STAEWIDE COMMUTER ASSISTANCE PROGRAM
EVALUATION REPORT
GENERAL PUBLIC SURVEY

Final Report
Results of Survey and Conclusions

Prepared for:

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By:

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Executive Summary

- The Statewide Commuter Assistance Program (CAP) Evaluation Research Project was commissioned and funded by the Florida Department of Transportation's Research Ideas Program. The purpose of this research project was to provide a systematic evaluation of the performance of Florida's commuter assistance programs from two perspectives:
  - Impact on the commuting patterns and awareness of the general public; and,
  - Impact on the commuting patterns and awareness of each CAP database of commuters, which are comprised of commuters who have called or otherwise applied for commuting assistance and/or information.
- This report summarizes the findings from a survey of the general public conducted with 1,410 residents of Florida distributed throughout the state.
- Overall, alternate mode use is highest in Jacksonville, Tampa, and Miami/Fort Lauderdale than in the rest of the state.
- Those households at mid-level incomes have the highest awareness of these advertisements. Previous analysis in South Florida has raised the question of whether this is the most effective targeting strategy for carpool/vanpooling advertising. There should be some consideration given to targeting advertising to lower-income groups that may be more likely to take advantage of these services.
- It is impossible to estimate with any certainty the number of people who tried ridesharing based on advertising. This is better measured through analysis of number of calls received by the CAP and number of people added to the database, which is analyzed for those programs (South Florida Commuter Services and BACS) that provided database sample for database interviews to be conducted.
- In all metropolitan areas, over 75% said it either "very" or "somewhat" important to have a service like this available. Residents believe that this service is important even if they don't choose to use it personally. The demographic variables most highly related to support were gender and income.

Introduction

The Statewide Commuter Assistance Program (CAP) Evaluation Research Project was commissioned and funded by the Florida Department of Transportation's Research Ideas Program.

Purpose

The purpose of this research project was to provide a systematic evaluation of the performance of Florida's Commuter Assistance Programs from two perspectives:

- Impact on the commuting patterns and awareness of the general public; and,
- Impact on the commuting patterns and awareness of each CAP database of commuters, which are comprised of commutes who have called or otherwise applied for commuting assistance and/or information.

Participation

Participation in the evaluation by the CAPS was voluntary. Only three CAPs agreed to participate in the project. South Florida Commuter Services of Fort Lauderdale, Florida (serving Broward, Miami-Dade, and Palm Beach counties), Metropolitan Commuter Assistance Program of Jacksonville, Florida (serving Duval county) and Bay Area Commuter Services of Tampa, Florida (serving Citrus, Hernando, Hillsborough, Pasco, and Pinellas counties) agreed to participate fully, providing database member contact information and specific survey questions related to their own market areas. Jacksonville's participation was somewhat salutary in that they did not really maintain a database of contacts and therefore had no commuters for us to survey. North Florida Commuter Services (Tallahassee), West Florida Commuter Services (Pensacola), LYNX (Orlando), VOTRAN (Daytona), Suncoast Metropolitan & Rural Transportation Commuter Assistance Program (Sarasota), and SCAT (Melbourne) declined to participate.

Methodology

A random sample of commuters was developed through random-digit-dialing, stratified by major metropolitan areas in the State. Areas with participating CAPS were oversampled to provide the ability to analyze those areas separately. The resulting surveys were weighted to provide estimates of commuter activity and awareness for the entire state of Florida. Sampling quotas were developed as follows:

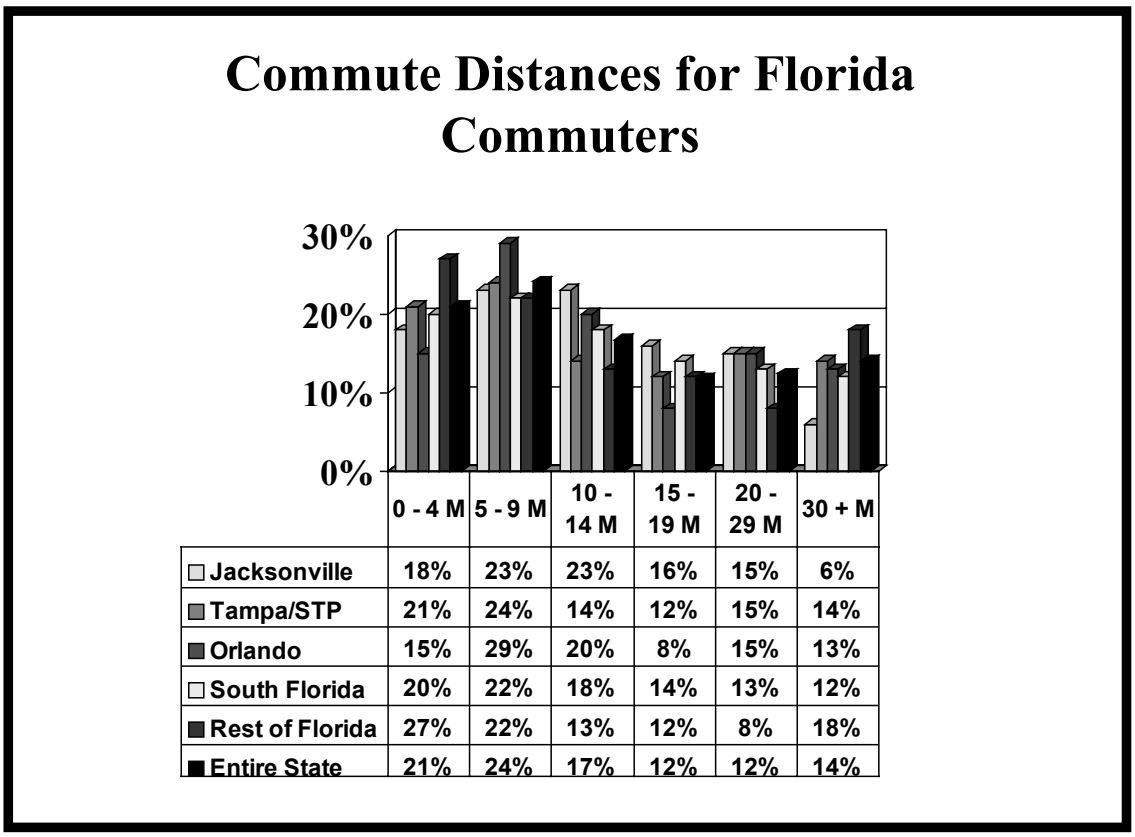
Area	Quota	Actual Completes
Jacksonville	300	304
Tampa/St. Pete	300	302
Miami/Ft. Lauderdale	350	351
Orlando	150	153
Rest of Florida	300	300

The developed survey instrument (Appendix A) was designed to provide information about general public commuting patterns and awareness of promotional messages. The survey instrument is very similar to the instrument used in previous evaluations for South Florida Commuter Services, and thus provides valid trending of results for the South Florida program. For other programs, this was the first survey of this type conducted with the general public.

Commuting Patterns

Commute Distances

Commuters were asked how far they had to drive to get to their workplaces. These figures are shown in the Figure 1.



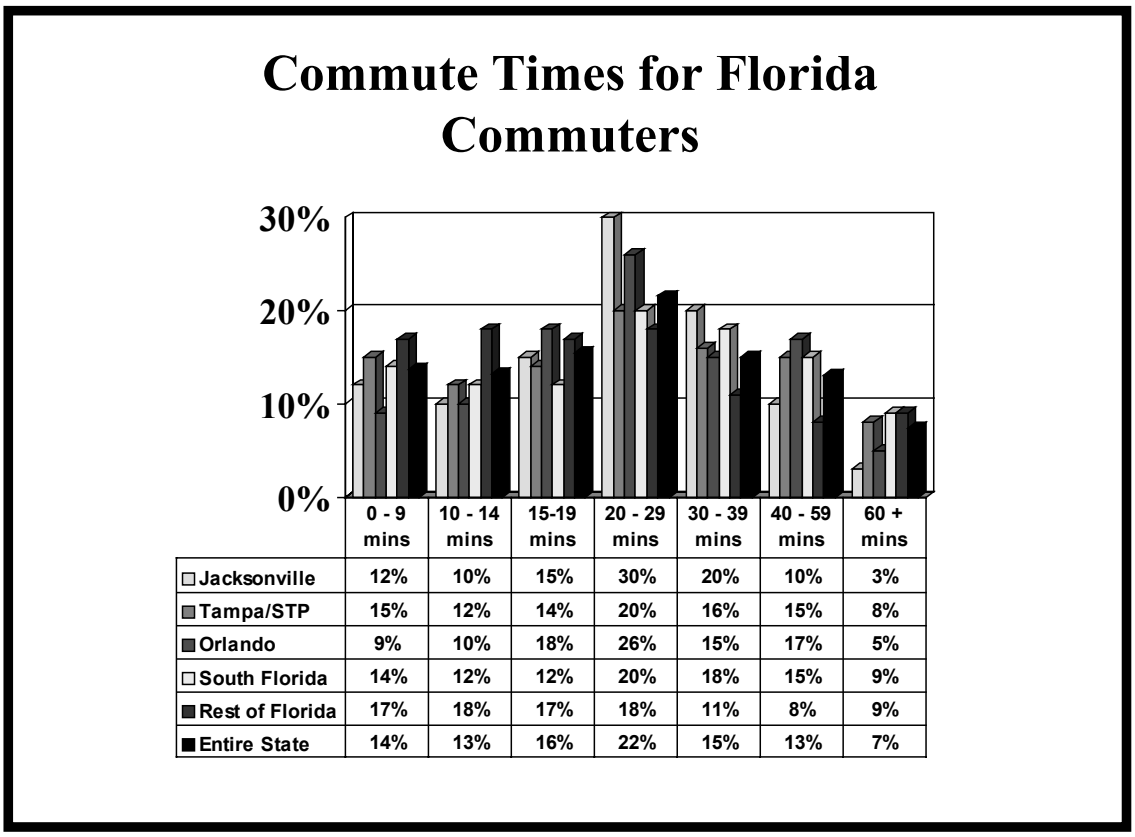
	0 - 4 M	5 - 9 M	10 - 14 M	15 - 19 M	20 - 29 M	30 + M
Jacksonville	18%	23%	23%	16%	15%	6%
Tampa/STP	21%	24%	14%	12%	15%	14%
Orlando	15%	29%	20%	8%	15%	13%
South Florida	20%	22%	18%	14%	13%	12%
Rest of Florida	27%	22%	13%	12%	8%	18%
Entire State	21%	24%	17%	12%	12%	14%

Figure 1: Commute distances for Florida commuters.

For the entire state, 45% of commutes are less than 10 miles, and 14% are over 30 miles, with the rest evenly distributed between 10 and 30 miles. The shortest commutes occur in the less urbanized areas of Florida (49% under 10 miles). However, the less urbanized areas also have the highest proportion of 30+ miles commutes (18%). Within the major metropolitan areas, Jacksonville has the shortest commutes (only 6% over 30 miles, average 12.8 miles), while Tampa, Orlando, and South Florida have approximately equal average-length commutes, although the distributions are differently skewed – more 5-14 mile commutes in Orlando, more 0-9 mile commutes in Tampa, and the most even distribution in South Florida.

Commute Times

Commute times are, not surprisingly, closely related to commute distances (for the correlation of these two items for driving commuters, r = .74-.91 for all areas except South Florida, where r = .49). This is also reflected in the distributions of commute times, which mirror the distributions of distances in Figure 2.



	0 - 9 mins	10 - 14 mins	15-19 mins	20 - 29 mins	30 - 39 mins	40 - 59 mins	60 + mins
Jacksonville	12%	10%	15%	30%	20%	10%	3%
Tampa/STP	15%	12%	14%	20%	16%	15%	8%
Orlando	9%	10%	18%	26%	15%	17%	5%
South Florida	14%	12%	12%	20%	18%	15%	9%
Rest of Florida	17%	18%	17%	18%	11%	8%	9%
Entire State	14%	13%	16%	22%	15%	13%	7%

Figure 2: Commute times for Florida commuters.

