

PUBLIC ATTITUDES TOWARD TRANSPORTATION

by

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(The opinions, findings, and conclusions expressed in this report are those of the authors and not necessarily those of the sponsoring agencies.)

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SUMMARY OF FINDINGS

A telephone survey of one thousand randomly selected Virginia residents found that, not surprisingly, the automobile is the most popular mode of travel and more work trips than trips for other purposes are made by alternatives such as ride sharing, public transit, and non-motorized modes. While convenience and low cost were said to be the most important factors affecting modal choice, many respondents cited the lack of available alternatives. The data indicate that if public transit is convenient and cheap, people will use it. The public does not seem to be aware of the Department's activities or responsibilities, especially with regard to public transportation.

Rail rapid transit appears to be a more popular mode than the bus and is used for the most part by young, affluent people. Although the general public feels positive about both bus and rail transportation, their support is not reflected in their travel habits. Rail service and ride sharing are not perceived to be as much public transportation alternatives as they are means of conserving energy. Both public transportation and bicycle-pedestrian concerns are primarily urban issues, and neither is of particular concern to older segments of the population.

Citizens would not oppose paying additional taxes for transportation as long as they or their communities derive tangible benefits, and young people appear to object less than older people.

Only about one-quarter of the respondents said that moderate increases in the price of gasoline would significantly affect their use of it. A \$2 per gallon price appears to be the point at which substantial changes in travel routines will be made. Similarly, rationing will also not likely alter current travel habits, unless portions are severely limited. Individuals who have changed their travel habits because of rising energy prices, as well as those who say they will do so soon, are more likely to simply limit their travel rather than to use public transportation. Public transportation for the most part is seen more as one solution to the energy problem than as a money saver.

The levying of a substantial toll for entering the central city would apparently reduce the influx of traffic into the city; however, this type of restraint would also likely limit business activity in the city and produce adverse economic consequences. A parking fee imposed upon people employed in the city would be more apt to induce those people to use public transportation or car pools.

3124

RECOMMENDATIONS

The findings from the study have led the authors to make the following recommendations.

1. Since there is a widespread desire for reduced transportation costs, public information campaigns should be conducted to direct attention to the high cost of automobile travel as compared to the cost of travel by multi-occupancy transit.
2. Federal, state, and local transportation agencies should undertake to provide as many transportation options as possible and to inform the public of those options.
3. Since it was determined that as the distance of the work trip increases, the propensity to drive alone decreases and the propensity to car pool increases, efforts to enlighten the public of the economic benefits of car pooling need to be heightened.
4. Because bus service is viewed as the most suitable type of public transportation, programs to establish various types of bus systems in both rural and urban areas should be escalated. Such programs should attempt to eliminate the misconception that bus transportation caters especially to low income people.
5. In urban areas, rail rapid transit appears to be popular. It is recommended that the feasibility of constructing this type of facility in metropolitan areas other than Northern Virginia be studied.
6. In light of the fact that there is citizen support for doing so, the state should initiate efforts to improve or expand its rail system.
7. Efforts toward accommodating both the pedestrian and the bicyclist in urban areas should be escalated with special emphasis on safety.
8. It is recommended that any further tax levies by the state aimed at transportation improvements be earmarked for specific uses.
9. Special marketing and promotional materials aimed at the elderly should be generated by both federal and state

transportation agencies. Such material would serve to both inform the elderly of the transportation alternatives available to them and to explain how their tax dollars are being spent to provide them direct benefits.

10. Public information campaigns aimed at altering travel habits should emphasize energy savings, especially the savings achievable through ride sharing and using rail service.
11. It should be recognized that techniques to reduce the use of gasoline, such as price increases and rationing, have a much greater effect on lower income citizens than on the wealthy. Efforts should be made to reduce this burden upon the less wealthy.
12. It is recommended that methods of reducing the automobile traffic entering the central city be studied. Since the data show that increased parking fees at the work place would reduce traffic congestion and promote the use of public transit, while the imposition of a commuter toll for entering the city would likely result in adverse economic effects, it is recommended that the former method be given the greater consideration.
13. There is a need for the Department to publicize its activities to a greater extent than it is presently doing, possibly through a public relations campaign or an informational brochure.

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BACKGROUND

Two opposing influences, one national and the other local, have pulled the Virginia Department of Highways and Transportation in opposite directions over the past few years. Nationally, the energy and environmental concerns, rising inflation rates, and federal directives calling for such programs as transportation systems management have acted to reduce the emphasis on highway construction. Increasingly, transportation organizations are devoting resources to transportation modes other than the automobile and to improving the coordination among various modes in both the planning and utilization processes.

Locally, at the same time that state transportation agencies are being called upon to expand their activities, available resources are dwindling. Shrinking revenues, reductions in personnel, and spatial constraints are rendering it difficult for the Department to sustain its current level of service, much less branch out into new programs. The call for new programs combined with these resource restraints necessitated an assessment of the Department's current performance and an identification of specific areas in which further commitment may be desirable. Since the primary responsibility of the Department is to provide the public with the most advanced, up-to-date, and useful transportation alternatives available, research was undertaken to query the public on how their transportation attitudes, goals, and objectives correspond to those of the Department. This report presents the findings from a random statewide telephone survey of citizens regarding myriad transportation issues.

PURPOSE AND SCOPE

The purpose of this study was to investigate how the public views its present and future transportation options.* Also, it

*Perfater, M. A. and Sharon Crowell, Working Plan — Public Attitudes Toward Transportation, VHTRC 80-WP25, Virginia Highway and Transportation Research Council, Charlottesville, Virginia. June 1980.

was hoped that the study would ascertain the ways in which factors such as energy shortages, rising gasoline prices, inflation, and changes in transportation services will affect the public's use of the different modes of transportation. It was believed that this information would aid the Department in its planning by indicating any needs for increased or intensified activity.

It would be misleading to suggest that an attitudinal survey will provide information that will enable one to accurately predict public behavior. However, such a survey can identify the rationale behind observed behavior and reveal the thinking of Virginia's citizenry regarding various aspects of transportation.

The study was limited to a telephone survey of one thousand people randomly selected from among Virginia's 5.1 million residents. In preparation for the survey, pertinent literature was reviewed (see Selected Bibliography).

METHODOLOGY

In the survey, a questionnaire comprising both closed- and open-ended questions was used to determine the attitudes of Virginians towards transportation issues. This approach naturally limited the sample to those households having telephones, although use of the random-digit dialing technique described in Appendix A allowed the inclusion of unlisted numbers. After the interviews had been completed, a T-test (using a dependent T) was conducted to determine the relationship between the actual distribution of respondents (the number of survey respondents from each of Virginia's telephone directories) and the ideal distribution (the number of telephone listings in each of the telephone directories). The test showed no significant difference between the two.

To obtain a sample of 1,000, 6,560 telephone numbers were needed. The questionnaire was pretested using 120 of these numbers, and calls to 15.5% of the remaining 6,440 numbers resulted in completed interviews. Seventy-three percent were not working numbers, 6% were business phones, and 6% represented refusals.

