EVALUATION OF CONGESTION RESULTS AS PART OF A MOTORIST SURVEY ON TRAFFIC SAFETY AND CONGESTION

by

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EXECUTIVE SUMMARY

The Texas Transportation Institute (TTI) conducted a Motorist Survey on Traffic Safety and Congestion for the Texas Department of Transportation (TxDOT) during the 1993 Houston Auto Show. The objective of the congestion survey questions was to determine the overall feelings and attitudes of Houston motorists toward congestion on Houston's roadways. Four hundred ninety-four (494) surveys were completed by volunteers during the nine-day period of the show. The results of the congestion questions are discussed in this report.

Respondents were asked five questions regarding traffic congestion and driver commuting behavior. They were also asked to answer specific questions regarding gender, age, education, ethnic background, driving experience, and family makeup. These survey demographics were then compared to representative regional population statistics of the Houston metropolitan area.

The five congestion questions covered the problem of congestion on Houston roadways, the need for current traffic condition updates, commute time, commute behavior, and attitudes toward carpooling. Ninety-three percent (93%) of the respondents believed that congestion is a problem on Houston roadway facilities. Of those individuals who said congestion was a problem, 85% felt that receiving current traffic condition updates (such as from radio reports or changeable message signs) would help reduce congestion. According to survey respondents, daily one-way commute times vary. Thirteen percent (13%) surveyed had commute times of less than 10 minutes, 23% had commute times of 10-20 minutes, 21% had commute times of 20-30 minutes, 18% had commute times of 30-45 minutes, and 14% had commute times of over 45 minutes. Eleven percent (11%) of the respondents indicated that they do not commute to work. Only 10% of the respondents said that they carpool to work, either in another passenger vehicle or via public transit. Of those who do not carpool, 50% said they would have to save at least 20 minutes to convince them to carpool. Other response rates were: 5% stating that they would have to have a savings of 10 minutes, 25% a savings of 30 minutes, and 1% a savings of 45 minutes. Eighteen percent (18%) said they would not carpool despite any time savings.

Based on these results, it is recommended that TxDOT continue to provide the public with traffic and construction information using various media formats. Response rates indicated that this information is desired by the public. Furthermore, increasing public awareness about the benefits of carpooling and mass transit can help to improve vehicle occupancy statistics. The end result would be increased mobility in Houston as well as a potential improvement in the perception of congestion by Houston motorists.

ACKNOWLEDGEMENTS

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The contents of this report reflect the views of the author who is responsible for the opinions, findings, and recommendations presented herein. The contents do not necessarily reflect the official views or policies of the Texas Department of Transportation. This report does not constitute a standard, specification, or regulation.

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EVALUATION OF CONGESTION RESULTS AS PART OF A MOTORIST SURVEY ON TRAFFIC SAFETY AND CONGESTION

PURPOSE

The purpose of this report is to evaluate the results of the Traffic Safety portion of the Motorist Survey on Traffic Safety and Congestion conducted by Texas Transportation Institute (TTI). The survey questioned respondents regarding Houston traffic and driver commuting behavior. TTI conducted the survey for the Texas Department of Transportation (TxDOT) during the 1993 Houston Auto Show from 30 January 1993 to 7 February 1993.

BACKGROUND

The Texas Department of Transportation (TxDOT) is continually aware of its relationship with the public and the importance of that relationship in successful TxDOT projects. As part of its ongoing efforts to educate the public on transportation issues, TxDOT established an interagency cooperative project with TTI that focuses on public surveys and information.

As part of this project, TTI conducted a Motorist Survey on Traffic Safety and Congestion for TxDOT at the 1993 Houston Auto Show. The primary objective of the survey was to gather public opinion on the status of traffic congestion in Houston and on commuter attitude and behavior.

Five survey questions from the Motorist Survey evaluated in this report were related to urban congestion. The overall objective of the survey questions was to obtain information on motorists' opinions regarding the condition of Houston freeway facilities and traffic as well as commuter behavior and attitudes regarding carpooling. Respondents were also asked to answer specific questions regarding gender, age,

education, ethnic background, driving experience and family makeup. The confidentiality of their responses was stressed by the research staff throughout the survey.

SURVEY METHODOLOGY

A total of 494 surveys were completed by random volunteers from those individuals attending the 1993 Houston Auto Show. Staff members asked the volunteers to complete the survey and stressed the fact that no right or wrong answers existed for the questions. The objective was simply to obtain public opinion on a variety of survey topics including congestion and driver commuting behavior.

