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Bus Service Planning for Orlando's Southwest Direct Express Demonstration

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Final Report
April 1985

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16. Abstract

This report describes a set of service planning activities undertaken in the development of the Southwest Direct (SWD) Express Bus Demonstration in Orlando, FL. The Orange-Seminole-Osceola Transportation Authority implemented six express routes that operated from August 1983 to January 1985 and served several major attraction and employment sites in southwest Orlando.

Specifically, ridership estimates were developed for the proposed routes based on surveys of: a) employees, b) attraction visitors, and c) hotel guests. The demand estimation model, utilizing a microcomputer worksheet package, is described and the relevant analysis presented. Transit shares for each proposed route were adjusted for work-related factors not accounted for in the model itself. The ridership estimates were also used to modify the routes once some initial operational experience was gained. The report also provides a retrospective assessment on the role of these planning activities in the development and refinement of the SWD service.

The report is intended to aid transit planners in the design and implementation of route-level demand forecasting by describing the design, tabulation, and analysis of detailed survey data on potential users. A separate evaluation of the SWD demonstration itself will be available in the summer or fall of 1985.

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Preface

This report presents a summary of bus service planning efforts conducted by Cambridge Systematics, Incorporated for the Orlando, Florida Southwest Direct Express demonstration. The demonstration, which instituted express bus service to Orlando's Southwest Corridor area, was funded by the Urban Mass Transportation Administration's Service and Methods Demonstration Program, and implemented by the Orange-Seminole-Osceola Transit Authority. This report, which documents planning activities conducted prior to service implementation in August 1983, was prepared under contract to the Transportation Systems Center, U.S. Department of Transportation.

Mr. Joseph Goodman was the UMTA project manager, and the Transportation Systems Center project evaluation managers were Mr. David Kahn and Mr. Eric N. Schreffler, under whose guidance the final version of this report was prepared. The actual implementation of the demonstration was directed by Ms. Mary Hough, the project manager for the Orange-Seminole-Osceola Transit Authority.

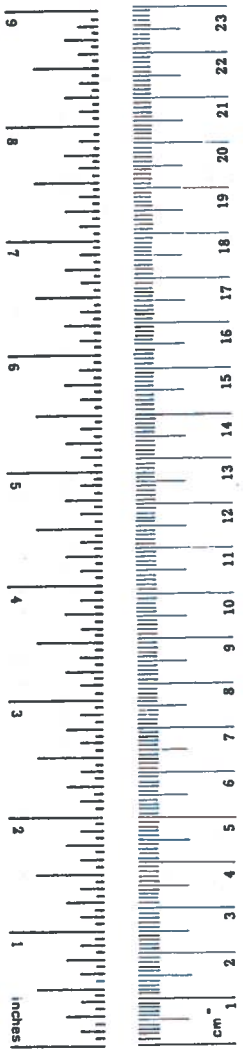
Mr. Barry Faulkner and Mr. Allen R. Marshall of Cambridge Systematics, Incorporated were the principal planners involved and prepared this summary report and the interim planning memoranda.

METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

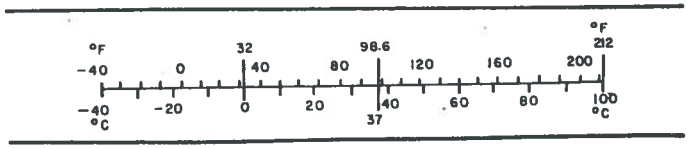
Symbol	When You Know	Multiply by	To Find	Symbol
	LENGTH			
in	inches	*2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
	AREA			
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2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

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



Approximate Conversions from Metric Measures

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



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Executive Summary

In August 1983, The Orange-Seminole-Osceola Transportation Authority (OSOTA) began operating a unique express bus service in the Southwest Corridor of Orlando--the area which contains such major visitor attractions and employers as Disney World, Sea World, and the Martin Marietta Corporation. The service was innovative and unique in two regards: 1) it provided service to major suburban employers, a service which is usually difficult to provide with traditional transit services, and 2) it was intended as a demonstration of the market for an ambitious rail transit project which is under development for the Southwest Corridor.

The express bus service, which was named the "Southwest Direct" by OSOTA, was funded by the Urban Mass Transportation Administration under Section 6 (the Service and Methods Demonstration (SMD) Program). As part of the program of assistance to OSOTA, the Transportation Systems Center (TSC) of the U.S. Department of Transportation provided the services of one of its SMD evaluation contractors, Cambridge Systematics, Inc. (CS), to assist OSOTA in identifying transit markets and to support service planning for the Southwest Direct.

This report provides a description of the service planning process for the Southwest Direct project, along with a brief history of the project and the early

experience with the express bus service. A portion of the material presented here has appeared earlier in the form of two technical memoranda prepared in August 1983. These were largely factual documents which were designed to be used directly by OSOTA staff in their service design efforts. As such, the separate memoranda do not present the entire scope of the planning assistance provided by Cambridge Systematics.

In order to more fully document the nature of the Cambridge Systematics role, this report combines these separate documents in this more integrated report in order to accomplish the following objectives:

- Present an overview of the work performed by Cambridge Systematics as part of the Orlando project under the auspices of the U.S. Department of Transportation in support of the Southwest Direct demonstration project.

- Discuss, in retrospect, the effectiveness of the planning assistance provided, or more simply, how the Cambridge Systematics work helped the initial planning effort and subsequent service adjustments.

- Present the actual analysis performed, consisting of the survey results and demand estimation work and to document the procedures and models used in the service planning process. The transit demand estimation model used for this study is available in microcomputer worksheet form for others who may be interested in using it.[1]

- Provide other transit operators and planning agencies with an example of a straightforward, useful service planning process. The report describes the survey methodology and analysis technique employed, and how the technical process was integrated into the service planning and post-implementation adjustment process.

[1]Additional information on obtaining a copy of the worksheet is available in Appendix I.

This report is organized into five main sections. Section 1 presents the background of the Southwest Direct project, and the events leading up to the implementation of express bus service in the corridor, as well as the role of the service planning efforts in the project. Section 2 describes the survey methodology employed to obtain information used in the identification of transit markets. Section 3 contains short summaries of the tabulated results of the survey effort. The actual tabulations are contained in Appendices C-G to the report. Section 4 consists of a market analysis based on the survey results, which was initially prepared by Cambridge Systematics for service planning purposes. Section 5 presents a retrospective view on the role of the service planning process in the development and refinement of the Southwest Direct service.

This report is not intended as an evaluation of the Southwest Direct demonstration project. A separate SMD contractor (Multisystems, Inc.) has been retained to conduct that evaluation. While some results of the demonstration project have been described in this report, this is done solely for the purpose of examining the success or shortcomings of the service planning techniques.

1.0 Introduction

1.1 Project Background

The Southwest Corridor is one of the fastest growing areas of Orlando in terms of population, employment, and new construction. A result of this boom has been a substantial increase in automobile traffic in the corridor--a growth which has led to increased congestion of the existing highways. Prior to the introduction of the Southwest Direct service, there was little publicly provided transportation available either for local employees or for tourists visiting this rapidly growing area of Orlando--an area which includes Walt Disney World (encompassing the Magic Kingdom ® and the newer EPCOT Center ®), Sea World, and the Martin Marietta Corporation, among other employment centers and tourist attractions. The need for enhanced public transportation alternatives in the area had been established by an earlier study by the Florida Department of Transportation and the Orlando Metropolitan Planning Organization entitled "A Special Access Transit System for the Orlando Southwest Corridor Study." It included an observation that a light rail system might be feasible for the Orlando area, and also provided a forecast of 90,000 daily riders on the LRV system. The proposed LRV system was to serve Orlando's CBD, the Southwest Corridor hotels, Disney World, Sea World, International Drive, and the Orlando airport.

As a consequence of this earlier study, Orlando's Bureau of Transportation submitted an application for an UMTA grant under Section 4(i) (Innovative Techniques and Methods Program) to fund new bus routes to provide both a high occupancy public transportation service in the short term and also a means of testing the feasibility of a future light rail system there. These routes would be operated by the Orange-Seminole-Osceola Transit Authority (OSOTA).[1] The buses were to serve the same destination areas in the Southwest Corridor and a portion of the market which was identified for the LRV system proposed by the earlier Florida DOT study. The project was funded under a Section 6 (Service and Methods Demonstration Program) grant and began in the Spring of 1983. Service was implemented with OSOTA buses in August 1983.

1.2 Southwest Corridor Project Objectives

Five major objectives for the proposed bus service were identified in the original grant application:

Objective 1: To provide a high occupancy alternative for people living near the corridor who work at the tourist centers and other employment areas in the corridor

The predominant commuting mode to Southwest Corridor jobs is the single-occupant automobile. This practice has led to daily congestion on Interstate 4, the major highway in the corridor. Ironically, the major congestion on I-4 is in the outbound direction

[1] OSOTA changed its name to Tri-County Transit in 1984. However, the OSOTA name is used throughout this report.

(i.e., away from the Orlando CBD) in the morning peak hour, and inbound in the afternoon peak hour. One of the objectives of the express bus service was to help reduce this congestion. By comparison, the principal anticipated source of passengers for the proposed LRV service is the tourist market, rather than employees.

Objective 2: To serve as a test for and to provide data for future planning of the fixed guideway system in the corridor

Ridership on the express buses was expected to be a reflection of the attractiveness of the high-occupancy alternative. The patterns of utilization, measured spatially in terms of origins and destinations, and temporally in terms of peak and off-peak ridership characteristics, were factors to be included in the design of the future system.

Objective 3: To serve tourists arriving at the Orlando airport who have a destination in downtown Orlando or at tourist centers in the Southwest Corridor

The airport-to-hotel-to-tourist center market was identified as a major market for the proposed fixed guideway system. A direct bus link to the airport from downtown Orlando, via the International Drive area was to be a test for the viability of that specific market for the LRV system.

Objective 4: To determine the interest of the private sector in providing transit service in the corridor

It was expected that some or all of the operating and capital costs of the proposed LRV system would be provided by a private entity operating the system on an

entrepreneurial basis. Private bus and taxi operators already have a significant investment in providing transportation service to destinations in the corridor. In addition, the Disney bus and monorail service provided a nearby example of a well-run private transit system.

It was hoped that some or all of the express bus service would be provided by private operators after the demonstration period ended. Ideally, the subsidized operations would show that private operation of the routes was viable.

Objective 5: To relieve traffic congestion and improve air quality in the corridor

The diversion of trips from private and rental automobiles to a mass transit vehicle was expected by OSOTA to have measurable benefits to air quality and to relieve congestion on the highways to some degree.

1.3 Service Planning Effort

The Transportation Systems Center of the U.S. Department of Transportation provides a comprehensive evaluation of virtually all projects funded under the SMD program. As part of that program, Cambridge Systematics, Inc., one of the firms under contract to perform SMD evaluations, was selected to conduct the evaluation of the Orlando project, and to prepare a work plan for that evaluation. To this end, a draft evaluation plan was prepared and submitted to TSC in April of 1983.

During the preparation of the evaluation plan, meetings were held between US DOT and OSOTA staff to

discuss the project goals, design issues and administration responsibilities. During these meetings, it was recognized that the scope of the demonstration project and the time provided for implementation required a greater service planning effort than could be provided with OSOTA staff alone. Because Cambridge Systematics had already gained familiarity with the project and its objectives (through the preparation of the evaluation plan), TSC, in cooperation with UMTA, assigned Cambridge Systematics the task of providing planning assistance to OSOTA as part of the SMD project. This necessitated transferring evaluation responsibilities from Cambridge Systematics to another SMD contractor in order to avoid any conflict of responsibilities. A formal evaluation report is being prepared on the demonstration by Multisystems, Inc., and should be disseminated in 1985.

The service planning assistance provided by Cambridge Systematics consisted primarily of market research which included the design, administration and analysis of three surveys of various potential transit markets in the Orlando area. The results of these surveys and an analysis of the markets for express bus service are presented in the ensuing sections of this report. While the preparation of a market analysis was the primary justification for the survey effort, the data collected also forms a body of "before" data useful in the evaluation effort. Most evaluations require some data to be collected prior to the start of the project as a means of assessing its effectiveness--for example, in attracting ridership to a transit system. The surveys for the market research were designed to

fulfill these data collection requirements of the evaluation plan.

The actual administration of the survey was conducted by OSOTA, under the direction of Southwest Direct project manager, and with the assistance of a local market research firm. The administration of the survey included printing, distribution and collection of the survey forms, and keying of survey responses to tape. The survey procedures are described in detail in section 2 of this report.

The survey responses were summarized and analyzed by Cambridge Systematics (CS), which also provided an assessment of potential transit markets for OSOTA. This tabulation and market analysis effort was delayed by the fact that targeted employers took much longer to return survey forms from their workers than was initially expected, yet the OSOTA board did not want the Southwest Corridor Project delayed in the meantime. Consequently, there was some time pressure on OSOTA to make service decisions before the final results were available to the planning staff. Thus, the system was set up initially based upon qualitative estimates of the markets for the new service and the travel behavior of the potential patrons based only partly on survey results. In addition, UMTA limited the pre-implementation service planning period to a maximum of six months from the time when the grant was actually awarded to OSOTA. A fully detailed report of the survey results followed the actual implementation of service by a few weeks. Fortunately, most of the route design assumptions were supported by the findings of the surveys.

While CS provided support services in the area of service planning, the route planning decisions remained

the responsibility of OSOTA. The intention was to gather the background market information necessary for effective service planning and to help the OSOTA staff "fine tune" their service plan. This took the burden of data collection and analysis off the OSOTA planners and allowed them to concentrate their efforts on other aspects of the express bus service planning. For example, CS was not involved in the actual route layout, stop selection, park-and-ride lot choices, or other local issues. Nor did CS have any involvement in the series of meetings held with private operators prior to implementation of the express buses--meetings which were intended to find ways of avoiding confrontations with the private transportation providers.

Two main products were prepared by CS to assist the OSOTA planners. The basic market analysis consisted of tabulating the survey results reported in Section 3 and preparing an estimate of the demand for the express bus service based on the survey results, which is reported in Section 4.

1.4 Initial System Design

When service began in early August 1983, six routes were set up to serve neighborhoods and the downtown of Orlando with direct Southwest Corridor and airport links. These routes were designated as the Southwest Direct (SWD) routes to distinguish them from the existing OSOTA routes. The six SWD routes are shown in Figure 1.1. The service was designed to serve park-and-ride facilities located in each of the neighborhoods as well as a limited number of stops in the origin area. The buses then ran with closed doors to

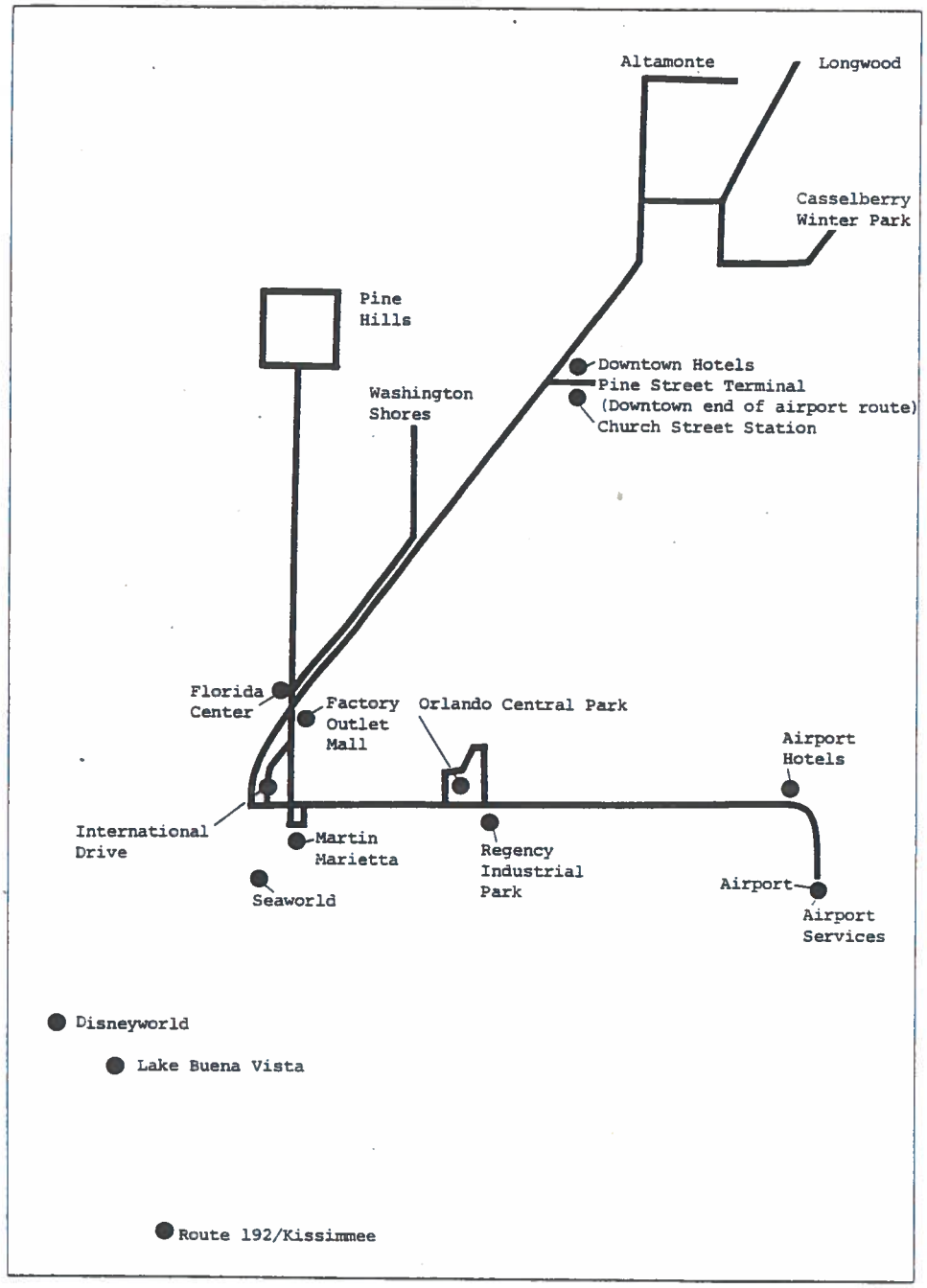


Figure 1.1 Proposed Bus Routes and Southwest Corridor Employment and Sites Surveyed

Southwest Corridor employment sites over Interstate 4. With the exception of the Airport/Downtown express bus, all the Southwest Corridor Direct routes had either one or two peak trips. The airport route ran on 45-minute headways all day long from 6:00 AM to 9:00 PM. The initial schedules and advertising flyer printed for the SWD routes is presented in facsimile in Appendix A, along with a map of the Orlando area. The Southwest Direct system operated in this fashion for the first few months of the demonstration period. Later revisions to the system were made, based upon early experience with the service, and upon detailed analysis of the survey results. These revisions are described more fully in Section 5.

2.0 Market Surveys

2.1 Service Planning Data Requirements

Surveys were conducted in the three major potential markets for the transit service--employees, hotel guests, and tourists (at area attractions). Each of these market segments has particular characteristics which affect the level of transit utilization within it. All of them were expected to be markets for the fixed guideway transit service should it be implemented. Of these three groups, the employee market was expected to provide the majority of the ridership for the proposed express bus service. The purpose of the survey efforts was to produce information which would directly support planning for the new bus service in the Southwest Corridor. Consequently, each survey involved a number of questions which identify and define the potential market for transit services, i.e., the kinds of trips people were then making and how they make those trips. A secondary purpose of this effort was to provide baseline information for a formal evaluation of the effectiveness of the Southwest Corridor services. In addition, several questions were included on the surveys to determine the level of public interest in using alternative transit technologies, specifically, a light rail system.

2.2 Description of Surveys

Employee Survey

The survey given to employees of Southwest Corridor companies helped to define the home-to-work travel market, and the ability of transit to penetrate this market. The chief characteristics measured included:

- Current trip origins (Questions 7 and 8)[1]
- Current trip destination (determined from serial numbers on survey forms, which were recorded by employment site)
- Arrival and Departure times (Questions 5 and 6)
- Trip Time and Distance (Questions 3 and 4)
- Current Mode Choice (Questions 1 and 2)

These characteristics would allow the analyst to determine how many trips were being made to the Southwest Corridor which could be attracted to transit. A second set of questions attempted to identify circumstances which might prevent an employee from using transit. These circumstances include:

- Irregular work hours (Questions 9-13)
- Daytime travel requirements (Questions 13-15)

The third set of characteristics (Questions 16-23) concerned the individual answering the question. These characteristics were useful in predicting traveller's propensity to use transit, and could be used in later

[1]Question number from original survey form

evaluations to determine the relative success in attracting different user groups.

The final set of questions dealt with the respondent's attitude toward new bus and light rail service (Questions 24-28). These responses were to be used by the LRV consultants to attempt to measure potential demand for light rail service.

Hotel Guest Survey

The hotel survey was intended to measure the characteristics of visitors to the Orlando area--particularly those who stay in hotels and motels--and to determine their travel patterns while in Orlando.

Questions 1-5 asked about the trip to the Orlando area and from the airport or bus/train station to the hotel. The response to these questions would help determine whether travellers had already committed themselves to a particular travel mode while in Orlando, or whether they were open to making that choice on arrival.

Questions 6-13 asked about the purpose of the trip to Orlando, length of stay, group size and travel plans. The purpose of this section was to gain an understanding of the travel needs and constraints of area visitors.

Finally, questions 14 and 15 asked questions about attitude toward transit use, similar to those asked in the employee survey.

Attraction Visitor Survey

The attraction survey asked some questions similar to the hotel survey to identify the nature of the travel group, specifically for attraction visitors (Questions 1, 3 and 6-11). The attraction survey also identified the specific trip to the attraction (origin,

mode, time of arrival and departure), for area residents as well as tourists. Because of survey administration limitations, the survey was brief, and thus included only questions needed specifically for attraction visitors (i.e., it excluded the questions about propensity to use transit).

In addition, each of the surveys provided room for general comments. These were categorized and coded for general information.

2.3 Data Collection Strategy

Survey Design

Different forms were developed for each of the survey populations, and examples of each were included in Appendix H.[1] The forms were designed to be largely self-coding, with minimal hand-editing requirements. This objective was achieved for most of the questions, but ambiguities were found in the responses to certain questions. This was the case for question 6 on the employee form, in which respondents occasionally confused "leave from work" with "leave for work," which led to uncertain arrival and departure times. Respondents also included comments at the end of the hotel forms which reflected their opinion of the hotel

[1]Within the hotel and employee surveys, 5 different combinations of fares and headways were used for question 26 on the employee form and question 15 on the hotel guest form. These questions and variations were requested by the LRV engineering consultant for their ridership estimation efforts, under the assumption that demand would be related to the fare level and the headways for the planned LRV service. Responses to these questions are not covered in this report, since they are unrelated to the bus service planning data needs.

itself rather than transit-related comments. Finally, the employee form should have included an open-ended response question similar to question number 28 for the preceding question on interest in bus use (number 24) and for question 26 on work trip rail use. This would have allowed more confidence in reporting the reasons why people would not be likely to use each of the planned services. Aside from these problems, the forms generated very few problems in the data coding, punching, and processing stages.

Sample Techniques

Each survey had different sampling techniques to cover the different target populations. Sample sizes were determined in the following manner.

Employee Survey--A sample size of no less than 200 employees per employment "area," and, if possible, up to 500 per area was specified. This sample size was chosen in order to provide a plus or minus five percent accuracy at the 90 percent confidence level, on an area-by-area basis. The 200 employee minimum was felt to provide sufficient accuracy for evaluation testing purposes, while 500 provided an improved basis for estimating the size of smaller sub-markets, to be used for route planning purposes. The larger sample size was chosen by OSOTA.

Samples at individual employment sites were expected to follow the distribution shown in Table 2.1. These were based on an anticipated 80 percent response rate. This is a large response rate, but it was felt to be reasonable, considering the fact that employers could follow up to obtain completed surveys from employees.

Table 2.1 Estimated Employees, Estimated Responses, and Total Surveys Distributed by Employment Site

Employer	Estimated # Employees	Estimated # Responses	# Surveys	
Regency Industrial Park	2,850	500	625	Industrial
Orlando Central Park	10,616	500	625	& Service
Martin Marietta	8,200	500	625	Employees
Airport Services	2,600	500	625	
	24,266	2,000	2,500	
Lake Buena Vista Hotels	2,200	500	625	
Airport Hotels	1,700	250	310	Hotel
International Drive Hotels	2,300	500	625	Employees
Florida Center Hotels	1,700	250	310	
Downtown Hotels	1,400	200	250	
Route 192-Kissimee	1,100	200	250	
	10,400	1,900	2,370	
SeaWorld & Florida Festival	4,650	150	200	Tourist
Church Street Station	500	100	125	Attractions
Disney World/Epcot Center	18,000	500	625	Employees
Factory Outlet Mall	1100	100	125	
	24,250	850	1,075	
TOTAL	58,916	4,750	5,945	

At employment sites which were represented by only one or two employers, all surveys were to be distributed through those employers. For sites with many employers, the intention was to select five or six employers "at random" to administer the survey. In fact, the cooperation of the employers was difficult to obtain, and in some cases, the willingness of the employer to cooperate was the primary means of selection within an employment area.

Attraction Visitors--A sample of 500 daily visitors per area was targeted for this survey. This target was derived in the same manner as the employee survey target. The 500 number represented approximately 20 to 25 percent of the total number of visitors per day, which was estimated to be more than 2000 persons

at each attraction site. The survey form consisted of a mail-back card, and it was estimated that only 20 percent of the visitors would return it. Accordingly, 2500 cards were handed out at each of the participating attraction sites. Since this number approached the total daily attendance, cards were to be handed to all visitors as they entered.

Hotel Guests--As in the other surveys, a sample size of 500 hotel guests was desired for each hotel cluster. The total number of rooms at each hotel was known, and totals for the different areas were calculated. The response rate was expected to be 50 percent for this survey, but this rate was not even approached. Based on the 50 percent assumption, 1000 surveys were distributed to each hotel area. Table 2.2 shows the number of hotel rooms in each area, the number of forms distributed and the expected number of responses.

Table 2.2 Estimated Number of Hotel Rooms, Estimated Responses, and Total Surveys Distributed by Hotel Area

Hotel Area	Number of Rooms	Number of[1] Responses Expected	Number of Surveys Distributed
Lake Buena Vista	4,209	500	1,000
Airport Hotels	3,219	500	1,000
International Drive	4,435	500	1,000
Florida Center	3,208	500	1,000
Downtown Hotels	2,653	500	1,000
Rte 192 and I-4	2,000 approx.	500	1,000
TOTAL	19,724	3,000	6,000

[1]50 percent response was not achieved. Rate was closer to 5 percent, and results must be interpreted accordingly.

Administration of the Surveys

Employees--Employers (usually represented by the personnel department in larger organizations) were asked to distribute forms to their employees and to collect completed forms, which were picked up by OSOTA staff. Employers were instructed in the importance of obtaining a random sample, and it was suggested that this be accomplished by handing out forms to every "nth" employee, in an alphabetical list, with n determined by dividing the total employees by the number of forms to be distributed. The alphabetical distribution would reduce the chance of bias based upon job title, salary, or department. It was suggested that forms be distributed along with paychecks to the selected employees, but other mechanisms would be acceptable.

The confidentiality of the survey was maintained by allowing employees to seal their forms before returning. In addition, forms were serial numbered only after they were returned to OSOTA.

The OSOTA staff provided instructions to each employer, and maintained telephone contact throughout the distribution and collection period. However, there was no guarantee that all employers followed the distribution instructions precisely. Maintaining employer cooperation was a difficult task, according to OSOTA staff, and employer staff were willing to provide only a limited amount of time.

Attraction Visitors--Surveys were administered at SeaWorld (the third largest attraction, after Disney's two theme parks), Factory Outlet Mall (a discount shopping center on International Drive) and at Church Street Station (a complex of restaurants, night clubs, and shops in downtown Orlando). The management of

Disney World and EPCOT Center refused to participate at all in the survey of visitors. Survey forms were color-coded (buff, white, gray) to correspond to survey sites and numbered after they were received.

At each site surveyed, forms were to be handed to visitors as they left the site, after touring the attraction, in order to accommodate the requests of park management. The survey administrator (contracted by OSOTA) was asked to hand forms to every "nth" person (n = number of daily visitors divided by 2500 survey forms). The survey form, which required only a minute or two to complete, had a "postage paid by addressee" return mail imprint on the back so that respondents could put the form in any mailbox. Many visitors filled out their forms on the spot and returned them to the survey administrator.

Hotel Guests--In all, sixteen hotels participated. Guests were handed a survey form by the registration clerk, and asked to return the form to the clerk some time during their stay. Clerks gave forms to every entering party over a period of two days to a week. No mailback was included, as the front desk drop-off was considered to be sufficiently convenient.

This method failed to generate the expected response rate. It is assumed that this was due to a lack of cooperation on the part of hotel desk staff, the lack of a mailback imprint on the form, and an observed confusion on the part of the guests regarding the purpose of the survey. Many guests apparently did not realize that the survey was an OSOTA project and assumed it was being administered by the hotel for its own purposes. This led several guests to include critiques

of their stay in the hotel in the space reserved for additional comments.

Return Rates

The return rate for attraction visitors (19.9 percent) was very close to the targeted number. Among employment sites, response rates varied, with an overall return rate of 42 percent. While this was below expectations, it was within the range (32 percent or more) needed to give an adequate sample size (i.e. above the 200 responses needed to provide acceptable accuracy for evaluation purposes). Not enough information was obtained from employers to determine whether the low response rate introduced any systematic bias into the results. The hotel guest return rate (5 percent) was considerably below the expected rate. The low return rate made it impossible to summarize any meaningful data on an area-by-area basis. However, information for the entire set of hotels is presented. Table 2.3 breaks down the number of responses for each employment site, tourist attraction, and hotel area as well as showing the overall response rate to each survey.

The response rates for the employee survey could have been improved through better follow-up through company channels, to encourage employees to return questionnaires. OSOTA relied on company personnel to accomplish this; these staff people may not have understood the importance of reducing sample bias through improving response rates.

For hotel guests, the original 50 percent response rate may not have been obtainable, under the best of circumstances. This expectation was based on comparisons with surveys where a trained survey attendant is present to collect completed forms--hotel clerks did

Table 2.3 Return Rates for All Surveys

Employment Site	Forms #	Forms Returned #	Response Rate (%)
Industrial and Other Employers			
Regency Industrial Park	625	157	25.1%
Orlando Central Park	640	495	77.3%
Martin Marietta Corporation	625	189	30.2%
Airport Employers	627	421	67.1%
Hotel Employers			
Lake Buena Vista	625	342	54.7%
Airport Hotels	310	63	20.3%
International Drive	625	154	24.6%
Florida Center	400	78	19.5%
Downtown	250	25	10.0%
Rte. 192 and I-4	250	38	15.2%
Tourist Attraction Employers			
SeaWorld/Florida Festival	1000	366	36.6%
Church Street Station	150	11	7.3%
Disney	625	478	76.5%
Factory Outlet Mall	125	37	29.6%
TOTAL	6877	2854	41.5% Overall
Tourist Attraction Visitors			
SeaWorld/Florida Festival	2500	322	12.8%
Factory Outlet Mall	2500	732	29.2%
Church Street Station	2500	438	17.5%
TOTAL	7500	1492	19.9% Overall
Hotel Areas			
Lake Buena Vista	1000	97	9.7
Airport Hotels	1000	63	6.3
International Drive	1000	33	3.3%
Florida Center	1000	31	3.1%
Downtown	1000	57	5.7%
Rte. 192 and I-4	1000	22	2.2%
TOTAL	6000	303	5.1% Overall

not (and probably could not) perform this role. Placing an OSOTA (or contractor) representative in each hotel would have been unrealistically expensive, for the sample size desired.

Weightings

Based on the response rates, forms from the different areas were assigned weights equal to the simple ratio of the total number of employees or hotel guests to the number of responses received. This is essentially an attempt to represent the total population survey responses from the sample responses. However, the poor response rate from the hotels makes inferences from the sample to the population somewhat indefensible because large errors may be introduced. Results from employment sites with low numbers of responses also must be treated carefully when analyzed separately. Weights assigned to employment site and hotel area observations are shown in the following two tables (Tables 2.4 and 2.5). These weightings are used in the tabulations presented in Section 3.

Table 2.4 Weights Assigned to Cases by Employment Site

Employment Site	# Forms Returned	Weighting	Weighted Total Responses
Florida Center	78	22	1700
International Drive	154	15	2300
Lake Buena Vista	342	6	2200
Airport Hotels	63	27	1700
Downtown Hotels	25	56	1400
Route 192	38	29	1100
Orlando Central Park	495	21	10600
Airport Employees	421	6	2600
Regency Industrial Park	157	18	2850
Outlet Mall	37	30	1100
Martin Marietta Corporation	189	43	8200
Sea World	366	13	4650
Church Street Station	11	45	500
Disney World	478	38	18000
			58900

Table 2.5 Weights Assigned to Cases by Hotel Area

Hotel Area	# Forms Returned	Weighting	Weighted Total Responses
Florida Center	97	33 X	3200
International Drive	63	71 X	4450
Lake Buena Vista	33	127 X	4200
Airport	31	103 X	3200
Downtown	57	46 X	2650
Route 192 & I-4	22	91 X	2000
	n = 303	"N" =	19,700

Note that these weights are quite large and reflect the low return rate for the survey. Interpretation of the results of the hotel survey must take these weighting factors into consideration.

3.0 Survey Results

This section presents a short summary of the responses to each question as well as selected cross-tabulation results. The actual tables are included in Appendices C-G.

This summary is intended to highlight the factors which have a direct impact on transit service, particularly on decisions regarding express bus service in the Southwest Corridor.