The only major discrepancy is in the non-metropolitan areas, where the large number of 30+ miles commutes (18%) does not entail extremely long commute times (only 17% above 40 minutes).

Time of Commute Indexed

Commuters were also asked at what time they leave home to go to work and at what time they leave work to go home. By factoring in commute times, and adjusting for telecommuting and use of alternative modes (averaged over the past year), it is possible to estimate the percentage of commuter vehicles on the road at any given time. The following charts clearly show sharp spikes at 7 am and 8 am, and the sharpest at 5 pm, when about 20% of commuters are on the road. Calculated in 6-minute increments, these charts are shown in Figures 3-12.

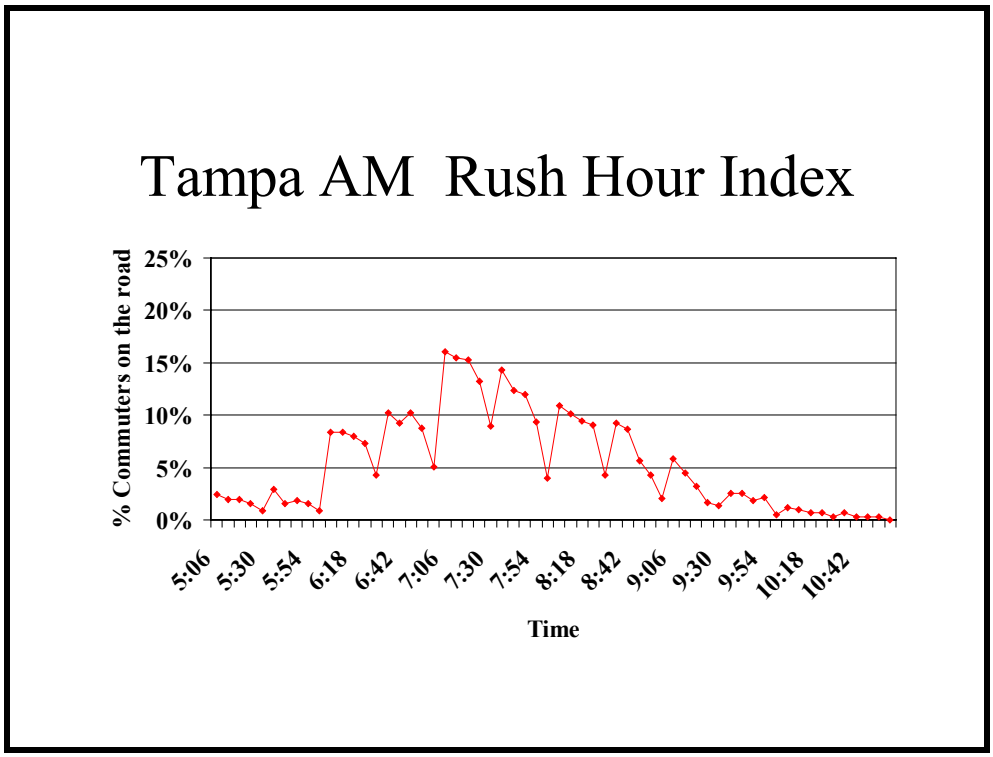


Figure 3: Tampa AM rush hour index.

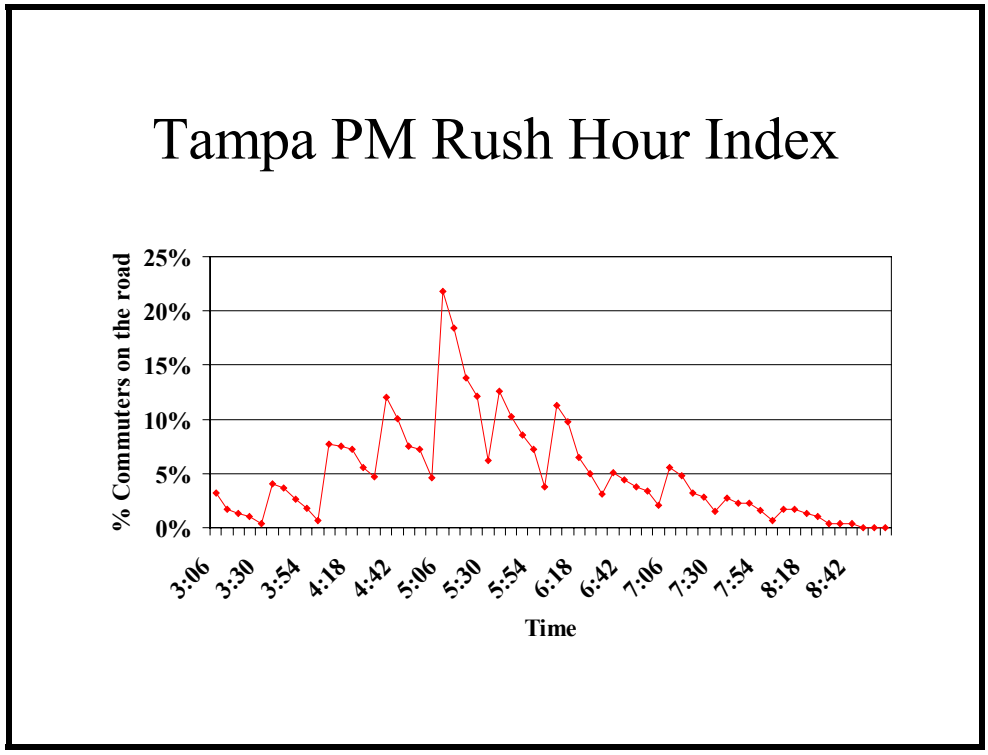


Figure 4: Tampa PM rush hour index.

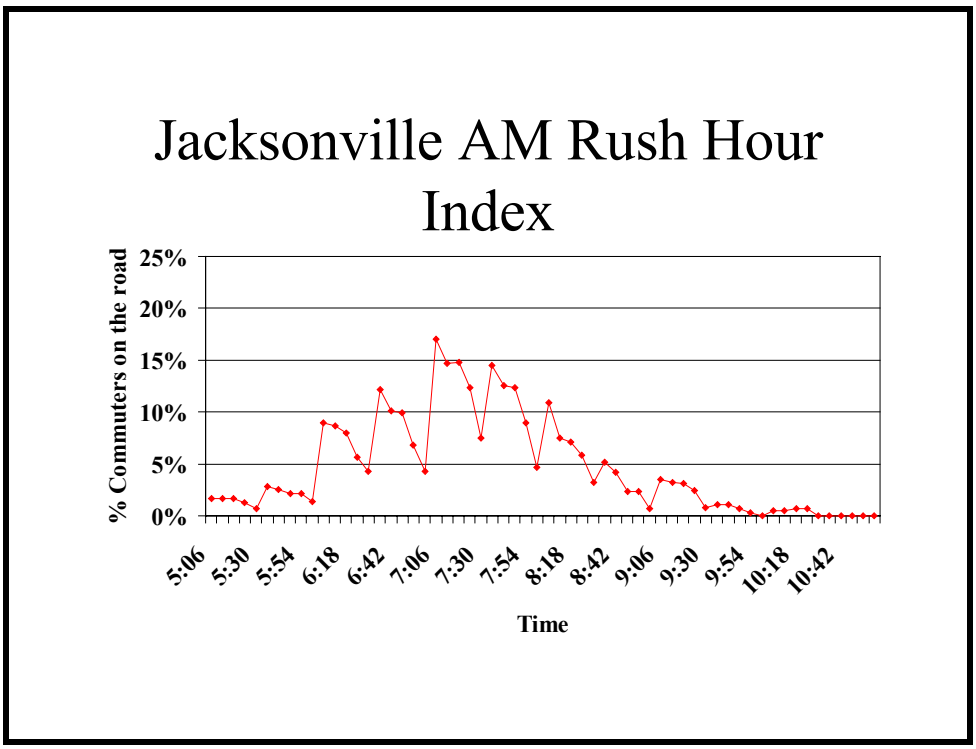


Figure 5: Jacksonville AM rush hour index.

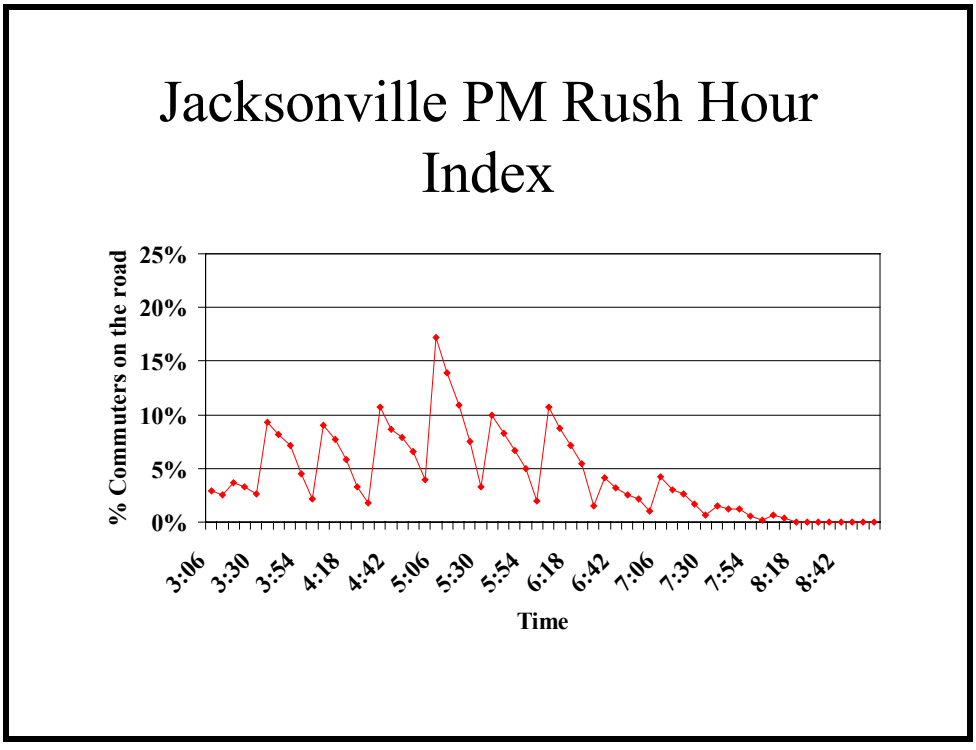


Figure 6: Jacksonville PM rush hour index.

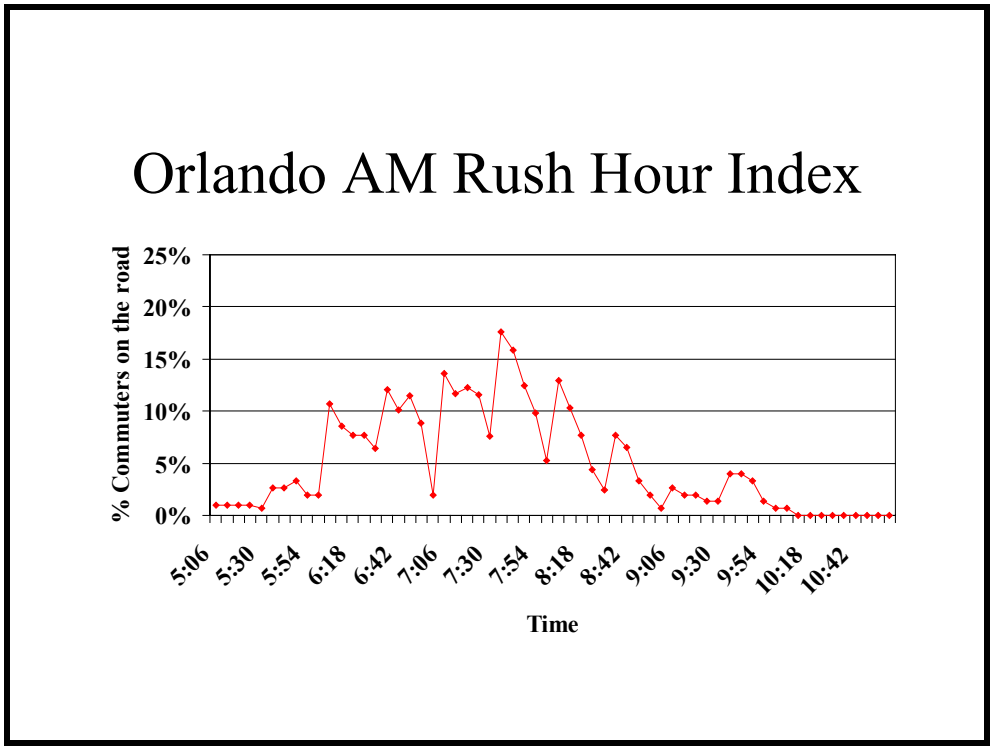


Figure 7: Orlando AM rush hour index.

