONTINUE2)	2.NO (INT: THANK AND TERMINATE)
(INT: IF "YI HAVE EVERYO	RS"): THANK YOU. NE IN YOUR HOUSEHO	WHEN YOU RECEIVE THE DIARIES IN THE MAIL, PLEASE DLD, INCLUDING YOURSELF, FILL THEM OUT ON:
(DAY) MONDA	Y TUESDAY WEDNE	SDAY THURSDAY (DATE) OCT NOV DEC
I WILL NEED	YOUR MAILING ADDR	ESS TO SEND YOU YOUR DIARIES.
WHAT IS YOU	R MAILING ADDRESS	OR P.O. BOX?
IS THERE AN	APARTMENT NUMBER?	
AND WHAT CI	TY IS THAT?	AND YOUR ZIP CODE?
AND WHOSE NA	AME SHOULD WE PUT	ON THE ENVELOPE?
(INT: REPEA	T ADDRESS FOR VERI	FICATION PURPOSES.)
23. HOW MA (INT:	NY ELIGIBLE HOUSE MOBILE HANDICAPPE	HOLD MEMBERS ARE THERE?
(INT: NOTE	Language for Trave	L DIARIES; ASK RESPONDENT IF UNCERTAIN.)
:	1. ENGLISH	3. CREOLE
:	2. SPANISH	
EVENING BEFO RECEIVED IT ANSWER ANY O ANY QUESTION	ORE THE DAY YOUR B AND TO RECONFIRM QUESTIONS YOU MAY NS OR COMMENTS THA	ING US WITH THIS STUDY. WE WILL CALL YOU BACK THE MOUSEHOLD IS TO USE THE DIARY TO CONFIRM THAT YOU THAT YOUR HOUSEHOLD WILL BE PARTICIPATING, AND TO HAVE. IF YOU OR MEMBERS OF YOUR HOUSEHOLD HAVE AT NEED TO BE EXPRESSED PRIOR TO THAT DATE, FEEL ATION PROJECT DIRECTOR, AT 443-2000.
SUPERVISOR   CONDUCTED T	WILL CALL A CERTAI HEM PROPERLY. SHE	NANK YOU VERY MUCH FOR YOUR COOPERATION. MY IN NUMBER OF MY INTERVIEWS TO DETERMINE THAT I HAVE I MAY CALL YOU OR SHE MAY NOT. BUT I NEED TO AND YOUR INITIALS IN CASE SHE DOES.
Phone number	r:	Respondent initials:
Interviewer	name:	Date:
DIARY NIMBE	PS SENT:	TO

## DADE COUNTY HOUSEHOLD TRAVEL/ HURRICANE IMPACT SURVEY INTERVIEWER INSTRUCTIONS

THERE ARE TWO CRITICAL SURVEY ELEMENTS TO THIS PROJECT. THE FIRST IS A CONTACT SURVEY AND THE SECOND IS A HOUSEHOLD TRAVEL DIARY.

FOR THE PURPOSES OF THIS SURVEY, WE HAVE DIVIDED DADE COUNTY INTO SIX REGIONS (SEE MAP). THE PROJECT'S ULTIMATE GOAL IS TO ACQUIRE COMPLETED DIARIES FROM MEMBERS OF 400 HOUSEHOLDS IN EACH OF THE SIX REGIONS.

INTERVIEWERS WILL BE DIVIDED INTO SIX TEAMS, WITH EACH TEAM RESPONSIBLE FOR SURVEYS AND DIARIES IN A SPECIFIC REGION. THUS, EACH TEAM WILL HAVE RESPONSIBILITIES FOR:

- 1. CONDUCTING WHATEVER NUMBER OF CONTACT SURVEYS WITH HEADS OF HOUSEHOLDS REQUIRED TO OBTAIN DIARIES FROM 400 HOUSEHOLDS. THIS COULD MEAN THE RETURN OF ABOUT 1,000 DIARIES (ASSUMING AN AVERAGE OF 2.5 PERSONS PER HOUSEHOLD).
- 2. MAILING DIARIES TO 400 HOUSEHOLDS.
- 3. CONDUCTING FOLLOW-UP INTERVIEWS WITH THE 400 HEADS OF HOUSEHOLD CONFIRMING RECEIPT OF THE TRAVEL DIARIES; REAFFIRMING COMMITMENT TO COMPLETE DIARIES ON ASSIGNED DAY, AND ANSWERING ANY QUESTIONS.
- 4. CONFIRMING RECEIPT OF COMPLETED DIARIES AND PROVIDE GEOCODING OF ORIGIN/DESTINATION AND OTHER LOCATION-ORIENTED QUESTIONS.

#### 1. **CONTACT SURVEY**

THIS IS A 6 TO 10-MINUTE INTERVIEW TO BE CONDUCTED WITH:

- 1. HEADS OF HOUSEHOLDS OR SPOUSES;
- 2. YEAR-ROUND RESIDENT (AT LEAST SIX MONTHS); AND
- 3. PERSON/HOUSEHOLD RESIDING IN DADE COUNTY WHEN HURRICANE ANDREW STRUCK.

THERE WILL ALSO BE QUOTAS WITHIN EACH REGION, BASED ON THE FOLLOWING TWO CRITERIA:

- 1. HISPANIC/NON-HISPANIC
- 2. AGE OF HEAD OF HOUSEHOLD

WHILE COMPLETING THE CONTACT INTERVIEWS WILL BE IMPORTANT, A MAJOR PURPOSE OF THE SURVEY IS THE REQUEST FOR THE RESPONDENT TO COMMIT HIS/HER HOUSEHOLD TO PARTICIPATING IN THE TRAVEL DIARY PHASE OF THE PROJECT.