3.1 Employee Survey Results

Overall, 2854 employee questionnaires were returned (41.5 percent), coded and used in tabulation (see Table 2.3). The forms were largely self-coding, but some recoding was done. Missing values were assigned for blank, invalid and ambiguous responses as discussed earlier. Categorical codes were developed for the open-ended responses, particularly the reasons given for not taking the LRV alternative (questions 26 to 28). Based directly on the questionnaire categories, formats were prepared for the numerical responses to each question including formatted distance and time intervals for questions 3, 4, 5 and 6.

Work Trip Characteristics

Mode to Work--Most surveyed employees drive to work either alone or in carpools, representing 77 and

17 percent of employees respectively. Only 6 percent utilize other modes for the work trip. Two percent of the employees said that they took an OSOTA bus to work.

Carpool/Vanpool Sizes--Most carpools were two persons, and the average carpool size was 2.33--slightly lower than the national average of 2.4 persons per vehicle. Vanpools were uncommon, representing less than one percent of all employees, and most of the vanpools consisted of 10 or fewer persons.

Travel Time to Work--Seventy-six percent of all employees spent one-half hour or less travelling to work, and 44 percent required 20 minutes or less. These travel time figures were used to compare the attractiveness of auto and transit modes for different groups of employees on an area-by-area basis.

Travel Distance to Work--Fifty-eight percent of all employees live within 15 miles of work. Twenty-six percent live within 8 miles. Only 4.7 percent of employees live more than 30 miles from work. A comparison of travel time and distance indicates that the average overall travel speed is fairly high--as might be expected considering the suburban location and the access to the expressway system. This high average speed also indicates that express bus (as opposed to buses on local arterials) service will be needed to be competitive.

Arrival and Departure Times--Surveys showed a marked concentration of arrivals at work between 6:30 AM and 8:30 AM, with the heaviest peak occurring in the half hour between 7:30 and 8:00 AM. Eighty-four percent arrive at work by 9:00 AM. The strong concentration in the early morning was an important consideration in the scheduling process, especially since the proposed schedules had tentative Southwest Corridor

arrival times which were somewhat later in the morning than the observed peak time.

Evening departure times show a similar concentration between the hours of 4 PM and 6 PM. The most common departure time is between 4 and 5 PM, when over 40 percent of employees leave work.

Full-time and Part-time Workers, Days Worked, and Work Schedules--The overwhelming majority, 95 percent of workers were full-time employees. Most of them worked a 5-day week. Most employees (70 percent) worked on a fixed schedule, but a number of other work schedules were reported. Thirteen percent had an irregular schedule. Their ability to use transit which is running on a fixed schedule might be constrained as a result. On the other hand, 11 percent of the employees had variable schedules or set their own hours. These employees might be able to take advantage of the proposed buses by altering their schedules.

Overtime--A number of workers reported working overtime. Fifty-two percent worked no overtime days in the previous week, but 25 percent worked 1 or 2 overtime sessions. Twenty percent worked 3 to 5 overtime sessions. Only 1.7 percent worked overtime on more than 5 days. The amount of overtime work suggests that some attention should be paid to the needs of workers staying beyond the peak departure times or working Saturdays when preparing schedules for the express buses.

Workday Travel Patterns and Availability of Company Vehicles--A common reason given for not taking transit is an expressed need for a car during the workday either for personal use or for business related travel. The need for a car prohibits riding the bus. Seventy-six percent of all respondents did not travel

during the preceding work week for work-related reasons at all, and 8 percent travelled on more than 3 days. Personal travel showed a different pattern. Twenty-two percent of all employees travelled for personal reasons during the work week on 1 or 2 days. Twenty-one percent travelled on 3 or more days. Fifty-seven percent did not travel during the work week for their own needs.

Midday business-related trips cannot be taken on a peak hour express bus service, nor is it likely that personal travel needs will conform to any expanded express bus routes and schedules in an acceptable manner. This is probably because a majority of personal trips are made during lunch hours when express routes usually do not operate.

Employee Characteristics

Occupation--The most common occupational category observed was professional and technical personnel. These employees represented 28 percent of the total. Clerical or office occupations accounted for 27 percent of the employees, and service workers formed 16 percent. The remaining categories represented approximately 29 percent of all the employees surveyed.

Income--Forty-one percent of the employees in the survey earned less than $20,000 per year, and 13 percent earned less than $10,000 per year. A sizeable number earned incomes between $10,000 and $40,000 per year, representing 70 percent of the employees. Sixteen percent earned more than $40,000.

Age and Sex--The Southwest Corridor workforce, according to the survey, is relatively young, with 58 percent of the respondents reporting their age at less than 35 years. More females than males were included in the survey, 58 percent and 42 percent, respectively,

although it could not be determined idependently whether or not this reflects the actual workforce, or represents differential return rates.

Interest in Express Bus Service--Question number 26 on the employee form asks respondents whether they would be interested in using the planned express bus service. Twenty-nine percent said they would definitely use the service, and 35 percent indicated that they probably would use an express bus, for a total positive response of 64 percent. Only 10 percent of the employees surveyed indicated that they definitely would not use the service. The remaining 26 percent of respondents said that they probably would not use the express bus according to their responses to this question.

Fares--A box was provided on the form for respondents to indicate a fare for the bus service which they considered reasonable. Fifty-six percent felt that a fare of 75 cents or less was reasonable, with 34 percent of the responses in the 25 cents to 50 cents range. A surprisingly large number of people (28 percent) indicated a fare between $.90 and $1.00. This may be due to a widespread perception that an express bus is more convenient, or even a luxury, when compared to the problems and aggravations of auto commuting.

3.2 Hotel Guest Survey Results

A total of 303 forms were returned and used in these tabulations (5.1 percent). This is a far smaller sample size than expected. Three thousand were expected to be returned out of a total distribution of 6000. Given the poor return rates, the weights assigned to the cases in each hotel area are large and

may not represent the responses of the total hotel guest population very well. This precautionary note must be taken into consideration when reviewing the tabulations (see Tables 2.3 and 2.5).

Hotel Guest Travel Information

Travel Mode to Orlando--As in the attraction visitor sample, airlines were the most common travel mode to Orlando, accounting for 62 percent of the guests in the sample. The next most popular mode was the personal vehicle (25 percent) followed by rental cars (6 percent). Tour buses brought 5.5 percent of the hotel guests to Orlando. The airline passengers represent the most likely market for transit service (bus and train arrivals account for less than 2 percent of the total).

Travel Mode to the Hotel--Hotel guests travelling from their point of arrival (usually the airport) to the hotel most often used rental cars (40 percent). A number were met by tour buses which were probably prearranged (23 percent of guests). Limousines and taxis together transported 19 percent of the hotel guests to their hotel. Hotel vehicles brought 13 percent of the guests to their accommodations. The remaining guests travelled by foot, were picked up by friends or relatives, or took an OSOTA bus. The latter only accounted for 0.4 percent of all hotel guests.

Arrangements for Transportation--Most of the guests arranged their travel before their trip, either on their own or as part of a tour package such as a fly-drive vacation. Seventy-three percent of the guests surveyed were in these two categories. Twenty-two percent of the guests made their transportation decision upon arrival, and 5 percent had other arrangements.

The group which made travel arrangements upon arrival is considered the most likely transit market.

Of the guests who arranged their (hotel) transportation before arriving in Orlando, 45 percent used a travel agent, and 48 percent arranged the transportation themselves. Three percent had a car or other vehicle arranged by a friend or relative.

Trip Time to Destination and Satisfaction with Travel Method--Sixty-one percent of the individuals surveyed were at their hotel within one-half hour, and 76 percent reached their destination in Orlando within 50 minutes. Only 12 percent exceeded 75 minutes of travel time. The mean travel time from the point of arrival to the hotel was 43 minutes. Eighty-nine percent of the guests stated that the length of the travel time was acceptable. Ninety-one percent found the price to be reasonable, and 95 percent were satisfied with the service. Forty-two percent of the respondents found the available transportation information to be very helpful, 45 percent found the information of adequate quality, and 13 percent regarded the available information as unhelpful.

Hotel Guest Characteristics

Purpose of Trip and Length of Stay--Vacationers accounted for 58 percent of the hotel guests tallied. Persons on company business represented 24 percent of the respondents. Conventioneers or conference participants made up 10 percent, and the remaining guests surveyed were either on personal business, visiting friends and relatives, or in Orlando for some other purpose. The majority planned to stay 4 days or less, and 77 percent planned to stay 5 days or less. Only 4 percent expected to remain in Orlando more than 7 days. The average length of stay in Orlando was five

(4.8) days. In creating this question, it was speculated that there may be a connection between length of stay and transit use--that those with longer stays would be more likely to rent an automobile or make other arrangements. This hypothesis could not be proven (or disproven) by the survey results.

Tour Groups and Group Size--Thirteen percent stated that they were members of a tour group. Unfortunately, a number of respondents failed to read the skip instructions for this question (#8) and answered questions #9 and #10 anyway. The majority of respondents to question #9 were in groups of two or less (68 percent), and nearly all were in groups of 9 or fewer people (99 percent). These group sizes are somewhat small for pre-arranged tours. The average group size was only 3.1 persons. Less than 3 percent of the guests surveyed were in groups larger than 12. A maximum group size of 44 was recorded. The responses to this question were not consistent with other responses (such as airport-to-hotel mode). There are several possible explanations for this, including:

- Respondents were unsure of the difference between a tour bus, and a bus which is operated by a limousine service from the airport. The 23 percent reporting travel by tour bus may be overstated.

- People in large pre-arranged tours may not know how many others are in the same tour, and may think of their travel group as being just their family and friends. If this is the case, the size of the travel groups may be understated.

Children--Only 19 percent of the hotel guests responding to the survey had children with them.

Families with children may be less willing to use public transportation than smaller, childless groups.

Attractions to be Visited--A series of 8 possible tourist attractions were presented, as well as an "other" category. The attraction mentioned most often was Disney's EPCOT Center,[1] followed by Disney's Magic Kingdom. SeaWorld was the only other attraction which came close to the popularity of the Disney sites.

Travel to Attractions--Most people planned to take a personal vehicle (23 percent), a rental car (33 percent), or a tour bus (24 percent) to the attractions mentioned. Limos and vans were mentioned by 6 percent of the guests. It is likely that respondents did not accurately distinguish between "tour buses" (bus travel prearranged for a group) and "limos/vans" (private jitney-style service for individual travelers--often provided with bus-type vehicles). 2.5 percent planned to get rides with friends or relatives, and 3 percent did not know how they would get to the attractions. 1.3 percent planned to use an OSOTA bus, and 0.6 percent planned to take a taxi. 6.3 percent had other plans.

Visits to Attractions Outside Orlando--25 percent of the guests planned to visit attractions outside of the Orlando area.

Interest in Using the Express Bus--Reactions to the idea of an express bus were strongly favorable. Forty-nine percent of the guests thought they would definitely take the bus. Twenty-six percent thought they probably would take it, for a total of 75 percent of respondents. Twenty-five percent would not take the bus if it were available.

[1]The EPCOT Center had been open less than ten months at the time of the survey.

Reasons Against Bus Use--The most common reason given for not using a bus was guests' desire to drive themselves to the attractions. It was also viewed as inconvenient by a number of guests. Cost was not mentioned very often (1 percent or less of the guests).

3.3 *Attraction Visitor Survey Results*

Fourteen hundred ninety-two surveys were returned from attraction visitors. This was a 19.9 percent response rate overall. The rates for individual sites ranged from 29.2 percent at the Factory Outlet Mall to 12.8 percent at SeaWorld.

Attraction Visitor Travel Characteristics

Travel Mode to Orlando--Visitors to the tourist attractions most commonly travelled to Orlando by plane (35 percent) or drove a personal vehicle (34 percent). A sizeable number (21.2 percent) of the tourist attraction visitors were area residents. Rental cars supplied transportation for only 3 percent of the visitors travelling to Orlando.

Travel to Attractions--Eighty percent of attraction visitors travelled to the actual sites in personal vehicles (52 percent), rental cars (27 percent) or in borrowed autos (1.2 percent). Six percent of the visitors were dropped off by a friend or relative. By comparison, less than 2 percent of the visitors used an OSOTA bus. A number of visitors rode to the attractions on organized tour buses (6 percent). The remaining 6 percent of visitors took taxis, limos, walked or used some other mode of travel to the attraction.

Purpose of Visit to Orlando--Most visitors to attractions were tourists (48 percent). Sixteen percent were on business trips, conducting personal business,

or attending conferences in the area. Six percent combined visits with friends and relatives with trips to the tourist attractions. Seven percent cited other unspecific reasons for visiting Orlando. As mentioned previously, a number of the visitors are area residents, in some cases accompanying friends or relatives to the attractions.

Arrival and Departure Time at Attractions--One-third of the visitors to the attractions arrived between the hours of 9 AM and 12 noon. Only 7 percent arrived earlier in the morning. 10.1 percent of visitors arrived in the half-hour between 9:30 and 10:00 AM. The next most common time was 10:30 and 11:00 AM, accounting for 8.4 percent of the visitors. Thirty percent of the visitors arrived between noon and 5 PM. The most active afternoon arrival period was noon to 2 PM, during which time 15 percent of the visitors arrived. The hours from 5 PM to 7 PM only accounted for 8 percent of the visitor arrivals. 9.4 percent of the visitors arrived after 7 PM and before midnight. One of the attraction sites, Church Street Station, attracts a fairly high proportion of evening visitors to its restaurants and clubs.

Expected departure times showed strong groupings as well. Very few people planned to leave the attractions in the morning between 7 and 12 (5 percent). The most common departure time stated was between 3:30 PM and 4 PM, when 9.8 percent of the visitors intended to leave. Almost the same number expected to depart between 2:30 PM and 3:00 PM (9.6 percent). One half of the visitors to the attractions wanted to leave by 4:00 in the afternoon. Eighty percent of the respondents indicated a departure time before 7:30 PM.

Tour Groups--Few of the attraction visitors surveyed indicated that they were visiting the attraction as part of a tour group (7.6 percent). 92.4 percent were not members of a pre-arranged tour.

Companion Groups--Visitors to the attractions most often came in groups of 1 to 3 persons (72 percent). Groups of 4 to 10 persons accounted for another 25 percent of the visitors. The mean group size for attraction visitors was 3.5 persons. A number of persons (2 percent) indicated that they were accompanied by groups larger than 11 people. These large groups are probably tour groups of some type, although members of tour groups were not supposed to answer this particular question.

Number of Children--Most visitors who answered this question did not have any children. This may be due to the nature of the sites surveyed. Church Street Station is oriented towards an adult clientele because of its bars and restaurants, and Factory Outlet Mall is a shopping center of little interest to children. Only 9.4 percent of the respondents mentioned that they were accompanied by children. Most had less than 3 children with them.

Length of Visit in Orlando--Fifty-four percent of the attraction visitors who were not Orlando residents planned to visit the area between 2 and 5 days. The overall average length of stay was 6.2 days.

Accommodations--The majority of visitors to the attractions were nonresidents who stayed in hotels (52 percent), or at the home of a friend (10.5 percent). The hotel guests were concentrated in hotels along International Drive (in the heart of the Southwest Corridor) or along Route 192 near Kissimmee (close to the

Disney World entrance). These hotel areas accounted for 61 percent of all guests. Twenty-nine percent of the attraction visitors were staying at their homes in Orlando or nearby areas. Other accommodations mentioned infrequently included campsites and vacation villas or timesharing condominiums.

Home Locations of Residents--Area residents visiting the attraction were scattered throughout Orlando and in nearby Florida towns. The percentages in each of four quadrants of Orlando are unequal, with almost 25 percent of area residents living in Northeast Orlando, and only 9 percent in Northwest Orlando. Twenty percent lived in the Southwest quandrant, and 13 percent in the Southeast of Orlando. Fully 32 percent of the area residents visiting the attractions were from towns outside the immediate Orlando area and 6 percent of these were from the adjacent towns of Kissimmee or St. Cloud.

3.4 *Employee Transit Demand Crosstabulations*

A number of the employee survey variables are transit demand-related, specifically income, occupation, travel time, and distance and mode to work. The simple frequencies for these variables are presented in Appendix C and the crosstabulations appear in Appendix E. This section presents the results of cross-tabulations of these demand-related measures with the answers to the question which tested interest in the bus system. All cases used in the crosstabulations are weighted according to the values presented earlier (see Table 2.4).

Income and Bus Use--The surveys found a mild negative relationship between income, and propensity to use transit. Seventy-one percent of the respondents in the lower income categories (less than $20,000 per year) stated that they probably or definitely would use the bus when it became available. Sixty-five percent of the individuals with incomes between these two $20,000 and $30,000 were potential bus users, and 59 percent of the individuals with incomes larger than $30,000 per year were interested in the bus service.

Occupation and Bus Use--48.1 percent of the 16,555 employees who stated that they definitely would ride the bus to work were either clerical workers (3826, or 23.1 percent) or service employees (4133, or 25 percent). The next largest group was professional workers, with close to 23.8 percent or 3937 employees who were definitely interested in the bus. All occupational groups had a large majority of respondents who were definitely or probably interested in using the bus, except managerial and executive personnel, who had roughly the same number of persons who were interested (2742, or 50.39 percent) compared with those who were not interested in using the bus (2700, or 49.61 percent). In addition, almost 40 percent of the clerical workers and 37.8 percent of the professionals were not interested in the bus.

Travel Distance and Bus Use--It might be expected that an individual with a long commute to work might be more interested in taking the bus than an employee who lives relatively closer to her/his place of employment. Fifty-five percent of all persons living up to five miles from their place of employment were interested in the bus service. By contrast, employees living further

from work were somewhat more favorable towards the bus service. Sixty-five percent of the 37,111 persons living beyond 10 miles from work stated definite or probable interest in the bus service.

Travel Time and Bus Use--Similarly, persons with high travel times in their work trips were by and large favorable to the planned bus service. For example, of the employees who travelled more than an hour to work, 88 percent were either definitely or probably interested in the bus service.

Mode to Work and Bus Use--The vast majority of the employees surveyed drove alone to work. Approximately 16.7 percent were participating in carpools. Of the employees currently driving alone to work, approximately 62 percent are possible users of the bus service, based on their responses. This is a potential ridership pool of 27,315 employees. 67.1 percent of the carpoolers expressed interest in the bus, representing 6486 employees. It is interesting to note that the employees who currently take an OSOTA bus to work show a strong loyalty to the bus mode. Less than 2 percent are disfavorable towards the new bus service. 83.8 percent will definitely take the bus to work, and 14 percent probably will use the new service. In the other mode types, which include vanpools, miscellaneous buses, motorcycles, walking and all other modes, 69 percent of the 2,914 employees were favorable to the bus.

Fares and Bus Use--The survey included a question which asked the respondent to provide their own choice of a fare level for the new bus service. Fares higher than three dollars were suggested, as were fares less than a quarter. However, most people responded with

more reasonable fare estimates. 27.6 percent of the persons who were in the definite bus user category and 37 percent of the probable users suggested a fare between 26 and 50 cents. 26.9 percent of the definite users and 28.2 percent of the probable users felt that a fare between 90 cents and 1 dollar was acceptable. 18.9 percent of the definite bus users and 14.5 percent of the persons in the probable bus user category suggested a fare higher than a dollar. Only 2.5 percent of the potential users in both interest categories were willing to pay two dollars or more for the bus service.

4.0 Analysis of Transit Markets

The surveys provided extensive information on current travel behavior and the attributes which influence that behavior. Ultimately, the purpose of the survey effort was to provide a means of identifying potential transit markets which the express bus would serve (and by extension, the light rail system as well). The market analysis presented in this section draws on the data collected in the surveys to help identify potential markets for transit service in the corridor and to estimate the ability of the proposed bus service to penetrate these travel markets.

4.1 Employee Travel

There are an estimated 58,900 employees in the Southwest Corridor area, including the airport, the Sand Lake Road area, the International Drive area, and Disney World. More than 2800 surveys were received from these employees, and the data from these surveys were expanded to match total employment at each of fourteen employment sites (i.e. a major employer, industrial park, or activity area).

One of the questions asked of each employee concerned their willingness to use an express bus service if it were provided. A sizable number of employees (64 percent) answered this in a positive manner, indicating

they definitely would or probably would use such a service. However, the question was, of necessity, vague (the service was described as "a limited stop 'express bus' service...convenient to your home and work locations"), and we believe that most employees did not have enough information to properly assess their willingness to use this service. Further, such hypothetical questions frequently have a large positive response, since the respondent's desire to be a "good citizen" leads him to imagine a situation (convenient bus service) which is not likely to occur.

Instead, this analysis uses a multi-step procedure, based on responses to factual questions, to estimate the number of employees who are likely to use the proposed bus service. The steps used in this procedure are:

1. Dividing employees into a number of market segments. Market segments are chosen so that individuals within a market segment share many characteristics which affect travel choice. The principal market segmentation in this analysis is based on the geographic location of the ends of the work trip.

2. Using a procedure called "Logit Analysis," the expected mode choice of members of the market segment will be estimated, based on the attributes of the various travel choices available, and the socio-economic attributes of the travellers.

3. Adjustments are then made in the mode choice estimates to reflect certain constraints on travel choices which are not accounted for in the logit model, such as work arrival time.

Market Segmentation

Employees were grouped into market segments according to the location of their homes (trip origins) and work places (trip destinations). Work locations were identified by the employer code printed on each form as it was returned by the employer to OSOTA. Work locations of the 51 employers were grouped into 14 employment areas, each of which comprised from one to twenty participating employers. Results from each employment area were expanded to match the total estimated number of employees in the employment area. Home locations were determined from the responses to a question in the survey asking for the employee's home zip code (98 percent of survey respondents answered this question).

Market segments were delineated by whether or not they are effectively served by the proposed service. Preliminary bus routing plans were selected early in the planning process, consistent with project objectives (i.e. demonstrating service along a particular corridor), and based upon a qualitative assessment of service needs. Six routes, shown in Figure 1.1, were designated:

- Downtown-Airport. To run all day from the downtown terminal at Pine Street to the Airport via I-4, International Drive, and Sand Lake Road.

- Longwood. From the Longwood area, northeast of Orlando, to South Orange Blossom Trail (SOBT), via I-4, Kirkman Road, and Sand Lake Road. Peak hours only.

- Pine Hills. From the Pine Hills area, northwest of the city, to SOBT via Kirkman Road, International Drive, and Sand Lake Road. Peak hours only.

- Altamonte Springs. From the Altamonte Springs area northeast of the city to SOBT via I-4, Kirkman Road, and Sand Lake Road. Peak hours only.

- Washington Shores. From the Washington Shores transfer center in Orlando to SOBT via Vineland Road, International Drive, and Sand Lake Road. Peak hours only.

- Casselberry-Winter Park. From the Casselberry-Winter Park area, northeast of the city, to SOBT, via I-4. Kirkman Road, and Sand Lake Road. Peak hours only.

All routes except the airport route make a loop through the Martin Marietta complex near International Drive, and through Orlando Central Park, an office/industrial park at the intersection of Sand Lake Road and the South Orange Blossom Trail. Of the 14 employment areas surveyed, 9 are along the corridor served by the proposed bus service, and 5 are outside of the service area. These areas are divided as shown in Table 4.1.

Although the Downtown Hotels and Church Street Station lie at the downtown end of the Airport route, the new service does not provide a significant service improvement for the few employees who live at the outer end of the service area, so these sites were grouped with other areas outside the service area.

Table 4.1 Employment Sites Surveyed

Area Served	# Employees
Florida Center	1700
International Drive	2300
Airport Hotels	1700
Orlando Central Park	10600
Airport	2600
Regency Industrial Park	2850
Factory Outlet Mall	1100
Martin Marietta	8200
SeaWorld	4650
TOTAL	35700
Not Served	
Lake Buena Vista	2200
Downtown Hotels	1400
Rte. 192/Kissimee Hotels	1100
Church Street Station	500
Disney World	18000
TOTAL	23200

Employees' home zip codes were used to identify employees whose work trip origins are within the service area of the proposed service. The proposed routes were overlaid on a zip code map, and zip code areas were fully or partially assigned to one or more proposed routes by use of the following rules:

- The maximum drawing radius for any route is 2.5 miles. Since the routes will feature park-and-ride lots at a number of locations, it is reasonable to assume that people will drive to the bus routes, but patronage drops off significantly with distance from the line.
- Each zip code area was divided into four sections of approximately equal population (as estimated from street density), and each

quadrant was assigned all-or-nothing to a particular route (or determined to be outside the service area).

The following zip codes were determined to be within the service area of one or more routes, and were assigned as indicated in Table 4.2.

A cross tabulation was done of employee origins and destinations for the work trip, using a standard statistical package (SAS). For each destination (employment area) within the service area, the number of employees within each of the above-listed zip codes was tabulated and totaled. The results, shown in Table 4.3,show the total potential employee travel market for each market segment examined.

Table 4.2 Service Area by Home Zip Code

Zip	Area	Route(s) Assigned
32701	Altamonte Springs	Altamonte
32707	Winter Springs	Longwood
32750	Longwood	.5 Altamonte, .5 Longwood
32751	Maitland	.75 Longwood, .25 Casselberry
32789	Winter Park	Casselberry
32792	Casselberry	Casselberry
32801	Downtown	.25 Washington, .75 Airport
32802	Downtown	Airport
32803	Colonial Town	Airport
32804	College Park	Airport
32805	Orange Blossom	Washington
32808	Pine Hills	Pine Hills
32810	Lockhart	.25 Longwood, .25 Pine Hills
32811	Orlovista	.5 Pine Hills

It should be noted that the destinations (work places) served by the Southwest Direct represent 61 percent (35,700) of the total Southwest Corridor

Table 4.3 Home Zip Code by Employment Place

Zip	Area	TOTAL	Florida Center	Int'l Drive	Airport Hotels	Orlando Cen.Pk	Airport	Regency Ind.Pk	Fac.Out Mall	Martin Mar'eta	Sea World
32701	Altamonte Springs	683	22	45	27	107	43	54		347	38
32707	Winter Springs	620	22	15	27	171	43	18		260	64
32750	Longwood	455		30		171	19	54		130	51
32751	Maitland	880	22	15		128	49			564	102
32789	Winter Park	513				171	31		30	217	64
32792	Casselberry	819			27	193	56	54	30	434	25
32801	Downtown	194	65	15		64	19	18			13
32802	Downtown	55					12			43	
32803	Colonial Town	745	22	15	27	171	74	18		304	114
32804	College Park	641	22	30	27	128	19	36	30	260	89
32805	Orange Blossom	2715	262	493	81	878	191	254	59	217	280
32808	Pine Hills	2411	305	194	54	921	117	182	59	260	319
32810	Lockhart	530		30		86	56	109	30	130	89
32811	Orlovista	1101	153	149	27	407	25	73			267
	TOTAL	12362	895	1031	297	3596	754	870	238	3166	1515

employment. Of the 35,700 employees working in the Southwest Corridor employment areas served by the Southwest Direct, 11,547, or 32 percent, also live in residential areas which are served by the proposed bus service. This total market is somewhat less than the total of employees residing in those zip codes as some of the zip code areas are not served fully, and the market is adjusted to reflect service coverage as shown in Table 4.2 above. Only two other areas represent significant portions of the Southwest Corridor employment: the Southwest Corridor area itself (22 percent of total employment), and the Kissimee/St. Cloud area (10 percent of the total).

Estimation of Transit Share

The markets identified in the above step represent the total number of employees whose home and work locations are served by the proposed transit service. To estimate the portion of this group that would actually choose to use the bus service, we used a logit-based demand model previously developed by Cambridge Systematics. A full description of this model is included in "Sketch Planning Techniques for Transportation and Air Quality Planning," prepared by Cambridge Systematics for the Environmental Protection Agency in 1979.[1]

[1]A microcomputer version of this model was implemented using a spreadsheet package (Lotus' 1-2-3). The microcomputer version is currently available from the Transportation Systems Center microcomputer support center with full documentation, and may be easily adapted for use in other settings. Documentation is available for the spreadsheet and the reader is encouraged to examine the documentation (available separately) for a fuller explanation of the calculation steps included in the demand estimation presented here.

This model uses two types of data: attributes of the travel choices (modes), and attributes of the traveller. The model was applied separately for each market segment (home zip code area), based on the travel choices and average employee attributes for that zip code area.[1] The input variables and data sources are listed in Table 4.4.

The relative "utility" of each mode is determined by multiplying each of the above variables (if appropriate for a particular mode) by a coefficient and adding the resultant values together. The coefficients represent the relative importance or value of each variable in the overall travel choice. The coefficients were determined by calibrating the model using data from a Washington, D.C. travel survey, and so represent actual travel choice behavior, albeit from a different geographic area. Without further data, it cannot be determined whether travel behavior (i.e. the response to changes in travel cost or time) of Orlando area residents is similar to that of Washington residents. However, Cambridge Systematics has found in validation studies that acceptable results are usually obtained when transferring these derived coefficients in this manner.

[1]It should be noted that in this study an average out-of-vehicle travel time (OVTT) of 30 minutes for transit was chosen (60 minutes round trip), because of practical problems in determining differences in access times for all individuals, although it is true that certain destinations most notably Martin Marietta had better access to the SWD service than others. To the extent that improved destination (or origin) access lowers OVTT, a positive ridership effect may be expected. Determining this effect on a workplace-by-workplace basis, however, is beyond the scope of this modeling effort.

Table 4.4 Parameters of Mode Choice Model

Variable	Source
Travel choice attributes:	
In vehicle travel time (IVTT): time spent in automobile or bus (round trip time)	Drive alone (DA): survey question 3; Carpool (SR): question 3 + 10 minutes each way for pick-up and drop-off; Transit (T): from bus schedule.
Out of vehicle travel time (OVTT): time spent waiting, walking, etc.	Assumed: DA: 10 minutes each way; SR: 15 minutes each way; T: 30 minutes each way
Distance (DIST): one way distance from home to work	Survey question 4.
Out of pocket travel cost (OPTC): incremental cost of round trip	DA and SR or CP: 7 cents per mile T: Bus fare plus 2.5 miles auto access at 7 cents/mile
Traveller attributes:	
Income (INC): average family income	Survey question 23
Cars per licensed driver (AALD): autos available divided by # drivers in family	Survey questions 17 and 19
Breadwinner (BRDWNR): dummy variable true if traveller earns majority of family income	Assumed to average 75 percent
Number of workers in family (NWRK)	Set equal to number of drivers (question 17)
Income per worker (DINC): family income divided by number of workers	Survey questions 23 and 17.
Employment density at worksite times one-way travel distance (EDEN)	Employment density estimated at 10 employees per acre; distance from survey question 4.

Estimated modal shares are determined by a mathematical comparison of each mode's utility function (i.e. for each mode, raise 'e' to the power of U, where U is the result of the calculation above, and expressing each mode's e^U as a percentage of the sum of the e^U's).

The results of these calculations are shown in Tables 4.5a-c. The transit shares projected for origin zones in the service area vary from 2.4 percent to 10.5 percent of total trips, with one atypical market segment projected at 20.2 percent. In other words, from 2.4 percent to 10.5 percent (an overall value of 4.5 percent) of the employees who live in one of the zones in the service area and work in the area served by projected bus routes, will choose to use the bus service on an average day, given the operating conditions assumed.

This should be compared to the 29 percent of respondents who indicated that they "definitely would use" a convenient express bus service, plus the 35 percent who indicated that they "probably would use" such a service. While the survey question responses may show the good intentions of survey respondents, the mode share model results are based on actual trip making behavior observed in Washington, D.C.

Table 4.6 shows the calculation of potential bus users by market segment, along with the assignment of those riders to the appropriate bus route.