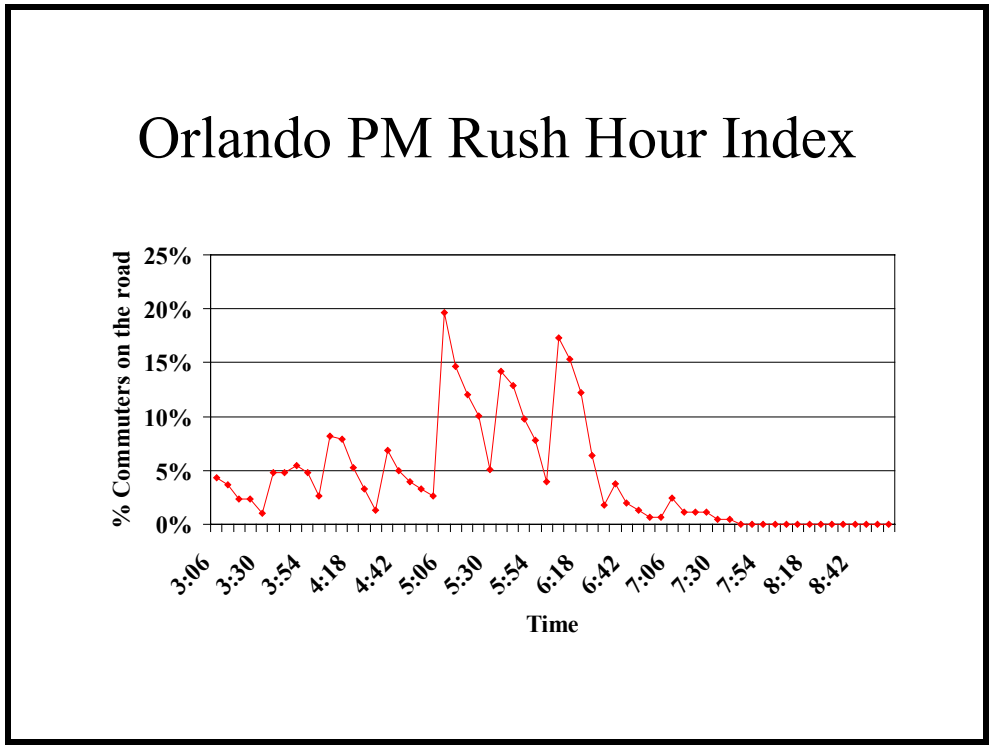


Figure 8: Orlando PM rush hour index.

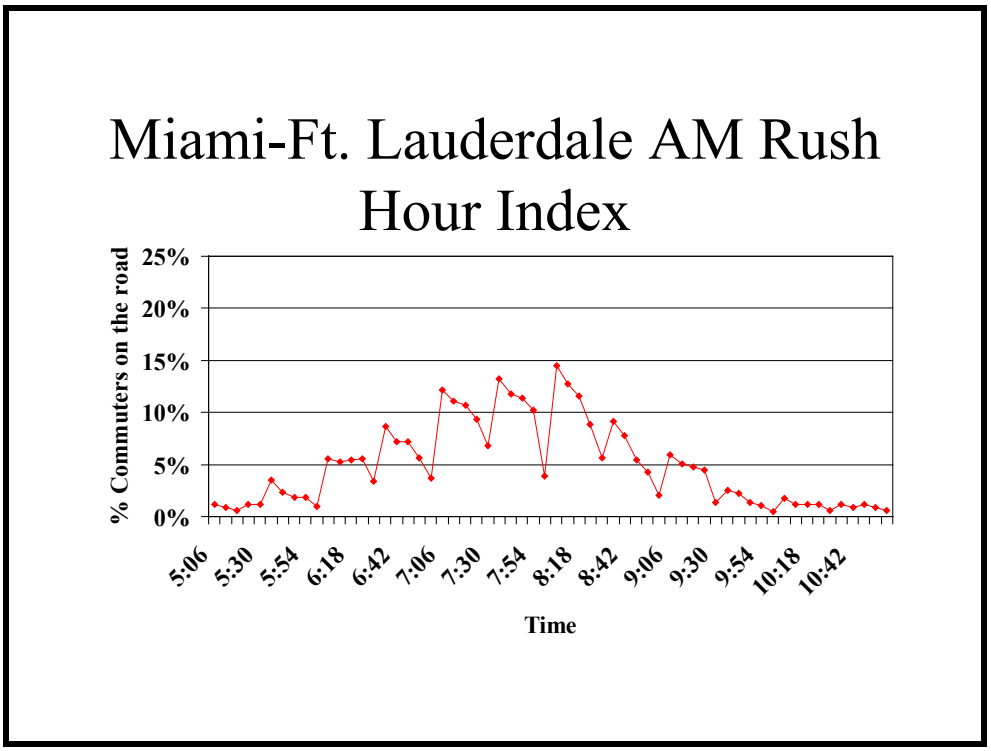


Figure 9: Miami-Ft. Lauderdale AM rush hour index.

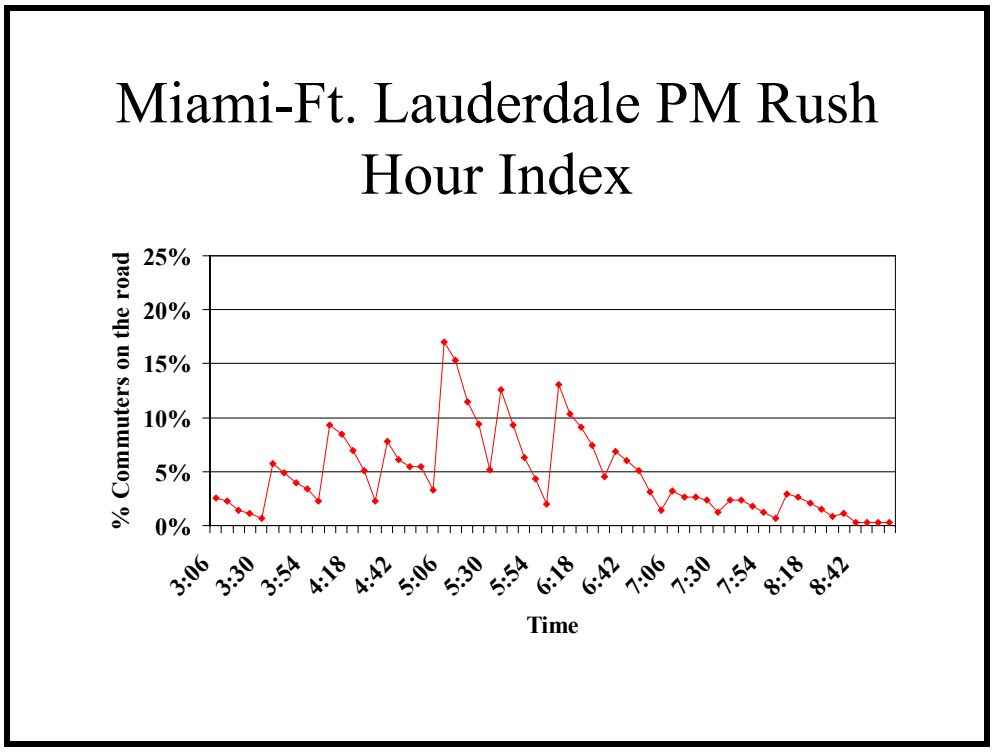


Figure 10: Miami-Ft. Lauderdale PM rush hour index.

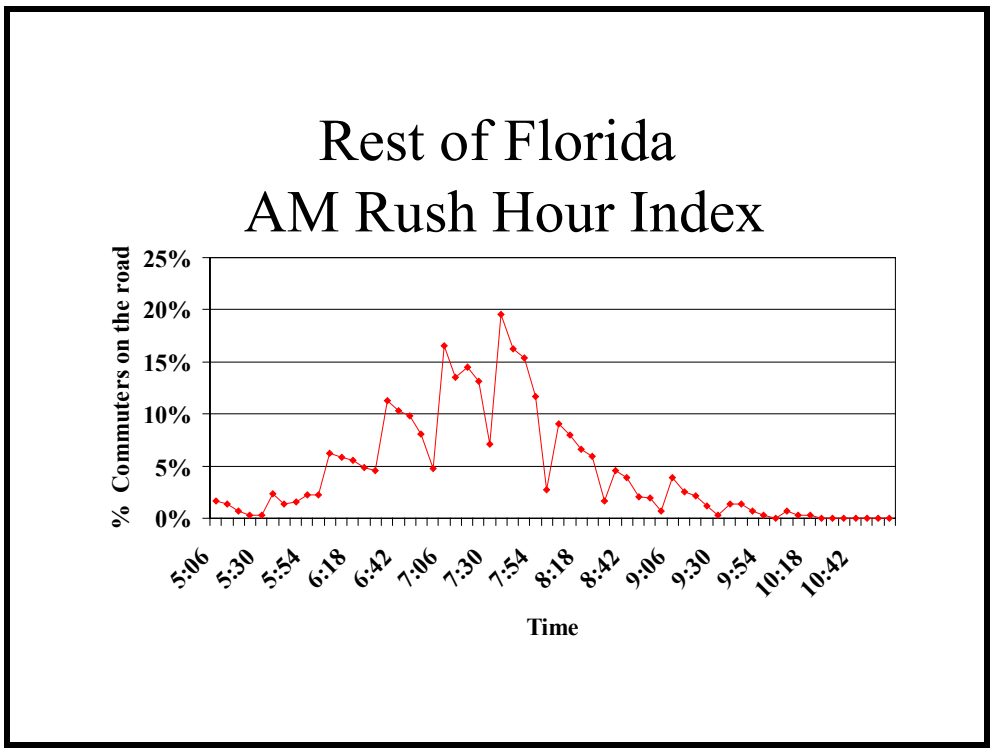


Figure 11: Rest of Florida AM rush hour index—
excludes Jacksonville, Tampa-St. Petersburg, Orlando and Miami-Ft. Lauderdale.