#### 2. HOUSEHOLD TRAVEL DIARY

AT THE CONCLUSION OF THE CONTACT SURVEY, RESPONDENTS WILL BE REQUESTED TO COMMIT THEIR HOUSEHOLD MEMBERS (ALL PERSONS OF THE HOUSEHOLD WHO TRAVEL INDEPENDENTLY IN SOUTH FLORIDA) TO COMPLETING A TRAVEL DIARY ON A SPECIFIC DAY, THE FOLLOWING WEEK.

THE INTERVIEWER WILL OBTAIN THE NAME AND MAILING ADDRESS OF RESPONDENTS AGREEING TO COMPLETE THE TRAVEL DIARY. DIARIES WILL BE SENT TO THESE RESPONDENTS THE FOLLOWING DAY IN A PACKAGE THAT WILL INCLUDE THE NUMBER OF DIARIES MATCHING THE NUMBER OF ELIGIBLE HOUSEHOLD MEMBERS, INSTRUCTIONS, A BRIEF DEMOGRAPHIC SURVEY FOR EACH DIARY PARTICIPANT ON THE REVERSE SIDE OF THE DIARY, A \$2 BILL INCENTIVE AND A SELF-ADDRESSED POSTAGE-PAID RETURN ENVELOPE, TO BE MAILED WITH THE COMPLETED DIARIES TO BSR THE FOLLOWING DAY.

#### 3. FOLLOW-UP TELEPHONE INTERVIEW

RESPONDENTS COMPLETING THE DIARIES WILL BE CALLED THE EVENING BEFORE THEIR DIARY DAY TO CONFIRM THEIR RECEIPT OF THE NUMBER OF DIARIES THAT MATCHES THE NUMBER OF ELIGIBLE HOUSEHOLD MEMBERS; REAFFIRM THE COMMITMENT TO COMPLETE THE DIARIES THE FOLLOWING DAY, ATTEMPT TO "TURN AROUND ANY RESPONDENTS NOW REFUSING TO PARTICIPATE, AND ANSWER ANY UNRESOLVED ISSUES THAT MAY EXIST FOR THE RESPONDENT.

## 4. <u>DIARY RECEIPT AND PROCESSING</u>

EACH TEAM WILL BE RESPONSIBLE FOR RECEIVING THEIR REGION'S DIARIES. EACH TEAM WILL HAVE AT LEAST TWO MEMBERS WHO WILL GEOCODE EACH DIARY AND THEN SUBMIT DIARIES TO THE BSR EDITING TEAM.

# TRAVEL DIARY AND INSTRUCTIONS

#### INSTRUCTIONS FOR COMPLETING THE TRAVEL TRIP DIARY

PLEASE COMPLETE THE SHORT DEMOGRAPHIC SURVEY ABOUT YOURSELF THAT IS ON THE BACK OF THE DIARY. THIS INFORMATION IS CRITICAL FOR AN ACCURATE EVALUATION OF THE DATA COLLECTED FOR THE DIARY.

Below are some suggestions to support you in completing the diary. We are also providing a few samples of completed diaries to assist you in understanding the procedure.

- 1. PLEASE CARRY THE DIARY WITH YOU ON YOUR DESIGNATED TRAVEL DAY (one 24-hour period). It is easier to fill in the diary as your day occurs rather than to try to remember all your trips afterward.
- 2. When you travel on the day assigned to you to complete the diary, the FIRST item to fill in under the "STARTING LOCATION/ADDRESS" heading is the address or location where you begin your travel diary day. For most people, the day will begin at their home.
- 3. When you go from one place to another for ANY reason, THIS IS A TRIP. For example, if on your way home from work, you stop at the supermarket and at a video store, record these as three separate trips (supermarket, video store and home).
- 4. Include ALL types of trips, INCLUDING TRIPS MADE BY WALKING OR BICYCLE, AS WELL AS BY CAR, BUS, ETC. The only exception is for exercise, like jogging, where you begin and end at the same place. But, if you drive to a park or some other location to jog, this is a trip and should be logged on your diary as such.
- 5. Any time you change the METHOD by which you travel, this is a new trip. For example, if you drive to a park-and-ride lot and then board Metrorail, record these as two separate trips.
- 6. If you travel by public transportation and transfer, this is a new trip. If you take a bus to Metrorail and then use the Metromover, record these as three separate trips (Metrobus, Metrorail and Metromover).
- 7. If you go some place together with members of your household (to the mall, for example), EACH PERSON should take his/her diary with them, and record this trip on his/her own trip diary card.

- 8. Please be as specific as possible for the trip destination (an exact address, including the city; an address range (e.g., Flagler Street between NE 1 Ave and NE 2 Ave, Miami); the name of a Metrorail station; a specific store (Burdines, Dadeland Mall); a building name (Cedars Medical Center), etc. We need this information to assign a location code to each place you begin and end a trip.
- 9. Please be sure to include the purpose of each trip. Examples of trip purposes include work, home, shopping, medical care, change method of travel, visit friends, etc. Enter this information in the PURPOSE OF TRIP column on the diary form.
- 10. Include your means of travel for each trip in the HOW column, e.g., bus, jitney, auto, bike, etc.
- 11. Remember to write down the time of day when you begin each trip (TIME OF DEPARTURE) and ends (TIME OF ARRIVAL), and to note whether it is A.M. or P.M.
- 12. If you travel in a car, light truck, van or motorcycle, indicate whether you are the driver or a rider/passenger, and note the total number of people (including yourself) in the vehicle. You do not have to provide this information for a trip taken on any public transportation.
- 13. Remember, ALL REPLIES ARE CONFIDENTIAL. The information that you and your household provides will never be used on an individual basis, but only as part of the overall analysis of travel patterns in Metropolitan Dade County.