Adjustments in size of market segments

Several factors, other than those discussed above, may potentially affect the commuter's choice of travel mode to work. The employee survey was designed to directly measure some of these, including:

Table 4.5a Work Trip Mode Choice Estimation Model

Work Trip Mode Choice Estimation Model
by Barry Faulkner, Cambridge Systematics, Inc.
222 Third St., Cambridge, Mass. 02142, (617) 354-0167

	Subgroup ID:	32701	32707	32750	32751	32789	32792	32801	32802	32803	32804	32805	32808	32810	32811	TOTAL
Values Table	Subgroup Pop:	683	620	455	880	513	819	194	55	745	641	2715	2411	265	551	11547
	Ave HH Size:	3.44	3.18	3.50	3.33	3.60	3.07	2.91	1.91	2.45	2.64	3.66	3.42	3.35	2.96	3.25
	HH Income:	26000	29000	32000	36000	28000	34000	18000	9000	24000	28000	19000	25000	26000	38000	25919
	Cars/HH:	2.19	2.10	2.57	2.04	1.86	2.10	1.51	0.95	1.87	2.01	1.67	2.02	2.14	2.07	1.96
	Drivers/HH:	2.22	2.09	2.61	2.62	2.02	2.35	1.74	1.67	2.01	2.11	2.06	2.29	2.24	2.24	2.22
	Breadwinners:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
	Auto LOS															
	1-way distance:	21.2	24.9	23.4	20.6	18.6	21.1	13.5	11.5	15.4	15.4	11.3	15.9	18.1	9.9	16.4
	1-way In-V Time:	31.6	41.9	37	34.6	29.9	35.8	26.9	25.5	24.1	25.9	24.4	27.9	33.2	16	28.9
	1-way Out-V Time:	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5.0
	Parking Cost:	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	Carpool LOS															
	1-way In-V Time:	36.6	46.9	42	39.6	34.9	40.8	31.9	30.5	31.1	30.9	29.4	32.9	38.2	21	33.9
	1-way Out-V Time:	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15.0
	Transit LOS:															
	1-way In-V Time:	55	60	70	60	45	50	30	35	40	45	40	45	50	45	47.2
	1-way Out-V time	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30.0
	1-way Fare:	$1.09	$1.09	$1.09	$1.09	$1.09	$1.09	$1.09	$1.09	$1.09	$1.09	$1.09	$1.09	$1.09	$1.09	$1.09
	CBD Trip (1=yes):	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	Auto Cost/Mile:	$0.07 (same for all subgroups)														
	Ave Carpool Size:	2.3 (same for all subgroups)														
Drive Alone (DA) Utility																
OVTT	Coeff:	OVTTda (RT):	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
		DIST:	21.2	24.9	23.4	20.6	18.6	21.1	13.5	11.5	15.4	15.4	11.3	15.9	18.1	9.9	16.40053
	-0.1599	OVTT/DIST:	0.472	0.402	0.427	0.485	0.538	0.474	0.741	0.870	0.649	0.649	0.885	0.629	0.552	1.010	0.610
		UTILov:	-0.075	-0.064	-0.068	-0.078	-0.086	-0.076	-0.118	-0.139	-0.104	-0.104	-0.142	-0.101	-0.088	-0.162	-0.097
IVTT	-0.01535	IVTTda (RT):	63.2	83.8	74	69.2	59.8	71.6	53.8	51	52.2	51.8	48.8	55.8	66.4	32	57.72877
		UTILiv:	-0.970	-1.286	-1.136	-1.062	-0.918	-1.099	-0.826	-0.783	-0.801	-0.795	-0.749	-0.857	-1.019	-0.491	-0.886
COST	Coeff:	OPTCda:	$2.97	$3.49	$3.28	$2.88	$2.60	$2.95	$1.89	$1.61	$2.16	$2.16	$1.58	$2.23	$2.53	$1.39	$0.00
		INCOME:	26000	29000	32000	36000	28000	34000	18000	9000	24000	28000	19000	25000	26000	38000	25918.68
	-28.84	OPTC/INC:	0.0114	0.0120	0.0102	0.0080	0.0093	0.0087	0.0105	0.0179	0.0090	0.0077	0.0083	0.0089	0.0097	0.0046	0.0000
		UTILc:	-0.329	-0.347	-0.295	-0.231	-0.268	-0.251	-0.303	-0.516	-0.259	-0.222	-0.240	-0.257	-0.281	-0.133	0.000

Table 4.5b Work Trip Mode Choice Estimation Model

Work Trip Mode Choice Estimation Model
by Harry Faulkner, Cambridge Systematics, Inc.
222 Third St., Cambridge, Mass. 02142, (617) 354-0167

		Subgroup ID:	32701	32707	32750	32751	32789	32792	32801	32802	32803	32804	32805	32808	32810	32811	TOTAL
SOCIOEC	3.987	AALD:	0.986	1.005	0.915	0.779	0.921	0.894	0.868	0.571	0.930	0.953	0.811	0.882	0.955	0.924	0.883
	0.8897	Breadwinner:	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750
	0.000028	DINC:	19120	22640	25000	29340	22800	27860	12180	5180	19100	22720	11680	18160	19300	24080	23315
		UTILse:	5.140	5.313	5.020	4.600	4.982	5.017	4.471	3.091	4.916	5.107	4.229	4.697	5.021	5.032	4.845
CONST	Coeff:																
	-3.244	Dr Alone Constant:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	-0.854	CBD Dummy:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		UTILcon:	-3.244	-3.244	-3.244	-3.244	-3.244	-3.244	-3.244	-3.244	-3.244	-3.244	-3.244	-3.244	-3.244	-3.244	-3.244
UTILda:		SUBTOTAL:	0.522	0.371	0.276	-0.015	0.466	0.347	-0.030	-1.591	0.508	0.742	-0.145	0.239	0.389	1.082	0.417
Carpool/Shared Ride (SR) Utility																	
OVTT	Coeff:	OVTTsr (HT):	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
		DIST:	21.2	24.9	23.4	20.6	18.6	21.1	13.5	11.5	15.4	15.4	11.3	15.9	18.1	9.9	16.40053
	-0.1599	OVTT/DIST:	1.415	1.205	1.282	1.456	1.613	1.422	2.222	2.609	1.948	1.948	2.655	1.887	1.657	3.030	1.829
		UTILov:	-0.226	-0.193	-0.205	-0.233	-0.258	-0.227	-0.355	-0.417	-0.311	-0.311	-0.425	-0.302	-0.265	-0.485	-0.292
IVTT	-0.01535	IVTTsr (HT):	73.2	93.8	84	79.2	69.8	81.6	63.8	61	62.2	61.8	58.8	65.8	76.4	42	67.72877
		UTILiv:	-1.124	-1.440	-1.289	-1.216	-1.071	-1.253	-0.979	-0.936	-0.955	-0.949	-0.903	-1.010	-1.173	-0.645	-1.040
COST	Coeff:	OPTCsr:	$1.29	$1.53	$1.42	$1.25	$1.13	$1.20	$0.82	$0.70	$0.94	$0.94	$0.69	$0.97	$1.10	$0.60	$1.00
		INCOME:	26000	27000	32000	36000	28000	34000	18000	9000	24000	28000	19000	25000	26000	30000	25918.68
	-28.84	OPTC/INC:	0.0050	0.0052	0.0045	0.0035	0.0040	0.0030	0.0046	0.0078	0.0039	0.0033	0.0036	0.0039	0.0042	0.0020	0.0039
		UTILc:	-0.143	-0.151	-0.128	-0.100	-0.117	-0.109	-0.132	-0.224	-0.113	-0.097	-0.104	-0.113	-0.122	-0.058	-0.111
CONST	Coeff:																
	-2.242	Carpool Constant:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	-0.4036	CBD Dummy:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		UTILcon:	-2.242	-2.242	-2.242	-2.242	-2.242	-2.242	-2.242	-2.242	-2.242	-2.242	-2.242	-2.242	-2.242	-2.242	-2.242
SOCIOEC	Coeff:																
	1.619	AALD:	0.986	1.005	0.915	0.779	0.921	0.894	0.868	0.571	0.930	0.953	0.811	0.882	0.955	0.924	0.883
	0.000028	DINC:	19120	22640	25000	29340	22800	27860	12180	5180	19100	22720	11680	18160	19300	24080	23315
	0.0983	NWRK:	2.22	1.5675	2.1075	1.965	1.515	1.7625	1.305	1.2525	1.5075	1.5825	1.545	1.7175	1.68	1.68	1.661367
	0.000453	EDEN*DIST:	212	622.5	585	515	465	527.5	337.5	287.5	385	385	282.5	397.5	452.5	247.5	410.0134
		UTILse:	2.494	2.827	2.776	2.619	2.587	2.751	2.098	1.382	2.445	2.591	1.979	2.369	2.552	2.583	2.518
UTILsr:		SUBTOTAL:	-1.241	-1.199	-1.089	-1.172	-1.101	-1.080	-1.611	-2.438	-1.176	-1.008	-1.695	-1.296	-1.250	-0.926	-1.147

Table 4.5c Work Trip Mode Choice Estimation Model

Work Trip Mode Choice Estimation Model
by Barry Faulkner, Cambridge Systematics, Inc.
222 Third St., Cambridge, Mass. 02142, (617) 354-0167

		Subgroup ID:	32701	32707	32750	32751	32789	32792	32801	32802	32803	32804	32805	32808	32810	32811	TOTAL
Transit (TR) Utility																	
OVTT	Coeff:	OVTTtr (RT):	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
		DIST:	21.2	24.9	23.4	20.6	18.6	21.1	13.5	11.5	15.4	15.4	11.3	15.9	18.1	9.9	16.40853
	-0.1599	OVTT/DIST	2.830	2.410	2.564	2.913	3.226	2.844	4.444	5.217	3.896	3.896	5.310	3.774	3.315	6.061	3.658
		UTILov:	-0.453	-0.385	-0.410	-0.466	-0.516	-0.455	-0.711	-0.834	-0.623	-0.623	-0.849	-0.603	-0.530	-0.969	-0.585
IVTT	-0.01535	IVTTtr (RT):	110	120	140	120	90	100	60	70	80	90	80	90	100	90	94.39334
		UTILiv:	-1.689	-1.842	-2.149	-1.842	-1.382	-1.535	-0.921	-1.075	-1.228	-1.382	-1.228	-1.382	-1.535	-1.382	-1.449
COST	Coeff:	OPTCtr:	$2.10	$2.10	$2.10	$2.10	$2.10	$2.10	$2.10	$2.10	$2.10	$2.10	$2.10	$2.10	$2.10	$2.10	$2.10
		INCOME:	26000	29000	32000	36000	28000	34000	18000	9000	24000	28000	19000	25000	26000	30000	25918.48
	-28.84	OPTC/INC	0.0081	0.0073	0.0066	0.0060	0.0076	0.0064	0.0121	0.0242	0.0091	0.0078	0.0114	0.0087	0.0084	0.0073	0.0084
		UTILc:	-0.241	-0.216	-0.196	-0.174	-0.224	-0.184	-0.348	-0.697	-0.261	-0.224	-0.330	-0.251	-0.241	-0.209	-0.242
UTILtr		SUBTOTAL	-2.382	-2.444	-2.755	-2.482	-2.121	-2.174	-1.980	-2.606	-2.112	-2.229	-2.407	-2.236	-2.306	-2.560	-2.276
Calculation of Exponentials for Logit Equation.																	
EXP's		DA	1.685	1.450	1.318	0.985	1.594	1.415	0.980	0.204	1.662	2.100	0.865	1.270	1.475	2.723	1.853
		SR	0.289	0.302	0.337	0.310	0.333	0.340	0.200	0.087	0.309	0.345	0.184	0.274	0.287	0.396	0.311
		TR	0.092	0.087	0.044	0.084	0.120	0.114	0.138	0.074	0.121	0.108	0.090	0.107	0.100	0.077	0.103
		Sum	2.066	1.838	1.718	1.379	2.046	1.869	1.318	0.365	2.091	2.573	1.138	1.651	1.861	3.196	2.267
Summary of Results																	
Estimated Mode Shares		Drive Alone	81.5%	78.9%	76.7%	71.5%	77.9%	75.7%	74.4%	55.8%	79.5%	81.6%	76.0%	76.9%	79.2%	85.2%	81.7%
		Shared Ride	14.0%	16.4%	19.6%	22.5%	16.3%	18.2%	15.2%	23.9%	14.8%	14.2%	16.1%	16.6%	15.4%	12.4%	13.7%
		Transit	4.5%	4.7%	3.7%	6.1%	5.9%	6.1%	10.5%	20.2%	5.8%	4.2%	7.9%	6.5%	5.4%	2.4%	4.5%
Estimated Round Trips		Drive Alone	557	489	349	629	400	620	144	31	592	523	2042	1855	210	469	9438
		Shared Ride	96	102	89	198	83	149	29	13	110	91	438	400	41	68	1586
		Transit	31	29	17	53	30	50	20	11	43	27	215	156	14	13	523
		TOTAL	684	620	455	880	513	819	193	55	745	641	2715	2411	265	550	11547

Table 4.6 Potential Bus Users by Market Segment and Route Assignment

Zip	Area	TOTAL	Bus Percent	Bus Total	Alta-monte	Long-wood	Pine Hills	Wash. Shores	Cassel-berry	Airport
32701	Altamonte Springs	683	4.5%	31	31					
32707	Winter Springs	620	4.7%	29		29				
32750	Longwood	455	3.7%	16	8	8				
32751	Maitland	880	6.1%	54		41			14	
32789	Winter Park	513	5.9%	30					30	
32792	Casselberry	819	6.1%	50					50	
32801	Downtown	194	10.5%	20				5		15
32802	Downtown	55	20.2%	11						11
32803	Colonial Town	745	5.8%	43						43
32804	College Park	641	4.2%	27						27
32805	Orange Blossom	2715	7.9%	214				214		
32808	Pine Hills	2411	6.5%	157			157			
32810	Lockhart*	265	5.4%	14		7	7			
32811	Orlovista*	551	2.4%	13			7			
	Subtotal (estimated bus demand)			709	39	85	171	219	94	96
	Total employees			11547	911	1640	3094	2764	1552	1587
	Percent bus by route			6.1%	4.3%	5.2%	5.5%	7.9%	6.0%	6.1%

* These zones are only partially in service area.

- Work schedule (arrival and departure times)
- Regularity of work schedule
- Need for automobile at work

Work schedules. Figure 4.1 shows work arrival and departure times for Southwest Corridor employees working at the locations served by the proposed bus service. In spite of the importance of service-related employment in this corridor (hotels, restaurants, attractions), with unorthodox schedules, the corridor as a whole exhibits a highly peaked commuting pattern. Some 80 percent of employees arrive at work between 5:30 and 8:30 a.m., with 10,300, or nearly 29 percent of the total, arriving in a single half hour (7:30 to 8:00). The afternoon peak for departures is less extreme, with 8,350 employees leaving during the peak half hour.

Of the six routes proposed, five operate only during peak hours. Of these, three (Altamonte Springs, Longwood, and Casselberry) have a single trip each way; Pine Hills has two trips in the morning and three in the afternoon; and Washington Shores has three trips in the morning, and four in the afternoon. These frequencies correspond well to the division of market segments among routes (see Table 4.6), and the peaking patterns discussed above.

Each of the six routes has a morning trip which arrives at the Southwest Corridor endpoint (corner of Sand Lake and SOBT) at approximately 7:55 a.m. Pine Hills has an additional trip later (arriving at 9:20), and Washington Shores has one before (6:55) and one later (9:00). The 7:55 arrival time serves the peak of the morning arrival times, but this only accounts for a portion of all trips. The size of the potential

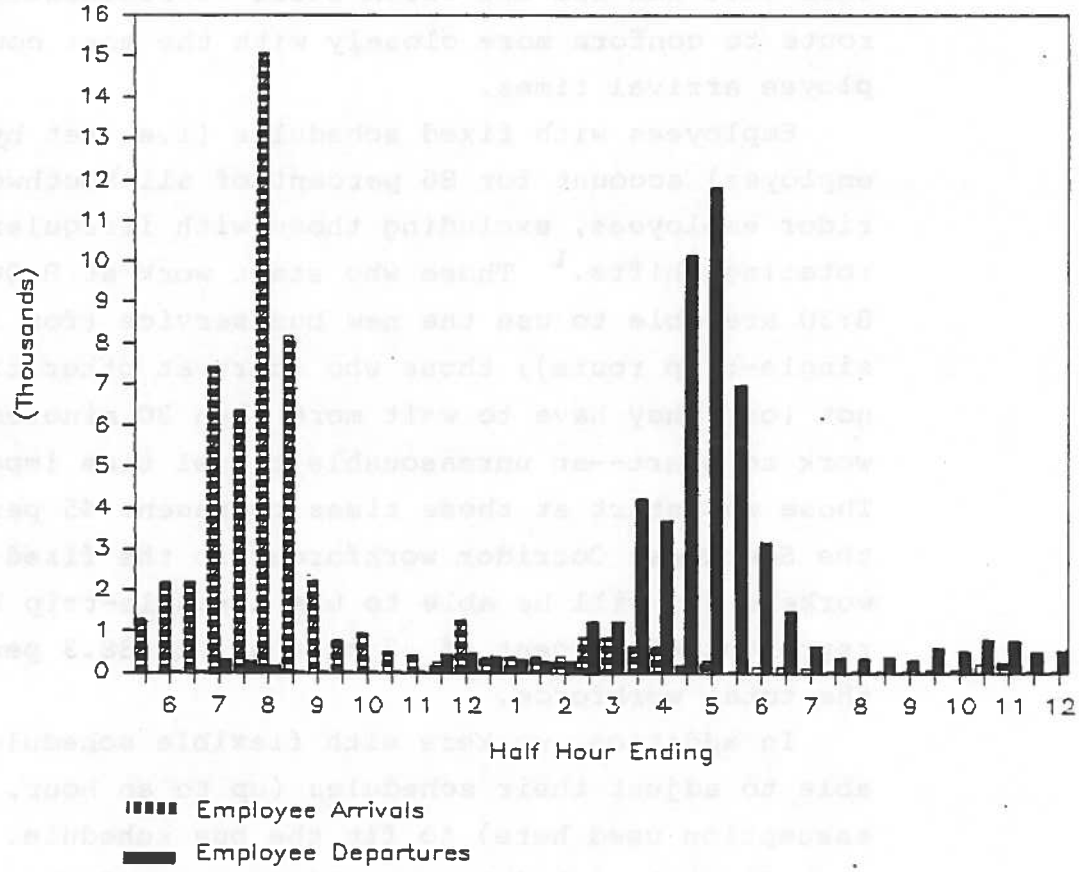


Figure 4.1 Employee Arrival and Departure Times

transit market share from these areas should be reduced to account for the fact that not all employees are adequately served, because of schedule considerations. This fact has led the OSOTA staff to reschedule the bus route to conform more closely with the most common employee arrival times.

Employees with fixed schedules (i.e. set by the employer) account for 86 percent of all Southwest Corridor employees, excluding those with irregular or rotating shifts.[1] Those who start work at 8:00 or 8:30 are able to use the new bus service (for a single-trip route); those who start at other times are not (or, they have to wait more than 30 minutes for work to start--an unreasonable travel time imposition). Those who start at these times represent 45 percent of the Southwest Corridor workforce, so the fixed-schedule workers who will be able to use a single-trip bus route represent 86 percent of 45 percent, or 38.3 percent of the total workforce.

In addition, workers with flexible schedules are able to adjust their schedules (up to an hour, is the assumption used here) to fit the bus schedule. Those with flexible schedules are 14 percent of the workforce; those starting work between 7:00 and 9:00 are 75

[1]Someone with a "fixed" schedule is someone who arrives at the same time each day--at the time specified by his/her employer. A flexible schedule indicates that the employee has some freedom in selecting the time when he/she arrives. Workers with irregular shifts start at different times each day, at the direction of the employer. Irregular or rotating shift employees are largely those who start work during non-peak hours, and the arrival time factor is controlled for separately.

percent of the total. This results in another 10.5 percent of the total workforce who are potential transit users.

For a single-trip route, then, a total of 49 percent of the total workforce has a schedule which fits the proposed transit schedule. A similar procedure was used to adjust the other routes in the corridor. Table 4.7 shows the results of this adjustment.

Table 4.7 Estimated Transit Ridership

Old Route	estimate	Adjustment	New estimate
Longwood	85	49 percent	42
Altamonte	39	49 percent	20
Pine Hills	171	53 percent	91
Wash. Shores	219	75 percent	165
Casselberry	94	49 percent	46
Airport	96	100 percent	96
TOTAL	709		460

Other Schedule Considerations. Employees were asked how often they work late or overtime hours. Those who must frequently work late will be reluctant to take transit, because of a fear of being stranded at work. A total of 48 percent of workers indicated that they worked late or had unscheduled overtime at least once the previous week, for an overall average of 2.4 days per employee who worked overtime.

While late work may be an impediment to transit usage, this factor was "built into" the mode choice model, in that it is one of the many factors which were calibrated into the constant values, based on observed

behavior. Only if this factor were unusually important in this corridor (compared to the Washington, D.C. area) would an adjustment be warranted.

Auto travel during the day. Just under 24 percent of surveyed employees indicated that they travelled on company business at least once during the previous week, for an average of 2.6 days per employee who travelled. Of these employees, 49 percent had a company vehicle available, although only 34 percent actually used a company vehicle. Less than 12 percent of all Southwest Corridor employees, then, actually require the use of a personal vehicle for company business during the work day, and only half of these would have such a need on any particular day. This rate of company travel with private vehicles is not unusually large, and no separate adjustment is made for this factor.

A total of 42.5 percent of employees travelled during the previous week for personal business (including lunch trips), for an average of 2.7 days per travelling employee. Again, no separate adjustment is made for this, in the belief that the demand model, as calibrated, accounts for this.

Summary

Suburban employment centers are often difficult to serve successfully with transit, primarily because home origins are spread over too large a geographic area. This analysis shows that the proposed Southwest Corridor bus service provides service to a large enough segment of the total workforce to attract an estimated 460 work trips (each way) on the new service. Excluding airport service, such a patronage level would result in

average peak direction load factors of more than 40 percent (based on 50 passenger buses).

4.2 Tourist Travel

Because of major attractions, such as Disney World, SeaWorld, and others, tourist travel is a significant factor in the Southwest Corridor. Tourist visitations at major attractions in the corridor total more than 50,000 on an average day. At the present time, only a small percentage (1.4 percent of those reponding to the survey of attraction site visitors) of trips to attraction sites are made by public transportation. This section examines the potential for development of this transit market.

The analysis here will focus on trip origins, current travel mode choice, and factors which may restrict travel mode choice.

Attraction Visitor Trip Origins

The attraction visitor survey responses indicate that 30 percent of attraction visitors live in Orlando or the surrounding area.[1] An additional 10 percent were staying at the home of a friend in the greater Orlando area. These home sites are spread throughout the Orlando area (67 percent) and other Florida towns (33 percent).

Of the remaining visitors, most (53 percent of the original total) were staying at hotels or motels in the Orlando area (7 percent were staying at campgrounds or

[1]Based on a response of "staying at home" to question 10.

other locations). These hotels are predominantly in the Southwest Corridor, with the largest proportion of hotel guests coming from the International Drive area. Table 4.8 reexpresses these figures in terms of percentages of total visitors.

These frequencies vary somewhat from site to site. For example, SeaWorld/Florida Festival visitors are more likely to stay in hotels (66 percent), while the Factory Outlet Mall draws more local residents (35 percent) than the average. The variation, however, is not large, so the average value is used in this analysis.

This analysis shows that significant portions of the total attraction visitor population come from a few relatively concentrated clusters of hotels and motels. Notably, 23 percent of visitors are staying at hotels in the International Drive/Florida Center area, and 14 percent from the Route 192/Kissimee area. In fact, a high level of bus and van service is currently being provided from these areas by private operators, and OSOTA has decided not to compete directly with these for-profit operations.

A surprisingly high 27 percent (the range for the site surveyed is 8 for SeaWorld to 35 percent for Church Street Station) of attraction visitors are coming from private residences in the immediate Orlando area. This represents a sizable market. These origins are spread over a wide area, making direct service difficult to provide efficiently, but the existing OSOTA bus network may provide the basis for serving these visitors.

Current Travel Modes

An examination of current choices of travel mode will provide information on the ability of transit to

Table 4.8 Origins of Attraction Visitors

Origin		Percent
Staying at private home		
NW Orlando	3.7	
NE Orlando	10.1	
SW Orlando	8.0	
SE Orlando	5.5	
Orlando subtotal		27.3
Kissimee/St. Cloud	2.5	
Other Florida Towns	10.5	
Other towns subtotal		13.0
Hotel/Motel		
Int'l Drive/Florida Ctr.	22.9	
Lake Buena Vista/Disney World	5.6	
Airport Area	2.7	
Downtown	1.9	
Rte 192/Kissimee	13.9	
Outside Corridor	5.9	
Subtotal		52.9
Other		6.8
TOTAL		100.0

draw an increased share of tourist travel. This analysis will look at the trip to attraction sites, the trip between the airport and the hotel, and other travel which tourists might take.

Airport-Hotel travel. Figures from the Florida Department of Commerce indicate that a daily average of 7,000 people arrive in the Orlando area by air. A previous survey of airport users indicated that approximately half of these visitors are destined for hotels or motels in the Southwest Corridor.

Of the hotel guests surveyed, 64 percent arrived in the Orlando area by airline (31 percent drove, 4 percent tour bus, and the remainder came by other modes). The first travel decision which these people must make, which strongly influences all other travel decisions during their stay, is how to get from the airport to the hotel.

Table 4.9 shows the choices made for this trip from the airport or other arrival point (this includes a small number of people arriving at the Amtrak or bus station).

Table 4.9 Reported Mode of Travel from Arrival Point to Hotel

Mode	Percent
Rental Car	40.1
Taxi	8.2
Limo or Van	12.5
Hotel Vehicle	13.6
Tour Bus	20.9
OSOTA Bus	0.5
Picked up by friend	2.5
Other	1.7

It should be noted that only 22 percent of hotel guests arriving at the airport make their travel decision upon arrival. The remainder have already arranged for their travel, or have had it arranged for them.

Previous commitment to other travel mode. With 30.1 percent of hotel guests having driven to Orlando, and 40.1 percent of the airline users having rented cars, a total of 56 percent of hotel guests have an automobile available at the hotel. While some of these people may be willing to leave the vehicle at the hotel and take a transit service to the attraction sites and other areas they plan to visit, this number is expected to be small.

A total of 17 percent of hotel guests are relying on a tour bus to provide transportation during their visit to Orlando (presumably as part of a tour package). The remaining 27 percent, who arrived at the hotel by taxi, limo, hotel vehicle or were dropped off by a friend, are probably not as committed to any particular mode of travel while in Orlando.

Travel mode to attractions. Hotel guests reported how they planned to go to major attractions in the Orlando area. A total of 55.3 percent said they planned to go via personal or rented vehicle, a figure which corresponds well to the 56 percent who have an automobile available, and 2.4 percent planned to ride with a friend or relative, for a total of 58 percent by automobile. In addition, 32 percent indicated that they planned to use a tour bus, city bus, limo/van or taxi, and 10 percent were unsure. An estimated total of 25

[1]See Section 3 and Appendix 1.

percent[1] of hotel guests are planning to arrange attraction travel at the time they are ready to leave, rather than being committed to a particular mode of travel.

Attraction visitors indicated that 85 percent had come by automobile (either owned, rented or borrowed, or driven by a friend), with the remainder spread among other modes. The difference between these two sets of figures can be explained by the fact that the 40 percent of attraction visitors who are staying in a private home come to the attraction site overwhelmingly by private automobile.

Other travel considerations

Decisions made about travel by tourists are significantly different from those made by commuters (this is why the use of the work trip mode split model is impossible for tourist trips). Among the factors which influence travel choices for tourists, which are different from those which affect commuters, are:

- Larger travel groups. The fact that several people share travel arrangements makes transit service (where each person pays a fare) relatively expensive in relation to, say, renting a car. At Orlando attractions, the average travel group size is 3. A total of 19 percent of all travel groups include children (35 percent for SeaWorld).

- Travel to other locations. Of the hotel guests responding to the survey, 27 percent

[1]There was an apparent confusion between "tour buses" (pre-arranged as part of a package tour) and buses operated by limousine companies (arranged at the time of travel). This 25 percent number is estimated from other survey questions.

indicated that they planned to visit attractions outside the Orlando area. If a travel group needs an automobile for these trips, it is likely they will arrange a car for Orlando area trips as well.

Proposed Southwest Corridor Service

Of the six proposed Southwest Corridor routes, five operate at peak hours only. These schedules do not coincide with the travel times of tourists, whose arrival time at attractions peaks later in the morning (10:00 or so) and whose departure time peaks earlier in the afternoon (3:00 to 4:00). For this reason, these routes are unlikely to attract any significant tourist traffic.

However, the airport-downtown route is scheduled to run all day at 45-minute headways. Its routing is such that it has the potential to attract several separate market segments, including:

- Travel between the airport and hotels along International Drive or downtown. However, because there are no adequate baggage handling features on the OSOTA buses, this travel may be limited to small groups and to people with little baggage.

- Travel between Orlando area locations (residents would take another bus to the downtown terminal) and attractions along International Drive. This would also apply to tourists staying at downtown hotels.

- Travel between International Drive hotels and downtown Orlando, including Church Street station.

While no specific estimates of ridership on the airport route can be made with any confidence, it is likely that recreational travel (including trips by

residents to and from the airport) will be a significant portion of the ridership on this route.

Summary.

Tourists and attraction visitors have, for the most part, made a commitment to a particular mode of travel. Approximately 25 percent of the attraction visitors coming from hotels (53 percent of the total) have no such commitment, and are making arrangements for travel on a short-term basis. This portion of attraction visitors (13 percent) represents the best potential market for new transit service.

While this market segment may be attracted to new transit service, it is also the segment which is already being served by private transportation providers. A public transportation service will inevitably be in competition with private operators for this market.

To attract other tourists to transit, it may be necessary to get information to them before they make a commitment by arranging for an automobile or other travel. If a visitor knows that convenient transportation is available to the destinations he/she is interested in, he/she may decide not to rent a car, or may decide to fly instead of driving.

Almost 77 percent of hotel guests indicated that they definitely or probably would use convenient bus service connecting the airport, hotels, and attractions (the numbers were slightly higher for rail transit service). If this share of tourist trips could be achieved, it would represent a significant reduction of automobile travel in the corridor. However, as indicated in the analysis of commuter mode choices, people's intentions, as expressed in such a survey response, often bear no relationship to actual behavior.

4.3 Market Potential for Rail Transit Service

As noted in Section 1, one of the objectives of the Southwest Corridor demonstration project was to demonstrate the potential for a high-quality rail transit service in the Southwest Corridor. In fact, at least one of the routes in question was intended to match, as closely as possible, part of the proposed rail transit corridor.

However, there are significant differences between bus transit and rail transit service; both in the manner in which they operate, and their ability to draw passengers. This section examines some of the more important differences.

Travel to work

The initial feasibility reports for the Southwest Corridor rail transit system indicated that commuting would represent only a small portion (about 6 percent) of the total ridership on the system. To the extent this market is served, a rail system in this corridor would be directed at essentially the same employee trip market as the proposed bus service. Rail service may have some key advantages, however, which might make it more successful in serving this market, and some disadvantages which must be addressed.

Coverage. Within the Southwest Corridor area, the proposed fixed guideway line would serve the same Airport-Sand Lake Road-International Drive area served by the bus routes, plus a major link to Lake Buena Vista and possible the Disney World entrance. This additional link serves a large group of employees--18,000 at Disney, 2,200 at Lake Buena Vista, and possibly a portion of the 1,100 employees on Route 192. This

would increase the total employee market by more than 50 percent.

Route coverage at the home end of the trip cannot be provided as effectively with rail service as it can with bus service. Presumably, if rail service were instituted to downtown Orlando, the Southwest Corridor bus service would be modified to feed into the downtown station on the rail transit line, instead of continuing into the Southwest Corridor. While this would add some transfer time, this could be made up by the higher speed of the proposed rail system.

Speed. The design objective specified in the rail transit feasibility report is all-day service on 10-minute headways averaging 30 miles per hour, including stops. This travel time is considerably faster than the proposed bus time (20 mph average). If these higher speeds were substituted into the modal choice model described above, the model would predict a 50 percent increase in the transit mode share for the average market segment.

The improvement in speed would be offset to some degree by the larger station access times, compared to the time required to get to the bus stop. The proposed bus service, for example, will have several stops along International Drive, and will divert off the road to provide service to employment centers such as Martin Marietta and Orlando Central Park. To get to and from the rail station, a longer walk will generally be required.

Operating Hours. The service frequency and operating hours proposed for the rail system results in far better service than can be provided with the proposed bus service. As a result, service would be available

to virtually all employees in the service area, regardless of work schedules.

Image. Many people view rail transit service as being more attractive or desirable than bus service, outside of considerations of travel time, cost, or schedule convenience. This "image" difference is difficult to measure effectively. However, it is interesting to note that Southwest Corridor employees, responding to questions such as "would you use modern rail transit [or express bus] service?" were more positive about rail service. More than 35 percent answered that they "definitely would" use rail service, while 29 percent gave the same response in regard to bus service.

Summary. The principal impediment to use of a rail transit service for travel to work is the problem of access to the rail stations and transfer times at each end of the trip. If this is provided for in a satisfactory manner (improved feeder service, shuttle buses, etc.), then the rail system can be expected to draw a much larger portion of total Southwest Corridor work trips than the proposed bus service.

Other employee travel

On an average workday, 12 percent of Southwest Corridor employees travel outside their workplace on company business, and 23 percent of employees travel on personal business. This represents a total of approximately 20,000 trips per day outside the workplace. While the midday service provided by the proposed rail service may attract some of these trips, two problems may be encountered. The destinations served by the rail line probably do not coincide with the destinations of those travelling on company business. Personal trips (lunch, shopping, etc.) are more flexible in

terms of their destination, but the long distances between stops on the rail system, added to the 5-10 minute wait each way, may make it impossible for employees to take the rail service and complete their personal business within, say, a lunch hour. It is expected that midday travel by employees will represent a very small portion of total rail system patronage.

Tourist Travel

Much of the analysis of tourist travel markets for bus service (discussed above) applies as well to rail service. Important differences are discussed below.

Airport to Hotel trips. As discussed previously, this market, which totals approximately 3,500 trips each way daily, is now divided chiefly among rental cars, tour buses, and limo/van services (including hotel vehicles). The major competitive disadvantage of rail transit lies in the difficulty passengers have in getting to and from the station with heavy baggage. A small van, for example, can drop passengers right at the door of any hotel in their service area, a service the rail transit system cannot match. Even cities with extensive rail transit systems which include airport service (such as Boston and Cleveland) rarely capture more than 10 percent of the airport traffic. This market may grow dramatically as visitations to local attractions grow.

Hotel to Attractions. This is a large potential market, with more than 50,000 trips each way daily, and growing. Nearly half of these visitors come from hotels and motels in the Southwest Corridor. Again, for rail service to be competitive in this market, improved access to and from the rail station must be provided. The best market for transit service, as discussed

previously, consists of the 13 percent of total attraction visitors who have not committed themselves to other modes of transportation (with rental car or tour bus). A very successful rail service could further reduce the number of people using their automobiles, if information were available in a timely manner.

Summary

This analysis has examined three potential markets for rail transit service in the Southwest Corridor, based on surveys and experience with the express bus service.

The feasibility and alternatives analysis reports for the Southwest Corridor LRV forecasted significantly more riders than are identified in this analysis. Those studies examined certain markets (specifically tourists) in more detail than was possible here, and used different forecast years and other assumptions. Because the LRV is designed to serve a larger market than the Southwest Direct buses, the market survey for the buses is of only limited use in LRV planning.

5.0 Summary of Post-Implementation Experience

5.1 Overview

The service planning assistance provided by CS to OSOTA proved most useful in the post-implementation phase of the project. As discussed in Section 2, the initial route designs were prepared without the benefit of the analysis presented in Sections 3 and 4. This led to some problems with the designs which became apparent after a few months. The CS work was used at that point to correct some of the problems. A number of adjustments were made to the service during the course of the demonstration and these changes are understandable in light of the findings of the market analysis effort. Thus, the analytic results proved quite useful to the OSOTA staff in realigning certain routes to improve ridership and to use limited financial resources more effectively.