A total of five questions were asked regarding congestion on Houston's roadway facilities. Two questions targeted the status of congestion on Houston's roadways and the need for receiving current traffic condition updates. The remaining three questions focused on the respondent's commuting behavior and attitude towards carpooling. A copy of the Motorist Survey on Traffic Safety and Congestion is located in Appendix A. The Congestion questions are on page A-5.

DATA ANALYSIS AND FINDINGS

The 494 returned surveys were entered into a computer data file and then statistically analyzed. The data analysis of the five Congestion questions generated by statistical analysis are located in Appendices B and C. These results include an analysis of each question with respect to various demographic categories (i.e., female response vs. male response to each question).

Demographic Breakdown

Table 1 illustrates the demographic questions asked of each survey respondent. The survey response choices and corresponding results are listed for each question. Also

Table 1. Survey Respondent Demographics

Survey Question	Survey Response Choices	Response	Houston Metropolitan Population Statistics[1]
What is your gender?	A. Male	69%	50%
	B. Female	31%	50%
What is your age?	A. Less than 25	27%	39%
	B. 25-39	40%	29%
	C. 40-54	27%	16%
	D. 55+	6%	16%
What is your family background?	A. White	79%	41%
	B. Black	6%	27%
	C. Hispanic	8%	28%
	D. Asian/Pacific Islander	4%	4%
	E. American/Alaskan Native	1%	0%
	F. Other	2%	0%

given are the regional population statistics of the Houston metropolitan area for comparison purposes.[1]

Additional background information was obtained from survey respondents regarding education, primary spoken language, driving as part of work, miles driven during an average year, area in which most driving takes place, family composition, as well as ownership of vehicles and safety features thereof. The results to these questions are illustrated in Table 2.

As illustrated by Table 1, survey respondents were over-represented by males, whites, and individuals from ages 25 to 54. The young (<25) and the elderly (55+) were under-represented as well as females, blacks, and Hispanics. The explanation for the biased sample might be that typically young white males are more interested in auto show type activities.

Table 2 indicates that 72% of survey respondents said they attended college. Fifty-six percent (56%) indicated that they drive over 15,000 miles per year, and 45% said they drive mostly within city limits. Eighty percent (80%) responded that they own a vehicle, and 84% said they have taken a driver education course. Only 36% of the respondents noted that they have small children in their family. Detailed response rates based on some of these demographic categories are located in Appendix C.

Table 2. Survey Respondent Background Information

Survey Question	Survey Response Choice	Response
What is the highest level of school you have completed?	A. Less than high school B. High school graduate C. Some college D. College degree(s)	7% 21% 37% 35%
Is English the primary language spoken in hour home?	A. Yes B. No	96% 4%
Is driving a vehicle a major part of your job?	A. Yes B. No	35% 65%
About how many miles do you drive during an average year? (Average is approximately 12,000 miles per year)	A. Less than 10,000 miles B. 10,001 to 15,000 miles C. 15,001 to 20,000 miles D. 20,001 to 30,000 miles E. Over 30,000 miles	14% 29% 26% 16% 15%
Where do you spend most of your driving time?	A. Inside city limits B. Outside city limits C. About half inside and half outside city limits	45% 20% 35%
Have you ever taken a driver education course?	A. Yes B. No	84% 16%
Do you have small children in your family?	A. Yes B. No	36% 64%
Do you yourself own any of the following vehicles? (Choose all that apply)	A. Car B. Truck or Van C. Motorcycle D. I do not own any of above	80% 46% 9% 5%
In the vehicle you normally drive, what safety features does it have? (Choose all that apply)	A. Driver side airbag B. Passenger side airbag C. Automatic safety belts D. Anti-lock brakes E. Built-in child restraints F. None of the above	15% 3% 29% 11% 6% 36%

Congestion

Ninety-three percent (93%) of respondents indicated that they believe congestion is a problem on Houston's roadway facilities, as illustrated in Figure 1. This opinion was slightly higher among female (95%) than male (92%) respondents. The age group that had the lowest response rate was the older driver group with 88% having the opinion

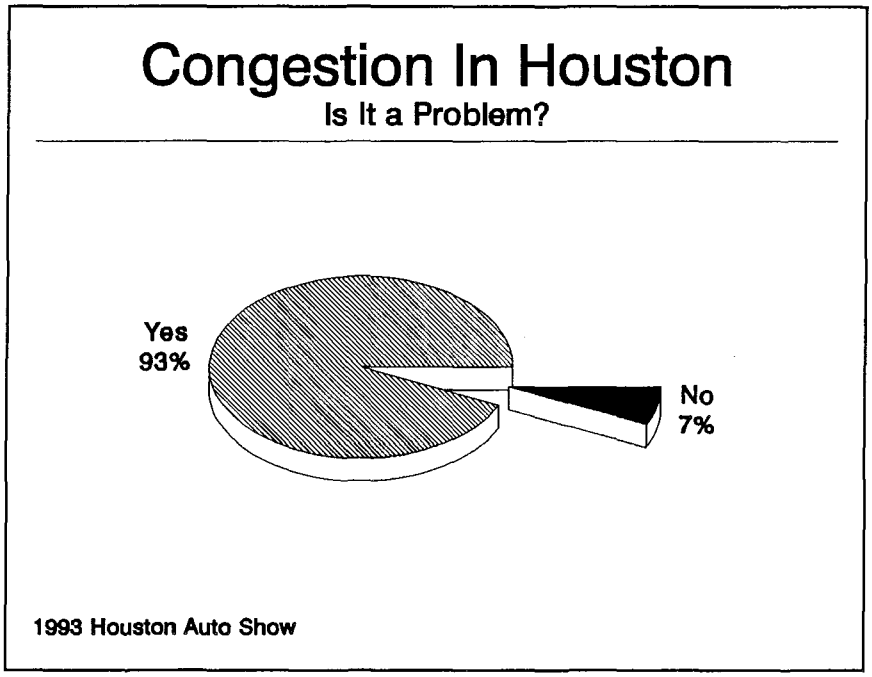

Figure 1. Perception of Congestion in Houston

that congestion is a problem. This rate is logical since fewer individuals in this age group commute to work each day. Thus, they are probably less inclined to be affected by congestion. Other age group response was: less than 25 (93%), 25-39 (94%), and 40-54 (93%). Opinions among education levels varied from a low of 88% for those with a high school education to a high of 97% for those with less than a high school education. Those respondents with some college had a 92% response rate, and those with a college degree(s) had a 96% response rate.

Survey respondents were asked whether or not receiving current traffic condition updates (such as radio reports or changeable message signs) would help improve congestion. Of those respondents who thought congestion is a problem, 85% said that such reports would be beneficial, as shown in Figure 2.

Male and female respondents were about equal on response rates with 84% and 85%, respectively. Furthermore, response rates varied among age groups, but increased with education levels with a low of 74% for those with less than a high school education to a high of 88% for those respondents with a college education.

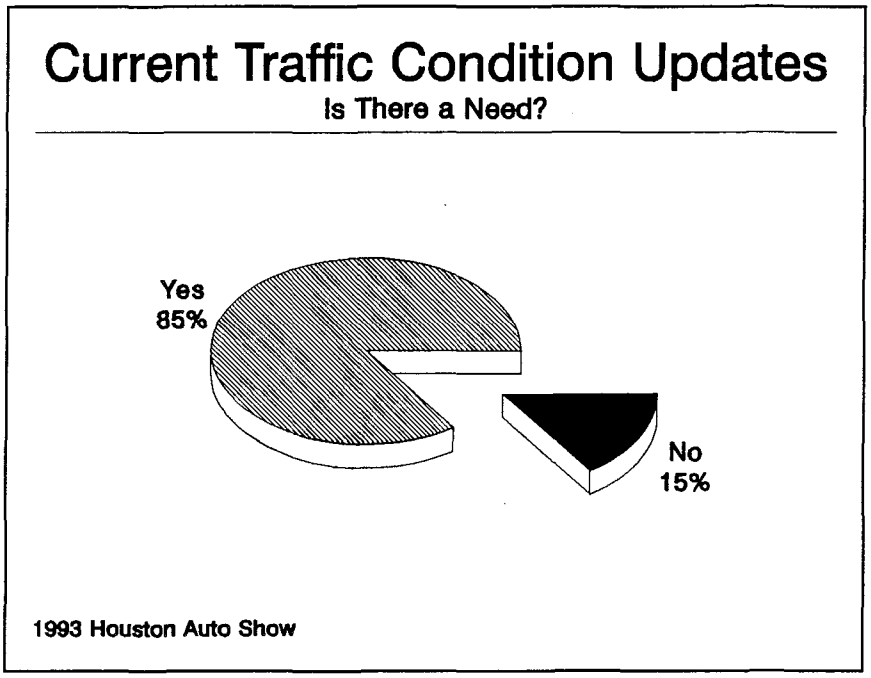

Figure 2. Need for Current Traffic Condition Updates

Driver Commuting Behavior and Attitude

According to survey respondents daily one-way commute times vary, as illustrated in Figure 3. Thirteen percent (13%) surveyed had to commute less than 10 minutes, 23% commute 10-20 minutes, 21% commute 20-30 minutes, 18% commute 30-45 minutes, and 14% commute over 45 minutes each day one-way. The remaining 11% said that they do not commute to work.

Figure 4 shows that only 10% of respondents said that they carpool to work each day either in another passenger vehicle or via mass transit. Slightly more men (11%) than women (10%) said that they carpool to work. Carpool statistics varied among age groups, with the highest being for those respondents less than 25 years of age. Finally, carpool behavior decreased with education level from a high of 25% for respondents with less than a high school education to a low of 7% for those with a college education.

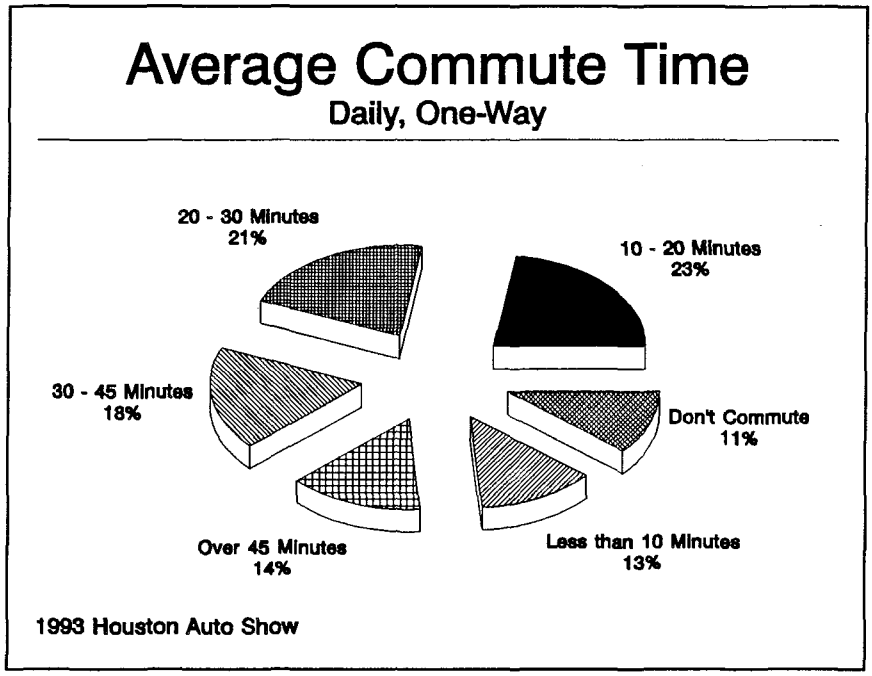

Figure 3. Average Commute Time - Daily, One-Way

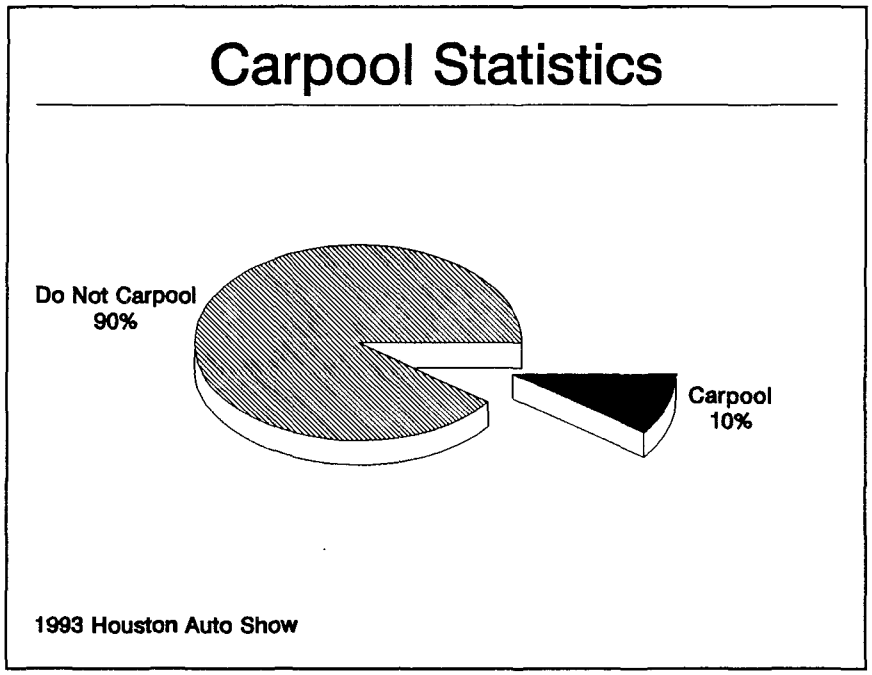

Figure 4. Carpool Statistics

Of those respondents who do not carpool, 50% said that they would have to save at least 20 minutes in order to make carpooling worthwhile. Other response rates as shown in Figure 5 were: 5% stating that they would have to have a savings of 10 minutes, 25% a savings of 30 minutes, and 1% a savings of 45 minutes. Eighteen percent (18%) said they would not carpool despite any time savings.

