

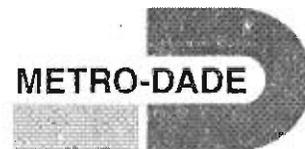
Center for Urban Transportation Research

Civic Center TMO Commuter Characteristics Study

Prepared for:

Miami Urbanized Area Metropolitan
Planning Organization (MPO), and

the Miami Civic Center Transportation
Management Organization (CCTMO)



⋮
Center for Urban Transportation Research

Civic Center TMO Commuter Characteristics Study

Prepared for:

*Miami Urbanized Area Metropolitan
Planning Organization (MPO), and*

*the Miami Civic Center Transportation
Management Organization (CCTMO)*

Prepared by:

*Center for Urban Transportation Research
College of Engineering, University of South Florida*

December 1997

■ Acknowledgement

The CUTR project team consists of the following:

Patricia A. Turner, Research Associate
Mitchell P. York, Research Associate
Daniel E. Rudge, Research Associate
Phillip L. Winters, TDM Program Manager

The team would like to recognize the following individuals for their assistance with the data collection portion of this research.

Carol Bailey, *State Attorney's Office*
Tom Cerney, *Gold Coast Commuter Services*
Maria Crawley, *Miami Urbanized Area Metropolitan Planning Organization*
Rolando Gonzales, *Jackson Memorial Hospital*
Jesus Guerra, *Miami Urbanized Area Metropolitan Planning Organization*
Idelia Hodges, *Jackson Memorial Hospital*
Danay Martinez, *Miami-Dade Community College*
Lucia Mendez, *University of Miami Medical Center*
David Sappenfield
Anat Schwartzbaum, *Civic Center TMO*
Jed Shivers, *University of Miami Medical Center*
Dan Thomas, *University of Miami Medical Center*
Clark Turner, *City of Miami*
Steve Zwang, *Jackson Memorial Hospital*

The following CUTR staff assisted with data entry, GIS map preparation, computer support, and report production:

Chris Billingsley, Graduate Research Assistant, *GIS map design and production*
Martin Catala, Graduate Research Assistant, *GIS map design and production*
Francis Cleland, Research Associate, *survey design*
Mark Fleeting, Network Manager, *computer support*
Sandra Geahr, Program Assistant, *report editing*
Jesus Gomez, Graduate Research Assistant, *survey design*
Thomas Tu, Graduate Research Assistant, *data entry*
Ben Walker, Graduate Research Assistant, *data entry*
Jason Winoker, Graduate Research Assistant, *GIS map design and production*
Yanhu Zhou, Graduate Research Assistant, *GIS map design and production*

The assistance of these individuals is both acknowledged and appreciated.

■ Table of Contents

I.	INTRODUCTION	1
	RESEARCH OVERVIEW	1
	RESEARCH OBJECTIVES	2
	RESEARCH APPROACH	2
	REPORT ORGANIZATION	3
II.	LITERATURE REVIEW	4
	PREVIOUS CIVIC CENTER TRANSPORTATION STUDIES	4
	TDM PLAN DEVELOPMENT LITERATURE	6
	PREVIOUS SURVEY EFFORTS.....	7
	SUMMARY	7
III.	DATA COLLECTION	8
	CCTMO BOUNDARIES	8
	CCTMO MEMBER ORGANIZATIONS AND EMPLOYEE COUNTS.....	8
	EMPLOYEE RESIDENTIAL LOCATION	9
	PARKING FACILITIES.....	12
	SERVICE FACILITIES	18
	TRANSPORTATION FACILITIES	19
	VEHICLE OCCUPANCY RATES.....	24
IV.	CIVIC CENTER EMPLOYEE SURVEY RESULTS	26
	SURVEY DESIGN	26
	SURVEY METHODOLOGY	27
	SURVEY ANALYSIS	28
	SURVEY RESULTS	29
	Demographic Information	29
	Commute Trip Characteristics.....	30
	Commute Characteristics.....	37
	Employer Work Site Information and Employer Provided Incentives	40
	Extent Factors Encourage Use of Alternative Transportation Modes	46
V.	CIVIC CENTER TDM PLAN	49
	PURPOSE	49
	SECTION ONE: ASSESSING MARKET SITUATION	49
	Target Markets	49
	RESOURCES	53
	Staff	53
	CCTMO Board of Directors	54
	SECTION TWO: MARKETING ACTION PLAN (TASK SCHEDULE)	55
	Program Goals.....	55
	RECOMMENDED PRODUCTS AND SERVICES.....	59
	EVALUATION AND MONITORING OF THE PROGRAM.....	59
	REFERENCES	70
	APPENDIX A List of Employers with 100 or More Employees – Civic Center Area	71
	APPENDIX B Civic Center TMO Survey Instrument	73
	APPENDIX C CCTMO Employer Demographic Profiles & Survey Results	75

■ List of Tables

Table 1. Civic Center TMO Member Organizations and Number of Employees.....	9
Table 2. Distance from Employee Home to the Civic Center by Employer.....	9
Table 3. Parking Supply and Demand – Civic Center Area.....	18
Table 4. Type and Number of Services Available in Civic Center by Zip Code.....	18
Table 5. Civic Center Roadways, Descriptions, and Daily Traffic Volumes.....	21
Table 6. Metrobus Routes Serving CCTMO Member Locations.....	21
Table 7. Distribution of CCTMO Employees Around Transit Facilities.....	22
Table 8. Weekday Transit Operating Hours.....	22
Table 9. Civic Center Bus Routes Serving Metro Rail Stations.....	23
Table 10. Parking Availability at Metrorail Stations Where Civic Center Routes Access.....	23
Table 11. Metrorail Stations Serving the Civic Center.....	23
Table 12. Transit Fares.....	24
Table 13. AM Peak Period Vehicle Occupancy Counts – Civic Center Area.....	25
Table 14. Miami Civic Center TMO Employee Transportation Survey Schedule.....	27
Table 15. Survey Respondent by Employer Type.....	30
Table 16. Distance Traveled in Daily Commute (One Way) By Employer.....	33
Table 17. Time of Arrival to Work by Employer.....	35
Table 18. Time of Departure from Work by Employer.....	37
Table 19. Commute Mode Choice by Employer.....	38
Table 20. Major Reasons for Not Using Bus, Rail, or Carpool/Vanpool by Employer.....	40
Table 21. Perceived Parking Problems by Employer.....	42
Table 22. Services Desired but Not Accessible within Walking Distance by Employer.....	43
Table 23. Employer-Provided Information on Current Programs to Encourage Alternative Transportation Use.....	44
Table 24. Employee Awareness of Employer-Provided Incentives to Use Alternative Transportation Modes by Employer.....	46

■ List of Figures

Figure 1. Civic Center Transportation Management Organization Area	10
Figure 2. CCTMO Area Total Employment Density.....	11
Figure 3. State Attorney’s Office Employment Density.....	13
Figure 4. Jackson Memorial Hospital Employment Density	14
Figure 5. Miami-Dade Community College Employment Density	15
Figure 6. University of Miami Medical Center Employment Density.....	16
Figure 7. Zip Code Map Reference Map for Broward and Dade Counties	17
Figure 8. Intermodal Transportation Facilities Servicing CCTMO Area	20
Figure 9. Demographic Profile: All Survey Respondents.....	31
Figure 10. Survey Respondent Trip Origins.....	32
Figure 11. Distance Traveled (One Way) from Home to Work: All Respondents	33
Figure 12. Time of Arrival to Work: All Respondents	34
Figure 13. Time of Departure from Work: All Respondents	36
Figure 14. Usual Ways of Traveling to Work: All Respondents	38
Figure 15. Major Reasons for Not Using Bus, Rail, or Carpool/Vanpool: All Respondents.....	39
Figure 16. Parking Problems at Worksite: All Respondents	41
Figure 17. Services Desired But Not Accessible Within Walking Distance: All Respondents	43
Figure 18. Employee-Awareness of Employer-Provided Incentives to Use Alternative Transportation Modes: All Respondents	45
Figure 19. Extent That Factor Would Encourage Use of Alternative Transportation Mode: All Respondents	48

⋮

I. Introduction

Research Overview

Concern about mobility, traffic congestion, and air quality in the Greater Miami Civic Center area motivated the Miami Urbanized Area Metropolitan Planning Organization, hereafter referred to as the MPO, and the Civic Center Transportation Management Organization (CCTMO) to seek ways to manage and address these concerns. All forms of high-occupancy commute modes – buses, carpools, vanpools, and rail – as well as other transportation demand management (TDM) strategies can play important roles in addressing these concerns.

Experience shows that encouraging greater use of high-occupancy commute modes is most effective in cities that develop, promote, and implement a combination of TDM strategies such as enhanced transit services and employer-sponsored programs. The development of effective strategies requires the characterization of commuter travel behavior as well as an understanding of the factors that influence commuter travel decisions. Understanding these characteristics and motivations can assist in developing and implementing successful TDM strategies and other programs aimed to discourage single occupant vehicle (SOV) commuting.

This research project was undertaken to assist the CCTMO in the development and selection of potential TDM strategies for commuters within the TMO boundaries. The Civic Center is a major employment and activity center located in Greater Miami with many prestigious medical teaching, research, and treatment facilities; educational institutes; and government offices. The project consisted of:

- collecting data on commuter travel characteristics and attitudes toward alternative commute options,
- developing a commuter characteristics data file,
- assimilating employer, employee, and transportation data from various sources,
- identifying potential TDM strategies, and
- developing a plan to implement the recommended strategies.

The study builds on previous work conducted by the CCTMO, Gold Coast Commuter Services (GCCS) and several consultants and was funded by the MPO. The Center for Urban Transportation Research (CUTR) conducted the six month study which was accomplished through the collaborative efforts of various agencies and individuals including the CCTMO, Gold Coast Commuter Services (GCCS), the

MPO, the Florida Department of Transportation (FDOT), and CCTMO member representatives.

Research Objectives

This research was designed to meet several objectives. First, a major focus of the research was to obtain a better understanding of the travel characteristics of employees, students, and visitors in the CCTMO service boundaries, as well as factors that may encourage commuters to consider alternative transportation modes. This objective was accomplished through on-site surveys.

The second objective of the research was to collect data on CCTMO member employers such as employee counts, employer-provided transportation benefits and parking facilities; employee and student information such as travel origins and destinations; available service facilities such as restaurants and banks; and existing transportation facilities servicing the Civic Center area. This objective was accomplished by assimilating previous data collected and information provided by CCTMO employer representatives.

The third research objective was to develop a commuter characteristics data file that can be used to target future TDM measures for CCTMO members. This objective was accomplished by entering survey data into a computer database software program. This computer file provides baseline data for future commuter survey comparisons.

A final research objective was to prepare an action plan to implement short and long-term TDM strategies targeted toward commuters traveling to the Civic Center area. This plan includes goals and objectives of TDM strategies and an evaluation procedure to measure overall effectiveness of the recommended strategies. This objective was accomplished using the results of the literature review and survey in conjunction with other pertinent transportation data collected during the study.

Research Approach

CUTR researchers conducted a number of activities to accomplish the study objectives. First, a literature review was completed on previous Civic Center area transportation-related studies and TDM literature. The literature review provided an initial base of data and helped establish methodologies for the development of the TDM action plan.

Second, two brainstorming meetings were conducted in Miami with the CCTMO director, MPO project managers, and representatives from FDOT, Gold Coast Commuter Services (GCCS), and CCTMO members to discuss the survey content and design and distribution method, as well as marketing strategies to improve survey participation. Surveys were conducted of employees and students of CCTMO member organizations. These surveys provided information about commuter travel behavior, employer-based TDM programs, and attitudes toward using alternative transportation modes.

Third, researchers collected a variety of supporting data for the development of the TDM action plan. Data concerning employment, parking, transportation facilities,

employer characteristics, employee origins and destinations, and pedestrian amenities were assembled and analyzed. Several Geographical Information System (GIS) maps were produced from the collected data.

Finally, the survey results and other assembled data were used to develop a TDM plan for the Civic Center area. The plan includes short and long-range strategies, goals and objectives of each TDM measure, and evaluation procedures that allow the effectiveness of the recommended policies and strategies to be measured. The study results are intended to provide a useful tool for CCTMO members to use when developing future TDM strategies.

Report Organization

The remainder of this report is divided into four sections. Section II summarizes the results of previous CCTMO transportation studies and TDM plan literature. Section III presents data collected on CCTMO members, employees, and existing service and transportation facilities in the Civic Center area. Section IV summarizes the results of the employee surveys. The final section presents the TDM action plan and evaluation procedures. An executive summary of the research was produced to serve as stand alone document for general public distribution.

•
•
•
•
•
•
•

II. Literature Review

The literature review is threefold. First, previous Civic Center transportation related studies are detailed. Second, literature pertaining to TDM plan development is reviewed. Finally, the previous Civic Center survey is discussed.

Previous Civic Center Transportation Studies

Four existing studies provide a wealth of information concerning the existing transportation conditions in the Civic Center area. These reports not only provide a base of data, but also are used to help develop a TDM plan for the Civic Center TMO.

The *Civic Center Pedestrian Amenities and Safety Study* was prepared by Barton-Aschman Associates, Inc. in January 1994. The purpose of the study was to identify low cost measures to improve Civic Center pedestrian facilities that would subsequently encourage transit usage. The study identified 16 major pedestrian corridors. They are:

1. Fred Cowell Mall Corridor
2. N.W. 17th Street Corridor
3. N.W. 14th Terrace/NW 11th Avenue Corridor
4. N.W. 18th Street/N.W. 8th Avenue/N.W. 19th Street Corridor
5. N.W. 15th Street (U of M Hospital and Clinics) Corridor
6. N.W. 15th Street (JMH Towers) Corridor
7. N.W. 16th Street (JMH/U of M) Corridor
8. N.W. 16th Street (VA Hospital) Corridor
9. N.W. 14th Street Corridor
10. N.W. 13th Avenue Corridor
11. N.W. 13th Court Corridor
12. N.W. 13th Street Corridor
13. N.W. 12th Street Corridor
14. Bob Hope Road Corridor

15. N.W. 20th Street Corridor

16. N.W. 12th Avenue Corridor

Twenty-four deficiencies in six attribute categories (safety, security, traffic, transit, amenities, and other) were identified in the study. The deficiencies include:

- inadequate transit stop facilities
- improper pavement markings
- poor street lighting
- lack of sidewalk space.

It was noted that local maintaining agencies could implement the majority of the improvements to the deficiencies.

Barton-Aschman Associates, Inc. prepared the Civic Center Existing Transportation Conditions study in January 1994. The purpose of the study was to collect and present transportation data concerning the Civic Center TMO. An analysis of the data was not presented in this report. The data collected and presented include:

1. Existing traffic volumes
2. Existing transit service and use
3. Parking supply and demand
4. 24-hour machine counts at major parking facilities
5. 2-hour (AM peak period) vehicle occupancy counts
6. Accident data summary
7. Existing traffic conditions

The data from this report reveals that the Civic Center area experiences heavy peak-period congestion, especially along specific corridors; has insufficient parking availability; and lacks a significant carpooling population.

Desman and Associates completed the Miami Medical Center Parking Study in February 1992. The study is an update to a previous Desman and Associates parking study--*A Comprehensive Medical Center Parking/Paratransit Study*, which analyzed the parking conditions at the University of Miami/Jackson Memorial Hospital (UM/JMH). The update also examines the parking conditions at several peripheral institutions including Cedars Medical Center, Veterans Administration Medical Center, Miami-Dade Community College, the Professional Arts Center, and Dominion Tower. According to the findings of the study, an additional 1,277 parking spaces for UM/JMH and the peripheral institutions were immediately necessary. Based on parking demand projections, a need of an additional 2,100 parking spaces was estimated for the University of Miami/Jackson Memorial Hospital by 1996. In addition, projected parking demands indicated the need for additional 1,418 spaces for the peripheral institutions by 1996 as well.

TDM Plan Development Literature

Three reports were reviewed and subsequently utilized as a guideline for the Civic Center's TDM plan. An overview of these reports follows.

The *Commute Alternatives System Handbook* (C*A*S*H) was prepared by the Center for Urban Transportation Research in August 1995. C*A*S*H provides a general introduction to TDM that includes an overview of the national conditions which have led to increased TDM activities. This manual also describes various TDM strategies, implementation mechanisms, and performance measurements. The TDM strategies discussed in this report include:

1. Ridesharing programs
2. Alternative work hours
3. Telecommuting
4. Parking management
5. HOV lanes
6. Pedestrian and bicycle travel alternatives
7. Commuters of the future
8. Intelligent transportation systems

Implementing Effective Travel Demand Management was used to help guide the development of the CCTMO TDM plan. This report, prepared by the Institute of Transportation Engineers at the Georgia Institute of Technology for the Federal Highway Administration, provides guidelines for implementing specific TDM programs. The study identifies the conditions in which specific TDM strategies work best. The results of the CCTMO employee survey and the other data collection efforts are compared to the guidelines set forth in this study in order to identify appropriate TDM measures.

Profile of Existing CBD Travel Characteristics was the first technical memorandum of a broader study, the *Tampa Downtown Mobility Initiative*. This initiative was a joint effort between the Center for Urban Transportation Research and the Tampa Urban Area Metropolitan Planning Organization. The report is a compilation of various data, which provides a description of the travel conditions relating to Tampa's CBD commute travel. The purpose of the study was to determine appropriate TDM strategies and establish goals and objectives for the program. Specifically, travel to and from Tampa's CBD was evaluated and the findings used to develop strategies and recommendations for the design and implementation of congestion reduction programs. These programs included ridesharing, flextime, and enhanced transit.

Previous Survey Efforts

The Gold Coast Commuter Services (GCCS) conducted an employee survey of CCTMO members in 1994 and 1995. However, because of the low response rates, a survey analysis was never completed. Upon discussing the survey with GCCS and the CCTMO employer representatives, two reasons were noted for the poor response rate—the length of the questionnaire and the survey distribution method. The four-page survey was included in employees' paychecks and completed surveys were to be mailed back to GCCS. Approximately 150 surveys were returned.

Summary

The literature review provided valuable information concerning existing transportation issues in the Civic Center area. This information includes pedestrian issues, traffic volumes, transit availability, parking availability, and vehicle occupancy rates. In addition, review of literature pertaining to TDM provided an important basis for developing the action plan. This basis included an existing TDM plan and TDM guidelines. It is important to note that the literature review showed that no trip reduction program or TDM plan has been developed for the Civic Center area.

.....

III. Data Collection

This section summarizes the data collected on the CCTMO, TMO member organizations, employee counts, employee locations, parking, service, and transit facilities, and vehicle occupancy rates. These data were obtained from information provided by the CCTMO, the MPO, CCTMO member representatives, and previous data collection efforts.

CCTMO Boundaries

Located in Dade County, Florida, the CCTMO service boundaries include State Road 836 (Dolphin Expressway) to the south, N.W. 20th Street to the north, N.W. 7th Avenue to the east, and N.W. 17th Avenue to the west. The perimeter of the service area totals 3.4 miles and the total area is 0.7 square miles. Figure 1 shows the CCTMO area, the location of CCTMO members within the TMO boundaries, and existing transit and parking facilities.

CCTMO Member Organizations and Employee Counts

The CCTMO is composed of seven employers with a combined employment of nearly 25,000 (see Table 1). The largest employer in the Civic Center area is Jackson Memorial Hospital, which employs 8,000 persons. Lindsey Hopkins Technical Educational Center and the University of Miami Medical Center each employ another 5,000 persons. Two TMO members did not participate in the data collection and survey efforts, namely, Cedars Medical Center, and Lindsey Hopkins Technical Educational Center.

As seen in Figure 1, the locations of the TMO members are spread throughout the service area. Lindsey Hopkins and Miami-Dade Community College facilities are located in the north-east corner of the service area with Jackson Memorial Hospital a few blocks to the south-west. Cedars Medical Center and Jackson Towers are located in the west-central area directly across from the Metrorail Civic Center Station. The City of Miami and Dade County offices are primarily located in the southwest corner. Lastly, the University of Miami Medical Center Campus is comprised of several facilities primarily located in the central area of the Civic Center TMO service boundaries.

The seven employer members of the TMO represent approximately 14 percent of all Civic Center employers with more than 100 employees. A detailed list of employers with 100 or more employees is presented in Appendix A.

Table 1. Civic Center TMO Member Organizations and Number of Employees

TMO Member	Number of Employees
Cedars Medical Center	1,700
City of Miami	300
Metro Dade County	2,266*
Jackson Memorial Hospital	8,000
Lindsey Hopkins Technical Educational Center	5,000
Miami-Dade Community College Medical Campus	2,500
University of Miami Medical Center	5,075
Total	24,841

Note: *County employee population within the CCTMO boundaries include: Clerk of the Courts - 508; Adm. Office of the Courts - 265, Police Department - 168, Judicial Administration - 250; Public Defender - 375, and State Attorney - 700.

CCTMO membership also includes inmates in the Corrections Department (3,209) and University of Miami and Miami Dade Community College students.

Source: CCTMO

Employee Residential Location

Employee home zip code data were provided by four of the seven CCTMO members: State Attorney's Office, Jackson Memorial Hospital, Miami-Dade Community College and the University of Miami Medical Center. Nearly 90 percent of all CCTMO employees live in Dade County.

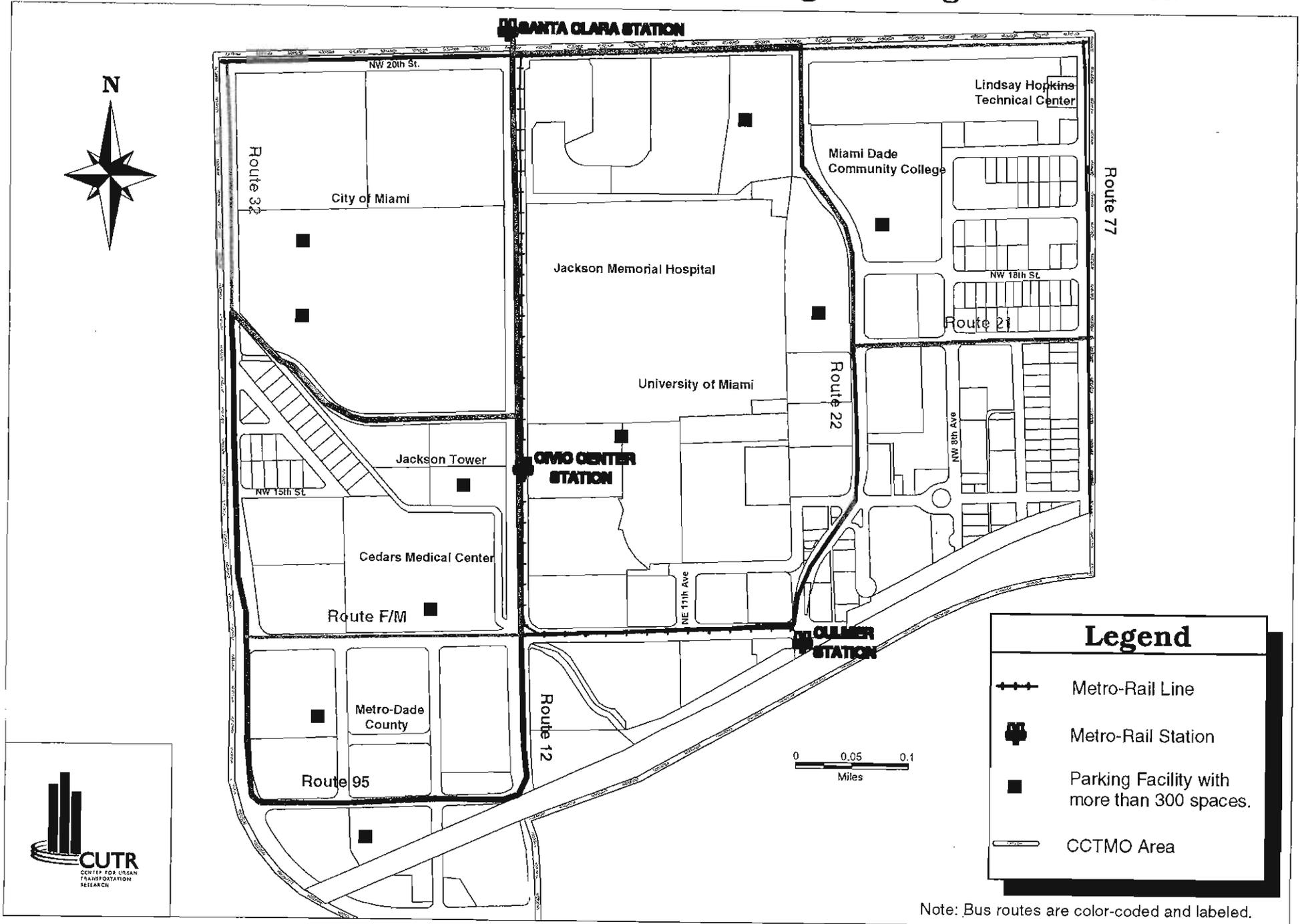
Figure 2 shows the total employment density for the four CCTMO employers. A series of buffers were created representing various commuting distances. Table 2 presents the same data used to develop the employment density buffers. Nearly 75 percent of the employees live within 5 to 20 miles of the Civic Center area. The largest percent of commuters (42 percent) live within 10 to 20 miles.