Two female graduate students conducted the interviews during the summer of 1980. During weekdays, calls were made from 10 a.m. to 12 noon and from 1 to 5 in the afternoon. Calling was usually

continued into the evening hours, from 5-7 two nights and from 5-9 for two nights. In addition, interviews were conducted on five weekend days, thus allowing for representation of people employed outside the home. Each unanswered number on the list was called four times — twice before 5 p.m. and twice in the evening. If no answer was obtained in four attempts, the number was considered to be a nonworking one and was discarded.

To avoid bias from misdialing, the interviewers first asked the respondent to verify his telephone number by asking, "Is this (number)?" If the number was not the correct one, the call was terminated. If the correct number was reached, the interviewer identified herself and her affiliation with the Virginia Department of Highways and Transportation and asked to speak to a member of the household who was 16 years of age or older. (During the last three weeks of the survey, the interviewers requested to speak to males over the age of 16 during evening calls to lessen the disproportionate number of female responses.) After briefly explaining the purpose of the survey, and assuring the respondent of anonymity, the interviewers administered the questionnaire, which usually took between 7 and 15 minutes to complete.

CHARACTERISTICS OF THE SAMPLE POPULATION

The Respondents

Slightly more than half the respondents were under 40 years of age and only 5% were over 70 as compared to 9% for the total population of Virginia (Table 1). Slightly over 56% were females, and half of the households were classified urban and half rural. A little more than 10% of the respondents were unemployed, which is more than double the state rate of 4.7%. It should be pointed out, however, that student respondents were categorized as unemployed, thus the percentage of respondents who were in fact unemployed was closer to the state unemployment rate than Table 1 shows. Almost 59% of the respondents were employed and 18% were homemakers. Only about 9% of the respondents reported an annual family income of \$5,000 or less, and more than 36% reported a figure in excess of \$20,000. The mean income for the group was somewhere in the \$15,000 to \$20,000 range with the greatest number being in the \$20,000 to \$30,000 range. These high figures are attributable to greater than 38% of the respondents being white-collar workers (Table 2) and both spouses being employed in 46% of the households. Only about 18% were blue-collar workers. It is noted that the respondents were slightly younger and more affluent than the general population and the reader should bear this in mind while perusing this report. Each responding household had 2.8 members, which is slightly below the state average of 3.2. Also, the average household owned 2 automobiles and had 2.3 drivers.

Table 1
 Characteristics of Respondents
 (N=1,000)

<u>Category</u>	<u>Percentage of Respondents</u>
Age	
16-20	10.3
21-30	23.1
31-40	20.7
41-50	13.1
51-60	15.4
61-70	11.2
over 70	5.0
No response	1.2
Sex	
Male	43.7
Female	56.3
Employment Status	
Employed	58.6
Unemployed	10.5
Retired	11.9
Housewife	18.4
No response	0.6
Total Family Income	
0-5,000	9.3
5,001-10,000	13.1
10,001-15,000	14.1
15,001-20,000	16.0
20,001-30,000	18.7
over 30,000	18.1
Do not know/Refuse	10.7
TOTAL FOR ALL CATEGORIES	100.0

Table 2

Occupation of Respondents
(N=1,000)

<u>Category</u>	<u>Percentage of Respondents</u>
Professional	13.5
Managerial	9.2
Clerical	15.3
Semiskilled	9.5
Unskilled	8.3
Military	2.8
Unemployed	10.5
Homemaker	18.4
Retired	11.9
No response	.6
TOTAL RESPONDENTS	100.0

The Non-Respondents

Because participation in the survey was optional, there was a possibility of the sample being biased and nothing is known about the distributions of key socioeconomic variables for those who chose not to respond. Thus it is impossible to say whether the distributions of these variables for the non-respondents differed from those of the respondents. There were 4,680 numbers called which did not yield interviews for one or more of the following reasons: (1) the number dialed was not a working number, (2) no one answered the four calls made to the number, or (3) the number reached was a business number. It was not possible to distinguish between reasons (1) and (2), since sometimes nonworking numbers are connected to a "ringing machine" rather than to a tape recording.

MODE CHOICE BY TRIP PURPOSE

The interview began with questions concerning the transportation modes used by respondents for various trip purposes. Respondents were asked, "How do you usually travel to and from _____?" As Tables 3 through 7 show, the car is the most popular choice for all trips - shopping, social, vacation, business, and work.

For vacation trips, which usually involve long distance traveling and a lengthy stay, and for business trips, where the traveling party does not usually bear the trip cost, air travel is the second most popular mode. Ride sharing, public transportation, and walking or biking are more common for work trips than for other types of trips.

Because there is little flexibility in the frequency and distance involved in commuting, and since a great variety of modes are used for this type of journey, the survey sought to gather detailed information regarding the work trip. Specifically, the survey sought to determine the modes used for the work trip, the attitudes of workers toward their choice, and any influence of factors such as the length of the work trip and location of the residence on the choice of travel mode.

As Table 7 reveals, 22% of the 600 respondents who worked outside the home commuted by means other than the private automobile. The greatest proportion of these respondents, 41%, claimed to use the mode they chose because they had no alternative; convenience was cited by 20%; and low cost by 10%. Over half of the trips were under 10 miles (one way), but 13% were 20 miles or longer.

Cross tabulations between the choice of mode and reasons for the choice showed that more than one-third of the drivers interviewed drove because they thought it was convenient while only 2% cited low cost. Alternatively, 64% of those who drove alone to work said that they did so because they had no alternative. In contrast, less than one-fourth of the bus and rail rapid transit riders said they had no alternative. Convenience and low cost were chosen equally as reasons for using public transit. Over half of those who shared rides did so because of the low cost, 27% found it convenient, and 22% had no alternative. Finally, walkers and bicyclists were fairly evenly split among the low cost, convenience, and no alternative responses.

Table 3

Travel Mode Used for Shopping Trips
(N=992)

<u>Category</u>	<u>Percentage of Respondents</u>
Car	92.6
Walk-Bike	1.6
Bus-Rail rapid transit	2.2
Car-Van pool	1.4
Other	1.1
	<hr/>
TOTAL	100.0

Table 4

Travel Mode for Social Trips
(N=965)

<u>Category</u>	<u>Percentage of Respondents</u>
Car	95.3
Walk-Bike	1.2
Bus-Rail rapid transit	1.1
Car-Van pool	1.3
Other	.9
	<hr/>
TOTAL	100.0

Table 5

Travel Mode Used for Vacation Trips
(N=888)

<u>Category</u>	<u>Percentage of Respondents</u>
Car	82.5
Plane	11.5
Bus	3.3
Train	.9
Other	1.7
	<hr/>
TOTAL	100.0

Table 6

Travel Mode Used for Business Trips
(N=230)

<u>Category</u>	<u>Percentage of Respondents</u>
Car	71.7
Plane	26.5
Other	1.8
TOTAL	<u>100.0</u>

Table 7

Travel Mode Used for Work Trips
(N=230)

<u>Category</u>	<u>Percentage of Respondents</u>
Car	78.0
Car-Van pool	11.0
Walk-Bike	5.0
Bus-Rail rapid transit	5.0
Other	1.0
TOTAL	<u>100.0</u>

It appears, then, that low cost in transportation is desirable, and that while many drivers realize that operating an automobile is costly, they feel they have no alternative. By providing drivers with alternatives and making sure that they are aware of their options, transportation agencies can expect some of them to shift away from their dependence upon the automobile. Making automobile travel less convenient will encourage this movement.