#### TRAVEL DIARY RESPONDENT INFORMATION SURVEY

								-	Um Only
•	What	is your househ	old relation	aship?	•	·			
•		se circle numt			correct	answer)			
• •									
	1.	HEAD OF						•	
	2	SPOUSE T							
	3.	SON/DAU						·	
	4.	FATHERA							•
	<b>5</b> .	BROTHER		O HEAD	OF HOU	SEHOLD			
	6. 7.	OTHER RE							
	7.	NON-REL	AIED .						
٠.	What	is your year o	f birth? 19					Ļ	لـــــ
· ·	What	is your sex?						•	Ĺ
•	1.	MALE	.2.	FEMA	ALE		•		5.
	Do w	ou have a valid	l driver's li	cense?		•		· . ·	. 1
٠.									
	1.	YES	<b>2.</b>	NO					, 1.
•	What	is your emplo	yment statu	ıs?				•	
•				•			•	***	• • • • • • • • • • • • • • • • • • • •
	1.	EMPLOYE			5.	PART TIME S			· · · ·
	2.	EMPLOYE	D PART I	IME	6.	UNEMPLOYE	D LOOKING I	FOR WOR	K.
	3.	RETIRED			7.	HOUSEWIFE			•
	4.	FULL TIM	E STUDE	YT ·	8.	OTHER		<u> </u>	
٠.	What	is your occup	ation?		• • •	•		<u> </u>	لللا
-	1.	PROFESSI	ONAL/TEO	CHNICAL	. 8.	CRAFTSMAN	OR FOREMA	N	-
	2.	MANAGE	RIAL/ADM	IIN/EXEC	CUTIVE		•	•	
	3.		RY/CLERI	CAL	9.	<b>EQUIPMENT</b>	VEHICLE OP	ERATOR	
	4.	RETAIL S	ALES		10.	SERVICE WO			
					11.	GENERAL LA			
	5.	OTHER S.			12.	FARMING/FO	RESTRY/FISH	IING	
	6.		DUCTION	WORKE	ER 13.	OTHER			
	7.	CONSTRU	JCTION						
OR	HEAD	OF HOUSEH	OLD ONL	Y:					
,	We 1	eed your stree	t address he	re so that	we can l	ocate your househ	old in a traffic	analysis z	one.
						ial, and will not be			
						ortant for the purp			
	Stree	et Address:					_		
	<u>~~~</u>	Zip Code:					<del>-</del> -		

## METRO-DADE TRAVEL SURVEY - TRIP DIARY

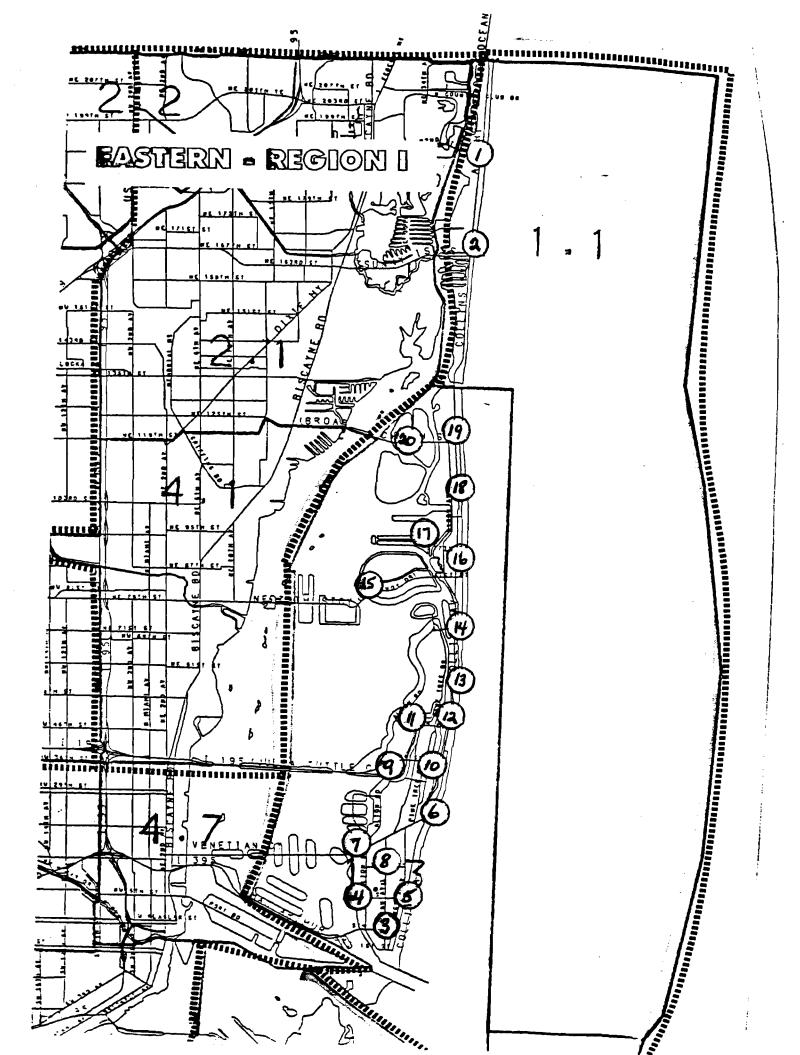
	MADARCO DIADE ANG	TED DOZETEZ			
DAYDATE		IF YOU DID NOT T	RAVEL AT	ALL THIS DAY,	CHECK HERE _

STARTING LOCATION/ADDRESS:	TIME OF ARRIVAL (AM/PM)	TIME OF DEPARTURE (AM/PM)	PURPOSE (Work/home/ shop/etc.)	HOW? (Car/truck/ walk/etc.)	WERE YOU DRIVER OR RIDER?	Number of People In Vehicle
DESTINATIONS					111111111111111111111111111111111111111	
1.			·			
2.						
3.						
4.						
5.					•	
6.			•		•	
7.	•					
8.		·				
9.	÷					
10.						•
11.						, .
12.						
13.					·	
14.		·				

Note: The last entry should be your home, or where you were at THE END OF THE 24-HOUR PERIOD.