5.2 Applications of Market Research Findings

Examination of routes with low ridership showed three major flaws in the system design:

Scheduling of Pine Hills SWD--First, in the Pine Hills area of Orlando, a significant proportion of the work arrival times in the Southwest Corridor fall into the early peak hours. Examination of a crosstabulation of employee home zip codes with work arrival times determined that the Pine Hills bus should have two peak hour arrivals before 9:00 AM rather than one at 8:00 and one

schedule was adjusted to accommodate the work arrival times of the Pine Hills area residents and ridership has improved since.

Design of Washington Shores SWD--A second problem was encountered with the Washington Shores bus service. Initially, this service went to the same employment sites as the other Southwest Direct buses. Although it served a relatively transit dependent neighborhood, it had fairly low ridership. Examination of the employee surveys showed that Lake Buena Vista employment sites attracted a significant number of workers from the Washington Shores area while few employees in the Martin Marietta complex and Orlando Central Park lived there. Accordingly, the destination of the Washington Shores bus was changed to serve Lake Buena Vista better. In addition, OSOTA investigations showed that many Washington Shores passengers transferred to another OSOTA bus and the schedules were redrawn to support this transfer requirement.

The initial design of the Washington Shores route was a conscious attempt on the part of OSOTA to create a transportation link between the two employment centers of Martin Marietta and Orlando Central Park and the Washington Shores area of Orlando. It was recognized that providing the more affluent northern Orlando suburbs with express bus service without providing similar service to less affluent areas was not equitable. The Washington Shores area has a low income population largely employed in service industries and it was hoped that providing access to the employment areas would provide better job opportunities for residents of the area. The subsequent readjustment of the route reflected twin realities: first, few residents of the area had jobs at the destination of the route when service began; and second, providing a transportation link to an employment center is not in and of itself a means of generating employment opportunities.

The change of destination generated an immediate increase in ridership on the Washington Shores bus. Figure 5.1 shows the ridership on the route from the beginning of the project period to the first week in October. It is apparent from the graph that the change in route destination caused a distinct upturn in ridership starting March of 1984.

Low Demand for Downtown-Airport Link--Finally, the airport direct/express service to downtown via International Drive was dropped by OSOTA. In the CS analysis of the Orlando transit markets, the airport market for bus service was not expected to be large. Most passengers arriving in Orlando (and going back to the airport) have made prior travel arrangements either on their own or through a travel agent and are not likely to take a bus. The small percentage of arriving airline passengers who are uncommitted are also the major market for independent transportation providers.

The OSOTA airport bus was therefore in competition with the private operators who, in fact, actively diverted ridership from it. At one point, in fact, the private operators were successful in preventing the installation of luggage racks on the airport buses despite the project manager's requests for the equipment to the OSOTA board. These impediments were combined with the fact that the location of the stop at the airport was changed several times to avoid conflicts with the private operator waiting areas without correcting the signage and as a result, thoroughly confusing the potential riders. This combination of negative factors lead to low ridership on the airport service, and resulted in a poor cost recovery ratio.

It should be mentioned that there were reasons for instituting this service beyond potential demand levels including: a direct request for the service from the City of Orlando; to collect information relevant to the proposed LRV service; and to test the

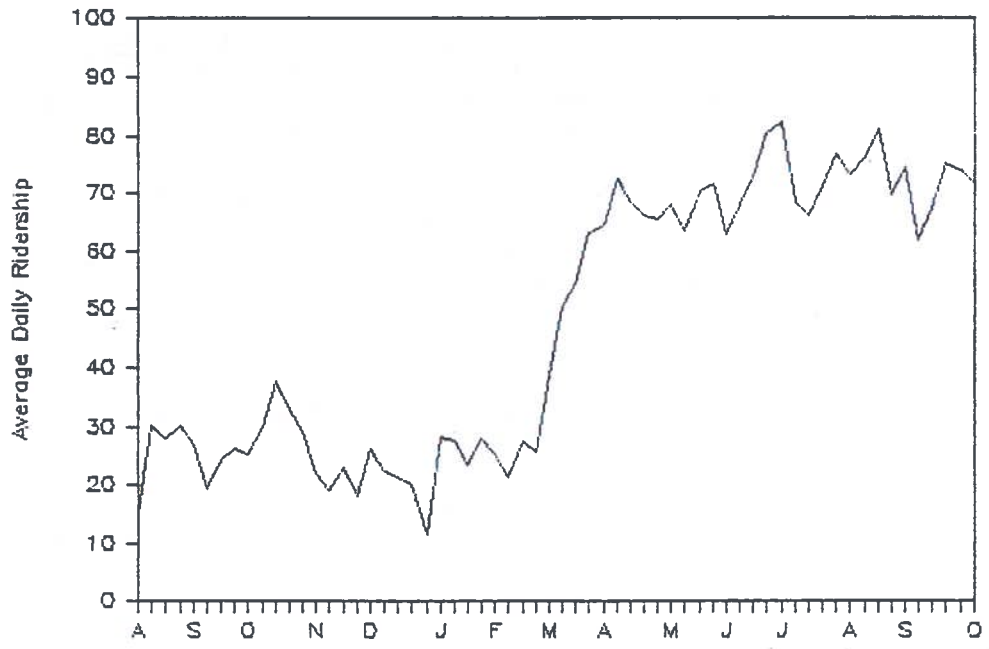


Figure 5.1 Washington Shores Ridership History: Average Daily Ridership

reaction of the private operators to direct competition for airport passengers from OSOTA. The availability of full federal funding also provided an opportunity to test this route and explore these issues at little or no cost to OSOTA. Prior to abandoning the route to the airport, OSOTA did an informal survey of a number of other properties with similar airport services to collect their experiences. In general, the airport buses operated by these properties also had very low ridership. This suggested that OSOTA's experiences with the direct airport link were not unusual and that the ridership they were attracting was probably all they could expect.

5.3 *Current Project Status*

Five routes are operating now with an average weekly ridership close to 1,600 passengers. This is approximately one-third of the projected ridership (of 900 trips per day or 4500 per 5-day week), and below the early experience with the service. Two of the routes which continue to be less than effective in generating riders may well be dropped when the grant expires. However, according to the local project manager, the other three routes are likely to continue if there is local funding support for them. At present, the buses are still making either one or two peak hour trips. These trips are at or near capacity on many days and additional passengers might be attracted with more frequent service. The modest success of the routes serving Orlando's northern suburbs has influenced OSOTA to begin evaluating other potential areas for express bus service in addition to the areas already served by the demonstration routes.

5.4 Southwest Direct Service Ridership Trends in Retrospect

The actual ridership levels achieved on the Southwest Corridor routes generally have been less than predicted by the Cambridge Systematics modeling effort. An examination of Figures 5.2 to 5.6 shows that with the exception of the Altamonte Springs and Airport routes, ridership was never more than half and usually less than a third of the predicted levels. This may be due to a combination of factors which include differences in employment site access, over-estimation of the total market potential for transit, competition between routes for riders, and possibly, non-transferability of the model used in the demand estimation.

Site Access Differences Access to employment sites varies and affects the attractiveness of the bus option. The model assumed relatively homogeneous access to employment sites throughout the Southwest Corridor, but in fact this was not the case. This is clearly demonstrated by examination of the graphs and the raw data in Appendix B. Each of the major downturns in ridership was caused by changes in the work levels at the Martin Marietta plant. When the plant as a whole was closed or there was a company holiday observed, ridership on all the SWD routes dropped significantly. Indeed, the Martin Marietta summer vacation weeks cause an evaporation of ridership. This suggests that workers at the Martin Marietta plant generate the lion's share of ridership on the SWD routes. In turn, it also suggests that the other employment sites are relatively insignificant sources of employee work trips on SWD buses. There is in effect a level of service

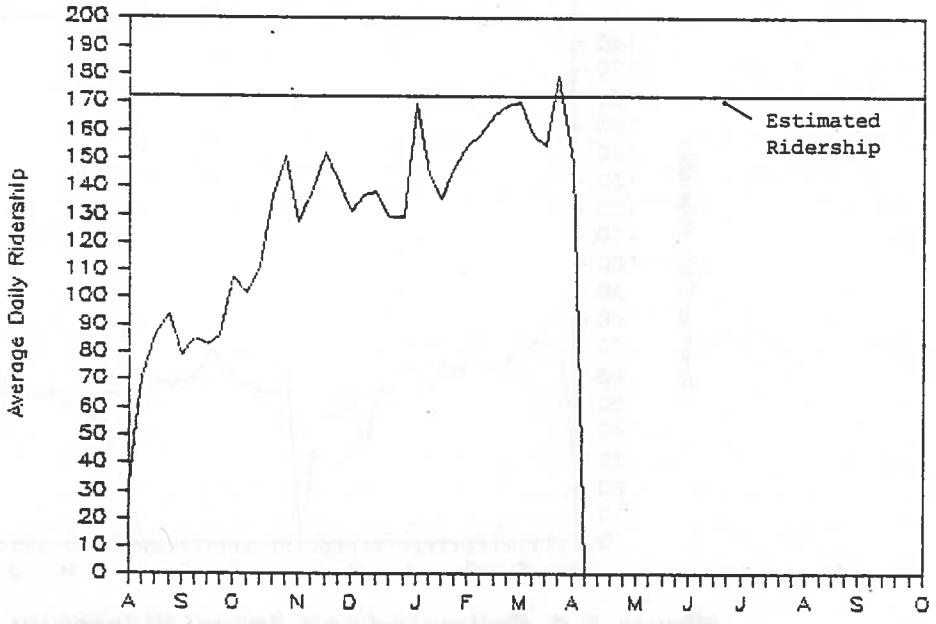


Figure 5.2 Estimated and Actual Ridership: Downtown Airport

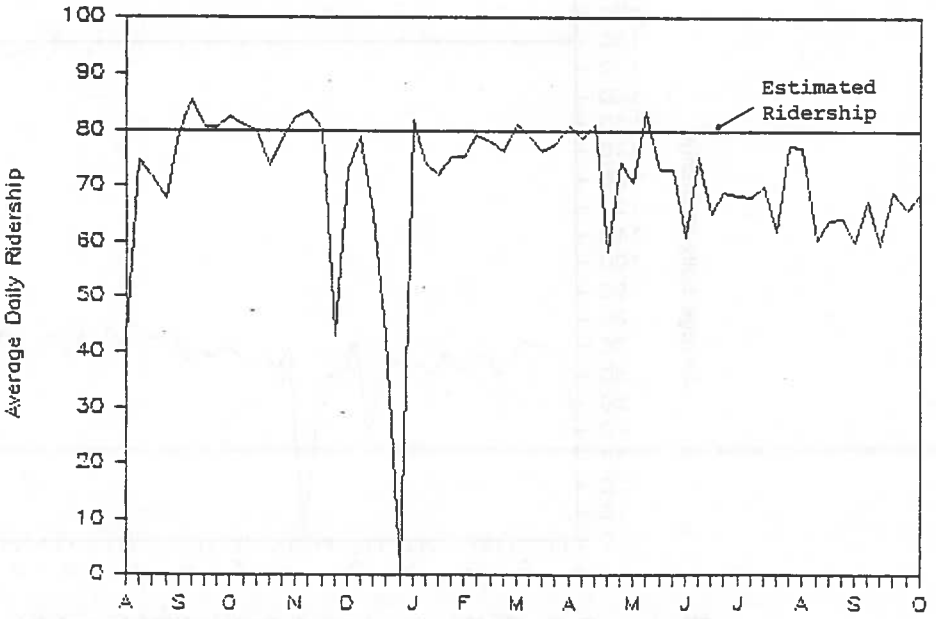


Figure 5.3 Estimated and Actual Ridership: Altamont Springs

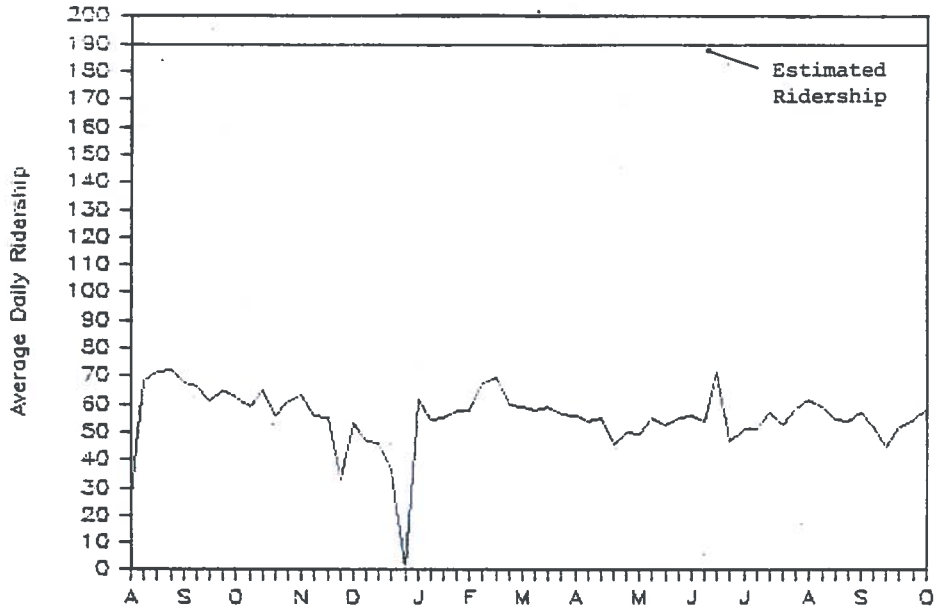


Figure 5.4 Estimated and Actual Ridership: Casselberry/Winter Park

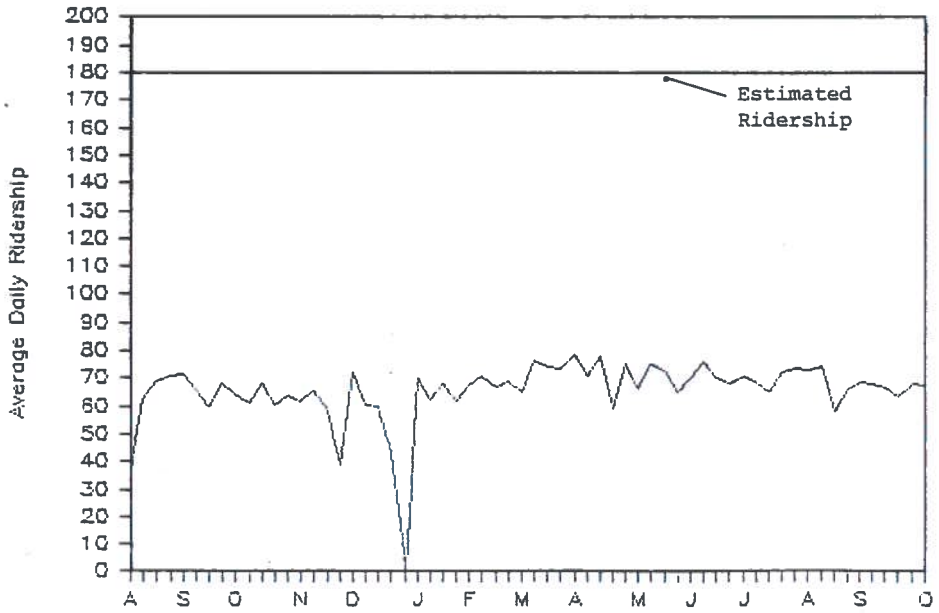


Figure 5.5 Estimated and Actual Ridership: Longwood 17-92 Route

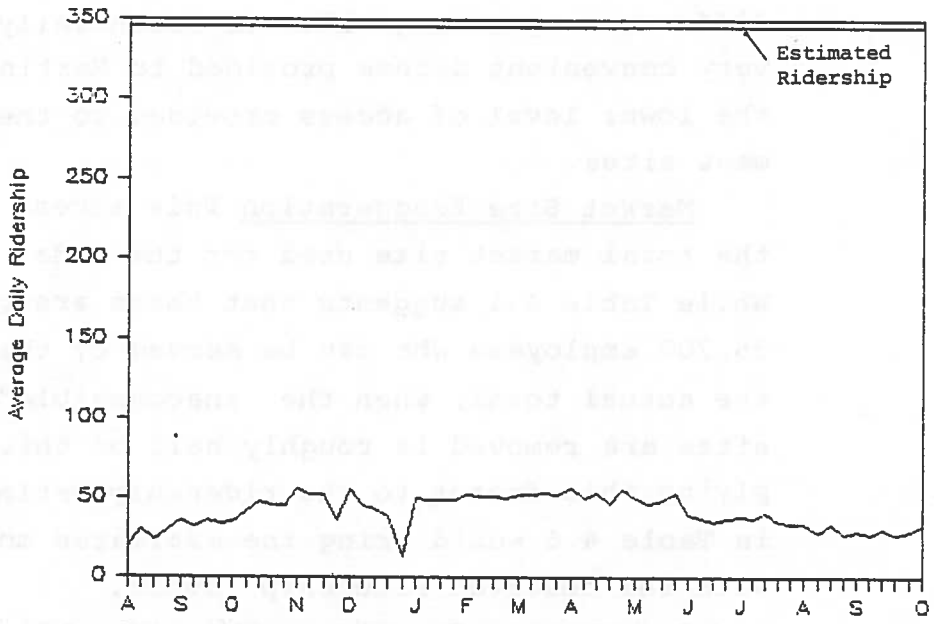


Figure 5.6 Estimated and Actual Ridership: Pine Hills Route

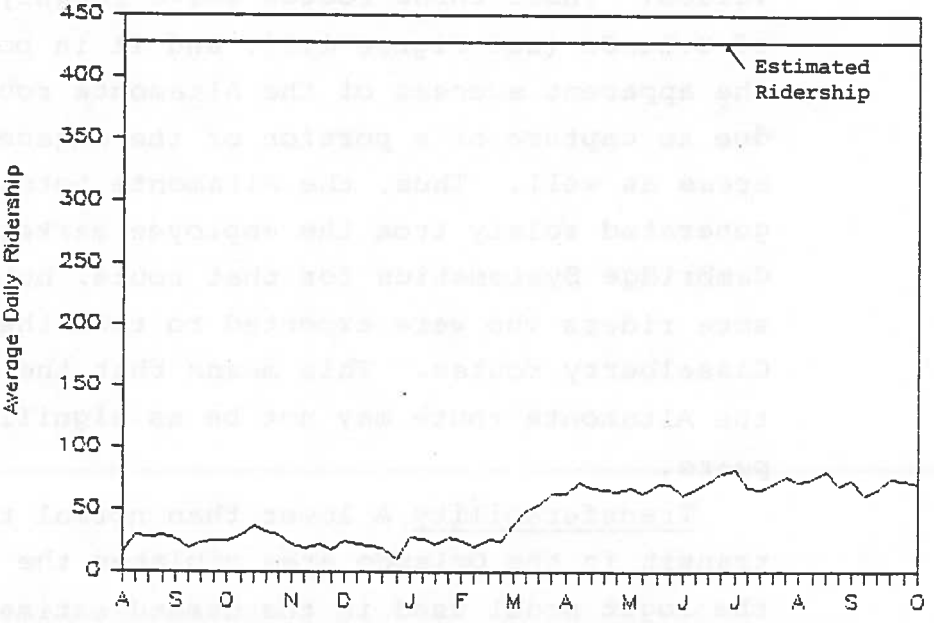


Figure 5.7 Estimated and Actual Ridership: Washington Shores Route

difference operating which is essentially due to the very convenient access provided to Martin Marietta and the lower level of access provided to the other employment sites.

Market Size Exaggeration This access factor affects the total market size used for the model calculations. While Table 4.1 suggests that there are potentially 35,700 employees who can be served by the SWD service, the actual total, when the "inaccessible" employment sites are removed is roughly half of this total. Applying this factor to the ridership estimates presented in Table 4.6 would bring the estimates more in line with the observed ridership levels.

Competition for Riders The ridership totals for the Altamonte route are close to the estimated values. However, the Casselberry and Longwood routes show ridership levels far below the expected or estimated values. These three routes serve roughly the same area of Orlando (see Figure 1.1), and it is possible that the apparent success of the Altamonte route is really due to capture of a portion of the adjacent market areas as well. Thus, the Altamonte total is not generated solely from the employee market defined by Cambridge Systematics for that route, but also includes some riders who were expected to take the Longwood and Casselberry routes. This means that the "success" of the Altamonte route may not be as significant as it appears.

Transferability A lower than normal tendency to use transit in the Orlando Area violates the assumptions of the logit model used in the demand estimation. This may make the transferability of the Washington D.C. model coefficients somewhat suspect, although they have

been validated in other settings. Problems with the model are impossible to determine without further analysis, but remain a possible causal factor.

In sum, the modeling effort seems to be more of an upper bound on the potential ridership than an actual estimate of the potential ridership on the SWD routes. This suggests that there may be untapped market potential and that increased trip frequencies, better drop-off sites, aggressive marketing efforts, and elimination of route market overlaps might help increase ridership. Indeed this observation is supported by the OSOTA experience with the Washington Shores route, where ridership was increased by providing a better service simply through a change in the route's destination. Nevertheless, the popularity of the single occupant auto is a very strong disincentive to the use of public transportation in the Orlando area, and the range of service improvements mentioned above can have only a limited effect in increasing ridership in this demand environment.

5.5 Summary

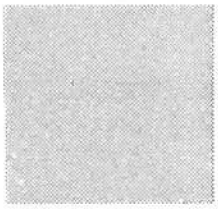
The data collection and demand estimations techniques employed for the Southwest Direct planning process, proved to be useful in 1) identifying and estimating the size of potential transit markets, and 2) in adjusting service to meet better the needs of the riders in the corridor.

The Southwest Direct project attempted to address an ambitious set of objectives, including serving a unique, tourist-oriented area, and "trailblazing" for a proposed fixed guideway service. Consequently, the

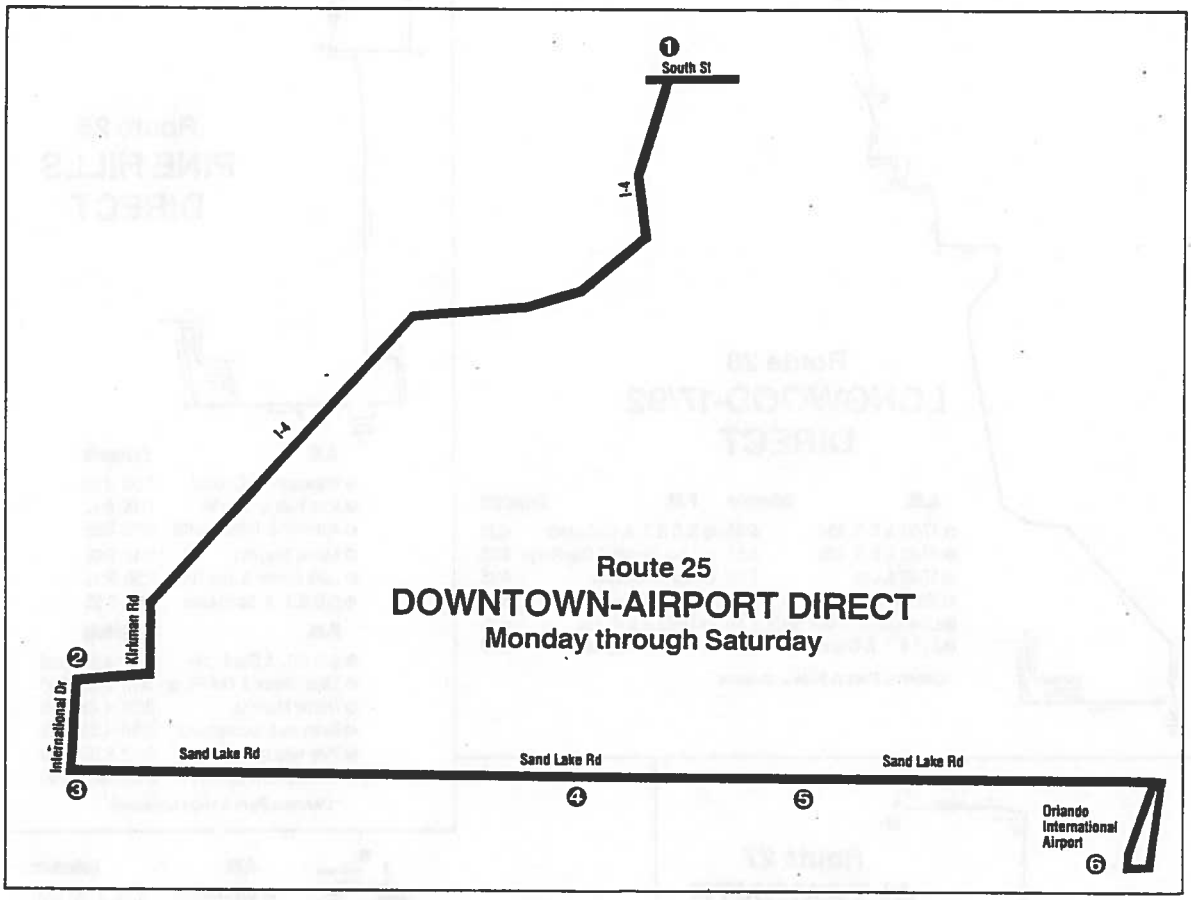
information produced in the surveys and subsequent analysis was not the only determining factor in establishing this service. Nevertheless, it provided support for the decision-making process at several critical points in the project.

The service planning process was limited in what it could predict, however. This project was also shaped by a political process and by institutional problems (such as the relationship with private operators). These factors could be measured only through an actual demonstration.

Appendix A



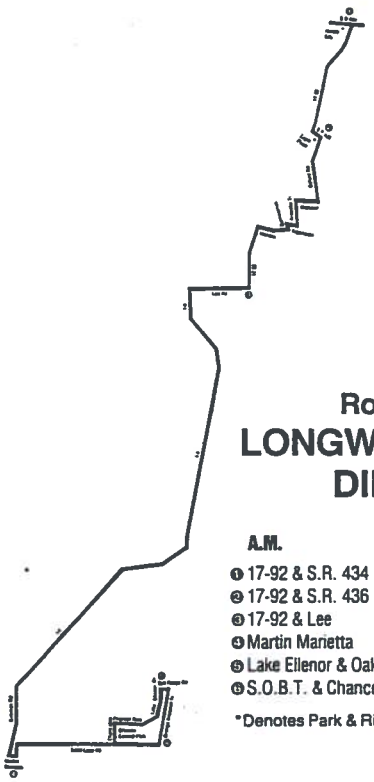
Southwest Direct Bus Route Schedules, Promotional Material and Orlando Map



Route 25
DOWNTOWN-AIRPORT DIRECT
Monday through Saturday

Pine Street Terminal ❶	Kirkman And International Drive ❷	International Drive And Sand Lake Road ❸	South O.B.T. And Sand Lake Road ❹	Sand Lake Road And Orange ❺	Arrive Airport ❻	Leave Airport ❻	Sand Lake Road And Orange ❺	South O.B.T. And Sand Lake Road ❹	South O.B.T. And Sand Lake Road ❸	Kirkman And International Drive ❷	Pine Street Terminal ❶
6:00	6:13	6:20	6:26	6:30	6:40	6:50	7:00	7:04	7:10	7:17	7:30
6:45	6:58	7:05	7:11	7:15	7:25	7:35	7:45	7:49	7:55	8:02	8:15
7:30	7:43	7:50	7:56	8:00	8:10	8:20	8:30	8:34	8:40	8:47	9:00
8:15	8:28	8:35	8:41	8:45	8:55	9:05	9:15	9:19	9:25	9:32	9:45
9:00	9:13	9:20	9:26	9:30	9:40	9:50	10:00	10:04	10:10	10:17	10:30
9:45	9:58	10:05	10:11	10:15	10:25	10:35	10:45	10:49	10:55	11:02	11:15
10:30	10:43	10:50	10:56	11:00	11:10	11:20	11:30	11:34	11:40	11:47	12:00
11:15	11:28	11:35	11:41	11:45	11:55	12:05	12:15	12:19	12:25	12:32	12:45
12:00	12:13	12:20	12:26	12:30	12:40	12:50	1:00	1:04	1:10	1:17	1:30
12:45	12:58	1:05	1:11	1:15	1:25	1:35	1:45	1:49	1:55	2:02	2:15
1:30	1:43	1:50	1:56	2:00	2:10	2:20	2:30	2:34	2:40	2:47	3:00
2:15	2:28	2:35	2:41	2:45	2:55	3:05	3:15	3:19	3:25	3:32	3:45
3:00	3:13	3:20	3:26	3:30	3:40	3:50	4:00	4:04	4:10	4:17	4:30
3:45	3:58	4:05	4:11	4:15	4:25	4:35	4:45	4:49	4:55	5:02	5:15
4:30	4:43	4:50	4:56	5:00	5:10	5:20	5:30	5:34	5:40	5:47	6:00
5:15	5:28	5:35	5:41	5:45	5:55	6:05	6:15	6:19	6:25	6:32	6:45
6:00	6:13	6:20	6:26	6:30	6:40	6:50	7:00	7:04	7:10	7:17	7:30
6:45	6:58	7:05	7:11	7:15	7:25	7:35	7:45	7:49	7:55	8:02	8:15
7:30*	7:43	7:50	7:56	8:00	8:10	8:20	8:30	8:34	8:40	8:47	9:00
8:15*	8:28	8:35	8:41	8:45	8:55	9:05	9:15	9:19	9:25	9:32	9:45
9:00*	9:13	9:20	9:26	9:30	9:40	9:50	10:00	10:04	10:10	10:17	10:30

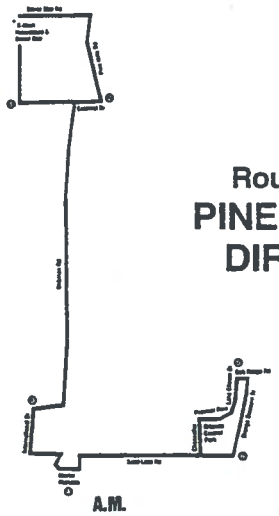
*These trips do not operate on Saturday.



Route 28
LONGWOOD-17/92 DIRECT

A.M.	Schedule	P.M.	Schedule
❶ 17-92 & S.R. 434	6:45	⓫ S.O.B.T. & Chancellor	4:25
❷ 17-92 & S.R. 436	6:55	⓬ Lake Ellenor & Oak Ridge	4:33
❸ 17-92 & Lee	7:10	⓭ Martin Marietta	4:45
❹ Martin Marietta	7:35	⓮ 17-92 & Lee	5:10
❺ Lake Ellenor & Oak Ridge	7:50	⓯ 17-92 & S.R. 436	5:30
❻ S.O.B.T. & Chancellor	7:55	❶ 17-92 & S.R. 434	5:40

*Denotes Park & Ride Locations

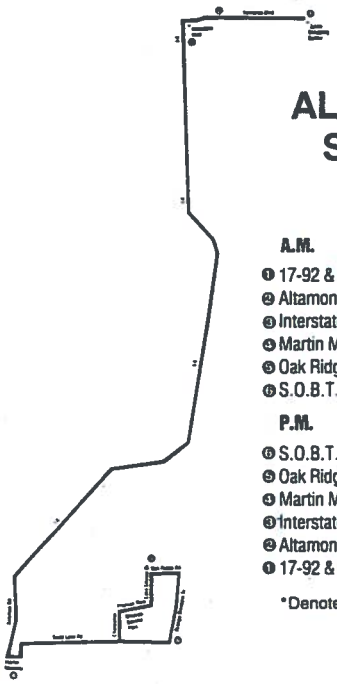


Route 26
PINE HILLS DIRECT

A.M.	Schedule
❶ Hiawassee & Colonial	7:00 8:25
❷ Pine Hills & Colonial	7:18 8:42
❸ Kirkman & International	7:30 8:55
❹ Martin Marietta	7:40 9:05
❺ Lake Ellenor & Oak Ridge	7:50 9:15
❻ S.O.B.T. & Sand Lake	7:55 9:20

P.M.	Schedule
❻ S.O.B.T. & Sand Lake	3:05 4:30 5:55
❺ Lake Ellenor & Oak Ridge	3:10 4:35 6:00
❹ Martin Marietta	3:20 4:45 6:10
❸ Kirkman & International	3:30 4:55 6:20
❷ Pine Hills & Colonial	3:42 5:07 6:30
❶ Hiawassee & Colonial	4:00 5:25 6:50

*Denotes Park & Ride Locations

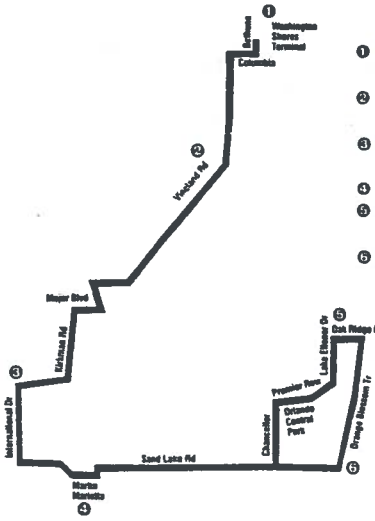


Route 27
ALTAMONTE SPRINGS DIRECT

A.M.	Schedule
❶ 17-92 & 436	7:00
❷ Altamonte Mall	7:05
❸ Interstate Mall	7:10
❹ Martin Marietta	7:40
❺ Oak Ridge & Lake Ellenor	7:50
❻ S.O.B.T. & Sand Lake	7:55

P.M.	Schedule
❻ S.O.B.T. & Sand Lake	4:25
❺ Oak Ridge & Lake Ellenor	4:33
❹ Martin Marietta	4:45
❸ Interstate Mall	5:15
❷ Altamonte Mall	5:20
❶ 17-92 & 436	5:30

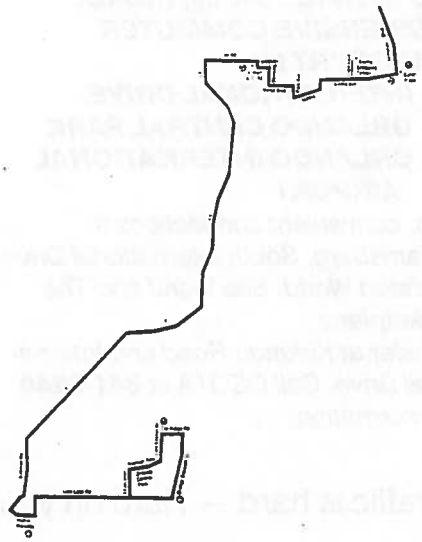
*Denotes Park & Ride Locations



Route 30
WASHINGTON SHORES DIRECT

A.M.	Schedule
❶ Washington Shores Terminal	6:15 7:20 8:20
❷ Vineland and McLeod	6:20 7:25 8:25
❸ International & Kirkman	6:30 7:35 8:35
❹ Martin Marietta	6:40 7:45 8:45
❺ Oak Ridge & Lake Ellenor	6:50 7:55 8:55
❻ S.O.B.T. & Sand Lake	6:55 8:00 9:00

P.M.	Schedule
❻ S.O.B.T. & Sand Lake	3:30 4:30 5:30 6:30
❺ Oak Ridge & Lake Ellenor	3:35 4:35 5:35 6:35
❹ Martin Marietta	3:45 4:45 5:45 —
❸ International & Kirkman	3:55 4:55 5:55 6:55
❷ Vineland & McLeod	4:05 5:05 6:05 7:05
❶ Washington Shores Terminal	4:10 5:10 6:10 7:10



Route 29
CASSELBERRY-WINTER PARK DIRECT

A.M.	Schedule
❶ Butler Plaza	6:55
❷ 436 & Aloma	7:00
❸ K-Mart-17/92 & Webster	7:10
❹ Martin Marietta	7:40
❺ Oak Ridge & Lake Ellenor	7:50
❻ S.O.B.T. & Sand Lake	7:55

P.M.	Schedule
❻ S.O.B.T. & Sand Lake	4:25
❺ Oak Ridge & Lake Ellenor	4:33
❹ Martin Marietta	4:45
❸ K-Mart-17/92 & Webster	5:20
❷ 436 & Aloma	5:30
❶ Butler Plaza	5:35

*Denotes Park & Ride Locations

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- ***ORLANDO INTERNATIONAL AIRPORT***

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*Transfer at Kirkman Road and International Drive. Call OSOTA at **841-8240** for information.*

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Consider that the national average cost to operate a compact car, including gas, oil, maintenance, depreciation, insurance and other fees, is 36¢ per mile*. A 15-mile drive to work and back could cost as much as $54.00 a week! Even if you figure in just the cost of gas and oil, SOUTHWEST DIRECT is an economical alternative to driving to work everyday.