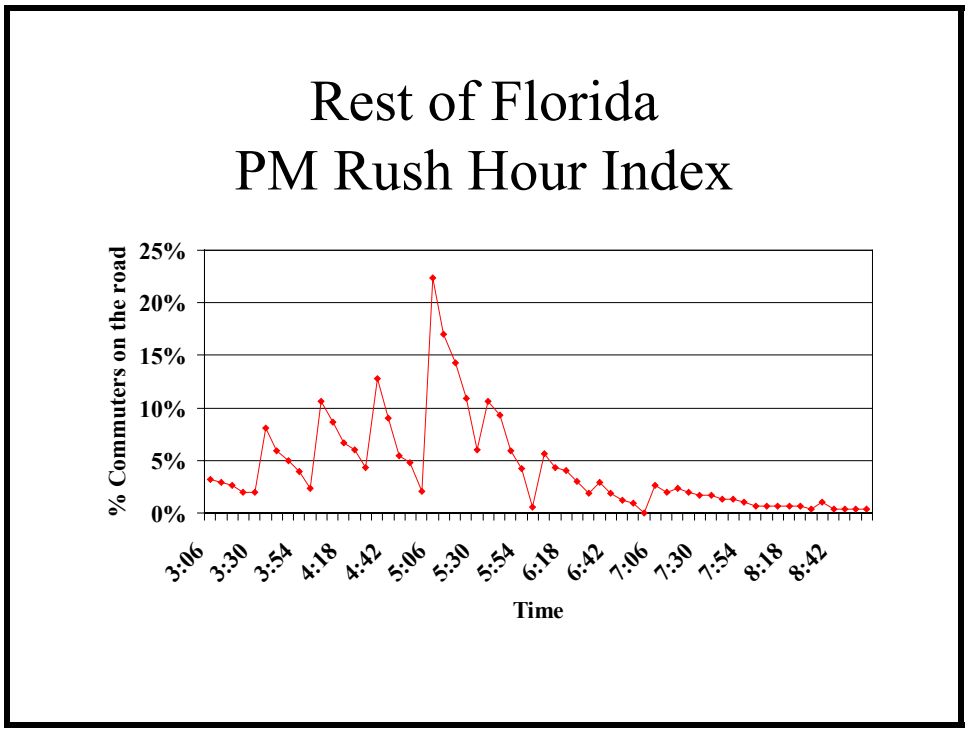
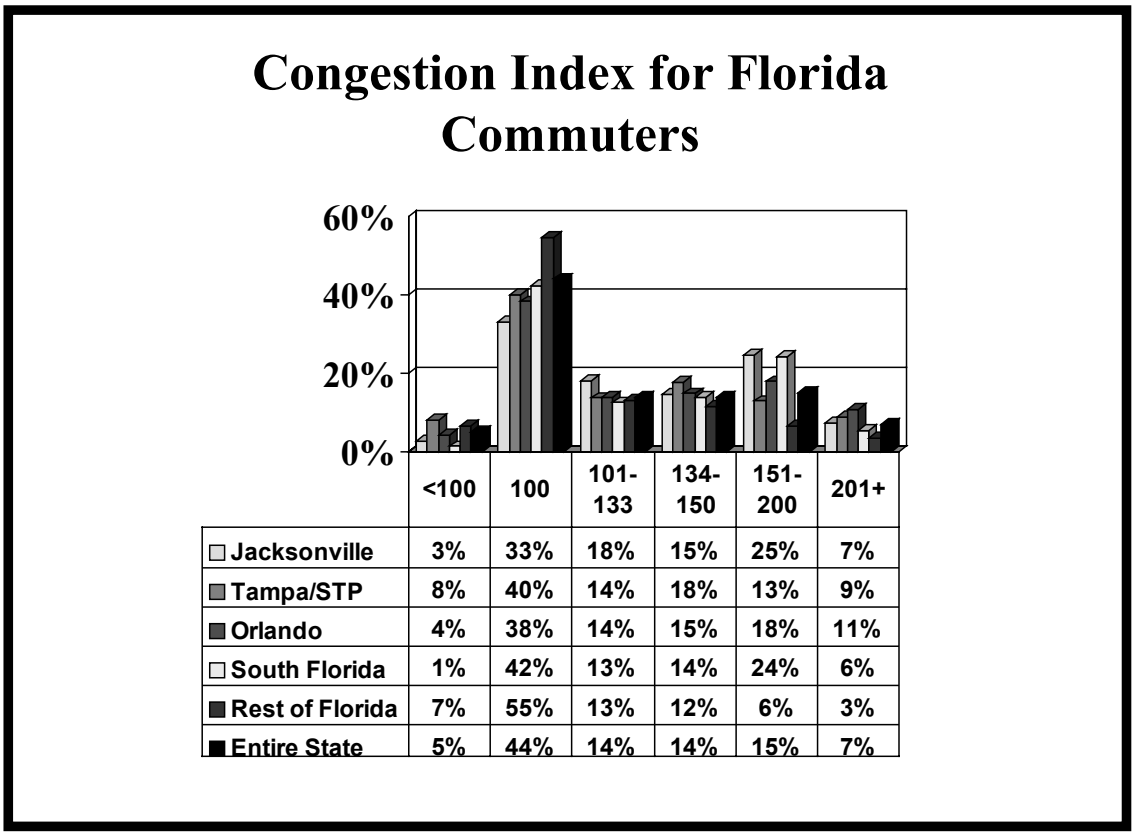


Figure 12: Rest of Florida PM rush hour index—
excludes Jacksonville, Tampa-St. Petersburg, Orlando and Miami-Ft. Lauderdale.

Congestion Index

Commuters were asked how long their commutes would take them on a Saturday or Sunday. The ratio of the usual commute time on weekdays to the length of time the same trip would take on a Saturday or Sunday, multiplied by 100, is referred to as the "congestion index" for that area. A comparison of the congestion indices across the state is presented in Figure 13.



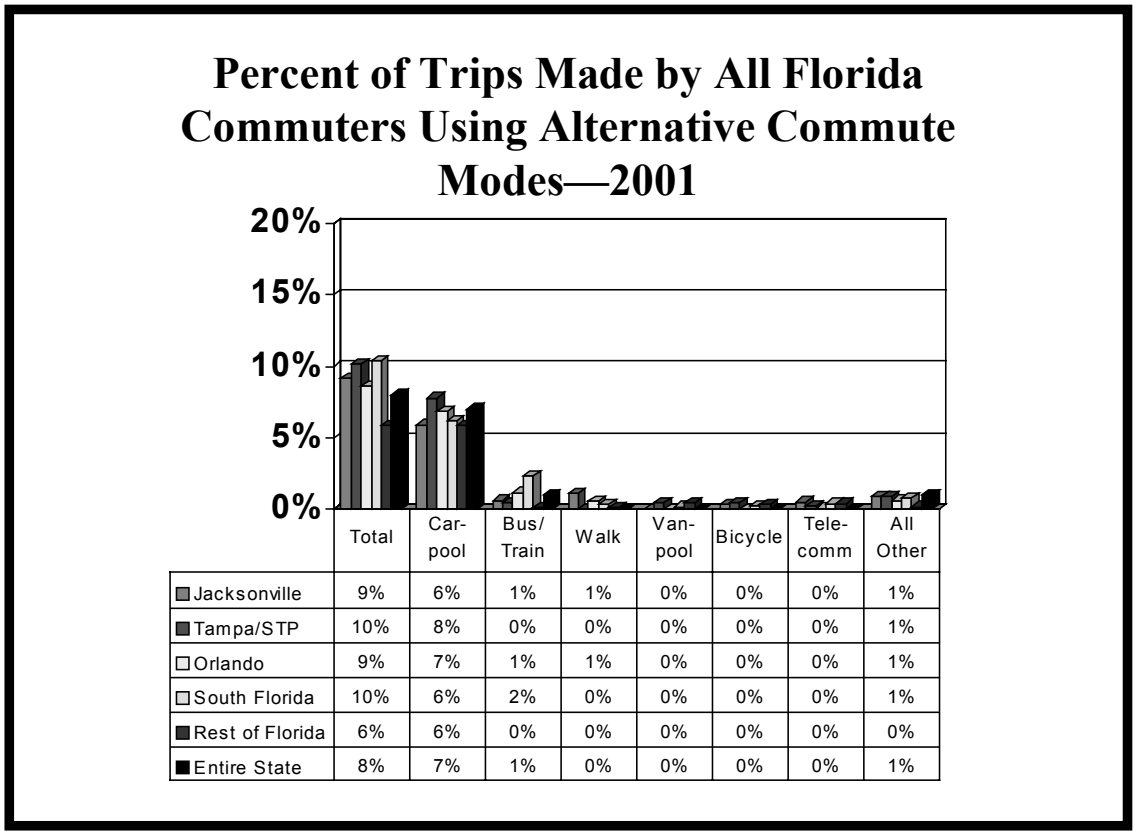
	<100	100	101-133	134-150	151-200	201+
Jacksonville	3%	33%	18%	15%	25%	7%
Tampa/STP	8%	40%	14%	18%	13%	9%
Orlando	4%	38%	14%	15%	18%	11%
South Florida	1%	42%	13%	14%	24%	6%
Rest of Florida	7%	55%	13%	12%	6%	3%
Entire State	5%	44%	14%	14%	15%	7%

Figure 13: Congestion index for Florida commuters.

More Orlando commuters face a congestion index of 200 (trips twice as long on weekday commutes as on weekends) than any other commuters in the state. Among the metropolitan areas, more Tampa commuters have a congestion index of 100 or less (meaning their commute is unaffected by congestion) than any others. Some caution is advised in interpreting this index since areas with heavy weekend traffic will show low "congestion indices." It may be advisable also to focus on congestion as a 7-day per week issue.

Use of Alternative Modes

Current use of alternative modes is shown in the following two charts. Figure 14 shows the simple result of percent of work trips currently conducted by alternative mode:

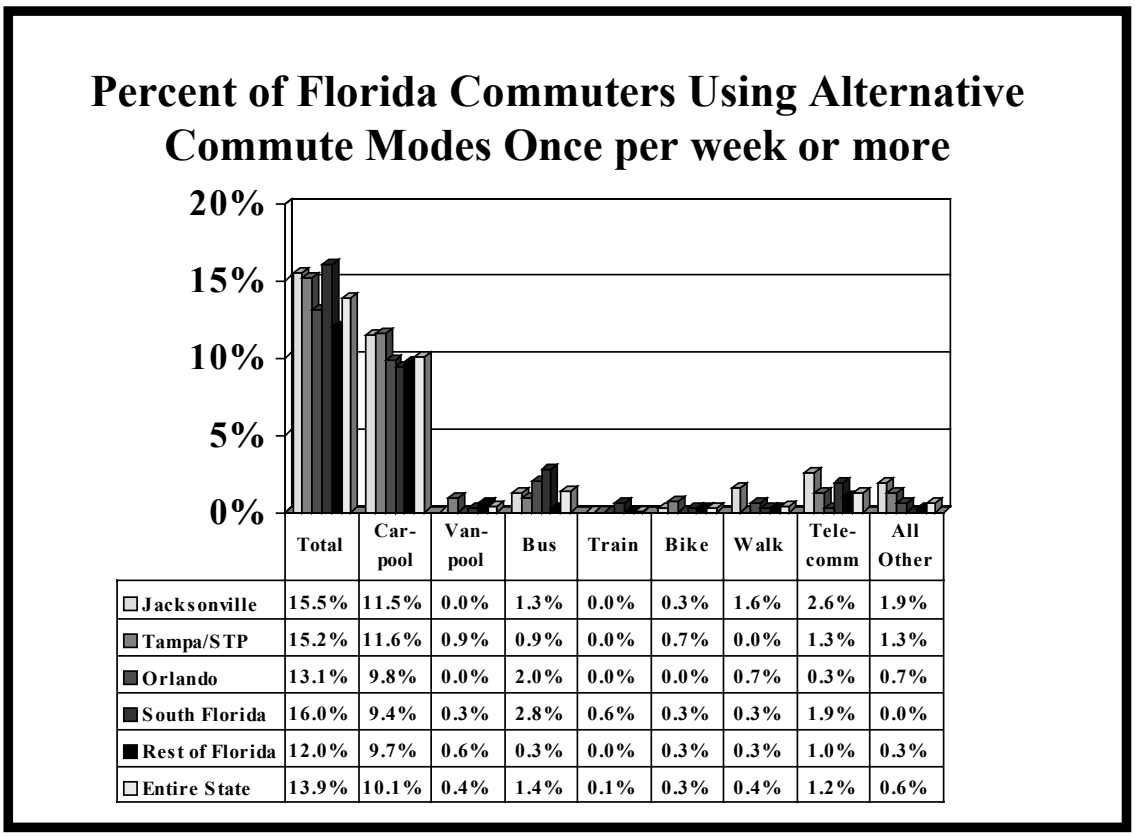


	Total	Car-pool	Bus/ Train	Walk	Van-pool	Bicycle	Tele-comm	All Other
Jacksonville	9%	6%	1%	1%	0%	0%	0%	1%
Tampa/STP	10%	8%	0%	0%	0%	0%	0%	1%
Orlando	9%	7%	1%	1%	0%	0%	0%	1%
South Florida	10%	6%	2%	0%	0%	0%	0%	1%
Rest of Florida	6%	6%	0%	0%	0%	0%	0%	0%
Entire State	8%	7%	1%	0%	0%	0%	0%	1%

Figure 14: Percent of trips made by all Florida commuters using alternative commute modes—2001.