**CENTROID MAPS AND LOCATION DESCRIPTIONS** 

Summary of Survey Results: Household Travel and Hurricane Impact Survey



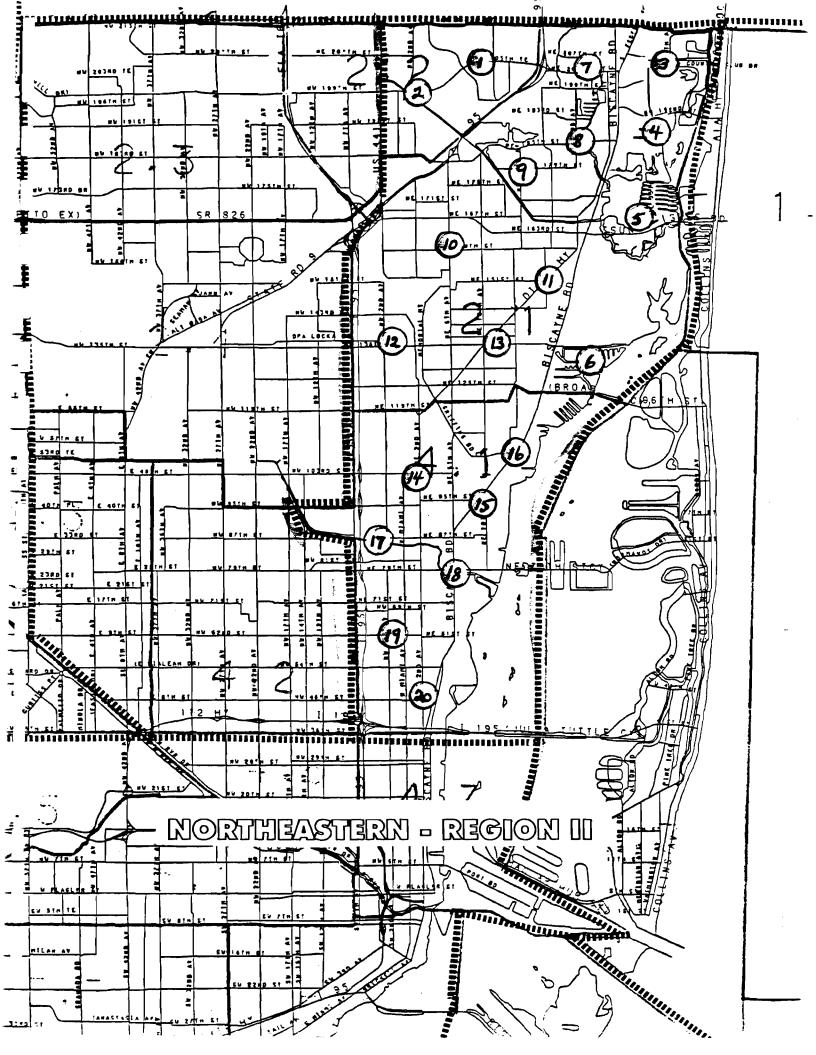
#### EASTERN REGION 71,717 HOUSEHOLDS

#### MSA 1.1 - SUNNY ISLES - 8,697 HOUSEHOLDS - 12% - 2

- 1. COLLINS AVE. & 192ND STREET
- 2. COLLINS AVE. & 163RD STREET

## MSA 1.3 MIAMI BEACH, NORMANDY ISLE, BAY HARBOR, SURFSIDE, BAL HARBOUR - 63,020 HOUSEHOLDS - 88% - 18

- 5TH STREET & MERIDIAN AVE.
- 4. ALTON ROAD & 11TH STREET
- 5. WASHINGTON AVE. & 11TH STREET
- 6. COLLINS AVE. & 28TH STREET
- 7. ALTON ROAD & DADE BOULEVARD
- 8. 16TH STREET & MERIDIAN AVENUE
- 9. ALTON ROAD & 41ST STREET
- 10. 41ST STREET & PINE TREE DRIVE
- 11. ALTON ROAD & 47TH STREET
- 12. COLLINS AVE. & 47TH STREET
- 13. COLLINS AVE. & 55TH STREET
- 14. COLLINS AVE. & 67TH STREET
- 15. 71ST STREET & N/S SHORE DRIVE
- 16. COLLINS AVE. & 77TH STREET
- 17. HAWTHORNE AVE. & 79TH STREET
- 18. COLLINS AVE. & 91ST STREET
- 19. COLLINS AVE. & 96TH STREET
- 20. 96TH STREET & HARBOR DRIVE