*Source: Hertz Corporation Annual Automobile Operating Costs Estimate, 1982.

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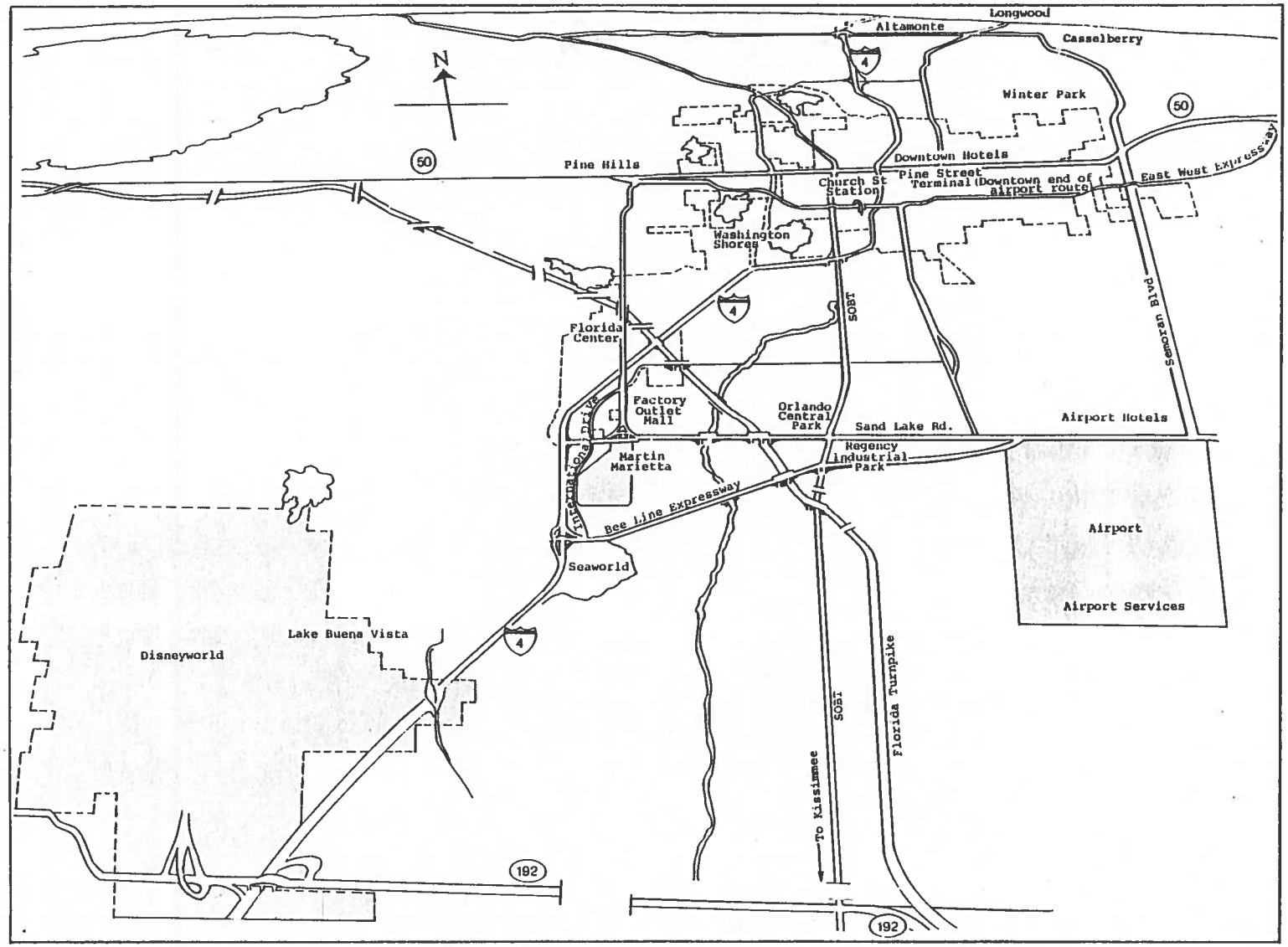
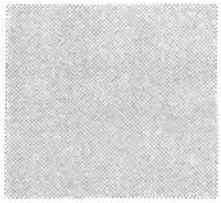


Orlando and Vicinity

Appendix B

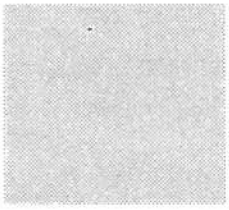


Southwest Direct Bus Route Ridership Data

Route Number -->	25	26	27	28	29	30	
Route Name ---->	Downtown/ Airport	Pine Hills	Altamonte Springs	Longwood/ 17-92	Casselberry Winter Park	Washington Shores	
	W	E	E	K	L	Y	
Week Ending	R	I	D	E	R	S	Notes (N.S. = No Service)
			(Raw Values)				
08/06/83	159	96	213	183	131	75	
08/13/83	354	148	373	313	340	151	
08/20/83	428	118	358	345	356	140	
08/27/83	469	151	339	355	360	151	
09/03/83	393	180	398	357	339	135	
09/10/83*	342	127	342	263	265	78	Includes Labor Day (N.S.)
09/17/83	413	178	403	299	305	121	
09/24/83	431	169	403	341	325	131	
10/01/83	537	176	413	321	313	127	
10/08/83	507	209	405	306	296	149	
10/15/83	557	239	399	340	326	189	
10/22/83	683	224	369	301	280	164	
10/29/83	754	227	392	319	306	147	
11/05/83	637	274	411	308	314	110	
11/12/83	689	261	417	327	278	96	
11/19/83	759	260	401	291	275	115	
11/26/83*	567	144	172	154	133	73	Includes Thanksgiving (N.S. exc. #25)
12/03/83	657	275	365	360	266	132	
12/10/83	684	226	395	303	233	112	
12/17/83	690	214	324	300	231	107	
12/24/83	646	193	215	217	180	101	
12/31/83*	645	64	3	4	0	58	Martin Marietta Closed
01/07/84*	678	197	327	281	248	113	Christmas Week & Holiday 1/2/84
01/14/84	721	241	370	313	274	138	
01/21/84	677	243	361	341	275	116	
01/28/84	736	245	377	308	289	140	
02/04/84	772	258	377	338	288	126	
02/11/84	793	252	396	353	337	107	
02/18/84	830	253	390	334	347	138	
02/25/84	844	248	381	344	300	128	
03/03/84*	853	262	406	324	296	271	Started 7 Day Service to
03/10/84	793	258	395	384	290	353	Lake Buena Vista from Washington Shores
03/18/84	774	263	382	370	297	382	
03/25/84	897	259	388	369	283	442	
04/01/84	743	280	405	392	280	451	
04/08/84		251	393	355	271	509	
04/15/84		265	406	391	277	479	
04/22/84*		232	292	296	227	464	Martin Marietta Closed 4/20/84
04/29/84		278	371	377	251	459	
05/06/84		247	353	332	248	476	
05/13/84		230	417	376	275	446	
05/20/84		240	365	363	264	493	
05/27/84		264	365	326	276	503	
06/03/84*		157	244	282	224	441	Includes Memorial Day (N.S.)
06/10/84		187	377	380	271	476	
06/17/84		174	326	351	356	511	
06/24/84		187	346	341	235	563	
07/01/84		190	342	355	258	577	
07/08/84*		148	272	274	204	479	Includes July 4 (N.S. exc. #30)
07/15/84		204	350	324	285	463	
07/22/84		172	309	362	264	500	
07/29/84		171	386	368	292	539	
08/05/84		168	384	365	310	513	
08/12/84		141	301	372	295	534	
08/19/84		167	320	290	274	569	
08/26/84		132	321	327	271	488	
09/02/84		147	300	340	284	522	
09/09/84*		106	270	269	208	433	Includes Labor Day (N.S.)
09/16/84		150	297	332	225	472	
09/23/84		137	346	314	259	528	
09/30/84		146	329	359	274	518	
10/07/84		165	344	334	292	501	

Route Number -->	25	26	27	28	29	30	
Route Name ---->	Downtown/ Airport	Pine Hills	Altamonte Springs	Longwood/ 17-92	Casselberry Winter Park	Washington Shores	TOTAL
	A V E R A G E D A I L Y						
Week Ending	R	I	D	E	R	S	
08/06/83	31.8	19.2	42.6	36.6	26.2	15.0	171.4
08/13/83	70.8	29.6	74.6	62.6	68.0	30.2	335.8
08/20/83	85.6	23.6	71.6	69.0	71.2	28.0	349.0
08/27/83	93.8	30.2	67.8	71.0	72.0	30.2	365.0
09/03/83	78.6	36.0	79.6	71.4	67.8	27.0	360.4
09/10/83*	85.5	31.8	85.5	65.8	66.3	19.5	354.3
09/17/83	82.6	35.6	80.6	59.8	61.0	24.2	343.8
09/24/83	86.2	33.8	80.6	68.2	65.0	26.2	360.0
10/01/83	107.4	35.2	82.6	64.2	62.6	25.4	377.4
10/08/83	101.4	41.8	81.0	61.2	59.2	29.8	374.4
10/15/83	111.4	47.8	79.8	68.0	65.2	37.8	410.0
10/22/83	136.6	44.8	73.8	60.2	56.0	32.8	404.2
10/29/83	150.8	45.4	78.4	63.8	61.2	29.4	429.0
11/05/83	127.4	54.8	82.2	61.6	62.8	22.0	410.8
11/12/83	137.8	52.2	83.4	65.4	55.6	19.2	413.6
11/19/83	151.8	52.0	80.2	58.2	55.0	23.0	420.2
11/26/83*	141.8	36.0	43.0	38.5	33.3	18.3	310.8
12/03/83	131.4	55.0	73.0	72.0	53.2	26.4	411.0
12/10/83	136.8	45.2	79.0	60.6	46.6	22.4	390.6
12/17/83	138.0	42.6	64.8	60.0	46.2	21.4	373.2
12/24/83	129.2	38.6	43.0	43.4	36.0	20.2	310.4
12/31/83*	129.0	12.8	0.6	0.8	0.0	11.6	154.8
01/07/84*	169.5	49.3	81.8	70.3	62.0	28.3	461.0
01/14/84	144.2	48.2	74.0	62.6	54.8	27.6	411.4
01/21/84	135.4	48.6	72.2	68.2	55.0	23.2	402.6
01/28/84	147.2	49.0	75.4	61.6	57.8	28.0	419.0
02/04/84	154.4	51.6	75.4	67.6	57.6	25.2	431.8
02/11/84	158.6	50.4	79.2	70.6	67.4	21.4	447.6
02/18/84	166.0	50.6	78.0	66.8	69.4	27.6	456.4
02/25/84	168.8	49.6	76.2	68.8	60.0	25.6	449.0
03/03/84*	170.6	52.4	81.2	64.8	59.2	38.7	466.9
03/10/84	158.6	51.6	79.0	76.8	58.0	50.4	474.4
03/18/84	154.8	52.6	76.4	74.0	59.4	54.6	471.8
03/25/84	179.4	51.8	77.6	73.8	56.6	63.1	502.3
04/01/84	148.6	56.0	81.0	78.4	56.0	64.4	484.4
04/08/84	0.0	50.2	78.6	71.0	54.2	72.7	326.7
04/15/84	0.0	53.0	81.2	78.2	55.4	68.4	336.2
04/22/84*	0.0	46.4	58.4	59.2	45.4	66.3	275.7
04/29/84	0.0	55.6	74.2	75.4	50.2	65.6	321.0
05/06/84	0.0	49.4	70.6	66.4	49.6	68.0	304.0
05/13/84	0.0	46.0	83.4	75.2	55.0	63.7	323.3
05/20/84	0.0	48.0	73.0	72.6	52.8	70.4	316.8
05/27/84	0.0	52.8	73.0	65.2	55.2	71.9	318.1
06/03/84*	0.0	39.3	61.0	70.5	56.0	63.0	289.8
06/10/84	0.0	37.4	75.4	76.0	54.2	68.0	311.0
06/17/84	0.0	34.8	65.2	70.2	71.2	73.0	314.4
06/24/84	0.0	37.4	69.2	68.2	47.0	80.4	302.2
07/01/84	0.0	38.0	68.4	71.0	51.6	82.4	311.4
07/08/84*	0.0	37.0	68.0	68.5	51.0	68.4	292.9
07/15/84	0.0	40.8	70.0	64.8	57.0	66.1	298.7
07/22/84	0.0	34.4	61.8	72.4	52.8	71.4	292.8
07/29/84	0.0	34.2	77.2	73.6	58.4	76.9	320.3
08/05/84	0.0	33.6	76.8	73.0	62.0	73.3	318.7
08/12/84	0.0	28.2	60.2	74.4	59.0	76.3	298.1
08/19/84	0.0	33.4	64.0	58.0	54.8	81.3	291.5
08/26/84	0.0	26.4	64.2	65.4	54.2	69.7	279.9
09/02/84	0.0	29.4	60.0	68.0	56.8	74.6	288.8
09/09/84*	0.0	26.5	67.5	67.3	52.0	61.9	275.1
09/16/84	0.0	30.0	59.4	66.4	45.0	67.4	268.2
09/23/84	0.0	27.4	69.2	62.8	51.8	75.4	286.6
09/30/84	0.0	29.2	65.8	67.8	54.8	74.0	291.6
10/07/84	0.0	33.0	68.8	66.8	58.4	71.6	298.6

Appendix C



Employee Survey Frequency Tables

SIMPLE WEIGHTED FREQUENCIES FOR EMPLOYEE SURVEYS

WORK SITE OF RESPONDENT

SITE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
FLORIDA CENTER	1700	1700	2.886	2.886
INTERNATIONAL DR	2300	4000	3.905	6.791
LAKE BUENA VISTA	2200	6200	3.735	10.526
AIRPORT HOTELS	1700	7900	2.886	13.413
DOWNTOWN HOTELS	1400	9300	2.377	15.790
ROUTE 192	1100	10400	1.868	17.657
ORLANDO CENTRAL	10600	21000	17.997	35.654
AIRPORT	2600	23600	4.414	40.068
REGENCY INDUSTRI	2850	26450	4.839	44.907
OUTLET MALL	1100	27550	1.868	46.775
MARTIN MARIETTA	8200	35749	13.922	60.696
SEA WORLD	4650	40399	7.895	68.591
CHURCH STREET ST	500	40899	0.849	69.440
DISNEY WORLD	18000	58899	30.560	100.000

WEIGHTING FACTOR

BLOWUP	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
6.175772	421	421	14.751	14.751
6.432749	342	763	11.983	26.734
12.70492	366	1129	12.824	39.559
14.93506	154	1283	5.396	44.954
18.15287	157	1440	5.501	50.456
21.41414	495	1935	17.344	67.800
21.79487	78	2013	2.733	70.533
26.98413	63	2076	2.207	72.740
28.94737	38	2114	1.331	74.071
29.72973	37	2151	1.296	75.368
37.6569	478	2629	16.748	92.116
43.38624	189	2818	6.622	98.739
45.45455	11	2829	0.385	99.124
56	25	2854	0.876	100.000

RETURN	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
0.07333333	11	11	0.385	0.385
0.1	25	36	0.876	1.261
0.152	38	74	1.331	2.593
0.195	78	152	2.733	5.326
0.2032258	63	215	2.207	7.533
0.2464	154	369	5.396	12.929
0.2512	157	526	5.501	18.430
0.296	37	563	1.296	19.727
0.3024	189	752	6.622	26.349
0.366	366	1118	12.824	39.173
0.5472	342	1460	11.983	51.156
0.6714514	421	1881	14.751	65.907
0.7648	478	2359	16.748	82.656
0.7734375	495	2854	17.344	100.000

SIMPLE WEIGHTED FREQUENCIES FOR EMPLOYEE SURVEYS

EMPLYR	EMPLOYER NAME FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
RAMADA	828	828	1.406	1.406
SHERATON TWIN	872	1700	1.480	2.886
MARRIOTT	762	2462	1.293	4.179
HILTON	538	2999	0.913	5.092
SEA WORLD	5487	8486	9.315	14.408
DAYS INN	1537	10023	2.610	17.017
PALACE	1672	11695	2.840	19.857
ROYAL PLAZA	527	12223	0.896	20.752
HOLIDAY INN	432	12655	0.733	21.485
HARLEY	112	12767	0.190	21.676
HOWARD JOHNSON	1288	14055	2.187	23.862
HYATT	376	14431	0.639	24.501
DAYS LODGE	724	15155	1.229	25.730
GILLMAN	128	15283	0.218	25.948
MONTGOMERY WARD	1756	17039	2.981	28.929
OZALID	193	17232	0.327	29.257
REYNOLDS SMITH	407	17639	0.691	29.947
SIGMA CON	964	18602	1.636	31.584
ECKERD	1627	20230	2.763	34.347
RED LOBSTER	1927	22157	3.272	37.619
CNA	2120	24277	3.599	41.218
MARTIN MARIETTA	9677	33954	16.430	57.648
AIRCRAFT SERVICE	185	34139	0.315	57.963
PAGE SERVICES	321	34461	0.545	58.509
AVIATION AUTHORI	1223	35683	2.076	60.584
CHAMPS PLAZA	43	35727	0.073	60.658
MCCOY FASHIONS	19	35745	0.031	60.689
WALT DISNEY WORL	49	35795	0.084	60.773
SIRGANY INTERNAT	37	35832	0.063	60.836
DELTA AIRLINES	364	36196	0.619	61.454
EASTERN AIRLINES	253	36449	0.430	61.884
AUTOMATED CONTAI	363	36812	0.616	62.501
BOISE CASCADE	508	37321	0.863	63.364
FLUID SCIENTIFIC	182	37502	0.308	63.672
GENERAL KINETICS	272	37774	0.462	64.134
MEYERS BAKERY	54	37829	0.092	64.227
ORLANDO LAMINATE	54	37883	0.092	64.319
SONOCO PRODUCTS	454	38337	0.771	65.090
SEALY MATTRESS	472	38809	0.801	65.891
ARCHITECTURAL SP	200	39009	0.339	66.230
	145	39154	0.247	66.477
TOYS AND GIFTS	149	39303	0.252	66.729
PUBLISHERS BOOKS	119	39422	0.202	66.931
RANDON SPORTSWEA	297	39719	0.505	67.436
BANNISTER SHOE	178	39897	0.303	67.738
DIAMONDS UNLIMIT	149	40046	0.252	67.991
KIDS STOP	149	40195	0.252	68.243
HIT OR MISS	59	40254	0.101	68.344
CHURCH STREET ST	500	40754	0.849	69.193
DISNEY	18000	58754	30.560	99.753
REEVES	145	58899	0.247	100.000

SIMPLE WEIGHTED FREQUENCIES FOR EMPLOYEE SURVEYS

MODE TO WORK

MODE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	169	.	.	.
DRIVE ALONE	44739	44739	76.181	76.181
CARPOOL	9777	54517	16.648	92.829
VANPOOL	414	54930	0.704	93.534
OSOTA BUS	1291	56221	2.198	95.731
OTHER BUS	129	56350	0.220	95.952
MOTORCYCLE OR MO	1255	57605	2.137	98.088
WALK	313	57918	0.533	98.621
OTHER MODE	810	58728	1.379	100.000

NUMBER OF CARPOOLER RIDERS

CARNUM	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	49542	.	.	.
0	38	38	0.403	0.403
1	417	454	4.456	4.858
2	6151	6606	65.762	70.620
3	1672	8277	17.872	88.492
4	662	8939	7.074	95.566
5	349	9288	3.734	99.300
6	13	9301	0.138	99.438
8	15	9316	0.160	99.597
10	38	9354	0.403	100.000

USUAL NUMBER OF VAN PASSENGERS

VANNUM	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	58563	.	.	.
2	73	73	21.992	21.992
3	6	79	1.859	23.851
5	27	106	8.124	31.975
8	38	144	11.337	43.313
10	38	182	11.337	54.650
11	38	219	11.337	65.988
14	113	332	34.012	100.000

OTHER BUS TAKEN TO WORK

OTHBUS	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	58895	.	.	.

ALTERNATIVE MODE TO WORK

OTHMODE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	58608	.	.	.
1	258	258	89.904	89.904
3	29	287	10.096	100.000

SIMPLE WEIGHTED FREQUENCIES FOR EMPLOYEE SURVEYS

MODE TO WORK TODAY

TDYMODE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
NOT APPLICABLE	190	.	.	.
DRIVE ALONE	44242	44242	75.360	75.360
DROVE OR ROAD WI	4760	49001	8.107	83.468
CARPOOL	6189	55190	10.542	94.009
VANPOOL	468	55658	0.796	94.806
OSOTA BUS	1150	56807	1.958	96.764
OTHER BUS	137	56944	0.233	96.997
MOTORCYCLE OR MO	1150	58094	1.958	98.955
WALK	221	58314	0.376	99.331
OTHER MODE	393	58707	0.669	100.000

NUMBER IN CAR TODAY

CARTDY	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	52792	.	.	.
1	204	204	3.343	3.343
2	4177	4381	68.431	71.774
3	1277	5658	20.922	92.696
4	292	5951	4.790	97.486
5	124	6074	2.024	99.511
6	30	6104	0.489	100.000

NUMBER IN VAN TODAY

VANTODY	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	58471	.	.	.
2	52	52	12.186	12.186
3	44	95	10.345	22.531
4	65	160	15.256	37.787
6	38	198	8.888	46.674
7	75	273	17.775	64.450
8	75	348	17.775	82.225
9	75	424	17.775	100.000

ALTERNATIVE MODE TO WORK TODAY

OTHTDY	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	58811	.	.	.
1	85	85	100.000	100.000

SIMPLE WEIGHTED FREQUENCIES FOR EMPLOYEE SURVEYS

MINUTES TO WORK

TRAVMIN	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING OR NOT A	160	.	.	.
LESS THAN 5 MINU	1872	1872	3.188	3.188
5 TO 10 MINUTES	5029	6901	8.561	11.749
10 TO 15 MINUTES	8071	14972	13.740	25.489
15 TO 20 MINUTES	10749	25721	18.300	43.789
20 TO 25 MINUTES	7451	33172	12.686	56.475
25 TO 30 MINUTES	11530	44702	19.629	76.104
30 TO 45 MINUTES	11747	56449	19.999	96.103
45 TO 60 MINUTES	1827	58276	3.110	99.213
60 TO 90 MINUTES	372	58648	0.633	99.846
MORE THAN 90 MIN	90	58738	0.154	100.000

MILES TO WORK FROM HOME

MILES	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	1633	.	.	.
LESS THAN 1 MILE	1239	1239	2.164	2.164
1 TO 2 MILES	1976	3216	3.451	5.615
2 TO 3 MILES	1485	4701	2.594	8.209
3 TO 4 MILES	890	5591	1.554	9.763
4 TO 5 MILES	2041	7632	3.564	13.327
5 TO 6 MILES	2121	9753	3.703	17.030
6 TO 7 MILES	1923	11676	3.359	20.389
7 TO 8 MILES	3010	14686	5.256	25.644
8 TO 9 MILES	1507	16192	2.631	28.276
9 TO 10 MILES	3345	19538	5.842	34.117
10 TO 11 MILES	1479	21017	2.583	36.701
11 TO 15 MILES	12073	33090	21.082	57.783
15 TO 20 MILES	11223	44313	19.598	77.381
20 TO 25 MILES	6712	51025	11.721	89.102
25 TO 30 MILES	3528	54553	6.161	95.263
MORE THAN 30 MIL	2712	57266	4.737	100.000

SIMPLE WEIGHTED FREQUENCIES FOR EMPLOYEE SURVEYS

ARRIVAL TIME FOR WORK

ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	5325	.	.	.
BEFORE 5:30 AM	1252	1252	2.338	2.338
5:30 TO 6:30 AM	4411	5663	8.234	10.571
6:30 TO 7 AM	7342	13006	13.705	24.276
7 TO 7:30 AM	6375	19381	11.899	36.176
7:30 TO 8 AM	15005	34385	28.008	64.183
8 TO 8:30 AM	8179	42565	15.267	79.450
8:30 TO 9 AM	2239	44804	4.180	83.630
9 TO 9:30 AM	770	45574	1.438	85.068
9:30 TO 10 AM	914	46489	1.707	86.775
10 TO 11 AM	812	47301	1.516	88.291
11 TO 12 AM	446	47747	0.832	89.124
12 TO 1 AM	664	48411	1.239	90.363
1 TO 2 PM	744	49155	1.389	91.752
2 TO 3 PM	1646	50801	3.073	94.825
3 TO 3:30 PM	577	51379	1.078	95.903
3:30 TO 4 PM	650	52029	1.213	97.116
4 TO 4:30 PM	165	52194	0.308	97.424
4:30 TO 5 PM	282	52476	0.527	97.951
5 TO 5:30 PM	15	52491	0.028	97.979
5:30 TO 6 PM	123	52614	0.229	98.208
6 TO 6:30 PM	133	52747	0.248	98.456
6:30 TO 7 PM	94	52840	0.175	98.631
7 TO 8 PM	70	52911	0.131	98.762
8 TO 9 PM	75	52986	0.141	98.903
9 TO 10 PM	104	53090	0.194	99.097
10 TO 11 PM	387	53477	0.722	99.819
11 TO 12 PM	97	53574	0.181	100.000

AMPM ARRIVAL IDENTIFIER

ARRAMPM	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	5443	.	.	.
AM	47521	47521	88.901	88.901
PM	5933	53454	11.099	100.000

SIMPLE WEIGHTED FREQUENCIES FOR EMPLOYEE SURVEYS

DEPARTURE TIME FROM WORK

DEPART	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	5325	.	.	.
BEFORE 5:30 AM	1525	1525	2.846	2.846
5:30 TO 6:30 AM	34	1559	0.064	2.910
6:30 TO 7 AM	292	1851	0.545	3.455
7 TO 7:30 AM	172	2023	0.321	3.776
7:30 TO 8 AM	103	2126	0.192	3.968
8 TO 8:30 AM	18	2144	0.034	4.002
8:30 TO 9 AM	28	2172	0.051	4.054
9 TO 9:30 AM	34	2206	0.064	4.117
9:30 TO 10 AM	45	2251	0.085	4.202
10 TO 11 AM	33	2284	0.062	4.264
11 TO 12 AM	814	3098	1.519	5.783
12 TO 1 AM	604	3702	1.128	6.911
1 TO 2 PM	496	4199	0.926	7.837
2 TO 3 PM	2464	6663	4.600	12.437
3 TO 3:30 PM	4236	10899	7.907	20.344
3:30 TO 4 PM	3712	14611	6.929	27.273
4 TO 4:30 PM	10156	24767	18.956	46.230
4:30 TO 5 PM	11768	36535	21.966	68.196
5 TO 5:30 PM	6980	43515	13.029	81.225
5:30 TO 6 PM	3158	46673	5.894	87.119
6 TO 6:30 PM	1461	48134	2.727	89.846
6:30 TO 7 PM	640	48774	1.195	91.040
7 TO 8 PM	724	49497	1.351	92.391
8 TO 9 PM	596	50094	1.113	93.504
9 TO 10 PM	1032	51126	1.927	95.431
10 TO 11 PM	1495	52621	2.790	98.221
11 TO 12 PM	953	53574	1.779	100.000

AMPM DEPARTURE IDENTIFIER

DEPAMPM	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	5443	.	.	.
AM	3128	3128	5.851	5.851
PM	50326	53453	94.148	100.000

FULL OR PART TIMNE STATUS

FULLPRT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	480	.	.	.
FULL TIME	55607	55607	95.192	95.192
PART TIME	2809	58416	4.808	100.000

SIMPLE WEIGHTED FREQUENCIES FOR EMPLOYEE SURVEYS

DAYS WORKED PER WEEK

DPWEEK	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	581	.	.	.
1	44	44	0.075	0.075
2	307	351	0.526	0.601
3	732	1083	1.256	1.857
4	2281	3364	3.912	5.769
5	51274	54638	87.926	93.695
6	3074	57712	5.271	98.966
7	603	58315	1.034	100.000

USUAL WORK SCHEDULE

SCHEDUL	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
NOT APPLICABLE 0	1031	.	.	.
FIXED WORK HOURS	40609	40609	70.178	70.178
SET OWN SCHEDULE	4122	44731	7.124	77.302
VARIABLE START T	2422	47154	4.186	81.488
IRREGULAR SCHEDU	7612	54766	13.154	94.642
ROTATING SHIFT	2431	57197	4.201	98.843
OTHER SCHEDULE	669	57866	1.157	100.000

ALTERNATIVE INDIVIDUAL WORK SCHEDULE

OTHSCH	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	58811	.	.	.
1	84	84	100.000	100.000

DAYS WORKED OVERTIME LAST WEEK

OVTDAYS	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	4618	.	.	.
0	28281	28281	52.101	52.101
1	7434	35714	13.695	65.797
2	6428	42143	11.843	77.639
3	5405	47547	9.957	87.596
4	2430	49977	4.477	92.073
5	3301	53279	6.082	98.156
6	753	54032	1.388	99.543
7	248	54280	0.457	100.000

SIMPLE WEIGHTED FREQUENCIES FOR EMPLOYEE SURVEYS

WORK TRAVEL DURING THE DAY

TRVLDAY	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	5086	.	.	.
0	41045	41045	76.275	76.275
1	3532	44577	6.564	82.839
2	3201	47778	5.948	88.787
3	1828	49605	3.397	92.184
4	911	50516	1.692	93.876
5	2929	53445	5.443	99.319
6	196	53641	0.363	99.683
7	171	53811	0.317	100.000

COMPANY VEHICLE AVAILABLE FOR USE

COMPVEH	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	13765	.	.	.
1	6475	6475	14.347	14.347
2	2147	8622	4.758	19.105
3	36510	45132	80.895	100.000

PERSONAL TRAVEL DURING THE DAY

PERSTRV	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	4871	.	.	.
0	31062	31062	57.495	57.495
1	6634	37696	12.280	69.774
2	5033	42729	9.315	79.090
3	3036	45765	5.619	84.708
4	1339	47104	2.479	87.187
5	6005	53108	11.114	98.302
6	232	53341	0.430	98.732
7	685	54026	1.268	100.000

LICENSED DRIVER

LICENSE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
NOT APPLICABLE	906	.	.	.
LICENSED DRIVER	55704	55704	96.059	96.059
NOT LICENSED	2285	57989	3.941	100.000

SIMPLE WEIGHTED FREQUENCIES FOR EMPLOYEE SURVEYS

HOUSEHOLD LICENSED DRIVERS

DRIVERS	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	938	.	.	.
0	642	642	1.107	1.107
1	10364	11006	17.882	18.989
2	31050	42056	53.572	72.562
3	10270	52326	17.719	90.281
4	3960	56286	6.832	97.113
5	1134	57420	1.957	99.070
6	302	57723	0.522	99.592
7	174	57896	0.299	99.891
8	57	57953	0.098	99.989
20	6	57959	0.011	100.000