Table 2. Distance from Employee Home to the Civic Center by Employer

Distance from Home to Work	Employer									
	Jackson Memorial Hospital		State Attorney's Office		University of Miami Medical Center		Miami-Dade Community College		All Employees	
	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)
0 to .99 mile	300	3.7	7	0.5	100	2.1	28	1.2	436	2.6
1 to 4.99 miles	1,645	20.2	112	8.5	892	18.7	429	18.6	3,078	18.6
5 to 9.99 miles	2,266	27.9	501	38.2	1,552	32.5	831	36.1	5,150	31.2
10 to 19.99 miles	3,416	42.0	657	50.1	1,977	41.4	897	39.0	6,947	42.0
20 to 29.99 miles	439	5.4	30	2.2	227	4.7	106	4.6	801	4.8
30+ miles	61	0.8	4	0.3	33	0.7	11	0.5	109	0.7
Total	8,127	100.0	1,311	100.0	4,781	100.0	2,302	100.0	16,521	100.0

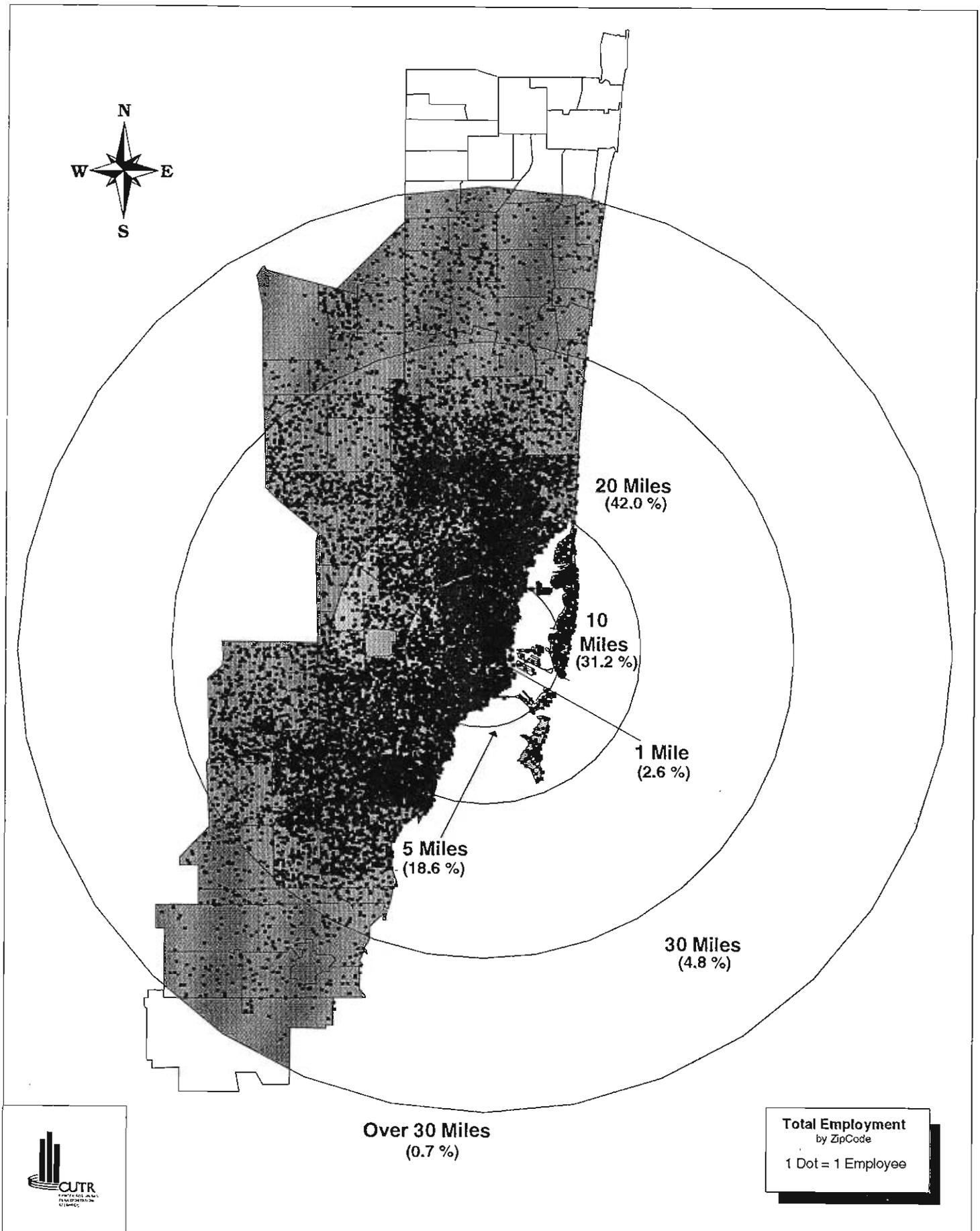
Source: Civic Center TMO members.

Figure 1: Civic Center Transportation Management Organization Area



Note: Bus routes are color-coded and labeled.

Figure 2--CCTMO Area Total Employment Density



The zip code data were used to create employment density maps, which show the difference in employee commute origins, for each employer and are presented in Figures 3 through 6. A zip code map of Dade and Broward counties is also provided in Figure 7 to help locate trip origins.

As these map show, there are considerable differences in the locations of employee residences between employers. A majority of State Attorney's Office employees live to the south of the Civic Center Area. The remaining employee residences are scattered throughout Dade and Broward counties. The greatest percentage of Jackson Memorial Hospital employees live to the north of the Civic Center concentrated around I-95. In contrast, the greatest percentage of UMMC employee residences is located to the south of the Civic Center area. Lastly, MDCC employee residences show no particular pattern of residential concentration.

Parking Facilities

Plentiful and affordable parking is every commuter's desire. However, due to the heavy peak period demand for parking and limited spaces, parking is a daily frustrating event for many employees in the Civic Center area.

The Civic Center area contains over 15,000 parking spaces including on-street, off-street, public, and private parking lots and garages. Private parking spaces number 8,000 and public spaces total 7,000. Currently there are 12 parking facilities with more than 300 spaces.

The most recent parking study performed for the Civic Center area was conducted by Desman Associates in 1992. The study projected parking supply and demand through 1996. Table 3 displays the 1996 parking supply and demand for the University of Miami, Jackson Memorial Hospital, Cedars Medical Center, Veterans Administration Medical Center, Miami-Dade Community College, Professional Arts Center, and Dominion Tower. For all locations, projected peak-hour demand is 13,290 compared to actual supply of 10,559 yielding a deficiency of 2,731 spaces. Based on a recommended supply utilizing 5 percent extra capacity, this deficiency was expected to increase to 3,158 spaces.

Since the completion of the Desman and Associates parking study, only one parking facility has been constructed. The Highland Garage opened in 1994 providing an additional 1,500 parking spaces, primarily for Jackson Memorial Hospital. No comprehensive parking supply and demand study has been performed since 1992, however, APCOA estimates the immediate parking need for Jackson Memorial Hospital alone is more than 1,000 spaces.

Figure 3--State Attorney's Office Employment Density

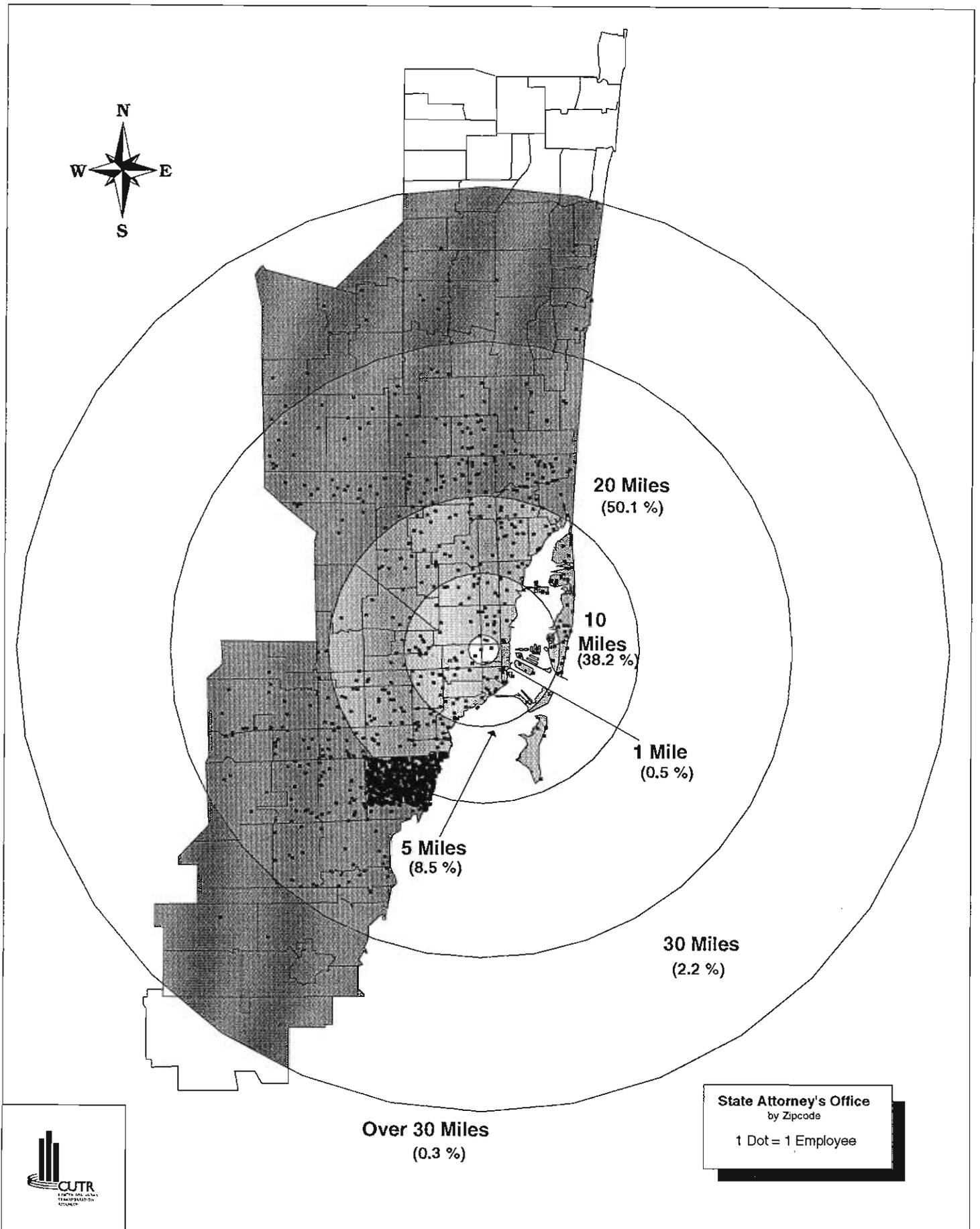


Figure 4--Jackson Memorial Hospital Employment Density

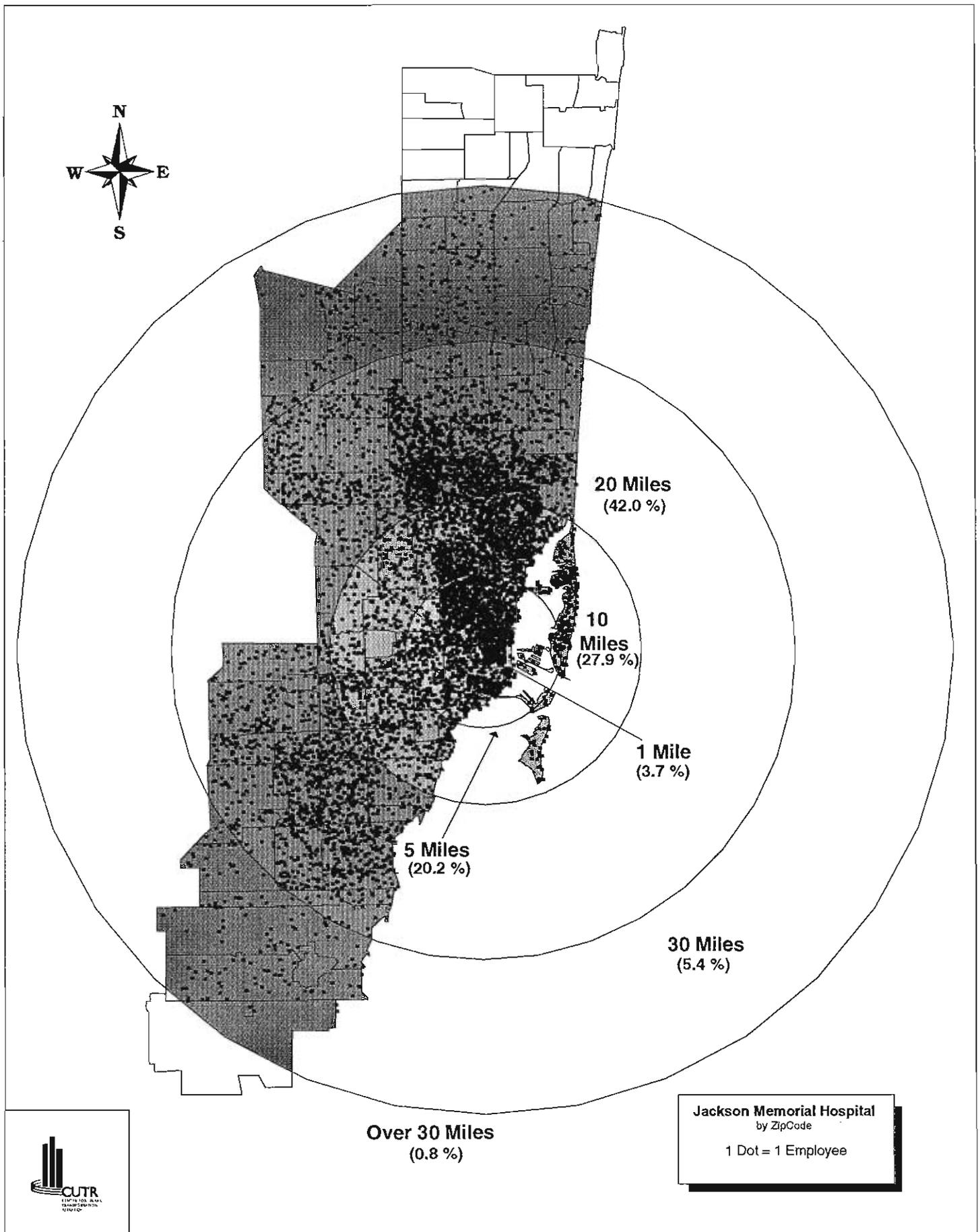
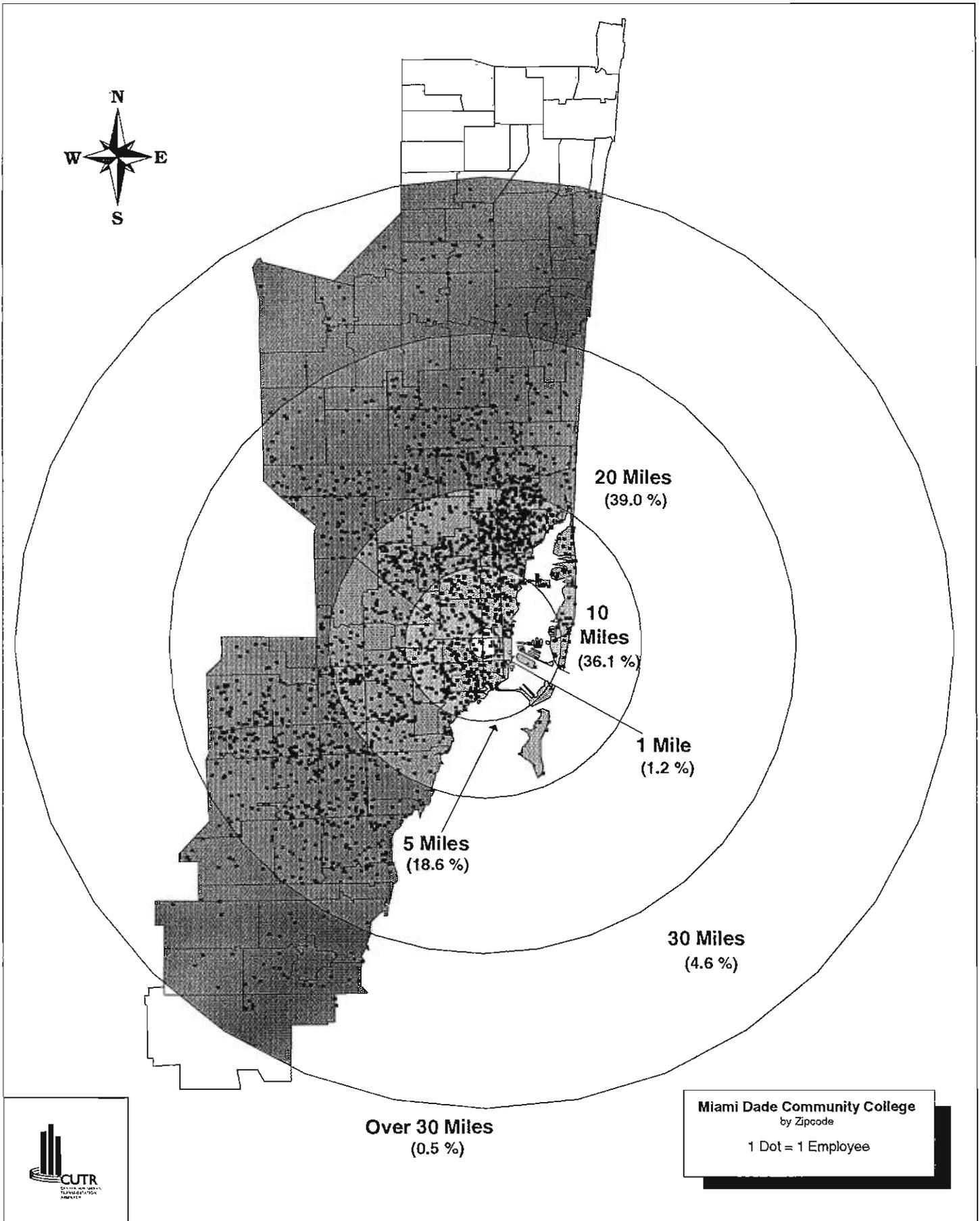


Figure 5--Miami-Dade Community College Employment Density



Miami Dade Community College
by Zipcode
1 Dot = 1 Employee

Figure 6--University of Miami Medical Center Employment Density

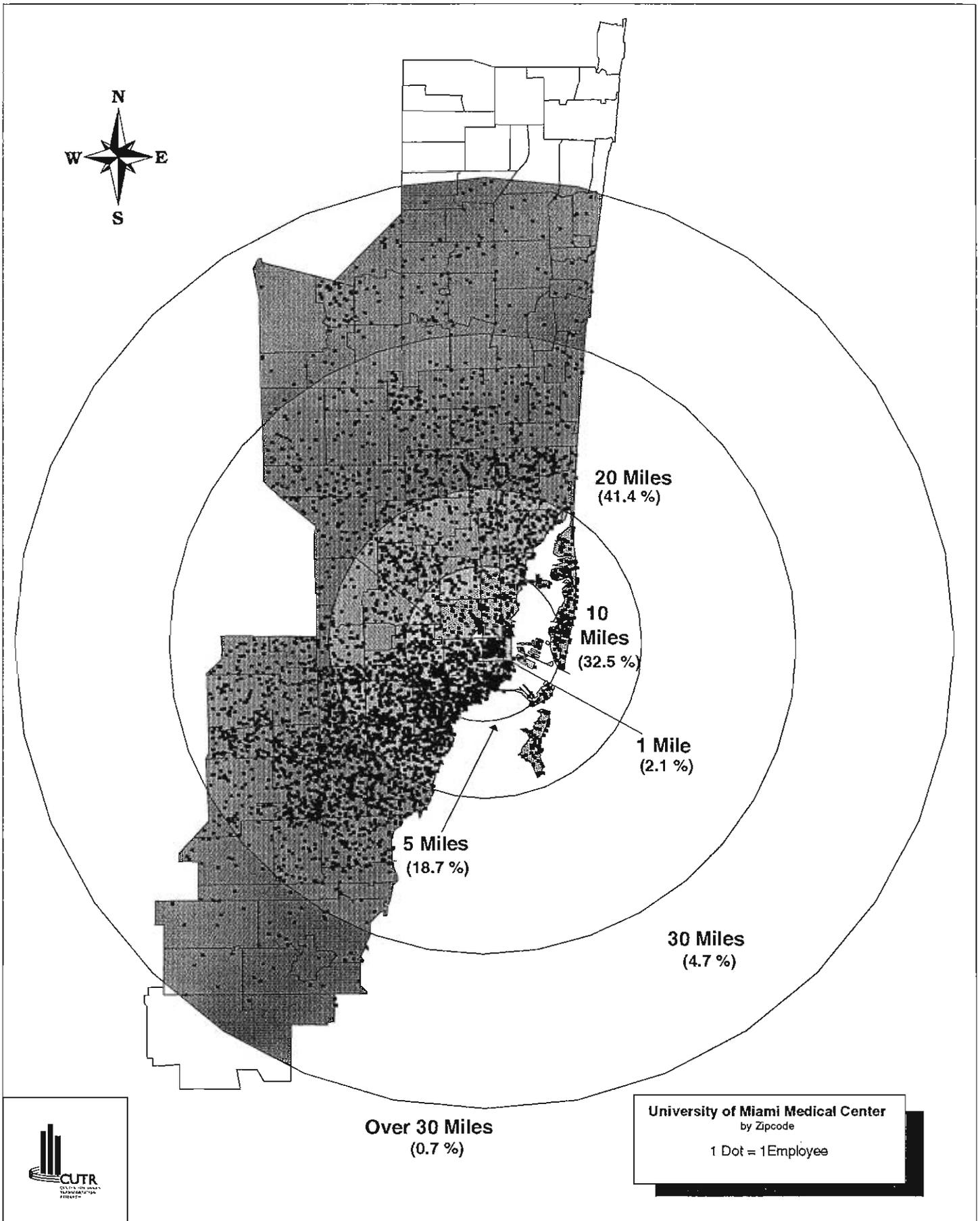


Table 3. Parking Supply and Demand – Civic Center Area

Institution	Peak Hour Demand	Actual Parking Supply	Recom. Parking Supply	Deficiency per Actual Supply	Deficiency per Recom. Supply
University of Miami/Jackson Memorial Hospital	8775	7228	9328	1547	2100
Cedars Medical Center	1372	1002	1462	370	460
Veterans Administration Medical Center	1683	1288	1780	395	492
Miami-Dade Community College	930	550	977	380	427
Professional Arts Center	311	272	311	39	39
Dominion Tower	219	219	219	0	0
Total	13290	10559	14077	2731	3518

Source: Desman and Associates. Miami Medical Center Parking Study (1992).

Service Facilities

The availability of service facilities in the Civic Center area is an important indicator of the necessity for travel within and outside the Civic Center area during business hours. As shown in Table 4, the Civic Center area has a large variety of retail stores, eating and drinking establishments, and other services such as beauty shops, child care facilities and schools.