## NORTHEASTERN REGION 102,357 HOUSEHOLDS

#### MSA 2.2 (PART) CALIFORNIA CLUB - 10,172 HOUSEHOLDS - 10% - 2

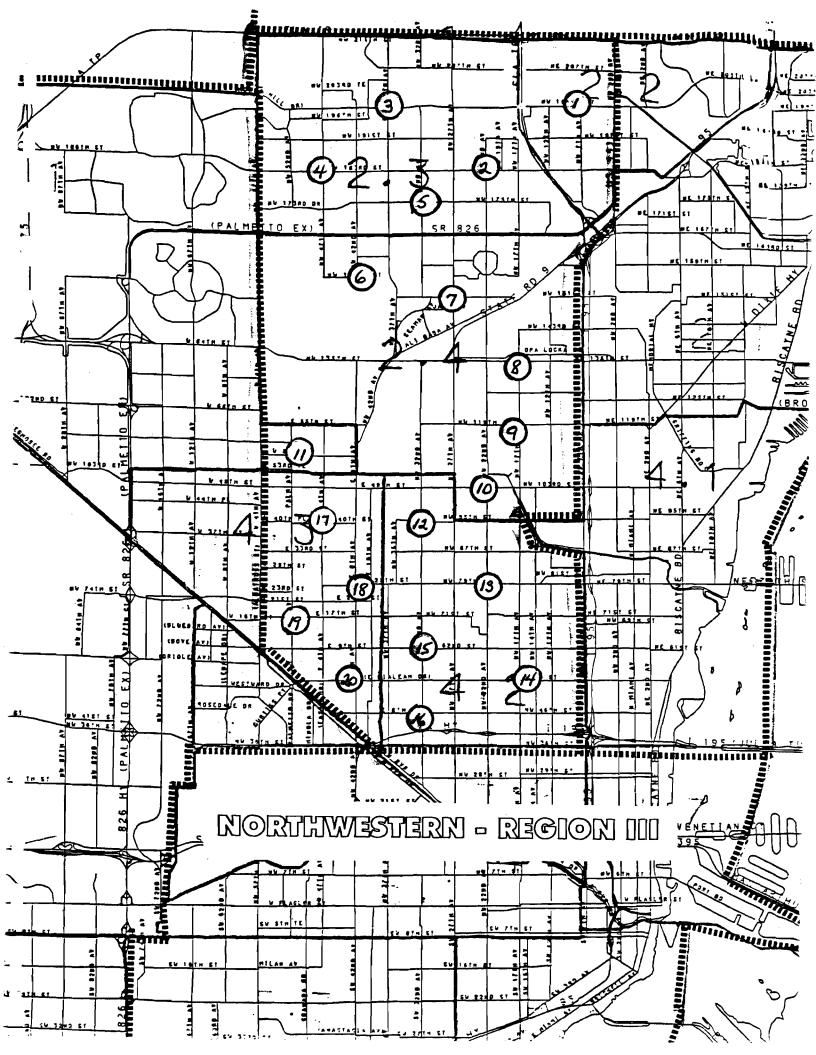
- 1. IVES DAIRY ROAD & NE 12TH AVE.
- 2. IVES DAIRY ROAD & NE 2ND AVE.

#### MSA 2.1 N MIAMI/N MIAMI BEACH/AVENTURA - 57,983 HOUSEHOLDS - 57% - 11

- 3. NE 207TH STREET & 34TH AVE.
- 4. NE 192ND STREET & S. COUNTRY CLUB DRIVE
- 5. NE 35TH AVE. & 166TH STREET
- 6. BAYSHORE DRIVE & MAGNOLIA DRIVE
- 7. NW 203RD STREET & 24TH AVE.
- 8. NE 22ND AVE. & 185TH STREET
- 9. NE 10TH AVE. & 175TH STREET
- 10. NE 6TH AVE. & 159TH STREET
- 11. NE 151 STREET & W. DIXIE HIGHWAY
- 12. NW 2ND AVE. & 135TH STREET
- 13. NE 135TH STREET & W. DIXIE HIGHWAY

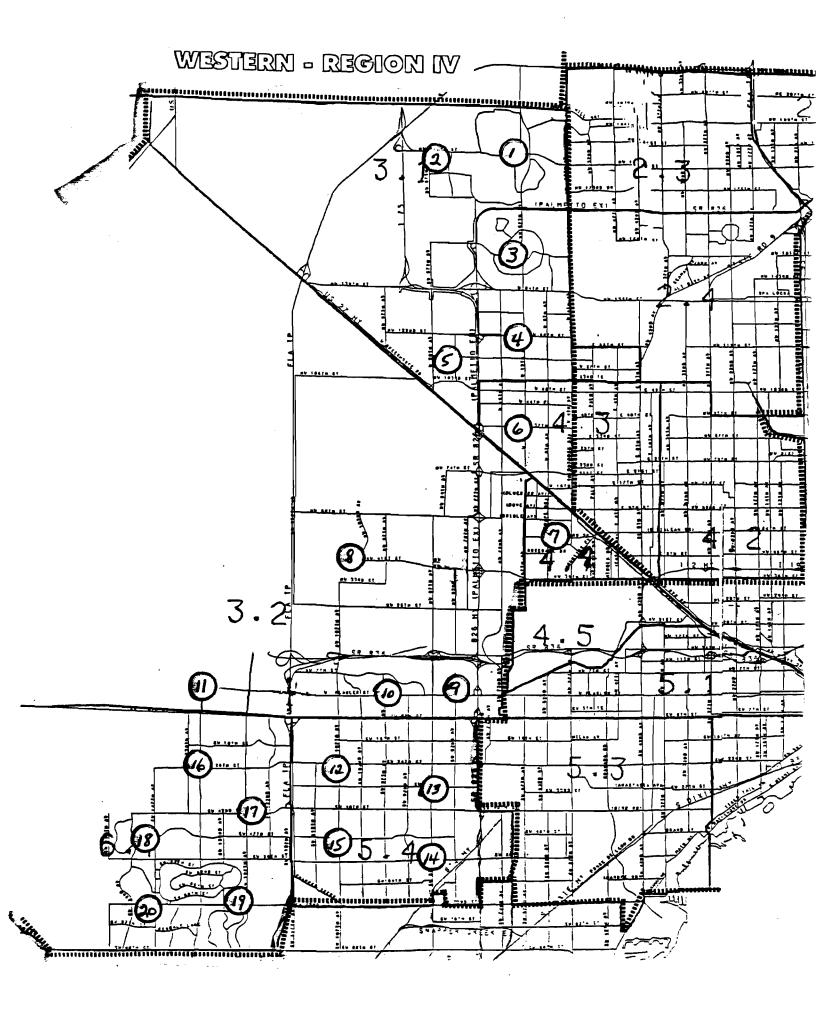
#### MSA 4.1 NORTH MIAMI/MIAMI - 34,202 HOUSEHOLDS - 33% - 7