HOUSEHOLD SIZE

HHSIZE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	989	.	.	.
0	22	22	0.038	0.038
1	6242	6264	10.779	10.816
2	18345	24609	31.680	42.496
3	13176	37784	22.753	65.249
4	11314	49098	19.537	84.786
5	5308	54405	9.165	93.951
6	1864	56270	3.219	97.170
7	735	57005	1.269	98.440
8	445	57450	0.769	99.208
9	87	57537	0.151	99.360
10	117	57654	0.202	99.562
11	6	57661	0.011	99.573
12	83	57744	0.144	99.716
14	53	57796	0.091	99.807
20	6	57803	0.011	99.818
21	6	57809	0.011	99.829
22	28	57838	0.049	99.878
23	18	57856	0.031	99.909
31	25	57881	0.044	99.953
41	27	57908	0.047	100.000

MOTOR VEHICLES AVAILABLE

MTRVEHS	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	1058	.	.	.
NONE	2656	2656	4.591	4.591
ONE	13659	16315	23.616	28.207
TWO	26758	43073	46.262	74.470
THREE	10429	53502	18.032	92.502
FOUR	4337	57839	7.498	100.000

SIMPLE WEIGHTED FREQUENCIES FOR EMPLOYEE SURVEYS

OCCUPATIONAL CATEGORY

OCCUP	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	1380	.	.	.
PROFESSIONAL OR	16064	16064	27.928	27.928
CLERICAL OR OFFI	15547	31611	27.030	54.958
MANAGER OR EXECU	5511	37121	9.581	64.539
PRODUCTION WORKE	4033	41155	7.012	71.551
SERVICE EMPLOYEE	9285	50440	16.143	87.694
SALESPERSON	2889	53328	5.022	92.716
ENTERTAINER ETC	2165	55493	3.764	96.480
OTHER OCCUPATION	2025	57518	3.520	100.000

ALTERNATIVE OCCUPATION

OTHOCC	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	57862	.	.	.
0	33	33	3.203	3.203
1	1000	1033	96.797	100.000

SEX OF RESPONDENT

SEX	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
NOT APPLICABLE	583	.	.	.
MALE	28102	28102	48.192	48.192
FEMALE	30211	58313	51.808	100.000

AGE OF RESPONDENT

AGE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING OR NOT A	2730	.	.	.
LESS THAN 21	4140	4140	7.370	7.370
21 TO 24 YEARS	10181	14321	18.126	25.496
25 TO 34 YEARS	18341	32662	32.655	58.151
35 TO 44 YEARS	11130	43792	19.816	77.967
45 TO 64 YEARS	12167	55959	21.662	99.629
OLDER THAN 65	208	56167	0.371	100.000

ANNUAL INCOME

INCOME	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	7429	.	.	.
LESS THAN $10000	6742	6742	13.099	13.099
$10000 TO $19999	14517	21258	28.205	41.303
$20000 TO $29999	12558	33816	24.399	65.703
$30000 TO $39999	9177	42993	17.830	83.533
$40000 TO $49999	4651	47644	9.036	92.569
$50000 OR MORE	3825	51469	7.431	100.000

SIMPLE WEIGHTED FREQUENCIES FOR EMPLOYEE SURVEYS

INTEREST IN BUS SERVICE

BUSUSE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	858	.	.	.
DEF WOULD USE	16816	16816	28.974	28.974
PROB WOULD USE	20359	37175	35.078	64.052
PROB WOULD NOT	14787	51962	25.477	89.529
DEF WOULD NOT US	6077	58039	10.471	100.000

FARE WILLING TO PAY FOR BUS

FARE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	24727	.	.	.
UP TO A QUARTER	304	304	0.891	0.891
BETWEEN 25 AND 5	11207	11511	32.796	33.687
BETWEEN 50 AND 6	1494	13006	4.373	38.061
BETWEEN 60 AND 7	5579	18584	16.326	54.387
BETWEEN 75 AND 9	508	19092	1.485	55.872
BETWEEN 90 CENTS	9424	28516	27.578	83.450
$1.00 TO $1.20	38	28553	0.110	83.561
$1.20 TO $1.40	1013	29566	2.963	86.524
$1.40 TO $1.75	2712	32277	7.936	94.459
$1.75 TO $2.00	1478	33755	4.325	98.784
$2.00 TO $2.50	78	33833	0.229	99.013
$2.50 TO $3.00	196	34030	0.575	99.588
THREE DOLLARS OR	141	34171	0.412	100.000

FORM IDENTIFIER

FORM	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
1	12075	12075	20.503	20.503
2	12096	24172	20.538	41.041
3	11822	35994	20.073	61.114
4	11560	47554	19.628	80.742
5	11342	58896	19.258	100.000

INTEREST IN USING LRT

RAILUSE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	1143	.	.	.
DEF WOULD USE	20274	20274	35.104	35.104
PROB WOULD USE	19218	39492	33.276	68.380
PROB WOULD NOT	11831	51323	20.485	88.865
DEF WOULD NOT US	6431	57754	11.135	100.000

SIMPLE WEIGHTED FREQUENCIES FOR EMPLOYEE SURVEYS

INTEREST IN USING RAIL DURING WORK HOURS

WORKUSE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	2016	.	.	.
DEF WOULD USE	18521	18521	32.561	32.561
PROB WOULD USE	20936	39457	36.807	69.368
PROB WOULD NOT	11812	51268	20.766	90.134
DEF WOULD NOT US	5612	56881	9.866	100.000

REASON FOR NOT USING RAIL

REASON1	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	31064	.	.	.
TOO EXPENSIVE	5661	5661	20.338	20.338
NOT FLEXIBLE END	4026	9687	14.466	34.804
PREFER DRIVING	1577	11264	5.667	40.471
TRANSIT NOT SAFE	168	11432	0.603	41.074
PICKUP/DROPOFF T	318	11750	1.141	42.215
INCONVENIENT	2016	13766	7.241	49.457
LIVE TOO CLOSE	1268	15033	4.554	54.011
TRANSIT NOT DEPE	241	15275	0.867	54.878
DONT LIKE TRANSI	673	15947	2.418	57.296
WONT SUIT SCHEDU	2615	18562	9.394	66.690
WOULDNT NEED DUR	2045	20607	7.346	74.036
LIVE TOO FAR AWA	163	20770	0.587	74.623
LONG HEADWAYS	172	20942	0.618	75.241
	6891	27834	24.759	100.000

REASON FOR NOT USING RAIL

REASON2	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	35195	.	.	.
TOO EXPENSIVE	289	289	1.221	1.221
NOT FLEXIBLE END	2296	2585	9.687	10.908
PREFER DRIVING	279	2864	1.176	12.084
TRANSIT NOT SAFE	99	2963	0.419	12.503
PICKUP/DROPOFF T	152	3115	0.639	13.142
INCONVENIENT	1139	4254	4.806	17.949
LIVE TOO CLOSE	480	4734	2.023	19.972
TRANSIT NOT DEPE	224	4958	0.944	20.916
DONT LIKE TRANSI	229	5187	0.966	21.882
WONT SUIT SCHEDU	813	5999	3.429	25.312
WOULDNT NEED DUR	601	6600	2.535	27.847
LIVE TOO FAR AWA	123	6723	0.517	28.364
LONG HEADWAYS	125	6848	0.527	28.891
	16854	23702	71.109	100.000

SIMPLE WEIGHTED FREQUENCIES FOR EMPLOYEE SURVEYS

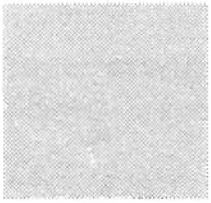
WRITTEN COMMENTS ON FORM

COMMENT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
0	47145	47145	80.047	80.047
1	8909	56054	15.127	95.174
2	2815	58869	4.780	99.954
9	27	58896	0.046	100.000

RETURN RATE

RETURN	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
0.07333333	500	500	0.849	0.849
0.1	1400	1900	2.377	3.226
0.152	1100	3000	1.868	5.093
0.195	1700	4700	2.886	7.980
0.2032258	1700	6400	2.886	10.866
0.2464	2300	8700	3.905	14.771
0.2512	2850	11550	4.839	19.610
0.296	1100	12650	1.868	21.477
0.3024	8200	20850	13.922	35.399
0.366	4650	25500	7.895	43.294
0.5472	2200	27699	3.735	47.029
0.6714514	2600	30299	4.414	51.443
0.7648	18000	48299	30.560	82.003
0.7734375	10600	58899	17.997	100.000

Appendix D



Employee Survey Arrival and Departure Time Frequency by Employment Sites Half-Hour Intervals

WORK SITE OF RESPONDENT=FLORIDA CENTER

ARRIVAL TIME FOR WORK

ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	109	.	.	.
5:00 / 5:30AM	22	22	1.370	1.370
5:30 / 6:00AM	109	131	6.849	8.219
6:00 / 6:30AM	44	174	2.740	10.959
6:30 / 7:00AM	349	523	21.918	32.877
7:00 / 7:30AM	131	654	8.219	41.096
7:30 / 8:00AM	305	959	19.178	60.274
8:00 / 8:30AM	218	1177	13.699	73.973
8:30 / 9:00AM	153	1329	9.589	83.562
9:30 / 10:00AM	22	1351	1.370	84.931
2:00 / 2:30PM	22	1373	1.370	86.301
2:30 / 3:00PM	87	1460	5.479	91.781
3:00 / 3:30PM	22	1482	1.370	93.151
3:30 / 4:00PM	22	1504	1.370	94.521
10:30 / 11:00PM	22	1526	1.370	95.890
11:00 / 11:30PM	65	1591	4.110	100.000

DEPARTURE TIME FROM WORK

DEPART	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	109	.	.	.
4:30 / 5:00AM	22	22	1.370	1.370
5:30 / 6:00AM	22	44	1.370	2.740
6:30 / 7:00AM	22	65	1.370	4.110
7:30 / 8:00AM	44	109	2.740	6.849
11:30 / 12:00 NO	22	131	1.370	8.219
12:00 / 12:30PM	22	153	1.370	9.589
12:30 / 1:00PM	44	196	2.740	12.329
1:30 / 2:00PM	22	218	1.370	13.699
2:00 / 2:30PM	65	283	4.110	17.808
2:30 / 3:00PM	44	327	2.740	20.548
3:00 / 3:30PM	65	392	4.110	24.658
3:30 / 4:00PM	153	545	9.589	34.247
4:00 / 4:30PM	196	741	12.329	46.575
4:30 / 5:00PM	371	1112	23.288	69.863
5:00 / 5:30PM	262	1373	16.438	86.301
5:30 / 6:00PM	44	1417	2.740	89.041
6:00 / 6:30PM	22	1438	1.370	90.411
7:00 / 7:30PM	22	1460	1.370	91.781
7:30 / 8:00PM	22	1482	1.370	93.151
10:30 / 11:00PM	22	1504	1.370	94.521
11:00 / 11:30PM	87	1591	5.479	100.000

WORK SITE OF RESPONDENT=LAKE BUENA VISTA

ARRIVAL TIME FOR WORK

ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	309	.	.	.
1:31 / 2:00AM	6	6	0.340	0.340
2:30 / 3:00AM	6	13	0.340	0.680
4:30 / 5:00AM	13	26	0.680	1.361
5:00 / 5:30AM	19	45	1.020	2.381
5:30 / 6:00AM	84	129	4.422	6.803
6:00 / 6:30AM	71	199	3.742	10.544
6:30 / 7:00AM	277	476	14.626	25.170
7:00 / 7:30AM	225	701	11.905	37.075
7:30 / 8:00AM	386	1087	20.408	57.483
8:00 / 8:30AM	148	1235	7.823	65.306
8:30 / 9:00AM	71	1306	3.742	69.048
9:00 / 9:30AM	19	1325	1.020	70.068
9:30 / 10:00AM	19	1344	1.020	71.088
10:30 / 11:00AM	13	1357	0.680	71.769
11:30 / 12:00 NO	26	1383	1.361	73.129
12:30 / 1:00PM	19	1402	1.020	74.150
1:00 / 1:30PM	32	1434	1.701	75.850
1:30 / 2:00PM	32	1467	1.701	77.551
2:00 / 2:30PM	45	1512	2.381	79.932
2:30 / 3:00PM	122	1634	6.463	86.395
3:00 / 3:30PM	64	1698	3.401	89.796
3:30 / 4:00PM	103	1801	5.442	95.238
4:00 / 4:30PM	19	1820	1.020	96.258
4:30 / 5:00PM	64	1885	3.401	99.660
5:30 / 6:00PM	6	1891	0.340	100.000

WORK SITE OF RESPONDENT=LAKE BUENA VISTA

DEPART	DEPARTURE TIME FROM WORK FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	309	.	.	.
12:30 / 1:00AM	45	45	2.381	2.381
1:00 / 1:30AM	19	64	1.020	3.401
1:31 / 2:00AM	6	71	0.340	3.742
2:00 / 2:30AM	13	84	0.680	4.422
3:30 / 4:00AM	6	90	0.340	4.762
4:00 / 4:30AM	13	103	0.680	5.442
11:00 / 11:30AM	6	109	0.340	5.782
11:30 / 12:00 NO	64	174	3.401	9.184
12:00 / 12:30PM	142	315	7.483	16.667
12:30 / 1:00PM	13	328	0.680	17.347
1:00 / 1:30PM	6	335	0.340	17.687
1:30 / 2:00PM	19	354	1.020	18.708
2:00 / 2:30PM	26	380	1.361	20.068
2:30 / 3:00PM	58	437	3.061	23.129
3:00 / 3:30PM	167	605	8.844	31.973
3:30 / 4:00PM	77	682	4.082	36.054
4:00 / 4:30PM	309	991	16.326	52.381
4:30 / 5:00PM	296	1287	15.646	68.027
5:00 / 5:30PM	161	1447	8.503	76.531
5:30 / 6:00PM	109	1557	5.782	82.313
6:00 / 6:30PM	19	1576	1.020	83.333
6:30 / 7:00PM	13	1589	0.680	84.014
7:00 / 7:30PM	6	1595	0.340	84.354
7:30 / 8:00PM	45	1640	2.381	86.735
8:30 / 9:00PM	32	1673	1.701	88.435
9:00 / 9:30PM	6	1679	0.340	88.775
9:30 / 10:00PM	26	1705	1.361	90.136
10:00 / 10:30PM	6	1711	0.340	90.476
10:30 / 11:00PM	142	1853	7.483	97.959
11:00 / 11:30PM	39	1891	2.041	100.000

WORK SITE OF RESPONDENT=INTERNATIONAL DRIVE

ARRIVAL TIME FOR WORK

ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	209	.	.	.
4:30 / 5:00AM	15	15	0.714	0.714
5:00 / 5:30AM	30	45	1.429	2.143
5:30 / 6:00AM	30	75	1.429	3.571
6:00 / 6:30AM	30	105	1.429	5.000
6:30 / 7:00AM	254	358	12.143	17.143
7:00 / 7:30AM	134	493	6.429	23.571
7:30 / 8:00AM	403	896	19.286	42.857
8:00 / 8:30AM	568	1464	27.143	70.000
8:30 / 9:00AM	105	1568	5.000	75.000
9:00 / 9:30AM	45	1613	2.143	77.143
9:30 / 10:00AM	45	1658	2.143	79.286
10:00 / 10:30AM	15	1673	0.714	80.000
1:00 / 1:30PM	30	1703	1.429	81.429
1:30 / 2:00PM	30	1732	1.429	82.857
2:00 / 2:30PM	45	1777	2.143	85.000
2:30 / 3:00PM	194	1971	9.286	94.286
3:00 / 3:30PM	75	2046	3.571	97.857
4:30 / 5:00PM	15	2061	0.714	98.571
5:00 / 5:30PM	15	2076	0.714	99.286
7:00 / 7:30PM	15	2091	0.714	100.000

DEPARTURE TIME FROM WORK

DEPART	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	209	.	.	.
2:30 / 3:00AM	15	15	0.714	0.714
4:30 / 5:00AM	15	30	0.714	1.429
5:00 / 5:30AM	15	45	0.714	2.143
11:30 / 12:.00 NO	60	105	2.857	5.000
12:00 / 12:30PM	15	119	0.714	5.714
12:30 / 1:00PM	15	134	0.714	6.429
1:30 / 2:00PM	60	194	2.857	9.286
2:30 / 3:00PM	105	299	5.000	14.286
3:00 / 3:30PM	149	448	7.143	21.429
3:30 / 4:00PM	60	508	2.857	24.286
4:00 / 4:30PM	194	702	9.286	33.571
4:30 / 5:00PM	612	1314	29.286	62.857
5:00 / 5:30PM	239	1553	11.429	74.286
5:30 / 6:00PM	105	1658	5.000	79.286
6:00 / 6:30PM	60	1718	2.857	82.143
6:30 / 7:00PM	30	1747	1.429	83.571
9:30 / 10:00PM	45	1792	2.143	85.714
10:00 / 10:30PM	45	1837	2.143	87.857
10:30 / 11:00PM	105	1942	5.000	92.857
11:00 / 11:30PM	149	2091	7.143	100.000

WORK SITE OF RESPONDENT=AIRPORT HOTELS

ARRIVAL TIME FOR WORK

ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	108	.	.	.
4:30 / 5:00AM	27	27	1.695	1.695
5:30 / 6:00AM	243	270	15.254	16.949
6:00 / 6:30AM	27	297	1.695	18.644
6:30 / 7:00AM	270	567	16.949	35.593
7:00 / 7:30AM	108	675	6.780	42.373
7:30 / 8:00AM	351	1025	22.034	64.407
8:00 / 8:30AM	162	1187	10.169	74.576
8:30 / 9:00AM	135	1322	8.475	83.051
11:30 / 12:00 NO	27	1349	1.695	84.746
2:30 / 3:00PM	216	1565	13.559	98.305
5:30 / 6:00PM	27	1592	1.695	100.000

DEPARTURE TIME FROM WORK

DEPART	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	108	.	.	.
1:31 / 2:00AM	27	27	1.695	1.695
3:30 / 4:00AM	27	54	1.695	3.390
4:30 / 5:00AM	27	81	1.695	5.085
10:30 / 11:00AM	27	108	1.695	6.780
12:00 / 12:30PM	27	135	1.695	8.475
1:00 / 1:30PM	27	162	1.695	10.169
1:30 / 2:00PM	162	324	10.169	20.339
2:00 / 2:30PM	27	351	1.695	22.034
2:30 / 3:00PM	297	648	18.644	40.678
3:00 / 3:30PM	135	783	8.475	49.153
3:30 / 4:00PM	135	917	8.475	57.627
4:00 / 4:30PM	216	1133	13.559	71.186
4:30 / 5:00PM	189	1322	11.864	83.051
5:00 / 5:30PM	27	1349	1.695	84.746
8:00 / 8:30PM	27	1376	1.695	86.441
10:30 / 11:00PM	216	1592	13.559	100.000

WORK SITE OF RESPONDENT=DOWNTOWN HOTELS

ARRIVAL TIME FOR WORK

ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	168	.	.	.
5:00 / 5:30AM	56	56	4.545	4.545
5:30 / 6:00AM	56	112	4.545	9.091
6:30 / 7:00AM	224	336	18.182	27.273
7:30 / 8:00AM	336	672	27.273	54.545
8:00 / 8:30AM	168	840	13.636	68.182
8:30 / 9:00AM	280	1120	22.727	90.909
2:30 / 3:00PM	56	1176	4.545	95.455
3:00 / 3:30PM	56	1232	4.545	100.000

DEPARTURE TIME FROM WORK

DEPART	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	168	.	.	.
12:00 / 12:30PM	56	56	4.545	4.545
1:30 / 2:00PM	56	112	4.545	9.091
2:30 / 3:00PM	112	224	9.091	18.182
3:00 / 3:30PM	56	280	4.545	22.727
3:30 / 4:00PM	168	448	13.636	36.364
4:00 / 4:30PM	280	728	22.727	59.091
4:30 / 5:00PM	112	840	9.091	68.182
5:00 / 5:30PM	112	952	9.091	77.273
5:30 / 6:00PM	224	1176	18.182	95.455
11:00 / 11:30PM	56	1232	4.545	100.000

WORK SITE OF RESPONDENT=ROUTE 192

ARRIVAL TIME FOR WORK

ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	58	.	.	.
5:30 / 6:00AM	87	87	8.333	8.333
6:00 / 6:30AM	58	145	5.556	13.889
6:30 / 7:00AM	145	289	13.889	27.778
7:00 / 7:30AM	87	376	8.333	36.111
7:30 / 8:00AM	174	550	16.667	52.778
8:00 / 8:30AM	145	695	13.889	66.667
8:30 / 9:00AM	289	984	27.778	94.444
1:30 / 2:00PM	29	1013	2.778	97.222
3:30 / 4:00PM	29	1042	2.778	100.000

DEPARTURE TIME FROM WORK

DEPART	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	58	.	.	.
11:30 / 12:00 NO	29	29	2.778	2.778
12:00 / 12:30PM	29	58	2.778	5.556
2:30 / 3:00PM	145	203	13.889	19.444
3:00 / 3:30PM	87	289	8.333	27.778
3:30 / 4:00PM	203	492	19.444	47.222
4:00 / 4:30PM	261	753	25.000	72.222
4:30 / 5:00PM	145	897	13.889	86.111
5:00 / 5:30PM	116	1013	11.111	97.222
5:30 / 6:00PM	29	1042	2.778	100.000

WORK SITE OF RESPONDENT=ORLANDO CENTRAL PARK

ARRIVAL TIME FOR WORK

ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	428	.	.	.
3:30 / 4:00AM	43	43	0.421	0.421
4:30 / 5:00AM	43	86	0.421	0.842
5:00 / 5:30AM	64	150	0.632	1.474
5:30 / 6:00AM	257	407	2.526	4.000
6:00 / 6:30AM	343	749	3.368	7.368
6:30 / 7:00AM	964	1713	9.474	16.842
7:00 / 7:30AM	1049	2762	10.316	27.158
7:30 / 8:00AM	4112	6874	40.421	67.579
8:00 / 8:30AM	2955	9829	29.053	96.632
8:30 / 9:00AM	128	9958	1.263	97.895
9:00 / 9:30AM	21	9979	0.211	98.105
9:30 / 10:00AM	64	10043	0.632	98.737
10:00 / 10:30AM	21	10065	0.211	98.947
10:30 / 11:00AM	21	10086	0.211	99.158
4:30 / 5:00PM	21	10107	0.211	99.368
7:00 / 7:30PM	43	10150	0.421	99.789
10:00 / 10:30PM	21	10172	0.211	100.000

DEPARTURE TIME FROM WORK

DEPART	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	428	.	.	.
4:00 / 4:30AM	86	86	0.842	0.842
4:30 / 5:00AM	43	128	0.421	1.263
5:00 / 5:30AM	43	171	0.421	1.684
7:30 / 8:00AM	21	193	0.211	1.895
8:30 / 9:00AM	21	214	0.211	2.105
9:00 / 9:30AM	21	236	0.211	2.316
11:30 / 12:00 NO	64	300	0.632	2.947
12:00 / 12:30PM	43	343	0.421	3.368
2:00 / 2:30PM	21	364	0.211	3.579
2:30 / 3:00PM	21	385	0.211	3.789
3:00 / 3:30PM	236	621	2.316	6.105
3:30 / 4:00PM	300	921	2.947	9.053
4:00 / 4:30PM	3148	4069	30.947	40.000
4:30 / 5:00PM	2805	6874	27.579	67.579
5:00 / 5:30PM	1820	8694	17.895	85.474
5:30 / 6:00PM	707	9401	6.947	92.421
6:00 / 6:30PM	385	9786	3.789	96.210
6:30 / 7:00PM	193	9979	1.895	98.105
7:00 / 7:30PM	64	10043	0.632	98.737
8:30 / 9:00PM	86	10129	0.842	99.579
9:00 / 9:30PM	21	10150	0.211	99.789
9:30 / 10:00PM	21	10172	0.211	100.000

WORK SITE OF RESPONDENT=AIRPORT

ARRIVAL TIME FOR WORK

ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	519	.	.	.
2:00 / 2:30AM	6	6	0.297	0.297
3:30 / 4:00AM	6	12	0.297	0.593
4:00 / 4:30AM	6	19	0.297	0.890
4:30 / 5:00AM	37	56	1.780	2.671
5:00 / 5:30AM	62	117	2.967	5.638
5:30 / 6:00AM	105	222	5.045	10.683
6:00 / 6:30AM	99	321	4.748	15.430
6:30 / 7:00AM	401	723	19.288	34.719
7:00 / 7:30AM	210	933	10.089	44.807
7:30 / 8:00AM	364	1297	17.507	62.314
8:00 / 8:30AM	62	1359	2.967	65.282
8:30 / 9:00AM	43	1402	2.077	67.359
9:00 / 9:30AM	31	1433	1.484	68.843
9:30 / 10:00AM	124	1556	5.935	74.777
10:00 / 10:30AM	43	1600	2.077	76.854
10:30 / 11:00AM	43	1643	2.077	78.932
11:00 / 11:30AM	49	1692	2.374	81.306
11:30 / 12:00 NO	6	1698	0.297	81.602
12:00 / 12:30PM	19	1717	0.890	82.492
12:30 / 1:00PM	25	1742	1.187	83.679
1:00 / 1:30PM	6	1748	0.297	83.976
1:30 / 2:00PM	56	1803	2.671	86.647
2:00 / 2:30PM	56	1859	2.671	89.317
2:30 / 3:00PM	37	1896	1.780	91.098
3:00 / 3:30PM	12	1908	0.593	91.691
3:30 / 4:00PM	49	1958	2.374	94.065
4:00 / 4:30PM	12	1970	0.593	94.659
5:30 / 6:00PM	6	1976	0.297	94.955
6:00 / 6:30PM	12	1989	0.593	95.549
6:30 / 7:00PM	43	2032	2.077	97.626
7:00 / 7:30PM	6	2038	0.297	97.923
7:30 / 8:00PM	6	2044	0.297	98.220
9:30 / 10:00PM	6	2050	0.297	98.516
10:30 / 11:00PM	25	2075	1.187	99.703
11:00 / 11:30PM	6	2081	0.297	100.000

WORK SITE OF RESPONDENT=AIRPORT

DEPART	DEPARTURE TIME FROM WORK FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	519	.	.	.
12:30 / 1:00AM	6	6	0.297	0.297
1:31 / 2:00AM	6	12	0.297	0.593
2:30 / 3:00AM	19	31	0.890	1.484
3:00 / 3:30AM	12	43	0.593	2.077
3:30 / 4:00AM	43	86	2.077	4.154
4:00 / 4:30AM	6	93	0.297	4.451
4:30 / 5:00AM	6	99	0.297	4.748
5:00 / 5:30AM	6	105	0.297	5.045
5:30 / 6:00AM	6	111	0.297	5.341
6:00 / 6:30AM	6	117	0.297	5.638
6:30 / 7:00AM	19	136	0.890	6.528
8:30 / 9:00AM	6	142	0.297	6.825
10:30 / 11:00AM	6	148	0.297	7.122
11:30 / 12:00 NO	25	173	1.187	8.309
12:30 / 1:00PM	19	191	0.890	9.199
1:00 / 1:30PM	12	204	0.593	9.792
1:30 / 2:00PM	43	247	2.077	11.869
2:00 / 2:30PM	148	395	7.122	18.991
2:30 / 3:00PM	80	476	3.858	22.849
3:00 / 3:30PM	395	871	18.991	41.840
3:30 / 4:00PM	80	951	3.858	45.697
4:00 / 4:30PM	161	1112	7.715	53.412
4:30 / 5:00PM	327	1439	15.727	69.139
5:00 / 5:30PM	86	1525	4.154	73.294
5:30 / 6:00PM	68	1593	3.264	76.558
6:00 / 6:30PM	124	1717	5.935	82.493
6:30 / 7:00PM	68	1785	3.264	85.757
7:00 / 7:30PM	6	1791	0.297	86.053
7:30 / 8:00PM	19	1809	0.890	86.944
8:00 / 8:30PM	12	1822	0.593	87.537
8:30 / 9:00PM	37	1859	1.780	89.317
9:00 / 9:30PM	25	1884	1.187	90.504
9:30 / 10:00PM	49	1933	2.374	92.878
10:00 / 10:30PM	25	1958	1.187	94.065
10:30 / 11:00PM	105	2063	5.045	99.110
11:00 / 11:30PM	19	2081	0.890	100.000

WORK SITE OF RESPONDENT=REGENCY INDUSTRIAL PARK

ARRIVAL TIME FOR WORK

ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	290	.	.	.
3:30 / 4:00AM	18	18	0.709	0.709
4:30 / 5:00AM	18	36	0.709	1.418
5:00 / 5:30AM	54	91	2.128	3.546
5:30 / 6:00AM	236	327	9.220	12.766
6:00 / 6:30AM	399	726	15.603	28.369
6:30 / 7:00AM	581	1307	22.695	51.064
7:00 / 7:30AM	145	1452	5.674	56.738
7:30 / 8:00AM	127	1579	4.965	61.702
8:00 / 8:30AM	127	1706	4.965	66.667
8:30 / 9:00AM	18	1725	0.709	67.376
12:30 / 1:00PM	36	1761	1.418	68.794
1:00 / 1:30PM	54	1815	2.128	70.922
1:30 / 2:00PM	73	1888	2.837	73.759
2:00 / 2:30PM	127	2015	4.965	78.723
2:30 / 3:00PM	182	2196	7.092	85.816
3:00 / 3:30PM	73	2269	2.837	88.652
3:30 / 4:00PM	18	2287	0.709	89.362
9:00 / 9:30PM	18	2305	0.709	90.071
9:30 / 10:00PM	36	2342	1.418	91.489
10:00 / 10:30PM	54	2396	2.128	93.617
10:30 / 11:00PM	163	2560	6.383	100.000

DEPARTURE TIME FROM WORK

DEPART	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	290	.	.	.
1:31 / 2:00AM	36	36	1.418	1.418
4:00 / 4:30AM	18	54	0.709	2.128
6:30 / 7:00AM	145	200	5.674	7.801
7:00 / 7:30AM	109	309	4.255	12.057
8:00 / 8:30AM	18	327	0.709	12.766
11:30 / 12:00 NO	73	399	2.837	15.603
12:30 / 1:00PM	18	418	0.709	16.312
2:00 / 2:30PM	182	599	7.092	23.404
2:30 / 3:00PM	290	889	11.348	34.752
3:00 / 3:30PM	581	1470	22.695	57.447
3:30 / 4:00PM	163	1634	6.383	63.830
4:00 / 4:30PM	109	1743	4.255	68.085
4:30 / 5:00PM	200	1942	7.801	75.887
5:00 / 5:30PM	91	2033	3.546	79.433
5:30 / 6:00PM	36	2069	1.418	80.851
6:00 / 6:30PM	18	2088	0.709	81.560
7:00 / 7:30PM	18	2106	0.709	82.269
8:30 / 9:00PM	18	2124	0.709	82.979
9:30 / 10:00PM	18	2142	0.709	83.688
10:00 / 10:30PM	145	2287	5.674	89.362
10:30 / 11:00PM	73	2360	2.837	92.199
11:00 / 11:30PM	182	2541	7.092	99.291
11:30 / MIDNIGHT	18	2560	0.709	100.000

WORK SITE OF RESPONDENT=OUTLET MALL

ARRIVAL TIME FOR WORK

ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	178	.	.	.
7:30 / 8:00AM	30	30	3.226	3.226
8:00 / 8:30AM	119	149	12.903	16.129
8:30 / 9:00AM	30	178	3.226	19.355
9:00 / 9:30AM	238	416	25.806	45.161
9:30 / 10:00AM	178	595	19.355	64.516
11:00 / 11:30AM	30	624	3.226	67.742
11:30 / 12:00 NO	30	654	3.226	70.968
12:00 / 12:30PM	89	743	9.677	80.645
12:30 / 1:00PM	59	803	6.452	87.097
3:30 / 4:00PM	89	892	9.677	96.774
4:30 / 5:00PM	30	922	3.226	100.000

DEPARTURE TIME FROM WORK

DEPART	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	178	.	.	.
4:30 / 5:00AM	30	30	3.226	3.226
3:30 / 4:00PM	149	178	16.129	19.355
4:30 / 5:00PM	119	297	12.903	32.258
5:00 / 5:30PM	30	327	3.226	35.484
5:30 / 6:00PM	149	476	16.129	51.613
6:00 / 6:30PM	59	535	6.452	58.065
6:30 / 7:00PM	59	595	6.452	64.516
7:30 / 8:00PM	30	624	3.226	67.742
8:30 / 9:00PM	119	743	12.903	80.645
9:00 / 9:30PM	178	922	19.355	100.000

WORK SITE OF RESPONDENT=MARTIN MARIETTA

ARRIVAL TIME FOR WORK

ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	130	.	.	.
5:30 / 6:00AM	87	87	1.075	1.075
6:00 / 6:30AM	174	260	2.151	3.226
6:30 / 7:00AM	1475	1735	18.280	21.505
7:00 / 7:30AM	2430	4165	30.108	51.613
7:30 / 8:00AM	3384	7549	41.935	93.548
8:00 / 8:30AM	304	7853	3.763	97.312
8:30 / 9:00AM	43	7896	0.538	97.849
2:30 / 3:00PM	43	7940	0.538	98.387
3:00 / 3:30PM	87	8026	1.075	99.462
9:30 / 10:00PM	43	8070	0.538	100.000

DEPARTURE TIME FROM WORK

DEPART	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	130	.	.	.
1:00 / 1:30AM	43	43	0.538	0.538
6:30 / 7:00AM	43	87	0.538	1.075
11:30 / 12:00 NO	43	130	0.538	1.613
3:00 / 3:30PM	564	694	6.989	8.602
3:30 / 4:00PM	954	1649	11.828	20.430
4:00 / 4:30PM	3384	5033	41.935	62.366
4:30 / 5:00PM	1605	6638	19.892	82.258
5:00 / 5:30PM	868	7506	10.753	93.011
5:30 / 6:00PM	390	7896	4.839	97.849
6:00 / 6:30PM	130	8026	1.613	99.462
11:00 / 11:30PM	43	8070	0.538	100.000