Table 4. Type and Number of Services Available in Civic Center by Zip Code

Service	SIC* Code	Zip Code		
		33125	33136	33127
Banks	6021-6082 ¹	7	7	1
Eating & drinking places	5812-5813	69	25	54
Schools :				
Elementary Schools	8211	11	11	17
Colleges & Universities	8221	4	7	1
Vocational Schools	8249	2	0	1
Laundry Services	7215-7210-7211	8	1	9
Physical Fitness Facilities	7991	0	0	1
Child day Care	8351	12	4	11
Retail Trade & Misc.				
Department stores	5310	7	2	5
Variety stores	5330	1	0	2
Misc. General merch. Stores	5390	0	0	1
Food				
Grocery stores	5410	24	25	41
Meat and fish markets	5420	1	2	5
Fruit and vegetables markets	5430	2	1	4
Candy, nut, & confectionery stores	5440	0	0	0
Dairy products stores	5450	0	0	1

Table 4. Type and Number of Services Available in Civic Center by Zip Code (Con't)

Service	SIC* Code	Zip Code		
		33125	33136	33127
Retail bakeries	5460	8	2	3
Misc. food stores	5490	1	0	2
Clothing				
Men's and boy's clothing stores	5610	0	0	10
Women's clothing stores	6520	1	1	16
Women's accessory & specialty stores	5630	1	0	2
Children's and infants wear stores	5640	2	1	5
Shoes stores	5660	1	1	7
Misc. apparel & accessory stores	5690	3	4	22
Electronic/Music				
Radio, TV, & computer stores	5730			
Radio, TV, & electronic stores	5731	4	1	1
Computer & software stores	5734	0	0	1
Record & prerecorded tapes stores	5735	6	1	7
Musical instrument stores	5736	0	0	1
Other Services				
Beauty shops	7230	26	5	27
Barber shops	7240	8	2	6
Shoes repair shops & shoeshine parlors	7250	1	1	0
Photocopying & duplicating services	7334	2	0	1
Photofinishing laboratories	7384	5	1	1
Drug stores & proprietary stores	5910	13	4	6
Used merchandise stores	5930	4	5	26
Miscellaneous shopping goods stores	5940 (5999)	25	3	22
Sporting goods and bicycle shops	5941	5	0	3
Book stores	5942	1	0	1
Stationery stores	5943	1	1	1
Jewelry stores	5944	7	1	6
Hobby, toy, and game shops	5945	1	2	0
Camera & photographic supply stores	5946	1	0	0
Gift, novelty, and souvenir shops	5947	11	6	2

* SIC = Standard Industrial Code

Notes (1) Includes SIC 6021-6022-6029-6035-6061-6062-6081-6082

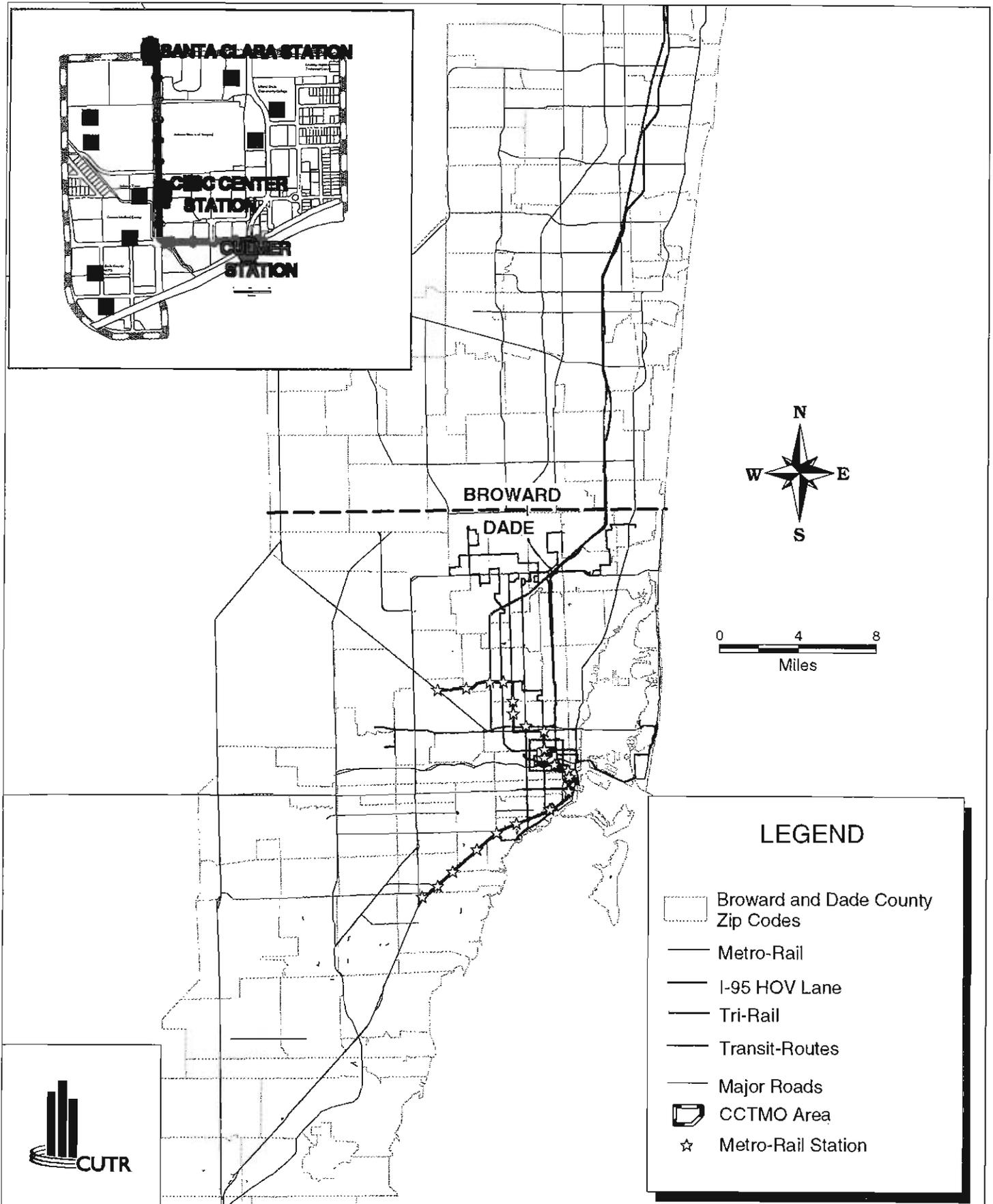
(2) Totals include all services located within the three zip code zones. These zones exceed the CCTMO boundaries. Thus, some of the services listed in the Table are not actually located within the TMO boundaries.

Source: American Business Information, SalesLeads USA Internet Web Site, <http://www.abii.com/>

Transportation Facilities

Employees, students, and visitors commute to and from the Civic Center primarily by automobile, transit, rail, walking, and other means. Figure 8 illustrates the major intermodal transportation facilities directly servicing the CCTMO area including

**FIGURE 8--INTERMODAL TRANSPORTATION FACILITIES
SERVICING CCTMO AREA**



major roadways, transit routes, and Metrorail. This following section describes these facilities.

Roadways

Travel to and within the Civic Center an extensive network of state, county, and local roadways facilitates area. Within the Civic Center boundaries, there are seven primary roads providing circulation. Table 5 lists these roads, their functional classification, and average daily traffic volume. More than one-half of the daily traffic enters the Civic Center via the Dolphin Expressway.

Table 5. Civic Center Roadways, Descriptions, and Daily Traffic Volumes

Roadway	Description/Functional Class	Daily Traffic Volume
Dolphin Expressway (State Road 836)	Eight-lane east/west principal arterial	81,000
N.W. 12 th Avenue (State Road 933)	Four-lane divided north/south minor arterial	20,000
N.W. 7 th Avenue (State Road 7/US 441)	Five-lane undivided north/south minor arterial	18,000
N.W. 20 th Street	Four-lane east/west minor arterial	23,000
N.W. 14 th Street	Four-lane undivided county collector	11,000
N.W. 10 th Avenue (Bob Hope Road)	Two-lane undivided north/south collector	8,000
N.W. 14 th Avenue	Four-lane undivided north/south county collector	N/A

Source: Barton-Aschman Associates, Inc. *Civic Center Pedestrian Amenities and Safety Study*. 1994.

Transit

Six Metrobus routes and three Metrorail stations directly serve the Civic Center area. Table 6 identifies the routes serving each CCTMO member.

Table 6. Metrobus Routes Serving CCTMO Member Locations

CCTMO Member	Metrobus Route
Cedars Medical Center	12, 22, 95*, F
City of Miami	N/A
Dade County Metropolitan Planning Organization	12, 22, 95*, F
Jackson Memorial Hospital	12, 21, 22, 32, 95*, F
Lindsey Hopkins Technical Center	12, 21, 22, 32, F
Miami-Dade Community College	12, 21, 22, 32, F
University of Miami Medical Center	12, 21, 22, 32, 95*, F

Note: * Peak hour only bus service

Source: Metro Dade Transit Agency (1997).

The employee home zip code data provided by the State Attorney's Office, Jackson Memorial Hospital, Miami-Dade Community College, and the University of Miami Medical Center were analyzed to determine the accessibility of transit to these employees. Using GIS technology, quarter-mile buffers were established around all Metrorail stations and the six Metrobus routes serving the Civic Center (see Table 6). These transit buffers were merged into the employee density maps previously

discussed and the number of Civic Center employees living near transit facilities calculated. (GIS technology was used to calculate spatial distributions only, therefore no map was generated). As seen in Table 7, 1.7 percent live within a quarter-mile of a Metrorail station and more than 17.2 percent live within a quarter-mile of a Metrobus route. Specifics for each of the four employers are included in Table 7.

Table 7. Distribution of CCTMO Employees Around Transit Facilities

	Employer									
	Jackson Memorial Hospital		State Attorney's Office		University of Miami Medical Center		Miami-Dade Community College		All Employees	
	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)
Employees from Broward County	1,203	14.8	90	6.9	465	9.7	211	9.2	1,968	11.9
Employees from Dade County	6,924	85.2	1,221	93.1	4,317	90.3	2,091	90.8	14,553	88.1
Total	8,127	100.0	1,311	100.0	4,781	100.0	2,302	100.0	16,521	100.0
Employees within ¼ mile of rail station	155	1.9	17	1.3	80	1.7	25	1.1	277	1.7
Employees within ¼ mile of Metrobus route*	1,797	22.1	96	7.3	582	12.2	359	15.6	2,834	17.2

Notes: MapInfo assumes that employees are evenly distributed through out zip code area. The number of employees in each buffer is calculated proportional to the zip code area.

*Routes that directly service the Civic Center area: 12, 21, 22,32, 95, & F.

Source: Civic Center TMO members.

Operating schedules for the six routes serving the area including their peak period service frequency are contained in Table 8. The service times of these routes vary from 5:00am to 1:30am during weekdays. All routes serve the Civic Center area during peak hours.

Table 8. Weekday Transit Operating Hours

Route	Northbound	Southbound	Peak Period Headway (Minutes)
12	6:00 AM – 1:00 AM	5:30 AM – 1:30 AM	15
21	7:00 AM – 9:00 PM	5:00 AM – 9:00 PM	30
22	5:00 AM – 6:00 PM	5:00 AM – 7:00 PM	30
32	5:30 AM – 11:30 PM	6:00 AM – 11:00 PM	20
95	4:00 PM – 6:00 PM	6:30 AM – 8:30 AM	5
	Eastbound	Westbound	
F	5:30 AM – 8:00 PM	6:00 AM – 9:30 PM	30

Source: Barton-Aschman Associates, Inc. Civic Center Existing Transportation Conditions and Metro Dade Transit, 1996 Transportation Development Plan.

These six Metrobus routes access eight different Metrorail Stations as shown in Table 9. Parking is available at five of the eight stations (see Table 10). In fact, at all five stations, the average occupancy rate is well below 50 percent indicating that parking is plentiful at these stations. Parking fees are \$2.00 per day but for Metrorail patrons who purchase monthly passes, parking passes are available for only \$5.00 per month.

Table 9. Civic Center Bus Routes Serving Metro Rail Stations

Route	Station
12	Northside, Allapattah, Santa Clara, Civic Center, Vizcaya
21	Northside, Allapattah, Santa Clara, Civic Center, Govt.' Center
22	Earlington Heights, Santa Clara, Civic Center
32	Northside, Santa Clara, Civic Center
95	Earlington Heights, Govt.' Center
F	Santa Clara, Civic Center

Source: Metro Dade Transit Agency (1997).

Table 10. Parking Availability at Metrorail Stations Where Civic Center Routes Access

Metrorail Station	Number of Spaces	Average Occupancy
Allapattah	66	1 (2%)
Earlington Heights	100	43 (43%)
Northside	294	117 (40%)
Santa Clara	174	34 (20%)
Vizcaya	91	36 (40%)

Source: Metro Dade Transit Agency, 1996 Transit Development Program

Three Metrorail stations directly serve the Civic Center area: Culmer, Santa Clara, and Civic Center. Their location and average weekday and weekend boardings are listed in Table 11.

The primary station is the Civic Center station located next to Jackson Towers and the VA Hospital. Of the 21 Metrorail stations, the Civic Center station is the fourth busiest with nearly 4,500 boardings per weekday. The other two stations serving the area are Culmer (810 boardings per weekday) to the southeast and Santa Clara (530 boardings per weekday) to the north.

Table 11. Metrorail Stations Serving the Civic Center

Station	Location	Average Weekday Boardings
Culmer		810
Civic Center	Jackson Towers	4,465
Santa Clara		530

Source: Metro Dade Transit Agency, 1996 Transit development Program

Table 12 shows the fare structure for each MDTA mode. In addition to the reduced fares shown, monthly discount pass programs are available for corporate groups and college students.

Table 12. Transit Fares

Mode	Full Fare	Reduced Fare*
Bus/Rail	\$1.25	\$.60
Express Bus	1.50	.75
Mover/Shuttle	.25	.10

*Note: *Reduced fares available for qualified senior citizens, people with disabilities, and youth.*

Source: Metro Dade Transit Agency (1997).

Vehicle Occupancy Rates

Table 13 shows AM peak period vehicle occupancy counts conducted at the entrances to 11 major parking facilities in the Civic Center area. The percentage of single occupant vehicles ranged from 72% (Miami Lot #18) to 96% (MDCC). The average for the 11 facilities is 88% single occupancy. The average vehicle occupancy ranged from 1.37 (Miami Lot #18) to 1.05 (MDCC). The average vehicle occupancy for the 11 facilities was 1.14.

Compared to Florida and Dade County as a whole, a larger percentage of Civic Center employees drive alone to work. According to the 1990 U.S. Census of Population and Housing, 72 percent of workers living in Dade County drove to work alone and 77 percent statewide.

Table 13. AM Peak Period Vehicle Occupancy Counts – Civic Center Area

Lot	Spaces	Time	# of Vehicles			# of Vehicles With 1 Occupant			# of Vehicles With More Than 1 Occupant			% of Vehicles With 1 Occupant			% of Vehicles With More Than 1 Occupant			Number of Passengers			Average Vehicle Occupancy		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Lot-B/Lot C of VAMC	1110	7:00 – 9:00 AM	701	207	908	581	172	753	120	35	155	83	83	83	17	17	17	853	255	1108	1.22	1.23	1.22
MDCC (Students Only)	464	7:00 – 9:00 AM	411	47	458	394	45	439	17	2	19	96	96	96	4	4	4	430	49	479	1.05	1.05	1.05
Parking Plaza East Garage	1693	6:30 – 8:30 AM	643	143	786	598	131	729	45	12	57	93	92	93	7	8	7	700	155	855	1.09	1.09	1.09
NW 11 th Avenue Parking Garage	1862	6:30 – 8:30 AM	477	15	492	445	12	457	32	3	35	93	80	93	7	20	7	512	18	530	1.07	1.07	1.08
J.M Towers Parking Garage	692	6:30 – 8:30 AM	323	52	375	298	38	336	25	14	39	92	73	90	8	27	10	351	77	428	1.09	1.09	1.14
Cedars Medical Center Parking Garage	780	6:30 – 8:30 AM	217	28	245	198	27	225	19	1	20	91	96	92	9	4	8	238	29	267	1.10	1.10	1.09
City of Miami Lot #26	350	7:00 – 9:00 AM	202	32	234	171	26	197	31	6	37	85	81	84	15	19	16	239	39	278	1.18	1.18	1.19
Mahi Temple	404	7:00 – 9:00 AM	153	4	157	142	4	146	11	0	11	93	100	93	7	0	7	164	4	168	1.07	1.07	1.07
Miami City Lot #18	625	7:00 – 9:00 AM	367	37	404	259	32	291	108	5	113	71	86	72	29	14	28	505	43	548	1.38	1.38	1.37
Cedars Medical Center	290	6:30 – 8:30 AM	154	3	157	145	3	148	9	0	9	94	100	94	6	0	6	163	3	166	1.06	1.06	1.06
Arts Center	300	6:30 – 8:30 AM	132	16	148	121	14	135	11	2	13	92	88	91	8	12	9	146	18	164	1.11	1.11	1.11
Total	8570	-----	3780	584	4364	3352	504	3856	428	80	508	89	86	88	11	14	12	4301	690	4991	1.14	1.18	1.14

Source: Barton-Aschman Associates, Inc, Technical Memorandum: Civic Center Existing Transportation Conditions.



IV. Civic Center Employee Survey Results

Obtaining data on how employees, students, and visitors travel into and out of the Civic Center area was essential for the development of the Civic Center TDM plan. The data were collected through on-site surveys administered to employees and students who work and attend school in the Civic Center area. The purpose of the surveys was to gather information about commuter travel behavior, employer-based TDM programs, and attitudes toward using alternative transportation modes. The following sections discuss the survey design and methodology and present the survey results.

Survey Design

The survey instrument used to conduct the research was designed using standard design techniques. Several resources were utilized to develop the survey questionnaire. First, two organizational and brainstorming meetings were conducted in Miami with the research team and the CCTMO director, the MPO project managers, and CCTMO member representatives¹ to discuss the survey objectives, content, and design, and distribution method. Because previous transportation surveys in the Civic Center area had limited employee participation, it was determined that the greatest participation could be obtained by limiting the questionnaire to a simple one-page format and surveying the employees directly (i.e., on location). Employer representatives suggested the best time and location for conducting the survey at their particular employer. In addition, it was determined that the target survey population would be daytime employees rather than shift workers.

Marketing strategies to improve survey participation were also discussed. Several methods were decided upon such as sending electronic mail announcements, distributing posters at employer locations with the date, time and location of the event, and obtaining a letter of endorsement from employers encouraging employees to participate in the survey. It was also decided to invite representatives from GCCS, Tri-Rail, and Metro Dade Transit Agency to set up displays at survey locations with information on alternative transportation modes and answer questions from survey participants. Further, the CCTMO provided more than \$500 in prizes such as gift

¹CCTMO member representatives present include: City of Miami, Dade County, State Attorney's Office, Jackson Memorial Hospital, Miami-Dade Community College, and University of Miami Medical Center. Cedars Medical Center and Lindsey Hopkins Technical Education Center did not participate in the meetings or the employee surveys.

certificates to local shops and restaurants as incentives to encourage employee participation. Advertisements announcing the survey invited participants to enter a drawing for these prizes.

Second, researchers examined previous employee commute survey instruments used to gather demographic and travel behavior characteristics to assist in the development of the survey questions. Many of the questions included in the final version of the survey were developed to provide opportunities for future trend analyses.

Finally, draft survey instruments, produced in both English and Spanish, were reviewed by the CCTMO director and MPO project managers. A final version of the survey instrument incorporated their comments and recommendations and is included in Appendix B.

Survey Methodology

CUTR researchers and the CCTMO Director administered the CCTMO employee transportation survey over a three-day period on March 17-19, 1997. The survey schedule was designed to maximize exposure to employees working daytime hours. Table 14 shows the times, employer sites, and locations of the survey events.

Table 14. Miami Civic Center TMO Employee Transportation Survey Schedule

Date/Times	Employer Site	Location
Mon., March 17, 1997		
7:30 am-8:30 am	Miami Dade Community College	Atrium of Building 1
11 am - 2:00 pm	Miami Dade Community College	Atrium of Building 1
Tues., March 18, 1997		
7:30 am-8:30 am	Park Plaza East Garage	Ground level
7:30 am-8:30 am	Park Plaza West Garage	Ground level
11 am - 2:00 pm	State Attorney's Office	Graham Bldg. Main Lobby
11 am - 2:00 pm	Jackson Memorial Hospital	Jackson Towers Main Lobby
Wed., March 19, 1997		
7:30 am-8:30 am	Park Plaza East Garage	Ground level
7:30 am-8:30 am	Park Plaza West Garage	Ground level
11 am - 2:00 pm	Sun Trust Bank	Pedestrian Mall

The survey team set up at the various times and locations with the surveys prominently displayed on tables along with pencils and registration materials for the cash drawings. Posters were also displayed explaining the survey purpose. Surveyors walked around the area distributing surveys and inviting participants to complete a survey and register to enter the drawing. In addition, surveys and flyers,

announcing when and where to return the completed surveys, were distributed at two parking garage locations in the early AM on two of three survey days. Overall participation in the survey event was adequate. A total of 680 surveys were completed during the three-day event or approximately 4 percent of the total sample population (16,000 employees).

Some difficulties were encountered while attempting to collect travel behavior information on certain employer groups and visitors. Some employee groups were dispersed throughout the Civic Center area and could not be targeted at the selected survey locations. As such, researchers attempted to survey the City of Miami employees by coordinating a mail out of the survey form with employee paychecks. However, after repeated attempts to coordinate the survey, the process was abandoned due to budgetary constraints and the project end date.

In addition, researchers attempted to obtain zip code data on visitors to major CCTMO employer locations from individual employers. CCTMO employer representatives provided department contacts that could assist with obtaining the zip code data. Over a period of weeks, these departments were contacted several times. Privacy issues regarding patients visiting medical facilities in the area complicated the data collection effort. In fact, several medical departments contacted would not provide visitor zip codes due to departmental policies and the inability to isolate zip code information from other personal data on patient records. Of the employers contacted, only the State Attorney's Office would provide zip code data on visitors. These data were available in paper format (approximately 14,000 forms). After discussion with the CCTMO director, it was decided that information on visitors to the State Attorney's Office would not be useful for targeted trip reduction strategies because most visitors to the State Attorney's Office are transported in state vehicles and are not generally repeat visitors to the area.

A data entry codebook was created for the employee commute survey. CUTR staff entered the survey data into Lotus, a spreadsheet software program. The statistical analysis was completed using Statistical Package for the Social Sciences (SPSS). The codebook and the computer file created from the survey data entry constitute the commuter characteristics data bank as specified in the scope of work and will be provided to the CCTMO director. The data bank serves as baseline data that can be used to compare future commuter survey results, monitor trends, and evaluate the effectiveness of implemented TDM measures.

A combination of descriptive and inferential statistics was used to analyze the survey data. Frequency distributions were computed for each survey question. Bivariate analyses were conducted using the standard cross-tabulation program, yielding the appropriate tests of statistical significance. The next section provides a detailed evaluation of the survey data.

Survey Analysis

Knowledge of commuter travel behavior characteristics and the underlying motivating factors that influence daily travel decisions is essential in developing effective TDM policies and programs. Therefore, several survey questions were asked to gather demographic and commuter travel behavior information. Other

questions solicited information about employer-provided programs encouraging alternatives to single occupancy vehicles (SOVs) and factors that may encourage commuters to use alternative transportation modes such as carpools and transit.

The survey findings are discussed in four major categories. These categories include demographic information, trip and travel behavior characteristics, employer incentives to encourage the use of alternative commute modes, and factors that may encourage commuters to consider alternative transportation commute modes. Brief narratives are provided and accompanied by corollary data in graphical format.

Survey Results

Demographic Information

A number of questions were asked in order to establish demographic profiles of Civic Center commuters. Demographic and socioeconomic data collected include employer, age, gender, and occupation.

Employer

Table 15 contains a breakdown of the survey respondents by employers. Of the 668 respondents, 31 percent were employees of the State Attorney's Office, 28 percent were employed by Jackson Memorial Hospital, 13 percent were employed by the University of Miami, 8 percent were students, and 7 percent were employed by Miami Dade Community College. The remaining respondents were employees of various other institutions in the Civic Center area. Age, Gender, and Occupation

Figure 9 contains a demographic profile of all survey respondents. As indicated, a plurality of commuters falls into the 25 to 34 age group (30.8 percent) and the 35 to 44 age group (29.9 percent). Approximately three-fourths of all respondents (76.8 percent) were female. A majority of respondents indicated working in a professional capacity (34.7 percent), with clerical (32.7 percent) and students (9.5 percent) representing the second and third largest occupational groups respectively. A demographic profile of each CCTMO employer is contained in Appendix C.

Please note that extreme caution should be used when generalizing the results for Dade County and Cedars Medical Center to the population because of the small sample size.

Table 15. Survey Respondent by Employer Type

Employer	Frequency	Percent
State Attorney Office	209	31.3
Jackson Memorial Hospital	184	27.5
University of Miami Medical Center	85	12.7
Other*	54	8.1
Student	53	7.9
Miami-Dade Community College	49	7.3
Dade County	19	2.8
Cedars Medical Center	12	1.8
City of Miami	3	0.4
Total	668	100.0

*Other includes: Veteran's Administration, State of Florida, Hardee's Restaurant, Banks, etc.

Source: CCTMO Employee Commute Characteristics Survey, 1997.

Commute Trip Characteristics

Several survey questions were asked to collect information on the commute trip such as origin, distance traveled from home to work, and time of arrival and departure from work.

Trip Origin

Respondents were asked to indicate their home zip codes on the survey form. Figure 10 illustrates the distribution of trip origins among survey respondents. Zip code zones shaded red have the greatest concentration of survey respondents while white zones indicate no survey respondents. As the figure indicates, the majority of survey respondents are dispersed throughout Dade and Broward counties.

Distanced Traveled in Daily Commute (One-Way)

Respondents were asked, "On a typical day, how many miles do you travel (one way) from your home to work?" Survey responses were recoded into seven categories and are presented in Figure 11. The mean number of one-way miles traveled to work is 17.1 miles. The majority of respondents (57.1 percent) travel 15 miles or less to work. However, 43 percent commute over 15 miles one way each day making these commuters excellent candidates for carpool and vanpool programs. Jackson Memorial Hospital employees tend commute longer distances compared to other Civic Center employees (49.4 percent travel more than 15 miles per day, compared to 46.7 percent for students and 46.6 percent for employees of Miami Dade Community College). (See Table 16.)