- 14. NE 2ND AVE. & 103RD STREET
- 15. NE 95TH STREET & BISCAYNE BOULEVARD
- 16. BISCAYNE BOULEVARD & NE 110TH STREET
- 17. NW 2ND AVE. & NW 87TH STREET
- 18. NE 79TH STREET & BISCAYNE BOULEVARD
- 19. NW 61ST STREET & 2ND AVE.
- 20. NE 2ND AVE. & 46TH STREET



#### NORTHWESTERN REGION 100,143 HOUSEHOLDS

- MSA 2.2 (PART) NORLAND 6,344 HOUSEHOLDS 6% 1
  - 1. NW 9TH AVE. & 199TH STREET
- MSA 2.3 CAROL CITY 21,712 HOUSEHOLDS 22% 4
  - 2. NW 22ND AVE. & 183RD STREET
  - 3. NW 37TH AVE. & 199TH STREET
  - 4. NW 47th AVE. & 183RD STREET
  - 5. NW 32ND AVE. & 175TH STREET
- MSA 2.4 OPA LOCKA 23,253 HOUSEHOLDS 23% 5
  - 6. NW 42ND AVE. & 161ST STREET
  - 7. NW 27TH AVE. & 151ST STREET
  - NW 17TH AVE. & 135TH STREET
  - 9. NW 17TH AVE. & 119TH STREET
  - 10. NW 22ND AVE. & 103RD STREET
- MSA 3.1 (PART) HIALEAH 2,764 HOUSEHOLDS 3% 1
  - 11. PALM AVE. & 57TH STREET
- MSA 4.2 HIALEAH/MIAMI 27,136 HOUSEHOLDS 27% 5
  - 12. NW 95TH STREET & 32ND AVE.
  - 13. NW 79TH STREET & 22ND AVE.
  - 14. NW 54TH STREET & 17TH AVE.
  - 15. NW 62ND STREET & 32ND AVE.
  - 16. NW 46TH STREET & 32ND AVE.
- MSA 4.3 (PART) HIALEAH 18,934 HOUSEHOLDS 19% 4
  - 17. E. 4TH AVE. & 40TH STREET
  - 18. E. 10TH AVE. & 25TH STREET
  - 19. W. 17TH STREET & PALM AVE.
  - 20. E. 8TH AVE. & E. HIALEAH DRIVE



#### WESTERN REGION 166,211 HOUSEHOLDS

## MSA 3.1 (PART) PALM SPRINGS, MIAMI LAKES, HIALEAH GARDENS 44,633 HOUSEHOLDS - 27% - 5

- 1. NW 67TH AVE. & 186TH STREET
- 2. NW 87TH AVE. & MIAMI GARDENS DRIVE
- 3. NW 67th AVE. & MIAMI LAKES DRIVE
- 4. NW 12TH AVE. & 68TH STREET
- 5. W. 28TH AVE. & 60TH STREET

#### MSA 4.3 (PART) HIALEAH - 15,718 HOUSEHOLDS - 9% - 1

6. W. 12TH AVE. & 37TH STREET

#### MSA 4.4 - MIAMI SPRINGS - 6,037 HOUSEHOLDS - 4% - 1

7. WESTWARD DRIVE & LENAPE DRIVE

## MSA 3.2 - WEST DADE COUNTY - 30,372 HOUSEHOLDS - 18% - 4

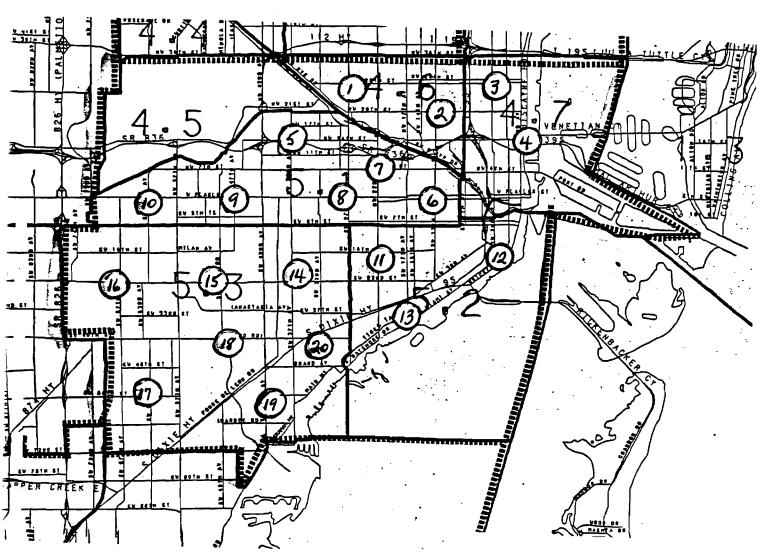
- 8. NW 97TH AVE. & 41ST STREET
- 9. FLAGLER STREET & 82ND AVE.
- 10. FLAGLER STREET & 102ND AVE.
- 11. NW 2ND STREET & 137TH AVE.