WORK SITE OF RESPONDENT=SEA WORLD

ARRIVAL TIME FOR WORK

ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	686	.	.	.
1:00 / 1:30AM	13	13	0.321	0.321
3:30 / 4:00AM	13	25	0.321	0.641
4:30 / 5:00AM	64	89	1.603	2.244
5:00 / 5:30AM	38	127	0.962	3.205
5:30 / 6:00AM	178	305	4.487	7.692
6:00 / 6:30AM	191	495	4.808	12.500
6:30 / 7:00AM	521	1016	13.141	25.641
7:00 / 7:30AM	229	1245	5.769	31.410
7:30 / 8:00AM	432	1677	10.897	42.308
8:00 / 8:30AM	711	2389	17.949	60.256
8:30 / 9:00AM	229	2617	5.769	66.026
9:00 / 9:30AM	152	2770	3.846	69.872
9:30 / 10:00AM	229	2998	5.769	75.641
10:00 / 10:30AM	38	3036	0.962	76.603
10:30 / 11:00AM	165	3202	4.167	80.769
11:00 / 11:30AM	76	3278	1.923	82.692
11:30 / 12:00 NO	89	3367	2.244	84.936
12:00 / 12:30PM	38	3405	0.962	85.897
12:30 / 1:00PM	152	3557	3.846	89.744
1:00 / 1:30PM	38	3595	0.962	90.705
1:30 / 2:00PM	25	3621	0.641	91.346
2:30 / 3:00PM	38	3659	0.962	92.308
3:00 / 3:30PM	38	3697	0.962	93.269
3:30 / 4:00PM	38	3735	0.962	94.231
4:00 / 4:30PM	13	3748	0.321	94.551
4:30 / 5:00PM	114	3862	2.885	97.436
6:30 / 7:00PM	13	3875	0.321	97.756
10:00 / 10:30PM	13	3888	0.321	98.077
10:30 / 11:00PM	51	3939	1.282	99.359
11:30 / MIDNIGHT	25	3964	0.641	100.000

WORK SITE OF RESPONDENT=SEA WORLD

DEPARTURE TIME FROM WORK

DEPART	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	686	.	.	.
1:00 / 1:30AM	25	25	0.641	0.641
2:30 / 3:00AM	25	51	0.641	1.282
3:00 / 3:30AM	13	64	0.321	1.603
4:00 / 4:30AM	13	76	0.321	1.923
4:30 / 5:00AM	25	102	0.641	2.564
6:30 / 7:00AM	25	127	0.641	3.205
7:00 / 7:30AM	25	152	0.641	3.846
7:30 / 8:00AM	38	191	0.962	4.808
9:00 / 9:30AM	13	203	0.321	5.128
11:30 / 12:00 NO	51	254	1.282	6.410
12:00 / 12:30PM	13	267	0.321	6.731
1:00 / 1:30PM	13	280	0.321	7.051
1:30 / 2:00PM	38	318	0.962	8.013
2:00 / 2:30PM	89	407	2.244	10.256
2:30 / 3:00PM	114	521	2.885	13.141
3:00 / 3:30PM	483	1004	12.179	25.321
3:30 / 4:00PM	216	1220	5.449	30.769
4:00 / 4:30PM	318	1537	8.013	38.782
4:30 / 5:00PM	521	2058	13.141	51.923
5:00 / 5:30PM	495	2554	12.500	64.423
5:30 / 6:00PM	356	2909	8.974	73.397
6:00 / 6:30PM	267	3176	6.731	80.128
6:30 / 7:00PM	89	3265	2.244	82.372
7:00 / 7:30PM	64	3329	1.603	83.974
7:30 / 8:00PM	127	3456	3.205	87.179
8:00 / 8:30PM	76	3532	1.923	89.103
8:30 / 9:00PM	38	3570	0.962	90.064
9:00 / 9:30PM	114	3684	2.885	92.949
9:30 / 10:00PM	38	3723	0.962	93.910
10:00 / 10:30PM	102	3824	2.564	96.474
10:30 / 11:00PM	51	3875	1.282	97.756
11:00 / 11:30PM	76	3951	1.923	99.679
11:30 / MIDNIGHT	13	3964	0.321	100.000

WORK SITE OF RESPONDENT=CHURCH STREET STATION

ARRIVAL TIME FOR WORK

ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	136	.	.	.
1:31 / 2:00AM	45	45	12.500	12.500
7:00 / 7:30AM	45	91	12.500	25.000
7:30 / 8:00AM	45	136	12.500	37.500
8:00 / 8:30AM	45	182	12.500	50.000
9:30 / 10:00AM	45	227	12.500	62.500
4:00 / 4:30PM	45	273	12.500	75.000
5:30 / 6:00PM	45	318	12.500	87.500
6:00 / 6:30PM	45	364	12.500	100.000

DEPARTURE TIME FROM WORK

DEPART	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	136	.	.	.
1:00 / 1:30AM	91	91	25.000	25.000
9:30 / 10:00AM	45	136	12.500	37.500
4:30 / 5:00PM	136	273	37.500	75.000
10:30 / 11:00PM	45	318	12.500	87.500
11:00 / 11:30PM	45	364	12.500	100.000

WORK SITE OF RESPONDENT=DISNEY WORLD

ARRIVAL TIME FOR WORK

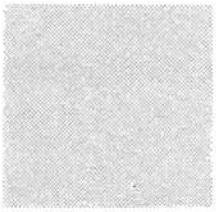
ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	1996	.	.	.
2:30 / 3:00AM	38	38	0.235	0.235
3:00 / 3:30AM	188	226	1.176	1.412
4:00 / 4:30AM	38	264	0.235	1.647
4:30 / 5:00AM	38	301	0.235	1.882
5:00 / 5:30AM	226	527	1.412	3.294
5:30 / 6:00AM	565	1092	3.529	6.824
6:00 / 6:30AM	941	2033	5.882	12.706
6:30 / 7:00AM	1883	3916	11.765	24.471
7:00 / 7:30AM	1582	5498	9.882	34.353
7:30 / 8:00AM	4556	10054	28.471	62.823
8:00 / 8:30AM	2448	12502	15.294	78.118
8:30 / 9:00AM	715	13218	4.471	82.588
9:00 / 9:30AM	264	13481	1.647	84.235
9:30 / 10:00AM	188	13669	1.176	85.412
10:00 / 10:30AM	226	13895	1.412	86.823
10:30 / 11:00AM	226	14121	1.412	88.235
11:00 / 11:30AM	38	14159	0.235	88.471
11:30 / 12:00 NO	75	14234	0.471	88.941
12:00 / 12:30PM	75	14310	0.471	89.412
12:30 / 1:00PM	151	14460	0.941	90.353
1:00 / 1:30PM	151	14611	0.941	91.294
1:30 / 2:00PM	188	14799	1.176	92.471
2:00 / 2:30PM	113	14912	0.706	93.176
2:30 / 3:00PM	264	15176	1.647	94.824
3:00 / 3:30PM	151	15326	0.941	95.765
3:30 / 4:00PM	301	15628	1.882	97.647
4:00 / 4:30PM	75	15703	0.471	98.118
4:30 / 5:00PM	38	15741	0.235	98.353
5:30 / 6:00PM	38	15778	0.235	98.588
6:00 / 6:30PM	75	15853	0.471	99.059
6:30 / 7:00PM	38	15891	0.235	99.294
8:00 / 8:30PM	38	15929	0.235	99.529
8:30 / 9:00PM	38	15966	0.235	99.765
10:30 / 11:00PM	38	16004	0.235	100.000

WORK SITE OF RESPONDENT=DISNEY WORLD

DEPARTURE TIME FROM WORK

DEPART	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	1996	.	.	.
12:30 / 1:00AM	151	151	0.941	0.941
1:00 / 1:30AM	38	188	0.235	1.176
1:31 / 2:00AM	38	226	0.235	1.412
2:00 / 2:30AM	75	301	0.471	1.882
2:30 / 3:00AM	38	339	0.235	2.118
3:00 / 3:30AM	113	452	0.706	2.824
3:30 / 4:00AM	38	490	0.235	3.059
4:00 / 4:30AM	75	565	0.471	3.529
4:30 / 5:00AM	113	678	0.706	4.235
6:30 / 7:00AM	38	715	0.235	4.471
7:00 / 7:30AM	38	753	0.235	4.706
11:00 / 11:30AM	38	791	0.235	4.941
11:30 / 12:00 NO	339	1130	2.118	7.059
12:00 / 12:30PM	75	1205	0.471	7.529
12:30 / 1:00PM	75	1280	0.471	8.000
1:00 / 1:30PM	38	1318	0.235	8.235
2:00 / 2:30PM	188	1506	1.176	9.412
2:30 / 3:00PM	452	1958	2.824	12.235
3:00 / 3:30PM	1318	3276	8.235	20.471
3:30 / 4:00PM	1054	4331	6.588	27.059
4:00 / 4:30PM	1582	5912	9.882	36.941
4:30 / 5:00PM	4331	10243	27.059	64.000
5:00 / 5:30PM	2674	12916	16.706	80.706
5:30 / 6:00PM	941	13858	5.882	86.588
6:00 / 6:30PM	377	14234	2.353	88.941
6:30 / 7:00PM	188	14423	1.176	90.118
7:00 / 7:30PM	188	14611	1.176	91.294
7:30 / 8:00PM	113	14724	0.706	92.000
8:00 / 8:30PM	75	14799	0.471	92.471
8:30 / 9:00PM	75	14874	0.471	92.941
9:00 / 9:30PM	264	15138	1.647	94.588
9:30 / 10:00PM	226	15364	1.412	96.000
10:00 / 10:30PM	151	15515	0.941	96.941
10:30 / 11:00PM	264	15778	1.647	98.588
11:00 / 11:30PM	151	15929	0.941	99.529
11:30 / MIDNIGHT	75	16004	0.471	100.000

Appendix E



Selected Crosstabulations of Employee Variables

CROSSTABS OF BUS USE AND RELATED DEMAND VARIABLES

TABLE OF INCOME BY BUSUSE

INCOME ANNUAL INCOME BUSUSE INTEREST IN BUS SERVICE

FREQUENCY / PERCENT / ROW PCT / COL PCT	MISSING	DEF WOULD USE	PROB WOULD USE	PROB WOULD NOT	DEF WOULD NOT US	TOTAL
MISSING	569	1478	2066	2222	1094	.
	.	.	.	.	.	.
	.	.	.	.	.	
	.	.	.	.	.	
LESS THAN $10000	13	2890	2432	987	421	6729
	.	5.65	4.75	1.93	0.82	13.15
	.	42.94	36.14	14.67	6.25	
	.	18.84	13.29	7.85	8.44	
$10000 TO $19999	122	4695	5077	3086	1536	14395
	.	9.17	9.92	6.03	3.00	28.12
	.	32.62	35.27	21.44	10.67	
	.	30.61	27.75	24.56	30.83	
$20000 TO $29999	75	3475	4648	3440	921	12483
	.	6.79	9.08	6.72	1.80	24.39
	.	27.83	37.24	27.55	7.37	
	.	22.65	25.41	27.37	18.47	
$30000 TO $39999	34	2633	3087	2340	1083	9143
	.	5.14	6.03	4.57	2.12	17.86
	.	28.79	33.76	25.60	11.84	
	.	17.16	16.88	18.63	21.73	
$40000 TO $49999	0	951	1739	1455	506	4651
	.	1.86	3.40	2.84	0.99	9.09
	.	20.45	37.39	31.28	10.88	
	.	6.20	9.51	11.58	10.15	
$50000 OR MORE	44	696	1310	1257	517	3781
	.	1.36	2.56	2.46	1.01	7.39
	.	18.41	34.66	33.26	13.67	
	.	4.54	7.16	10.01	10.37	
TOTAL	.	15339	18294	12565	4983	51182
	.	29.97	35.74	24.55	9.74	100.00

CROSSTABS OF BUS USE AND RELATED DEMAND VARIABLES

TABLE OF OCCUP BY BUSUSE

OCCUP OCCUPATIONAL CATEGORY BUSUSE INTEREST IN BUS SERVICE

FREQUENCY / PERCENT / ROW PCT / COL PCT	MISSING	DEF WOULD USE	PROB WOULD USE	PROB WOULD NOT	DEF WOULD NOT US	TOTAL
MISSING	505	262	209	222	182	.
	.	.	.	.	.	.
	.	.	.	.	.	
	.	.	.	.	.	
PROFESSIONAL OR	38	3937	6040	4196	1854	16027
	.	6.89	10.56	7.34	3.24	28.04
	.	24.57	37.68	26.18	11.57	
	.	23.78	29.97	28.81	31.45	
CLERICAL OR OFFI	78	3826	5358	4493	1793	15470
	.	6.69	9.37	7.86	3.14	27.06
	.	24.73	34.63	29.04	11.59	
	.	23.11	26.59	30.85	30.42	
MANAGER OR EXECU	69	950	1792	1907	793	5442
	.	1.66	3.14	3.34	1.39	9.52
	.	17.45	32.94	35.04	14.57	
	.	5.74	8.89	13.09	13.45	
PRODUCTION WORKE	44	1359	1429	883	319	3989
	.	2.38	2.50	1.54	0.56	6.98
	.	34.06	35.82	22.14	7.98	
	.	8.21	7.09	6.06	5.40	
SERVICE EMPLOYEE	79	4133	3037	1570	466	9206
	.	7.23	5.31	2.75	0.82	16.10
	.	44.89	32.99	17.05	5.06	
	.	24.96	15.07	10.78	7.91	
SALESPERSON	0	912	1038	591	347	2888
	.	1.60	1.82	1.03	0.61	5.05
	.	31.58	35.94	20.45	12.03	
	.	5.51	5.15	4.06	5.89	
ENTERTAINER ETC	15	848	736	418	147	2150
	.	1.48	1.29	0.73	0.26	3.76
	.	39.46	34.26	19.45	6.83	
	.	5.12	3.65	2.87	2.49	
OTHER OCCUPATION	31	590	721	507	176	1994
	.	1.03	1.26	0.89	0.31	3.49
	.	29.58	36.15	25.44	8.83	
	.	3.56	3.58	3.48	2.99	
TOTAL	.	16555	20151	14565	5896	57167
	.	28.96	35.25	25.48	10.31	100.00

CROSSTABS OF BUS USE AND RELATED DEMAND VARIABLES

TABLE OF MILES BY BUSUSE

MILES MILES TO WORK FROM HOME BUSUSE INTEREST IN BUS SERVICE

FREQUENCY / PERCENT / ROW PCT / COL PCT	MISSING	DEF WOULD USE	PROB WOULD USE	PROB WOULD NOT	DEF WOULD NOT US	TOTAL
MISSING	51	409	665	411	97	.
	.	.	.	.	.	.
	.	.	.	.	.	
	.	.	.	.	.	
LESS THAN 1 MILE	0	258	350	290	341	1239
	.	0.46	0.62	0.51	0.60	2.19
	.	20.81	28.26	23.43	27.50	
	.	1.57	1.78	2.02	5.70	
1 TO 2 MILES	59	457	579	691	191	1917
	.	0.81	1.02	1.22	0.34	3.40
	.	23.81	30.18	36.06	9.95	
	.	2.78	2.94	4.81	3.19	
2 TO 3 MILES	22	338	477	329	320	1464
	.	0.60	0.84	0.58	0.57	2.59
	.	23.09	32.58	22.49	21.85	
	.	2.06	2.42	2.29	5.35	
3 TO 4 MILES	0	213	356	238	84	890
	.	0.38	0.63	0.42	0.15	1.58
	.	23.89	40.01	26.72	9.38	
	.	1.30	1.81	1.65	1.40	
4 TO 5 MILES	25	416	730	628	242	2016
	.	0.74	1.29	1.11	0.43	3.57
	.	20.62	36.24	31.15	11.98	
	.	2.53	3.71	4.37	4.04	
5 TO 6 MILES	62	602	653	597	207	2058
	.	1.07	1.16	1.06	0.37	3.65
	.	29.24	31.71	29.00	10.05	
	.	3.67	3.31	4.15	3.46	
6 TO 7 MILES	0	746	669	277	231	1923
	.	1.32	1.18	0.49	0.41	3.41
	.	38.81	34.76	14.40	12.03	
	.	4.55	3.39	1.93	3.87	
7 TO 8 MILES	0	807	1104	853	246	3010
	.	1.43	1.95	1.51	0.44	5.33
	.	26.82	36.67	28.34	8.18	
	.	4.92	5.60	5.93	4.12	
TOTAL	.	16408	19696	14376	5980	56460
	.	29.06	34.88	25.46	10.59	100.00

CROSSTABS OF BUS USE AND RELATED DEMAND VARIABLES

TABLE OF MILES BY BUSUSE

MILES MILES TO WORK FROM HOME BUSUSE INTEREST IN BUS SERVICE

FREQUENCY / PERCENT / ROW PCT / COL PCT	MISSING	DEF WOULD USE	PROB WOULD USE	PROB WOULD NOT	DEF WOULD NOT US	TOTAL
8 TO 9 MILES	6	453	476	399	174	1501
	.	0.80	0.84	0.71	0.31	2.66
	.	30.15	31.69	26.56	11.60	
	.	2.76	2.41	2.77	2.91	
9 TO 10 MILES	13	1332	965	737	299	3333
	.	2.36	1.71	1.30	0.53	5.90
	.	39.96	28.96	22.10	8.98	
	.	8.12	4.90	5.12	5.00	
10 TO 11 MILES	0	403	522	437	117	1479
	.	0.71	0.92	0.77	0.21	2.62
	.	27.26	35.27	29.55	7.93	
	.	2.46	2.65	3.04	1.96	
11 TO 15 MILES	204	3417	4230	2989	1234	11870
	.	6.05	7.49	5.29	2.19	21.02
	.	28.79	35.64	25.18	10.39	
	.	20.82	21.48	20.79	20.63	
15 TO 20 MILES	274	3026	3787	3021	1116	10950
	.	5.36	6.71	5.35	1.98	19.39
	.	27.63	34.59	27.59	10.19	
	.	18.44	19.23	21.02	18.66	
20 TO 25 MILES	79	2009	2391	1440	794	6634
	.	3.56	4.23	2.55	1.41	11.75
	.	30.28	36.04	21.71	11.98	
	.	12.24	12.14	10.02	13.28	
25 TO 30 MILES	57	928	1575	706	263	3471
	.	1.64	2.79	1.25	0.46	6.15
	.	26.74	45.37	20.32	7.56	
	.	5.66	8.00	4.91	4.39	
MORE THAN 30 MIL	6	1005	833	745	122	2706
	.	1.78	1.48	1.32	0.22	4.79
	.	37.16	30.80	27.52	4.53	
	.	6.13	4.23	5.18	2.05	
TOTAL	.	16408	19696	14376	5980	56460
	.	29.06	34.88	25.46	10.59	100.00

CROSSTABS OF BUS USE AND RELATED DEMAND VARIABLES

TABLE OF TRAVMIN BY BUSUSE

TRAVMIN MINUTES TO WORK BUSUSE INTEREST IN BUS SERVICE

FREQUENCY PERCENT ROW PCT COL PCT	MISSING	DEF WOULD USE	PROB WOULD USE	PROB WOULD NOT	DEF WOULD NOT US	TOTAL
MISSING OR NOT A	0	6	115	19	19	
	.	.	.	.	.	
	.	.	.	.	.	
	.	.	.	.	.	
LESS THAN 5 MINU	38	276	424	712	423	1835
	.	0.48	0.73	1.23	0.73	3.17
	.	15.02	23.10	38.83	23.05	
	.	1.64	2.09	4.82	6.98	
5 TO 10 MINUTES	49	1359	1613	1213	794	4980
	.	2.35	2.79	2.10	1.37	8.60
	.	27.29	32.40	24.35	15.95	
	.	8.08	7.97	8.21	13.11	
10 TO 15 MINUTES	132	2210	2664	2133	932	7939
	.	3.82	4.60	3.69	1.61	13.72
	.	27.84	33.56	26.87	11.74	
	.	13.15	13.16	14.44	15.38	
15 TO 20 MINUTES	199	2711	3999	2870	972	10551
	.	4.68	6.91	4.96	1.68	18.23
	.	25.69	37.90	27.20	9.21	
	.	16.12	19.75	19.43	16.04	
20 TO 25 MINUTES	78	2281	2542	1936	614	7373
	.	3.94	4.39	3.34	1.06	12.74
	.	30.94	34.48	26.25	8.33	
	.	13.57	12.56	13.11	10.14	
TOTAL	.	16811	20245	14769	6059	57883
	.	29.04	34.98	25.51	10.47	100.00

CROSSTABS OF BUS USE AND RELATED DEMAND VARIABLES

TABLE OF TRAVMIN BY BUSUSE

TRAVMIN MINUTES TO WORK BUSUSE INTEREST IN BUS SERVICE

FREQUENCY / PERCENT / ROW PCT / COL PCT	MISSING	DEF WOULD USE	PROB WOULD USE	PROB WOULD NOT	DEF WOULD NOT US	TOTAL
25 TO 30 MINUTES	217	3180	3966	2932	1235	11313
	.	5.49	6.85	5.07	2.13	19.55
	.	28.11	35.05	25.92	10.92	
	.	18.92	19.59	19.85	20.39	
30 TO 45 MINUTES	107	3863	4291	2451	1035	11640
	.	6.67	7.41	4.23	1.79	20.11
	.	33.19	36.86	21.06	8.89	
	.	22.98	21.20	16.60	17.08	
45 TO 60 MINUTES	38	628	643	471	47	1789
	.	1.08	1.11	0.81	0.08	3.09
	.	35.10	35.94	26.35	2.61	
	.	3.74	3.18	3.19	0.77	
60 TO 90 MINUTES	0	247	75	50	0	372
	.	0.43	0.13	0.09	0.00	0.64
	.	66.30	20.25	13.45	0.00	
	.	1.47	0.37	0.34	0.00	
MORE THAN 90 MIN	0	56	28	0	6	90
	.	0.10	0.05	0.00	0.01	0.16
	.	62.31	30.56	0.00	7.13	
	.	0.33	0.14	0.00	0.11	
TOTAL	.	16811	20245	14769	6059	57883
	.	29.04	34.98	25.51	10.47	100.00

CROSSTABS OF BUS USE AND RELATED DEMAND VARIABLES

TABLE OF MODE BY BUSUSE

MODE MODE TO WORK BUSUSE INTEREST IN BUS SERVICE

FREQUENCY / PERCENT / ROW PCT / COL PCT	MISSING	DEF WOULD USE	PROB WOULD USE	PROB WOULD NOT	DEF WOULD NOT US	TOTAL
	50	99	19	0	0	.
	.	.	.	.	.	.
	.	.	.	.	.	
	.	.	.	.	.	
DRIVE ALONE	656	11492	15823	11837	4932	44084
	.	19.84	27.32	20.44	8.51	76.11
	.	26.07	35.89	26.85	11.19	
	.	68.75	77.79	80.05	81.15	
CARPOOL	107	3232	3254	2333	851	9670
	.	5.58	5.62	4.03	1.47	16.70
	.	33.43	33.65	24.12	8.80	
	.	19.34	16.00	15.78	14.00	
VANPOOL	0	201	83	97	33	414
	.	0.35	0.14	0.17	0.06	0.71
	.	48.51	20.09	23.38	8.02	
	.	1.20	0.41	0.65	0.55	
OSOTA BUS	38	1050	181	21	0	1253
	.	1.81	0.31	0.04	0.00	2.16
	.	83.82	14.47	1.71	0.00	
	.	6.28	0.89	0.14	0.00	
OTHER BUS	0	129	0	0	0	129
	.	0.22	0.00	0.00	0.00	0.22
	.	100.00	0.00	0.00	0.00	
	.	0.77	0.00	0.00	0.00	
MOTORCYCLE OR MO	0	289	451	324	191	1255
	.	0.50	0.78	0.56	0.33	2.17
	.	23.01	35.94	25.85	15.21	
	.	1.73	2.22	2.19	3.14	
WALK	0	99	181	27	6	313
	.	0.17	0.31	0.05	0.01	0.54
	.	31.58	57.74	8.62	2.06	
	.	0.59	0.89	0.18	0.11	
OTHER MODE	6	224	367	148	64	803
	.	0.39	0.63	0.25	0.11	1.39
	.	27.93	45.72	18.38	7.97	
	.	1.34	1.81	1.00	1.05	
TOTAL	.	16717	20340	14787	6077	57921
	.	28.86	35.12	25.53	10.49	100.00

CROSSTABS OF BUS USE AND RELATED DEMAND VARIABLES

TABLE OF FARE BY BUSUSE

FARE FARE WILLING TO PAY FOR BUS BUSUSE INTEREST IN BUS SERVICE

FREQUENCY / PERCENT / ROW PCT / COL PCT	MISSING	DEF WOULD USE	PROB WOULD USE	PROB WOULD NOT	DEF WOULD NOT US	TOTAL
MISSING	845	1307	1733	14765	6077	.
	.	.	.	.	.	.
	.	.	.	.	.	
	.	.	.	.	.	
UP TO A QUARTER	0	155	150	0	0	304
	.	0.45	0.44	0.00	.	0.89
	.	50.82	49.18	0.00	.	
	.	1.00	0.80	0.00	.	
BETWEEN 25 AND 5	0	4292	6894	21	0	11207
	.	12.57	20.18	0.06	.	32.81
	.	38.30	61.51	0.19	.	
	.	27.67	37.01	100.00	.	
BETWEEN 50 AND 6	0	1051	444	0	0	1494
	.	3.08	1.30	0.00	.	4.37
	.	70.31	29.69	0.00	.	
	.	6.77	2.38	0.00	.	
BETWEEN 60 AND 7	0	2629	2950	0	0	5579
	.	7.70	8.64	0.00	.	16.33
	.	47.12	52.88	0.00	.	
	.	16.95	15.84	0.00	.	
BETWEEN 75 AND 9	0	285	223	0	0	508
	.	0.83	0.65	0.00	.	1.49
	.	56.12	43.88	0.00	.	
	.	1.84	1.20	0.00	.	
BETWEEN 90 CENTS	0	4169	5255	0	0	9424
	.	12.20	15.38	0.00	.	27.59
	.	44.24	55.76	0.00	.	
	.	26.88	28.21	0.00	.	
TOTAL	.	15510	18627	21	.	34159
	.	45.41	54.53	0.06	.	100.00

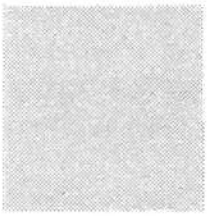
CROSSTABS OF BUS USE AND RELATED DEMAND VARIABLES

TABLE OF FARE BY BUSUSE

FARE FARE WILLING TO PAY FOR BUS BUSUSE INTEREST IN BUS SERVICE

FREQUENCY / PERCENT / ROW PCT / COL PCT	MISSING	DEF WOULD USE	PROB WOULD USE	PROB WOULD NOT	DEF WOULD NOT US	TOTAL
$1.00 TO $1.20	0	38	0	0	0	38
	.	0.11	0.00	0.00	.	0.11
	.	100.00	0.00	0.00	.	
	.	0.24	0.00	0.00	.	
$1.20 TO $1.40	0	356	656	0	0	1013
	.	1.04	1.92	0.00	.	2.96
	.	35.17	64.83	0.00	.	
	.	2.30	3.52	0.00	.	
$1.40 TO $1.75	0	1523	1189	0	0	2712
	.	4.46	3.48	0.00	.	7.94
	.	56.15	43.85	0.00	.	
	.	9.82	6.38	0.00	.	
$1.75 TO $2.00	6	758	713	0	0	1471
	.	2.22	2.09	0.00	.	4.31
	.	51.54	48.46	0.00	.	
	.	4.89	3.83	0.00	.	
$2.00 TO $2.50	0	40	38	0	0	78
	.	0.12	0.11	0.00	.	0.23
	.	51.79	48.21	0.00	.	
	.	0.26	0.20	0.00	.	
$2.50 TO $3.00	0	140	57	0	0	196
	.	0.41	0.17	0.00	.	0.58
	.	71.09	28.91	0.00	.	
	.	0.90	0.30	0.00	.	
THREE DOLLARS OR	6	75	59	0	0	134
	.	0.22	0.17	0.00	.	0.39
	.	56.04	43.96	0.00	.	
	.	0.49	0.32	0.00	.	
TOTAL	.	15510	18627	21	.	34159
	.	45.41	54.53	0.06	.	100.00

Appendix F



Hotel Survey Frequency Tables

HOTEL AREA SURVEYED

SITE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
FLORIDA CENTER	3200	3200	16.244	16.244
INTERNATIONAL DR	4450	7650	22.589	38.832
LAKE BUENA VISTA	4200	11850	21.320	60.152
AIRPORT	3200	15050	16.244	76.396
DOWNTOWN	2650	17700	13.452	89.848
ROUTE 192	2000	19700	10.152	100.000

HOTEL NAME

HOTEL	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
RAMADA	2078	2078	10.550	10.550
SHERATON	1122	3200	5.694	16.244
MARRIOTT	1413	4613	7.171	23.415
HILTON	2543	7156	12.908	36.323
SEA WORLD	212	7367	1.076	37.398
DAYS INN	1831	9198	9.294	46.692
AMERICANA	1655	10853	8.399	55.091
ROYAL PLAZA	2545	13398	12.921	68.012
HOLIDAY INN	1652	15050	8.384	76.396
HARLEY	232	15282	1.180	77.576
HOWARD JOHNSON	2418	17700	12.272	89.848
HOWARD JOHNSON M	818	18518	4.153	94.001
DAYS LODGE	1182	19700	5.999	100.000

TRAVEL MODE TO ORLANDO

MODE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
AIRLINE	12542	12542	63.668	63.668
PERSONAL VEHICLE	4953	17495	25.143	88.811
RENTAL CAR	1166	18662	5.920	94.731
TOUR BUS	718	19380	3.646	98.377
INTERCITY BUS	117	19497	0.595	98.972
TRAIN	66	19563	0.335	99.307
OTHER MODE	137	19700	0.693	100.000

AIRLINE USED

AIRLN	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	7260	.	.	.
AIR FLORIDA	112	112	0.904	0.904
AMERICAN	207	320	1.666	2.570
CONTINENTAL	229	549	1.843	4.413
DELTA	3005	3554	24.161	28.573
EASTERN	4212	7766	33.860	62.433
NY AIR	33	7799	0.265	62.698
NORTHWEST	79	7879	0.639	63.337
OZARK	231	8110	1.856	65.193
PAN AM	368	8478	2.962	68.155
PIEDMONT	392	8871	3.155	71.310
REPUBLIC	1132	10003	9.101	80.411
TWA	286	10289	2.302	82.712
TRANSAMERICA	132	10421	1.061	83.773
UNITED	640	11061	5.147	88.920
USAIR	924	11985	7.425	96.345
OTHER	455	12439	3.655	100.000

ALTERNATIVE MODE TO ORLANDO

OTHMODE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	19563	.	.	.
1	137	137	100.000	100.000

MODE OF TRAVEL TO HOTEL

TRAVLIN	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	6754	.	.	.
RENTAL CAR	5193	5193	40.115	40.115
TAXI	1061	6255	8.198	48.313
LIMO OR VAN SERV	1623	7878	12.539	60.852
HOTEL VEHICLE	1755	9633	13.553	74.405
TOUR BUS	2705	12337	20.891	95.297
CITY BUS	71	12408	0.546	95.842
PICKED UP BY FRI	318	12726	2.456	98.298
WALKED	117	12843	0.905	99.203
OTHER MODE	103	12946	0.797	100.000

ALTERNATIVE MODE TO HOTEL

OTHTRVL	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	19699	.	.	.