Figure 9. Demographic Profile: All Survey Respondents

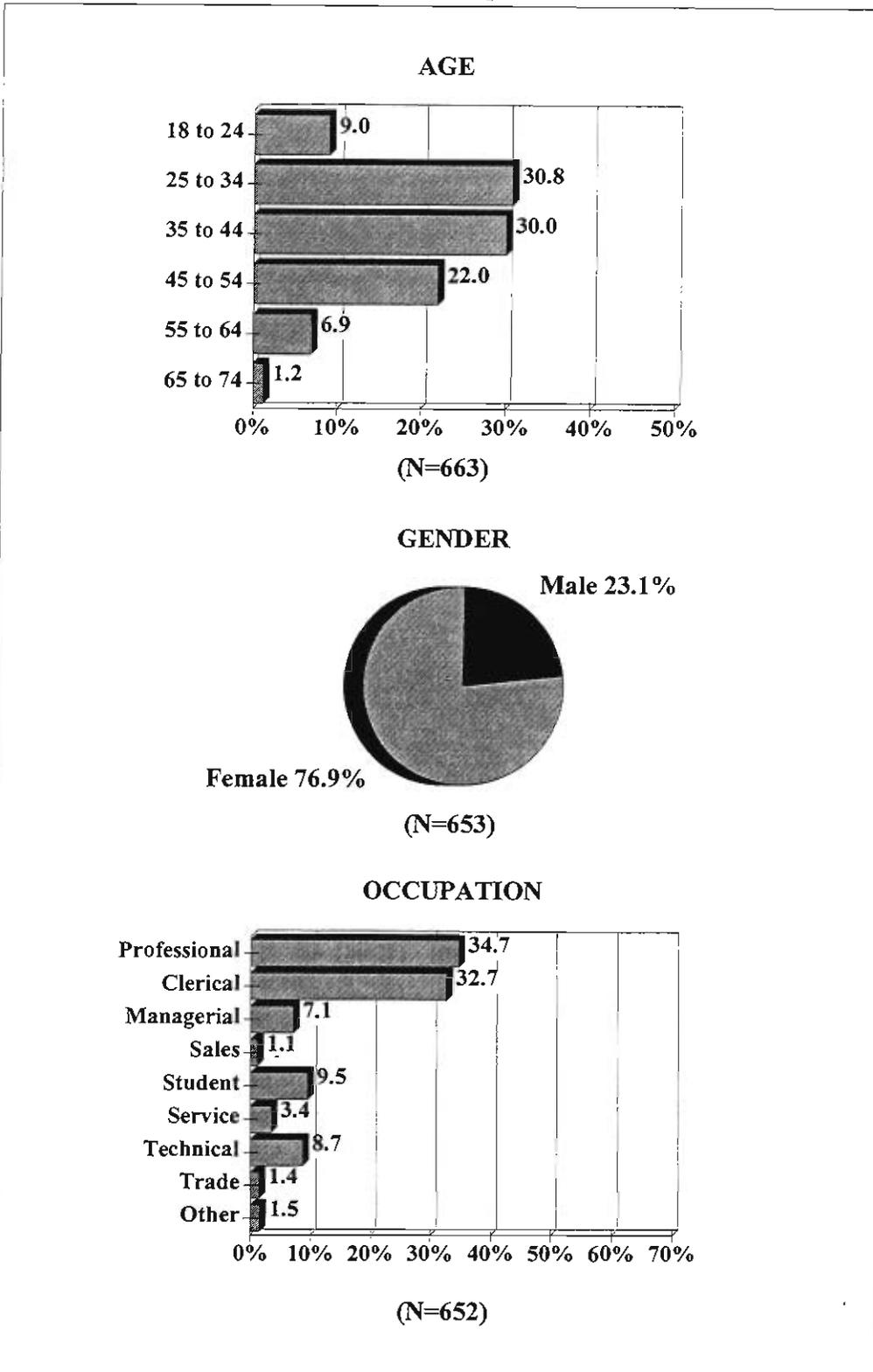


Figure 10--Survey Respondent Trip Origins

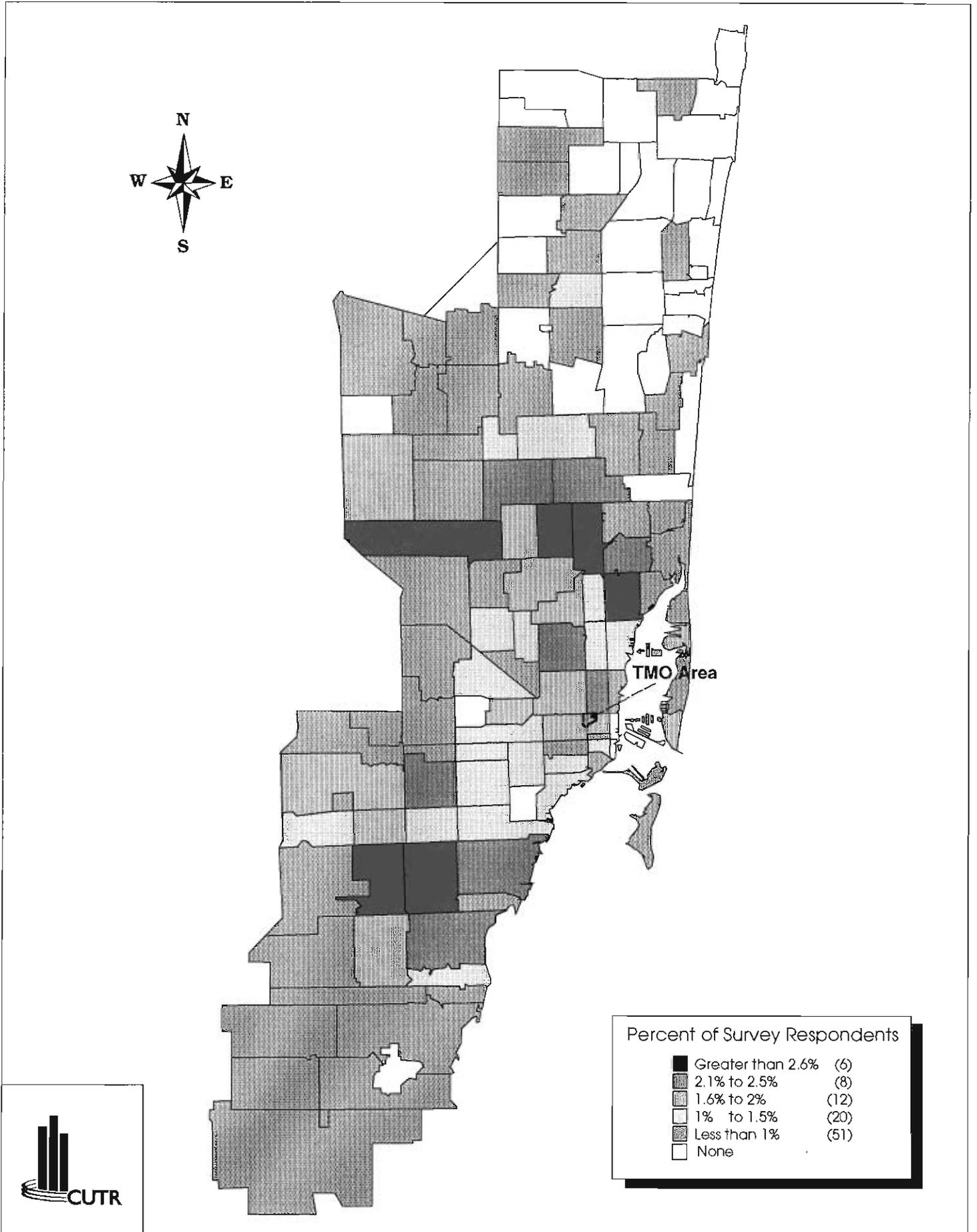
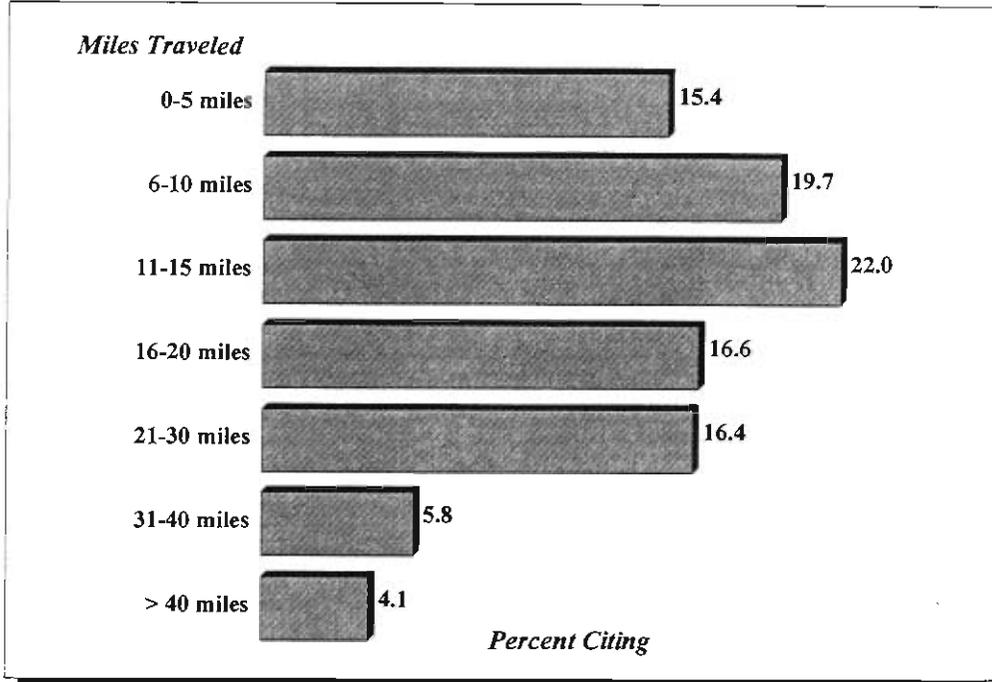


Figure 11. Distance Traveled in Daily Commute (One Way): All Respondents



Note: Respondents were asked: "On a typical day, how many miles do you travel (one way) from your home to work?"

Table 16. Distance Traveled in Daily Commute (One Way) By Employer

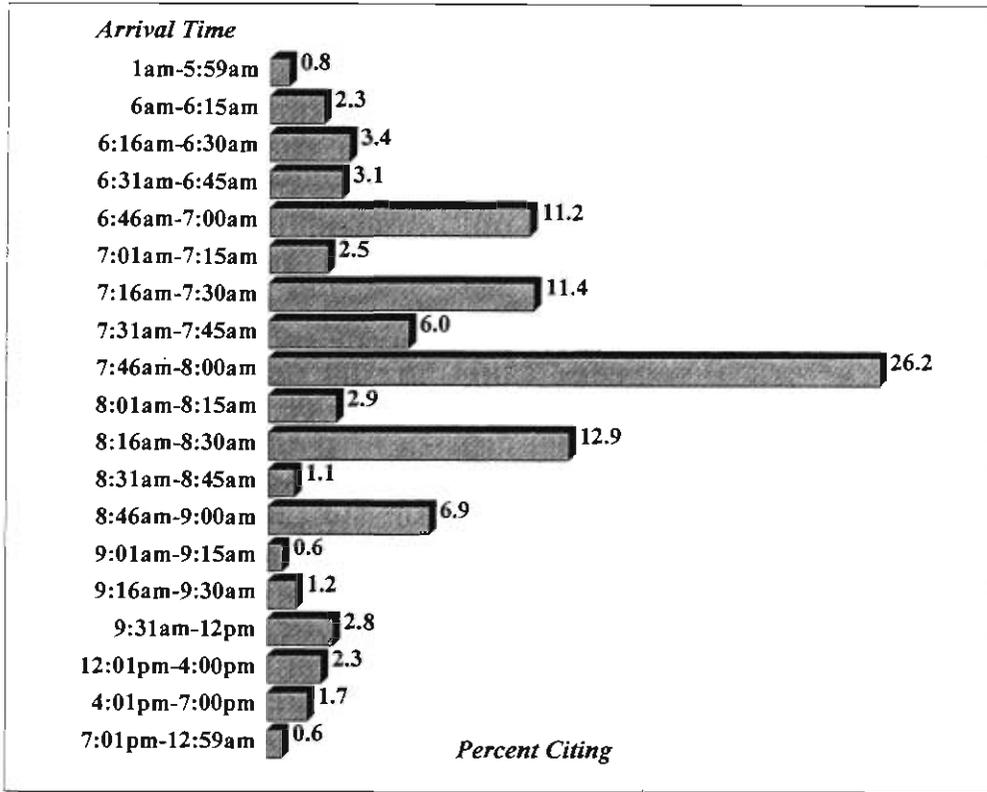
	Employer						
	State Attorney Office (n=183) %	Jackson Memorial Hospital (n=158) %	U of Miami MC (n=75) %	Student (n=47) %	Miami-Dade CC (n=43) %	Dade County (n=14) %	Cedars Medical Center (n=11) %
Miles							
0-5 miles	14.2	14.6	17.3	10.6	16.3	14.3	18.2
6-10 miles	24.0	16.5	21.3	14.9	9.3	7.1	36.4
11-15 miles	23.5	19.6	22.7	27.7	27.9	7.1	18.2
16-20 miles	12.6	22.8	18.7	10.6	18.6	28.6	9.1
21-30 miles	16.9	15.8	12.0	25.5	16.3	35.7	9.1
31-40 miles	4.9	7.6	6.7	0.0	7.0	7.1	0.0
>40 miles	3.8	3.2	1.3	10.6	4.7	0	9.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: CCTMO Commuter Characteristics Study, 1997.

Time of Arrival to Work

Respondents were asked to indicate their time of arrival to work on the survey form. The distribution of arrival times for all respondents is shown in Figure 12. Overall, the peak arrival times occur between 6:46 am and 8:30 am. The largest percentage of commuters (26.2 percent) arrives to the Civic Center between 7:46 am and 8:00 am. More than one-third of all commuters arrive during three smaller peak periods between 6:46 am - 7:00 am (11.2 percent); 7:16 am - 7:30 am (11.4 percent); and 8:16 am - 8:30 am (12.9 percent). Table 17 contains the distribution of arrival times broken down by employer and students. Note that the peak arrival time for employers and students is between 7:46 am and 8:00 am (excluding Dade County and Cedars Medical Center).

Figure 12. Time of Arrival to Work: All Respondents



Note: Respondents were asked: "At what time do you generally arrive at work?"

Table 17. Time of Arrival to Work by Employer

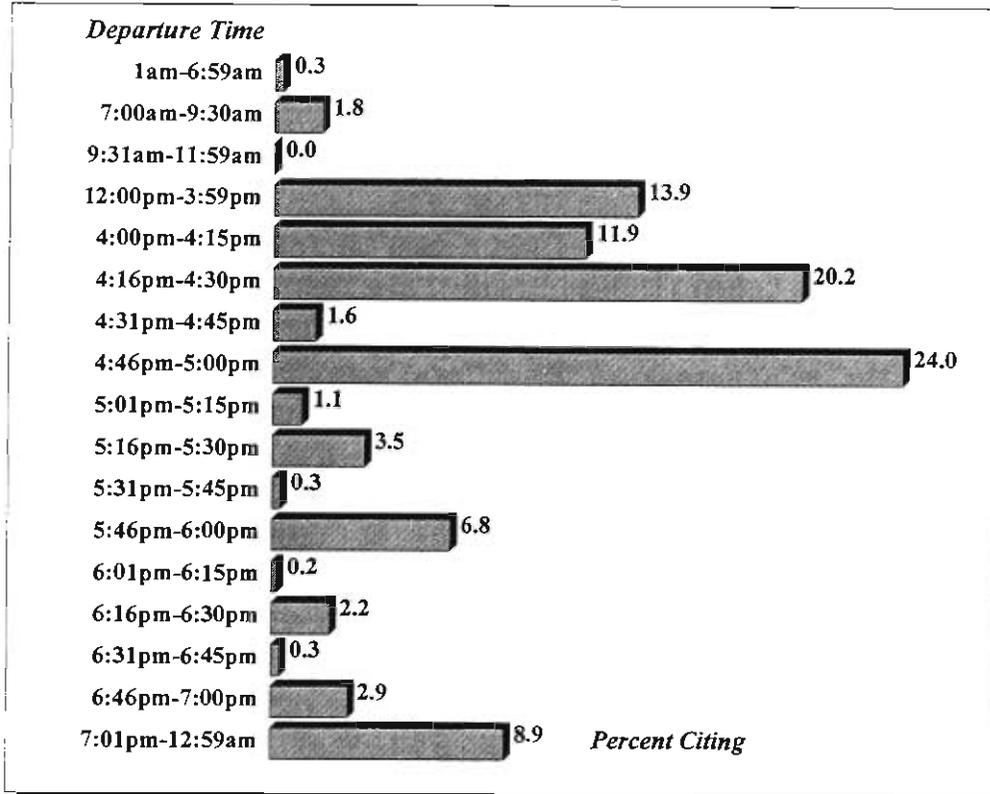
Time	Employer						
	State Attn Office (n=205) %	Jackson Memorial Hospital (n=176) %	U of Miami MC (n=79) %	Student (n=50) %	Miami-Dade CC (n=46) %	Dade County (n=19) %	Cedars Medical Center (n=11) %
1am-5:59am	0.0	0.6	0.0	0.0	0.0	0.0	9.1
6am-6:15am	1.0	5.1	1.3	2.0	2.2	5.3	0.0
6:16am-6:30am	2.4	5.7	3.8	2.0	0.0	0.0	18.2
6:31am-6:45am	0.5	7.4	0.0	4.0	2.2	5.3	9.1
6:46am-7:00am	3.9	15.3	5.1	20.0	10.9	31.6	45.5
7:01am-7:15am	2.0	2.8	3.8	2.0	4.3	0.0	0.0
7:16am-7:30am	10.7	8.5	11.4	14.0	19.6	10.5	0.0
7:31am-7:45am	10.2	5.1	0.0	2.0	8.7	0.0	0.0
7:46am-8:00am	26.3	23.9	29.1	24.0	37.0	26.3	9.1
8:01am-8:15am	5.9	2.3	2.5	0.0	0.0	0.0	0.0
8:16am-8:30am	20.0	9.1	20.3	6.0	4.3	10.5	0.0
8:31am-8:45am	2.9	0.0	0.0	2.0	0.0	0.0	0.0
8:46am-9:00am	8.8	4.0	13.9	10.0	2.2	0.0	0.0
9:01am-9:15am	1.0	0.0	2.5	0.0	0.0	0.0	0.0
9:16am-9:30am	2.0	0.6	2.5	0.0	0.0	5.3	0.0
9:31am-12:00pm	1.5	3.4	2.5	2.0	4.3	0.0	0.0
12:01-4:00pm	0.5	1.7	0.0	6.0	4.3	0.0	9.1
4:01pm-7:00pm	0.5	2.8	1.3	4.0	0.0	0.0	0.0
7:01pm-12:59am	0.0	1.7	0.0	0.0	0.0	5.3	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: CCTMO Commuter Characteristics Study, 1997.

Time of Departure from Work

Respondents were asked to indicate the time of departure from work. The distribution of departure times for all employees is shown in Figure 13. As expected, the largest percent of commuters (24.0 percent) depart the Civic Center between 4:46 pm and 5:00 pm. However, another significant peak departure time occurs between 4:16 pm and 4:30, when 20.2 percent of commuters and students leave the area. Departure times tend to vary more when broken down by employers and students (see Table 18). The major peak departure time for the State Attorney's Office and University of Miami employees is between 4:46 pm and 5:00 pm. A larger percentage of students and employees of Jackson Memorial Hospital and Miami Dade Community College tend to depart the area earlier.

Figure 13. Time of Departure From Work: All Respondents



Note: Respondents were asked: "At what time do you generally leave work?"

Table 18. Time of Departure from Work by Employer

Time	Employer						
	State Atty Office (n=202) %	Jackson Memorial Hospital (n=172) %	U of Miami MC (n=74) %	Student (n=45) %	Miami-Dade CC (n=44) %	Dade County (n=19) %	Cedars Medical Center (n=11) %
1am-6:59am	0.5	0.0	0.0	0.0	0.0	5.3	0.0
7:00am-9:30am	0.5	2.9	1.4	0.0	0.0	5.3	0.0
9:31am-11:59am	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12:00pm-3:59pm	5.0	14.0	9.5	31.1	22.7	26.3	45.5
4:00pm-4:15pm	3.5	13.4	13.5	20.0	29.5	10.5	9.1
4:16pm-4:30pm	26.7	26.2	17.6	4.4	15.9	10.5	0.0
4:31pm-4:45pm	2.5	1.2	1.4	0.0	2.3	0.0	0.0
4:46pm-5:00pm	34.2	15.7	29.7	13.3	13.6	26.3	9.1
5:01pm-5:15pm	0.5	0.6	5.4	0.0	0.0	0.0	0.0
5:16pm-5:30pm	4.0	3.5	6.8	0.0	0.0	0.0	9.1
5:31pm-5:45pm	0.5	0.6	0.0	0.0	0.0	0.0	0.0
5:46pm-6:00pm	9.4	4.7	12.2	6.7	2.3	5.3	0.0
6:01pm-6:15pm	0.0	0.6	0.0	0.0	0.0	0.0	0.0
6:16pm-6:30pm	3.0	2.3	0.0	2.2	4.5	0.0	0.0
6:31pm-6:45pm	0.0	1.2	0.0	0.0	0.0	0.0	0.0
6:46pm-7:00pm	3.5	1.7	2.7	4.4	0.0	5.3	9.1
7:01pm-12:59am	6.4	11.6	0.0	17.8	9.1	5.3	18.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: CCTMO Commuter Characteristics Study, 1997.

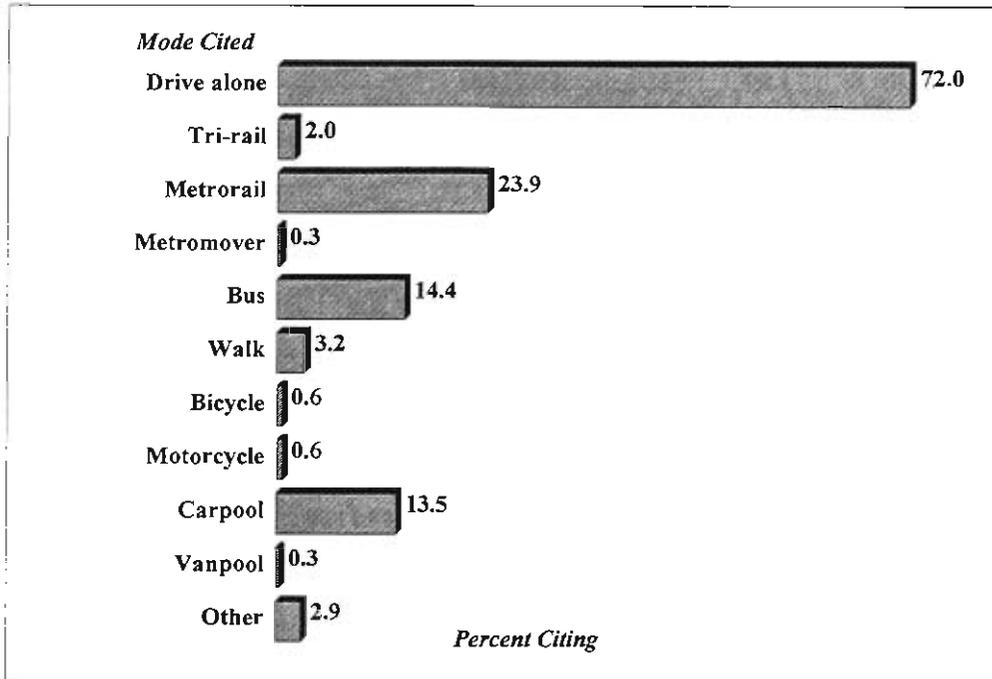
Commute Characteristics

The survey contained questions to determine the usual mode of travel to work and the major reasons for not using alternative commute modes.

Mode Choice

Survey respondents were asked to indicate what ways they *usually* travel to work and asked to check all modes that apply. Almost three-fourths (72 percent) of all commuters and students usually drive alone to work (see Figure 14). Other popular ways commuters travel to work include: Metrorail (23.9 percent); bus (14.4 percent) and carpools (13.5 percent). While driving alone is clearly the most often used mode by employees of all employer groups, University of Miami Medical Center employees tend to use Metrorail more often than students and other employees (see Table 19). Students were less likely compared to other employees to use alternative commute modes to travel to school in the Civic Center area.

Figure 14. Usual Ways of Traveling To Work: All Respondents



Note: Respondents were asked: "In what ways do you usually travel to work?" (Please check all that apply.) Percentages do not total 100 percent due to the multiple response nature of the question.

Table 19. Commute Mode Choice by Employer¹

Mode	Employer						
	State Attorney Office (n=209) %	Jackson Memorial Hospital (n=184) %	U of Miami MC (n=85) %	Student (n=53) %	Miami-Dade CC (n=47) %	Dade County (n=19) %	Cedars Medical Center (n=12) %
Drive alone	79.9	69.0	57.6	83.0	76.6	68.4	83.3
Tri-Rail	1.0	2.2	4.7	1.9	0.0	0.0	0.0
Metrorail	16.3	28.3	43.5	11.3	21.3	21.1	16.7
Metromover	0.0	0.0	0.0	0.0	4.3	0.0	0.0
Bus	13.4	16.3	12.9	5.7	14.9	21.1	16.7
Walk	2.9	2.7	5.9	1.9	4.3	5.3	0.0
Bicycle	0.5	0.0	1.2	1.9	0.0	5.3	0.0
Motorcycle	0.5	0.5	0.0	0.0	0.0	5.3	8.3
Carpool	15.3	11.4	16.5	7.5	17.0	10.5	0.0
Vanpool	0.5	0.0	0.0	1.9	0.0	0.0	0.0
Other	2.9	2.7	4.7	0.0	2.1	0.0	0.0

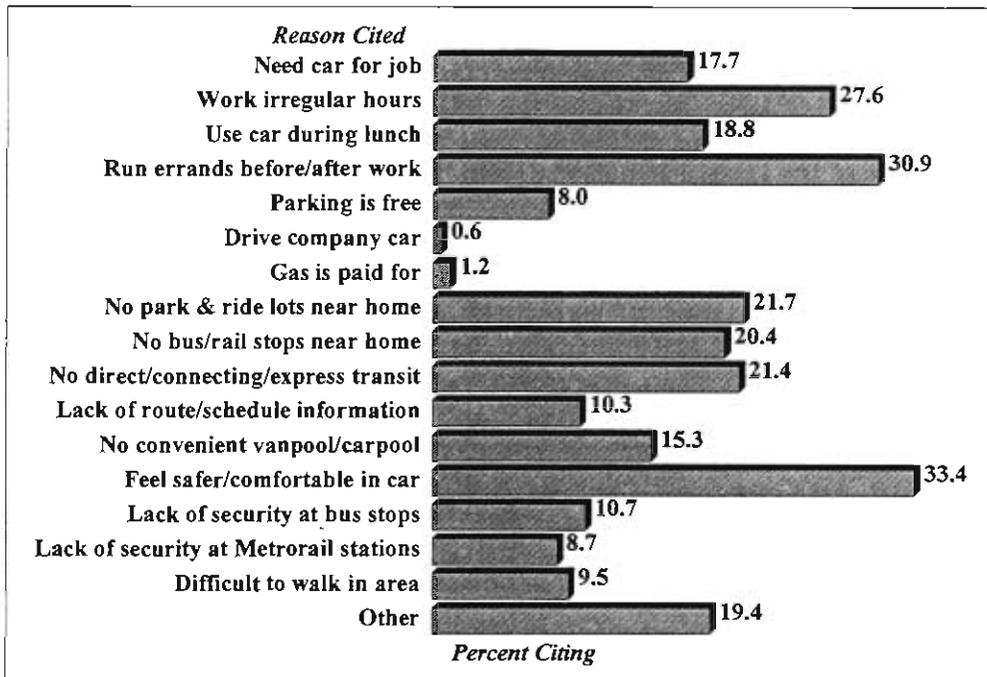
¹ Totals do not add to 100 percent due to the multiple response nature of the question.