#### MSA 5.4 - WEST DADE COUNTY - 31,415 HOUSEHOLDS - 19% - 4

- 12. SW 107TH AVE. & 24TH STREET
- 13. SW 87TH AVE. & 32ND STREET
- 14. SW 87TH AVE. & 56TH STREET
- 15. SW 97TH AVE. & 40TH STREET

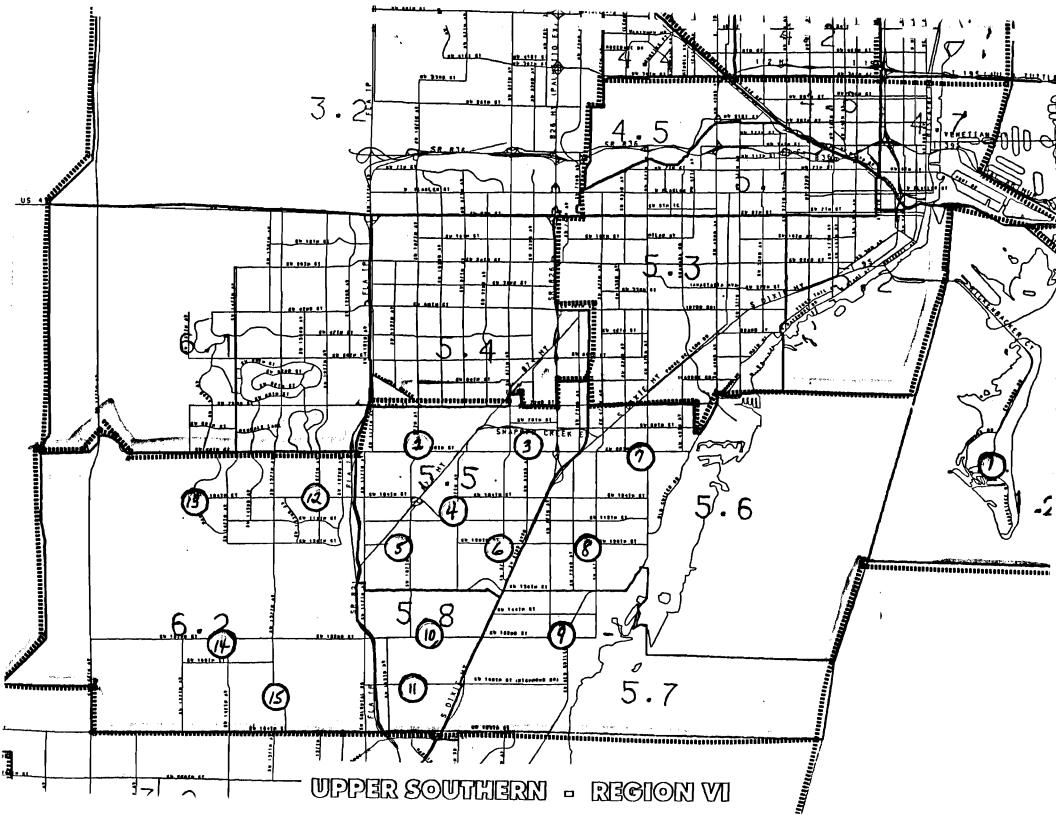
#### MSA 6.1 - WEST DADE COUNTY - 38,036 - 23% - 5

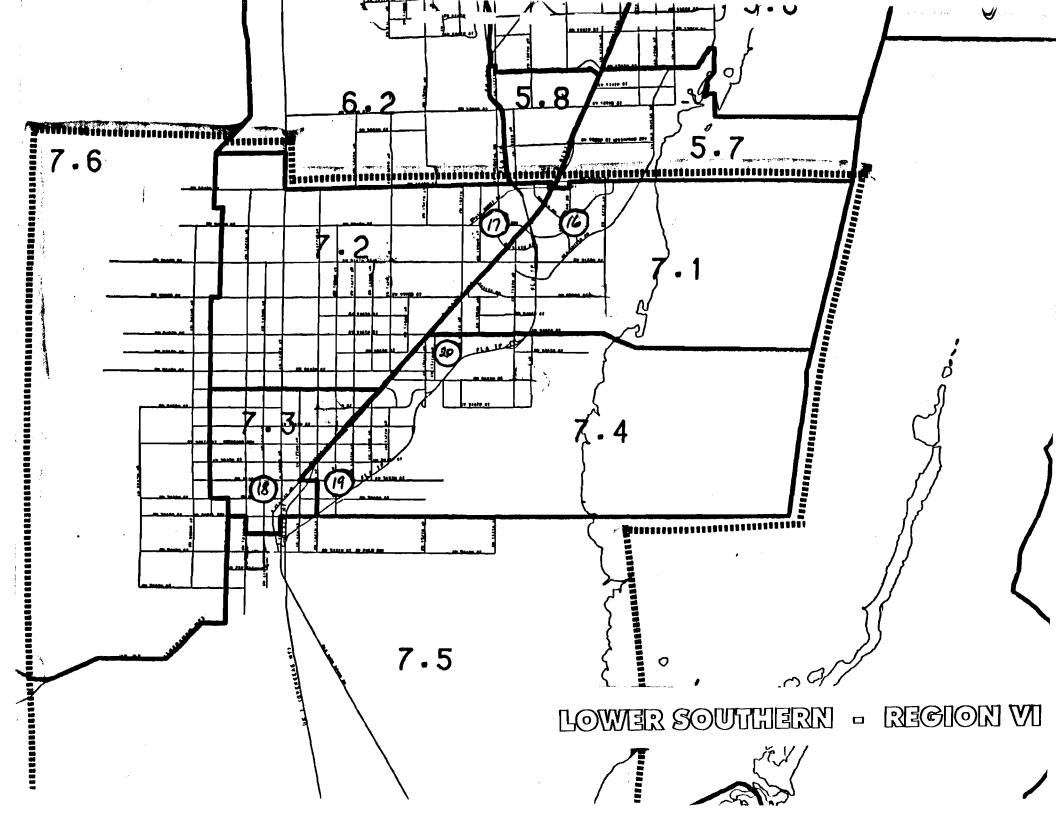
- 16. SW 26TH STREET & 137TH AVE.
- 17. SW 46TH STREET & 127TH AVE.
- 18. SW 47TH STREET & 147TH AVE.
- 19. SW 72ND STREET & 127TH AVE.
- 20. SW 72ND STREET & 152ND AVE.