The rate of alternative mode use does not vary much around the state, with the exception that total alternative mode use is higher in the major metropolitan areas than in the rest of the state.

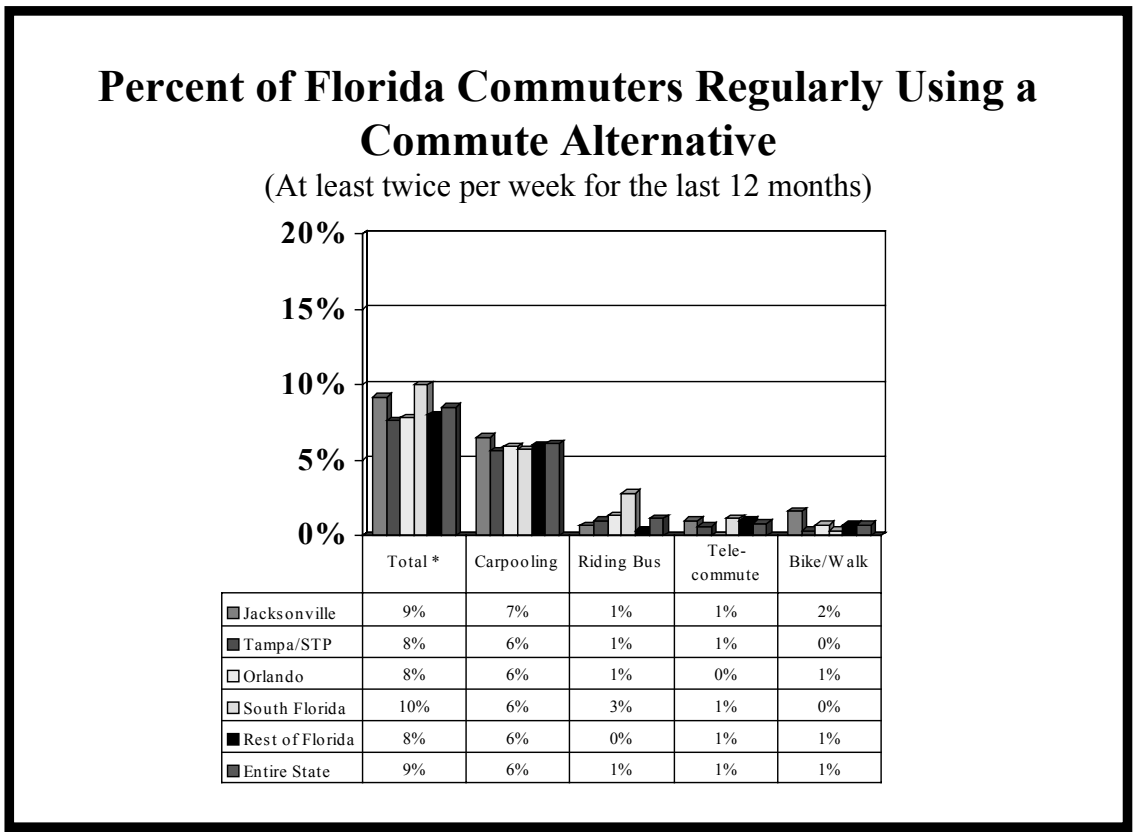
Figure 15 shows the total alternative mode use, at least once per week, by commuters in Florida. This chart takes into account part-time mode use to a greater degree than does the chart in Figure 14 (since anyone using an alternative mode even once per week is counted as being an "alternative mode user"). Also, the totals do not reflect a simple addition of the components since some respondents use more than one alternate mode.



	Total	Car-pool	Van-pool	Bus	Train	Bike	Walk	Tele-comm	All Other
Jacksonville	15.5%	11.5%	0.0%	1.3%	0.0%	0.3%	1.6%	2.6%	1.9%
Tampa/STP	15.2%	11.6%	0.9%	0.9%	0.0%	0.7%	0.0%	1.3%	1.3%
Orlando	13.1%	9.8%	0.0%	2.0%	0.0%	0.0%	0.7%	0.3%	0.7%
South Florida	16.0%	9.4%	0.3%	2.8%	0.6%	0.3%	0.3%	1.9%	0.0%
Rest of Florida	12.0%	9.7%	0.6%	0.3%	0.0%	0.3%	0.3%	1.0%	0.3%
Entire State	13.9%	10.1%	0.4%	1.4%	0.1%	0.3%	0.4%	1.2%	0.6%

Figure 15: Percent of Florida commuters using alternative commute modes once per week or more.

Overall, alternate mode use is highest in Jacksonville, Tampa, and Miami/Fort Lauderdale than in the rest of the state. This is also reflected in Figure 16, which breaks down alternate mode users into the categories of regular and occasional users, as well as showing how many people are former or trial users.



	Total *	Carpooling	Riding Bus	Tele-commute	Bike/Walk
Jacksonville	9%	7%	1%	1%	2%
Tampa/STP	8%	6%	1%	1%	0%
Orlando	8%	6%	1%	0%	1%
South Florida	10%	6%	3%	1%	0%
Rest of Florida	8%	6%	0%	1%	1%
Entire State	9%	6%	1%	1%	1%

Figure 16: Percent of Florida commuters regularly using a commute alternative.

Analysis of Average Trips and Miles Reduced by Mode

Using a battery of questions to determine commuting patterns, CUTR developed estimates of total trips reduced by mode and total vehicle miles reduced by mode for the past year, using the following assumptions:

1. Commuters work 49 weeks per year.
2. For all commuters who have not used an alternative mode for the entirety of the prior year, it is conservatively assumed that they have been using the alternative mode for 4 months. (For carpoolers and vanpoolers, the question was asked directly).
3. The number of trips reduced is 1, except for carpoolers and vanpoolers, where the number of trips reduced is:

   (number of passengers – 1) / the number of passengers.

The results of the analysis are shown in Tables 1-6.

It should be noted that all of these figures are on a *per commuter* basis. The total employed labor force not working at home, drawn from the 2000 Florida Statistical Abstracts, adjusted downward for those working at home, is as follows:

Jacksonville	513,249	(Duval, Clay, Nassau, St. John's)
Tampa/St. Pete	1,171,995	(Hillsborough, Hernando, Pinellas, Pasco, Citrus)
Miami/Fort Lauderdale	2,163,679	(Broward, Miami-Dade, Palm Beach)
Orlando	840,995	(Orange, Seminole, Lake, Osceola)
Rest of Florida	2,250,442	
Total Florida	6,940,360	

So, to calculate trips reduced for any area, one would take the trips reduced per commuter from the appropriate table, and multiply that number by the number of commuters listed above.

The statistics included in the tables are defined as follows:

Mean Trips Reduced: Refers to the calculation of how many fewer trips are made per year as a result of the use of alternative modes. For instance, using a two-person carpool would reduce one-half a trip per day each way. Riding a bus would reduce one trip per day each way. Reductions are calculated *per average commuter*, to facilitate making estimates for regions and sub-regions.

Mean Miles Reduced: Refers to the calculation of how many fewer miles are driven per year as a result of the use of alternative modes. It is calculated by multiplying the trip distance by the trips reduced, as above.

Mean Trips Provided: Refers to how trips are made using alternative modes per year. For instance, using a carpool or riding a bus would be *provided* one trip per day each way.

95% Confidence Interval (C.I.): A calculation of the range in which the true result for the area falls, due to sampling error. Thus, for carpooling in South Florida, the true trips reduced are somewhere between 12.6-5.6=7 and 12.6+5.6=18.2 trips per year.

Table 1

Total Annual Trip and VMT Statistics Per Commuter South Florida (2,163,679 commuters)									
Mode	**Mean Trips Reduced**		**95% C. I.**	**Mean Miles Reduced**		**95% C. I.**	**Mean Trips Provided**		**95% C. I.**
	2000	2001	2001	2000	2001	2001	2000	2001	2001
Carpool	13.9	12.6	5.6	162.6	177.8	86.6	24.0	21.7	9.1
Vanpool	0.2	0.0	0.0	5.8	0.0	0.0	0.25	0.0	0.0
Bus	3.6	10.5	6.8	62.9	135.6	106.8	3.6	10.5	6.8
Train	0.0	0.8	1.4	0.1	12.3	18.6	0.0	0.8	1.4
Biking	4.1	0.3	0.5	23.0	0.3	0.6	4.1	0.3	0.5
Walking	2.4	1.7	3.3	3.6	1.8	3.5	2.4	1.7	3.3
Telecommuting	1.9	3.2	2.6	25.8	29.9	31.9	1.9	3.2	2.6
All Other	1.8	3.8	3.7	1.7	4.0	3.9	1.8	3.8	3.7
CP & VP	14.1	12.6	5.6	168.4	177.8	86.6	24.3	21.7	9.1
Total Reduced	28.0	32.8	10.3	285.6	361.6	140.9	38.2 provided	41.9 provided	12.6
Total Sample	486 total trips	498 total trips	7.4	6733 total miles	7222 total miles	842	486 total trips	498 total trips	7.4

Table 2

Total Annual Trip and VMT Statistics Per Commuter Tampa/St. Petersburg/Clearwater (1,171,995 commuters)						
Mode	**Mean Trips Reduced**	**95% C. I.**	**Mean Miles Reduced**	**95% C. I.**	**Mean Trips Provided**	**95% C. I.**
	2001	2001	2001	2001	2001	2001
Carpool	12.6	5.8	267.2	175.0	22.4	10.1
Vanpool	1.6	2.3	45.4	86.8	1.7	2.7
Bus	2.3	3.0	22.4	31.3	2.3	3.0
Train	0.0	0.0	0.0	0.0	0.0	0.0
Biking	1.7	3.2	3.05	4.2	1.7	3.2
Walking	0.0	0.0	0.0	0.0	0.0	0.0
Telecommuting	2.3	2.5	42.0	54.8	2.3	2.5
All Other	4.2	4.7	4.4	4.9	4.2	4.7
CP & VP	14.2	6.4	312.6	194.5	6.4	10.5
Total Reduced	24.6	9.3	384.5	203.4	34.6 provided	12.4
Total Sample	491.3 total trips	7.6	7515 total miles	962	491.3 total trips	7.6

Table 3

Total Annual Trip and VMT Statistics Per Commuter Jacksonville (513,249 commuters)						
Mode	**Mean Trips Reduced**	**95% C. I.**	**Mean Miles Reduced**	**95% C. I.**	**Mean Trips Provided**	**95% C. I.**
	2001	2001	2001	2001	2001	2001
Carpool	12.5	5.5	123.1	69.6	21.5	9.3
Vanpool	0.0	0.0	0.0	0.0	0.0	0.0
Bus	2.1	2.9	17.3	27.1	2.1	2.9
Train	0.0	0.0	0.0	0.0	0.0	0.0
Biking	1.6	3.2	8.4	16.5	1.6	3.2
Walking	5.2	5.5	4.3	4.9	5.2	5.5
Telecommuting	4.6	4.1	38.1	38.3	4.6	4.1
All Other	4.4	4.3	3.6	3.6	4.4	4.3
CP & VP	12.5	5.5	69.6	69.6	21.5	9.3
Total Reduced	30.3	10.9	194.6	87.2	39.3 provided	13.3
Total Sample	496.1 total trips	7.0	6463 total miles	763	496.1 total trips	7.0