A second set of cross tabulations developed in an attempt to link the choice of mode with the length of the work trip revealed some significant findings. Persons living within 10 miles of the workplace used either their cars or a non-motorized

mode to get to and from work. Pedestrians and bicyclists were willing to travel no more than 5 miles to work, while workers living in the 11 to 15 mile range were more likely to ride the bus or rail rapid transit than those in other distance categories. Finally, it was found that as the length of the work trip increased, the propensity to drive alone decreased, and that concurrently the propensity to car pool increased. In fact, 29% of those living more than 20 miles from work car pooled. This finding implies that economic considerations do affect the choice of mode for the work trip. Each of the above findings was significant at the 99% level of confidence.

A comparison between the mode choices of urban dwellers and those of rural dwellers produced conclusions significant at the 98% level of confidence. While urbanites were more likely to walk, bicycle, or take public transportation to work, the rural residents were more likely to drive. There was no difference between the ride-sharing habits of urban and rural workers.

PUBLIC TRANSPORTATION ALTERNATIVES AND ISSUES

Public Transportation Habits and Opinions

The second part of the interview was intended to inventory the transportation services available to and needed by the respondent. Respondents were asked to identify the forms of public transportation available in their area, the number of times they used public transportation on an annual basis, and, finally, to offer an opinion as to what kind of public transportation would best serve their community.

Fifty-three percent of the respondents indicated that they had bus service available, 7% had rail rapid transit service, and 1% had ride-sharing options. Only 2% replied that passenger train service was available, yet, later in the survey when the interviewer posed the direct question, "Do you have rail service in your area?" 24% answered yes. Thus, it appears that passenger rail service is not considered to be public transportation by many citizens.

Public transportation ridership was low among those surveyed. Table 8 shows that the vast majority of the respondents never used public transportation.

Finally, interviewers asked respondents "What kind of public transportation would best serve your community?" As Table 9 shows, the bus was the most popular choice. Not surprisingly, 90% of

those citing rail rapid transit lived in urban areas. It should be noted that although less than 2% cited car pooling or van pooling, a sizeable number of commuters car pool, and subsequent questions revealed a positive attitude toward car pooling. Perhaps car pooling, like rail service, is not regarded as a public transportation alternative by the public. Also, it is somewhat surprising to note that roughly one-fourth of the respondents either do not feel transit is needed in their community or do not know which mode would be the most suitable. Cross tabulations failed to uncover any statistically significant relationships with respect to the public transportation question. An interesting finding which did appear, however, was that over 25% of those who had rail rapid transit service available used public transportation 2 to 3 days a week or more, while only 11% of those with bus service did so. Again, because rail rapid transit is available in Northern Virginia, this finding may be due to the orientation of the population of the area to mass transportation rather than to a preference for the mode.

Table 3

Frequency of Use of Public Transportation
(N=1,000)

<u>Category</u>	<u>Percentage of Respondents</u>
Almost every day	3
2-3 days a week	3
2-3 days a month	6
2-3 days a year	6
Never	<u>82</u>
TOTAL	100

Table 9

Mode Most Suitable for Community
(N=1,000)

<u>Category</u>	<u>Percentage of Respondents*</u>
Bus	64.2
Rail rapid transit	8.9
Intercity bus or rail	2.2
Car pooling; van pooling	1.5
None; not necessary	14.2
Don't know	9.5

*Percentages do not total 100 due to multiple responses.

Bus Transit

The answers to the three questions discussed in the preceding section and the replies to a question asking respondents to identify the shortcomings with the bus service in their areas revealed a paradox. As mentioned earlier, 64% of the sample felt that bus service would best serve the transportation needs of their community. Yet, only 11% of those who have bus service use public transportation 2-3 times a week or more. When questioned as to the shortcomings of the bus service, 41% of those with service replied either that they did not know of any or that service was adequate. Thirty percent felt that buses did not run often enough, 10% complained that there were no close stops, and 7% did not feel that they could depend upon the bus. The remaining 12% cited a variety of criticisms. Suffice it to say that even though the respondents for the most part felt that bus service was an important asset to their community, a large majority of them with service chose not to use it.

Although cross tabulations were not statistically significant, it appears that urbanites were more supportive of bus service than were rural inhabitants by a ratio of 2 to 1. With the exception of those over 70 years of age, who as a group were not particularly supportive of bus service, the age of the respondents had no effect upon their opinions about bus service.

Rail Rapid Transit

Although no questions in the interview focused on rail rapid transit, cross tabulations revealed some noteworthy findings. Because Northern Virginia is the only area of the state that has this service, these results are perhaps biased by the income(s) and age(s) of the people there. Of those who felt that rail rapid transit would best serve their community, 90% were urban dwellers. Table 10 shows the statistically significant relationship between the respondents' income level and preference for rail rapid transportation, while Table 11 reveals the relationship between age and the preference for this mode. At the 99% level of confidence, as income increased so did the respondent's propensity to prefer rail rapid transit. Likewise, at the 96% level of confidence, this mode was not the means of transit favored by the older segments of the population. Consequently, it appears that rail rapid transit is the choice of young urbanites with high incomes.

Table 10

Preference for Rail Rapid Transit
by Income of Respondent
(N=893)

<u>Income Category</u>	<u>Percentage of Respondents</u>
<\$5,000/year	6
\$5,001-\$10,000	7
\$10,001-\$15,000	6
\$15,001-\$20,000	20
\$20,001-\$30,000	21
>\$30,000	40
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TOTAL	100

$\chi^2 = 39.81316$; 5 d.f.; 0.99 level of confidence.

Table 11

Preference for Rail Rapid Transit
by Age of Respondent
(N=988)

<u>Age Category</u>	<u>Percentage of Respondents</u>
16-20	10
21-30	25
31-40	21
41-50	17
51-60	15
61-70	12
over 70	0
TOTAL	100

$\chi^2 = 13.34595$; 6 d.f.; 0.96 level of confidence

Rail Service

The general attitude towards rail transportation appeared to be positive. Only 29% of those having train service voiced criticisms and the criticisms were for the most part case-specific and widely dispersed. Twenty-nine percent felt they had good rail service and 41% did not know. The majority of respondents, 53%, agreed that improvement in rail service was needed, and only 29% felt that it was not. Almost 57% believed that state funds should be used to help finance improvements or additions. Only 19% were opposed to the use of state funds for this purpose. It can be said with some confidence, then, that the public voiced support for state efforts to improve and expand the state's rail system. No conclusions could be drawn with regard to the income or age of the supporters of rail service. The survey results also suggest that the respondents did not view train service as a public transportation mode. Early in the questionnaire, when asked to list the public transportation services available in the area, only 1.8% cited rail service. However, when asked directly whether or not they had train service, 24.1% answered in the affirmative. These findings imply that if the state decides to initiate or support

commuter train service, it will have to stress to the public that this service is a form of public transportation. It also suggests that the train may be a "forgotten" mode, and that marketing may aid in increasing ridership.