GENTRAL - REGION V

<u>CENTRAL</u>	REGION 142,336 HOUSEHOLDS
MSA 4.5 - 1	MIAMI - 48 HOUSEHOLDS - 0% - 0
MSA 4.6 -	MIAMI - 13,523 HOUSEHOLDS - 10% - 2
	NW 28TH STREET & 27TH AVE. NW 20TH STREET & 12TH AVE.
MSA 4.7 -	MIAMI - 15,388 HOUSEHOLDS - 10% - 2
	NW 2ND AVE. & 28TH STREET BISCAYNE BLVD. & 13TH STREET
MSA 5.1 -	MIAMI - 45,308 HOUSEHOLDS - 32% - 6
	NW 14TH STREET & 37TH AVE.
	FLAGLER STREET & 12TH AVE.
	NW 7TH STREET & 22ND AVE.
	FLAGLER STREET & 27TH AVE.
	FLAGLER STREET & 47TH AVE.
10.	FLAGLER STREET & 62ND AVE.
MSA 5.2	MIAMI - 22,641 HOUSEHOLDS - 16% - 3
11.	SW 16TH STREET & 22ND AVE.
	BRICKELL AVE. & 12TH STREET
13.	BAYSHORE DR. & SW 12TH AVE.
MSA 5.3	MIAMI - 45,428 HOUSEHOLDS - 32% - 7
	SW 37TH AVE. & 22ND STREET
15.	GRENADA AVE. & CORAL WAY
16.	CORAL WAY & 67TH AVE.
17.	SW 56TH STREET & 62ND AVE.
18.	GRENADA AVE.& BIRD ROAD
19.	SW 56TH STREET & 42ND AVE.
20.	SW 32ND AVE. & BIRD ROAD





#### SOUTHERN REGION 114,741 HOUSEHOLDS

- MSA 1.2 KEY BISCAYNE 4,064 HOUSEHOLDS 4% 1
  - 1. CRANDON BLVD. & WOOD DRIVE
- MSA 5.5 SOUTHWEST DADE COUNTY 31,728 HOUSEHOLDS 28% 5
  - 2. SW 88TH STREET & 107TH AVE.
  - 3. SW 88TH STREET & 82ND AVE.
  - 4. SW 97TH AVE. & 112TH STREET
  - 5. SW 107TH AVE. & 120TH STREET
  - 6. SW 120TH STREET & 87TH AVE.
- MSA 5.6 SOUTHWEST DADE COUNTY 12,336 HOUSEHOLDS 11% 2
  - 7. SW 88TH STREET & 57TH AVE.
  - 8. SW 67TH AVE. & 120TH STREET
- MSA 5.7 SOUTHWEST DADE COUNTY 5,580 HOUSEHOLDS 5% 1
  - 9. SW 152ND STREET & 75TH AVE.
- MSA 5.8 SOUTHWEST DADE COUNTY 7,359 HOUSEHOLDS 6% 2
  - 10. SW 152ND STREET & 102ND AVE.
  - 11. SW 168TH STREET & SW 102ND AVE.
- MSA 6.2 SOUTHWEST DADE COUNTY 22,828 HOUSEHOLDS 20% 4
  - 12. SW 127TH AVE. & 104TH STREET
  - SW 104TH STREET & 152ND AVE.
  - 14. SW 152ND STREET & 147TH AVE.
  - 15. SW 137TH AVE. & 170TH STREET
- MSA 7.1 CUTLER RIDGE 6,671 HOUSEHOLDS 6% 1
  - 16. CARIBBEAN BLVD. & GULFSTREAM ROAD
- MSA 7.2 SOUTH MIAMI HEIGHTS 7,400 HOUSEHOLDS 6% 1
  - 17. CARIBBEAN BLVD. & SW 122ND AVE.

#### **SOUTHERN REGION (CONTINUED)**

- MSA 7.3 HOMESTEAD 7,351 HOUSEHOLDS 6% 1
  - 18. SW 312TH STREET & 182ND AVE.
- MSA 7.4 HOMESTEAD 6,268 HOUSEHOLDS 6% 2
  - 19. SW 162ND AVE. & 312TH STREET
  - 20. SW 256TH STREET AND 127TH AVE.
- MSA 7.5 FLORIDA CITY 2,284 HOUSEHOLDS 2% 0
- MSA 7.6 FAR S. WESTERN COUNTY 872 HOUSEHOLDS 0% 0