Table 4

Total Annual Trip and VMT Statistics Per Commuter Orlando (840,995 commuters)						
Mode	**Mean Trips Reduced**	**95% C. I.**	**Mean Miles Reduced**	**95% C. I.**	**Mean Trips Provided**	**95% C. I.**
	2001	2001	2001	2001	2001	2001
Carpool	12.9	7.5	293.5	276.9	24.6	14.0
Vanpool	0.0	0.0	0.0	0.0	0.0	0.0
Bus	5.3	7.9	13.9	23.5	5.3	7.9
Train	0.0	0.0	0.0	0.0	0.0	0.0
Biking	0.0	0.0	0.0	0.0	0.0	0.0
Walking	2.6	5.0	0.0	0.0	2.6	5.0
Telecommuting	2.6	2.5	21.9	39.1	2.6	2.5
All Other	0.3	0.6	0.3	0.6	0.3	0.6
CP & VP	12.9	7.5	293.5	276.9	24.6	14.0
Total Reduced	23.7	13.0	329.6	295.3	35.3 provided	17.7
Total Sample	496.4 total trips	10.9	7648 total miles	1314	496.4 total trips	10.9

Table 5

Total Annual Trip and VMT Statistics Per Commuter Rest of Florida (2,250,442 commuters)						
Mode	**Mean Trips Reduced**	**95% C. I.**	**Mean Miles Reduced**	**95% C. I.**	**Mean Trips Provided**	**95% C. I.**
	2001	2001	2001	2001	2001	2001
Carpool	12.8	5.7	231.3	158.9	23.3	10.3
Vanpool	1.3	2.5	68.8	134.9	1.4	2.8
Bus	0.3	0.6	5.1	9.9	0.3	0.6
Train	0.0	0.0	0.0	0.0	0.0	0.0
Biking	1.6	3.2	0.0	0.0	1.6	3.2
Walking	0.7	1.3	1.3	2.6	0.7	1.3
Telecommuting	3.6	4.3	77.5	133.4	3.6	4.3
All Other	0.8	1.6	0.8	1.7	0.8	1.6
CP & VP	14.0	6.2	300.2	207.5	24.8	10.6
Total Reduced	21.1	8.5	384.9	246.3	31.8 provided	12.2
Total Sample	500.8 total trips	6.9	7949 total miles	1090	500.8 total trips	6.9

Table 6

Total Annual Trip and VMT Statistics Per Commuter State of Florida (6,940,351 commuters)						
Mode	**Mean Trips Reduced**	**95% C. I.**	**Mean Miles Reduced**	**95% C. I.**	**Mean Trips Provided**	**95% C. I.**
	2001	2001	2001	2001	2001	2001
Carpool	12.7	2.7	220.6	65.0	22.7	4.6
Vanpool	0.7	0.8	30.2	40.0	0.8	0.9
Bus	4.5	2.3	50.2	33.1	4.5	2.3
Train	0.2	0.4	3.8	5.6	0.2	0.4
Biking	1.0	1.1	1.2	2.2	1.0	1.1
Walking	1.4	1.3	1.3	1.4	1.4	1.3
Telecommuting	3.2	1.6	71.7	49.3	3.2	1.6
All Other	2.5	1.6	2.5	1.6	2.5	1.6
Total Reduced	26.3	4.6	382	96.4	36.4 provided	5.9
Total Sample	498 total trips	3.5	7481 total miles	449	498 total trips	3.5

Although the question was not asked directly, using arrival and departure times from work and the number of days worked, it is possible to estimate the number of commuters that are currently working compressed work schedules. Using only commuters who work at least 36 hours per week, but commute less than five days as a basis for defining "Compressed Work Weeks," the data indicate that about 4.5% of respondents have a compressed work schedule. This is not used in formal trip reduction calculations because of the indirect method of estimating Compressed Work Weeks. However, it seems possible that nearly as many people work a Compressed Work Week as telecommute.

Variables Related to Mode Choice

A statistical analysis of the use of alternative modes was conducted using the SAS GLM (General Linear Models) procedure. Use of any given mode was used as the dependent variable, and the following independent variables were used:

- Commute distance;
- Age;
- Gender;
- Income;
- Number of vehicles in the household;
- Presence of children under the age of 16 in the household; and,
- Race (identified as a categorical variable).

The analysis was not intended to provide a predictive model of mode choice, but rather to identify variables that seemed to be related to mode choice. The analysis showed that compared to a 10% overall rate, those aged 18-24 had a 24% rate of carpooling during the work week (i.e. used carpooling at least once), whereas members of other age groups were usually around 10%. The analysis further showed, compared to an overall rate of transit use under 2%, that those households with no vehicles had a 33% rate of transit use during the work week, and that African Americans and 'Other' (non-specified) races had a 6% rate of transit use. No other demographic variables were significantly related to mode choice.

Marketing Impact and Behavioral Influence

The primary purpose of a Commuter Assistance Program is to influence travel behavior. Travel behavior baseline data were measured and the results of these measurements were presented in the previous section.

However, it is also necessary to measure the effectiveness of the methods used in trying to influence behavior as well as the direct behavioral results themselves. Methods of influencing behavior measured in this survey of the general public were essentially three-fold:

1. Use mass media advertising to promote the *idea* or *concept* of carpooling, vanpooling and transit use.
2. Use mass media advertising to inform people that there is an organization (and/or a specific number) where you will be provided with information to help you start carpooling and vanpooling.
3. Work through large employers to set up programs that will encourage ridesharing.

The following elements are measurable from the surveys of the general public:

- Awareness of CAP advertising;
- Content recall;
- Unaided and aided awareness of the CAP and the CAP telephone number;
- Stated mode choice effects of advertising for those who saw/heard advertising; and,
- Correlation of advertising awareness and mode choice.

It is clearly important to measure direct stated effects of advertising, and to develop trends of the stated effects. Where possible, it is also important to examine the correlations between advertising awareness (as well as awareness of the CAP) and mode choice that do not necessarily involve "stated" effects. Survey respondents have a difficult enough time recalling messages or advertising that they heard. It can be extremely difficult for them to remember the various causes of behavior changes (such as changes in mode choice), and particularly to recall the relative importance of the different causes. This is not to say that questions about influence of advertising messages should not be asked—they should be asked, and the trends of answers to

such questions are meaningful. However, these direct, stated data should not be the sole basis for analysis. It is equally (and perhaps more) important to examine various non-stated correlations to provide supplementary information about the effects of advertising on mode choices.

Advertising Awareness

Figure 17 shows recall of any carpool/vanpool related advertising or messages in each of the market areas.

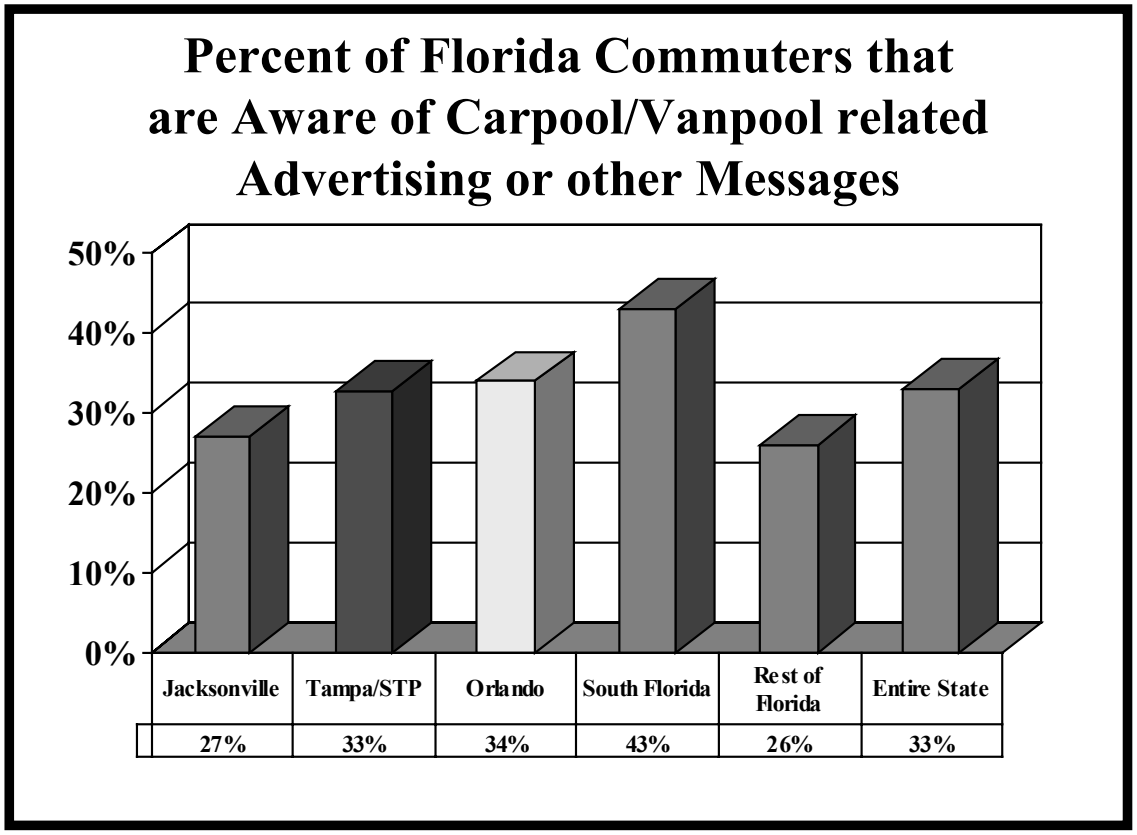


Figure 17: Percent of Florida commuters that are aware of carpool/vanpool related advertising or other messages.

The South Florida area has the highest recall of advertising messages. Orlando and Tampa/St. Petersburg have the next highest, and Jacksonville is about even with the remainder of the state. It is quite possible that there is some 'noise' in this data that people recall seeing or hearing something that was not necessarily carpool or vanpool related. The important part of this finding

is to track changes over time, more so than the absolute level of the number. Comparisons between metropolitan areas are also of some value, although the local level of media advertising may impact the types of messages that people recall.

A statistical analysis of the use of advertising awareness was conducted using the SAS GLM (General Linear Models) procedure. Awareness of some type of carpool/vanpool advertising was used as the dependent variable, and the following independent variables were used:

- Commute distance;
- Age;
- Gender;
- Income;
- Number of vehicles in the household;
- Presence of children under the age of 16 in the household; and,
- Race (identified as a categorical variable)

The analysis was not intended to attempt to provide a predictive model of awareness, but rather to identify variables that seemed to be related to awareness. The analysis showed that the only demographic variable significantly related to awareness was income. This finding has been found to hold in previous studies conducted in South Florida. The analysis is summarized in Figure 18.