HIGHWAYS AND NON-MOTORIZED TRANSIT FACILITIES

Highway Facilities

Respondents were next asked a series of questions regarding highways and bicycle-pedestrian accommodations. More than 85% of those interviewed felt highways and freeways in Virginia were in good to excellent condition, only 8.7% were of the opinion that they were in poor condition, and the remainder gave opinions in between these extremes. When asked if they thought more such facilities were needed, only 16.7% replied positively. Slightly more than 75% of the respondents believed that Virginia had enough roadways and the remainder were unsure. When asked what they thought the Department should spend more money on, only about 6% answered "construction." These two findings imply that Virginians do not feel that additional highway construction is a transportation priority. As Table 12 shows, almost half the sample felt that money should be spent on the maintenance of existing facilities while very few respondents felt that more funds should be devoted to new construction. A few (6%) cited the need for new sidewalks and bikeways, which will also be discussed in this section of the report. It is interesting to note that only about 5% of the respondents felt that more money should be spent on public transportation.

Respondents were also asked what they would like to see the Department spend less money on and the response was minimal. Seventy-five percent either did not have enough knowledge of the Department's expenditures to reply or felt that the Department should not increase its expenditures on any item. About 6% of the respondents indicated that they felt the Department could carry out its daily operations with fewer personnel and another 6% said that less needed to be spent on construction. The remainder provided myriad answers, many of which were site-specific.

Cross tabulations between answers for the question on Department expenditures and the location of the respondent's residence (urban versus rural) revealed a statistically significant relationship. As Table 13 shows, urban dwellers were more likely to prefer increased expenditures on public transportation, sidewalks, and bikeways. Rural dwellers, on the other hand, preferred increased revenue for general highway maintenance, construction, and landscaping. This relationship was significant at the 99% level of confidence and seems to clearly reveal the differing priorities of urban and rural dwellers with regard to transportation expenditures.

Table 12

Highway Items Warranting Additional Expenditures
(N=1,000)

<u>Category</u>	<u>Percentage of Respondents</u>
General maintenance	46.6
Nothing	12.3
Do not know	12.1
Sidewalks-bikeways	6.2
Construction	5.8
Public transportation	5.3
Landscaping	3.8
Signs and signals	2.7
Miscellaneous	5.2
	<hr/>
TOTAL	100.0

Table 13

Preferences for Department Expenditures by Dwelling Location
(N=839)

<u>Category</u>	<u>Number of Responses</u>		
	<u>Urban</u>	<u>Rural</u>	<u>Total</u>
Nothing	66	57	123
General maintenance	252	226	478
Construction	27	31	58
Landscaping	14	24	38
Sidewalks-bikeways	48	14	62
Public transportation	44	9	53
Signs and signals	16	11	27
	<hr/>	<hr/>	<hr/>
TOTAL	467	372	839

$\chi^2 = 37.38698$; 6 d.f.; 0.99 level of confidence

Since both walking and bicycling are considered viable travel modes in comprehensive transportation planning, and since there are facilities to accommodate these modes, it was appropriate that the opinion of the citizenry regarding these modes and facilities be ascertained. Respondents were first asked their opinion of the condition of existing sidewalks and bikeways. Almost half of them reported that such facilities were not available. Of those who did report having them, better than 54% thought the facilities were good to excellent, 20% thought they were fair, 22% thought they were poor, and the remainder had no opinion. Responses to the question on bicycle-pedestrian facilities were cross tabulated with residential location. Respondents living in urban areas were more likely to be satisfied with bicycle and pedestrian facilities than were those living in rural areas. The reason for this relationship is probably because rural dwellers are basically indifferent to these types of facilities. A cross tabulation of dwelling location and respondent attitude toward the need for additional bicycle-pedestrian facilities supported this probability. At the 99% level of confidence urban dwellers were more likely to espouse a need for additional facilities of this type than were rural dwellers. These data led to a belief that these facilities are more an urban than a rural need. Respondents were also asked to give their opinion as to the adequacy of the number of these non-motorized transit facilities. Fifty-seven percent felt that more such facilities were needed, 39% felt the existing facilities were adequate, and the remainder were not sure.

One final question regarding expenditures for transportation facilities was asked. This question, however, related to personal expenditures rather than government expenditures. When asked if they would be willing to pay additional taxes to improve transportation facilities in Virginia, over half of the respondents replied that they would, about a third said they would not, and the remainder weren't sure. The fact that over half the respondents were willing to bear an additional tax burden for improved transit facilities was somewhat surprising. Upon querying the interviewers about this particular question it was learned that most of the respondents answering positively qualified their answers with various contingencies such as: "Yes, if more buses become available. Yes, if the potholes are fixed. Yes, if it would benefit me." The point to be made here is that citizens appear willing to assume some additional financial responsibility for transportation improvements, but only if the benefits are tangible and are directed to them or their community.

Cross tabulations of socioeconomic variables with respondents' attitudes toward paying additional taxes for transportation facilities revealed statistically significant relationships. First, at the 99% level of confidence, as age increased, the desirability of paying additional taxes for transportation improvements decreased (Table 14). This relationship had been expected, because young people are less apt to be on some sort of fixed income than are older people. This expectation was further confirmed by the statistically significant relationship found between occupation and attitudes toward paying additional taxes for transportation improvements. Again at the 99% level of confidence, it was found that retired individuals were more likely to resent additional taxes for transportation improvements than were working respondents. The fixed income status may also be the reason for this causal relationship.

Table 14

Acceptance of Additional Transportation Oriented Taxes
by Age of Respondent
(N=862)

<u>Category</u>	<u>Number of Responses</u>		
	<u>Yes</u>	<u>No</u>	<u>Total</u>
16-20	54	25	79
21-30	147	67	214
31-40	139	53	192
41-50	77	45	122
51-60	67	70	137
61-70	39	42	81
over 70	16	21	37
	<hr/>	<hr/>	<hr/>
TOTAL	539	323	862

$\chi^2 = 36.48445$; 6 d.f.; 0.99 level of confidence

ENERGY, INFLATIONARY IMPACTS, AND TRAFFIC RESTRAINT

Since 1973, when the OPEC countries placed an embargo on crude oil shipments and increased the price of oil fourfold, the United States has turned its attention toward energy conservation. The transportation sector, being the largest consumer of energy, has also been pressed into directing added attention to energy conservation while at the same time striving to maintain an adequate transportation system. Within the transportation sector, the biggest consumer is the private automobile. There are, then, significant issues revolving around the need to greatly reduce automobile use and to place increasing reliance on other modes of transportation. Naturally, bringing about this change in a major component of the American lifestyle will be largely up to the public. To ascertain what reactions to energy constraints citizens are having or will have, a series of questions concerning these items was included in the survey.