Source: CCTMO Commuter Characteristics Study, 1997.

Major Reasons for Driving Alone

Respondents who indicated that they usually drive alone to work or school were asked to check the **major** reasons for not traveling on the bus, rail, or in a carpool, or vanpool. One-third of all commuters said that feeling comfortable and safe in their own vehicle was a primary reason for driving alone (see Figure 15). Running errands before and after work and having irregular work hours were other major reasons for driving alone to work or school (cited by 30.9 percent and 27.6 percent, respectively). Although the primary reason for driving alone is similar among various commuter types, other major reasons vary by employer groups. For instance, State Attorney Office employees cited the need to use their car during lunch and run errands before and after work as major reasons for driving alone. The lack of park and ride lots and bus and rail stops near home and lack of direct/connecting/express transit were major reasons cited for not using alternative transportation modes by Jackson Memorial Hospital employees. University of Miami Medical Center employees tend to use their cars for work and run errands and cited the lack of direct/connecting/or express transit as a major reason for driving alone. Irregular work hours and the need to run errands before and after work hinder students from using alternative commute modes (see Table 20).

Figure 15. Major Reasons For Not Using Bus, Rail or Carpool/Vanpool: All Respondents



Note: Respondents were asked: "If you drive alone to work, what are the major reasons for not traveling on the bus, rail, or in a carpool or vanpool?" (Please check all that apply.) Percentages do not total 100 percent due to the multiple response nature of the question.

Table 20. Major Reasons for Not Using Bus, Rail, or Carpool/Vanpool by Employer

	Employer						
	State Attorney Office (n=178) %	Jackson Memorial Hospital (n=138) %	U of Miami MC (n=50) %	Student (n=44) %	Miami-Dade CC (n=37) %	Dade County (n=13) %	Cedars Medical Center (n=10) %
Reason cited							
Need car for job	14.0	13.8	22.0	6.8	35.1	23.1	20.0
Work irregular hours	29.2	21.7	18.0	38.6	35.1	30.8	20.0
Use car during lunch	33.1	6.5	12.0	9.1	29.7	15.4	10.0
Run errands before/after work	38.8	23.9	28.0	31.8	37.8	23.1	30.0
Parking is free	3.9	0.0	6.0	25.0	18.9	23.1	0.0
Drive company car	0.6	0.7	0.0	0.0	0.0	7.7	0.0
Gas is paid for	0.6	2.2	0.0	0.0	0.0	7.7	0.0
No park & ride lots near home	22.5	23.9	16.0	13.6	21.6	23.1	50.0
No bus/rail stops near home	19.1	29.0	6.0	11.4	16.2	38.5	30.0
No direct/connecting/express transit	19.1	24.6	22.0	22.7	18.9	23.1	20.0
Lack of route/schedule information	7.9	11.6	14.0	11.4	5.4	15.4	20.0
No convenient vanpool/carpool	12.0	17.4	14.0	15.9	21.6	15.4	10.0
Feel safer/comfortable in car	40.4	24.6	32.0	50.0	18.9	38.5	50.0
Lack of security at bus stops	10.7	12.3	8.0	11.4	13.5	7.7	10.0
Lack of security at Metrorail stations	11.2	8.0	6.0	9.1	10.8	0.0	10.0
Difficult to walk in area	9.6	10.1	4.0	18.2	10.8	0.0	20.0
Other	24.2	18.1	16.0	20.5	24.3	0.0	10.0

Source: CCTMO Commuter Characteristics Study, 1997.

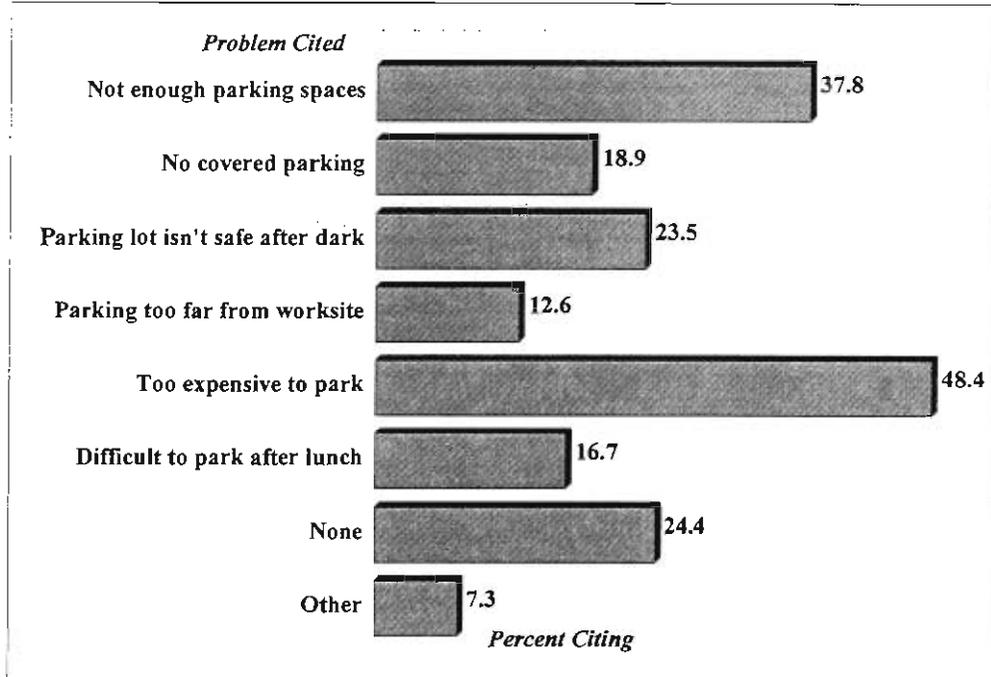
Employer Work Site Information and Employer Provided Incentives

Several survey questions intended to collect information pertaining to the work site such as parking problems and types of services desired by Civic Center employees and students but not accessible within walking distance. In addition, data on employer provided incentives to use alternative commute modes were collected from the survey.

Employer Parking

Respondents were asked, "what, if any, parking problems do you experience at your work site? (Please check all that apply). One fourth of all respondents (24.4 percent) cited no parking problems at the work site (see Figure 16). Among respondents that perceived parking problems to exist at the work location, the majority (48.4 percent)

Figure 16. Parking Problems at Worksite: All Respondents



Note: Respondents were asked: "What, if any, parking problems do you experience at your worksite?" (Please check all that apply.) Percentages do not total 100 percent due to the multiple response nature of the question.

felt that parking was too expensive and that there were not enough parking spaces (cited by 37.8 percent). Another major parking concern among survey respondents is safety. Almost one-fourth of the respondents (23.5 percent) feels that the parking lot is not safe after dark. Among State Attorney Office, Jackson Memorial Hospital and University of Miami Medical Center employees, the high cost to park is considered to be a significant problem (see Table 21). For students, the major parking problem is the lack of parking places.

Table 21. Perceived Parking Problems by Employer

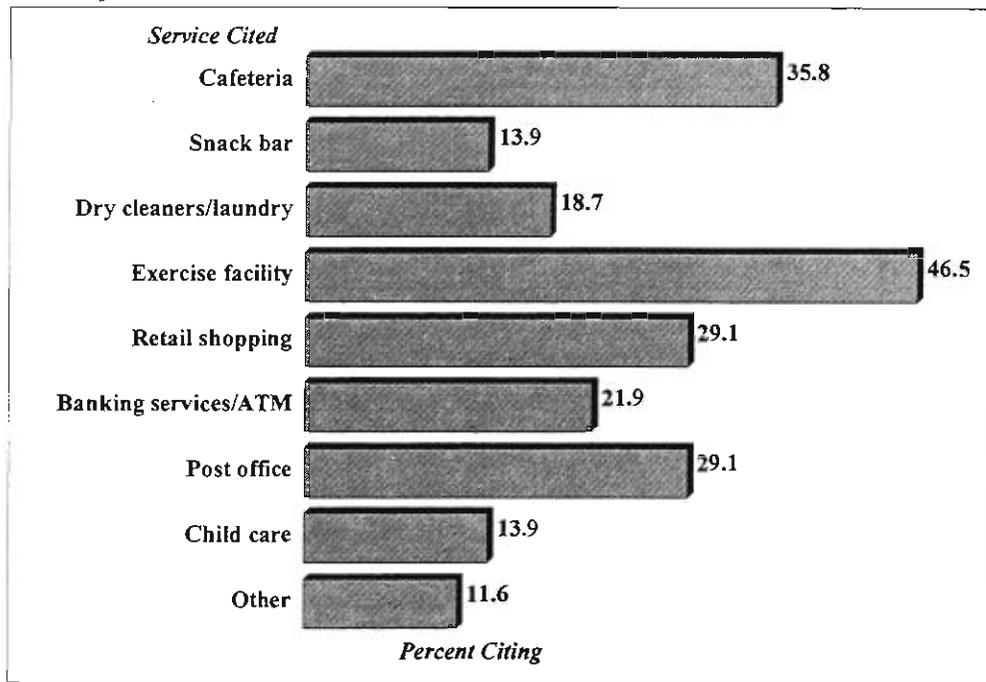
	Employer						
	State Attorney Office (n=193) %	Jackson Memorial Hospital (n=162) %	U of Miami MC (n=76) %	Student (n=50) %	Miami-Dade CC (n=41) %	Dade County (n=15) %	Cedars Medical Center (n=12) %
Problem Cited							
Not enough parking spaces	47.7	28.4	28.9	50.0	34.1	33.3	58.3
No covered parking	32.6	7.4	6.6	30.0	19.5	26.7	8.3
Parking lot isn't safe after dark	37.3	24.1	10.5	14.0	14.6	26.7	16.7
Parking too far from worksite	15.5	15.4	9.2	10.0	0.0	20.0	16.7
Too expensive to park	63.7	65.4	50.0	10.0	0.0	46.7	0.0
Difficult to park after leaving for lunch	21.2	21.6	7.9	10.0	14.6	26.7	0.0
None	15.0	19.1	28.9	32.0	43.9	46.7	41.7
Other	14.5	3.7	6.6	2.0	0.0	6.7	0.0

Source: CCTMO Commuter Characteristics Study, 1997.

Accessible Services

An important factor in the decision to drive or walk during the lunch hour is the location and accessibility of consumer services. As previously noted, the Civic Center area has several retail, banking, and eating establishments. Respondents were asked to identify (from a list) which services not currently available that they would like to have accessible within walking distance from the work site (see Figure 17). Almost one half of all respondents (46.5 percent) said that they would like to have an exercise facility close to the work site. (Only one exercise facility is available in the Civic Center area). Other services desired but not available within walking distance were cafeteria (35.8 percent), post office (29.1 percent) and retail shopping (29.1 percent). An exercise facility within walking distance is the most desired service for State Attorney Office, Jackson Memorial Hospital, and University of Miami Medical Center employees while employees and students from Miami Dade Community College indicated the need for an accessible cafeteria (see Table 22).

**Figure 17. Services Desired But Not Accessible Within Walking Distance:
All Respondents**



Note: Respondents were asked: "Which of the following services not currently available would you like to have accessible to you within walking distance from your work site?" (Please check all that apply.) Percentages do not total 100 percent due to the multiple response nature of the question.

Table 22. Services Desired but Not Accessible within Walking Distance by Employer

Service Cited	Employer						
	State Attorney Office (n=180) %	Jackson Memorial Hospital (n=128) %	U of Miami MC (n=55) %	Student (n=49) %	Miami-Dade CC (n=41) %	Dade County (n=13) %	Cedars Medical Center (n=8) %
Cafeteria	37.8	10.2	20.0	75.5	73.2	38.5	25.0
Snack bar	12.8	7.8	5.5	26.5	34.1	23.1	0.0
Dry cleaners /laundry	26.1	14.1	18.2	4.1	12.2	46.2	25.0
Exercise facility	43.9	60.9	34.5	24.5	46.3	69.2	37.5
Retail shopping	35.6	26.6	30.9	16.3	29.3	38.5	12.5
Banking services/ATM	28.3	15.6	14.5	22.4	22.0	30.8	12.5
Post office	48.9	9.4	12.7	26.5	39.0	15.4	37.5
Child care	16.7	8.6	7.3	12.2	19.5	23.1	12.5
Other	9.4	17.2	18.2	6.1	4.9	7.7	0.0

Source: CCTMO Commuter Characteristics Study, 1997

Employer-Provided Incentives to Use Alternative Transportation Modes

Table 23 contains information collected prior to the survey on current employer programs that may support or encourage employees to use alternative transportation modes. This information was used to help target potential TDM programs and marketing strategies for CCTMO employers. The information was also compared to answers provided by survey respondents in order to assess employee awareness (or lack of) employer programs or policies that promote alternative transportation use. As indicated in Table 23, most CCTMO employers have few, if any, formal programs or policies providing incentives to use alternative commute modes. However, several have informal policies regarding flexible work hours and telecommuting established at the departmental level. Only Miami-Dade Community College offered free parking to all employees and provided transit subsidies for full-time employees.

Table 23. Employer-Provided Information on Current Programs to Encourage Alternative Transportation Use

Program	Employer					
	State Attorney Office	Jackson Memorial Hospital	U of Miami MC	Miami-Dade CC	Dade County	Cedars Medical Center
Carpool program	No	No	No	No	NA	NA
Vanpool program	No	No	No	No	NA	NA
Guaranteed ride home program	No	No	No	No	NA	NA
Preferential parking for carpools, vanpools	No*	No	No	No	NA	NA
Flexible work schedules	No	Dept.**	Dept.**	Dept.**	NA	NA
Parking charges	Yes	Yes	Yes	No	NA	NA
Incentives to use bus or rideshare	No	No	No	Yes	NA	NA
Telecommuting	No	Dept.**	No	No	NA	NA

Notes: NA = Did not supply information.

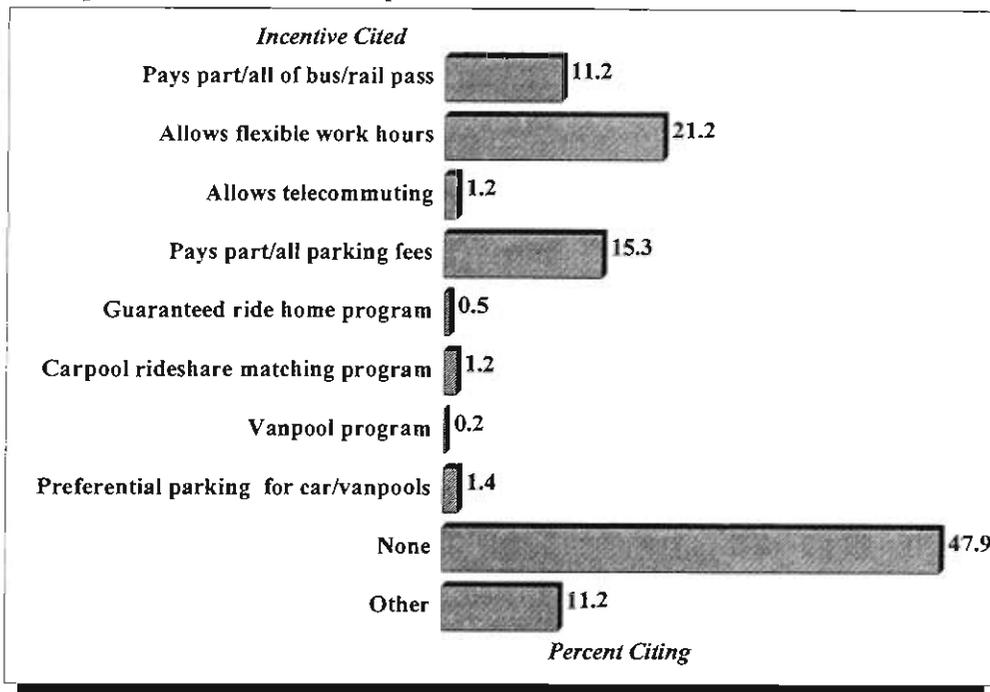
*Offers free parking to investigators who drive state vehicles only.

**No formal policy in place. Policy is established at the departmental level.

Source: CCTMO Employer Representatives.

Survey respondents were asked to identify programs offered by their employers that promoted the use of alternative transportation modes such as carpool and vanpool programs. Almost half of all respondents (47.9 percent) indicated that their employer did not offer any programs (see Figure 18). One fifth of the respondents (21.2 percent) indicated that their employer allowed flexible work hours. Some employers also pay part of or all parking fees, and part or all bus and rail passes (cited by 15.3 percent and 11.2 percent, respectively). The results indicate that few employers offer guaranteed ride home, carpool rideshare matching, and vanpool programs. Employers more likely to allow flexible work hours include the State Attorney's Office, Jackson Memorial Hospital, and Miami Dade Community College. More than half of Miami Dade Community College employees (51.5 percent) indicated their employer paid part or all of a bus or pass (see Table 24).

Figure 18. Employee-Awareness of Employer-Provided Incentives to Use Alternative Transportation Modes: All Respondents



Note: Respondents were asked: "Which of the following does your employer provide?" (Please check all that apply.) Percentages do not total 100 percent due to the multiple response nature of the question.

Some survey responses were not consistent with the information provided by CCTMO employer representative. For example, 10.3 percent of State Attorney Office employees indicated that their employer pays part or all of a bus/rail pass. In this case, respondents may be confused with other discounts offered by the TMO. Further, the State Attorney Office does not have a formal policy regarding flexible work hours but does allow flexible hours on an as needed basis. Other inconsistent survey answers may be attributed to misinterpretation of the question or overall confusion regarding employer programs.

Table 24. Employee Awareness of Employer-Provided Incentives to Use Alternative Transportation Modes By Employer

	Employer						
	State Attorney Office (n=116) %	Jackson Memorial Hospital (n=123) %	U of Miami MC (n=51) %	Student (n=35) %	Miami-Dade CC (n=33) %	Dade County (n=12) %	Cedars Medical Center (n=10) %
Incentive Provided							
Pays part/all of bus/rail pass	10.3	4.9	13.7	2.9	51.5	8.3	10.0
Allows flexible work hours	16.4	14.6	35.3	20.0	27.3	33.3	20.0
Allows telecommuting	0.0	2.4	0.0	0.0	0.0	0.0	0.0
Pays part/all parking fees	3.4	9.8	21.6	22.9	27.3	50.0	50.0
Guaranteed ride home program	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Carpool rideshare matching program	1.7	0.8	0.0	0.0	0.0	0.0	0.0
Vanpool program	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Preferential parking for carpools/vanpools	0.0	1.6	0.0	5.7	0.0	0.0	0.0
None	60.3	63.4	33.3	28.6	15.2	33.3	30.0
Other	19.0	9.8	3.9	20.0	3.0	0.0	0.0

Source: CCTMO Commuter Characteristics Study, 1997.

Extent Factors Encourage Use of Alternative Transportation Modes

Respondents were asked to indicate to what extent certain factors would encourage them to use alternative transportation modes (e.g. carpool, transit, bike, walk). The factors can be largely grouped into three major categories: transit improvements/expansions, employer-sponsored programs and policies, and community-based improvements (i.e., improved pedestrian amenities and lighting, greater security, etc.) Many of these potential strategies can be achieved through the collaborative efforts of the MPO, CCTMO, Metro Dade Transit Agency, Tri-Rail, GCCS, and public and private employers in the Civic Center area.

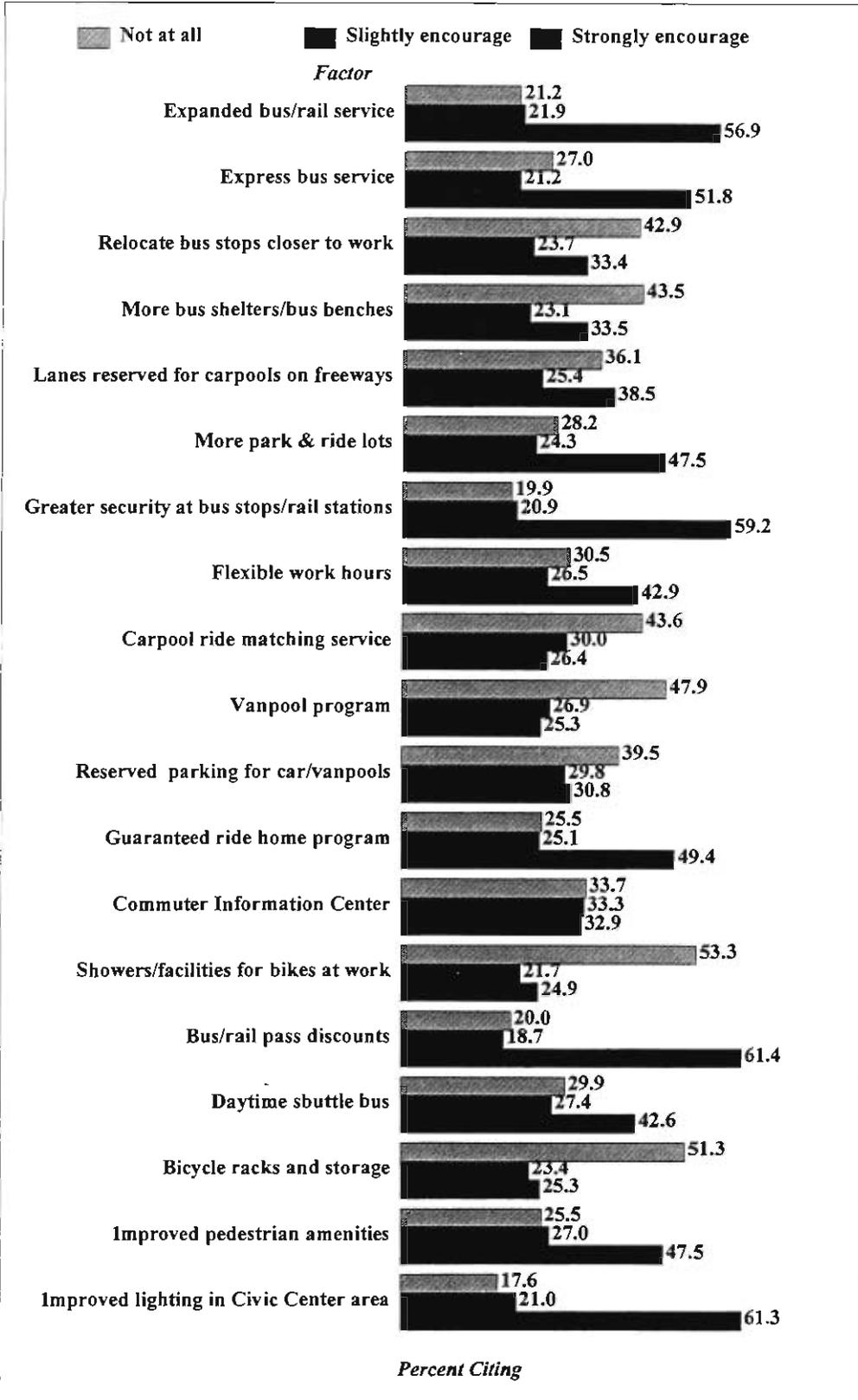
Factors that would *strongly* encourage commuters to use alternative transportation modes include (see Figure 19):

- Bus rail discounts (61.4 percent);
- Improved lighting in the Civic Center area (61.3 percent);
- Greater security at bus stops/rail stations (59.2 percent);
- Expanded bus/rail services (56.9 percent);

- Express bus service (51.8 percent); and
- More park and ride lots (47.5 percent)
- Guaranteed ride home in case of emergencies if participating in carpool/vanpool program (49.4 percent).

These results are expected especially considering that very few employers have such programs. These types of programs are vital components in the development of an area-wide commuter transportation program and require less capital investment than such strategies as building additional park and ride lots or expanding bus or rail services. Individual employer responses to this survey question are contained in Appendix C.

Figure 19. Extent That Factors Would Encourage Use of Alternative Transportation Modes: All Respondents



Note: Respondents were asked: "Here are some factors that influence decisions on how people commute to and from work. For each factor, please check in the box the column that best describes to what extent these factors would encourage you to use alternative transportation modes (e.g. carpool, transit, bike, walk)" Please check, Not at all, Slightly encourage, Strongly encourage.

⋮

V. Civic Center TDM Plan

Purpose

The purpose of this Plan is to:

- Specify the marketing-related actions that the Civic Center TMO will take to achieve the objectives of Civic Center Transportation Management Organization (CCTMO).
- Provide the logic and rationale for the allocation of resources toward marketing-related activities.

According to the American Marketing Association, marketing is the process of planning and executing *conception, pricing, promotion* and *distribution* of ideas, goods and services to create exchanges that satisfy individual and organizational objectives. Marketing activities include publicity, pricing, personal selling, advertising, product and service enhancements, and the delivery of services.

This document has two sections: Section One provides narrative and background on the program goals, current marketing situation, target markets, marketing messages, resources, and program objectives. Section Two consists of action plans to achieve program objectives.

The focus of the first year's action plan is primarily on personalized service through the operation of the CCTMO and, secondarily, employer outreach efforts. By establishing credibility with the ultimate customer -- the commuter -- the CCTMO will have a stable foundation for future employer outreach efforts.

Section One: Assessing Market Situation

Target Markets

Primary Market: Commuters

In designing a marketing program, the CCTMO should have a clear target audience in mind. The CCTMO must communicate with two markets: commuters and employers. Various alternatives will address different needs. Often having parallel marketing programs will be necessary - one for each target market.