WHEN ARRANGED AIRPORT TRANSPORT

WHENARR	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	6556	.	.	.
ARRANGED BEFORE	6048	6048	46.013	46.013
PART OF TOUR PAC	3630	9677	27.616	73.628
MADE DECISION ON	2850	12528	21.686	95.315
OTHER	616	13144	4.685	100.000

OTHER ARANGEMENTS FOR TRANSPORT

OTHARR	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	19154	.	.	.
0	46	46	8.528	8.520
1	499	545	91.472	100.000

WHO ARANGED TRANSPORT

WHOARR	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	8734	.	.	.
TRAVEL AGENT	4814	4814	43.905	43.905
MYSELF OR SOMEON	5342	10157	48.717	92.622
FRIEND OR RELATI	253	10410	2.309	94.932
OTHER	556	10966	5.068	100.000

ALTERNATIVE QUESTION 4

OTHWHO	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	19318	.	.	.
1	382	382	100.000	100.000

TRAVEL TIME TO HOTEL OR DEST

TRAVTIM	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	9077	.	.	.
LESS THAN FIVE M	139	139	1.313	1.313
5 TO 10 MINUTES	193	333	1.819	3.132
10 TO 15 MINUTES	983	1316	9.252	12.384
15 TO 20 MINUTES	2126	3442	20.013	32.398
20 TO 25 MINUTES	691	4133	6.505	38.903
25 TO 30 MINUTES	2235	6367	21.037	59.939
35 TO 40 MINUTES	427	6794	4.021	63.960
40 TO 50 MINUTES	1167	7961	10.984	74.943
50 TO 60 MINUTES	1405	9366	13.225	88.169
75 TO 90 MINUTES	403	9769	3.790	91.958
MORE THAN ONE AN	854	10623	8.042	100.000

SATISFACTION WITH TRAVEL TIME

SATIS	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING OR NOT A	7747	.	.	.
YES	10701	10701	89.530	89.530
NO	1251	11953	10.470	100.000

COMMENTS ABOUT TRANSIT TIME

COMMA	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	18863	.	.	.
1	836	836	100.000	100.000

REASONABLENESS OF PRICE

PRICE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING OR NOT A	7647	.	.	.
YES	11101	11101	92.099	92.099
NO	952	12053	7.901	100.000

COMMENTS ABOUT PRICE

COMMB	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	18967	.	.	.
0	46	46	6.351	6.351
1	686	732	93.649	100.000

SATISFACTION WITH SERVICE

SERVICE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING OR NOT A	7013	.	.	.
YES	12048	12048	94.967	94.967
NO	639	12686	5.033	100.000

COMMENTS ABOUT SERVICE

COMMC	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	19277	.	.	.
1	422	422	100.000	100.000

ADEQUACY OF TRANSIT INFORMATION

INFO	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING OR NOT A	7396	.	.	.
YES VERY HELPFUL	5285	5285	42.958	42.958
YES ADEQUATE	5573	10858	45.291	88.249
NO HELP	1446	12304	11.751	100.000

COMMENTS ABOUT INFORMATION

COMMD	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	18869	.	.	.
1	831	831	100.000	100.000

PURPOSE OF THE TRIP

PURPOSE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	99	.	.	.
VACATION	11823	11823	60.317	60.317
COMPANY BUSINESS	3956	15778	20.181	80.497
PERSONAL BUSINES	547	16325	2.792	83.290
VISIT FRIENDS OR	277	16602	1.413	84.703
CONVENTION OR CO	2255	18858	11.506	96.209
OTHER REASON	743	19601	3.791	100.000

OTHER PURPOSE

OTHPURP	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	19130	.	.	.
1	569	569	100.000	100.000

LENGTH OF STAY

STAY	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	240	.	.	.
	581	581	2.986	2.986
ONE DAY	931	1512	4.783	7.768
TWO DAYS	2621	4133	13.470	21.238
THREE DAYS	4278	8411	21.981	43.219
FOUR DAYS	3325	11735	17.084	60.303
FIVE DAYS	3259	14994	16.745	77.048
SIX DAYS	1410	16403	7.245	84.293
SEVEN DAYS	2246	18649	11.541	95.834
MORE THAN ONE WE	811	19460	4.166	100.000

PART OF TOUR GROUP

GROUP	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	195	.	.	.
YES	2102	2102	10.778	10.778
NO	17403	19505	89.222	100.000

SIZE OF GROUP

SIZE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	3846	.	.	.
1	3408	3408	21.496	21.496
2	7025	10433	44.310	65.806
3	1518	11951	9.576	75.382
4	1486	13437	9.376	84.758
5	710	14147	4.476	89.234
6	636	14783	4.015	93.249
7	336	15119	2.118	95.367
8	231	15350	1.456	96.823
9	117	15467	0.739	97.562
12	66	15533	0.416	97.978
15	46	15580	0.293	98.272
21	71	15650	0.446	98.717
22	91	15741	0.573	99.291
24	33	15774	0.208	99.499
43	33	15807	0.208	99.707
44	46	15854	0.293	100.000

NUMBER OF CHILDREN

CHILD	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	6101	.	.	.
0	10803	10803	79.446	79.446
1	1203	12006	8.848	88.294
2	1152	13158	8.469	96.763
3	279	13437	2.049	98.812
4	162	13598	1.188	100.000

DOWNTOWN ORLANDO

ATTR1	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	15340	.	.	.
1	4360	4360	100.000	100.000

DISNEYS MAGIC KINGDOM

ATTR2	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	7490	.	.	.
1	12209	12209	100.000	100.000

EPCOT CENTER

ATTR3	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	5316	.	.	.
1	14383	14383	100.000	100.000

SEA WORLD

ATTR4	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	13756	.	.	.
1	5943	5943	100.000	100.000

CIRCUS WORLD

ATTR5	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	18254	.	.	.
1	1446	1446	100.000	100.000

FLORIDA FESTIVAL

ATTR6	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	17747	.	.	.
1	1953	1953	100.000	100.000

WET N WILD

ATTR7	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	17613	.	.	.
1	2087	2087	100.000	100.000

STARS HALL OF FAME

ATTR8	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	18967	.	.	.
1	733	733	100.000	100.000

OTHER ATTRACTIONS

ATTR9	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	17898	.	.	.
1	1801	1801	100.000	100.000

OTHER ATTRACTIONS SPECIFIED

OTHATTR	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
NOT APPLICABLE	18403	.	.	.
	103	103	7.962	7.962
FACTORY OUTLET M	137	240	10.538	18.500
LAKE BUENA VISTA	322	562	24.822	43.322
ALLIGATOR FARM	33	595	2.545	45.867
OTHER	702	1296	54.133	100.000

MODE TO ATTRACTIONS

GETTOEM	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	2518	.	.	.
PERSONAL VEHICLE	4054	4054	23.593	23.593
RENTAL CAR	5454	9508	31.745	55.338
FRIENDS OR RELAT	414	9922	2.407	57.745
TOUR BUS	4000	13922	23.281	81.026
LIM OR VAN SERVI	1205	15127	7.015	88.041
CITY BUS	230	15357	1.342	89.383
TAXI	79	15437	0.463	89.845
DONT KNOW	509	15946	2.963	92.809
OTHER	1236	17182	7.191	100.000

ALTERNATIVE MODE TO ATTRS

OTHWAY	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	18464	.	.	.
1	753	753	60.982	60.982
2	198	951	16.020	77.002
3	284	1236	22.998	100.000

ATTRACTIONS OUT OF ORLANDO

OUTATTR	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	1272	.	.	.
YES	4945	4945	26.835	26.835
NO	13483	18428	73.165	100.000

INTEREST IN BUS USE

BUSUSE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	1216	.	.	.
DEFINITE YES	9110	9110	49.289	49.289
PROB YES	5034	14144	27.233	76.522
PROBLY NOT	3169	17312	17.143	93.664
DEF NOT	1171	18484	6.336	100.000

REASON 1 Q14

REAS141	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING OR NOT A	3383	.	.	.
	12308	12308	75.431	75.431
NOT CONVENIENT	1134	13442	6.951	82.383
RATHER DRIVE MYS	1645	15087	10.082	92.464
LIVE CLOSE ENOUG	434	15522	2.662	95.126
CAME ON TOUR BUS	126	15648	0.772	95.898
SERVICE IS ALREA	334	15982	2.047	97.945
TOO EXPENSIVE	71	16052	0.433	98.378
POSITIVE REASONS	265	16317	1.622	100.000

REASON 2 Q14

REAS142	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING OR NOT A	3601	.	.	.
	15392	15392	95.608	95.608
NOT CONVENIENT	337	15729	2.096	97.704
RATHER DRIVE MYS	182	15911	1.129	98.834
TOO EXPENSIVE	117	16028	0.728	99.561
OTHER REASONS	71	16099	0.439	100.000

INTEREST IN LIGHT RAIL USE

RAILUSE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	1278	.	.	.
1	8269	8269	44.886	44.886
2	6225	14494	33.791	78.677
3	2791	17285	15.153	93.830
4	1137	18422	6.170	100.000

FORM IDENTIFICATION NUMBER

FORMID	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
1	3778	3778	19.180	19.180
2	3079	6857	15.629	34.809
3	4564	11422	23.169	57.978
4	4458	15879	22.628	80.606
5	3821	19700	19.394	100.000

REASON 1 Q 15

REAS151	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	3062	.	.	.
	13418	13418	80.652	80.652
TOO EXPENSIVE	823	14241	4.944	85.596
RATHER DRIVE MYS	839	15080	5.043	90.639
LIVE CLOSE ENOUG	434	15514	2.610	93.249
NOT CONVENIENT	837	16351	5.030	98.280
PREFER BUS TO TR	160	16511	0.963	99.243
CAME ON TOUR BUS	79	16591	0.478	99.721
OTHER REASONS	46	16637	0.279	100.000

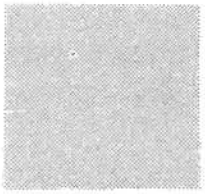
REASON 2 Q 15

REAS152	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	3062	.	.	.
	16165	16165	97.163	97.163
RATHER DRIVE MYS	136	16302	0.819	97.982
NOT CONVENIENT	162	16463	0.971	98.953
OTHER REASONS	174	16637	1.047	100.000

WRITTEN COMMENTS

COMMENT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
0	15616	15616	79.272	79.272
1	1663	17279	8.443	87.715
2	812	18091	4.120	91.835
3	1075	19166	5.455	97.289
4	534	19700	2.711	100.000

Appendix G



Attraction Survey Frequency Tables

SIMPLE FREQUENCIES FOR ATTRACTION SURVEYS

ATTRACTION SITE

SITE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
SEA WORLD	322	322	21.582	21.582
CHURCH STREET ST	439	760	29.357	50.938
FACTORY OUTLET M	732	1492	49.062	100.000

ARRIVAL TIME (AM OR PM)

AMPM	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
0	240	240	16.086	16.086
1	888	1128	59.517	75.603
2	364	1492	24.397	100.000

TRAVEL MODE TO ORLANDO

MODE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	10	.	.	.
AIRLINE	517	517	34.885	34.885
PERSONAL VEHICLE	512	1029	34.548	69.433
RENTAL CAR	44	1073	2.969	72.402
TOUR BUS	38	1111	2.564	74.966
INTERCITY BUS	9	1120	0.607	75.574
TRAIN	28	1148	1.889	77.463
HOME IN ORLANDO	315	1463	21.255	98.718
OTHER MODE	19	1482	1.282	100.000

AIRLINE USED

AIRLINE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	990	.	.	.
AIR FLORIDA	4	4	0.797	0.797
AMERICAN	13	17	2.590	3.386
CONTINENTAL	9	26	1.793	5.179
DELTA	136	162	27.092	32.271
EASTERN	116	278	23.108	55.378
NY AIR	5	283	0.996	56.375
NORTHWEST	7	290	1.394	57.769
OZARK	10	300	1.992	59.761
PAN AM	12	312	2.390	62.151
PIEDMONT	15	327	2.988	65.139
REPUBLIC	28	355	5.578	70.717
TWA	9	364	1.793	72.510
TRANSAMERICA	1	365	0.199	72.709
UNITED	19	384	3.785	76.494
USAIR	49	433	9.761	86.255
OTHER	69	502	13.745	100.000

SIMPLE FREQUENCIES FOR ATTRACTION SURVEYS

ALTERNATIVE MODE USED

OTHMODE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	1484	.	.	.
1	8	8	100.000	100.000

MODE OF TRAVEL TO ATTRACTION

TODAY	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	7	.	.	.
PERSONAL VEHICLE	770	770	51.852	51.852
RENTAL CAR	402	1172	27.071	78.923
VEHICLE BORROWED	17	1189	1.145	80.067
DRIVEN BY F OR R	93	1282	6.263	86.330
CITY BUS	21	1303	1.414	87.744
TOUR BUS	90	1393	6.061	93.805
TAXI	25	1418	1.684	95.488
LIMO OR VAN	20	1438	1.347	96.835
WALKED	16	1454	1.077	97.912
OTHER MODE	31	1485	2.088	100.000

ALTERNATIVE MODE OF TRAVEL TO SITE

OTHTDY	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
NOT APPLICABLE	1478	.	.	.
WRITTEN RESPONSE	14	14	100.000	100.000

PURPOSE OF VISIT TO ORLANDO

PURPOSE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	16	.	.	.
VACATION	713	713	48.306	48.306
COMPANY BUSINESS	98	811	6.640	54.946
PERSONAL BUSINES	67	878	4.539	59.485
CONVENTION OR CO	67	945	4.539	64.024
VISIT FRIENDS RE	87	1032	5.894	69.919
LIVE IN ORLANDO	339	1371	22.967	92.886
OTHER REASONS	105	1476	7.114	100.000

ALTERNATIVE PURPOSE OF VISIT

OTHPURP	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	1422	.	.	.
1	70	70	100.000	100.000

SIMPLE FREQUENCIES FOR ATTRACTION SURVEYS

ARRIVAL TIME

ARRIVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING TIME VAL	205	.	.	.
MIDNIGHT TO 7 AM	18	18	1.399	1.399
7:00 TO 7:30 AM	1	19	0.078	1.476
7:30 TO 8:00 AM	8	27	0.622	2.098
8:00 TO 8:30 AM	16	43	1.243	3.341
8:30 TO 9:00 AM	52	95	4.040	7.382
9:00 TO 9:30 AM	42	137	3.263	10.645
9:30 TO 10:00 AM	130	267	10.101	20.746
10:00 TO 10:30 A	70	337	5.439	26.185
10:30 TO 11:00 A	108	445	8.392	34.577
11:00 TO 11:30 A	81	526	6.294	40.870
11:30 TO NOON	34	560	2.642	43.512
NOON TO 1:00 PM	59	619	4.584	48.096
1:00 TO 1:30 PM	59	678	4.584	52.681
1:00 TO 2:00 PM	73	751	5.672	58.353
2:00 TO 2:30 PM	30	781	2.331	60.684
2:30 TO 3:00 PM	47	828	3.652	64.336
3:00 TO 3:30 PM	39	867	3.030	67.366
3:30 TO 4:00 PM	21	888	1.632	68.998
4:00 TO 4:30 PM	27	915	2.098	71.096
4:30 TO 5:00 PM	27	942	2.098	73.193
5:00 TO 5:30 PM	14	956	1.088	74.281
5:30 TO 6:00 PM	33	989	2.564	76.845
6:00 TO 6:30 PM	40	1029	3.108	79.953
6:30 TO 7:00 PM	38	1067	2.953	82.906
7:00 TO 7:30 PM	41	1108	3.186	86.092
7:30 TO 8:00 PM	31	1139	2.409	88.500
8:00 TO 8:30 PM	13	1152	1.010	89.510
8:30 TO 9:00 PM	14	1166	1.088	90.598
9:00 TO 10:00 PM	8	1174	0.622	91.220
10:00 TO 11:00 P	3	1177	0.233	91.453
11:00 TO MIDNIGH	50	1227	3.885	95.338
UNCERTAIN TIME	60	1287	4.662	100.000

ARRIVAL AMPM IDENTIFIER

ARRAMPM	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	59	.	.	.
MORNING	625	625	43.615	43.615
EVENING	808	1433	56.385	100.000

SIMPLE FREQUENCIES FOR ATTRACTION SURVEYS

DEPARTURE TIME FROM ATTRACTION

LEAVE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING TIME VAL	234	.	.	.
MIDNIGHT TO 7 AM	56	56	4.452	4.452
7:00 TO 7:30 AM	1	57	0.079	4.531
7:30 TO 8:00 AM	3	60	0.238	4.769
9:30 TO 10:00 AM	5	65	0.397	5.167
10:30 TO 11:00 A	6	71	0.477	5.644
11:00 TO 11:30 A	14	85	1.113	6.757
11:30 TO NOON	37	122	2.941	9.698
NOON TO 1:00 PM	38	160	3.021	12.719
1:00 TO 1:30 PM	38	198	3.021	15.739
1:00 TO 2:00 PM	70	268	5.564	21.304
2:00 TO 2:30 PM	64	332	5.087	26.391
2:30 TO 3:00 PM	121	453	9.618	36.010
3:00 TO 3:30 PM	57	510	4.531	40.541
3:30 TO 4:00 PM	123	633	9.777	50.318
4:00 TO 4:30 PM	64	697	5.087	55.405
4:30 TO 5:00 PM	93	790	7.393	62.798
5:00 TO 5:30 PM	41	831	3.259	66.057
5:30 TO 6:00 PM	70	901	5.564	71.622
6:00 TO 6:30 PM	29	930	2.305	73.927
6:30 TO 7:00 PM	47	977	3.736	77.663
7:00 TO 7:30 PM	24	1001	1.908	79.571
7:30 TO 8:00 PM	27	1028	2.146	81.717
8:00 TO 8:30 PM	15	1043	1.192	82.909
8:30 TO 9:00 PM	43	1086	3.418	86.328
9:00 TO 10:00 PM	51	1137	4.054	90.382
10:00 TO 11:00 P	49	1186	3.895	94.277
11:00 TO MIDNIGH	46	1232	3.657	97.933
UNCERTAIN TIME	26	1258	2.067	100.000

DEPARTURE AMPM IDENTIFIER

DEPAMPM	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	149	.	.	.
MORNING	92	92	6.850	6.850
EVENING	1251	1343	93.150	100.000

PART OF TOUR GROUP

TOURGRP	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	22	.	.	.
YES	111	111	7.551	7.551
NO	1359	1470	92.449	100.000

SIMPLE FREQUENCIES FOR ATTRACTION SURVEYS

SIZE OF COMPANION GROUP

SIZE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING OR NA	254	.	.	.
1	148	148	11.955	11.955
2 TO 3	749	897	60.501	72.456
4 TO 5	249	1146	20.113	92.569
6 TO 10	67	1213	5.412	97.981
11 TO 20	7	1220	0.565	98.546
21 TO 40	11	1231	0.889	99.435
MORE THAN 41	7	1238	0.565	100.000

NUMBER OF CHILDREN

CHILD	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	430	.	.	.
NO CHILDREN	863	863	81.262	81.262
1 CHILD	100	963	9.416	90.678
2 TO 3 CHILDREN	85	1048	8.004	98.682
4 TO 6 CHILDREN	12	1060	1.130	99.812
7 TO 10 CHILDREN	1	1061	0.094	99.906
MORE THAN 10 KID	1	1062	0.094	100.000

LENGTH OF STAY IN ORLANDO

STAY	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING VALUE	589	.	.	.
ZERO	9	9	0.997	0.997
ONE DAY ONLY	80	89	8.859	9.856
TWO TO FIVE DAYS	406	495	44.961	54.817
6 TO 7 DAYS	243	738	26.910	81.728
1 TO 2 WEEKS	134	872	14.839	96.567
2 TO 3 WEEKS	15	887	1.661	98.228
3 WKS TO A MONTH	8	895	0.886	99.114
MORE THAN 1 MONT	8	903	0.886	100.000

RESIDENT OF ORLANDO ID

ORLANDO	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	1046	.	.	.
1	446	446	100.000	100.000

ACCOMODATION TYPE

WHERE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	74	.	.	.
HOTEL OR MOTEL	750	750	52.891	52.891
AT HOME OF FRIEN	149	899	10.508	63.399
AT MY HOME	422	1321	29.760	93.159
CAMPGROUND	32	1353	2.257	95.416
OTHER LOCATION	65	1418	4.584	100.000

SIMPLE FREQUENCIES FOR ATTRACTION SURVEYS

WHICH HOTEL

HOTEL	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	878	.	.	.
INTERNATIONAL DR	222	222	36.156	36.156
FLORIDA CENTER	44	266	7.166	43.322
LAKE BUENA VISTA	47	313	7.655	50.977
DISNEY WORLD	18	331	2.932	53.909
AIRPORT AREA	31	362	5.049	58.958
DOWNTOWN	22	384	3.583	62.541
ROUTE 192 KISSIM	161	545	26.221	88.762
OUTSIDE CORRIDOR	69	614	11.238	100.000

RESIDENT VISITING WITH OUTSIDERS

RESID	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	32	.	.	.
YES	107	107	7.329	7.329
NO	336	443	23.014	30.342
NOT APPLICABLE	1017	1460	69.658	100.000

WRITTEN COMMENTS

COMMENT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	3	.	.	.
GARBAGE ANSWERS	1214	1214	81.531	81.531
POSITIVE RE TRAN	50	1264	3.358	84.889
NEGATIVE RE TRAN	57	1321	3.828	88.717
POSITIVE RE HOTE	139	1460	9.335	98.052
NEGATIVE RE HOTE	29	1489	1.948	100.000

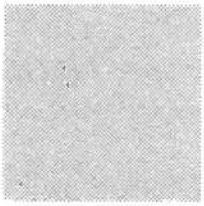
HOMESITE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
MISSING	1064	.	.	.
NORWEST ORLANDO	39	39	9.112	9.112
NOREAST ORLANDO	107	146	25.000	34.112
SOUWEST ORLANDO	85	231	19.860	53.972
SOUEAST ORLANDO	58	289	13.551	67.523
KISS GR ST CLOU	27	316	6.308	73.832
OTHER FLA TOWNS	111	427	25.935	99.766
	1	428	0.234	100.000

CAMPSITE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	1481	.	.	.
2	1	1	9.091	9.091
4	3	4	27.273	36.364
6	3	7	27.273	63.636
7	1	8	9.091	72.727
8	3	11	27.273	100.000

SIMPLE FREQUENCIES FOR ATTRACTION SURVEYS

OTHER	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
NOT APPLICABLE	1441	.	.	.
PASSING THROUGH	15	15	29.412	29.412
STAYING OUTSIDE	14	29	27.451	56.863
VACATION VILLAS	16	45	31.373	88.235
OTHER RESPONSE	6	51	11.765	100.000

Appendix H



Example Survey Forms

Orange-Seminole-Osceola Transportation Authority
Employee Travel Survey

Dear Employee:

This survey is being conducted by the regional transportation authority, with the cooperation of your employer, to help identify transportation needs in the southwest corridor of Orlando.

Please take a few minutes to complete the questionnaire. Your answers will be kept confidential, and there is no need to identify yourself. You may, if you wish, fold and seal this form when complete.

When you have completed the survey, please turn it in to the supervisor or other company representative who is responsible for the survey. Thank you for your cooperation.

A. The first set of questions deals with your trip from home to work. Even though your trip home may be different, please answer for your trip to work.

1. How do you *usually* travel from home to work? (check one)

5-1 ☐ drive alone

-2 ☐ carpool → How many, including yourself, belong to your carpool?
[ ] (6) number in carpool

-3 ☐ vanpool → How many, including yourself, belong to your vanpool?
[ ] (8) number in vanpool

-4 ☐ OSOTA bus
-5 ☐ other bus → specify: _____
-6 ☐ motorcycle or moped
-7 ☐ taxi
-8 ☐ walk
-9 ☐ other → specify: _____

(10) ☐ (11) ☐

2. How did you travel from home to work *today?*

12-01 ☐ drove alone
-02 ☐ drove or road with someone else (but not part of an organized carpool)
-03 ☐ carpool → How many in car today? (14) ☐
-04 ☐ vanpool → How many in van today? (15) ☐
-05 ☐ OSOTA bus
-06 ☐ other bus
-07 ☐ motorcycle or moped
-08 ☐ taxi
-09 ☐ walk
-10 ☐ other → specify: _____

(16) ☐

3. How much time does it usually take you to travel from home to work?

[ ] (17) minutes

4. What is the one-way distance from your home to work?

[ ] (20) miles

5. What time do you usually arrive at work?

[:] (22) 26-1 ☐ am -2 ☐ pm

6. What time do you usually leave work?

[:] (27) 31-1 ☐ am -2 ☐ pm

7. What is your home zip code?

[ ] (32)

8. Please name the intersection closest to where you live.

_____ _____
(address or street)

at/near _____ in _____
(nearest cross street) (city)

[ ]

9. Do you work full time or part time for this employer?

40-1 ☐ full time (35 hours or more a week)
-2 ☐ part time (less than 35 hours)

10. How many days per week do you work?

[ ] (41) days

B. The next set of questions deals with your daily work patterns which may affect your travel needs and options.

11. Which statement best describes your work schedule?

42-1 ☐ I work fixed hours set by my employer.
-2 ☐ I can set my own schedule, but I must start at the same time each day.
-3 ☐ I can vary my start time each day.
-4 ☐ I have a very irregular schedule.
-5 ☐ I work a rotating shift
-6 ☐ other — explain: _____ ☐ 43

12. Last week, how often did you work late hours or unscheduled overtime? (unscheduled overtime is overtime which is not part of your regular work schedule.)

☐ days
44

13. Last week, how often did you travel during the day on company business?

☐ days
45

14. Did you have access to a company vehicle for this travel? (check as many as apply)

46-1 ☐ yes, used company vehicle
-2 ☐ yes, but I used my own vehicle
-3 ☐ no

15. Last week, how often did you travel during the work day for personal reasons (lunch, appointments, etc.).

☐ days
47

C. The next set of questions deals with information about you and your travel options.

16. Do you have a valid driver's license?

48-1 ☐ yes
-2 ☐ no

17. How many people in your household, *including yourself,* are licensed drivers?

☐ people
49

18. How many people, *including yourself,* live in your household?

☐ people (adults and children)
51

19. How many motor vehicles, including motorcycles, are normally available for use by members of your household?

53-1 ☐ none
-2 ☐ one
-3 ☐ two
-4 ☐ three
-5 ☐ four

20. What is your occupation?

54-1 ☐ professional or technical
-2 ☐ clerical, office worker
-3 ☐ manager, executive
-4 ☐ production worker
-5 ☐ service (cook, food server, custodian, etc.)
-6 ☐ salesperson
-7 ☐ entertainer, attraction guide, etc.
-8 ☐ other — specify: _____ ☐ 55

21. Are you:

56-1 ☐ male
-2 ☐ female

22. What is your age?

57-1 ☐ less than 21
-2 ☐ 21-24
-3 ☐ 25-34
-4 ☐ 35-44
-5 ☐ 45-64
-6 ☐ 65 or older

23. What is your combined annual household income?

58-1 ☐ less than $10,000
-2 ☐ $10,000 - $19,999
-3 ☐ $20,000 - $29,999
-4 ☐ $30,000 - $39,999
-5 ☐ $40,000 - $49,999
-6 ☐ $50,000 or more

D. Finally, we would like to ask you about your feelings toward possible future transit services.

24. If a limited stop "*express bus*" service were convenient to your home and work locations, would you use it on a regular basis?

59-1 ☐ definitely would use
-2 ☐ probably would use
-3 ☐ probably would not use
-4 ☐ definitely would not use

25. If you think you might use such a service, what price would you be willing to pay for a one-way fare?

$ ☐.☐☐
60

26. If a modern *rail transit* service were provided to your work place, and if service ran every 10 minutes and the one-way fare was $.50, would you use it to go *from home to work* on a regular basis?

63 ☐

64-1 ☐ definitely would use
-2 ☐ probably would use
-3 ☐ probably would not use
-4 ☐ definitely would not use

27. If a modern *rail transit* service were provided and if service were available to your destination for trips made *during working hours*, would you use the service for these trips?

65-1 ☐ definitely would use
-2 ☐ probably would use
-3 ☐ probably would not use
-4 ☐ definitely would not use

28. If you checked "probably would not use" or "definitely not use" for any of the services above, please expain, in your own words, one or two of the most important reasons for your choice.

1. _____

2. _____

66 ☐

68 ☐

If you have any other comments, you may write them in the space below.

_____

_____

_____

_____

_____

_____

_____

Thank you for your cooperation.

Orange-Seminole-Osceola Transportation Authority
Hotel Visitor Travel Survey

Hello. This survey is being conducted by the regional transportation authority in order to identify transportation needs in the Orlando area. Please take a few minutes to fill it out, then give it to the clerk at the hotel registration desk.

1. How did you arrive in the Orlando area?

4-1 ☐ airline → which one? _____ ☐ 5
-2 ☐ personal vehicle
-3 ☐ rental car
-4 ☐ tour bus
-5 ☐ intercity bus
-6 ☐ train
-7 ☐ other → explain: _____ ☐ 7

(If you drove to Orlando, please skip to question 6)

2. How did you travel from your arrival point (airport, bus station, etc.) to your hotel or motel?

8-1 ☐ rental car
-2 ☐ taxi
-3 ☐ limo or van service
-4 ☐ hotel vehicle
-5 ☐ tour bus
-6 ☐ city bus
-7 ☐ picked up by friend or relative
-8 ☐ walked
-9 ☐ other → explain: _____ ☐ 9

3. How did you arrange this travel to your hotel?

10-1 ☐ arranged before trip
-2 ☐ part of tour package
-3 ☐ made decision on arrival
-4 ☐ other → explain: _____ ☐ 11

4. If this travel was arranged before the trip, who made the decision?

12-1 ☐ travel agent
-2 ☐ myself, or someone in my travel group
-3 ☐ friend or relative in Orlando area
-4 ☐ other → explain: _____ ☐ 13

5. We would like to know your opinion of the ground transportation you used.

a. Including waiting time and time to arrange travel on arrival, how long (approximately) did it take to get to your hotel?

☐☐☐ 14 minutes

was this satisfactory?

17-1 ☐ yes
-2 ☐ no-please comment: _____ ☐ 18

b. Did you find the price reasonable?

19-1 ☐ yes
-2 ☐ no-please comment: _____ ☐ 20

c. Was the service convenient and efficient?

21-1 ☐ yes
-2 ☐ no-please comment: _____ ☐ 22

d. Did you find adequate information about options for travel in the Orlando area?

23-1 ☐ yes, very helpful
-2 ☐ yes, adequate for my needs
-3 ☐ no-please comment: _____ ☐ 24

6. What is the primary purpose of your trip to the Orlando area?

25-1 ☐ vacation
-2 ☐ company or government business
-3 ☐ personal business
-4 ☐ visit friends or relatives
-5 ☐ convention or conference
-6 ☐ other → explain: _____ ☐ 26

7. How long will you be staying in the Orlando area?

☐☐ 27-28 days

8. Are you part of an organized tour group?

29-1 ☐ yes **(skip to question 11)**
-2 ☐ no

9. Including yourself, how many are in your travel group?

☐☐ 30 people (adults and children)

10. How many of these people are children under the age of 12?

☐☐ 32 children

Over ▶▶▶

11. Which of the following Orlando area attractions do you plan to visit during your stay? (check as many as apply)

34-1 ☐ Downtown Orlando (including Church Street Station)
35-1 ☐ Disney's Magic Kingdom
36-1 ☐ EPCOT Center at Walt Disney World
37-1 ☐ Sea World
38-1 ☐ Circus World
39-1 ☐ Florida Festival
40-1 ☐ Wet 'n Wild
41-1 ☐ Stars Hall of Fame
42-1 ☐ other — specify: _____ 43

12. How will you travel to these Orlando area attractions?

45-1 ☐ personal vehicle
-2 ☐ rental car
-3 ☐ friend's or relative's car
-4 ☐ tour bus
-5 ☐ limo/van service
-6 ☐ city bus
-7 ☐ taxi
-8 ☐ don't know
-9 ☐ other — explain: _____ 46

13. Do you plan to travel, from this hotel, to any attractions outside the Orlando area, such as Cypress Gardens, Busch Gardens, Cape Canaveral, beaches?

47-1 ☐ yes
-2 ☐ no

14. We are looking at plans for new, limited stop, *express bus* service connecting the airport, hotels, and major attraction areas. Do you think you would use such a service if it were available?

48-1 ☐ definitely would use
-2 ☐ probably would use
-3 ☐ probably would not use
-4 ☐ definitely would not use

If you indicated that you probably would not or definitely would not use the transit services described, please list, in your own words, one or two of the more important reasons for not using the service.

1. _____
2. _____ 49 51

15. If *a modern rail transit* service were available between the airport, hotels, and major attractions, with service every 10 minutes at a cost of $2.00 per ride, do you think you would use it?

53-1 ☐ definitely would use 54
-2 ☐ probably would use
-3 ☐ probably would not use
-4 ☐ definitely would not use

If you indicated that you probably would not or definitely would not use the transit services described, please list, in your own words, one or two of the more important reasons for not using the service.

1. _____
2. _____ 55 57

You may write any additional comments in the space below.

_____
_____
_____
_____
_____
_____
_____
_____
_____

Thank you for your cooperation.

Orange-Seminole-Osceola Transportation Authority
Attraction Visitor Travel Survey

Hello. This survey is being given to visitors at several attractions in the Orlando area. Your responses will help us identify transportation needs in the area. Please take a few minutes to answer these questions, then drop the completed questionnaire in any US mailbox. Postage will be paid by OSOTA.

1. How did you arrive in the Orlando area?

3-1 ☐ airline➤which one?_____ [4]
-2 ☐ drove or rode personal vehicle
-3 ☐ drove or rode rental car
-4 ☐ tour bus
-5 ☐ intercity bus (Greyhound, etc)
-6 ☐ train
-7 ☐ my home is in Orlando area
-8 ☐ other ➤specify: _____ [6]

2. How did you travel to this attraction today?

7-01 ☐ personal vehicle
-02 ☐ rental car
-03 ☐ vehicle borrowed from friend or relative
-04 ☐ driven by friend or relative
-05 ☐ city bus
-06 ☐ tour bus
-07 ☐ taxi
-08 ☐ limo or van service
-09 ☐ walked (i.e. from nearby hotel)
-10 ☐ other — specify: _____ [9]

3. What is the *primary* purpose of your trip to the Orlando area? (check one, please).

10-1 ☐ vacation
-2 ☐ company/government business
-3 ☐ personal business
-4 ☐ convention or conference
-5 ☐ visit friends or relatives
-6 ☐ live in Orlando area
-7 ☐ other — specify: _____ [11]

4. What time did you arrive at this attraction today?

[12] 16-1 ☐ am
-2 ☐ pm

5. What time will you leave (approximately)?

[17] 21-1 ☐ am
-2 ☐ pm

6. Did you come to this attraction as part of an organized tour group?

22-1 ☐ yes (skip to question 10)
-2 ☐ no

7. If you are not part of a tour, how many people, including yourself, are in your travel group?

[23] people (adults and children)

8. How many in your travel group are children under the age of 12?

[25] children

9. How many days will you spend in the Orlando area?

[27] days

29-1 ☐ I am an Orlando area resident

10. Where are you staying in the Orlando area?

30-1 ☐ hotel / motel
Which one? _____
Location? _____ (town or area of Orlando)
-2 ☐ at home of friend or relative
Location? _____ (town or area of Orlando)
-3 ☐ at my home
Location? _____ (town or area of Orlando)
-4 ☐ campground
Which one? _____
Location? _____ (town or area of Orlando)
-5 ☐ other — specify: _____
Location: _____ (town or area of Orlando [31]

11. If you are an area resident, are you visiting this attraction with visitors from outside the Orlando area?

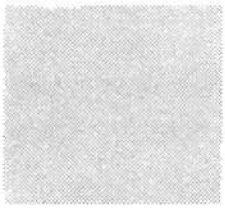
34-1 ☐ yes
-2 ☐ no
-3 ☐ not applicable

12. You may write any comments in the space below.

_____
_____
_____
_____

Thank you for your cooperation.

Appendix I



Information on Logit Demand Estimation Worksheet Availability