Respondents were first asked what they thought could be done in Virginia to reduce gasoline consumption. As Table 15 shows, more than 50% of those responding felt that high-occupancy-vehicle transportation, such as car pooling or public transit, was the answer. The remainder of the respondents listed myriad alternatives, 19% of which were regulatory in nature. These statistics suggest some important implications. First, citizens appear to be more interested in high-occupancy-vehicle transportation as a means of saving energy than as a mode of transportation. The data point out, for example, that car pooling is more acceptable to the public as a means of reducing the consumption of gasoline than as a method of public transportation. The reader will remember that previously in this report, it was noted that car pooling was not the respondents' preferred means of transportation, but that it was recognized as an energy saver. It would seem appropriate, then, for transportation agencies as well as the legislature to provide additional information on the energy savings that can be achieved by the use of multi-occupancy transit. Continuous promotional efforts would likely result in increased public use of high-occupancy-vehicle modes.

Table 15

Measures for Reducing Gasoline Consumption in Virginia
(N=854)

<u>Category</u>	<u>Percentage of Respondents</u>
Increase-improve public transportation	28.0
Incentives for car pooling	22.2
Nothing; measures are unnecessary	13.0
Tax increases	7.5
Legal sanctions limiting consumption	6.7
Better trip planning	6.0
Enforcement of 55 mph speed limit	4.8
Other	11.8
	<hr/>
TOTAL	100.0

Two questions on how increases in gasoline prices might affect transportation choices were included in this section of the survey. First, respondents were asked how expensive gasoline would have to become before they would find it necessary to alter their travel habits. Table 16 shows a distribution of their responses. It is interesting to note that almost half the respondents reported having already changed their travel habits and another 25% either did not drive or did not feel that price was an issue. Therefore, only about a fourth of the respondents reported that price could have an effect on their customary transportation choices. As the table shows, most of the remainder of the respondents cited a price of \$2 or more a gallon. Indications are that once the price of gasoline reaches \$2 per gallon, there will be further changes in citizens' transportation habits. Income was significantly related to the respondents' attitudes about how the price of gasoline would modify their transportation behavior. Individuals with higher incomes were less likely to alter their transportation habits with a rise in the price of gasoline than were those with lower incomes (Table 17). This relationship seems to suggest that low-income people are the ones who suffer the most by rising gasoline prices. It also seems to imply that the wealthy will continue to purchase gasoline regardless of the cost, whereas the less wealthy will not. Cross tabulations between the question on gasoline prices and those on age and occupation revealed no statistically significant relationships.

Table 16

Gasoline Price That Would Result In
Change in Travel Habits
(N-1,000)

<u>Category</u>	<u>Percentage of Respondents</u>
Have already changed	47.2
Not an issue	16.6
Do not drive	8.1
\$1.50 per gallon	7.2
\$2.00 per gallon	10.0
\$3.00 per gallon	2.7
\$4.00 per gallon	0.7
\$5.00 per gallon	0.8
>\$5.00 per gallon	0.9
Do not know	5.8
TOTAL	100.0

Table 17

Influence of Price on Travel Behavior
by Family Income of Respondent
(N=775)

Cost Income	Already Changed	\$1.50/gal	\$2.00/gal	\$2.00/gal	Not an Issue	Total
Under \$5,000	32	7	5	0	6	50
\$5,001-\$10,000	53	12	14	10	17	106
\$10,001-\$15,000	72	15	18	3	22	130
\$15,001-\$20,000	84	12	15	8	26	145
\$20,001-\$30,000	97	11	20	15	37	180
Over \$30,000	85	2	23	13	41	164
TOTAL	423	59	95	49	149	775

$X^2 = 35.50050$; 20 d.f.; 0.98 level of confidence

To glean more information about the impact that gasoline prices have on transportation choices, respondents were asked to indicate either how their behavior has been affected by rising gasoline prices or how they would alter their habits if prices continue to escalate. Forty-two percent of those responding reported that they either had already limited their activities or would shortly do so. Only about 17% said they would switch from the use of their car to some sort of public transportation or car pool, while another 22% said they had not and did not intend to make any such change. A little over 9% said they would purchase a more fuel-efficient automobile, while another 7% said they would use non-motorized transportation. The remaining 3% listed various alternatives. The implication that can be drawn here is that unlike their feeling that public transportation is an energy saver, a number of people don't view it as a way of offsetting the effects of inflation.

Respondents next were asked three questions to determine how certain types of restraints would affect their travel behavior. All three questions were slightly difficult for respondents to relate to because of their theoretical nature. The reader should keep this in mind when considering the responses. First, respondents were asked how their habits would change if gasoline were rationed to 20 gallons a week per household. More than half (56%) reported that such rationing would not affect them since they used less than 20 gallons per week. Eleven percent said that

they would car pool or use public transportation, and the same number said they would limit their activities. In fact, all but about 2.5% of the respondents said that they could cope with this rationing. From all appearances gasoline rationing, at least in the amount cited here, would not significantly change people's modes of travel. Cross tabulations between distributions of the responses to this question and socio-economic variables such as residence location, income, age, and occupation revealed no statistically significant relationships.

Respondents next were asked how they would react to a \$5 toll on each automobile trip into the central city. Table 18 presents a distribution of the responses to this question. As the table shows, a \$5 toll would deter well over half of those who travel to the inner city from continuing to do so. Only about 20% would use a public conveyance or car pool, and roughly 13% say they would pay the fee — probably because they either live or work in the central city. It is suspected that such a toll would discourage a large portion of the population from entering the city at all — hardly the objective of such a traffic restraint. Since the intent of this type of restraint is not to discourage people from frequenting the central city but to induce them to convert to public transportation, marketing campaigns should be directed toward that end.

Table 18

Influence of \$5 Toll on Travel into City
(N=852)

<u>Category</u>	<u>Percentage of Respondents</u>
Would not go	59.6
Use public transportation	16.0
Pay the fee	12.9
Car pool	4.6
Do not know	3.2
Walk or bike	2.8
Other	0.9
TOTAL	100.0

Cross tabulations between answers to the question on tolls and certain socioeconomic traits of respondents revealed several interesting statistical relationships. First, no statistically significant relationship could be found between income and responses to the question. Even though roughly 85% of the respondents would resist the toll, their incomes had no bearing on their decision. On the other hand, the location of the residence did correlate with answers to this question. At the 99% level of confidence, urban dwellers would be more likely to seek other means of traveling into the central city in order to avoid the toll than would rural residents. The latter had a greater tendency than the former to either pay the toll or avoid the city completely. The implication here is that rural residents do not feel they have any alternatives to the automobile. Earlier sections of this report provide some insight into whether they would use alternative means of transportation were they available.