The CCTMO must understand and express its business to the commuter and employers through its marketing efforts. The CCTMO isn't in the business of collecting ridematching applications for "selling" carpools. The CCTMO offers

products and services to provide commuters a fast, reliable, safe, on-time arrival at their destination without hassles at a fair cost. In other words, commuters want the option that best fits their needs. The CCTMO exists to provide the information and means to access the "best option." Factors commuters in the CCTMO area consider when deciding commute mode include:

- Cost (48% stated it was "Too expensive to park" and 61% would be strongly encouraged to switch modes if employers or CCTMO provided bus/rail discounts)
- Travel time (express bus service would strongly encourage 52% of the respondents to switch modes. 63% would be slightly to strongly encouraged if lanes were reserved for carpools on freeways)
- Security/Comfort (33% of the survey respondents feel safer and more comfortable in their car and 61% want improved lighting)
- Flexibility (31% cited the need to run errands before/after work as a major reason for not using bus, rail, or carpools/vanpools and 28% work irregular hours)
- Available options (22% cited no park and ride lots near their home, 20% said there are no bus or rail stops near home)
- Convenience (21% cited no direct transit service and 15% cited no convenient carpools/vanpools. A telephone poll conducted by CUTR in 1995 of south Florida residents who don't carpool on I-95 found that 72% would find it at least fairly difficult to form a carpool)

The marketing message should get the target audience's attention, hold their interest, stimulate their intention, and obtain their action. The objective of the CCTMO message is to cause behavioral action. In other words, the primary purpose of the CCTMO's marketing activities is to get commuters to change their mode of travel (i.e., join a pool or ride transit) or time of trip (e.g., staggered work hours) to reduce congestion and air pollution.

Key benefits to emphasize in marketing messages to commuters include:

- Cost savings (48% of respondents report that it is "too expensive to park" and more than 26% of the respondents commute more than 20 miles),
- Availability of a guaranteed ride home program (49% of respondents said this program would strongly encourage them to use alternative transportation modes), and
- Safety in numbers (59% expressed the need for greater security and concern with lighting in the Civic Center area - a particular concern in the winter months due to the time change).

TDM marketing is most successful with an appeal based on a rational approach. Other approaches, including so-called "cause" marketing, are not as effective because commuters make their choices about commute mode based on solutions to problems, not public benefits such as reduced pollution.

Therefore, inappropriate messages are those that stir up emotional responses using fear (e.g., air pollution is hurting our children) and guilt ("don't drive alone"). Similarly, the message should provide the emotional support for making the "right" decision to use an alternative to single occupant commuting - at least part of the time.

The CCTMO's message should focus on the commuter's ability to gather information and carefully compare their alternatives. If they perceive an alternative transportation option to provide advantages in convenience, travel time, cost, etc., they will rationally select it as an alternative. Examples of such messages include:

"Beat the Street" (Florida)
"It Pays to Ride with a Friend" (Virginia)
"The Best Way to Work" (Connecticut)
"The One-Stop Commuter Shop"

There also are advantages to carrying a theme over time by altering one part of it. This builds recognition while allowing all the products' advantages to be publicized. For example: "Why is CCTMO for you?" Answers could include "Buy passes for Bus and Rail Systems" or "Get Free carpool or vanpool information in 10 minutes."

Testimonials from current customers also can be an effective way to carry a message. The use of comment cards included in every outgoing order can garner these testimonials.

Secondary Market: Employers

The area has 22 employers who employ more than 100 employees. Employers are important to a successful TDM effort since they provide a common denominator among potential groups: the destination. Employer support will allow the CCTMO to spread the word about the program to more people, and use the employer-provided facilities for presentations and marketing efforts.

Employers in the Civic Center area have several key needs that the CCTMO may address.

- Ability to offer competitive employee benefits while reducing costs and administrative responsibilities (48% of respondents stated that they were unaware of any employer-provided incentives to use alternative transportation modes).
- Ability to attract potential employees to the area (only 35% of respondents commute less than 10 miles).
- Respond to employee concerns regarding limited and costly parking (48% of employees cite parking is "too expensive" and 38% cite a lack of parking as a problem).

The CCTMO addresses these needs, in addition to offering numerous other benefits to employers. The other benefits include enhancing on-time arrival of employees, reducing traffic congestion around the site, decreasing absenteeism, and increasing productivity from employees who don't experience the stress of driving.

As with commuters, the target market for employers share one or more of the following characteristics:

- Draws from a broad labor pool and recruits regionwide (e.g., long distance commuters).
- Has a history of setting up progressive employee programs (e.g., on-site childcare).
- Has a history of supporting transit (e.g., sells transit fare media).
- Has a history of being environmentally proactive (e.g., started recycling programs).
- Suffers from traffic congestion or other transportation-related problems around the work site.

Key benefits to emphasize in marketing messages to employers include:

- Retention and recruitment tool (65% of respondents commute 10 miles or more one-way and are subject to intercept by other employers offering similar jobs and wages but at locations closer to the employees home. In addition, parking costs are a major concern to nearly half of the respondents).
- Productivity impacts
- Corporate citizenship

Recruitment and Retention. Why do employers care about retention? Simply stated, high turnover rates can have a significant impact on the productivity and, therefore, the pretax revenue of the organization. Employee losses can lengthen production time, delay advances in research and development, and contribute to lost or dissatisfied customers. According to human resources professionals, the hidden expenses of turnover account for 80 percent or more of the turnover costs.

Some large portions of these costs are the inefficiencies associated with the departing employees (i.e., short-timers), co-workers associated with departing employees (picking up the slack), and the inefficiency of the position being filled while vacant. Similar inefficiencies exist for the co-workers and supervisors once the new hire is onboard. Of course, the direct processing costs of recruitment by the human resources department, interviewing candidates by the supervisor, and relocating the new hire add to the total.

According to the American Bankers Association Banking Journal, "Many bankers think they miscalculated when they find turnover costs of \$20,000 per employee." Another study, reported in the December 1990 issue of "Personnel Journal," shows the costs can be much higher. The study estimated the cost for replacing a middle-management position in the research and development function at an environmental specialty chemical company at more than \$58,000 or about 1.5 times the person's salary.

A formula does not exist to convert the turnover reduction impact of a TDM strategy. However, TDM programs can make the case that even moderate investments would not have to reduce turnover by much to pay for itself. Assume the employer estimates the cost of turnover at \$20,000 per employee. At that rate, a \$100,000 investment in a turnover avoidance strategy (e.g., transit/vanpool subsidies) would pay for itself in 12 months if the program avoided the loss of only five employees with an average salary of \$40,000.

Productivity. Several TDM strategies are also work-family programs that help contribute to productivity increases and/or decreases in operating expenses. For example, Florida Hospital in Orlando has about half its transcription department working from home. They report higher productivity and lower operating costs because of this program. According to research conducted at University of California, Irvine, absences due to illness were significantly higher for medium and high-impedance commuters (based on time and distance). In a subsequent study, these researchers found that ridesharing buffered the stress of commuting, especially for long distance commutes (20+ miles).

Good citizen. The CCTMO should not discount the community relations' benefits of employers who participate in the CCTMO programs. In particular, the medical-oriented employers may seek to capitalize on the health benefits (reduced air pollution and stress).

Messages delivered by highly credible sources (e.g., existing employers) are more persuasive. Using a picture and/or a quotation from a business leader -- and getting them to speak at business gatherings -- can increase the credibility of employer involvement in the CCTMO. This involvement also provides the opportunity for the CCTMO to present the employer as a good corporate citizen in the community.

Resources

Staff

The three primary responsibilities to be carried out by CCTMO staff are:

- **Personalized Assistance:** responding to requests for information, and conducting follow-up.
- **Administration:** supporting the Board of Directors, tracking expenses, stocking appropriate quantities of fare media, providing FDOT and MPO with progress reports, etc.
- **Employer Outreach:** promoting all commute alternatives through public appearances, providing information for employers to include at new employee orientations, helping with the development of employers TDM programs, etc.

The outreach and personalized assistance functions require sales and presentation skills and the ability to work with managers and the public. The administrative functions are primarily in-office activities of a managerial nature.

CCTMO Board of Directors

The Board of Directors serves in a policy role for the CCTMO. Often the differences between policy versus operational issues are neither obvious nor clear cut. The challenge between the Board and the executive director is to decide the process for handling certain situations. Occasionally, the Board may delineate those items clearly within the complete authority of the executive director with prior approval and those items that require notification to the Board after the fact by the executive director.

The following examples can best illustrate the relationship between the policy role of the Board and the operational role of the staff. The Board is responsible for fashioning the CCTMO's strategic plan. However, the executive director makes recommendations and carries out the plan once it's adopted. The executive director writes the grant proposals but must seek prior Board approval to submit the grant. The Board approves the budget, formulates policies for financial management and internal control systems, and hires legal counsel and the auditor. The executive director drafts the budget, assures adherence to financial management policies and systems, and obtains bids for legal and auditing services.

Reinforcement of the values and expectations of the CCTMO requires substantial personal commitment and involvement by the CCTMO Board of Directors. Board members must take part in the creation of strategies, systems, and methods for achieving excellence. The systems and methods need to guide all activities and decisions of the CCTMO. Board members' regular personal involvement includes being visible at CCTMO activities, participating in strategic planning, reviewing of CCTMO performance, and recognizing employees for quality achievement. They serve as role models for staff and as representatives of the CCTMO for employers and government bodies (e.g., MPO).

The major Board responsibilities are:

- hiring the executive director,
- developing a strategic plan that reflects the CCTMO's mission,
- identifying and selecting new board members,
- monitoring and evaluating the performance of the organization, the executive director and the finances, and
- serving as a goodwill ambassador for the CCTMO.

Before making decisions, board members must pay particular attention to financial management processes, financial statements, audit findings, and minutes to fully understand the issues.

Section Two: Marketing Action Plan (Task Schedule)

Program Goals

The overall program goals must drive the CCTMO's approach to marketing of the program. CUTR derived these goals by examining the current mission statement of the CCTMO and reviewing the bylaws of the corporation.

According to documentation provided by the CCTMO, the mission of the CCTMO is to "function as a focal point for private and public sector efforts in initiating and implementing transportation demand management (TDM) measures. The CCTMO will actively solicit support, both financial and organizational, for a variety of TDM measures in order to accrue benefits such as reduced congestion, improved air quality, reduced demand on traffic related infrastructure, increased mobility and general improvement in the environment or the service area."

The bylaws of the CCTMO support this mission by focusing on activities aimed at advocating and promoting TDM by:

1. Providing a forum for employers and property owners to address common transportation concerns and to work cooperatively with government to mitigate traffic congestion through a transportation management program;
2. Reducing traffic congestion, mobile source pollutants, and parking demand by organizing transportation programs including, but not limited to, carpooling, vanpooling, flexible and staggered work hours, parking programs, and a central information service on ridesharing, paratransit, public transportation, and other related transportation related subjects.
3. Promoting efficient transportation demand management systems and programs that will enhance the area's competitiveness and economic vitality and continue its image as an attractive place in which to live, work, and conduct business;
4. Administering contributions and grants to the Corporation from public and private sources and funds under contracts with public agencies and private organizations, in accordance with the terms and conditions of such contributions, grants, and contracts in keeping with the purposes of the Corporation as stated in its Articles of Incorporation and these bylaws.

From the above mission statement and bylaws, CUTR has developed the following three goals and eight contributing objectives.

Goal 1: Offer travel choices to increase mobility, reduce congestion and improve air quality.

- Objective 1.1: Target the commute alternatives to various market segments
- Objective 1.2: Develop reinforcement and retention strategies for current commute alternative users
- Objective 1.3: Develop a program to encourage use of non-motorized commute modes
- Objective 1.4: Develop alternative work hour programs and facilitate adoption by employers and commuters.

Goal 2: Enhance the Civic Center area as a business location

- Objective 2.1: Develop strategies to reduce commuter vehicle traffic
- Objective 2.2: Develop strategies to improve the perception of transportation in and around the Civic Center

Goal 3: Establish partnerships

- Objective 3.1: Develop partnerships with employers
- Objective 3.2: Develop broad financial support to achieve CCTMO goals.

The proposed actions related to TDM focus on the six stages of commuter behavior (see below) and programs offered by other TMOs and/or employers of similar types:

STAGE	CUSTOMER STATEMENT	CCTMO's ACTION/ RESPONSE
Stage 1	What's this all about?	Increase awareness of options
Stage 2	What's in it for me?	Foster interest by promoting benefits
Stage 3	How do I start?	Simplify the mode choice decision and provide a call to action
Stage 4	I'm not sure I can do it.	Provide encouragement. Suggest trial use.
Stage 5	I'm an alternate mode user.	Focus energies on retention
Stage 6	My current alternative transportation mode satisfies me.	Treat commuters as a goodwill ambassador. Use testimonials and involve them in planning

Before examining the proposed actions, we should understand that each TMO is unique. FDOT's TMA Evaluation Criteria reflects this uniqueness. FDOT designed the Criteria to help TMOs/TMAs enhance their performance through focus on dual, results-oriented goals:

- delivery of ever-improving value to customers, resulting in greater use of alternatives to the single occupant vehicle by commuters; and
- improvement of overall TMA operational performance (e.g., lower cost per person served).

The TMO/TMA Evaluation Criteria consists of seven categories cover the breadth of TMO planning and operations. An eighth category, "Other," is provided to allow the TMO to provide any additional basis for evaluation. The marketing action plan addresses each of the following criteria.

Corporate Leadership and Involvement. The leadership category examines the TMO's Board of Directors or advisory committee and executive director's or program manager's personal leadership and involvement in creating and sustaining a customer focus, clear and visible values, and high expectations. Reinforcement of the values and expectations requires substantial personal commitment and involvement. The leaders must take part in the creation of strategies, systems, and methods for achieving excellence. The systems and methods need to guide all activities and decisions of the TMO. Through their regular personal involvement in visible activities, such as planning, communications, review of TMO performance, and recognizing employees for quality achievement, the Board members serve as role models for staff.

Suitability of Goals and Objectives. This Category examines the **process** of setting goals and objectives. Major emphasis is placed on understanding why the TMO chooses its mission, goals, objectives, and activities. This action plan focuses on collecting baseline or benchmark information to set objectives.

Development and Deployment of Strategic Plan. The Strategic Planning Category examines the TMO's long-range (e.g., three years) planning process and how the goals and objectives and annual work plans are integrated into the overall strategic plan. This element includes how the TMO's planning process integrates commuter, member and employer requirements and how the TMO carries out plans. Also, this plan discusses how the TMO shares progress with key stakeholders such as the MPO and transit agencies.

Financial Management Systems. This category of the FDOT TMA/TMO Evaluation Criteria examines the TMO's financial management systems. This information supplements the audit requirements contained in the joint participation agreement. The criteria address financial performance via two major avenues: (1) emphasis on improving productivity and lowering overall operating costs; and (2) support for TMA strategy development, TMA decisions, and innovation.

Degree of External Visibility. The external visibility category examines the TMO's advocacy, educational, and outreach efforts and how these relate to enhancing the customer service focus of the organization. Also, examined is the potential reach of

promotional efforts and their impact in convincing customers to consider alternative commute modes. A significant portion of the following action plan is dedicated to efforts to promote the CCTMO to commuters, employers, and members.

Effectiveness of Programs. This criterion examines the TMO's operational performance. A successful evaluation will use procedures that determine one or more of the following: (1) the extent to which the program has achieved its stated objectives (e.g., increases in Average Vehicle Occupancy); (2) the extent to which the CCTMO can attribute the accomplishment of the objectives to the program (direct and indirect effects); (3) consistency of program implementation to plan (relationship of planned activities to actual activities); and, (4) the relationship of different tasks to the effectiveness of the program (productivity). TMOs in areas with a regional commuter assistance program (RCAP), the TMO may include some performance measurements as part of the RCAP evaluation. The CCTMO should coordinate evaluation efforts with Gold Coast Commuter Services.

Measure of Commuter and Member Satisfaction. The Satisfaction Category examines the TMO's relationships with customers (i.e., commuters and members), and its knowledge of customer requirements. The action plan addresses how the CCTMO should determine customer satisfaction and emphasize customer retention.

There are three main considerations in the development of the action plan: (1) emphasis on the TMO's mission, goals, and objectives as a basis for action; (2) criteria that address factors particularly important to the TMO's operations should receive relatively more emphasis; and, (3) actions are results oriented.

TMOs offer many operational activities to employers and commuters. The following table lists the percentage of TMOs offering a given service. The table compiles the results of two national surveys of TMOs - in 1990 by TMOs in California and in 1993 by the Association for Commuter Transportation. A cursory comparison between the two periods suggests a much broader product mix in 1993

TMA Products and Services	1990	1993
Advocacy	47%	96%
Ridesharing promotion at employer sites	53%	90%
Periodicals/Materials printed	NA	84%
Vanpool formation assistance	42%	78%
Ridematching	42%	73%
Trip reduction plan production	39%	69%
Guaranteed Ride Home	36%	67%
Develop/process employee surveys	39%	67%
ETC Training	47%	61%
Parking management assistance	34%	41%
Transit pass sales	39%	39%
Shuttle service	39%	31%
Vanpool program subsidy	NA	24%

Recommended Products And Services

From the above analysis, CUTR recommends that the CCTMO develop and deliver the following TDM products to the specified target markets.

Rideshare Matching and Carpool/Vanpool Services: The CCTMO services will be directed primarily to persons working in Civic Center area and secondarily to students. Vanpool efforts will be directed to commuters to the area who live more than 20 miles away.

Transit Services and Promotion: The CCTMO will serve to establish employer outlets for employees and students in the area, and, secondarily to County residents and the public.

Employer Outreach: The CCTMO will coordinate and promote TDM services primarily to employers (private and government) in the Civic Center area and, secondarily, to developers and leasing agents in the area. The CCTMO service area has an estimated 22 large (those with 100 or more employees) employers.

Parking Demand Management: The CCTMO will be directed primarily at office building and corporate management personnel responsible for parking policies, and, secondarily, to commuters.

Evaluation and Monitoring of the Program

CUTR developed the following tables to help the CCTMO relate actions to results. The tables are constructed with five supporting columns to help the CCTMO identify actions, measures of performance, current benchmark, suggested targets, and contributing factors. Each page relates to a single objective. The first column describes actions that the CCTMO would take to achieve that particular program goal. The second column includes the performance measures for gauging progress. The third column is used if benchmarks or actual results are available for each performance measure. The CCTMO could take these benchmarks/results from survey responses, from past evaluation reports, or from data available from other TMOs. The fourth column lists targets to achieve for each of the performance measures. The CCTMO staff can use the final column to explain why the selected targets have been set or other considerations.

Goal 1 – Offer Travel Choices				
Short Range Objective 1.1: Target the commute alternatives to various market segments				
Action	Performance Measures	Benchmarks	Targets	Contributing Factors
<p>Within 2 months, develop overarching theme with a call to action. Use Gold Coast Commuter Service’s “Hang Up Your Keys – Don’t Be an SOV” clip art.</p> <p>Highlight part-time use of modes and the comfort/lack of stress of alternative modes</p>	Adoption of theme			Key reasons cited for not using alternative modes are: comfort/safety of own car (33%) and run errands before/after work (31%)
<p>Within 2 months, customize brochure on options, including transit routes and stations, with a call to action (e.g., ridematching survey and CCTMO phone number).</p>	Development of brochure		1 multi-modal brochure	Only 17% of employees/students who work at the sites providing zip code locations live within a 1/4 mile of bus route or ½ mile of a rail stop
<p>Within 10 months, develop “4-3-2-1 New Start” assistance program to subsidize the cost of up to 4 empty seats for new vanpool groups. Example: subsidize up to 4 empty seats for first month, 3 seats for the second month, etc.</p>	<p># persons placed in vanpools</p> <p># new vanpool starts</p>	0 vanpools	2 vanpools	Forming vanpools with a full complement of riders is extremely difficult. A “New Start” program provides time and an incentive (costs will go up if they don’t locate more riders) for current riders to locate additional riders.
<p>Within 10 months, hold presentations with groups of employees who live over 20 miles away from work.</p>	# new vanpool starts	0 vanpools	2 vanpools	<p>25 percent of the workforce lives over 20 miles away from the Civic Center</p> <p>Students have longer trips than commuters</p>

Goal 1 – Offer Travel Choices

Short Range Objective 1.1: Target the commute alternatives to various market segments

Action	Performance Measures	Benchmarks	Targets	Contributing Factors
<p>Within 6 months, distribute surveys/applications to area employees at targeted employers. Process results within 1 week in coordination with Gold Coast Commuter Services. On-going effort.</p>	<p># persons registered</p>		<p>500</p>	<p>Generally, 5 to 30 percent of persons requesting matching information will change modes (National estimates)</p>
<p>Within 2 months, develop “How to Form a Carpool” and “How to Form a Vanpool” guides. Distribute with all ridematching requests.</p>	<p>“How to” guides</p>	<p>None</p>		<p>Guidance and encouragement of trial use of alternative modes is required so commuters act upon matching information provided by GCCS on behalf of CCTMO</p>
<p>Within 6 months, develop a Civic Center Parking and Transportation Map with an insert on the current costs (update costs monthly). Package map in folder with commute alternatives (e.g., ridematching brochure, transit maps) to attract commuters, expose them to alternatives, and open the door to employers with employees who have “perceived” parking problems.</p>	<p># maps distributed</p> <p># requests for commute alternatives received</p>	<p>None</p> <p>3 requests for matching info/transit schedules for every 10 maps distributed (rate in Virginia)</p>	<p>1 map and 12 monthly updates</p> <p>300 requests (1,000 maps distributed)</p>	<p>Parking cost and availability are key concerns. “Too expensive to park” was cited by 48% of employees and “Not enough parking spaces” cited by 38%. This is probably the problem employees hear from employees and voice to others - not the problem with lack of info on TDM and transit. Employers likely would welcome help with their perceived “parking” problem. Combining the solution of the problem (Map) with alternatives gives employees all their choices in one place.</p>

Goal 1 – Offer Travel Choices

Short Range Objective 1.2: Develop reinforcement and retention strategies for current commute alternative users

Action	Performance Measures	Benchmarks	Targets	Contributing Factors
<p>Participate in Gold Coast Commuter Services Guaranteed Ride Home program for existing transit riders, carpoolers, and vanpoolers.</p>	<p>GRH established</p>	<p>15 trips per 100 registered participants</p>	<p>100 trips provided</p>	<p>Work irregular hours cited by 28% of employees</p> <p>Generally, GRH programs are very low cost but high value. Too low usage may imply the level of awareness is too low or restrictions are too tight.</p> <p>Commuter concerns with leaving work for a personal emergency (e.g., picking up a sick child) or unexpected overtime is primary objection to alternative mode use.</p>
<p>Within 9 months, in coordination with transit and vanpool providers, develop employer-provided transit/vanpool subsidy program.</p> <p>Consider packaging with GRH program, perhaps with a nominal fee attached to the GRH component (e.g., \$2 per employee).</p>	<p># employers providing subsidy</p> <p># employees receiving the subsidy</p> <p>\$ paid by employers to CCTMO for GRH</p>	<p>1 employer currently provides incentives to use bus or rideshare (Miami Dade CC)</p> <p>0 employees</p>	<p>3 employers (with more than 100 employees)</p> <p>500 employees eligible</p>	<p>Energy Policy Act of 1992 allows employers to provide a tax-free subsidy for transit and vanpool fares of up to \$65 per month.</p>

Goal 1 – Offer Travel Choices				
Short Range Objective 1.2: Develop reinforcement and retention strategies for current commute alternative users				
Action	Performance Measures	Benchmarks	Targets	Contributing Factors
<p>Within 6 months, develop customer retention strategy. Focus on personalized service and follow-up. Develop feedback system for commuters (e.g., post-paid return card). Design system and implement to receive, document and act on comments, complaints and compliments.</p> <p>For those individuals who were helped, provide feedback to the employer how the CCTMO helped their employee.</p> <p>Place former customers in an inactive file for future marketing purposes (e.g., new services).</p>	# complaints received per 100 requests filled	Unknown	No more than 2 per month	<p>Cost to attract new customers at least 5 times the cost of retaining customers</p> <p>Generally, one complaint represents at least 50 problems. A person with a bad experience will tell 10 other people.</p>
<p>Within 12 months, develop commuter recognition program to reward the desired behavior and generate publicity for the CCTMO.</p>	# mentions in the media	Unknown	4 mentions in the media	<p>Potential tie ins to Telecommute America! Week Oct 20-24, 1997, National Transportation Week (May 98) and Earth Day (April 98)</p>

Goal I – Offer Travel Choices				
Short Range Objective 1.3: Develop a program to encourage use of non-motorized commute modes				
Action	Performance Measures	Benchmarks	Targets	Contributing Factors
Within 12 months, develop a program to encourage employers to offer incentives and support for bicycle and pedestrian programs.	# employers with bike racks/ lockers/showers	Unknown	10 employers	15% of employees live within 5 miles. Lack of security and difficult to walk in the area were cited by about 10 percent of the employees. Exercise facilities (presumably with shower facilities) was the service most desired by not accessible within walking distance (47%)
Within 3 months, meet with area bike coordinators and obtain marketing materials for distribution through employers (include with Parking & Transportation Map packet)	Bike-to-work information	Unknown		25% of respondents indicated that bicycle racks, showers, and storage facilities would strongly encourage use. Another 23% would be slightly encouraged.

Goal 1 - Offer Travel Choices

Short Range Objective 1.4: Develop an alternative work arrangements program and facilitate adoption by employers and commuters.