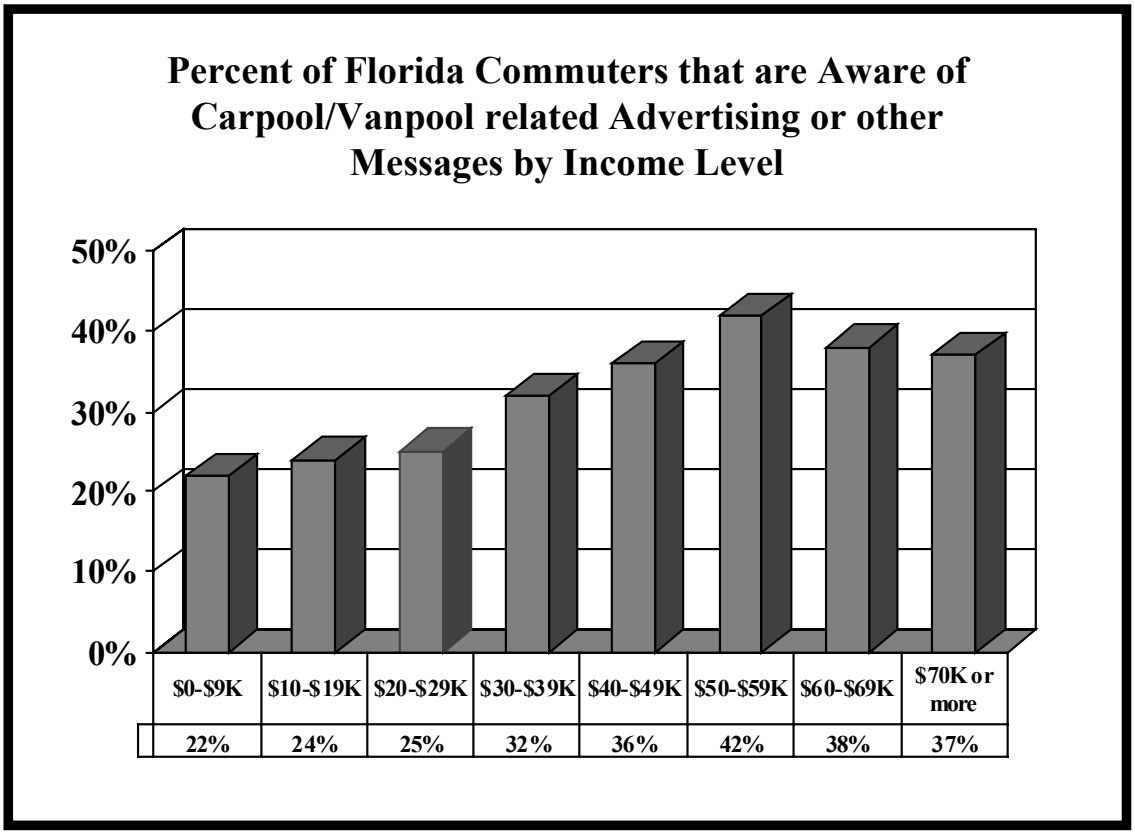


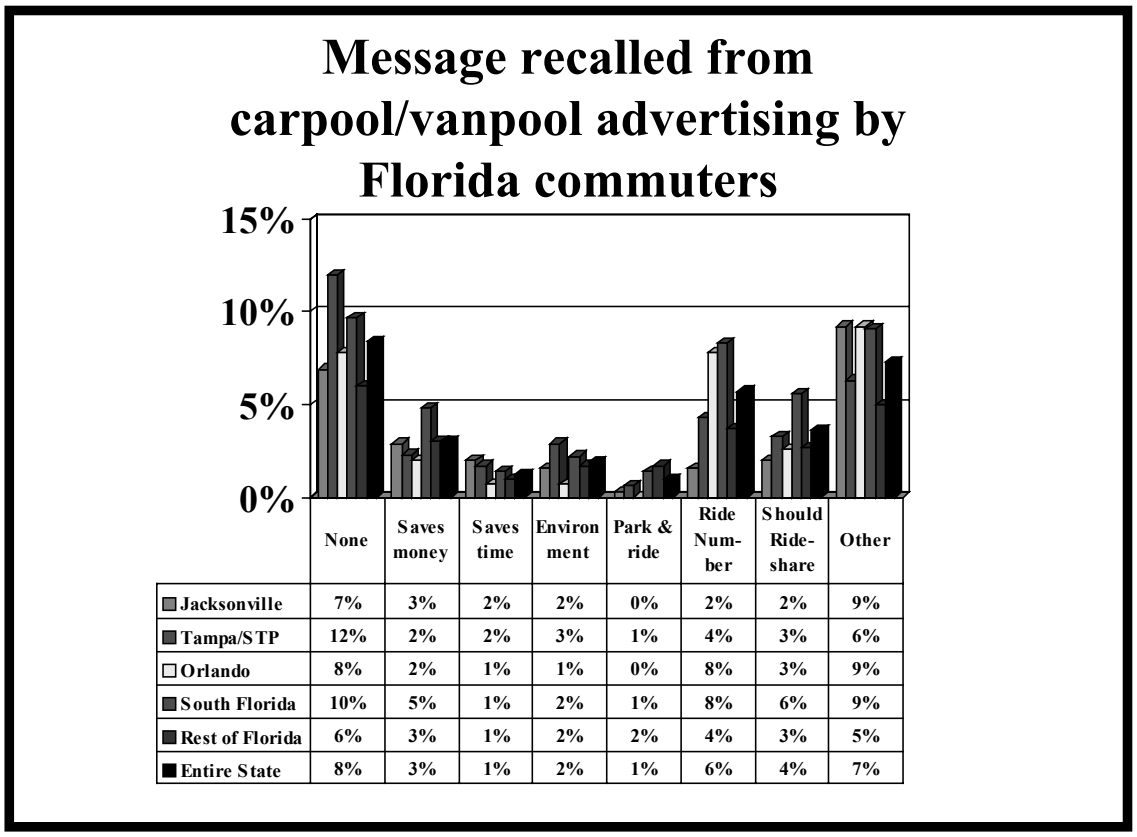
Figure 18: Percent of Florida commuters advertising awareness by income level.

Those households at mid-level incomes have the highest awareness of these advertisements. Previous analysis in South Florida has raised the question of whether this is the most effective targeting strategy for carpooling/vanpooling advertising (see the 2000 evaluation of South Florida Commuter Services for more information). There should be some consideration given to targeting advertising to lower-income groups that may be more likely to take advantage of these services.

Message Recall

Commuters were also asked what type of message they recalled from the advertising.

These figures are shown as the *percent of the total* population that recalls a specific type of message. This makes comparisons between different areas more concrete because there is no adjustment for awareness of messages. This data is summarized in Figure 19.



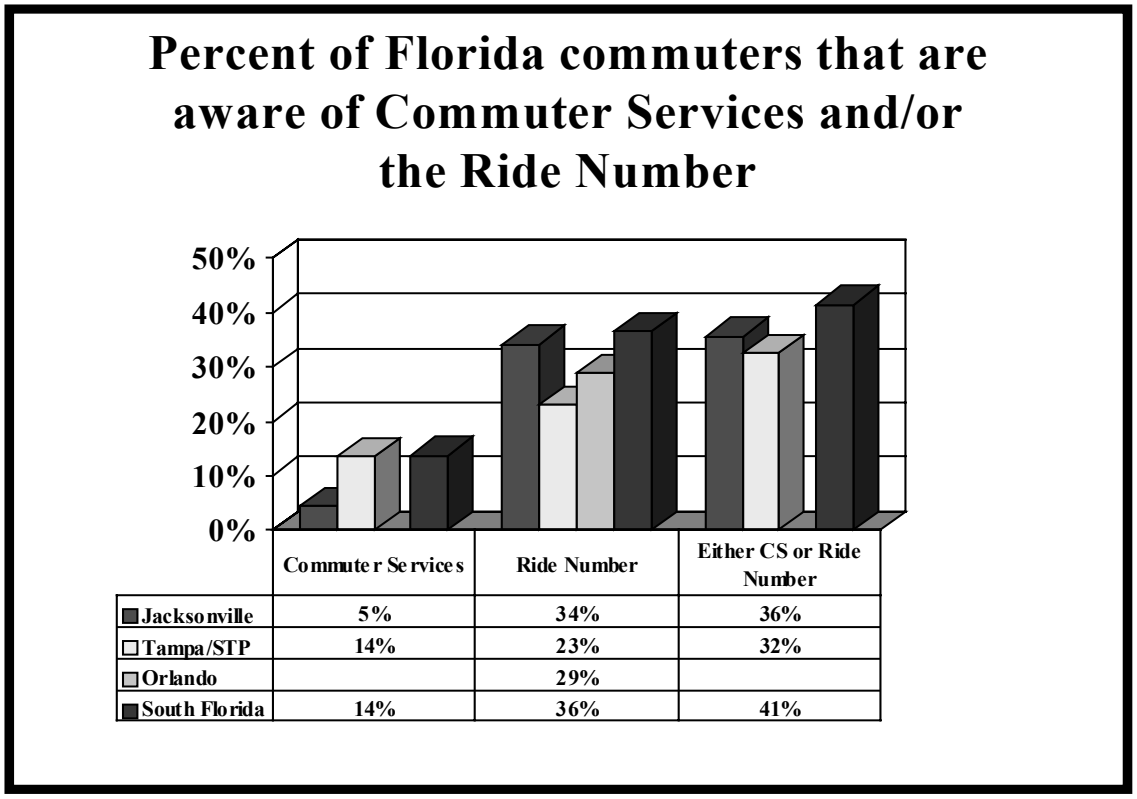
	None	Saves money	Saves time	Environment	Park & ride	Ride Number	Should Ride-share	Other
Jacksonville	7%	3%	2%	2%	0%	2%	2%	9%
Tampa/STP	12%	2%	2%	3%	1%	4%	3%	6%
Orlando	8%	2%	1%	1%	0%	8%	3%	9%
South Florida	10%	5%	1%	2%	1%	8%	6%	9%
Rest of Florida	6%	3%	1%	2%	2%	4%	3%	5%
Entire State	8%	3%	1%	2%	1%	6%	4%	7%

Figure 19: Message recalled from carpool/vanpool advertising by Florida commuters.

The "none" refers to the percent of people that remember some kind of message related to carpooling/vanpooling but cannot remember any specific content. In Orlando and South Florida, 8% recall some kind of Ride Number message, much higher than anywhere else in the state. The "Other" messages recalled are a host of different messages, none of which amount to more than 1% of responses.

Awareness of Local CAPs and CAP (Ride) Numbers

Perhaps more important than the message recall is recall of the Commuter Assistance Program and the Ride Number. In some areas, such as in South Florida, recall of the CAP name (South Florida Commuter Services) is not a major marketing priority. Recall of the Ride Number is perhaps the single most important measure of awareness of CAP activities. This measure is highest in Jacksonville and in South Florida, and lowest in Tampa among the Commuter Assistance Program cities where this survey was done in sufficient quantity for analysis.



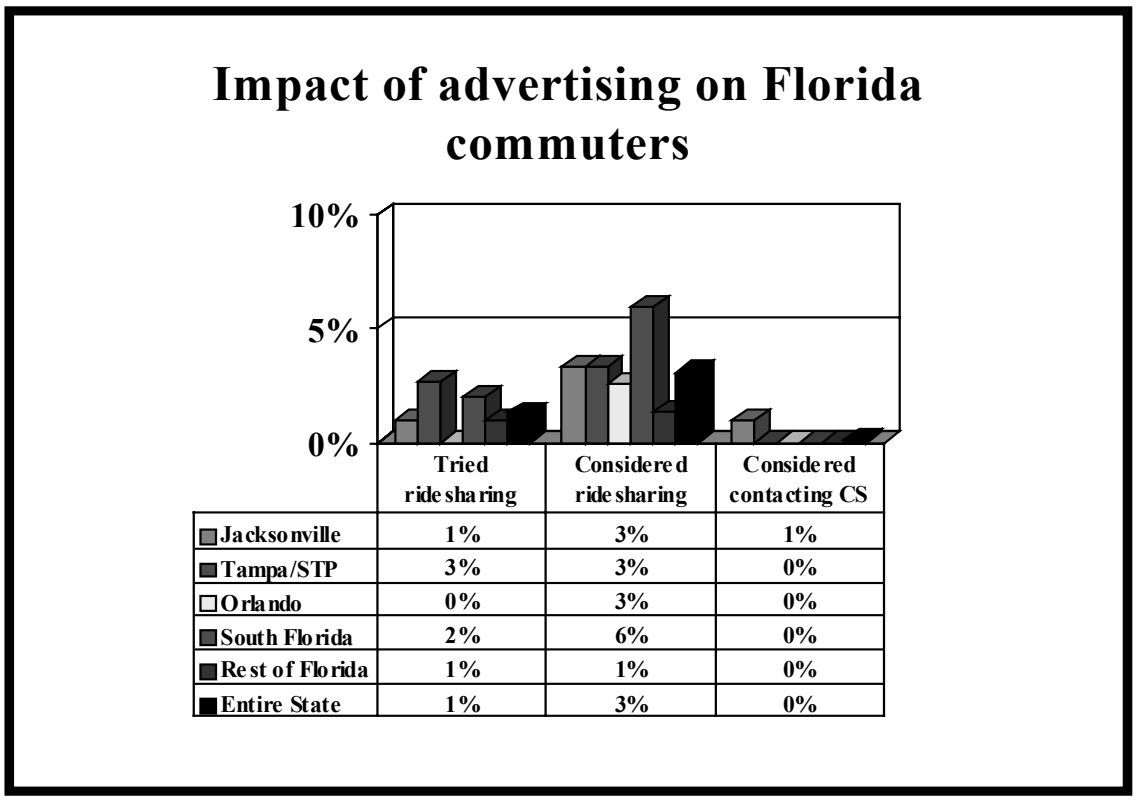
	Commuter Services	Ride Number	Either CS or Ride Number
Jacksonville	5%	34%	36%
Tampa/STP	14%	23%	32%
Orlando		29%	
South Florida	14%	36%	41%

Figure 20: Percent of Florida commuters that are aware of Commuter Services and/or the Ride Number.

This is a performance measure that should be carefully monitored from the general public's perspective. From this analysis, it is apparent that BACS, the Commuter Assistance Program in the Tampa/St. Petersburg area, should increase efforts to publicize the ride number so that people are aware it exists and that they can make use of it. Given limited budgets, it may be a good idea for BACS personnel to contact South Florida Commuter Services personnel to learn how they have publicized the number and kept awareness at the high levels that exist there.

Impact of Advertising on Commuters

The impact of advertising was also measured in terms of what people did when they heard or saw the advertising. This is shown in Figure 21.



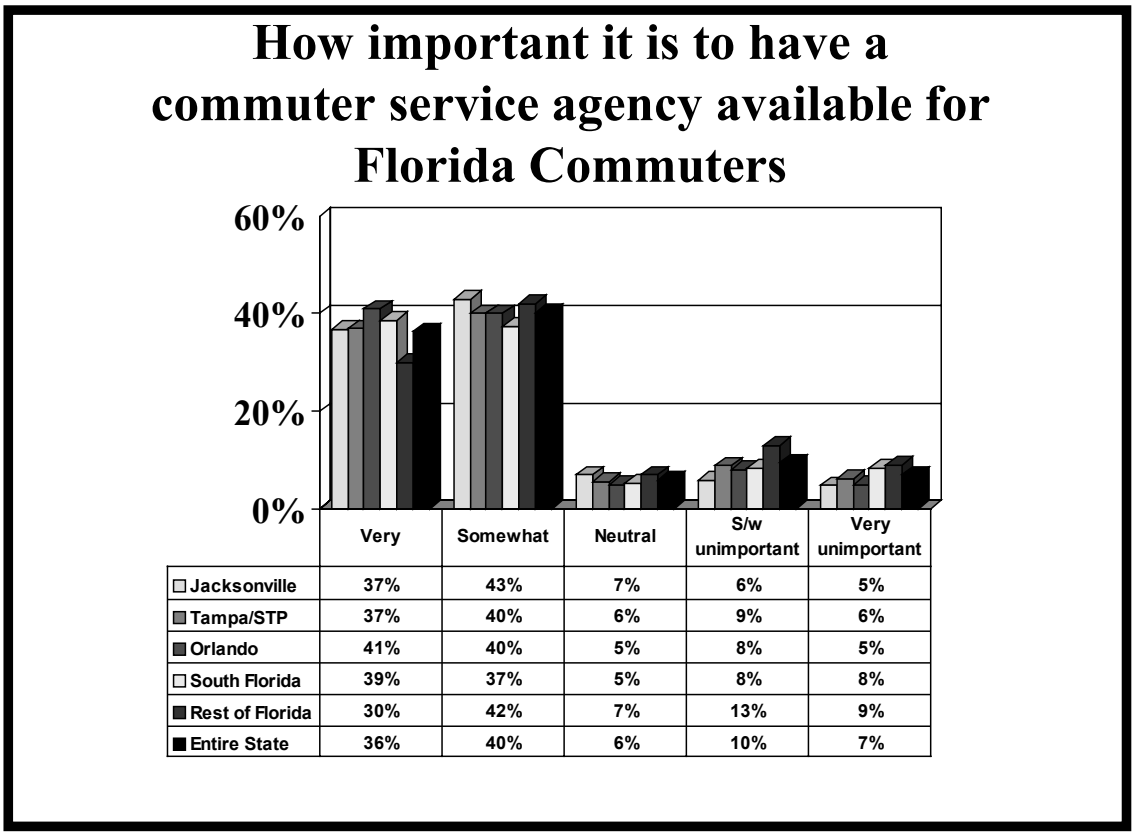
	Tried ridesharing	Considered ridesharing	Considered contacting CS
Jacksonville	1%	3%	1%
Tampa/STP	3%	3%	0%
Orlando	0%	3%	0%
South Florida	2%	6%	0%
Rest of Florida	1%	1%	0%
Entire State	1%	3%	0%

Figure 21: Impact of advertising on Florida commuters.

The confidence intervals about these numbers, particularly those who "tried ridesharing" are such that the results are not significantly different than 0 (although they are obviously greater than 0 to the extent that people who tried ridesharing were directly interviewed and other people clearly joined the database during the time period in question). Therefore, it is impossible to estimate with any certainty the number of people who tried ridesharing based on advertising. This type of performance is better measured through analysis of the number of calls received by the CAP and the number of people added to the database, which is analyzed for those programs (South Florida Commuter Services and BACS) that provided database sample for database interviews to be conducted. Other CAPS routinely provide this information to DOT via regular reports of required performance measures.

Public Support for CAPs

A very important question was asked of Florida residents regarding CAP operations, which was "how important is it to have a commuter assistance program available for your community?" Responses were collected on a "Very Important" – "Very unimportant" five point Likert-type scale. In all metropolitan areas, over 35% said it was "very important" and over 75% said it either "very" or "somewhat" important to have a service like this available. Much like support for transit service, many residents believe that this service is important even if they do not choose to use it personally.



	Very	Somewhat	Neutral	S/w unimportant	Very unimportant
Jacksonville	37%	43%	7%	6%	5%
Tampa/STP	37%	40%	6%	9%	6%
Orlando	41%	40%	5%	8%	5%
South Florida	39%	37%	5%	8%	8%
Rest of Florida	30%	42%	7%	13%	9%
Entire State	36%	40%	6%	10%	7%

Figure 22: How important it is to have a commuter service agency available for Florida commuters.

A statistical analysis of the use of support for CAPs was conducted using the SAS GLM (General Linear Models) procedure. Support for CAPs was used as the dependent variable, and the following list of independent variables were used:

- Commute distance;
- Age;
- Gender;
- Income;
- Number of vehicles in the household;
- Presence of children under the age of 16 in the household; and,
- Race (identified as a categorical variable).

The analysis was not intended to provide a predictive model of support for CAPS, but rather to identify variables that seemed to be related to support. The analysis showed that the demographic variables most highly related to support were gender and income. Other variables were not significantly related to support for the CAPs.

Females tended to provide a higher support rating (4.02 to 3.73). Also, those with lower incomes were more supportive (4.13 average for those with incomes under $20K, 4.00 average for those with incomes $20-$50K, and 3.75 for those with incomes over $50K). Overall levels of support are fairly high in all groups, so this dos not seem to indicate a great need to communicate the value of CAPS to any specific group.

In Tampa Bay, an additional question was asked: “How important is it to include funding for carpool/vanpool programs when planning transportation?” The response level was similar on this question (80% saying it was very or somewhat important). Interestingly, correlation between the two above items was only .45, and only 60% of respondents assigned the same important ratings to both issues. This suggests that there are some divergent views on the issue.

Conclusions and Recommendations

A baseline study does not allow for a great number of conclusions or recommendations. Most of the value in these studies comes from future trending. A separate report is being provided to South Florida Commuter Services that provides a number of conclusions and recommendations based on the trending of their results.

Current trip reduction levels in Florida metropolitan areas are summarized as follows:

Metropolitan area	Annual trips reduced by alternative commute modes - total	Annual trips reduced by alternative commute modes – per commuter	Annual miles reduced by alternative commuter mode - total	Annual miles reduced by alternative commuter mode – per commuter
Jacksonville	15,551,445	30.3	99,878,255	194.6
Tampa/St. Petersburg	28,831,077	24.6	450,632,078	384.5
Miami/Fort Lauderdale	70,968,671	32.8	782,386,326	361.6
Orlando	19,931,582	23.7	277,191,952	329.6
Rest of Florida	47,484,326	21.1	866,195,126	384.9
Entire State	182,531,231	26.3	2,651,214,082	382.0

Of course, the CAPs cannot be considered responsible for all of these results. Many alternative mode users have never heard of CAPs or seen any carpool and vanpool related advertising. Transit agency efforts are also responsible, to a large degree, for the level of transit ridership.

There seems to be an opportunity to reduce congestion by encouraging employers to consider alternative work schedules, thereby spreading the peak of commuter travel. Currently the PM peak at 5 PM is extremely sharp in all areas. Staggering work schedules by one-half to one hour in both directions could help reduce this peaking characteristic, although even greater staggering would help use roadways more efficiently in much lower use periods.

Currently, the use of *telecommuting* is not widespread. Telecommuting is essentially working from home using the electronic communications network to set up an office at home that is just

as functional as an office in a centralized site. A variant of this approach uses "telecommute centers" that allow employees to work at sites closer to their homes and/or in less congested areas. Telecommuting, particularly home-based telecommuting, is theoretically an extremely effective method of reducing congestion and vehicle travel, and is very popular among commuters (see 1999 CUTR study on 'Market-Based Trip Reduction Program Design'). Again, using contacts with employers to promote this strategy would be an effective way of increasing telecommuting, and commuters are already quite anxious to begin.

The use of Compressed Work Weeks is another potential method of decreasing commuter trips that show great popularity among commuters. The aforementioned study on trip reduction program design suggests that Compressed Work Weeks would be popular incentives to get people to try carpooling, not even counting the beneficial impact they would have on reducing travel on their own.

The revised Commuter Choice programs may also offer an opportunity for SOV reductions. ICF consulting is preparing a report for TCRP that should lend some insight into the ways of implementing Commuter Choice more effectively through employers.

All of these programs require a structured approach, based upon first developing awareness, then generating inquiry, next, stimulating trial of available options, beginning regular use, and possibly increasing use of the options. The status of each of these components is summarized, by city, as follows:

Metropolitan Area	Awareness of Ads	Awareness of Agency/Ride Number	Interest/Inquiry (considered using among not currently using)	Trial (total currently or ever used)	Regular Use
Jacksonville	27%	36%	3%	26%	9%
Tampa/St. Petersburg	33%	32%	3%	26%	8%
Miami/Fort Lauderdale	43%	41%	6%	31%	10%
Orlando	34%	29%	3%	19%	8%
Rest of Florida	26%	N/A	1%	20%	8%
All of Florida	33%	N/A	3%	23%	9%

In terms of support for existing programs, the key result is the level of support for the program, where 75%-80% of respondents believe it is 'somewhat or very important' to have a service available that provides information and assistance for carpooling and vanpooling.

Appendix A: Survey Instrument