The respondents were asked one final question on traffic restraints: How would you react if you were charged \$5 daily to park at your place of employment? Table 19 shows the obvious difference in the way people view the work trip as opposed to a trip into the city. Almost a third would pay the fee, whereas in the previous situation barely 13% would. In the work situation, far fewer respondents would resort to non-motorized transit than in the situation where a toll would be imposed for entering the city. The key finding here, however, is that a substantial number of respondents would car pool (15.5% here as opposed to 4.6% for the previous question) if a fee was charged for parking their personal automobiles at their places of employment. This type of restraint, then, must clearly be considered by planners wishing to reduce traffic congestion at the workplace.

Whereas income could not be correlated to answers to the question on the city toll, it did show a statistically significant relationship with responses to the question on the parking fee. At the 99% level of confidence, as income increased so did the willingness of respondents to pay the parking fee rather than seek a transportation alternative. Such a restraint, then, might have more impact on lower income citizens than on those in higher income brackets.

Table 19

Influence of \$5 Parking Fee
on Transportation Habits
(N=452)

<u>Category</u>	<u>Percentage of Respondents</u>
Pay fee	29.0
Walk or bicycle	19.0
Use public transportation	16.6
Car pool	15.5
Would not go	12.2
Do not know	6.9
Other	0.9
TOTAL	<u>100.0</u>

RESPONDENTS' COMMENTS — CLUES TO FUTURE BEHAVIOR

At many points throughout the interview respondents had the opportunity to elaborate on their answers to questions. In addition, at the conclusion of the interview, they were asked, "Do you have anything you'd like to add?" It was hoped that candid responses would provide added insight into how the public feels about various transportation issues, but most importantly, that they might identify the public's priorities in the transportation field.

Transportation is a sincere concern of many citizens, as evidenced by the large number of comments made. A general breakdown of the subjects upon which respondents commented is presented in Table 20. Brief discussions of some of these subjects follow.

Public Transportation

The majority of those commenting on this subject, 55, cited some kind of public transportation need. Thirty-five spoke to the need for increasing public transportation service in general, 10 wanted to see Northern Virginia Metrorail extended, 3 desired more van-pooling opportunities, and the remainder spoke to a variety of needs. Only 12 respondents criticized present public transportation, 9 of these stating that public transportation is too expensive. It must be remembered that 71 respondents freely offered comments on this item — a sizeable number representing 7% of the sample. Public transportation is obviously a transportation priority to a substantial number of citizens.

Table 20

Summary Data on Respondents' Comments
(N=319)

<u>Subject</u>	<u>Number of Respondents Commenting</u>	<u>Percentage of Respondents Commenting</u>
Public transportation	71	22
Department's general organization	58	15
Department's specific activities	34	11
Sidewalks and bikeways	28	9
Passenger rail service	25	8
Taxes	24	8
Conservation	17	8
Rationing	13	5
Safety	12	4
Signs and signals	12	4
Car pooling	10	3
Synfuels	7	2
Miscellaneous	7	2
Trucks	5	1
	<hr/>	<hr/>
TOTAL	319	100

The Virginia Department of Highways and Transportation

Thirteen of the 48 respondents offering remarks on the organization and general activities of the Department felt that its operations were satisfactory. Eleven felt that the Department should plan more, and 12 had various other criticisms. Seven respondents were pleased to discover that the Department was seeking their input and 10 requested copies of the final report on the survey. Thus, although the public does appear to have criticisms of the Department, it appears to be supportive of its attempt to become more responsive to citizens' needs.

Specific Activities of the Department

Of the 34 comments received in this category, 28 dealt with the maintenance or improvement of existing roads. This finding reinforces the earlier one that a large portion of the public, 44.5%, feels that the Department should spend more money on maintenance. The remaining 6 comments were case-specific.

Sidewalks and Bikeways

Almost every comment received on this subject, 25 out of 28, expressed a need for pedestrian and bicycle facilities. Eleven respondents claimed that they would ride their bikes if proper (i.e. safe) facilities were provided. Although there is no way of knowing whether this would indeed be the case, it can be said that safety considerations deter the exercise of this transportation option.

Passenger Train Service

Comments regarding passenger rail service did not appear to be as positive as those for public transportation, sidewalks, and bikeways. Almost one-third, 8 out of 25, criticized some aspect of train service. Twelve expressed a desire for expanded Amtrak services, and 3 reported a favorable experience with the mode.

Taxes

Seventeen respondents complained either that taxes were too high or that their tax money was not being spent wisely. Four felt that the gas tax was a "sensible way to go", although 3 felt that a tax on large cars would be a better incentive for the use of small cars than the gas tax. One respondent felt that Virginia needs legislation to control the price of gasoline.

Conservation

Throughout the interviews, there appeared to be a marked split between those who felt they had conserved all that they could and those who felt that there was no need for conservation and therefore would not modify their travel habits. The comments echoed this dichotomy. Seven people opined that there was no energy crisis, that better government management could alleviate energy problems, and that they would not change their habits. On

the other hand, 10 respondents spoke to the need for rewarding conservation efforts. They also felt that some people could conserve more than they do, but recognized that some simply cannot drive any less than they already do. This is an emotional issue for many people, and the Department should be aware of the strong feelings that exist.

Miscellaneous Issues

Virginians appear to be opposed to rationing. Eight respondents commented that they did not want to see rationing put into effect, while only 4 felt that rationing was a good way to conserve.

Of those speaking to safety issues, 5 expressed the need for enforcement of the 55 mph speed limit.

All 10 of those who commented on the car pool issue cited a need for more car pools and incentives to car pool.

Synthetic fuels were seen as a future need by 6 individuals.

Although a few citizens refused to participate in the survey saying, "Oh, I don't know anything about transportation" or "I don't use transportation," the realization that transportation policy affects all citizens seemed common to those interviewed. Thus, the survey revealed that transportation issues are on the minds of Virginians, and it is hoped that their responses will aid the Department in speaking to these issues.

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APPENDIX A

RANDOM-DIGIT DIALING TECHNIQUE

The random-digit dialing technique has become increasingly popular as a means of drawing the sample for telephone interviews. In this process, all possible combinations of area codes and three-digit telephone prefixes found in the area to be surveyed are fed into a computer, which then prints out a list of telephone numbers, combining the six-digit figures with randomly attached four-digit sequences. Of course, not all numbers will be working numbers, and some will be for businesses rather than for residences. The interviewers simply call each number on the list until the desired number of interviews is obtained. The method is based on the assumption that in heavily populated areas more of the numbers generated by the computer will, in fact, be working numbers than would be the case for less populated areas and so the proportion of those interviewed in any area will be consistent with the population for that area. This turned out to be the case for this study.

3156

APPENDIX B

QUESTIONNAIRE WITH TOTAL RESPONSES

PUBLIC ATTITUDES TOWARD TRANSPORTATION

ID # _____ Location _____

Ph # _____

Good morning/afternoon/evening, is this _____? My name is _____, I am with the Virginia Department of Highways and Transportation and we are doing a survey to find out how people feel about various forms of transportation. We're interviewing a section of people throughout the state such as you, and your telephone number was selected at random. Could I have a few minutes of your time to ask some questions?