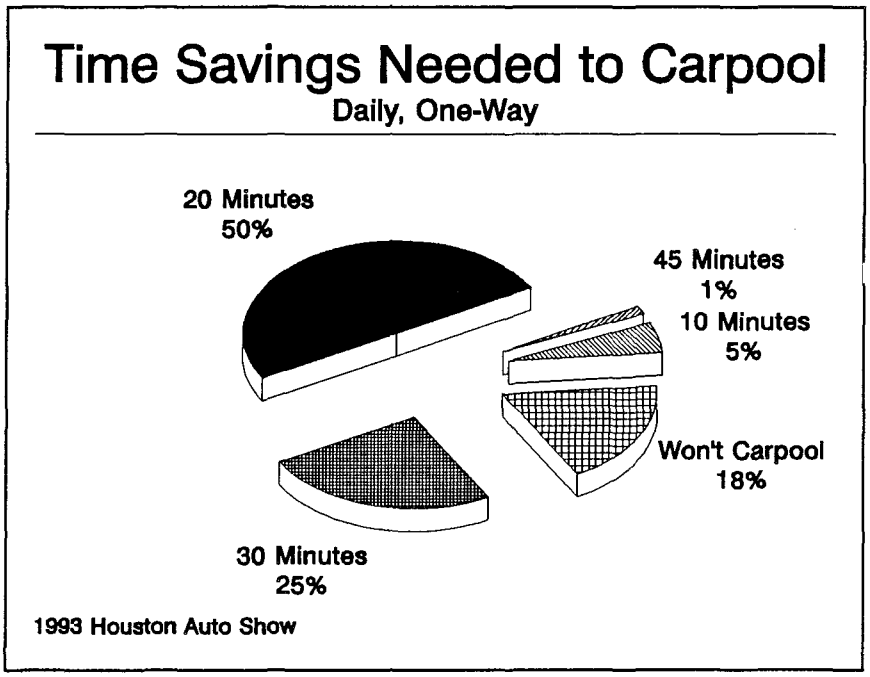

Figure 5. Attitude Towards Carpooling

SUMMARY AND RECOMMENDATIONS

It is interesting to note that carpool behavior decreased with education level. This trend could be indicative of the fact that higher education levels tend to be in higher income brackets. These individuals can possibly afford to drive alone more so than perhaps those individuals with lower income levels who may only own one vehicle per family. Furthermore, 50% of respondents who do not carpool would consider doing so if they saved at least 20 minutes. This statistic indicates a potential to increase carpool behavior among commuters.

Based on the results presented in this report, it is recommended that TxDOT continue to provide the public with traffic and congestion information since this information is desired by the public. Also, increasing public awareness about the benefits of carpooling and mass transit can help to improve carpool statistics. The end result would be increased mobility in Houston as well as a potential improvement in the perception of congestion by Houston motorists.

REFERENCES

1. Population Statistics, Texas State Data Center, Texas A&M University, U.S. Census Bureau, 1990.

APPENDICES

Appendix A: Motorist Survey

MOTORIST SURVEY ON TRAFFIC SAFETY AND CONGESTION

INTRODUCTION

Thank you for volunteering your time to take this survey. The survey, sponsored by the Texas Department of Transportation, is being conducted by the Texas Transportation Institute to obtain your opinions, suggestions, and knowledge regarding traffic safety and congestion on Houston's roadways.

The survey is <u>not</u> a test, so please answer without hesitation and give us your most honest answer. Any answer is a good answer and your input will help our study of Houston roadways, traffic safety, and handling freeway congestion.

At the end of the survey, you will be asked some specific questions regarding your age, education, family background, and driving experience. The answers to these questions will remain strictly confidential. If you have any questions, please ask the interviewer. We appreciate your cooperation in these efforts.

TRAFFIC SAFETY QUESTIONS

1. When you drive, how often do you wear your safety belt?

___ Never
___ Seldom
___ Almost Always
___ Always

2. When you ride in a vehicle in the rear seat, how often do you wear your safety belt?

___ Never
___ Seldom
___ Almost Always
___ Always

3. When driving in fog, rain, or bad weather during daylight hours, how often do you use your headlights?

___ Never
___ Seldom
___ Almost Always
___ Always

4. When would you consider it a problem for you to drive a vehicle after drinking?

___ After having 3 or more beers or mixed drinks within an hour
___ After having 2 beers or mixed drinks within an hour
___ After having 1 beer or mixed drink within an hour
___ Drinking any alcohol within an hour would be a problem

5. If you feel you've had too much to drink, how likely are you to call a friend, a cab, or use a designated driver?

___ Very Likely
___ Likely
___ Unlikely
___ Very Unlikely

6. When purchasing your next vehicle, which safety features would you specifically request? (Check all that apply.)

___ Driver Side Airbag
___ Passenger Side Airbag
___ Automatic Safety Belts
___ Anti-Lock Brakes
___ Built-in Child Restraints

7. Which, if any, of the following advertising campaigns have you heard about? (Check all that apply.)

___ Don't Wreck Your Life
___ Project Spring Break
___ Project Graduation
___ Haven't Heard of Any of These Campaigns

8. Who in a vehicle **MUST** wear a safety belt according to Texas Law?

___ The driver
___ The front seat passenger
___ All children under 4 years of age
___ All of the above

9. According to Texas Law, who **MUST** be secured in a car seat or wear a safety belt?

___ Children under 4 years of age
___ Children riding in the front seat
___ Both of the above

10. According to Texas Law, when should a driver use vehicle headlights?

___ A. Dusk to Dawn
___ B. Normal Daylight Hours
___ C. Rainy, Foggy, Snowy, or Other Bad Weather
___ D. Any Time Its Hard to See 1000 Feet Ahead of You
___ E. Answers A, C, & D

11. When is it likely to be illegal to drive after drinking?

___ After 1 beer or mixed drink within an hour
___ After 2 beers or mixed drinks within an hour
___ After 3 beers or mixed drinks within an hour
___ Driving after drinking any alcohol

CONGESTION QUESTIONS

12. In your opinion, is congestion a problem on Houston's roadways?

___ Yes
___ No

13. If yes, do you feel that receiving current traffic condition updates (such as from radio reports or changeable message signs) would help improve congestion?

___ Yes
___ No

14. What is your average one-way commute time each day?

___ A. Less than 10 minutes
___ B. 10 - 20 minutes
___ C. 20 - 30 minutes
___ D. 30 - 45 minutes
___ E. Over 45 minutes
___ F. I don't commute to work.

15. Do you carpool to work?

___ Yes
___ No

16. If no, what is the **least** amount of time savings that it would take to convince you to carpool to work each day instead of driving alone?

___ A. Save 45 Minutes
___ B. Save 30 Minutes
___ C. Save 20 Minutes
___ D. Save 10 Minutes
___ E. None. I would not carpool.

17. What is your gender?

___ Male
___ Female

18. What is your age?

___ Less than 25
___ 25-39
___ 40-54
___ 55+

19. What is the highest level of school you have completed?

___ Less than high school
___ High school graduate or equivalent
___ Some college
___ College degree(s)

20. What is your family background?

___ White
___ Black
___ Hispanic
___ Asian or Pacific Islander
___ American Indian or Alaskan Native
___ Other (specify) _____

21. Is English the primary language spoken in your home?

___ Yes
___ No

22. Is driving a vehicle a major part of your job (i.e., outside salesperson, taxi driver, delivery person, etc.)

___ Yes
___ No

23. About how many miles do you drive during an average year? (Average is approximately 12,000 miles per year.)

___ Less than 10,000 miles
___ 10,001 to 15,000 miles
___ 15,001 to 20,000 miles
___ 20,001 to 30,000 miles
___ Over 30,000 miles

24. Have you ever taken a driver education course? (In high school or from a commercial school in order to get a license, not defensive driving.)

___ Yes
___ No

25. Where do you spend most of your driving time?

___ Inside city limits
___ Outside city limits
___ About half inside and half outside city limits

26. Do you have small children in your family?

___ Yes
___ No

27. Do you yourself own any of the following vehicles? (Check all that apply.)

___ Car
___ Truck or Van
___ Motorcycle
___ I do not own any of the above.

28. In the vehicle you normally drive, what safety features does it have? (Check all that apply.)

___ Driver Side Airbag
___ Passenger Side Airbag
___ Automatic Safety Belts
___ Anti-Lock Brakes
___ Built-in Child Restraints

THANK YOU FOR YOUR TIME AND COOPERATION. HAVE A GOOD DAY!

Appendix B: Survey Response Data

SAS

Q1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Never	3	0.6	3	0.6
Seldom	63	12.8	66	13.4
Almost Always	105	21.3	171	34.6
Always	323	65.4	494	100.0

Q2	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Never	119	24.1	119	24.1
Seldom	132	26.8	251	50.9
Almost Always	98	19.9	349	70.8
Always	144	29.2	493	100.0

Frequency Missing = 1

Q3	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Never	5	1.0	5	1.0
Seldom	27	5.5	32	6.5
Almost Always	153	31.0	185	37.4
Always	308	62.3	493	99.8
5	1	0.2	494	100.0

input error

Q4	Frequency	Percent	Cumulative Frequency	Cumulative Percent
After having 3	92	18.6	92	18.6
After having 2	90	18.2	182	36.8
After having 1	77	15.6	259	52.4
Drinking any	224	45.3	483	97.8
Dont drink	11	2.2	494	100.0

Q5	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Very likely	286	58.0	286	58.0
Likely	108	21.9	394	79.9
Unlikely	44	8.9	438	88.8
Very unlikely	42	8.5	480	97.4
5	12	2.4	492	99.8
6	1	0.2	493	100.0

Frequency Missing = 1

Q8	Frequency	Percent	Cumulative Frequency	Cumulative Percent
The driver	14	2.8	14	2.8
The front	12	2.4	26	5.3
All children	4	0.8	30	6.1
All of above	463	93.9	493	100.0

Frequency Missing = 1

Q9	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Children under	43	8.7	43	8.7
Children riding	8	1.6	51	10.3
Both of above	440	89.2	491	99.6
4	1	0.2	492	99.8
5	1	0.2	493	100.0

Frequency Missing = 1

Q10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Dusk to dawn	37	7.5	37	7.5
Normal daylight	2	0.4	39	7.9
Rainy, foggy	13	2.6	52	10.6
Any time its	31	6.3	83	16.9
Answers ACD	409	83.1	492	100.0

Frequency Missing = 2

Q6	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Driver side	390	26.7	390	26.7
Passenger side	315	21.6	705	48.3
Automatic safety	223	15.3	928	63.5
Anti-lock	369	25.3	1297	88.8
Built-in Child	154	10.5	1451	99.3
None	10	0.7	1461	100.0

Q7	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Dont wreck	218	34.1	218	34.1
Project spring	87	13.6	305	47.7
Project grad	154	24.1	459	71.8
Havent heard	180	28.2	639	100.0

Q11	Frequency	Percent	Cumulative Frequency	Cumulative Percent
After 1 beer	104	21.3	104	21.3
After 2 beer	115	23.5	219	44.8
After 3 beer	59	12.1	278	56.9
Driving after	210	42.9	488	99.8
5	1	0.2	489	100.0

Frequency Missing = 5

Q12	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	459	93.1	459	93.1
No	34	6.9	493	100.0

Frequency Missing = 1

Q13	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	407	84.1	407	84.1
No	74	15.3	481	99.4
4	3	0.6	484	100.0

Frequency Missing = 10

Q14	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Less than 10	62	12.6	62	12.6
10 - 20	112	22.7	174	35.3
20 - 30	103	20.9	277	56.2
30 - 45	90	18.3	367	74.4
Over 45	71	14.4	438	88.8
I dont commute	55	11.2	493	100.0

Frequency Missing = 1

Q15	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	50	10.2	50	10.2
No	438	89.0	488	99.2
4	1	0.2	489	99.4
5	3	0.6	492	100.0

Frequency Missing = 2

Q16	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Save 45	21	4.4	21	4.4
Save 30	36	7.6	57	12.0
Save 20	72	15.2	129	27.2
Save 10	79	16.6	208	43.8
None, I would	266	56.0	474	99.8
6	1	0.2	475	100.0

Frequency Missing = 19

Q17	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Male	343	69.4	343	69.4
Female	151	30.6	494	100.0

Q18	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Less than 25	133	26.9	133	26.9
25-39	196	39.7	329	66.6
40-54	133	26.9	462	93.5
55+	32	6.5	494	100.0

Q19	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Less than high	34	6.9	34	6.9
High school	103	20.9	137	27.8
Some college	182	36.9	319	64.7
College	174	35.3	493	100.0

Frequency Missing = 1

Q20	Frequency	Percent	Cumulative Frequency	Cumulative Percent
White	389	79.4	389	79.4
Black	28	5.7	417	85.1
Hispanic	38	7.8	455	92.9
Asian	19	3.9	474	96.7
American Ind	7	1.4	481	98.2
Other	9	1.8	490	100.0

Frequency Missing = 4

Q20OTHER	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Croation	1	14.3	1	14.3
French	2	28.6	3	42.9
Indian, Mexican,	1	14.3	4	57.1
Jewish	1	14.3	5	71.4
Mixed	1	14.3	6	85.7
Native American	1	14.3	7	100.0

Frequency Missing = 487

Q21	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	474	96.0	474	96.0
No	20	4.0	494	100.0

Q22	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	175	35.4	175	35.4
No	319	64.6	494	100.0

Q23	Frequency	Percent	Cumulative Frequency	Cumulative Percent
10,000 mi	71	14.4	71	14.4
10-15,000 mi	142	28.9	213	43.3
15-20,000 mi	125	25.4	338	68.7
20-30,000 mi	80	16.3	418	85.0
Over 30,000 mi	74	15.0	492	100.0

Frequency Missing = 2

Q24	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	413	83.9	413	83.9
No	79	16.1	492	100.0

Frequency Missing = 2

Q25	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Inside city	219	44.6	219	44.6
Outside city	100	20.4	319	65.0
Half and half	172	35.0	491	100.0

Frequency Missing = 3

Q26	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes	178	36.3	178	36.3
No	313	63.7	491	100.0

Frequency Missing = 3

Q27	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Car	395	56.9	395	56.9
Truck or van	229	33.0	624	89.9
Motorcycle	44	6.3	668	96.3
I do not own	26	3.7	694	100.0

Q28	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Driver side	76	11.8	76	11.8
Passenger side	17	2.6	93	14.4
Automatic	143	22.2	236	36.6
Anti-lock	204	31.6	440	68.2
Built-in child	29	4.5	469	72.7
None of above	176	27.3	645	100.0

Appendix C: Demographic Responses

QUESTION 12

In your opinion, is congestion a problem on Houston's roadways?

Demographic Category		Yes	No
Gender	Male	92%	8%
	Female	94%	6%
Age	Less than 25	93%	7%
	25 - 39	94%	6%
	40 - 54	93%	7%
	55 +	88%	12%
Education	Less than High School	97%	3%
	High School	88%	12%
	Some College	92%	8%
	College Degree(s)	96%	4%

QUESTION 13

If yes, do you feel that receiving current traffic condition updates (such as from radio reports or changeable message signs) would help improve congestion?

Demographic Category		Yes	No
Gender	Male	84%	16%
	Female	85%	15%
Age	Less than 25	78%	22%
	25 - 39	88%	12%
	40 - 54	84%	16%
	55 +	87%	13%
Education	Less than High School	74%	26%
	High School	83%	17%
	Some College	83%	17%
	College Degree(s)	88%	12%

QUESTION 14

What is your average one-way commute time each day?

(Time in Minutes)

Demographic Category		< 10	10 - 20	20 - 30	30 - 45	> 45	DC*
Gender	Male	12%	22%	22%	17%	16%	11%
	Female	13%	26%	19%	20%	11%	11%
Age	Less than 25	11%	28%	25%	12%	9%	15%
	25 - 39	12%	24%	20%	20%	17%	7%
	40 - 54	14%	20%	20%	21%	17%	8%
	55 +	13%	9%	16%	19%	9%	34%
Education	Less than High School	6%	32%	24%	3%	3%	32%
	High School	17%	31%	15%	12%	11%	14%
	Some College	13%	18%	19%	24%	16%	10%
	College Degree(s)	11%	21%	25%	20%	17%	6%

* Do not commute to work.

QUESTION 15

Do you carpool to work?

Demographic Category		Yes	No
Gender	Male	11%	89%
	Female	10%	90%
Age	Less than 25	17%	83%
	25 - 39	8%	92%
	40 - 54	8%	92%
	55 +	16%	84%
Education	Less than High School	23%	77%
	High School	12%	88%
	Some College	12%	88%
	College Degree(s)	7%	93%

QUESTION 16

If no, what is the least amount of time savings (in minutes) that is would take to convince you to carpool to work each day instead of driving alone?

Demographic Category		45	30	20	10	None
Gender	Male	6%	6%	16%	17%	55%
	Female	1%	10%	14%	17%	58%
Age	< than 25	6%	6%	18%	21%	49%
	25 - 39	5%	5%	17%	17%	56%
	40 - 54	2%	11%	11%	13%	63%
	55 +	6%	16%	7%	10%	61%
Education	Less than High School	6%	9%	12%	26%	47%
	High School	4%	7%	12%	17%	60%
	Some College	6%	8%	17%	12%	57%
	College Degree(s)	3%	7%	17%	18%	55%