Action	Performance Measures	Benchmarks	Targets	Contributing Factors
<p>Within 3 months, develop materials on telecommuting. Within 6 months, hold a workshop with on telecommuting.</p>	<p># employers with telecommuting</p> <p># employees who telecommute</p>	<p>Jackson Memorial Hospital is only large employer surveyed that permits telecommuting (on a department only level)</p>	<p>2 new large employers with telecommuting programs in the pilot stage</p>	<p>Reducing the need to travel during peak periods should reduce congestion.</p>
<p>Within 3 months, develop and distribute information on staggered work hour and flexible work hour programs to employers at the departmental level.</p> <p>Develop schedule of arrivals and departures among employers to determine how to shave the peak period. Reserve opportunity for transit riders and ridersharers to shift schedules to accommodate transit schedules and pool partners.</p>	<p># employers with flexible work programs</p>	<p>Jackson Memorial, Univ of Miami MC, and Miami-Dade CC allow departments to set policy toward flexible work schedules</p> <p>26% arrive at 7:46 to 8:00 a.m.</p> <p>24% depart between 4:46 and 5:00 p.m.</p>	<p>TBD based on schedule developed by CCTMO with employers</p>	<p>Shifting the time of the trip may reduce congestion. Slight staggering of schedules would appear to make a difference. For example, 26% arrive between 7:46 and 8:00 a.m. but only 6 percent arrive 15 minutes earlier and 3 percent arrive 15 minutes later.</p>

Goal 2 – Enhance the Civic Center Area as a Business Location

Short Range Objective 2.1: Develop strategies to reduce commuter vehicle traffic

Action	Performance Measures	Benchmarks	Targets	Contributing Factors
<p>Within 12 months, target a campaign to increase the frequency of alternative mode use to decrease the number of peak period vehicles per 100 commuters in order to increase the number of parking spaces available for visitors, patients, and clients. Ongoing task.</p>	<p># vehicles per 100 commuters</p>	<p>87.7 vehicles per 100 travelers by car (Civic Center Existing Transportation Conditions - AM Peak Period Vehicle Occupancy Counts)</p>	<p>5% reduction</p>	<p>Efforts to move people from 2 person carpool to 3 person carpool or for encouraging transit riders to use transit more (e.g., once per week to three times per week.) are included in this indicator.</p>
<p>Within 12 months, reduce traffic congestion in Civic Center area by fostering use of alternative modes to driving alone. Ongoing task.</p>	<p>VMT reduced by mode Vehicle trips reduced by mode # persons placed into a ridesharing arrangement</p>	<p>2,400 VMT reduced per year per ridesharer (Virginia)</p>	<p>480,000 VMT reduced (Assumes 20% placed into ridesharing arrangement and 1,000 persons served)</p>	<p>GCCS is conducting an evaluation that can provide estimates for average VMT reduced for South Florida TMOs. Alternative mode usage = %transit + %carpool +%bike +%walk</p>

Goal 2 – Enhance the Civic Center Area as a Business Location

Short Range Objective 2.2: Develop strategies to improve the perception of transportation in and around the Civic Center

Action	Performance Measures	Benchmarks	Targets	Contributing Factors
<p>Within 6 months, develop a CCTMO task force to investigate the provision of security in and around bus stops/rail stations.</p>	<p>Task force formed</p>	<p>None</p>	<p>Completed report of task force within 6 months of formation</p>	<p>Safety at the stations was a perception expressed by survey respondents. 61% said improved lighting and 59% said increased security at bus/stops rail stations would strongly encourage them to use alternative transportation, Suggestions include: make presence more visible (not just on platform) and address any misperceptions head on.</p>
<p>Within 12 months, produce “time contour” map showing travel times in 15 minute increments (up to 45 minutes) from various points in South Florida to the Civic Center area</p>	<p>Map</p>	<p>None</p>	<p>Maps distributed to all building owners and employers who are members of CCTMO</p>	<p>The ability to attract and retain employees is often determined by an acceptable and sustainable commute (The Rule of 45). This map should provide developers and employers in the area information about the market and labor shed.</p>

Goal 3 - Establish Partnerships

Short Range Objective 3.1: Develop partnerships with employers to achieve CCTMO goals.

Action	Performance Measures	Benchmarks	Targets	Contributing Factors
Within 3 months, develop and distribute employer outreach marketing materials on TDM strategies and benefits to business.	# of employer contacts	Unknown	Contact all employers with more than 100 employees (see Table A-1, Appendix A)	Employers must know what is in it for them. Issues such as perceived parking problems, recruitment, retention, etc. should be addressed.
Within 2 months, establish an employer outreach campaign to appoint and train Employee Transportation Coordinators (ETCs) to involve employers in mobility programs.	# ETCs trained # ETCs active	7 members	10 ETCs	Number of ETCs is linked with the number of employers assisted. However, 1 ETC may serve several locations for that business.
Within 12 months, increase the number of employers selling transit passes to employees.	# employees purchasing transit passes # passes sold	NA	5 companies	61 percent of employees stated that bus/rail pass discounts would strongly encourage them to use alternative transportation

Goal 3 - Establish Partnerships				
Short Range Objective 3.2: Develop broad financial support to achieve CCTMO goals.				
Action	Performance Measures	Benchmarks	Targets	Contributing Factors
Within 6 months, conduct strategic planning/consensus building workshop to describe the problems and relay information of importance to area employers (security issues, pedestrian improvements, etc.)	# of attendees # of employers represented	Unknown	3 to 5 year Strategic plan	Employers generally believe transportation problems can be solved much more quickly than is usually the case. Employers must go through an education process BEFORE they will adopt TDM solutions - don't rush the process or push the TDM solution. Costs and timing issues may make TDM one of the solutions IDENTIFIED by business as THEIR solution.
Within 2 months, attend and participate in MPO meetings to provide input and guide development of the CCTMO program and services.	# meetings # meetings attended by CCTMO	NA	80% of meetings attended	Mobility management plans are coordinated by the MPO. Regional transportation planning and investment decisions are made by this body in coordination with FDOT.
Within 12 months, solicit and obtain contributions from members and other employers in support of CCTMO products (e.g., Parking and Transportation Map and Travel Time Map)	\$ provided	NA	25% of local funds required for those projects	Employers, including those who aren't members, may be willing to contribute toward specific projects.

■ References

- Barton-Aschman Associates, Inc. Civic Center Existing Transportation Conditions. January 1994.
- Barton-Aschman Associates, Inc. *Civic Center Pedestrian Amenities and Safety Study*. January 1994.
- The Center for Urban Transportation Research. *Commute Alternatives System Handbook*. August 1995.
- The Center for Urban Transportation Research. *The Commuter Assistance Program Evaluation Manual*. 1997.
- The Center for Urban Transportation Research. *An Evaluation Toolkit for Florida's Commuter Assistance Program (CAP)*. 1997.
- The Center for Urban Transportation Research. *Tampa Downtown Mobility Initiative: Technical Memorandum Number One, Profile of Existing CBD Travel Characteristics*. December 1990.
- Desman Associates, *A Comprehensive Medical Center Parking/Paratransit Study*. April, 1988.
- Desman Associates, *Miami Medical Center Parking Study*. February, 1992.
- Institute of Transportation Engineers. *Implementing Effective Transportation Demand Management Measures*. June 1993.

■ Appendix A

List of Employers with 100 or More Employees – Civic Center Area

Table A-1 Major Employers in Civic Center Area

Business Name	Address	ZIP Code	Phone #	Contact Name	Employment
American Red Cross	1801 NW 9 th Ave	33136-1132	305/326-8888	Roger Svoboda	100-249
Anjelica Healthcare Svc	1950 NW 1 st Ave	33136-1302	305/573-1544	Bill Forand	100-249
Bascom Palmer Eye Institute	900 NW 17 th St	33136-1119	305/326-6196	Mary Lou Lewis MD	100-249
Columbia Cedars Medical Ctr*	1400 NW 12th Ave	33136-1003	305/325-5511	Ralph A Aleman	1,000-4,999
Circuit Court-Criminal*	1351 NW 12th St	33125-1644	305/547-4888	Leonard L Amaiz	250-499
Dade County Dept of Health*	1350 NW 14th St Bldg 7 Fl 3	33125	305/324-2400	Annie R Neasman	500-999
Dade County State Attorney*	1350 NW 12th Ave	33136-2102	305/547-0100	Katherine Rundle	500-999
Dade International Inc	1851 Delaware Pkwy	33125-1113	305/633-6461	Don Fuller	250-499
Easter Seal Society	1475 NW 14th Ave	33125-1616	305/325-0470	Joan Bornstein	100-249
Florida Home Health Svc	1400 NW 12th Ave	33136-1003	305/545-1111	Gaylyn Timiney	250-499
Frederick Douglas Elementary	314 NW 12 th St	33136-2514	305/371-4687	Jeanethe Thompson	100-249
Harbor View Hospital	1861 NW South River Dr	33125-2787	305/642-3555	Lee Ghezzi	100-249
Health Dept	1350 NW 14th St	33125-1609	305/324-2443	Anita De Zayars	100-249
Jackson Memorial Hospital*	1611 NW 12th Ave	33136-1096	305/585-1111	Ira C Clark	5,000-9,999
Lindsey Hopkins Technical Ed*	750 NW 20 th St	33127-4692	305/324-6070	John Leavy	250-499
Miami-Dade Community College*	950 NW 20 th St	33127-4622	305/237-4000	Richard Schinoff	250-499
Slyvester Comprehensive Cancer	1475 NW 12th Ave	33136-1002	305/545-1000	John Clarkson MD	1,000-4,999
United Cerebral Palsy Assn	1411 NW 14th Ave	33125-1616	305/325-1080	Joseph Aniello	250-499
Univ of Miami-Va Medical Ctr*	1201 NW 16th St # Nh207	33125-1624	305/324-3388	Marcelo Bendix MD	1,000-4,999
University Miami Neurological*	1501 NW 9 th Ave	33136-1407	305/547-6946	Roberto C Heros MD	100-249
University of Miami Project*	1600 NW 10th Ave # R48	33136-1015	305/243-6001	Mary Bunge	100-249
US Veterans Medical Ctr	1201 NW 16th St	33125-1624	305/324-4455	Thomas C Doherty	1,000-4,999
V A Medical Ctr	1201 NW 16th St # C1008	33125-1624	305/324-3120	Kenneth M Kessler	250-499
Wells Fargo Armored Svc	1089 NW 20th St	33127-4538	305/324-4900	Louis Morales	100-249
William L Mc Knight Research	1638 NW 10th Ave	33136-1015	305/326-6099	Gaby Kressly	100-249

*Civic Center TMO member.

■ Appendix B

Civic Center TMO Survey Instrument

MIAMI CIVIC CENTER AREA EMPLOYEE COMMUTE SURVEY

This survey is being undertaken by the Center for Urban Transportation Research for the Dade County Metropolitan Planning Organization in cooperation with the Civic Center Transportation Management Organization. The survey is intended to collect information on the travel patterns of people working in the Miami Civic Center area. Your input on your travel to and from work is extremely valuable to the survey. All information is confidential and cannot be identified with you personally. Thank you for your cooperation.

1. Who is your employer? Cedars Medical Center City of Miami Dade County Jackson Memorial Hospital
 Lindsay Hopkins Miami-Dade CC U of Miami Other (specify) _____
2. What is your home zip code? _____
3. Please list the major intersection nearest to your home: _____ and _____
4. On a typical day, how many miles do you travel (one way) from your home to work? _____ (miles)
5. At what time do you generally arrive at work? _____ AM/PM At what time do you generally leave work? _____ AM/PM
6. In what ways do you usually travel to work? (Check all that apply.)
 Drive alone Bus Motorcycle Other (specify) _____
 Tri-Rail Walk Carpool
 Metrorail Bicycle Vanpool
7. If you drive alone to work, what are the major reasons for not traveling on the bus, rail, or in a carpool, or vanpool? (Check all that apply.)
 Need car for job Gas is paid for Feel safer/more comfortable in car
 Work irregular hours No park and ride lots near home Lack of security at bus stops/shelters
 Use car during lunch No bus/rail stops near home Lack of security at Metrorail stations
 Run errands before/after work No direct/connecting/express transit service Difficult to walk in area (i.e., crime, no sidewalks or shelter, construction)
 Parking is free Lack of route/scheduling information
 Drive company car No convenient vanpool, or carpool available Other (specify) _____
8. What, if any, parking problems do you experience at your worksite? (Please check all that apply.)
 Not enough parking spaces Parking is too far from worksite None
 No covered parking Too expensive to park Other (specify) _____
 Parking lot isn't safe after dark Difficult to park after leaving for lunch/errand _____
9. Which of the following does your employer provide? (Please check all that apply.)
 Pays part/all of bus/rail pass Guaranteed ride home program Other (specify) _____
 Allows some type of flexible work hours Carpool rideshare matching program
 Allows telecommuting (working at home) Vanpool program
 Pays part/all parking fees Preferential parking for carpools/vanpools
10. Which of the following services not currently available would you like to have accessible to you within walking distance from your work site?
 Cafeteria Exercise facility Post office
 Snack bar Retail shopping Child care
 Restaurant Banking services/ATM Public charter school
 Convenience store Dry cleaners/laundry Other (specify) _____
11. Here are some factors that influence decisions on how people commute to and from work. For each factor, please check (✓) in the box the column that best describes to what extent these factors would encourage you to use alternative transportation modes (e.g. carpool, transit, bike, walk).

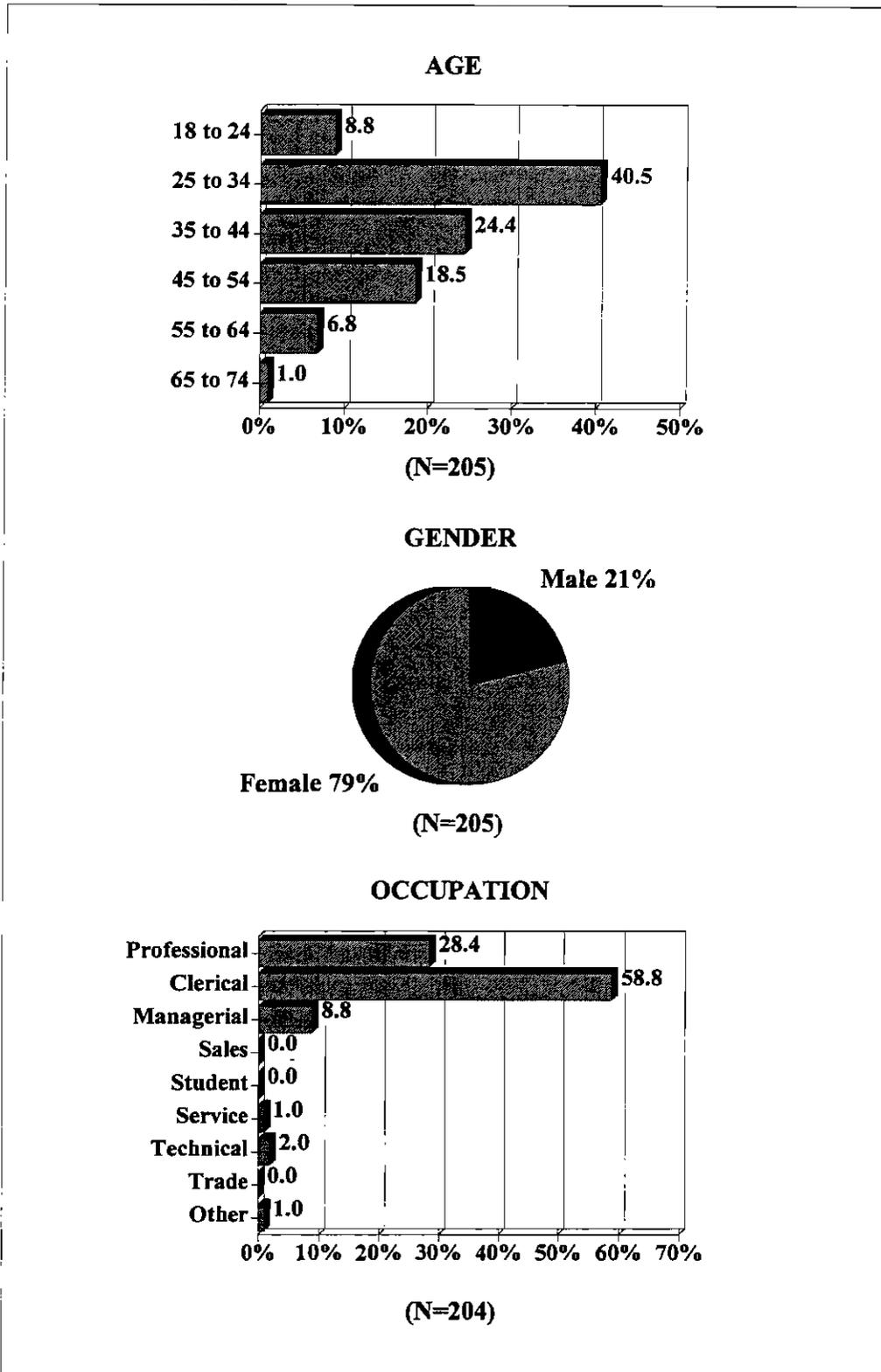
	Not at all	Slightly encourage	Strongly encourage
a. Expanded bus/rail service	<input type="checkbox"/> (a)	<input type="checkbox"/>	<input type="checkbox"/>
b. Express bus service	<input type="checkbox"/> (b)	<input type="checkbox"/>	<input type="checkbox"/>
c. Relocate bus stops closer to worksite	<input type="checkbox"/> (c)	<input type="checkbox"/>	<input type="checkbox"/>
d. More bus shelters/bus benches	<input type="checkbox"/> (d)	<input type="checkbox"/>	<input type="checkbox"/>
e. More park-and-ride lots	<input type="checkbox"/> (e)	<input type="checkbox"/>	<input type="checkbox"/>
f. Greater security (cameras, guards, etc.,) at bus stops/rail stations	<input type="checkbox"/> (f)	<input type="checkbox"/>	<input type="checkbox"/>
g. Flexible work hours or work days	<input type="checkbox"/> (g)	<input type="checkbox"/>	<input type="checkbox"/>
h. Carpool ride matching service	<input type="checkbox"/> (h)	<input type="checkbox"/>	<input type="checkbox"/>
i. Vanpool program	<input type="checkbox"/> (i)	<input type="checkbox"/>	<input type="checkbox"/>
j. Reserved parking for carpools and vanpools	<input type="checkbox"/> (j)	<input type="checkbox"/>	<input type="checkbox"/>
k. Guaranteed ride home in case of emergencies if participating in carpool/vanpool program	<input type="checkbox"/> (k)	<input type="checkbox"/>	<input type="checkbox"/>
l. Transportation or Commuter Information Center	<input type="checkbox"/> (l)	<input type="checkbox"/>	<input type="checkbox"/>
m. Showers/facilities for bicyclers at worksite	<input type="checkbox"/> (m)	<input type="checkbox"/>	<input type="checkbox"/>
n. Bus/rail pass discounts	<input type="checkbox"/> (n)	<input type="checkbox"/>	<input type="checkbox"/>
o. Daytime shuttle bus to local stores, restaurants, banks, etc.	<input type="checkbox"/> (o)	<input type="checkbox"/>	<input type="checkbox"/>
p. Bicycle racks and storage	<input type="checkbox"/> (p)	<input type="checkbox"/>	<input type="checkbox"/>
q. Improved pedestrian amenities (sheltered/covered areas, more walkways, restricted vehicular movements, more protected crosswalks, etc.)	<input type="checkbox"/> (q)	<input type="checkbox"/>	<input type="checkbox"/>
r. Improved lighting in the Civic Center area	<input type="checkbox"/> (r)	<input type="checkbox"/>	<input type="checkbox"/>
Other factors that would strongly encourage? (please list) _____			
12. Your age is....
 Under 18 25 to 34 45 to 54 65 to 74
 18 to 24 35 to 44 55 to 64 Over 74
13. Your gender is..... Male Female
14. What is your occupation? _____

PLEASE USE THE BACK OF THIS FORM FOR ADDITIONAL COMMENTS.

■ Appendix C

CCTMO Employer Demographic Profiles & Survey Results

Figure C-1. Demographic Profile: State Attorney's Office



**Table C-1. Extent That Factor Would Encourage Use of Alternative Transportation Mode:
State Attorney Office**

	N	Not at all (%)	Slightly encourage (%)	Strongly encourage (%)
Factor				
Expanded bus/rail service	188	26.6	20.2	53.2
Express bus service	178	34.8	21.3	43.8
Relocate bus stops closer to work	166	49.4	22.3	28.3
More bus shelters/bus benches	162	53.1	19.8	27.2
Lanes reserved for carpools on freeways	168	43.5	25.0	31.5
More park and ride lots	169	40.2	20.1	39.6
Greater security (i.e. cameras, guards) at bus stops/rail stations	179	25.7	23.5	50.8
Flexible work hours or work days	171	36.8	26.9	36.3
Carpool ride matching service	163	56.4	22.1	21.5
Vanpool program	164	57.9	22.6	19.5
Reserved parking for carpools and vanpools	163	49.1	22.7	28.2
Guaranteed ride home in case of emergencies	176	30.7	19.9	49.4
Transportation or Commuter Information Center	166	48.8	29.5	21.7
Showers/facilities for bicyclers at worksite	163	69.3	12.9	17.8
Bus/rail pass discounts	177	24.3	21.5	54.2
Daytime shuttle bus to local stores, restaurants, banks, etc.	174	30.5	28.7	40.8
Bicycle racks and storage	165	63.9	17.0	19.4
Improved pedestrian amenities	177	28.2	24.3	47.5
Improved lighting in Civic Center area	167	21.0	19.2	59.9

Source: CCTMO Commuter Characteristics Study, 1997.

Figure C-2. Demographic Profile: Jackson Memorial Hospital

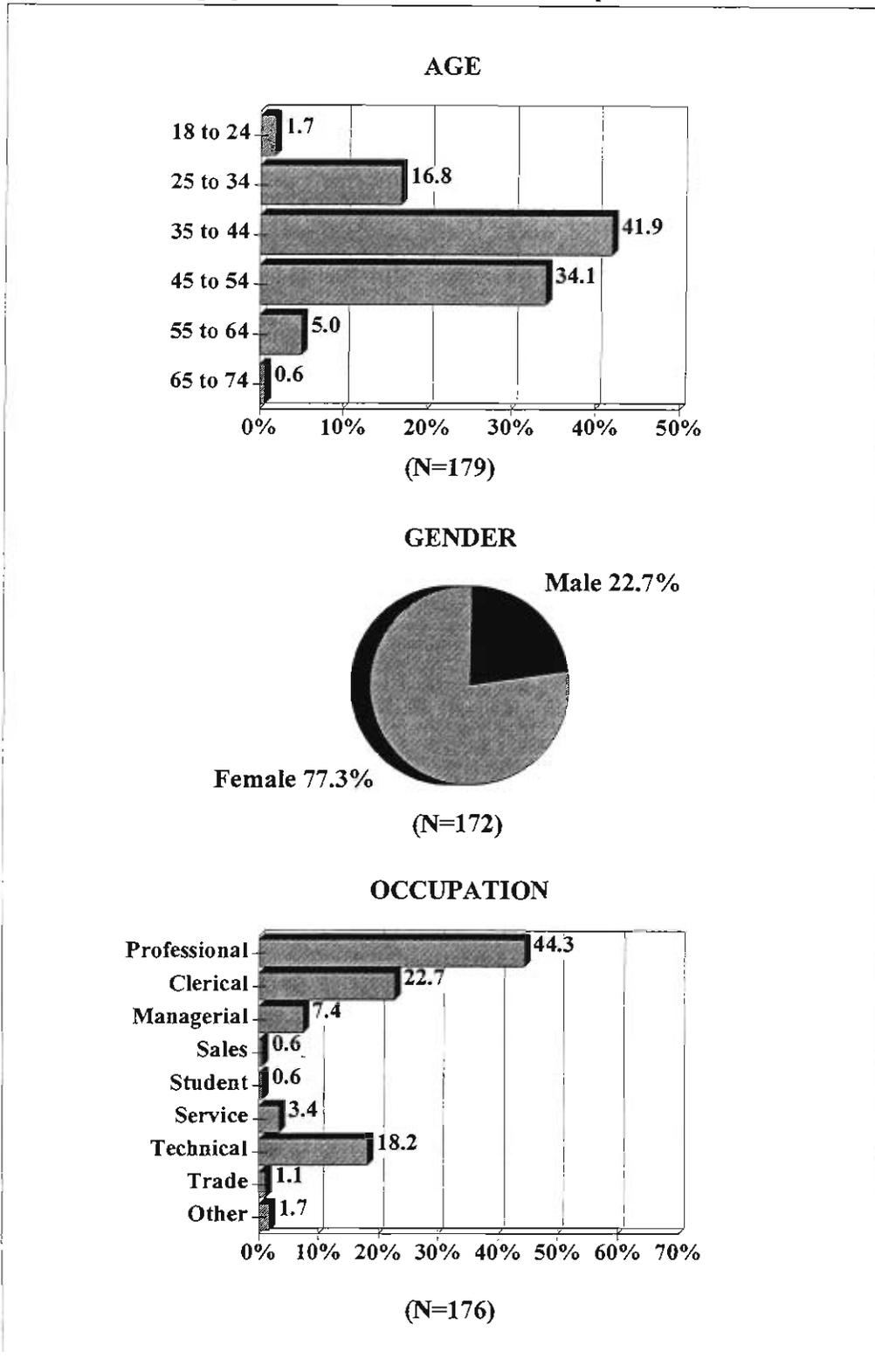
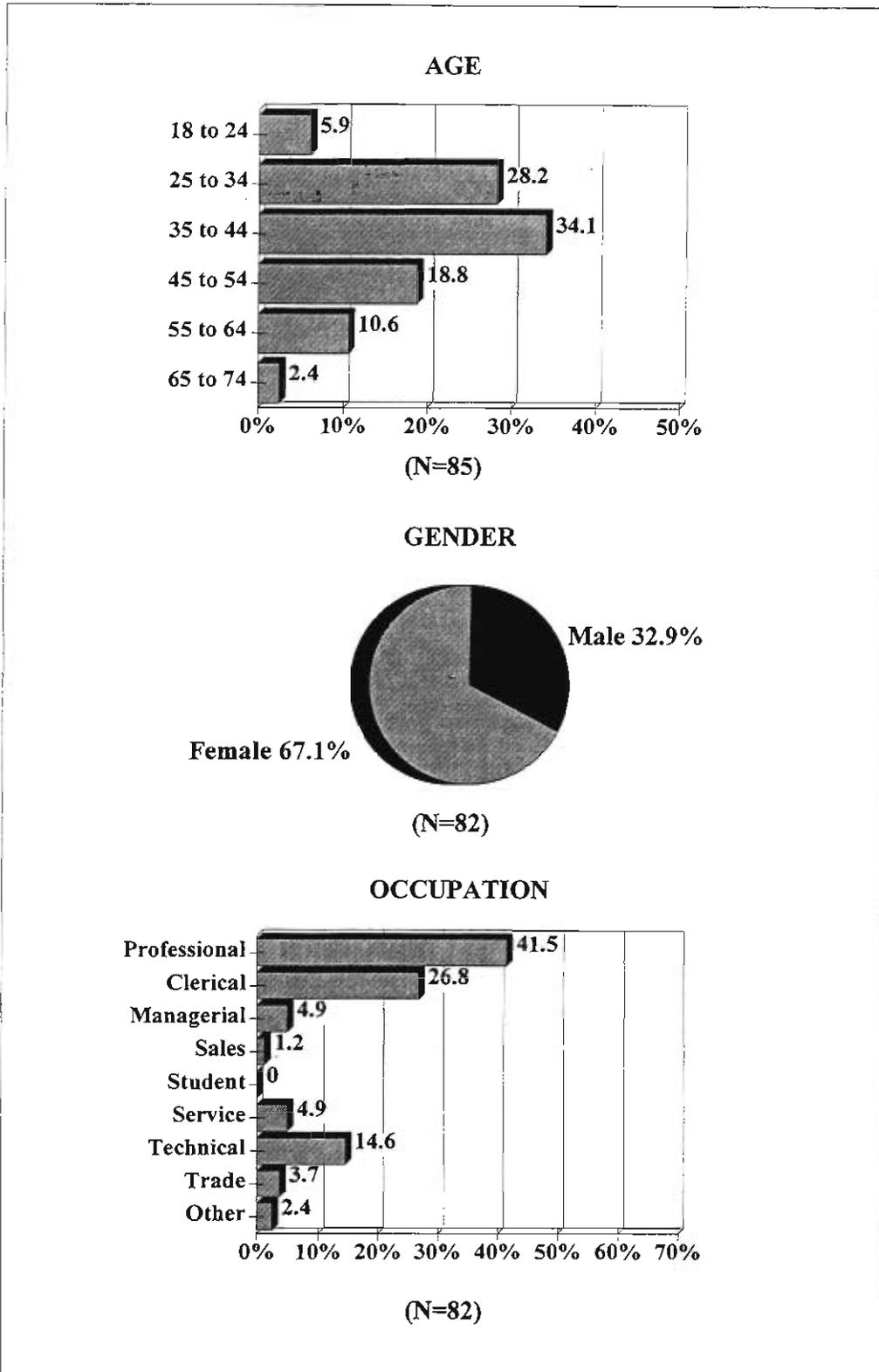


Table C-2. Extent That Factor Would Encourage Use of Alternative Transportation Mode: Jackson Memorial Hospital

Factor	N	Not at all (%)	Slightly encourage (%)	Strongly encourage (%)
Expanded bus/rail service	154	16.9	14.9	68.2
Express bus service	151	23.2	14.6	62.3
Relocate bus stops closer to work	125	40.0	21.6	38.4
More bus shelters/bus benches	123	39.0	21.1	39.8
Lanes reserved for carpools on freeways	124	33.9	21.8	44.4
More park and ride lots	137	16.1	17.5	66.4
Greater security (i.e. cameras, guards) at bus stops/rail stations	140	12.1	15.0	72.9
Flexible work hours or work days	131	20.6	26.7	52.7
Carpool ride matching service	126	30.2	37.3	32.5
Vanpool program	122	36.9	31.1	32.0
Reserved parking for carpools and vanpools	122	30.3	34.4	35.2
Guaranteed ride home in case of emergencies	136	16.2	28.7	55.1
Transportation or Commuter Information Center	123	23.6	30.9	45.5
Showers/facilities for bicyclers at worksite	121	47.1	24.8	28.1
Bus/rail pass discounts	138	15.9	11.6	72.5
Daytime shuttle bus to local stores, restaurants, banks, etc.	127	33.1	23.6	43.3
Bicycle racks and storage	120	45.0	30.0	25.0
Improved pedestrian amenities	126	23.8	23.0	53.2
Improved lighting in Civic Center area	122	14.8	16.4	68.9

Source: CCTMO Commuter Characteristics Study, 1997.

Figure C-3. Demographic Profile: University of Miami Medical Center



**Table C-3. Extent That Factor Would Encourage Use of Alternative Transportation Mode:
University of Miami Medical Center**

	N	Not at all (%)	Slightly encourage (%)	Strongly encourage (%)
Factor				
Expanded bus/rail service	78	19.2	33.3	47.4
Express bus service	70	28.6	21.4	50.0
Relocate bus stops closer to work	64	48.4	29.7	21.9
More bus shelters/bus benches	65	43.1	29.2	27.7
Lanes reserved for carpools on freeways	65	44.6	23.1	32.3
More park and ride lots	63	31.7	28.6	39.7
Greater security (i.e. cameras, guards) at bus stops/rail stations	64	25.0	25.0	50.0
Flexible work hours or work days	71	36.6	25.4	38.0
Carpool ride matching service	65	49.2	35.4	15.4
Vanpool program	65	53.8	21.5	24.6
Reserved parking for carpools and vanpools	64	45.3	26.6	28.1
Guaranteed ride home in case of emergencies	65	35.4	23.1	41.5
Transportation or Commuter Information Center	61	32.8	41.0	26.2
Showers/facilities for bicycles at worksite	65	52.3	18.5	29.2
Bus/rail pass discounts	71	18.3	18.3	63.4
Daytime shuttle bus to local stores, restaurants, banks, etc.	69	40.6	24.6	34.8
Bicycle racks and storage	67	47.8	20.9	31.3
Improved pedestrian amenities	66	25.8	31.8	42.4
Improved lighting in Civic Center area	64	18.8	25.0	56.3

Source: CCTMO Commuter Characteristics Study, 1997.

Figure C-4. Demographic Profile: Student Respondents

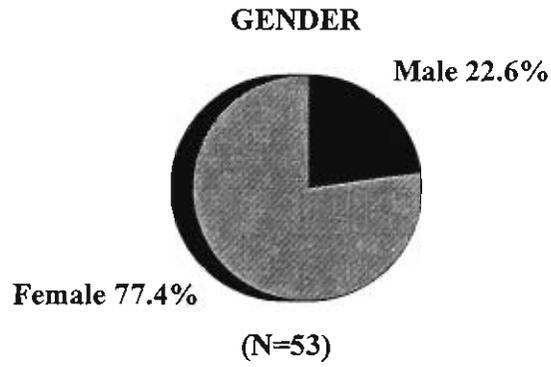
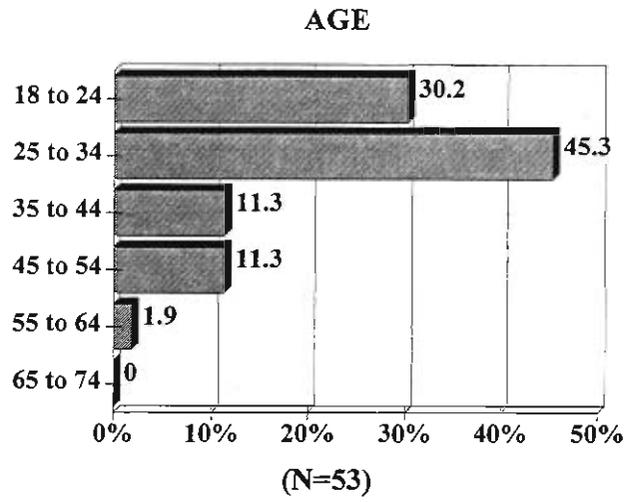
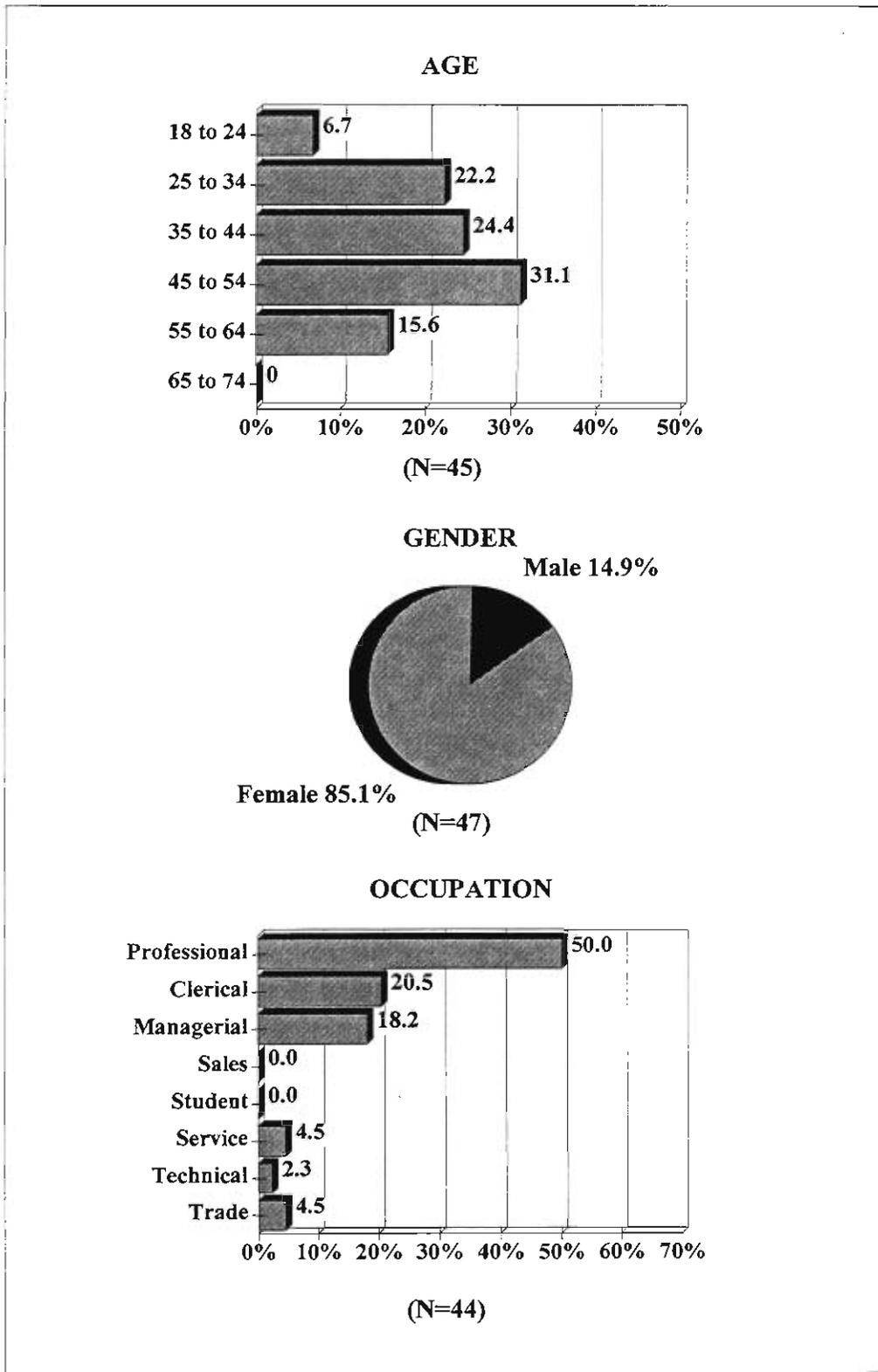


Table C-4. Extent That Factor Would Encourage Use of Alternative Transportation Mode: Students

Factor	N	Not at all (%)	Slightly encourage (%)	Strongly encourage (%)
Expanded bus/rail service	48	22.9	22.9	54.2
Express bus service	46	21.7	32.6	45.7
Relocate bus stops closer to work	44	29.5	31.8	38.6
More bus shelters/bus benches	40	32.5	27.5	40.0
Lanes reserved for carpools on freeways	41	22.0	31.7	46.3
More park and ride lots	43	23.3	34.9	41.9
Greater security (i.e. cameras, guards) at bus stops/rail stations	45	13.3	20.0	66.7
Flexible work hours or work days	44	29.5	27.3	43.2
Carpool ride matching service	42	38.1	28.6	33.3
Vanpool program	42	50.0	28.6	21.4
Reserved parking for carpools and vanpools	40	37.5	29.8	30.8
Guaranteed ride home in case of emergencies	42	31.0	21.4	47.6
Transportation or Commuter Information Center	44	22.7	36.4	40.9
Showers/facilities for bicyclers at worksite	47	38.3	29.8	31.9
Bus/rail pass discounts	44	15.9	22.7	61.4
Daytime shuttle bus to local stores, restaurants, banks, etc.	45	13.3	37.8	48.9
Bicycle racks and storage	46	30.4	26.1	43.5
Improved pedestrian amenities	44	15.9	34.1	50.0
Improved lighting in Civic Center area	43	14.0	27.9	58.1

Source: CCTMO Commuter Characteristics Study, 1997.

Figure C-5. Demographic Profile: Miami Dade Community College



**Table C-5. Extent That Factor Would Encourage Use of Alternative Transportation Mode:
Miami Dade Community College**

	N	Not at all (%)	Slightly encourage (%)	Strongly encourage (%)
Factor				
Expanded bus/rail service	42	23.8	23.8	52.4
Express bus service	39	20.5	23.1	56.4
Relocate bus stops closer to work	35	42.9	25.7	31.4
More bus shelters/bus benches	35	42.9	28.6	28.6
Lanes reserved for carpools on freeways	35	28.6	22.9	48.6
More park and ride lots	40	20.0	32.5	47.5
Greater security (i.e. cameras, guards) at bus stops/rail stations	35	20.0	20.0	60.0
Flexible work hours or work days	37	24.3	32.4	43.2
Carpool ride matching service	36	41.7	25.0	33.3
Vanpool program	33	42.4	30.3	27.3
Reserved parking for carpools and vanpools	36	36.1	38.9	25.0
Guaranteed ride home in case of emergencies	34	29.4	29.4	41.2
Transportation or Commuter Information Center	35	28.6	51.4	20.0
Showers/facilities for bicyclers at worksite	35	45.7	31.4	22.9
Bus/rail pass discounts	34	23.5	32.4	44.1
Daytime shuttle bus to local stores, restaurants, banks, etc.	36	22.2	30.6	47.2
Bicycle racks and storage	36	58.3	25.0	16.7
Improved pedestrian amenities	37	27.0	32.4	40.5
Improved lighting in Civic Center area	37	16.2	21.6	62.2

Source: CCTMO Commuter Characteristics Study, 1997.

Figure C-6. Demographic Profile: Dade County

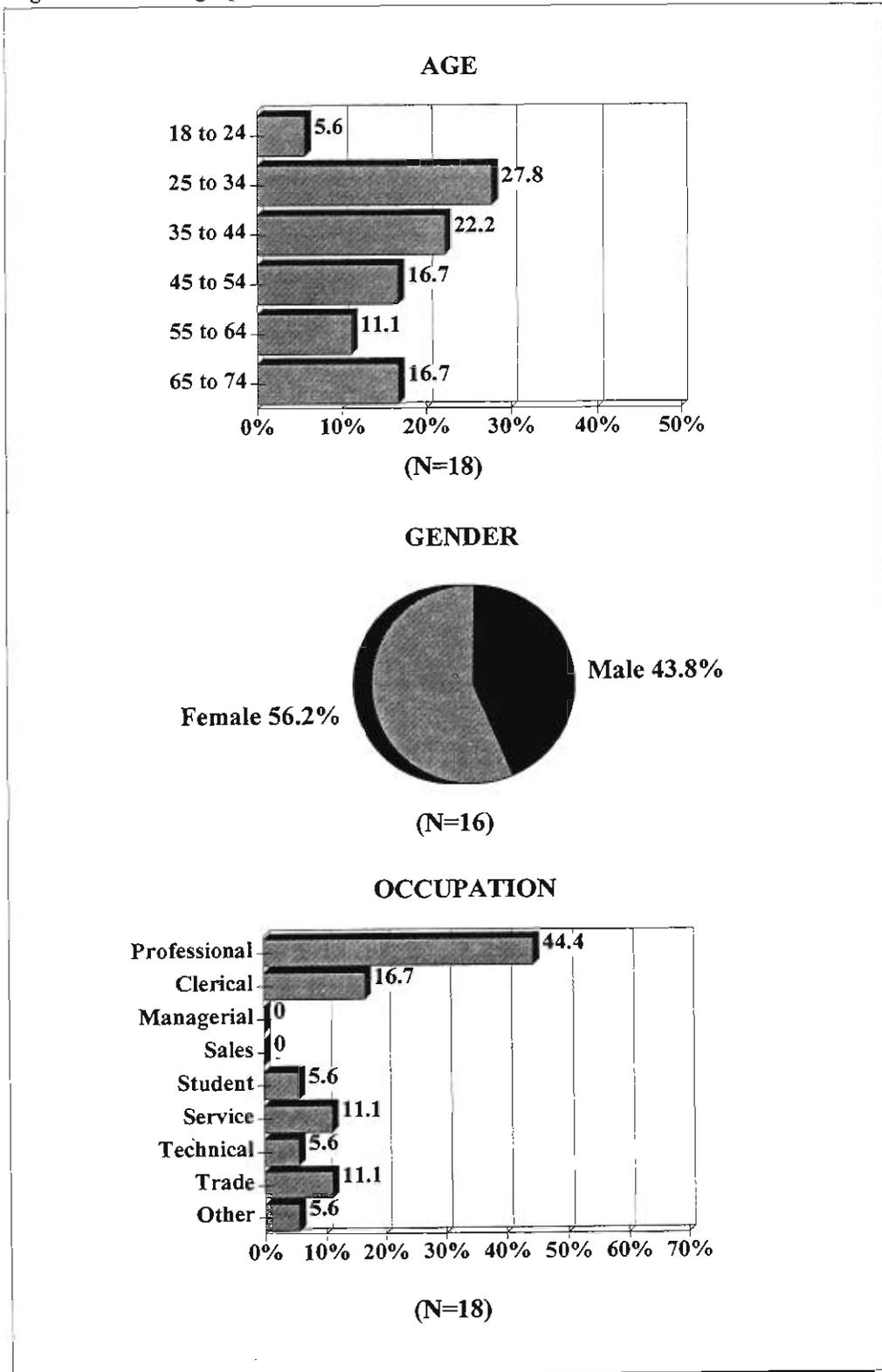
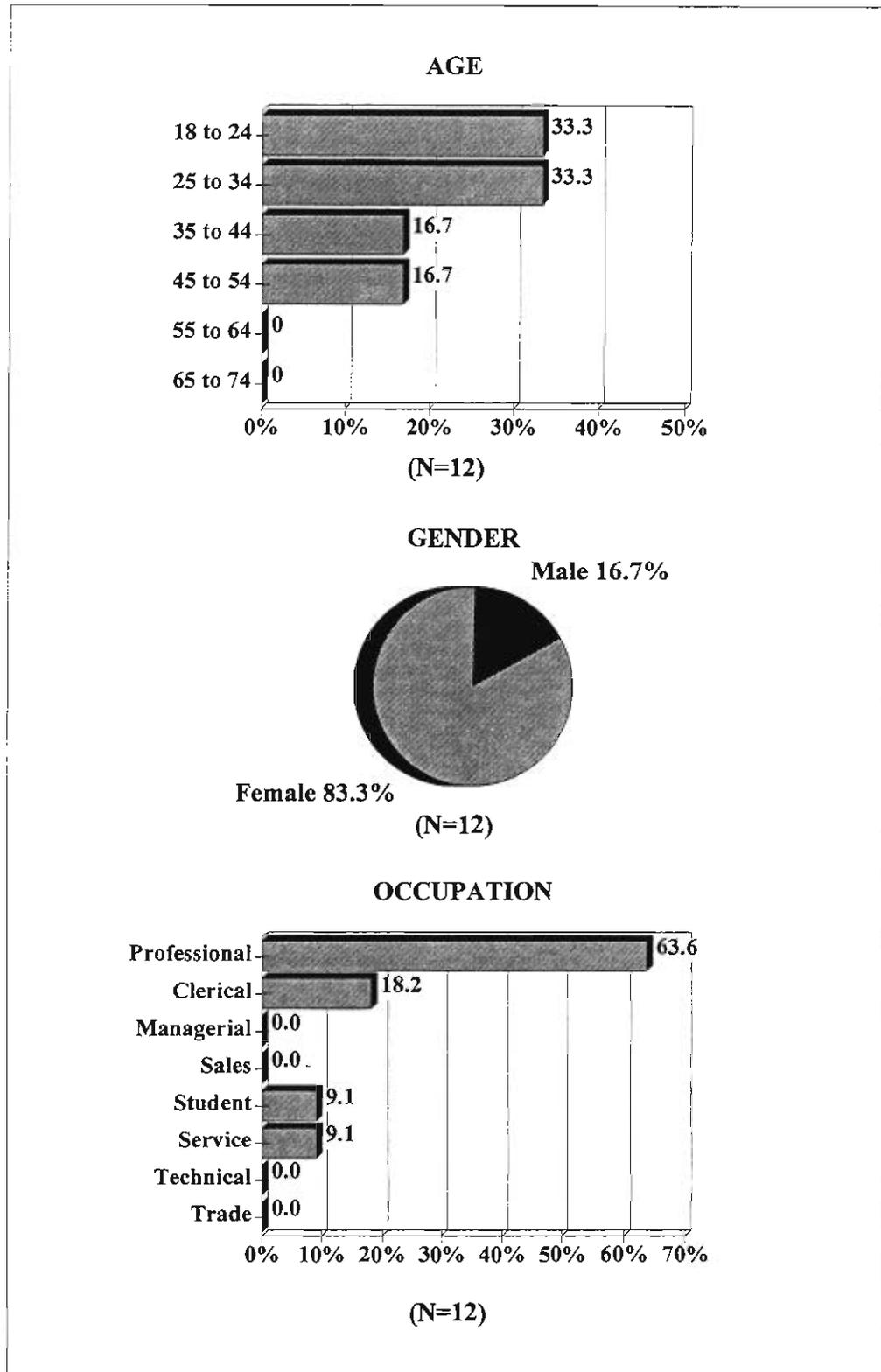


Table C-6. Extent That Factor Would Encourage Use of Alternative Transportation Mode: Dade County

Factor	N	Not at all (%)	Slightly encourage (%)	Strongly encourage (%)
Expanded bus/rail service	14	21.4	14.3	64.3
Express bus service	13	15.4	15.4	69.2
Relocate bus stops closer to work	12	25.0	25.0	50.0
More bus shelters/bus benches	11	27.3	9.1	63.6
Lanes reserved for carpools on freeways	12	41.7	16.7	41.7
More park and ride lots	10	50.0	30.0	20.0
Greater security (i.e. cameras, guards) at bus stops/rail stations	11	27.3	18.2	54.5
Flexible work hours or work days	13	46.2	0.0	53.8
Carpool ride matching service	12	41.7	33.3	25.0
Vanpool program	10	50.0	30.0	20.0
Reserved parking for carpools and vanpools	10	20.0	20.0	60.0
Guaranteed ride home in case of emergencies	12	8.3	33.3	58.3
Transportation or Commuter Information Center	10	30.0	40.0	30.0
Showers/facilities for bicyclers at worksite	12	25.0	33.3	41.7
Bus/rail pass discounts	12	8.3	25.0	66.7
Daytime shuttle bus to local stores, restaurants, banks, etc.	13	30.8	15.4	53.8
Bicycle racks and storage	12	33.3	25.0	41.7
Improved pedestrian amenities	12	33.3	16.7	50.0
Improved lighting in Civic Center area	10	10.0	40.0	50.0

Source: CCTMO Commuter Characteristics Study, 1997.

Figure C-7. Demographic Profile: Cedars Medical Center



**Table C-7. Extent That Factor Would Encourage Use of Alternative Transportation Mode:
Cedars Medical Center**

Factor	N	Not at all (%)	Slightly encourage (%)	Strongly encourage (%)
Expanded bus/rail service	10	20.0	40.0	40.0
Express bus service	11	9.1	36.4	54.5
Relocate bus stops closer to work	8	12.5	50.0	37.5
More bus shelters/bus benches	8	0.0	62.5	37.5
Lanes reserved for carpools on freeways	9	33.3	44.4	22.2
More park and ride lots	10	10.0	30.0	60.0
Greater security (i.e. cameras, guards) at bus stops/rail stations	9	11.1	33.3	55.6
Flexible work hours or work days	11	36.4	18.2	45.5
Carpool ride matching service	9	33.3	44.4	22.2
Vanpool program	8	25.0	37.5	37.5
Reserved parking for carpools and vanpools	9	44.4	33.3	22.2
Guaranteed ride home in case of emergencies	9	11.1	44.4	44.4
Transportation or Commuter Information Center	10	30.0	30.0	40.0
Showers/facilities for bicyclers at worksite	9	44.4	33.3	22.2
Bus/rail pass discounts	10	20.0	0.0	80.0
Daytime shuttle bus to local stores, restaurants, banks, etc.	9	22.2	33.3	44.4
Bicycle racks and storage	9	44.4	33.3	22.2
Improved pedestrian amenities	8	12.5	50.0	37.5
Improved lighting in Civic Center area	8	0.0	25.0	75.0

Source: CCTMO Commuter Characteristics Study, 1997.