(If hesitation, assure respondent that the survey is sponsored by the VDH&T and that all answers are confidential and in no way will his/her name be used. If still unsure, I will call or respondent can call me.)

Refusal

Call back at _____

No answer	1	2	1	2
		Day	Night	

Interview completed	_____	
	Time	Date

Interviewer	A	B
-------------	---	---

Interview Schedule

(general)

	Car	City Bus or Subway	Intercity Bus	Car/Van Pool	Motor- cycle/ Moped	Walk/ Bicycle	Taxi	Plane	Other/ N/A
1 Shopping?	<u>91.9%</u>	<u>2.2%</u>	<u>0.1%</u>	<u>1.4%</u>	<u>0.2%</u>	<u>2.6%</u>	<u>0.7%</u>	<u>0.8%</u>	<u>0.1%</u>
2 Social Trips?	<u>92.0</u>	<u>1.1</u>	<u>0.4</u>	<u>1.3</u>	<u>0.3</u>	<u>1.2</u>	<u>0.2</u>	<u>0.0</u>	<u>3.5</u>
3 Business Trips?	<u>16.5</u>	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.0</u>	<u>0.1</u>	<u>0.0</u>	<u>6.1</u>	<u>77.0</u>
4 On Vacation?	<u>72.6</u>	<u>0.5</u>	<u>2.9</u>	<u>0.6</u>	<u>0.1</u>	<u>0.3</u>	<u>0.0</u>	<u>10.1</u>	<u>12.9</u>
5 Work?	<u>47.2</u>	<u>3.0</u>	<u>0.1</u>	<u>6.0</u>	<u>0.4</u>	<u>2.7</u>	<u>0.0</u>	<u>0.0</u>	<u>40.6</u>
6 Is there any one reason why you use (answer to #5) to travel to and from work?									
<u>6.1</u>	Low cost			<u>0.0</u>	Convenience of making stops enroute				
<u>12.5</u>	Convenience			<u>0.0</u>	Costs about the same as other modes				
<u>25.1</u>	No alternative			<u>0.0</u>	Private and quiet				
<u>4.3</u>	Flexibility of going to work and leaving when you want			<u>0.0</u>	Protection against bad weather				
				<u>0.4</u>	Safety				
<u>1.3</u>	It's the fastest way to get to work			<u>2.8</u>	Not sure				
<u>2.0</u>	Comfort			<u>38.9</u>	Doesn't work/NA				
<u>0.0</u>	Can listen to the radio			<u>6.6</u>	Required for job				
7 How far in miles is it from your home to your place of work?									
<u>21.6</u>	0 - 5 miles		<u>8.2</u>	Over 20 miles		<u>2.4</u>	Varies		
<u>14.5</u>	6 - 10 miles		<u>1.4</u>	Don't know		<u>2.3</u>	Works at home		
<u>6.3</u>	11 - 15 miles		<u>38.3</u>	Doesn't work/NA					
<u>5.0</u>	16 - 20 miles								
8 Which forms of public transportation are available in your area?									
<u>52.8%</u>	Bus								
<u>1.8</u>	Rail								
<u>0.5</u>	Dial-a-Bus								
<u>6.5</u>	Subway								
<u>0.8</u>	Van pooling								
9 How often do you use some kind of local public transportation?									
<u>3.2%</u>	Almost every day		<u>6.1</u>	2-3 days a year					
<u>2.7</u>	2-3 days a week		<u>82.4</u>	Never					
<u>5.6</u>	2-3 days a month								
10 In your opinion, what kind of local public transportation would best serve your community? (Do not read)									
<u>64.2%</u>	Regular bus service		<u>2.2%</u>	Intercity bus, service rail					
<u>1.9</u>	Door-to-door bus service		<u>1.5</u>	Car pool/ride sharing					
<u>8.9</u>	Rail rapid transit								

11 What is the one most serious shortcoming with bus service in your community?

45.6% No bus service available
8.1 Buses don't run often enough
3.5 Cannot depend on bus schedules/service
8.2 There are not enough bus routes
2.2 It takes too long to go places using the local bus
1.8 It costs too much
2.8 The buses are not comfortable
12.7 Don't know
9.5 Bus service adequate
5.6 Bus stops not close enough to house

NOW SOME QUESTIONS ABOUT TRAIN SERVICE

12 Do you have passenger rail service in your area? 24.1% yes 75.9% no

13 Is there anything you particularly dislike about passenger rail service?

73.3% No railroad passenger service from here
1.3 Trains do not run often enough
1.2 Cannot depend upon train schedules
1.1 Trains do not go where I want to go
1.1 It takes too long to go places
1.7 The trains are not comfortable
1.0 Difficult to get to and from the station
0.3 Too many accidents
0.2 Train costs too much
7.7 No, rail service adequate
11.1 Don't know

14 Would you like to see improvements or additions to passenger rail service in your area? 53.0% yes 28.8% no 18.2% don't know

15 Do you think state funds should be used to help pay for additions and improvements?
56.8% yes 19.5% no 23.7% don't know

NOW A FEW QUESTIONS ABOUT HIGHWAY FACILITIES

16 What condition do you feel that interstate highways and freeways in your area are in? (read)

<u>17.1%</u> Excellent	<u>8.7%</u> Poor
<u>51.7</u> Good	<u>2.1</u> No opinion
<u>20.3</u> Fair	<u>0.1</u> Not applicable

17 Do you think we need more of them, have more than are needed, or do we have about enough?

<u>16.6%</u> Need more	<u>75.7%</u> Have about enough
<u>3.9</u> Have more than enough	<u>3.6</u> Not sure
	<u>0.2</u> Not applicable

18 What about the condition of bicycle and pedestrian facilities? (read)

<u>4.0%</u> Excellent	<u>11.9%</u> Poor
<u>26.0</u> Good	<u>45.0</u> Don't Have any
<u>11.1</u> Fair	<u>2.0</u> No opinion

19 Are more of these needed, do we have too many, or do we have about the right amount?

<u>57.1%</u> Need more	<u>39.1%</u> Have about enough
<u>0.4</u> Have more than enough	<u>3.4</u> Not sure

20 What particular thing do you think the highway department should spend more money on?

<u>12.3%</u> Nothing	<u>2.7%</u> Signs and signals
<u>44.5</u> General maintenance	<u>1.3</u> Snow removal
<u>2.1</u> Interstate maintenance	<u>1.3</u> Safety
<u>4.9</u> Construction	<u>12.1</u> Don't know
<u>0.9</u> Interstate construction	<u>0.9</u> Specific location
<u>3.8</u> Landscaping	<u>1.1</u> Planning
<u>6.2</u> Sidewalks and/or bikeways	<u>0.6</u> Law enforcement
<u>5.3</u> Public transportation	

21 Would you be willing to pay additional taxes to improve transportation facilities in Virginia?

<u>54.1%</u> yes	<u>33.2%</u> no	<u>12.7%</u> don't know/no answer
------------------	-----------------	-----------------------------------

22 What particular thing do you think the highway department should spend less money on?

<u>27.2%</u> Nothing	<u>1.3%</u> General maintenance
<u>46.2</u> Don't know	<u>0.6</u> Safety
<u>5.7</u> Personnel	<u>1.5</u> Interstate construction
<u>3.2</u> Unneeded repairs	<u>4.7</u> General construction
<u>2.4</u> Landscaping	<u>0.6</u> Specific locational item
<u>2.3</u> Signs and signals	<u>0.2</u> Public transportation
<u>1.0</u> Tolls	<u>0.4</u> Law enforcement
<u>0.9</u> Interstate maintenance	<u>1.8</u> Administration

NOW LET'S TALK ABOUT ENERGY

23 As you probably know, all people in the United States have been asked to conserve fuel whenever possible. What one thing do you think could be done in Virginia to get people to cut gasoline use?

<u>4.1%</u> Enforce 55 mph
<u>5.7</u> Regulations
<u>6.4</u> Taxes
<u>19.0</u> Encourage people to car pool
<u>5.1</u> Encourage people to plan trips better
<u>23.9</u> Improving public transportation
<u>1.9</u> Technology change (i.e. synthetic fuels, electronic cars)
<u>2.6</u> Bicycle-pedestrian facilities
<u>1.4</u> State-local planning
<u>14.6</u> Don't know
<u>11.0</u> Nothing, not necessary
<u>2.8</u> Education
<u>1.5</u> Miscellaneous

- 24 Let's say gas is plentiful during the next two years, how expensive would it have to become before you change your current transportation habits? (Probe if necessary)

<u>47.2%</u> Have already changed	<u>0.3%</u> More than \$5/gallon
<u>7.2</u> \$1.50/gallon	<u>0.6</u> More than \$10/gallon
<u>10.0</u> \$2/gallon	<u>16.6</u> Expense not an issue
<u>2.7</u> \$3/gallon	<u>8.1</u> Do not drive now
<u>0.7</u> \$4/gallon	<u>4.1</u> Other
<u>0.8</u> \$5/gallon	<u>1.7</u> Don't know

- 25 How would you/have you change(d) your transportation habits?

<u>9.1%</u> Car pool	<u>0.8%</u> Move closer to work
<u>5.1</u> Use public transportation	<u>38.5</u> Limit activities
<u>6.6</u> Walk or bicycle	<u>19.9</u> Haven't/wouldn't change
<u>8.3</u> Purchase/use more fuel-efficient vehicle	<u>1.3</u> Cut out vacation
<u>0.5</u> Quit job	<u>1.1</u> Don't know
	<u>7.9</u> Don't drive

- 26 Suppose the government rationed gasoline to 20 gallons a week, how would you change your current transportation habits, if at all?

<u>6.8%</u> Car pool	<u>1.1%</u> Move closer to work
<u>2.9</u> Use public transportation	<u>10.0</u> Limit activities
<u>2.6</u> Walk or bicycle	<u>1.9</u> Consolidate trips to do more things on one trip
<u>0.9</u> Use gasahol	<u>2.3</u> Could not do it
<u>3.5</u> Purchase/use more fuel-efficient vehicle	<u>4.2</u> Don't know
<u>1.4</u> Vacation closer to home	<u>8.0</u> Do not drive
<u>51.5</u> Would make no adjustment/ presently use less than 20 gallons	<u>2.9</u> Quit job

- 27 If you were charged \$5 each time you drove your car into the central city, what would you do?

<u>3.9%</u> Car pool	<u>50.8%</u> Would not go
<u>13.6</u> Use public transportation	<u>0.8</u> Other
<u>2.4</u> Walk or bicycle	<u>2.7</u> Don't know
<u>11.0</u> Would make no adjustment/pay fee	<u>8.0</u> Do not drive
<u>6.8</u> Does not apply (no car)	

- 28 If you were charged an additional \$5 a day to park at work, what would you do?

<u>7.0%</u> Car pool	<u>0.4%</u> Other
<u>7.5</u> Use public transportation	<u>5.5</u> Would not go
<u>8.6</u> Walk or bicycle	<u>3.1</u> Don't know
<u>13.1</u> Would make no adjustment/pay fee	<u>8.0</u> Do not drive
<u>46.8</u> Does not apply (no car); don't work	

THAT'S ALL THE QUESTIONS ON TRANSPORTATION, NOW I'D LIKE TO KNOW A LITTLE ABOUT YOU AND YOUR FAMILY

29 What is your occupation?

<u>13.5%</u>	Professional	<u>2.8%</u>	Military
<u>9.2</u>	Managerial	<u>10.5</u>	Unemployed
<u>15.3</u>	Clerical	<u>18.4</u>	Homemaker
<u>9.5</u>	Semiskilled	<u>11.9</u>	Retired
<u>8.3</u>	Unskilled	<u>0.6</u>	Refused

30 What is your spouse's occupation?

<u>9.7%</u>	Professional	<u>1.9%</u>	Unemployed
<u>8.2</u>	Managerial	<u>9.9</u>	Homemaker
<u>13.9</u>	Clerical	<u>7.9</u>	Retired
<u>8.3</u>	Semiskilled	<u>33.3</u>	Single
<u>3.3</u>	Unskilled	<u>0.8</u>	Refused
<u>2.8</u>	Military		

31 How many people live in your home?

<u>11.6%</u>	1	<u>9.2%</u>	5
<u>34.1</u>	2	<u>3.0</u>	6
<u>20.4</u>	3	<u>1.7</u>	>6
<u>19.5</u>	4	<u>0.5</u>	Refused

32 How many of these are drivers?

<u>18.8%</u>	1	<u>2.3%</u>	>4
<u>55.1</u>	2	<u>4.1</u>	None
<u>13.3</u>	3	<u>0.5</u>	Refused
<u>5.9</u>	4		

33 Annual family income

<u>9.3%</u>	\$5,000 or under	<u>18.7%</u>	\$20,001-\$30,000
<u>13.1</u>	\$5,001-\$10,000	<u>18.1</u>	Over \$30,000
<u>14.1</u>	\$10,001-\$15,000	<u>4.7</u>	Don't know
<u>16.0</u>	\$15,001-\$20,000	<u>6.0</u>	Refused

34 How many automobiles does your household own?

<u>5.3%</u>	0	<u>12.0%</u>	3
<u>28.9</u>	1	<u>5.5</u>	4
<u>45.5</u>	2	<u>2.4</u>	More than 4

35 Do you mind if I ask your age?

<u>10.3%</u>	16-21	<u>15.4%</u>	51-60
<u>23.1</u>	21-30	<u>11.2</u>	61-70
<u>20.7</u>	31-40	<u>5.0</u>	Over 70
<u>13.1</u>	41-50	<u>1.2</u>	Refused

43.7% Male 56.3% Female

9% Urban 43.1% Rural 0.1% Refused

Additional comments you'd like to make at this time?

Thank you much for your time.

Additional comments:
