Survey of Effectiveness of Transportation Services

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SURVEY OF
EFFECTIVENESS OF TRANSPORTATION SERVICES

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April 1981
**Abstract**

With increased emphasis on public accountability and program evaluation, the need for effectiveness measures to indicate the extent to which an agency's goals and objectives are being met is increasingly apparent. A research study was undertaken to establish and implement a procedure for monitoring the effectiveness of transportation services in Kentucky. Quantitative data for many of the effectiveness measures were obtainable only through responses from the public. Surveys of licensed drivers and bus riders were selected as data sources. This report addresses the procedures and results of the two surveys. Responses were received from 35.5 percent of the 10,000 licensed drivers who were sent questionnaires and 26.0 percent of the 4,560 bus riders. Results from the surveys were summarized into the following areas: (1) survey response, (2) personal information, (3) satisfaction with transportation services, (4) inadequate transportation services, (5) drivers' complaints and compliments, (6) future government spending for transportation, (7) problems getting to various destinations, (8) use of other modes of transportation, (9) opinions on laws or government regulations, and (10) bus rider survey.

**Key Words**
- Transportation services
- Driver opinions
- Questionnaire surveys
- Transit usage
- Laws and regulations
- Sampling
- Safety
- Accessibility

**Distribution Statement**

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Introduction

With recent, new emphasis on public accountability and program evaluation, the need for effectiveness measures to indicate the extent to which an agency's goals and objectives are being met is increasingly apparent. In a time of dwindling financial resources, the public demands more from governmental agencies. Proper justification of programs is essential, and it is necessary to demonstrate the usefulness of services provided.

As a means of communicating with the public and seeking their opinions concerning effectiveness of transportation systems and services, the U. S. Department of Transportation surveyed groups of people from several states in 1977 (1). The results of this survey indicated that some major changes in our transportation life-style were expected by almost half the people queried. Also, the public favored switching to an interstate maintenance program rather than initiating new construction. In addition, even though the majority of the public did not use any form of public transportation, general support was given to additional investment in public transportation relative to highways and railroads.

This type of effort by the U. S. Department of Transportation emphasizes the continuing need to communicate with the public and to monitor the effectiveness of transportation services. In an effort to meet this need, a research study was initiated to establish and implement a procedure for monitoring the effectiveness of transportation services in Kentucky. As has been the case in other studies attempting to evaluate the effectiveness of programs or services, considerable data are available but most are not in a form suitable for assessment. Very little information is available that can be used by policymakers to determine whether services are improving or deteriorating. General areas of transportation services for which data are not readily available include the following:

- Rapid and efficient movement of people and goods,
- General accessibility of specific destinations,
- Rideability of state roads,
- Other measures of comfort and convenience,
- Safety aspects of various transportation modes,
- Environmental and aesthetic impacts,
- General transportation services,
- Public transportation services,
- Economic impacts, and
- Overall assessments.

These general areas of transportation services form the nucleus for which effectiveness evaluations will be performed. More specific services can be derived from the overall objectives of the Department of Transportation as stated in the Kentucky Revised Statutes (2). A thorough review of the Statutes produced a comprehensive list of objectives that were addressed from the standpoint of developing effectiveness measures. This list was supplemented with additional objectives from the U. S. Department of Transportation's report "Monitoring the Effectiveness of State Transportation Services" (3). The resulting list of objectives and suggested measures of effectiveness is presented in APPENDIX A. Quantitative data for many of the effectiveness measures were obtainable only through responses from the public. These data were obtained from surveys of licensed drivers and bus riders. This report will address the procedures and results of the two surveys. Similar surveys can be done in the future, and the results can be compared to those contained in this report as an indication of how the public's perception of the effectiveness of transportation services has changed.
Procedure

One of the first decisions required when planning an opinion survey regards the type of survey to be performed. Personal interview surveys are generally regarded as providing the most reliable results. However, these surveys can be expensive. Telephone surveys also tend to provide good results and are less expensive. The least expensive type is the mail survey, which involves mailing the questionnaire to a sample of people and requesting that they complete and return it. A built-in bias with this type of survey results from the fact that those people who have strong or extreme opinions on a subject are more willing to take the time and effort to complete and return the questionnaire than are those with mild or casual opinions. This tends to bias the results toward extremes and may also create a bias toward negative or dissatisfied responses. Despite this shortcoming, the decision was made to perform a mail survey because of the much lower cost of this type of survey.

The next decision required was where to obtain the sample of persons to which the questionnaires would be sent. The objective of the survey was to measure the opinions of the citizens of Kentucky regarding transportation services. Therefore, what was desired was a random sample selected from a list of all the state's citizens. Unfortunately, such a list was not available. A search was then begun to find a list that approximated this ideal list. Three different lists were considered: the driver license file, the voter registration file, and the telephone directory. The telephone directory had to be abandoned due to the large amount of time and effort required. No other good, readily available sources could be found. Therefore, a closer look was taken at the two remaining lists.

The driver license file was found to contain approximately 2,100,000 drivers, which was just over 80 percent of all Kentucky residents 16 years of age and older. This file excludes those citizens less than 16 years of age. The voter registration file excludes those under 18 years of age and was found to include approximately 1,700,000 registered voters, which is just under 70 percent of all Kentucky residents 18 years of age and older. Neither of these lists is really an unbiased sample. The voter registration file tends to be biased toward males and toward rural-dwellers (4). Concern has also been expressed that this file may be biased along the lines of income and availability of transportation. The driver license file is obviously biased along transportation lines, and therefore may be biased indirectly according to income, education, and other factors.

After lengthy discussion and consideration, the decision was made to proceed with the driver license file as the sample source. This decision was based on several factors, including the inclusion of 16 and 17 year-old persons, the higher percent representation (80.2 percent to 69.6 percent), and the more frequent updates of the file. This last point is important in reducing the number of questionnaires returned due to incorrect addresses or deceased persons. It was also recognized that the major drawback of using the driver license file is that, obviously, it excludes those persons without drivers' licenses. In an effort to sample some persons without drivers' licenses, questionnaires were also distributed to some bus riders in several Kentucky cities, since preliminary figures indicated a high percentage of bus riders did not have drivers' licenses.

A random sample of 10 percent of the driver license file was requested and obtained from the Division of Driver Licensing of the Bureau of Vehicle Regulation of the Kentucky Department of Transportation. The 10-percent sample was requested due to the unwieldy size of the entire file. From the 10-percent sample, an address label was then printed for every 18th driver, resulting in approximately 14,000 labels. Of that number, 10,000 were attached to envelopes and mailed. Each envelope contained a questionnaire, a cover letter explaining the purpose of the questionnaire, and a pre-addressed, pre-stamped envelope for returning the completed questionnaire. Many of the envelopes that were sent were
returned undelivered due to incorrect addresses, deceased persons, or other reasons. For each of these, the contents of the envelope were removed and placed in a new envelope with one of the remaining mailing labels attached. This process was continued until no more undelivered questionnaires were received, i.e., until 10,000 envelopes had been delivered. This required sending a total of approximately 11,700 envelopes.

The questionnaire was designed, written, and reproduced by the study team for this study specifically. Some questions were taken, either directly or with slight modifications, from surveys used previously in other states (3, 5). Other questions were original. After a first draft of the questionnaire was prepared, additional questions and suggestions for improvements were solicited from several representatives of the Department of Transportation. Those suggestions deemed appropriate were incorporated into the questionnaire. The questionnaire was then distributed to personnel of the Transportation Research Program to be completed, returned, and critiqued. This process identified weaknesses in certain questions, allowing further improvements to be made. After this review process, a final version of the questionnaire was prepared, additional questions and suggestions for improvements were solicited from several representatives of the Department of Transportation. Those suggestions deemed appropriate were incorporated into the questionnaire. The questionnaire was then distributed to personnel of the Transportation Research Program to be completed, returned, and critiqued. This process identified weaknesses in certain questions, allowing further improvements to be made. After this review process, a final version of the questionnaire was prepared and reproduced. A copy of the questionnaire that was mailed to 10,000 licensed drivers across the state is shown in APPENDIX B. A special 9 1/4-inch (0.23-m) by 16-inch (0.41-m) sheet was used to allow the entire questionnaire to fit on the front and back of a single sheet. It was believed this would generate a higher return rate than a multiple-sheet questionnaire.

The driver questionnaire was divided into four sections: personal information, driving information, general travel information, and driver opinions. The personal information section was designed to provide information necessary for the comparison of opinions for different ages, sexes, education levels, income levels, etc. The driving information section concentrated specifically on travel by road. The general travel information section dealt with access to specific destinations and with usage of modes other than automobiles. Finally, the driver opinion section sought drivers' feelings on many transportation-related issues.

The cover letter that accompanied the questionnaires is also shown in APPENDIX B. The letter was designed to be concise without being laconic. It concentrated on making the driver feel privileged to be one of those selected to participate in an important study and to have a chance to influence the formulation of transportation plans for Kentucky. As an additional experiment, half of the cover letters were personally signed; the other half contained printed signatures. This was done to determine if personal signatures would generate a higher return rate. Each questionnaire sent with a personally signed cover letter was coded so it could be identified when returned.

In an effort to obtain, for comparative purposes, some responses from persons without drivers' licenses, questionnaires were distributed to bus riders in several Kentucky cities. Louisville, Lexington, Frankfort, and Maysville were selected as representing the different sizes of bus systems in the state. The questionnaire was modified for this purpose. The section on driving information and other questions relating specifically to automobile travel were deleted, and an explanatory paragraph at the top of the questionnaire replaced the cover letter. The modified questionnaires were folded, placed in stamped, addressed, return envelopes, and distributed to bus riders. In Maysville, Frankfort, and Lexington, the questionnaires were distributed by bus drivers. In Louisville, Research Program employees distributed the questionnaires at transfer points. A total of 300 questionnaires were distributed in each of the two smallest cities, Maysville and Frankfort, while 1,300 were distributed in Lexington and 2,660 in Louisville. A copy of the questionnaire distributed to bus riders is shown in APPENDIX C.

As completed questionnaires were received, a procedure was developed for coding responses onto computer cards. Punched cards were then checked for out-of-range values prior to being analyzed and summarized by computer.
Results

The primary emphasis of this report is the survey of licensed drivers. A bus rider survey was conducted as a supplement to provide other transportation users’ perspectives for comparison with licensed drivers. The first several sections of the results will be related to the driver survey, and only the last section will address the bus survey.

Table 1. Responses and Licensed Drivers By County.

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Survey Response

Responses were received from 3,553 (35.5 percent) of the 10,000 licensed drivers who were sent a questionnaire. A multitude of theories have been discussed as causes for questionnaires not being returned. This questionnaire, presented in APPENDIX B, is certainly lengthy, and
that was probably a major factor in the response rate. Even so, the response was sufficient to provide a broad base of data for analysis.

Responses were summarized by county, highway district, area development district, and geographical area. The number and percentage of responses by county are summarized in Table 1. The number of responses ranged from two in Menifee County to 723 in Jefferson County. To determine whether the number of responses was representative of the number of licensed drivers in a county, the number of licensed drivers in each county and the percentage of all drivers in Kentucky residing in each county were also presented in Table 1. The percentage of responses and the percentage of licensed drivers were close for most counties.

The number and percentage of responses by highway district, area development district, and geographical area are presented in Table 2. Generally, the more populated districts and areas, with more licensed drivers, had more responses. Counties that make up the various highway districts, area development districts, and geographical areas are shown in Figures 1, 2, and 3, respectively.

Table 2. Responses By Location Within State.

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<td>SOUTH CENTRAL</td>
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<td>9.5</td>
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</table>

Figure 1. Highway Districts.
Of the 3,553 questionnaires returned, 55.6 percent (1,974) had been sent with personally signed cover letters and 44.4 percent (1,579) had been sent with letters which had printed signatures. This indicates that the return rate using a personal signature (39.5 percent) was significantly higher than that using a printed signature (31.6 percent).

![Figure 2. Area Development Districts.](image)

![Figure 3. Geographical Areas.](image)
### Table 3. Summary of Socioeconomic Data.

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### Table 4. Annual Miles Driven.

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<td>20,000-29,999</td>
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<td>30,000-50,000</td>
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<td>30,000-50,000</td>
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<td>OVER 50,000</td>
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</table>
Further stratification of annual mileage driven was made to show driver representation by age and sex. This information is presented in Table 5. The highest average, annual mileage driven (19,700) was recorded for males in the age bracket of 25 to 34 years old. Very close in mileage driven were males in the 35-to-44 age bracket (19,200) and males in the 21-to-24 age bracket (18,800). The 21-to-24 age bracket was the range with the highest average, annual mileage driven (12,200) for females. Overall, the average, annual mileage driven was 16,500 for males and 10,800 for females.

Satisfaction with Transportation Services

A significant portion of the survey was devoted to drivers' opinions concerning satisfaction with various transportation services. Table 6 is a general summary of those results. A majority of the respondents were either very satisfied or satisfied with the services listed in Table 6. Probably one of the most outstanding results of the survey is reflected in the drivers' opinions of the overall transportation system. Over 80 percent of the respondents were either very satisfied or satisfied. Snow and ice removal and highway maintenance in general received the lowest approval ratings. Even here, drivers who were very satisfied or satisfied totaled approximately 50 percent. To determine whether there were major differences in driver opinion by area of the state, results from the question concerning satisfaction with the overall transportation system were listed by geographical area in Table 7. The geographical areas are the same as those in Figure 3. These results show that the southeastern portion of the state was the only exception to the general rule of high satisfaction. Only 66 percent of the respondents were satisfied or very satisfied in this area as compared to at least 80 percent in each of the other areas.

Another stratification, based on city population, was made of drivers' opinions of various aspects of Kentucky's transportation system. The data presented in Table 8 indicate that, as city size decreased, drivers tended to be more dissatisfied with highway appearance, maintenance, and snow removal. This trend was not as apparent when the drivers were queried concerning their opinion of the overall transportation system.

As a means of checking consistency of opinions, responses from related questions

Table 5. Annual Mileage Driven by Age and Sex of Driver.

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<td>75 OR OLDER</td>
<td>9,600</td>
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<td>5,300</td>
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<tr>
<td>ALL</td>
<td>16,500</td>
<td>10,800</td>
<td>14,100</td>
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Table 6. Driver Opinions Regarding State Transportation Services.

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<th>PERCENT</th>
<th>SATISFIED NUMBER</th>
<th>PERCENT</th>
<th>DISSATISFIED NUMBER</th>
<th>PERCENT</th>
<th>VERY DISSATISFIED NUMBER</th>
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<td>55.9</td>
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<td>24.3</td>
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Table 7. Satisfaction With Overall Transportation System By Geographical Area.

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Table 8. Drivers' Opinions of Various Aspects of Kentucky's Transportation System By City Population.

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<th>OVERALL TRANSPORTATION -SYSTEM</th>
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Table 9. Relationship Between Satisfaction With Snow and Ice Removal and Opinion on Future Spending For Snow and Ice Removal.

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<tr>
<td>VERY DISSATISFIED</td>
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</table>
in two different sections of the questionnaire were cross-tabulated. Relationships between satisfaction with snow removal and opinion on future spending for snow removal are presented in Table 9. A majority of drivers who were satisfied with snow removal felt spending in that area should remain at the same level. Almost all of those who were dissatisfied felt an increase in spending for snow and ice removal was warranted. The relationships between satisfaction with highway maintenance and opinion on future spending for road maintenance are presented in Table 10. In general, very-satisfied drivers felt spending should remain unchanged, and very-dissatisfied drivers wanted increased spending for road maintenance. However, it was found that even among those drivers satisfied with highway maintenance, 58 percent wanted increased spending.

Additional cross-tabulations were made to assess drivers' satisfaction with the overall transportation system as a function of nine variables associated with the driving task. These are presented in Table 11. Drivers who always had automobiles available were generally satisfied with the overall transportation system; satisfaction decreased with decreasing availability of automobiles. Surprisingly, more drivers who sometimes encountered rough roads were very satisfied or satisfied than those who rarely encountered rough roads. This very slight difference was the only case where a decrease in satisfaction with the overall transportation system did not occur as expected. Drivers tended to be satisfied with overall transportation services if they were generally satisfied with other aspects related to driving and if they did not indicate frequent encounters with undesirable roadway features.

Additional summaries and stratifications were made by county, highway district, and area development district. Drivers' opinions of various aspects of Kentucky's transportation system are summarized by county in Table 12. A significant variance in dissatisfaction existed between the counties in different areas of the state. This variance of opinions is more clearly shown in the summary by highway district in Table 13. Here, residents of counties in southeastern Kentucky (Highway Districts 10, 11, and 12) are obviously more dissatisfied with all transportation services as compared to residents in other parts of the state. Respondents from districts including the larger urban areas (Highway Districts 5, 6, and 7) were more satisfied with transportation services. The other summary, which includes responses by area development districts, is presented in Table 14. The same trend exists here, with respondents from southeastern Kentucky districts expressing more dissatisfaction than those from other parts of the state.

Inadequate Transportation Services

A few questions dealt with how often drivers encountered various types of inadequate transportation services. These included: state- or US-numbered highways that were bumpy, uneven, or rough; an

Table 10. Relationship Between Satisfaction With Highway Maintenance and Opinion on Future Spending For Road Maintenance.

<table>
<thead>
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<th>SATISFACTION WITH HIGHWAY MAINTENANCE</th>
<th>OPINION ON FUTURE SPENDING FOR ROAD MAINTENANCE PERCENT</th>
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<td>93</td>
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</table>
acceptable level of congestion on city streets; congestion on rural roads; traffic signs or signals that were poorly placed or difficult to understand; and pavement markings, such as center lines, edge stripes, and lane markings, which were hard to see.

The frequency of encountering these inadequate elements is summarized in Table 15. The most common problem was bumpy roads, with about one-fourth of all respondents experiencing this problem very often and over one-half experiencing it either fairly often or very often. Also, unacceptable levels of congestion on city streets and pavement markings that were hard to see were experienced either fairly often or very often by about 40 percent of the drivers. Inadequate signs or signals were much less of a problem, with only about 17 percent of drivers meeting this problem fairly often or very often. The least common problem involved congestion on rural roads, with over one-half of the respondents encountering this problem either rarely or never.

Table 11. Satisfaction With Overall Transportation System As A Function Of Various Driving Information.

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Table 12. Drivers’ Opinions Of Various Aspects Of Kentucky’s Transportation System By County.

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Table 12. Drivers' Opinions Of Various Aspects Of Kentucky's Transportation By County (Continued).

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Table 13. Drivers' Opinions Of Various Aspects Of Kentucky's Transportation System By Highway District.

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Table 14. Satisfaction With Overall Transportation System By Area Development District.

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The percentage of drivers experiencing these problems either fairly often or very often was summarized by highway district (Table 16), county (Table 17), and population of city of residence (Table 18). The analysis by highway district showed the most problems in District 12, followed by Districts 10 and 11, and the least problems in District 3.

To rate the level of inadequate services on a county basis, the percentages given in Table 17 were added for each county. The counties with the ten highest percentages of drivers experiencing these inadequate services were concentrated in the southeastern part of the state (Figure 4). Counties with the lowest total percentages were concentrated in the northeastern part of the state.

### Table 15. Frequency Of Encountering Inadequate Transportation Services.

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<th>RESPONSE</th>
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### Table 16. Frequency Of Encountering Inadequate Transportation Services By Highway District.

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Table 17. Frequency Of Encountering Inadequate Transportation Services By County.

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scattered throughout the state, except that none were located in the southeastern portion of the state. When population was considered, the total percentage of drivers encountering the various inadequate services increased slightly as population decreased. This was due to an increase in the percentage of drivers encountering rough roads in the lower-populated areas.

The summaries given in Tables 19 and 20 were done to identify specific highways as being rough. The summaries in Table 19 show the total number of times the various

Table 18. Frequency Of Encountering Inadequate Transportation Services By City Population.

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Figure 4. Counties with Highest Percentages of Inadequate Services.
Table 19. Highways Frequently Mentioned As Being Bumpy Or Uncomfortable To Ride On.

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<th>ROUTE</th>
<th>FREQUENCY</th>
<th>ROUTE</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>I 65</td>
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<tr>
<td>US 60</td>
<td>89</td>
<td>KY 11</td>
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<td>US 62</td>
<td>62</td>
<td>KY 22</td>
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<td>US 68</td>
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<td>I 75</td>
<td>60</td>
<td>US 127</td>
<td>15</td>
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<td>KY 80</td>
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<td>US 150</td>
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<td>KY 27</td>
<td>54</td>
<td>KY 10</td>
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<td>I 65</td>
<td>50</td>
<td>KY 15</td>
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<td>US 25</td>
<td>48</td>
<td>US 41</td>
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<td>US 23</td>
<td>47</td>
<td>US 25</td>
<td>13</td>
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<tr>
<td>US 31</td>
<td>41</td>
<td>KY 56</td>
<td>12</td>
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<tr>
<td>US 421</td>
<td>36</td>
<td>US 431</td>
<td>12</td>
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<td>US 42</td>
<td>33</td>
<td>KY 16</td>
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<td>I 71</td>
<td>32</td>
<td>KY 32</td>
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<td>I 64</td>
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<td>US 460</td>
<td>31</td>
<td>KY 92</td>
<td>11</td>
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<tr>
<td>US 119</td>
<td>28</td>
<td>KY 17</td>
<td>10</td>
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<td>KY 7</td>
<td>19</td>
<td>US 31</td>
<td>10</td>
</tr>
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<td>KY 61</td>
<td>18</td>
<td>KY 44</td>
<td>10</td>
</tr>
<tr>
<td>US 31</td>
<td>18</td>
<td>KY 54</td>
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<td>KY 8</td>
<td>17</td>
<td>KY 144</td>
<td>10</td>
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<td>US 231</td>
<td>17</td>
<td>US 641</td>
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<tr>
<td>US 41</td>
<td>16</td>
<td>KY 3</td>
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</tbody>
</table>

Table 20. Routes Listed By More Than Five Percent Of Respondents In A Highway District As Being Bumpy Or Uncomfortable To Ride On.

<table>
<thead>
<tr>
<th>HIGHWAY DISTRICT</th>
<th>ROUTE</th>
<th>NUMBER OF RESPONSES</th>
<th>PERCENT OF ALL RESPONDENTS IN DISTRICT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>US 62</td>
<td>17</td>
<td>6.8</td>
</tr>
<tr>
<td>2</td>
<td>US 60</td>
<td>21</td>
<td>5.5</td>
</tr>
<tr>
<td>3</td>
<td>US 62</td>
<td>21</td>
<td>5.5</td>
</tr>
<tr>
<td>4</td>
<td>US 68</td>
<td>16</td>
<td>8.6</td>
</tr>
<tr>
<td></td>
<td>I 65</td>
<td>10</td>
<td>5.3</td>
</tr>
<tr>
<td>4</td>
<td>I 65</td>
<td>23</td>
<td>8.8</td>
</tr>
<tr>
<td></td>
<td>US 31W</td>
<td>16</td>
<td>6.1</td>
</tr>
<tr>
<td>5</td>
<td>I 65</td>
<td>52</td>
<td>5.9</td>
</tr>
<tr>
<td>6</td>
<td>I 75</td>
<td>32</td>
<td>8.4</td>
</tr>
<tr>
<td></td>
<td>US 25</td>
<td>28</td>
<td>7.3</td>
</tr>
<tr>
<td></td>
<td>US 27</td>
<td>21</td>
<td>5.5</td>
</tr>
<tr>
<td></td>
<td>US 42</td>
<td>20</td>
<td>5.2</td>
</tr>
<tr>
<td>7</td>
<td>US 27</td>
<td>26</td>
<td>5.7</td>
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<td>8</td>
<td>KY 80</td>
<td>9</td>
<td>6.2</td>
</tr>
<tr>
<td>9</td>
<td>US 23</td>
<td>13</td>
<td>8.2</td>
</tr>
<tr>
<td></td>
<td>US 60</td>
<td>13</td>
<td>8.2</td>
</tr>
<tr>
<td></td>
<td>KY 7</td>
<td>8</td>
<td>5.1</td>
</tr>
<tr>
<td></td>
<td>I 64</td>
<td>8</td>
<td>5.1</td>
</tr>
<tr>
<td>10</td>
<td>KY 15</td>
<td>5</td>
<td>5.6</td>
</tr>
<tr>
<td>11</td>
<td>US 421</td>
<td>18</td>
<td>11.0</td>
</tr>
<tr>
<td></td>
<td>US 119</td>
<td>10</td>
<td>6.1</td>
</tr>
<tr>
<td>12</td>
<td>US 23</td>
<td>28</td>
<td>17.4</td>
</tr>
<tr>
<td></td>
<td>US 460</td>
<td>17</td>
<td>10.6</td>
</tr>
<tr>
<td></td>
<td>KY 80</td>
<td>16</td>
<td>9.9</td>
</tr>
<tr>
<td></td>
<td>US 119</td>
<td>15</td>
<td>9.3</td>
</tr>
</tbody>
</table>
routes were listed. I-55 and US 60 were listed most often. The percentage of drivers in a given area, such as a highway district, identifying a given route as rough is a better measure for locating rough and bumpy highways. This approach was used in Table 20. This table gives the routes that were listed by more than five percent of the respondents in any highway district as being rough or bumpy. The route identified by the highest percentage of drivers in a single district (17.4 percent) was US 23 in District 12. US 421 in District 11 and US 460 in District 12 were also listed by over 10 percent of the respondents in their respective districts.

The drivers were asked to give the major cause of the congestion they encountered on city streets and rural roads. A summary of the responses is shown in Table 21. High traffic volumes and rush-hour traffic were listed most often as the causes of congestion in urban areas. In rural areas, farm equipment and narrow roads were listed most often.

One question on the survey dealt with the need, availability, and convenience of

Table 21. Major Causes Of Congestion In Urban and Rural Areas.

<table>
<thead>
<tr>
<th>CAUSE OF CONGESTION</th>
<th>NUMBER</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>URBAN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIGH TRAFFIC VOLUME</td>
<td>350</td>
<td>13.5</td>
</tr>
<tr>
<td>RUSH HOUR TRAFFIC</td>
<td>347</td>
<td>13.4</td>
</tr>
<tr>
<td>POOR ENGINEERING DESIGN OR PLANNING</td>
<td>194</td>
<td>7.3</td>
</tr>
<tr>
<td>SIGNALS NOT SYNCHRONIZED</td>
<td>188</td>
<td>7.0</td>
</tr>
<tr>
<td>POOR DRIVERS</td>
<td>148</td>
<td>5.7</td>
</tr>
<tr>
<td>PROBLEMS DURING CONSTRUCTION</td>
<td>119</td>
<td>4.6</td>
</tr>
<tr>
<td>NEED ADDITIONAL LANES</td>
<td>116</td>
<td>4.5</td>
</tr>
<tr>
<td>INADEQUATE SYSTEM</td>
<td>109</td>
<td>4.2</td>
</tr>
<tr>
<td>NARROW STREETS</td>
<td>102</td>
<td>3.9</td>
</tr>
<tr>
<td>ACCIDENTS</td>
<td>66</td>
<td>2.5</td>
</tr>
<tr>
<td>BUSINESSES</td>
<td>65</td>
<td>2.5</td>
</tr>
<tr>
<td>TOO MANY SIGNALS</td>
<td>57</td>
<td>2.2</td>
</tr>
<tr>
<td>TRAINS</td>
<td>57</td>
<td>2.2</td>
</tr>
<tr>
<td>INADEQUATE PARKING</td>
<td>54</td>
<td>2.1</td>
</tr>
<tr>
<td>NEED BYPASS</td>
<td>50</td>
<td>1.9</td>
</tr>
<tr>
<td>WEATHER</td>
<td>45</td>
<td>1.7</td>
</tr>
<tr>
<td>SPECIAL EVENTS</td>
<td>40</td>
<td>1.5</td>
</tr>
<tr>
<td>POOR MAINTENANCE</td>
<td>38</td>
<td>1.5</td>
</tr>
<tr>
<td>LACK OF LEFT-TURN LANES</td>
<td>37</td>
<td>1.4</td>
</tr>
<tr>
<td>SIGNALS NOT WORKING</td>
<td>36</td>
<td>1.4</td>
</tr>
<tr>
<td>LARGE TRUCKS</td>
<td>33</td>
<td>1.3</td>
</tr>
<tr>
<td>ILLEGAL PARKING</td>
<td>31</td>
<td>1.2</td>
</tr>
<tr>
<td>BRIDGES</td>
<td>25</td>
<td>1.0</td>
</tr>
<tr>
<td>LACK OF ACCESS CONTROL</td>
<td>19</td>
<td>0.7</td>
</tr>
<tr>
<td>NEED ADDITIONAL SIGNALS</td>
<td>18</td>
<td>0.7</td>
</tr>
<tr>
<td>INADEQUATE PUBLIC TRANSIT</td>
<td>17</td>
<td>0.7</td>
</tr>
<tr>
<td>POORLY DESIGNED EXPRESSWAY RAMPS</td>
<td>15</td>
<td>0.6</td>
</tr>
<tr>
<td>SCHOOLS</td>
<td>11</td>
<td>0.4</td>
</tr>
<tr>
<td>STOP SIGNS</td>
<td>9</td>
<td>0.3</td>
</tr>
<tr>
<td>NEED MORE ONE-WAY STREETS</td>
<td>7</td>
<td>0.3</td>
</tr>
<tr>
<td>OTHER</td>
<td>188</td>
<td>7.3</td>
</tr>
</tbody>
</table>

| RURAL                                |        |         |
| FARM EQUIPMENT                       | 192    | 14.2    |
| NARROW ROADS                         | 139    | 10.3    |
| DRIVER CHARACTERISTICS               | 125    | 9.2     |
| INADEQUATE CAPACITY                  | 120    | 8.9     |
| ACCIDENTS                            | 110    | 8.1     |
| CONSTRUCTION (DETOURS)               | 108    | 8.0     |
| SLOW TRUCKS AND BUSES                | 104    | 7.7     |
| POOR MAINTENANCE                     | 86     | 6.4     |
| RUSH HOUR TRAFFIC                    | 72     | 5.3     |
| SIGNS AND SIGNALS                    | 41     | 3.0     |
| WEATHER                              | 34     | 2.5     |
| POOR ENGINEERING DESIGN              | 32     | 2.4     |
| SPECIAL EVENTS                       | 27     | 2.0     |
| SCHOOLS                              | 15     | 1.1     |
| TRAINS                               | 15     | 1.1     |
| OTHER                                | 133    | 9.8     |
emergency aid. Approximately 13 percent of the respondents indicated they had been in need of emergency aid (police, ambulance, tow-truck) on a road in Kentucky during the 12-month period prior to receiving the questionnaire. For those in need of emergency aid, almost two-thirds (63 percent) were able to quickly and conveniently get the help needed.

Drivers’ Complaints and Compliments

The drivers were asked to list their biggest complaints and what they appreciated most about Kentucky’s transportation system. Some respondents listed several features; others gave no response. The percentages of drivers listing specific responses were calculated. The variance of complaints and “aspects appreciated” was investigated by location within the state (highway district) and by driver characteristics (age and sex).

The most frequently mentioned complaint involved poor maintenance, with over 15 percent of the respondents listing this type of complaint (Table 22). The second most common complaint involved a lack of adequate public transportation. About 10 percent of the respondents listed this complaint. After these two most common complaints, the number of times any complaint was listed dropped substantially. Other complaints registered by more than 100 respondents included: inadequate road system, snow and ice removal, poor planning or design, and trucks or coal trucks. Almost 10 percent of the respondents stated they had no complaint.

The aspect of Kentucky’s transportation system most appreciated was the interstate system, with about 12 percent listing this feature (Table 23). Almost nine percent listed good roads as an aspect they appreciated. Other items listed by more than 100 respondents included: the parkway (toll road) system, highway appearance, overall progress, law enforcement, convenience, and accessibility. Many of these items were

<table>
<thead>
<tr>
<th>RANK</th>
<th>COMPLAINT</th>
<th>NUMBER OF TIMES LISTED</th>
<th>PERCENT OF RESPONDENTS LISTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>POOR MAINTENANCE, POOR ROADSIDE MAINTENANCE, OR BAD ROADS (IN GENERAL)</td>
<td>552</td>
<td>15.5</td>
</tr>
<tr>
<td>2</td>
<td>LACK OF ADEQUATE PUBLIC TRANSPORTATION</td>
<td>353</td>
<td>9.9</td>
</tr>
<tr>
<td>3</td>
<td>NO COMPLAINT (NOT INCLUDING THOSE LEFT BLANK)</td>
<td>333</td>
<td>9.4</td>
</tr>
<tr>
<td>4</td>
<td>INADEQUATE ROAD SYSTEM: NEED MORE ROADS OR LANES, NEED WIDER LANES, INADEQUATE CAPACITY</td>
<td>220</td>
<td>6.0</td>
</tr>
<tr>
<td>5</td>
<td>SNOW AND ICE REMOVAL</td>
<td>156</td>
<td>4.4</td>
</tr>
<tr>
<td>6</td>
<td>POOR PLANNING AND/OR DESIGN, LACK OF PROGRESS</td>
<td>129</td>
<td>3.6</td>
</tr>
<tr>
<td>7</td>
<td>TRUCKS AND/OR COAL TRUCKS</td>
<td>122</td>
<td>3.4</td>
</tr>
<tr>
<td>8</td>
<td>TOO FEW POLICE AND/OR TOO LENIENT LAW ENFORCEMENT</td>
<td>92</td>
<td>2.6</td>
</tr>
<tr>
<td>9</td>
<td>TOO HIGH PERCENTAGE OF SPENDING IN URBAN AREAS</td>
<td>80</td>
<td>2.3</td>
</tr>
<tr>
<td>10</td>
<td>TOLLS</td>
<td>79</td>
<td>2.2</td>
</tr>
<tr>
<td>11</td>
<td>STATE EMPLOYEE INEFFICIENCY</td>
<td>76</td>
<td>2.1</td>
</tr>
<tr>
<td>12</td>
<td>POLITICS AND/OR LACK OF COMMUNICATION</td>
<td>75</td>
<td>2.1</td>
</tr>
<tr>
<td>13</td>
<td>TOO LENIENT LICENSE REQUIREMENTS, POOR DRIVERS, WASTEFUL DRIVERS</td>
<td>65</td>
<td>1.8</td>
</tr>
<tr>
<td>14</td>
<td>POOR PAVEMENT MARKINGS</td>
<td>49</td>
<td>1.4</td>
</tr>
<tr>
<td>15</td>
<td>55 MPH SPEED LIMIT</td>
<td>46</td>
<td>1.3</td>
</tr>
<tr>
<td>16</td>
<td>RAILROAD TRAINS CAUSING TRAFFIC PROBLEMS</td>
<td>43</td>
<td>1.2</td>
</tr>
<tr>
<td>17</td>
<td>CONSTRUCTION CAUSING TRAFFIC PROBLEMS</td>
<td>32</td>
<td>0.9</td>
</tr>
<tr>
<td>18</td>
<td>LITTER</td>
<td>31</td>
<td>0.9</td>
</tr>
<tr>
<td>19</td>
<td>POOR SIGING</td>
<td>29</td>
<td>0.8</td>
</tr>
<tr>
<td>20</td>
<td>LACK OF SUFFICIENT SAFETY FEATURES</td>
<td>29</td>
<td>0.8</td>
</tr>
<tr>
<td>21</td>
<td>BUDGET TOO HIGH</td>
<td>26</td>
<td>0.7</td>
</tr>
<tr>
<td>22</td>
<td>TOO STRICT LAW ENFORCEMENT</td>
<td>26</td>
<td>0.7</td>
</tr>
<tr>
<td>23</td>
<td>POOR ROADWAY GEOMETRICS</td>
<td>21</td>
<td>0.6</td>
</tr>
<tr>
<td>24</td>
<td>NOT ENOUGH RECONSTRUCTION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>NOT ENOUGH SIGNALS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>TOO MUCH NEW CONSTRUCTION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>OTHER</td>
<td>308</td>
<td>8.7</td>
</tr>
<tr>
<td>28</td>
<td>LEFT BLANK</td>
<td>1093</td>
<td>30.8</td>
</tr>
</tbody>
</table>
general in nature. Some specific items, such as rest areas and raised pavement markers, were also listed by several respondents.

There were some variations when complaints and "aspects appreciated" were related to highway district (Tables 24 and 25). Tolls ranked high as a complaint in Districts 1 and 2, compared to the statewide ranking. This would be related to the large number of toll roads and the low interstate mileage in those districts. Poor maintenance ranked number one in all but one district. Lack of adequate public transportation was ranked number 1 in District 5, which includes Louisville. Lack of adequate public transportation was also tied for first in District 8, which includes Somerset and other parts of south-central Kentucky. Complaints about trucks or coal trucks ranked higher in eastern Kentucky districts. The interstate system was listed most often as a feature that was appreciated in all districts except District 2, where the parkway system was highest, and District 8, where "good roads (in general)" was ranked highest. One noticeable variation by district was that new construction was appreciated much more in the eastern Kentucky districts.

Comparisons between complaints and "aspects appreciated" by driver age and sex are shown in Tables 25 and 27. There were very few major differences, especially between males and females. More of the older drivers had no complaints, and maintenance was ranked lower as a complaint for the older drivers. Other relationships were found, such as an increase in complaints about trucks or coal trucks and politics with increasing age, and a decrease in complaints about tolls with increasing age. Some relationships were also found with the features appreciated most, such as a higher emphasis placed on pavement markings by older drivers.

Future Government Spending for Transportation

The drivers were asked their opinions concerning whether government spending for certain areas of transportation service should increase, stay the same, decrease.

### Table 23. Aspects Of Transportation System Most Appreciated.

<table>
<thead>
<tr>
<th>RANK</th>
<th>ASPECT APPRECIATED</th>
<th>NUMBER OF TIMES LISTED</th>
<th>PERCENT OF RESPONDENTS LISTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INTERSTATE SYSTEM</td>
<td>423</td>
<td>11.9</td>
</tr>
<tr>
<td>2</td>
<td>GOOD ROADS (IN GENERAL)</td>
<td>315</td>
<td>8.9</td>
</tr>
<tr>
<td>3</td>
<td>PARKWAY SYSTEM</td>
<td>194</td>
<td>5.5</td>
</tr>
<tr>
<td>4</td>
<td>HIGHWAY APPEARANCE</td>
<td>141</td>
<td>4.0</td>
</tr>
<tr>
<td>5</td>
<td>OVERALL PROGRESS</td>
<td>120</td>
<td>3.4</td>
</tr>
<tr>
<td>6</td>
<td>LAW ENFORCEMENT</td>
<td>113</td>
<td>3.2</td>
</tr>
<tr>
<td>7</td>
<td>CONVENIENCE</td>
<td>110</td>
<td>3.1</td>
</tr>
<tr>
<td>8</td>
<td>ACCESSIBILITY</td>
<td>101</td>
<td>2.8</td>
</tr>
<tr>
<td>9</td>
<td>MAINTENANCE</td>
<td>84</td>
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</tr>
<tr>
<td>10</td>
<td>REST AREAS</td>
<td>67</td>
<td>1.9</td>
</tr>
<tr>
<td>11</td>
<td>SIGNING</td>
<td>61</td>
<td>1.7</td>
</tr>
<tr>
<td>12</td>
<td>SNOW AND ICE REMOVAL</td>
<td>57</td>
<td>1.6</td>
</tr>
<tr>
<td>13</td>
<td>NEW CONSTRUCTION</td>
<td>49</td>
<td>1.4</td>
</tr>
<tr>
<td>14</td>
<td>SAFETY FACTORS</td>
<td>40</td>
<td>1.1</td>
</tr>
<tr>
<td>15</td>
<td>APPRECIATE NOTHING (NOT INCLUDING THOSE LEFT BLANK)</td>
<td>40</td>
<td>1.1</td>
</tr>
<tr>
<td>16</td>
<td>PAVEMENT MARKINGS</td>
<td>36</td>
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</tr>
<tr>
<td>17</td>
<td>PUBLIC TRANSPORTATION</td>
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<tr>
<td>18</td>
<td>MULTILANE HIGHWAYS</td>
<td>33</td>
<td>0.9</td>
</tr>
<tr>
<td>19</td>
<td>RELIABILITY</td>
<td>32</td>
<td>0.9</td>
</tr>
<tr>
<td>20</td>
<td>UPGRADING OF PRESENT HIGHWAYS</td>
<td>31</td>
<td>0.9</td>
</tr>
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Table 24. Complaints About Transportation System (By Highway District).

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* NO RESPONSES
** NOT INCLUDING THOSE LEFT BLANK
*** 1=MOST COMPLAINTS

Table 25. Aspects of Transportation System Most Appreciated (By Highway District).

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<td>SIGNING</td>
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<td>SHOW AND ICE REMOVAL</td>
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* NO RESPONSES
** NOT INCLUDING THOSE LEFT BLANK
*** 1=MOST COMPLAINTS
### Table 26. Complaints About Transportation System (Classified By Driver Age and Sex).

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<th>FEMALE</th>
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* 1=Most Complaints

### Table 27. Aspects Of Transportation System Most Appreciated (Classified By Driver Age and Sex).

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* No Response
or cease completely. The areas included: new road construction, road reconstruction, road maintenance, railroad operation and maintenance, public transportation, highway safety improvements, airports, and ice and snow removal. The responses were summarized and then related to several variables. These variables included: opinion of overall transportation system, driver residence (highway district and population of city of residence), driver age and sex, and answers to other related questions on the questionnaire.

Drivers were generally of the opinion that government spending for transportation services should increase (Table 28). The area for which the largest percentage of drivers indicated an increase was necessary was road maintenance (70 percent). The percentages indicating spending should be increased were also high for road reconstruction (66 percent) and ice and snow removal (64 percent). The areas for which the smallest percentages of drivers indicated an increase in spending was necessary were airports (19 percent) and new road construction (36 percent). These were also the areas for which with the highest percentages of drivers stated that spending should decrease or cease. Most drivers felt that spending for safety improvements should increase. About one-half felt spending for public transportation and railroads should increase; however, a fairly large percentage (12 percent) thought spending for railroads should decrease or cease.

A comparison of opinions concerning future government spending was made between drivers very satisfied and drivers very dissatisfied with Kentucky's overall transportation system (Table 29). A

<table>
<thead>
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<th>Table 28. Driver Opinions Relating To Government Spending For Transportation.</th>
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<thead>
<tr>
<th>Table 29. Comparison of Opinions Concerning Future Government Spending For Transportation (Including Drivers Either Very Satisfied Or Very Dissatisfied With Kentucky's Overall Transportation System).</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PERCENT STATING SPENDING SHOULD INCREASE</strong></td>
</tr>
<tr>
<td><strong>TRANSPORTATION SERVICE</strong></td>
</tr>
<tr>
<td>NEW ROAD CONSTRUCTION</td>
</tr>
<tr>
<td>ROAD RECONSTRUCTION</td>
</tr>
<tr>
<td>ROAD MAINTENANCE</td>
</tr>
<tr>
<td>RAILROAD OPERATION AND MAINTENANCE</td>
</tr>
<tr>
<td>PUBLIC TRANSPORTATION</td>
</tr>
<tr>
<td>HIGHWAY SAFETY IMPROVEMENTS</td>
</tr>
<tr>
<td>AIRPORT CONSTRUCTION, OPERATION, AND MAINTENANCE</td>
</tr>
<tr>
<td>SNOW AND ICE REMOVAL</td>
</tr>
</tbody>
</table>
higher percentage of drivers who were dissatisfied felt spending should increase. A comparison of the differences between these two groups for different areas of transportation services indicates the services that very dissatisfied drivers felt were in the greatest need of improvement. The difference in the percentages of very satisfied and very dissatisfied drivers who believed an increase was appropriate was used as the measure. The largest such difference occurred for road maintenance. Other large differences occurred for public transportation, snow and ice removal, and highway safety improvements.

The percentages of drivers who believed government spending for certain transportation services should increase were analyzed by highway district (Table 30). In several instances, the highest percentages occurred in the districts in the eastern section of the state (Districts 10, 11, and 12). The most dramatic example of this involved spending for new road construction. The percentages of drivers desiring increases in spending for road reconstruction, road maintenance, and highway safety improvements were also higher in these districts. The percentages for the other services stayed fairly constant from district to district. One exception was a higher percentage desiring an increase in spending for railroad operation and maintenance in Districts 4 and 5.

The percentages of drivers indicating government spending should increase for the various transportation services were also summarized by population of the city of residence (Table 31). The percentages generally increased as city population decreased. The largest such increase occurred for road reconstruction. This relationship did not exist for railroads, public transportation, and airport services, where no pattern was found.

The percentages of drivers who believe government spending for certain transportation services should increase were also classified by driver age and sex (Table 32). The comparisons showed some minor differences. Higher percentages of young drivers desired increases in spending for road reconstruction and maintenance; higher percentages of older drivers desired increases in spending for airports, railroads, public transportation, and highway safety improvements. The comparison between male and female drivers showed very little difference of opinion; the largest differences were a higher percentage of females desiring an increase in spending for snow and ice removal and a higher percentage of males desiring an increase in spending for railroads.

Table 30. Percentage Of Drivers Who Believe Government Spending For Certain Transportation Services Should Increase (Classified By Highway District).

<table>
<thead>
<tr>
<th>TRANSPORTATION SERVICE</th>
<th>PERCENT STATING SPENDING SHOULD INCREASE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HIGHWAY DISTRICT</td>
</tr>
<tr>
<td></td>
<td>1  2  3  4  5  6  7  8  9  10  11  12</td>
</tr>
<tr>
<td>NEW ROAD CONSTRUCTION</td>
<td>35 34 26 36 33 27 27 45 44 60 59 63</td>
</tr>
<tr>
<td>ROAD RECONSTRUCTION</td>
<td>69 69 68 68 59 59 58 64 73 84 86 84</td>
</tr>
<tr>
<td>ROAD MAINTENANCE</td>
<td>77 74 68 74 62 67 64 63 74 86 82 87</td>
</tr>
<tr>
<td>RAILROAD OPERATION AND MAINTENANCE</td>
<td>50 54 50 63 62 38 44 35 39 45 49 47</td>
</tr>
<tr>
<td>PUBLIC TRANSPORTATION</td>
<td>48 45 56 48 52 48 49 52 50 58 54 60</td>
</tr>
<tr>
<td>HIGHWAY SAFETY IMPROVEMENTS</td>
<td>58 64 56 59 52 55 54 68 66 83 70 72</td>
</tr>
<tr>
<td>AIRPORT CONSTRUCTION, OPERATION, AND MAINTENANCE</td>
<td>20 19 18 18 20 13 18 17 19 22 26 33</td>
</tr>
<tr>
<td>SNOW AND ICE REMOVAL</td>
<td>63 70 72 66 58 54 61 62 61 76 71 70</td>
</tr>
</tbody>
</table>
Problems Getting to Various Destinations

One of the purposes of any transportation system is to provide convenient access to those destinations crucial to everyday life. One question on the survey was designed to measure how well this objective was being met. The four destinations considered were work, shopping, hospital or doctor, and recreation or entertainment. The overall responses are summarized in Table 33.

Table 31. Percentage Of Drivers Who Believe Government Spending For Certain Transportation Services Should Increase (Classified By Population Of City).

<table>
<thead>
<tr>
<th>TRANSPORTATION SERVICE</th>
<th>PERCENT STATING SPENDING SHOULD INCREASE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>POPULATION OF CITY OF RESIDENCE</td>
</tr>
<tr>
<td></td>
<td>OVER 60,000</td>
</tr>
<tr>
<td>NEW ROAD CONSTRUCTION</td>
<td>33</td>
</tr>
<tr>
<td>ROAD RECONSTRUCTION</td>
<td>59</td>
</tr>
<tr>
<td>ROAD MAINTENANCE</td>
<td>64</td>
</tr>
<tr>
<td>RAILROAD OPERATION AND MAINTENANCE</td>
<td>59</td>
</tr>
<tr>
<td>PUBLIC TRANSPORTATION</td>
<td>52</td>
</tr>
<tr>
<td>HIGHWAY SAFETY IMPROVEMENTS</td>
<td>53</td>
</tr>
<tr>
<td>AIRPORT CONSTRUCTION, OPERATION AND MAINTENANCE</td>
<td>22</td>
</tr>
<tr>
<td>REMOVAL OF ICE AND SNOW</td>
<td>59</td>
</tr>
</tbody>
</table>

Table 32. Percentage Of Drivers Who Believe Government Spending For Certain Transportation Services Should Increase (Classified By Driver Age And Sex).

<table>
<thead>
<tr>
<th>TRANSPORTATION SERVICE</th>
<th>PERCENT STATING SPENDING SHOULD INCREASE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AGE 16-34</td>
</tr>
<tr>
<td>NEW ROAD CONSTRUCTION</td>
<td>36</td>
</tr>
<tr>
<td>ROAD RECONSTRUCTION</td>
<td>70</td>
</tr>
<tr>
<td>ROAD MAINTENANCE</td>
<td>74</td>
</tr>
<tr>
<td>RAILROAD OPERATION AND MAINTENANCE</td>
<td>47</td>
</tr>
<tr>
<td>PUBLIC TRANSPORTATION</td>
<td>48</td>
</tr>
<tr>
<td>HIGHWAY SAFETY IMPROVEMENTS</td>
<td>57</td>
</tr>
<tr>
<td>AIRPORT CONSTRUCTION, OPERATION, AND MAINTENANCE</td>
<td>16</td>
</tr>
<tr>
<td>SNOW AND ICE REMOVAL</td>
<td>63</td>
</tr>
</tbody>
</table>
This table shows that the majority of respondents had no problems getting to each of the destinations. However, over 20 percent had minor problems getting to work and shopping; 8 percent had major problems getting to work. The total percentage having either major or minor problems was 30.8 for work, 25.2 for shopping, 14.6 for hospital or doctor, and 17.7 for recreation or entertainment.

Table 34 shows how these percentages vary as a function of the population of the city of residence. For each type of destination, the percentage having problems decreased as the city population decreased for the three highest population groups. However, for the lowest population group, the percentages increased. This pattern seems to indicate that in large cities problems arise due to high traffic volumes and congestion. As city size decreases, the problem of traffic congestion also decreases. For very small towns or rural areas, a different problem arises — that of having to go a long distance to reach certain destinations.

The relationship between automobile availability and problems getting to various destinations is shown in Table 35. This table shows dramatically how the lack of an automobile increased problems in reaching these destinations. Table 36 shows how access problems varied with the age and sex of the respondent. No significant difference can be seen for males versus females. The only pattern evident for the age of the driver is that, for drivers over 65, problems getting to work, shopping, or recreation dropped in frequency; problems getting to the hospital or doctor remained about the same.

The relationship between income and access problems is shown in Table 37. Surprisingly, problems getting to work, shopping, and recreation/entertainment increased as income increased. This could be due to higher-income persons having higher expectations regarding transportation services. In addition, higher-income persons may do more driving in urban areas, resulting in problems due to high traffic volumes.

### Table 33. Problems Getting To Various Destinations.

<table>
<thead>
<tr>
<th>DESTINATION</th>
<th>NUMBER</th>
<th>PERCENT</th>
<th>NUMBER</th>
<th>PERCENT</th>
<th>NUMBER</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NO PROBLEMS</td>
<td>MINOR PROBLEMS</td>
<td>MAJOR PROBLEMS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WORK</td>
<td>2149</td>
<td>69.2</td>
<td>708</td>
<td>22.8</td>
<td>250</td>
<td>8.0</td>
</tr>
<tr>
<td>SHOPPING</td>
<td>2330</td>
<td>74.8</td>
<td>632</td>
<td>20.3</td>
<td>152</td>
<td>4.9</td>
</tr>
<tr>
<td>HOSPITAL OR DOCTOR</td>
<td>2601</td>
<td>85.4</td>
<td>334</td>
<td>11.0</td>
<td>110</td>
<td>3.6</td>
</tr>
<tr>
<td>RECREATION OR ENTERTAINMENT</td>
<td>2449</td>
<td>82.3</td>
<td>426</td>
<td>14.3</td>
<td>101</td>
<td>3.4</td>
</tr>
</tbody>
</table>

### Table 34. Relationship Between Population Of City Of Residence And Problems Getting To Various Destinations.

<table>
<thead>
<tr>
<th>PERCENT HAVING MINOR OR MAJOR PROBLEMS GETTING TO DESTINATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>POPULATION OF CITY WORK SHOPPING HOSPITAL OR DOCTOR</td>
</tr>
<tr>
<td>OVER 60,000</td>
</tr>
<tr>
<td>15,000-16,000</td>
</tr>
<tr>
<td>2,500-4,999</td>
</tr>
<tr>
<td>UNDER 2,500</td>
</tr>
</tbody>
</table>

### Table 35. Relationship Between Automobile Availability And Problems Getting To Various Destinations.

<table>
<thead>
<tr>
<th>PERCENT HAVING MINOR OR MAJOR PROBLEMS GETTING TO DESTINATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTOMOBILE AVAILABLE WORK SHOPPING HOSPITAL OR DOCTOR</td>
</tr>
<tr>
<td>ALWAYS</td>
</tr>
<tr>
<td>SOMETIMES</td>
</tr>
<tr>
<td>NEVER</td>
</tr>
</tbody>
</table>
Use of Other Modes of Transportation

Usage of local buses is described in Tables 33 through 41. Table 33 shows that 95 percent of the respondents rarely or never used local buses. The chief reasons for disuse are shown in Table 39. The leading reason, by far, was that local buses were not available. Other reasons listed often were inconvenient routes and inconvenient schedules. Table 40 shows the frequency of local bus use as related to driver age and sex. A difference is evident between males and females; 3.5 percent of the female drivers rode the bus at least once a week compared to 2.9 percent of the males. Younger drivers (16 to 20) were much more likely to use the bus five or more times a week; younger (16 to 24) and older (65 and up) drivers were

### Table 36. Percentage Of Drivers Having Problems Getting To A Given Destination (Classified By Driver Age And Sex).

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>MALE</th>
<th>FEMALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-20</td>
<td>31</td>
<td>26</td>
</tr>
<tr>
<td>21-24</td>
<td>35</td>
<td>29</td>
</tr>
<tr>
<td>25-34</td>
<td>37</td>
<td>31</td>
</tr>
<tr>
<td>35-44</td>
<td>34</td>
<td>25</td>
</tr>
<tr>
<td>45-54</td>
<td>32</td>
<td>26</td>
</tr>
<tr>
<td>55-64</td>
<td>31</td>
<td>23</td>
</tr>
<tr>
<td>65-74</td>
<td>21</td>
<td>15</td>
</tr>
<tr>
<td>75 OR OLDER</td>
<td>7</td>
<td>14</td>
</tr>
</tbody>
</table>

### Table 37. Relationship Between Income And Problems Getting To Various Destinations.

<table>
<thead>
<tr>
<th>ANNUAL HOUSEHOLD INCOME</th>
<th>WORK</th>
<th>SHOPPING</th>
<th>HOSPITAL OR DOCTOR</th>
<th>RECREATION OR ENTERTAINMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>LESS THAN $8,000</td>
<td>19</td>
<td>19</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>$8,000-$15,999</td>
<td>27</td>
<td>24</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>$16,000-$23,999</td>
<td>34</td>
<td>26</td>
<td>18</td>
<td>17</td>
</tr>
<tr>
<td>$24,000-$32,000</td>
<td>41</td>
<td>28</td>
<td>15</td>
<td>22</td>
</tr>
<tr>
<td>OVER $32,000</td>
<td>39</td>
<td>35</td>
<td>14</td>
<td>24</td>
</tr>
</tbody>
</table>

### Table 38. Usage Of Local Buses.

<table>
<thead>
<tr>
<th>USAGE</th>
<th>NUMBER</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 OR MORE TIMES A WEEK</td>
<td>50</td>
<td>1.4</td>
</tr>
<tr>
<td>1 TO 4 TIMES A WEEK</td>
<td>60</td>
<td>1.7</td>
</tr>
<tr>
<td>ONCE OR TWICE A MONTH</td>
<td>62</td>
<td>1.8</td>
</tr>
<tr>
<td>RARELY</td>
<td>445</td>
<td>12.7</td>
</tr>
<tr>
<td>NEVER</td>
<td>2878</td>
<td>82.3</td>
</tr>
</tbody>
</table>

### Table 39. Reasons For Not Riding Local Buses More Often.

<table>
<thead>
<tr>
<th>REASON</th>
<th>NUMBER OF RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOT AVAILABLE</td>
<td>2468</td>
</tr>
<tr>
<td>INCONVENIENT ROUTES</td>
<td>724</td>
</tr>
<tr>
<td>INCONVENIENT SCHEDULES</td>
<td>684</td>
</tr>
<tr>
<td>UNCOMFORTABLE</td>
<td>135</td>
</tr>
<tr>
<td>TOO EXPENSIVE</td>
<td>63</td>
</tr>
<tr>
<td>UNSAFE</td>
<td>58</td>
</tr>
<tr>
<td>OTHER</td>
<td>420</td>
</tr>
</tbody>
</table>

### Table 40. Frequency Of Riding Local Buses By Driver Age And Sex.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>FIVE OR MORE TIMES PER WEEK</th>
<th>ONE TO FOUR TIMES PER WEEK</th>
<th>ONCE OR TWICE A MONTH</th>
<th>RARELY</th>
<th>NEVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td>16-20 6.0</td>
<td>2.4</td>
<td>2.7</td>
<td>13.8</td>
<td>75.1</td>
</tr>
<tr>
<td></td>
<td>21-24 0.9</td>
<td>2.8</td>
<td>2.2</td>
<td>15.8</td>
<td>78.2</td>
</tr>
<tr>
<td></td>
<td>25-34 1.3</td>
<td>1.6</td>
<td>1.6</td>
<td>9.8</td>
<td>85.7</td>
</tr>
<tr>
<td></td>
<td>35-44 0.7</td>
<td>1.3</td>
<td>0.9</td>
<td>11.7</td>
<td>84.2</td>
</tr>
<tr>
<td></td>
<td>45-54 1.3</td>
<td>1.8</td>
<td>1.7</td>
<td>16.1</td>
<td>80.4</td>
</tr>
<tr>
<td></td>
<td>55-64 0.7</td>
<td>2.5</td>
<td>3.2</td>
<td>18.2</td>
<td>75.4</td>
</tr>
<tr>
<td></td>
<td>65-74 2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>14.8</td>
<td>80.2</td>
</tr>
<tr>
<td></td>
<td>75 OR OLDER</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>82.4</td>
</tr>
<tr>
<td>SEX</td>
<td>MALE 1.4</td>
<td>1.5</td>
<td>1.6</td>
<td>13.1</td>
<td>82.4</td>
</tr>
<tr>
<td></td>
<td>FEMALE 1.5</td>
<td>2.0</td>
<td>1.7</td>
<td>12.2</td>
<td>82.6</td>
</tr>
</tbody>
</table>
more likely to never use a bus. Table 41 shows that those drivers who most often used buses tended to favor increased spending for public transportation more than those drivers who did not use buses.

Carpool (or vanpool) usage is studied in Tables 42 through 45. Table 42 shows that more drivers carpooled to church than to other destinations, with school, shopping, and work following. Table 43 shows how carpool usage to work varied for different areas of the state. Highway Districts 6 and 4 had the highest carpool usage rates; Districts 1, 3, and 8 had the lowest. The northern Kentucky and Louisville areas had the highest rates while south-central Kentucky had the lowest. Table 44 indicates that young drivers (16 to 20) tended to carpool more than others and that higher-income drivers tended to carpool more than low-income. As expected, residents of larger cities carpooled more than those of smaller cities. As shown in Table 45, "rising gas prices" was listed most often as a potential cause for increased carpool usage. "Assistance in arranging and scheduling a carpool" was second, followed by "preferential parking". However,

<table>
<thead>
<tr>
<th>Table 41. Relationship Between Bus Ridership And Opinion On Future Spending For Public Transportation.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPINION ON FUTURE SPENDING FOR PUBLIC TRANSPORTATION</strong></td>
</tr>
<tr>
<td><strong>FREQUENCY OF RIDING LOCAL BUSES</strong></td>
</tr>
<tr>
<td><strong>PERCENT</strong></td>
</tr>
<tr>
<td><strong>INCREASE</strong> <strong>STAY SAME</strong> <strong>DECREASE</strong> <strong>STOP</strong></td>
</tr>
<tr>
<td>FIVE OR MORE TIMES PER WEEK</td>
</tr>
<tr>
<td>64 36 0 0</td>
</tr>
<tr>
<td>ONE TO FOUR TIMES PER WEEK</td>
</tr>
<tr>
<td>66 33 1 0</td>
</tr>
<tr>
<td>ONCE OR TWICE PER MONTH</td>
</tr>
<tr>
<td>60 36 2 2</td>
</tr>
<tr>
<td>RARELY</td>
</tr>
<tr>
<td>57 37 4 2</td>
</tr>
<tr>
<td>NEVER</td>
</tr>
<tr>
<td>48 43 6 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 42. Number of Respondents Participating In A Carpool.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PURPOSE</strong> <strong>PARTICIPATING NUMBER</strong> <strong>PERCENT</strong></td>
</tr>
<tr>
<td>CHURCH 957 30.5</td>
</tr>
<tr>
<td>SCHOOL 618 19.7</td>
</tr>
<tr>
<td>SHOPPING 523 16.7</td>
</tr>
<tr>
<td>WORK 510 16.2</td>
</tr>
<tr>
<td>SOCIAL/RECREATION 54 1.7</td>
</tr>
<tr>
<td>OTHER 477 15.2</td>
</tr>
</tbody>
</table>
Table 43. Carpool Usage (To Work) For Various Areas Of The State.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>CATEGORY</th>
<th>PERCENT WHO CARPOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGHWAY</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>DISTRICT</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>GEOGRAPHICAL AREA</td>
<td>WESTERN</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>LOUISVILLE</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>NORTHERN</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>NORTHEASTERN</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>SOUTHEASTERN</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>SOUTH CENTRAL</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>CENTRAL</td>
<td>17</td>
</tr>
</tbody>
</table>

Table 44. Characteristics Of Drivers Who Carpool (Or Vanpool) To Work.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>CATEGORY</th>
<th>PERCENT WHO CARPOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td>16-20</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>21-24</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>25-34</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>35-44</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>45-54</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>55 OR OLDER</td>
<td>3</td>
</tr>
<tr>
<td>SEX</td>
<td>MALE</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>FEMALE</td>
<td>19</td>
</tr>
<tr>
<td>INCOME</td>
<td>LESS THAN $8,000</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>$8,000-$15,999</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>$16,000-$23,999</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>$24,000-$32,000</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>OVER $32,000</td>
<td>28</td>
</tr>
<tr>
<td>POPULATION</td>
<td>GREATER THAN 60,000</td>
<td>21</td>
</tr>
<tr>
<td>OF CITY</td>
<td>15,000-60,000</td>
<td>18</td>
</tr>
<tr>
<td>OF RESIDENCE</td>
<td>2,500-14,999</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>LESS THAN 2,500</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 45. Methods To Increase Use Of Carpools.*

<table>
<thead>
<tr>
<th>METHOD</th>
<th>NUMBER</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>RISING GAS PRICES</td>
<td>1949</td>
<td>53.6</td>
</tr>
<tr>
<td>ASSISTANCE IN ARRANGING</td>
<td>609</td>
<td>16.7</td>
</tr>
<tr>
<td>PREFERENTIAL PARKING</td>
<td>477</td>
<td>13.1</td>
</tr>
<tr>
<td>EXCLUSIVE LANES</td>
<td>227</td>
<td>6.2</td>
</tr>
<tr>
<td>OTHER</td>
<td>377</td>
<td>10.4</td>
</tr>
</tbody>
</table>

* 19.2 PERCENT OF THE RESPONDENTS INDICATED WOULD NOT CONSIDER INCREASED CARPOoling
nearly 20 percent of all respondents indicated they would not consider increased carpooling.

The usage of various other modes of transportation is summarized in Table 46. The mode used by the most drivers was the commercial airline, with 26.8 percent having used it one or more times in the 12 months prior to receiving the questionnaire. This was followed by the taxi or limousine, which was used by 15.1 percent, and the motorcycle, used by 12 percent. The mode used by the fewest drivers was the passenger train, used by only 0.3 percent, followed by private aircraft, used by 5.7 percent. For the categories of frequent use, the motorcycle was the most often-listed mode.

Table 47 examines bicycle usage and shows that bicycles were used primarily for recreation or social purposes, with over 35 percent of the respondents using bicycles for these purposes.

Table 46. Usage Of Various Modes Of Transportation.

<table>
<thead>
<tr>
<th>TRANSPORTATION MODE</th>
<th>NUMBER OF TIMES USED IN THE PAST 12 MONTHS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NONE</td>
</tr>
<tr>
<td>COMMERCIAL AIRLINE</td>
<td>2481</td>
</tr>
<tr>
<td>PRIVATE AIRCRAFT</td>
<td>2947</td>
</tr>
<tr>
<td>PASSENGER TRAIN</td>
<td>3053</td>
</tr>
<tr>
<td>INTERCITY BUS</td>
<td>2882</td>
</tr>
<tr>
<td>TAXI OR LIMOUSINE</td>
<td>2720</td>
</tr>
<tr>
<td>MOTORCYCLE</td>
<td>2761</td>
</tr>
</tbody>
</table>

Table 47. Bicycle Usage.

<table>
<thead>
<tr>
<th>DESTINATION</th>
<th>NUMBER</th>
<th>PERCENT</th>
<th>NUMBER</th>
<th>PERCENT</th>
<th>NUMBER</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>WORK OR SCHOOL</td>
<td>56</td>
<td>1.7</td>
<td>96</td>
<td>3.0</td>
<td>3052</td>
<td>95.3</td>
</tr>
<tr>
<td>SHOPPING</td>
<td>47</td>
<td>1.5</td>
<td>148</td>
<td>4.7</td>
<td>2926</td>
<td>93.8</td>
</tr>
<tr>
<td>RECREATION/SOCIAL</td>
<td>256</td>
<td>7.7</td>
<td>948</td>
<td>28.4</td>
<td>2137</td>
<td>64.0</td>
</tr>
</tbody>
</table>
The most opposed laws and policies were mandatory retesting of drivers, gasoline rationing, and the change in the gas tax; the least opposed were strict enforcement of truck weight limits, the motorcycle helmet law, and strict enforcement of environmental protection laws.

Table 48. Driver Opinions Concerning Various Laws Or Government Regulations.

<table>
<thead>
<tr>
<th>LAW OR GOVERNMENT REGULATION</th>
<th>STRONGLY FAVOR</th>
<th>FAVOR</th>
<th>NEUTRAL</th>
<th>OPPOSE</th>
<th>STRONGLY OPPOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NUMBER</td>
<td>PERCENT</td>
<td>NUMBER</td>
<td>PERCENT</td>
<td>NUMBER</td>
</tr>
<tr>
<td>LAW REQUIRING SEATBELT USAGE</td>
<td>649</td>
<td>13.1</td>
<td>999</td>
<td>17.2</td>
<td>1222</td>
</tr>
<tr>
<td>STRICT ENFORCEMENT OF 55-MPH SPEED LIMIT</td>
<td>1305</td>
<td>27.4</td>
<td>979</td>
<td>19.6</td>
<td>555</td>
</tr>
<tr>
<td>GASOLINE RATIONING</td>
<td>530</td>
<td>9.7</td>
<td>536</td>
<td>15.7</td>
<td>751</td>
</tr>
<tr>
<td>LAW REQUIRING CHILD-RESTRAINTS FOR AUTOMOBILE PASSENGERS UNDER 5 YEARS OF AGE</td>
<td>1549</td>
<td>34.6</td>
<td>485</td>
<td>25.3</td>
<td>645</td>
</tr>
<tr>
<td>ANNUAL VEHICLE INSPECTION</td>
<td>673</td>
<td>19.8</td>
<td>829</td>
<td>24.4</td>
<td>578</td>
</tr>
<tr>
<td>A LAW PROHIBITING THE SALE OF NON-RETURNABLE BOTTLES AND CANS IN KENTUCKY</td>
<td>1214</td>
<td>36.0</td>
<td>655</td>
<td>19.4</td>
<td>652</td>
</tr>
<tr>
<td>STRICT ENFORCEMENT OF TRUCK WEIGHT LIMITS</td>
<td>1669</td>
<td>46.7</td>
<td>977</td>
<td>28.4</td>
<td>610</td>
</tr>
<tr>
<td>A LAW REQUIRING ALL NEW AUTOMOBILES TO BE EQUIPPED WITH AIR BAGS</td>
<td>397</td>
<td>10.9</td>
<td>498</td>
<td>14.6</td>
<td>1511</td>
</tr>
<tr>
<td>LAW REQUIRING MOTORCYCLISTS TO WEAR HELMETS</td>
<td>2016</td>
<td>58.2</td>
<td>752</td>
<td>24.7</td>
<td>416</td>
</tr>
<tr>
<td>STRICT ENFORCEMENT OF ENVIRONMENTAL PROTECTION LAWS</td>
<td>1331</td>
<td>38.6</td>
<td>1028</td>
<td>30.1</td>
<td>663</td>
</tr>
<tr>
<td>A CHANGE IN THE GASOLINE TAX FROM A FIXED CENTS-PER-GALLON TAX TO ONE BASED ON A PERCENTAGE OF THE PRICE OF GASOLINE</td>
<td>342</td>
<td>10.3</td>
<td>413</td>
<td>12.4</td>
<td>997</td>
</tr>
<tr>
<td>MANDATORY RETESTING OF DRIVERS WHEN RENEWING LICENSES</td>
<td>169</td>
<td>9.0</td>
<td>488</td>
<td>16.2</td>
<td>729</td>
</tr>
</tbody>
</table>

Table 49. Opinion Concerning Various Laws Or Government Regulations By Driver Age And Sex.

<table>
<thead>
<tr>
<th>PERCENT IN FAVOR OR STRONGLY IN FAVOR</th>
<th>AGE</th>
<th>SEX</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16-34</td>
<td>35-54</td>
</tr>
<tr>
<td>LAW REQUIRING SEATBELT USAGE</td>
<td>31</td>
<td>29</td>
</tr>
<tr>
<td>STRICT ENFORCEMENT OF 55 MPH SPEED LIMIT</td>
<td>57</td>
<td>68</td>
</tr>
<tr>
<td>GASOLINE RATIONING</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>LAW REQUIRING CHILD RESTRAINTS FOR CHILDREN UNDER 5</td>
<td>56</td>
<td>51</td>
</tr>
<tr>
<td>ANNUAL VEHICLE INSPECTION</td>
<td>46</td>
<td>42</td>
</tr>
<tr>
<td>LAW PROHIBITING SALE OF NON-RETURNABLE BOTTLES AND CANS</td>
<td>54</td>
<td>55</td>
</tr>
<tr>
<td>STRICT ENFORCEMENT OF TRUCK WEIGHT LIMITS</td>
<td>69</td>
<td>77</td>
</tr>
<tr>
<td>LAW REQUIRING AIR BAGS IN NEW AUTOMOBILES</td>
<td>34</td>
<td>20</td>
</tr>
<tr>
<td>LAW REQUIRING MOTORCYCLISTS TO WEAR HELMETS</td>
<td>82</td>
<td>79</td>
</tr>
<tr>
<td>STRICT ENFORCEMENT OF ENVIRONMENTAL PROTECTION LAWS</td>
<td>74</td>
<td>65</td>
</tr>
<tr>
<td>CHANGE IN GASOLINE TAX TO PERCENTAGE OF PRICE OF GASOLINE</td>
<td>24</td>
<td>19</td>
</tr>
<tr>
<td>MANDATORY RETESTING OF DRIVERS</td>
<td>27</td>
<td>22</td>
</tr>
</tbody>
</table>
lack of strong feeling or a lack of knowledge on these suggestions. The percentages specifying neutral were lowest for the motorcycle helmet law and strict enforcement of the 55-mph speed limit. These are topics that have been much discussed and are understood by most drivers, and, therefore, most drivers appear to have opinions on these subjects.

The variation of opinions on these suggestions for laws and regulations with driver age and sex is given in Table 49. Some of the topics showed no significant relationship to age, but several others did exhibit obvious trends. Support of the 55-mph speed limit increased with increasing age, as did support for gasoline rationing, a bottle bill, and strict enforcement of truck weight limits. Support for a law requiring air bags decreased with increasing age, as did support for a motorcycle helmet law, strict enforcement of environmental protection laws, and mandatory retesting of drivers.

Table 50 shows the relationship between motorcycle usage and opinion on the motorcycle helmet law. It should be noted that, in all categories of drivers, over 50 percent strongly favored such a law. The percentage opposing or strongly opposing such a law rose steadily from 7 percent to 29 percent as motorcycle use increased. For riders in the "more than 50 times" category, neutrality dropped dramatically while strong opposition rose dramatically. However, even in this category, the majority strongly favored the law.

Bus Rider Survey

The survey of bus riders generated different return rates for different cities. Lexington had the highest return rate; Frankfort had the lowest (Table 51). The overall return rate of 26 percent was lower than the 36.5 percent return rate for the driver questionnaire. It was somewhat surprising that the relatively large city of Lexington (population approximately 200,000) had a higher return rate than the smaller cities of Frankfort (population 23,000) and Maysville (population 7,100). The reason for the extremely low return rate from Frankfort (11.0 percent) could not be identified.

Table 52 summarizes the personal information for bus riders. The summary by age showed 1.3 percent under the age of 16. To allow direct comparison with the driver survey results (which include no persons under 16), these few questionnaires were ignored in further summaries. The age distribution for bus riders showed a significantly higher percentage in the 21-to-24 age category and in the 65-and-older category than for drivers. The ages of 35 to 54 were more heavily represented among drivers than among bus riders. This tends to indicate there is a higher percentage of both younger and older persons among bus riders than can be found in the general driving population. Females were more highly represented among bus riders, with two-thirds of those responding being female. In contrast, only 44 percent of the respondents to the driver survey were female. Forty percent of the bus riders responding did not have drivers' licenses.

The summary by marital status identified some interesting differences from the driver survey. The categories of
single, divorced, and widowed were substantially higher for bus riders; the "married" category was much lower.

The education breakdown showed a somewhat surprising trend. Respondents to the bus survey were, in general, better educated than respondents to the driver survey. The percentage having completed more than high school was 58 percent for bus rides and only 48 percent for drivers; the percentage completing less than high school was 23 percent for drivers and only 20 percent for bus riders.

The occupation breakdown showed that bus riders had a higher percentage, compared to drivers, of persons in the skilled, professional, clerical/secretary, retired, and unemployed categories, and a lower percentage in the housewife, sales, technician, supervisory, professional driver, agricultural, and mining categories. Unskilled, student, law enforcement, and military service occupations were equally represented.

The classification by income showed that bus riders generally had a lower household income than drivers. Over 75 percent of the bus riders had annual family incomes under $16,000; less than 50 percent of the licensed drivers had annual family incomes in this same bracket. However, this "household income" figure may be misleading, since bus riders also had a smaller household size than did drivers. A much higher percentage (27 percent) of bus riders lived in one-person households, as compared to licensed drivers (9 percent).

Bus riders' opinions of Kentucky's overall transportation system are summarized in Table 53. There was not a great variance in overall satisfaction for the different cities. The percentage either satisfied or very satisfied was 75 percent in Louisville, 71 percent in Lexington, 59 percent in Maysville, and 71 percent in Frankfort. However, there was some variance in the strength of opinions, with Maysville tending toward extreme opinions and Louisville tending toward more moderate ones. Frankfort riders were extreme in their satisfaction, but moderate in their dissatisfaction. Lexington drivers were fairly moderate, although more extreme than Louisville. Comparing the overall percentages for bus riders with those for licensed drivers, which are presented in Table 6, shows the percentage either satisfied or very satisfied was lower for bus riders than for drivers (73 percent to 81 percent); however, the percentage very satisfied was higher for bus riders (10 percent to 6 percent). Therefore, while fewer bus riders were satisfied, those that were satisfied were stronger in their approval.

The relationship between satisfaction with overall state transportation services and possession of a driver's license is shown in Table 54. Surprisingly, those bus riders without drivers' licenses tended to be more satisfied than those with licenses, and they also tended to be

### Table 52. Personal Information For Bus Riders.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>CATEGORY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td>UNDER 16</td>
<td>14.10</td>
</tr>
<tr>
<td></td>
<td>16-20</td>
<td>9.12</td>
</tr>
<tr>
<td></td>
<td>21-24</td>
<td>5.12</td>
</tr>
<tr>
<td></td>
<td>25-34</td>
<td>12.48</td>
</tr>
<tr>
<td></td>
<td>35-44</td>
<td>11.12</td>
</tr>
<tr>
<td></td>
<td>45-54</td>
<td>12.81</td>
</tr>
<tr>
<td></td>
<td>55-64</td>
<td>12.51</td>
</tr>
<tr>
<td></td>
<td>65-74</td>
<td>12.51</td>
</tr>
<tr>
<td></td>
<td>75 OR OLDER</td>
<td>8.87</td>
</tr>
<tr>
<td>SEX</td>
<td>MALES</td>
<td>32.51</td>
</tr>
<tr>
<td></td>
<td>FEMALES</td>
<td>66.49</td>
</tr>
<tr>
<td>MARITAL STATUS</td>
<td>MARRIED</td>
<td>38.00</td>
</tr>
<tr>
<td></td>
<td>SINGLE</td>
<td>34.37</td>
</tr>
<tr>
<td></td>
<td>DIVORCED</td>
<td>12.63</td>
</tr>
<tr>
<td></td>
<td>WIDOWED</td>
<td>8.00</td>
</tr>
<tr>
<td>EDUCATION</td>
<td>LESS THAN HIGH SCHOOL</td>
<td>19.67</td>
</tr>
<tr>
<td></td>
<td>HIGH SCHOOL</td>
<td>22.55</td>
</tr>
<tr>
<td></td>
<td>MORE THAN HIGH SCHOOL</td>
<td>20.07</td>
</tr>
<tr>
<td></td>
<td>COMPLETED COLLEGE</td>
<td>27.71</td>
</tr>
<tr>
<td>OCCUPATION</td>
<td>SKILLED</td>
<td>17.55</td>
</tr>
<tr>
<td></td>
<td>PROFESSIONAL</td>
<td>14.91</td>
</tr>
<tr>
<td></td>
<td>CLERICAL/SECRETARY</td>
<td>13.91</td>
</tr>
<tr>
<td></td>
<td>RETIRED</td>
<td>12.91</td>
</tr>
<tr>
<td></td>
<td>UNSKILLED</td>
<td>10.91</td>
</tr>
<tr>
<td></td>
<td>HOUSEWIFE</td>
<td>7.27</td>
</tr>
<tr>
<td></td>
<td>STUDENT</td>
<td>6.27</td>
</tr>
<tr>
<td></td>
<td>SALES</td>
<td>4.18</td>
</tr>
<tr>
<td></td>
<td>UNEMPLOYED</td>
<td>2.95</td>
</tr>
<tr>
<td></td>
<td>TECHNICIAN</td>
<td>1.73</td>
</tr>
<tr>
<td></td>
<td>SUPERVISORY</td>
<td>1.64</td>
</tr>
<tr>
<td></td>
<td>PROFESSIONAL DRIVER</td>
<td>1.73</td>
</tr>
<tr>
<td></td>
<td>LAW ENFORCEMENT</td>
<td>0.27</td>
</tr>
<tr>
<td></td>
<td>AGRICULTURAL</td>
<td>0.18</td>
</tr>
<tr>
<td></td>
<td>SERVICE</td>
<td>0.09</td>
</tr>
<tr>
<td></td>
<td>MINING</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>OTHER</td>
<td>5.64</td>
</tr>
<tr>
<td>ANNUAL HOUSEHOLD</td>
<td>LESS THAN $8,000</td>
<td>38.85</td>
</tr>
<tr>
<td>INCOME</td>
<td>$8,000 - $15,999</td>
<td>29.85</td>
</tr>
<tr>
<td></td>
<td>$16,000 - $23,999</td>
<td>14.47</td>
</tr>
<tr>
<td></td>
<td>$24,000 - $31,999</td>
<td>10.91</td>
</tr>
<tr>
<td></td>
<td>GREATER THAN $32,000</td>
<td>6.70</td>
</tr>
<tr>
<td>NUMBER OF PEOPLE</td>
<td>1</td>
<td>27.71</td>
</tr>
<tr>
<td>IN HOUSEHOLD</td>
<td>2</td>
<td>29.80</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>18.21</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>12.95</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>6.16</td>
</tr>
<tr>
<td></td>
<td>6 OR MORE</td>
<td>5.71</td>
</tr>
<tr>
<td>DRIVERS LICENSE</td>
<td>YES</td>
<td>59.59</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>40.41</td>
</tr>
</tbody>
</table>
more extreme in their satisfaction. However, those without licenses also tended to be more extreme in their dissatisfaction.

Table 55 lists, in descending order, the complaints of bus riders about Kentucky's transportation system. The top four complaints, and eight of the first nine, dealt either with bus service, specifically, or with public

Table 53. Bus Riders' Opinions Of Kentucky's Overall Transportation System – By Locality.

<table>
<thead>
<tr>
<th>LOCALITY</th>
<th>VERY SATISFIED</th>
<th>SATISFIED</th>
<th>DISSATISFIED</th>
<th>VERY DISSATISFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOUISVILLE</td>
<td>7.74</td>
<td>67.17</td>
<td>20.88</td>
<td>4.21</td>
</tr>
<tr>
<td>LEXINGTON</td>
<td>10.42</td>
<td>60.30</td>
<td>22.58</td>
<td>6.70</td>
</tr>
<tr>
<td>MAYSVILLE</td>
<td>24.19</td>
<td>45.16</td>
<td>19.35</td>
<td>11.29</td>
</tr>
<tr>
<td>FRANKFORT</td>
<td>19.35</td>
<td>51.61</td>
<td>25.81</td>
<td>3.23</td>
</tr>
</tbody>
</table>

Table 54. Opinion Of Overall Transportation System By Possession Of Drivers License.

<table>
<thead>
<tr>
<th>DRIVERS LICENSE</th>
<th>VERY SATISFIED</th>
<th>SATISFIED</th>
<th>DISSATISFIED</th>
<th>TOTAL</th>
<th>SATISFIED OR VERY SATISFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>42</td>
<td>432</td>
<td>155</td>
<td>30</td>
<td>659</td>
</tr>
<tr>
<td>PERCENT</td>
<td>6.37</td>
<td>65.55</td>
<td>23.52</td>
<td>4.55</td>
<td>100.0</td>
</tr>
<tr>
<td>NO</td>
<td>66</td>
<td>249</td>
<td>79</td>
<td>30</td>
<td>424</td>
</tr>
<tr>
<td>PERCENT</td>
<td>15.57</td>
<td>58.73</td>
<td>18.63</td>
<td>7.08</td>
<td>74.29</td>
</tr>
</tbody>
</table>

Table 55. Bus Riders' Complaints About Transportation Systems.

<table>
<thead>
<tr>
<th>RANK</th>
<th>COMPLAINT</th>
<th>NUMBER OF TIMES LISTED</th>
<th>PERCENT OF ALL RESPONDENTS LISTING THIS COMPLAINT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INADEQUATE PUBLIC TRANSPORTATION</td>
<td>172</td>
<td>14.51</td>
</tr>
<tr>
<td>2</td>
<td>BUS SCHEDULING</td>
<td>132</td>
<td>11.14</td>
</tr>
<tr>
<td>3</td>
<td>NO COMPLAINT (NOT INCLUDING THOSE LEFT BLANK)</td>
<td>117</td>
<td>9.87</td>
</tr>
<tr>
<td>4</td>
<td>BUS HOURS</td>
<td>95</td>
<td>8.01</td>
</tr>
<tr>
<td>5</td>
<td>LACK OF INTERCITY BUS SERVICE</td>
<td>55</td>
<td>4.64</td>
</tr>
<tr>
<td>6</td>
<td>POOR MAINTENANCE</td>
<td>51</td>
<td>4.30</td>
</tr>
<tr>
<td>7</td>
<td>LACK OF PASSENGER TRAINS</td>
<td>33</td>
<td>2.78</td>
</tr>
<tr>
<td>8</td>
<td>BUS ROUTES (INCLUDES COMPLAINTS ABOUT DISCONTINUED ROUTES)</td>
<td>32</td>
<td>2.70</td>
</tr>
<tr>
<td>9</td>
<td>BUS TRAVEL TIME</td>
<td>29</td>
<td>2.45</td>
</tr>
<tr>
<td>10</td>
<td>DISCOURTEOUS DRIVERS</td>
<td>18</td>
<td>1.52</td>
</tr>
<tr>
<td>11</td>
<td>LENIENT LAW ENFORCEMENT</td>
<td>17</td>
<td>1.43</td>
</tr>
<tr>
<td>12</td>
<td>PROBLEMS DURING CONSTRUCTION</td>
<td>11</td>
<td>0.93</td>
</tr>
<tr>
<td>12</td>
<td>INADEQUATE CAPACITY</td>
<td>11</td>
<td>0.93</td>
</tr>
<tr>
<td>12</td>
<td>TOLLS</td>
<td>11</td>
<td>0.93</td>
</tr>
<tr>
<td>15</td>
<td>POOR PLANNING</td>
<td>10</td>
<td>0.84</td>
</tr>
<tr>
<td>15</td>
<td>LACK OF COMMUNICATION</td>
<td>10</td>
<td>0.84</td>
</tr>
<tr>
<td>15</td>
<td>NEED ADDITIONAL SAFETY FEATURES</td>
<td>10</td>
<td>0.84</td>
</tr>
<tr>
<td>18</td>
<td>NEED ADDITIONAL LANES</td>
<td>8</td>
<td>0.68</td>
</tr>
<tr>
<td>19</td>
<td>SNOW &amp; ICE REMOVAL</td>
<td>7</td>
<td>0.59</td>
</tr>
<tr>
<td>19</td>
<td>BUDGET TOO HIGH</td>
<td>7</td>
<td>0.59</td>
</tr>
<tr>
<td>19</td>
<td>TRUCKS</td>
<td>7</td>
<td>0.59</td>
</tr>
<tr>
<td>19</td>
<td>BAD ROADS</td>
<td>7</td>
<td>0.59</td>
</tr>
</tbody>
</table>
### Table 55. Bus Riders’ Complaints About Transportation Systems (Continued).

<table>
<thead>
<tr>
<th>RANK</th>
<th>COMPLAINT</th>
<th>NUMBER OF TIMES LISTED</th>
<th>PERCENT OF ALL RESPONDENTS LISTING THIS COMPLAINT</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>ROADWAY GEOMETRICS</td>
<td>5</td>
<td>0.42</td>
</tr>
<tr>
<td>23</td>
<td>POOR SIGNING</td>
<td>5</td>
<td>0.42</td>
</tr>
<tr>
<td>25</td>
<td>LACK OF PROGRESS</td>
<td>4</td>
<td>0.34</td>
</tr>
<tr>
<td>25</td>
<td>HIGH PERCENT SPENT IN URBAN AREAS</td>
<td>4</td>
<td>0.34</td>
</tr>
<tr>
<td>25</td>
<td>EMPLOYEE INEFFICIENCY</td>
<td>4</td>
<td>0.34</td>
</tr>
<tr>
<td>25</td>
<td>TOO MUCH NEW CONSTRUCTION</td>
<td>4</td>
<td>0.34</td>
</tr>
<tr>
<td>29</td>
<td>WIDEN HIGHWAYS</td>
<td>3</td>
<td>0.25</td>
</tr>
<tr>
<td>31</td>
<td>LITTER</td>
<td>3</td>
<td>0.25</td>
</tr>
<tr>
<td>31</td>
<td>ENGINEERING DESIGN</td>
<td>2</td>
<td>0.17</td>
</tr>
<tr>
<td>31</td>
<td>POOR TRAFFIC MARKINGS</td>
<td>2</td>
<td>0.17</td>
</tr>
<tr>
<td>31</td>
<td>COAL TRUCKS</td>
<td>2</td>
<td>0.17</td>
</tr>
<tr>
<td>31</td>
<td>TRAINS – DELAYS</td>
<td>2</td>
<td>0.17</td>
</tr>
<tr>
<td>31</td>
<td>MANDATORY INSURANCE</td>
<td>2</td>
<td>0.17</td>
</tr>
<tr>
<td>31</td>
<td>DRIVING HABITS</td>
<td>2</td>
<td>0.17</td>
</tr>
<tr>
<td>38</td>
<td>TOO STRICT LAW ENFORCEMENT</td>
<td>2</td>
<td>0.17</td>
</tr>
<tr>
<td>38</td>
<td>NO PUBLIC TRANSPORTATION</td>
<td>1</td>
<td>0.08</td>
</tr>
<tr>
<td>38</td>
<td>NEED ADDITIONAL HIGHWAYS</td>
<td>1</td>
<td>0.08</td>
</tr>
<tr>
<td>38</td>
<td>55 MPH SPEED LIMIT</td>
<td>1</td>
<td>0.08</td>
</tr>
<tr>
<td>38</td>
<td>ROADSIDE MAINTENANCE (MOWING)</td>
<td>1</td>
<td>0.08</td>
</tr>
<tr>
<td></td>
<td>OTHER</td>
<td>159</td>
<td>13.42</td>
</tr>
<tr>
<td></td>
<td>LEFT BLANK</td>
<td>303</td>
<td>25.57</td>
</tr>
</tbody>
</table>

### Table 56. Aspects Of Transportation Most Appreciated By Bus Riders.

<table>
<thead>
<tr>
<th>RANK</th>
<th>ASPECT APPRECIATED</th>
<th>NUMBER OF TIMES LISTED</th>
<th>PERCENT OF ALL RESPONDENTS LISTING THIS ASPECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PUBLIC TRANSPORTATION</td>
<td>285</td>
<td>24.05</td>
</tr>
<tr>
<td>2</td>
<td>LOW COST (BUS)</td>
<td>111</td>
<td>9.37</td>
</tr>
<tr>
<td>3</td>
<td>INTERSTATE SYSTEM</td>
<td>68</td>
<td>5.74</td>
</tr>
<tr>
<td>4</td>
<td>CONVENIENCE (BUS)</td>
<td>63</td>
<td>5.32</td>
</tr>
<tr>
<td>5</td>
<td>COURTEOUS BUS DRIVERS</td>
<td>54</td>
<td>4.56</td>
</tr>
<tr>
<td>6</td>
<td>OVERALL PROGRESS</td>
<td>43</td>
<td>3.63</td>
</tr>
<tr>
<td>7</td>
<td>GOOD ROADS IN GENERAL</td>
<td>37</td>
<td>3.12</td>
</tr>
<tr>
<td>8</td>
<td>BUS SCHEDULE</td>
<td>31</td>
<td>2.62</td>
</tr>
<tr>
<td>9</td>
<td>PARKWAY SYSTEM</td>
<td>28</td>
<td>2.36</td>
</tr>
<tr>
<td>10</td>
<td>ACCESSIBILITY</td>
<td>26</td>
<td>2.19</td>
</tr>
<tr>
<td>11</td>
<td>APPRECIATION</td>
<td>22</td>
<td>1.86</td>
</tr>
<tr>
<td>11</td>
<td>APPRECIATE NOTHING (NOT INCLUDING THOSE LEFT BLANK)</td>
<td>22</td>
<td>1.86</td>
</tr>
<tr>
<td>13</td>
<td>SAFETY FACTORS</td>
<td>13</td>
<td>1.10</td>
</tr>
<tr>
<td>13</td>
<td>MAINTENANCE</td>
<td>13</td>
<td>1.10</td>
</tr>
<tr>
<td>15</td>
<td>REST AREAS</td>
<td>9</td>
<td>0.76</td>
</tr>
<tr>
<td>15</td>
<td>ELDERLY OR DISABLED</td>
<td>9</td>
<td>0.76</td>
</tr>
<tr>
<td>15</td>
<td>TRANSPORTATION</td>
<td>9</td>
<td>0.76</td>
</tr>
<tr>
<td>15</td>
<td>CONVENIENCE</td>
<td>9</td>
<td>0.76</td>
</tr>
<tr>
<td>15</td>
<td>RELIABILITY</td>
<td>8</td>
<td>0.68</td>
</tr>
<tr>
<td>19</td>
<td>LAW ENFORCEMENT</td>
<td>6</td>
<td>0.51</td>
</tr>
<tr>
<td>20</td>
<td>SIGNING</td>
<td>4</td>
<td>0.34</td>
</tr>
<tr>
<td>20</td>
<td>MULTILANE HIGHWAYS</td>
<td>4</td>
<td>0.34</td>
</tr>
<tr>
<td>20</td>
<td>AIRLINES</td>
<td>4</td>
<td>0.34</td>
</tr>
<tr>
<td>23</td>
<td>GENERAL PAVEMENT MARKINGS</td>
<td>3</td>
<td>0.25</td>
</tr>
<tr>
<td>24</td>
<td>55 MPH SPEED LIMIT</td>
<td>1</td>
<td>0.08</td>
</tr>
<tr>
<td>24</td>
<td>BYPASSES</td>
<td>1</td>
<td>0.08</td>
</tr>
<tr>
<td>24</td>
<td>NEW CONSTRUCTION</td>
<td>1</td>
<td>0.08</td>
</tr>
<tr>
<td>24</td>
<td>SNOW &amp; ICE REMOVAL</td>
<td>1</td>
<td>0.08</td>
</tr>
<tr>
<td>24</td>
<td>UPGRADING PRESENT HIGHWAYS</td>
<td>1</td>
<td>0.08</td>
</tr>
<tr>
<td>24</td>
<td>MANDATORY INSURANCE</td>
<td>1</td>
<td>0.08</td>
</tr>
<tr>
<td></td>
<td>OTHER</td>
<td></td>
<td>2.95</td>
</tr>
<tr>
<td></td>
<td>LEFT BLANK</td>
<td>410</td>
<td>34.60</td>
</tr>
</tbody>
</table>

38
transportation, in general. The top complaints were "inadequate public transportation", "bus scheduling", and "bus hours". The aspects of Kentucky's transportation system most appreciated by bus riders are listed in Table 56. Public transportation ranked number 1 by a large margin, and four of the top five were related to public transportation in some way.

Table 57 summarizes the frequency of local bus usage by bus riders. This table shows that 66 percent of bus users used the bus five or more times a week, and an additional 20 percent used it one to four times a week. This can be compared to the driver survey, for which only 1.4 percent rode the bus five or more times a week and 1.7 percent rode one to four times a week. The reasons why bus riders did not ride buses more often are listed in Table 58. "Inconvenient schedules" was listed most often, followed by "travel time", "inconvenient routes", and "unavailability of buses".

Table 59 shows the percentages of bus riders having minor or major problems getting to particular destinations. The majority of bus riders had no problems getting to each of the destinations. The percentage having either minor or major problems was 33 for work, 28 for recreation or entertainment, 27 for shopping, and 21 for hospital or doctor. The corresponding percentages for the driver survey were 31, 18, 25, and 15. Thus, bus riders had slightly more problems getting to work and shopping, and significantly greater problems getting to "recreation or entertainment" and "hospital or doctor".

Table 60 examines the problems of getting to particular destinations as affected by whether or not the person had a driver's license. Surprisingly, people without drivers' licenses had fewer problems getting to work than people with drivers' licenses. However, their problems tended to be major ones. For the other three destinations, the lack of a driver's license did cause an increase in both major and minor problems.

Bus rider opinions relating to government spending for transportation are summarized in Table 61. The highest percentage favoring increased spending was for the area of public transportation, followed by "ice and snow removal" and "road maintenance". The highest percentage favoring a decrease in or termination of spending was in the area of new road construction, followed by "airports" and "road reconstruction". This can be compared to the results of the same question asked of licensed drivers, which were presented in Table 23. As might be expected, the drivers more strongly favored increased spending in every area dealing with roads, and they were less favorable than bus riders of increased spending in the areas of public transportation and airports.

Table 57. Frequency Of Usage Of Local Buses By Bus Riders.

<table>
<thead>
<tr>
<th>USAGE</th>
<th>NUMBER</th>
<th>PERCENT OF TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 OR MORE TIMES A WEEK</td>
<td>780</td>
<td>66.90</td>
</tr>
<tr>
<td>1 AT 4 TIMES A WEEK</td>
<td>240</td>
<td>20.58</td>
</tr>
<tr>
<td>ONCE OR TWICE A WEEK</td>
<td>67</td>
<td>5.75</td>
</tr>
<tr>
<td>RARELY</td>
<td>79</td>
<td>6.78</td>
</tr>
</tbody>
</table>

Table 58. Reasons Bus Riders Do Not Ride Local Buses More Often.

<table>
<thead>
<tr>
<th>REASON</th>
<th>NUMBER OF RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS IS NOT AVAILABLE</td>
<td>156</td>
</tr>
<tr>
<td>BUS TAKES TOO LONG</td>
<td>193</td>
</tr>
<tr>
<td>BUS SCHEDULES ARE INCONVENIENT</td>
<td>219</td>
</tr>
<tr>
<td>BUS ROUTES ARE INCONVENIENT</td>
<td>174</td>
</tr>
<tr>
<td>BUS IS TOO EXPENSIVE</td>
<td>27</td>
</tr>
<tr>
<td>BUS IS UNCOMFORTABLE</td>
<td>50</td>
</tr>
<tr>
<td>BUS IS UNSAFE</td>
<td>19</td>
</tr>
<tr>
<td>OTHER</td>
<td>113</td>
</tr>
</tbody>
</table>

Table 59. Percent Of Bus Riders Having Minor Or Major Problems Getting To The Given Destination.

<table>
<thead>
<tr>
<th>DESTINATION</th>
<th>PERCENT OF RIDERS WITH GIVEN PROBLEM GETTING TO DESTINATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NONE</td>
</tr>
<tr>
<td>WORK</td>
<td>66.90</td>
</tr>
<tr>
<td>SHOPPING</td>
<td>72.90</td>
</tr>
<tr>
<td>HOSPITAL OR DOCTOR</td>
<td>79.05</td>
</tr>
<tr>
<td>RECREATION OR ENTERTAINMENT</td>
<td>71.83</td>
</tr>
</tbody>
</table>
### Table 60. Problems Getting To Various Destinations By Possession Of A Drivers License.

<table>
<thead>
<tr>
<th>DESTINATION</th>
<th>DRIVERS LICENSE</th>
<th></th>
<th></th>
<th></th>
<th>MAJOR OR MINOR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NONE</td>
<td>MINOR</td>
<td>MAJOR</td>
<td>TOTAL</td>
<td></td>
</tr>
<tr>
<td>WORK</td>
<td>YES</td>
<td>421</td>
<td>170</td>
<td>44</td>
<td>635</td>
</tr>
<tr>
<td></td>
<td></td>
<td>66.30</td>
<td>26.77</td>
<td>6.93</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>253</td>
<td>78</td>
<td>39</td>
<td>370</td>
</tr>
<tr>
<td></td>
<td></td>
<td>68.38</td>
<td>21.08</td>
<td>10.54</td>
<td>100.00</td>
</tr>
<tr>
<td>SHOPPING</td>
<td>YES</td>
<td>440</td>
<td>105</td>
<td>31</td>
<td>576</td>
</tr>
<tr>
<td></td>
<td></td>
<td>76.39</td>
<td>18.23</td>
<td>5.38</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>242</td>
<td>90</td>
<td>27</td>
<td>359</td>
</tr>
<tr>
<td></td>
<td></td>
<td>67.41</td>
<td>25.07</td>
<td>7.52</td>
<td>100.00</td>
</tr>
<tr>
<td>HOSPITAL OR DOCTOR</td>
<td>YES</td>
<td>454</td>
<td>71</td>
<td>22</td>
<td>547</td>
</tr>
<tr>
<td></td>
<td></td>
<td>83.00</td>
<td>12.98</td>
<td>4.02</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>254</td>
<td>78</td>
<td>16</td>
<td>348</td>
</tr>
<tr>
<td></td>
<td></td>
<td>72.99</td>
<td>22.41</td>
<td>4.60</td>
<td>100.00</td>
</tr>
<tr>
<td>RECREATION OR ENTERTAINMENT</td>
<td>YES</td>
<td>404</td>
<td>95</td>
<td>39</td>
<td>538</td>
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<tr>
<td></td>
<td></td>
<td>75.09</td>
<td>17.66</td>
<td>7.25</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>204</td>
<td>74</td>
<td>32</td>
<td>310</td>
</tr>
<tr>
<td></td>
<td></td>
<td>65.81</td>
<td>23.87</td>
<td>10.32</td>
<td>100.00</td>
</tr>
</tbody>
</table>

### Table 61. Bus Riders' Opinions Relating To Government Spending For Transportation.

<table>
<thead>
<tr>
<th>AREA OF GOVERNMENT SPENDING</th>
<th>PERCENT WITH GIVEN OPINION ABOUT HOW CURRENT SPENDING SHOULD CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>INCREASE</td>
</tr>
<tr>
<td>NEW ROAD CONSTRUCTION</td>
<td>30.05</td>
</tr>
<tr>
<td>ROAD RECONSTRUCTION</td>
<td>48.77</td>
</tr>
<tr>
<td>ROAD MAINTENANCE</td>
<td>66.27</td>
</tr>
<tr>
<td>RAILROAD OPERATION AND MAINTENANCE</td>
<td>57.43</td>
</tr>
<tr>
<td>PUBLIC TRANSPORTATION</td>
<td>79.94</td>
</tr>
<tr>
<td>SAFETY IMPROVEMENTS</td>
<td>55.95</td>
</tr>
<tr>
<td>AIRPORT CONSTRUCTION, OPERATION AND MAINTENANCE</td>
<td>25.11</td>
</tr>
<tr>
<td>ICE AND SNOW REMOVAL</td>
<td>68.64</td>
</tr>
</tbody>
</table>
Summary

Survey Response

1. Responses were received from 3,553 of the 10,000 licensed drivers who were sent questionnaires.
2. The number of responses ranged from two in Menifée County to 723 in Jefferson County.
3. A comparison of the percentage of total responses received from a particular county with the percentage of all licensed drivers in Kentucky residing in that county indicated an excellent sampling of licensed drivers.
4. A significantly higher return rate (39.5 percent) was realized from respondents who had been sent personally signed cover letters as compared to the return rate (31.6 percent) for those who had been sent cover letters with the signature machine-printed.

Personal Information

1. Respondents were fairly evenly distributed by age group, with the highest percentage in the 25-34 range.
2. Male respondents outnumbered females by a margin of 56 to 44 percent.
3. Housewives, skilled workers, professionals, unskilled workers, and retirees were the occupations listed most frequently on the completed questionnaires.
4. It was found that 76.7 percent of the respondents had at least completed high school.
5. The average, annual miles driven per driver was 14,049. The average, annual miles driven per vehicle was 9,792.
6. The highest average, annual mileage driven per driver was for males in the age bracket of 25-to-34 years old. Females in the 21-to-24 age bracket had the highest average for females.
7. Overall, the average, annual mileage driven per driver was 16,500 for males and 10,800 for females.

Satisfaction with Transportation Services

1. Over 80 percent of the respondents were satisfied or very satisfied with the overall transportation system.
2. Snow and ice removal and general highway maintenance received the lowest approval ratings.
3. Drivers from southeastern Kentucky were less satisfied with transportation services than drivers from other areas of the state.
4. Drivers' approval ratings of snow removal and highway maintenance were generally consistent with their opinions concerning future spending in these areas.
5. Drivers tended to have a satisfied perception of overall transportation services if they were generally satisfied with other aspects related to driving.

Inadequate Transportation Services

1. The most common inadequate transportation service encountered by those surveyed was bumpy roads.
2. Counties with the highest percentages of drivers experiencing the various inadequate services were concentrated in the southeastern part of the state.
3. Routes listed as being rough and bumpy by the highest percentages of drivers in particular highway districts were identified. The route listed by the highest percentage of drivers in a single district was US 23 in District 12.
4. The most frequently given causes of congestion were high traffic volume and rush hour traffic, for city streets, and farm equipment and narrow roads, for rural roads.
5. The total percentage of drivers encountering inadequate transportation services increased slightly as city population decreased.
6. Almost two-thirds of drivers in need of emergency aid were able to quickly and conveniently get the help needed.

Drivers' Complaints and Compliments

1. The most frequently mentioned driver complaint was poor road maintenance, followed by a lack of adequate public transportation.
2. The aspect of Kentucky's
transportation system most appreciated was
the interstate system.

3. Ranking complaints and "aspects
appreciated" by highway district revealed
some noticeable differences. For example,
tolls ranked high as a complaint in
Districts 1 and 2, compared to the
statewide ranking, and new construction was
ranked higher in appreciation in the
eastern Kentucky districts than elsewhere
in the state.

4. A comparison of complaints and
"aspects appreciated" by driver age and
sex found very few major differences,
especially between males and females.

Future Government Spending for
Transportation

1. Drivers were generally of the
opinion that government spending for
transportation services should increase.
The area for which the largest percentage
of drivers indicated an increase was
necessary was road maintenance; the areas
of airports and new road construction had
the lowest percentages.

2. An analysis by highway district
showed that, in several instances, a
larger percentage of drivers from the
eastern section of the state felt that an
increase in spending was necessary,
compared to other sections of the state.
This was particularly true for spending
for new road construction.

3. The percentage of drivers stating
that government spending for the various
transportation services should increase
generally increased as the population of
city of residence decreased.

4. A comparison by driver age and
sex of the percentage of drivers who
believed government spending for certain
transportation services should increase
showed only minor differences.

Problems Getting to Various Destinations

1. The majority of respondents had
no problems getting to work, shopping,
hospital or doctor, and recreation or
entertainment destinations. The total
percentage having either major or minor
problems was 30.8 percent for work, 25.2
percent for shopping, 14.6 percent for
hospital or doctor, and 17.7 percent for
recreation or entertainment.

2. The percentages having problems
getting to these destinations varied with
the population of the city of residence.
As the population decreased, the
percentages having problems also decreased
for each destination. However, when the
city population became very small, the
percentages began to rise again.

3. For each of the four destinations
examined, the availability of an
automobile greatly affected the percentage
having access problems. As auto
availability increased, access problems
decreased.

4. No significant difference in
access problems was evident for males
versus females. For drivers over 65 years
of age, problems getting to work,
shopping, or recreation dropped in
frequency; problems getting to the
hospital or doctor remained at about the
same frequency as for drivers under 65.

5. The percentages having problems
getting to work, shopping, and recreation
or entertainment destinations increased as
family income increased. Problems getting
to hospital or doctor remained about the
same for different income levels.

Use of Other Modes of Transportation

1. Almost all (95 percent) of the
drivers in Kentucky rarely or never used
local buses. The primary cause for disuse
was unavailability of local buses. Other
leading reasons were inconvenient routes
and inconvenient schedules.

2. Females were more likely than
males to use local buses. Young drivers
(16-20) were much more likely than others
to ride the bus five or more times a week;
younger (16-24) and older (65 and up)
drivers were more likely than middle-aged
drivers to never use the bus at all.

3. Those drivers who most often used
buses tended to favor increased spending
for public transportation more than those
who did not use buses.

4. The percentage of drivers
carpooling to church was 30.5, compared to
19.7 for school, 16.7 for shopping, 16.2
for work, 1.7 for social/recreation, and
15.2 for other reasons. Carpool usage to
work varied for different areas of the
state, with northern Kentucky and the
Louisville area having the highest rates.
South-central Kentucky had the lowest rate
of carpooling to work.

5. Young drivers (16-20), higher-
income drivers, and residents of larger
cities tended to carpool more than others.

6. "Rising gas prices" showed the highest potential for increasing carpool usage, followed by "assistance in arranging and scheduling a carpool" and "preferential parking". However, nearly 20 percent of all respondents indicated they would not consider increased carpooling.

7. The usage of various other modes of transportation was examined. The mode used by the most drivers was the commercial airline, followed by the taxi or limousine and the motorcycle. The mode used by the fewest drivers was the passenger train, followed by the private aircraft. Under the categories of frequent use, the motorcycle was listed most often.

8. Bicycles were used primarily for recreation or social purposes; over 35 percent of the licensed drivers used a bicycle for this reason.

Opinion on Suggestions for Laws or Government Regulations

1. Of the laws, regulations, and policies examined, the most favored were the motorcycle helmet law, strict enforcement of truck weight limits, strict enforcement of environmental protection laws, and strict enforcement of the 55-mph speed limit. The most opposed laws and policies were mandatory retesting of drivers, gasoline rationing, and the change in the gas tax.

2. The percentage of drivers remaining neutral was highest for mandatory air bags, mandatory seatbelt usage, and the change in the gas tax. The percentage remaining neutral was lowest for the motorcycle helmet law and strict enforcement of the 55-mph speed limit.

3. Support for the 55-mph speed limit, gasoline rationing, a bottle bill, and truck weight limits increased with increasing age. Support for air bags, the motorcycle helmet law, environmental protection laws, and mandatory retesting of drivers decreased with increasing age.

4. In all categories of motorcycle use, over 50 percent strongly favored the helmet law. However, opposition increased significantly with increasing motorcycle usage.

Bus Rider Survey

1. Lexington had the highest return rate for the bus rider survey (34.3 percent), and Frankfort had the lowest (11.0 percent). The overall return rate was 26 percent.

2. There was a higher percentage of both younger and older persons among bus riders than could be found in the general driving population. Females were much more highly represented among bus riders than among drivers (66 percent to 44 percent).

3. Forty percent of the bus riders responding did not have drivers' licenses.

4. The marital status categories of single, divorced, and widowed were substantially higher in representation among bus riders than among drivers; the "married" category was much lower.

5. Respondents to the bus survey were, in general, better educated than respondents to the driver survey. The distribution by occupation showed a higher percentage in the skilled, professional, clerical/secretary, retired, and unemployed categories, and a lower percentage in the housewife, sales, technician, supervisory, professional driver, agricultural, and mining categories for bus riders as compared to drivers.

6. Bus riders generally had lower household incomes than drivers. However, they also had smaller household sizes.

7. The percentage of bus riders who were either satisfied or very satisfied with Kentucky's overall transportation system was about 70 percent for each of the four cities surveyed. While fewer bus riders than drivers were satisfied with Kentucky's overall transportation system, those that were satisfied were stronger in their approval.

8. Those bus riders without drivers' licenses tended to be more satisfied with the state's overall transportation system than those with licenses, and they also tended to be more extreme in their satisfaction. However, those without licenses also tended to be more extreme in their dissatisfaction.

9. The most frequently listed complaints of bus riders dealt either with bus service specifically or with public
transportation in general. Major complaints were "inadequate public transportation", "bus scheduling", and "bus hours". Of the "aspects appreciated" by bus riders, public transportation ranked number one, and four of the top five were related to public transportation in some way.

10. Two-thirds of the bus riders surveyed rode the bus five or more times a week; an additional 20 percent rode one to four times a week. The primary reasons why bus riders did not ride buses more often were "inconvenient schedules", "travel time", "inconvenient routes", and "inavailability of buses".

11. The majority of bus riders surveyed had no problems getting to work, shopping, recreation or entertainment, and hospital or doctor destinations. However, when compared to drivers, bus riders had more problems for each destination, particularly for recreation/entertainment and hospital/doctor.

12. Among bus riders, those without drivers' licenses had fewer problems getting to work than those with drivers' licenses. However, their problems were more severe. For the other three destinations examined, the lack of a driver's license caused an increase in both major and minor problems.

13. The percentage of bus riders favoring increased spending was highest for the area of public transportation, followed by "ice and snow removal" and "road maintenance". The percentage favoring a decrease in or termination of spending was highest for the area of new road construction, followed by "airports" and "road reconstruction".
References

2. Kentucky Revised Statutes.
3. "Monitoring the Effectiveness of State Transportation Services", U.S. Department of Transportation; Office of the Assistant Secretary for Policy, Plans, and International Affairs, July 1977.
4. Conversations (telephone and in-person) with staff members of Survey Research Center, University of Kentucky, October 1979.
APPENDIX A

Objectives and Effectiveness Measures
I. To provide "for the benefit of the people of the commonwealth, for the increase of their commerce and prosperity, and for the improvement of their health and living conditions". To preserve "the public peace, health, and safety" and promote "the general welfare". (KRS 177.510 and 177.510)

A. To protect, promote, and enhance the safety, health, convenience, comfort, enjoyment, and general welfare of the traveling public. (KRS 177.640, 177.850, and 177.890)

Measure: The percentage of the travelling public rating overall state transportation service as satisfactory.

1. To provide for "the construction, reconstruction, ... (and) maintenance of an adequate system of highways". (KRS 177.031)

a. To provide for the construction and reconstruction of an adequate system of highways in Kentucky.

Measure: Total miles of highway in Kentucky by system classification.

Measure: The percentage of road-miles with various widths of lanes and shoulders.

Measure: The percentage of drivers favoring increased spending for new road construction.

Measure: The percentage of drivers favoring increased spending for road reconstruction.

b. To maintain Kentucky's system of highways in adequate condition.

Measure: The percentage of drivers satisfied with the maintenance of state and US-numbered highways in Kentucky.

Measure: The percentage of road-miles in Kentucky rated as being in satisfactory condition.

Measure: The percentage of drivers favoring increased spending for road maintenance.

2. "To promote maximum safety, comfort and well-being of the users of ... highways". (KRS 177.850)

a. "To promote traffic safety". (KRS 174.065)

Measure: Rates of accidents, injuries, and deaths for highway travel.

Measure: Accident severity factors for highway travel.

Measure: The effectiveness of the driver improvement programs. (State Traffic School and Alcohol Driver Education).
Measure: The percentage of road-miles and bridges on various road systems in Kentucky with accident rates above critical.

Measure: Miles of road in various highway systems which are in need of desalting.

Measure: The percentage of drivers favoring increased spending for highway safety improvements.

b. "To prevent confusion with regard to traffic lights, signs, or signals". (KRS 177.850) To provide effective, visible pavement markings.

Measure: The percentage of traffic signals in unsatisfactory condition.

Measure: The percentage of drivers encountering traffic signs or signals that were poorly placed or difficult to understand.

Measure: The percentage of drivers encountering pavement markings which were hard to see.

Measure: The percentage of road-miles in Kentucky which are in need of restriping.

c. To maintain and improve the rideability and overall condition of roads in the commonwealth.

Measure: The percentage of highway sections for which the pavement condition is rated below a selected level.

Measure: The percentage of drivers who often encounter rough or bumpy roads.

3. To develop "a sound public air transportation system within the state". To "designate, design, establish, expand, or modify a state airways system which will best serve the interests of the state". "To establish, maintain, operate, and expand necessary, desirable, or appropriate airport and air navigation facilities ... and the public use thereof". To provide for "safe, adequate and convenient operation of airports, air navigation, air transportation, and all matters relating to said functions". (KRS 183.200, 183.121, 183.133, and 183.030)

a. To promote "the rapid development of a statewide system of airports". (KRS 183.200)

Measure: The number and locations of commercial and local airports in Kentucky.
Measure: The percentage of persons surveyed favoring increased spending for airport construction, operation, and maintenance.

b. "To promote and develop aviation". (KRS 183.133)

Measure: Total passengers enplaned and deplaned by commercial air carriers in Kentucky.

Measure: Total pounds of cargo enplaned and deplaned by commercial air carriers in Kentucky.

Measure: Total aircraft operations (takeoffs and landings) at Kentucky airports.

Measure: The percentage of persons surveyed who indicate they have travelled by air in the past year.

c. To provide for "the safety of airport users and surface persons and property". To eliminate airport hazards and obstructions. (KRS 183.868 and 183.866)

Measure: Rates of accidents, injuries, and deaths for air travel.

d. To provide for the development of "air services on a regularly scheduled basis for the movement of passengers, mail, and cargo". (KRS 183.140)

Measure: The number of airports in Kentucky providing air services on a regularly scheduled basis.

Measure: The number of regularly scheduled flights per day or week at each airport providing such service.

B. "To facilitate the rapid movement of goods and people with a minimum of delay". (USDOT)

1. To reduce travel times by highway in Kentucky.

Measure: Travel times for travel over selected routes in each of the state's urbanized areas.

Measure: Travel times for travel between the state's cities.

2. "To expedite relief from hazardous and congested traffic conditions on the highways" in the commonwealth. (KRS 175A.020) To reduce or eliminate blockages and obstructions to travel over the existing road system.

Measure: Delays for travel over selected routes in each of the
state's urbanized areas.

Measure: Delays for travel between the state's cities.

Measure: The average time to clear one lane of various highways after a snowfall.

Measure: The percentage of drivers satisfied with removal of snow and ice from state and US-numbered highways in Kentucky.

Measure: The percentage of drivers favoring increased spending for snow and ice removal.

Measure: The percentage of drivers often encountering unacceptable levels of congestion on city streets in Kentucky.

Measure: The percentage of drivers often encountering unacceptable levels of congestion on rural roads in Kentucky.

Measure: Peak-period speed and delay data in urban areas or elsewhere where congestion is a problem.

C. To benefit the economy of the commonwealth. (KRS 175.640)

1. To promote "the continued economic growth of the commonwealth"; To "preserve and enhance the economic viability of the commonwealth". (KRS 175.640)

   a. To "promote the agricultural and industrial development of the commonwealth". To promote and induce "industrial location or substantial expansion of industry" in the commonwealth. (KRS 175.440 and 176.121) To provide facilities and services which benefit business, industry, and agriculture in their affected areas.

   Measure: The economic impacts of developmental highways (sections of US 25E and KY 55), a section of I 75, and the Mountain Parkway.

2. To promote "the free flow of interstate commerce". (KRS 177.890)

   a. "To provide acceptable avenues of commerce and intercommunication by vehicular traffic". (KRS 175A.020)

   Measure: Total vehicle-miles by road in Kentucky.

   Measure: Ton-miles of goods transported by road in Kentucky.

   b. To promote the development and maintenance of an adequate railway system in the commonwealth.

   Measure: Total miles of railroad tracks in Kentucky by classification.
Measure: Ton-miles of goods transported by train in Kentucky.

Measure: The percentage of persons surveyed favoring increased spending for railroad operation and maintenance.

c. "To promote the development of a navigable waterway" system. (KRS 182.300)

Measure: Total miles of navigable waterway in Kentucky.

Measure: Total tonnage of goods carried on Kentucky waterways.

3. "To minimize the costs of transportation to citizens." (USDOT)

Measure: Operating costs for travel over selected routes in each of the state's urbanized areas.

Measure: Operating costs for travel between the state's cities.

Measure: The economic loss due to traffic accidents.

Measure: The economic loss due to rail accidents.

Measure: The economic loss due to air accidents.

Measure: The economic loss due to water-transportation-related accidents.

Measure: An analysis of the economic impact of the bridge replacement program and other programs.

4. To "advertise, popularize, and promote the Commonwealth of Kentucky". (KRS 186.043)

Measure: The amount of money injected annually into the state economy by tourism.

D. "To improve the public's accessibility to important destinations throughout the state." (USDOT)

1. To provide convenient access to those destinations which are crucial to everyday life.

Measure: The percentage of persons surveyed indicating difficulty getting to jobs, shopping, medical service, recreation facilities, or other crucial destinations.

2. To provide a high level of transportation service to all population centers.

Measure: An assessment of the types of transportation facilities available within various distances of population centers.
E. To preserve "historical and aesthetic beauty". (KRS 176.255) "To reduce the undesirable environmental impacts of transportation services on air, water, noise, wildlife, and vegetation." (USDOT)

1. To promote "the restoration, preservation, and enhancement of scenic beauty within and adjacent to ... highways of this state". (KRS 177.090)

   Measure: The percentage of drivers who rate the landscaping, cleanliness, and overall appearance of federal and state highways in Kentucky as attractive.

2. To insure that "every vehicle when on a highway shall be so equipped as to make a minimum of noise, smoke, or other nuisance". (KRS 189.020)

   a. To reduce or eliminate air pollution due to transportation sources.

      Measure: The annual number of days in which transportation-generated air pollution (ozone) exceeds hazardous levels.

   b. To reduce or eliminate noise pollution due to transportation sources.

      Measure: The number of road-miles with excessive noise levels in residential areas and designated "quiet zones".

      Measure: A survey of noise levels of various vehicle types.

F. To provide services required for the public convenience and necessity. (KRS 133.590) "To provide satisfactory service to citizens in terms of courtesy, fairness, and responsiveness." (USDOT)

1. To insure "that all ... vehicles should be regulated, registered, and controlled". (KRS 186.005)

   a. To "promote uniformity in regulation of and standards for (vehicle) equipment". To promote "the development of greater interjurisdictional cooperation to achieve the necessary uniformity in the laws, rules, regulations and codes relating to vehicle equipment". (KRS 189.760)

      Measure: Unknown

   b. To "minimize the time between the development of sound safety features and their incorporation into vehicles". (KRS 189.760)

      Measure: Unknown

2. To insure that "every person ... shall before operating a motor vehicle or moped upon a highway secure an operator's license". (KRS 186.410) To provide this service in a courteous, fair, and responsive manner.
Measure: The percentage of drivers who are satisfied with the ease and convenience of obtaining a driver's license.

3. To "promote honesty, integrity, safety, veracity and sound economic conditions in the motor vehicle sales industry ..., without unjust discrimination or undue preference or advantage". "To provide for fair and impartial regulation of those persons engaged in the business of the manufacture, distribution, or sale of motor vehicles". (KRS 190.015)

Measure: Unknown

G. "To encourage and facilitate the conservation of energy." (USDOT)

1. To minimize the fuel consumption required for automobile travel.

Measure: Fuel consumption for travel over selected routes in each of the state's urbanized areas.

Measure: Fuel consumption for travel between the state's cities.

2. "To encourage bicycling and bicycle touring in this state". (KRS 189.287)

Measure: The percentage of persons surveyed indicating they ride a bicycle.

3. To encourage carpooling and vanpooling in Kentucky.

Measure: The percentage of licensed drivers indicating that they use carpools or vanpools.

4. To encourage the use of public transportation (buses).

Measure: The percentage of persons surveyed using bus service.

Measure: The number of bus passenger trips and trips per capita.

H. "To minimize other undesirable effects of state transportation services such as community disruption." (USDOT)

Measure: Unknown

I. "To provide services equitably to all groups within the state, including the disadvantaged." (USDOT)

1. To provide acceptable public transportation for those desiring this service and especially for those requiring it.

Measure: The percentage of drivers indicating that bus service is not available to them.
Measure: The percentage of bus users satisfied with overall service.

Measure: General information regarding the location and extent of areas presently being served by buses.

a. To provide rapid and efficient movement by public transportation.

Measure: Average bus speeds between selected origins and destinations.

Measure: The percentage of drivers and bus users who state that travel time is a reason for disuse or limited use of buses.

Measure: Average bus headways.

b. To provide access to crucial destinations by public transportation.

Measure: The percentage of bus users who indicate they have had problems getting to jobs, shopping, medical service, recreation facilities, or other crucial destinations.

c. To provide safe, economical, convenient, and comfortable public transportation service.

Measure: The number of scheduled stops that are early by any amount or late more than a specified amount of time.

Measure: The percentage of bus users rating factors related to comfort, convenience, and employee service as satisfactory.

Measure: The percentage of drivers and bus users indicating that inconvenient schedules are a reason for disuse or limited use of buses.

Measure: The percentage of drivers and bus users indicating that inconvenient routes are a reason for disuse or limited use of buses.

Measure: The percentage of drivers and bus users indicating that lack of safety is a reason for disuse or limited use of buses.

Measure: The percentage of drivers and bus users indicating that excessive cost is a reason for disuse or limited use of buses.

Measure: The percentage of drivers and bus users indicating that lack of comfort is a reason for disuse or limited use of buses.
APPENDIX B

Cover Letter and Questionnaire Sent to Licensed Drivers
Dear Driver:

The Division of Research of the Department of Transportation is conducting a study to determine the effectiveness of transportation services in Kentucky. By completing the enclosed questionnaire, you will have a chance to express your opinion on a number of important matters. Results of the study will assist in the formulation of transportation plans for Kentucky.

Your name was selected at random from a file containing all licensed drivers in the state. The questionnaire is for our study only and no attempt will be made to identify drivers. We ask that you do not include your name on the questionnaire. For your convenience, a pre-addressed, pre-stamped envelope is enclosed for you to return the questionnaire to us.

The questionnaire will only take a few minutes to complete. Upon completion of the questionnaire, please do not delay in returning it. Only a limited number of questionnaires were sent. It is, therefore, important that every questionnaire be returned.

Thank you very much for your assistance.

Sincerely yours,

[Signature]

Research Engineer
1. Over the past 12 months, have you had problems in getting to any of the following destinations?

<table>
<thead>
<tr>
<th>No Problems</th>
<th>Minor Problems</th>
<th>Major Problems</th>
<th>(Describe)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Shopping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Hospital or Doctor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Recreation or Entertainment</td>
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<td></td>
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</tr>
<tr>
<td>e) Other:</td>
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</tbody>
</table>

2. How often do you usually ride local buses?

- [ ] 5 or more times a week
- [ ] 1 to 4 times a week
- [ ] once or twice a month
- [ ] rarely
- [ ] never

If buses are not your principal means of travel, why don't you ride buses more often than this? (You may select more than one answer. If your answer is that you prefer to travel by car, then check the reason(s) why you prefer to travel by car.)

- [ ] Bus is not available
- [ ] Bus schedules are inconvenient
- [ ] Bus is too expensive
- [ ] Bus is unsafe
- [ ] Bus takes too long
- [ ] Bus routes are inconvenient
- [ ] Bus is uncomfortable
- [ ] Other

3. In the past 12 months, how often have you travelled by the following means of transportation?

<table>
<thead>
<tr>
<th>None</th>
<th>1-5 times</th>
<th>6-50 times</th>
<th>More than 50 times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Airline</td>
<td></td>
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<tr>
<td>Private Aircraft</td>
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<td></td>
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<tr>
<td>Passenger Train</td>
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<tr>
<td>Intercity Bus (Greyhound, Trailways, etc.)</td>
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<tr>
<td>Taxi or Limousine</td>
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<tr>
<td>Motorcycle</td>
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</tbody>
</table>

4. How often do you use a bicycle for the following purposes?

- [ ] Frequently
- [ ] Occasionally
- [ ] Never

<table>
<thead>
<tr>
<th>Work or school</th>
<th>Shopping</th>
<th>Recreation/Social</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] no</td>
<td>[ ] no</td>
<td>[ ] yes</td>
<td>[ ] yes</td>
</tr>
</tbody>
</table>

5a. Does anyone in your household participate in a carpool (or vanpool) for any of the following purposes?

- [ ] Work: [ ] yes [ ] no
- [ ] School: [ ] yes [ ] no
- [ ] Shopping: [ ] yes [ ] no
- [ ] Church: [ ] yes [ ] no
- [ ] Social/Recreation: [ ] yes [ ] no
- [ ] Other: [ ] yes [ ] no

5b. Which of the following would encourage you to use carpools more? (May select more than one answer.)

- [ ] Preferential parking for carpools
- [ ] Exclusive lanes for carpools
- [ ] Assistance in arranging and scheduling a carpool
- [ ] Rising gas prices
- [ ] Other
- [ ] Would not consider using carpools more

DRIVER OPINIONS

1. This question relates to government spending for transportation. For each of the following areas of transportation service, tell whether you think government spending should increase, stay the same, decrease, or cease completely.

<table>
<thead>
<tr>
<th>Increase</th>
<th>Stay Same</th>
<th>Decrease</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>New road construction</td>
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<tr>
<td>Road reconstruction (widening, realignment, etc.)</td>
<td></td>
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<tr>
<td>Road maintenance</td>
<td></td>
<td></td>
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<tr>
<td>Railroad operation &amp; maintenance</td>
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<tr>
<td>Public Transportation</td>
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<tr>
<td>Highway safety improvements</td>
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<tr>
<td>Airport construction, operation, and maintenance</td>
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<td></td>
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<tr>
<td>Removal and treatment of ice and snow on roads</td>
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</tbody>
</table>
2. How do you feel about each of the following suggestions for laws or government regulations?  

<table>
<thead>
<tr>
<th>Suggestion</th>
<th>Strongly Favor</th>
<th>Favor</th>
<th>Neutral</th>
<th>Oppose</th>
<th>Strongly Oppose</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) A law requiring seatbelt usage</td>
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<tr>
<td>b) Strict enforcement of the 55-mph speed limit</td>
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<tr>
<td>c) Gasoline rationing</td>
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<tr>
<td>d) A law requiring child-restraints for automobile passengers under 5 years of age</td>
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<tr>
<td>e) Annual vehicle inspections</td>
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<tr>
<td>f) A law prohibiting the sale of non-returnable bottles and cans in Kentucky</td>
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<tr>
<td>g) Strict enforcement of truck weight limits</td>
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<tr>
<td>h) A law requiring all new automobiles to be equipped with air bags</td>
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<tr>
<td>i) A law requiring motorcyclists to wear helmets</td>
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<tr>
<td>j) Strict enforcement of environmental protection laws</td>
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<tr>
<td>k) A change in the gasoline tax from a fixed cents-per-gallon tax to one based on a percentage of the price of gasoline</td>
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<tr>
<td>l) Mandatory retesting of drivers when renewing licenses</td>
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</tbody>
</table>

3. How satisfied are you with Kentucky's overall transportation system?  

- Very satisfied  
- Satisfied  
- Dissatisfied  
- Very dissatisfied

4. What is your biggest complaint about Kentucky's transportation system?

5. What do you appreciate most about Kentucky's transportation system?

6. How satisfied are you with the opportunity offered for public participation and comment regarding proposed transportation projects?  

- Very satisfied  
- Satisfied  
- Dissatisfied  
- Very dissatisfied

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**PERSONAL INFORMATION**

1. Age  
2. Sex: M F  
3. County of Residence  
4. Population of city (or town) of residence  
   - Greater than 60,000  
   - 15,000-60,000  
   - 2,500 - 14,999  
   - Less than 2,500  
5. Marital status  
   - Married  
   - Single  
   - Divorced or Separated  
   - Widowed  
6. Education  
   - Did not complete high school  
   - Completed high school  
   - More than high school  
   - Completed college  
7. Occupation  
8. Annual Household Income  
   - Less than $8,000  
   - $8,000-$15,999  
   - $16,000-$23,999  
   - $24,000-$32,000  
   - Over $32,000  
9. Number of people in household (including self)
DRIVING INFORMATION

1a. Is there an automobile available for you to use when you need one? Always ______  Sometimes ______  Never ______

1b. Please list the model year and the odometer reading (total mileage) for each car which is owned or leased by you or others in your household.

1c. Please estimate how many miles you drive each year. ______  ______  ______  ______

2. During the past 12 months, how often did you encounter state or US-numbered highways in Kentucky that were bumpy, uneven, or rough?

____ Rarely or never ______ Sometimes, but not often ______ Fairly often ______ Very often

List particular state and US-numbered highways that you usually found bumpy or uncomfortable to ride on.

1. How satisfied are you with the maintenance of state and US-numbered highways in Kentucky?

____ Very Satisfied ______ Satisfied ______ Dissatisfied ______ Very Dissatisfied

4. How satisfied are you with the removal or treatment of ice and snow on state and US-numbered highways in Kentucky?

____ Very Satisfied ______ Satisfied ______ Dissatisfied ______ Very Dissatisfied

5. How satisfied are you with the cleanliness and overall appearance of the right-of-ways of state and US-numbered highways in Kentucky?

____ Very Satisfied ______ Satisfied ______ Dissatisfied ______ Very Dissatisfied

6. During the last 12 months, how often have you encountered an unacceptable level of congestion on city streets?

____ Rarely or never ______ Sometimes, but not often ______ Fairly often ______ Very often

What would you say is the major cause of this congestion?

7. During the last 12 months, how often have you encountered congestion on rural roads?

____ Rarely or never ______ Sometimes, but not often ______ Fairly often ______ Very often

What would you say is the major cause of this congestion?

8. How often in the past 12 months have you encountered traffic signs or signals that were poorly placed or difficult to understand?

____ Rarely or never ______ Sometimes, but not often ______ Fairly often ______ Very often

9. How often in the past 12 months have you encountered pavement markings such as center lines, edge stripes, and lane markings which were hard to see?

____ Rarely or never ______ Sometimes, but not often ______ Fairly often ______ Very often

10. During the last 12 months, have you ever been in need of emergency aid (police, ambulance, tow-truck) on a road in Kentucky? Yes ______

If yes, were you able to quickly and conveniently get the help needed? Yes ______

11. In the past 12 months, have you obtained a new driver's license in Kentucky or have you renewed, replaced, or changed your old license?

____ Yes (specify) ______ No

____ New License ______ Renewal ______ Replacement or change of name or address

If yes, how satisfied were you with the ease and convenience of obtaining, renewing, replacing, or changing your license?

____ Very Satisfied ______ Satisfied ______ Dissatisfied ______ Very Dissatisfied
APPENDIX C

Questionnaire Distributed in Bus Rider Survey
The Division of Research of the Kentucky Department of Transportation is conducting a study to determine the effectiveness of transportation services in Kentucky. By completing this questionnaire, you will have a chance to express your opinion on a number of important matters. Results of the study will assist in the formulation of transportation plans for Kentucky.

For your convenience, a pre-addressed, pre-stamped envelope is enclosed for you to return the questionnaire to us, or you may complete the questionnaire and return it to the surveyor before leaving the bus. We ask that you do not include your name on the questionnaire.

The questionnaire will only take a few minutes to complete. Upon completion of the questionnaire, please do not delay in returning it. Only a limited number of questionnaires are being distributed. It is, therefore, very important that every questionnaire is returned.

Thank you very much for your assistance.

PERSONAL INFORMATION

1. Age ___ 2. Sex: M ___ F ___ 3. County of Residence__________________________
4. Population of city (or town) of residence
   ___ Greater than 60,000  ___ 15,000-60,000  ___ 2,500-14,999  ___ Less than 2,500
5. Marital status
   ___ Married  ___ Single  ___ Divorced or Separated  ___ Widowed
6. Education
   ___ Did not complete  ___ Completed high school  ___ More than high school  ___ Completed high school
7. Occupation_______________________________________________________
8. Annual Household Income
   ___ Less than $8,000  ___ $8,000-$15,999  ___ $16,000-$23,999  ___ $24,000-$32,000  ___ Over $32,000
9. Number of people in household (including self) __________
10. Do you have a driver's license? ___ Yes ___ No

GENERAL TRAVEL INFORMATION

1. Over the past 12 months, have you had problems in getting to any of the following destinations?

   a) Work
   b) Shopping
   c) Hospital or Doctor
   d) Recreation or Entertainment
   e) Other: ________________________________

   No Problems  Minor Problems  Major Problems (Describe)

   ___  ___  ___
   ___  ___  ___
   ___  ___  ___
   ___  ___  ___

2. How often do you usually ride local buses?
   ___ 5 or more times a week  ___ 1 to 4 times a week  ___ once or twice a month  ___ rarely

   If buses are not your principal means of travel, why don’t you ride buses more often than this? (You may select more than one answer. If your answer is that you prefer to travel by car, then check the reason(s) why you prefer to travel by car.)
1. In the past 12 months, how often have you traveled by the following means of transportation?

<table>
<thead>
<tr>
<th></th>
<th>1-5 Times</th>
<th>6-50 Times</th>
<th>More Than 50 Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Airline</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Aircraft</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passenger Train</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercity Bus(Greyhound, Trailways, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxi or Limousine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motorcycle</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. How often do you use a bicycle for the following purposes?

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Frequently</th>
<th>Occasionally</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work or school</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shopping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreation/Social</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OPINIONS

1. This question relates to government spending for transportation. For each of the following areas of transportation service, tell whether you think government spending should increase, stay the same, decrease, or cease completely.

<table>
<thead>
<tr>
<th>Service</th>
<th>Increase</th>
<th>Same</th>
<th>Decrease</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>New road construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road reconstruction (widening, realignment, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road maintenance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Railroad operation &amp; maintenance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public transportation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highway safety improvements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airport construction, operation, and maintenance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removal and treatment of ice and snow on roads</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. How do you feel about each of the following suggestions for laws or government regulations?

<table>
<thead>
<tr>
<th>Suggestion</th>
<th>Strongly Favor</th>
<th>Strongly Oppose</th>
<th>Favor</th>
<th>Oppose</th>
<th>Neutral</th>
<th>Oppose</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) A law prohibiting the sale of non-returnable bottles and cans in Kentucky</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>b) Strict enforcement of truck weight limits</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>c) A law requiring motorcyclists to wear helmets</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Strict enforcement of environmental protection laws</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. How satisfied are you with Kentucky's overall transportation system?

<table>
<thead>
<tr>
<th>Satisfaction Level</th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
</tr>
</thead>
</table>

4. What is your biggest complaint about Kentucky's transportation system?

<table>
<thead>
<tr>
<th>Complaint</th>
<th>Description</th>
</tr>
</thead>
</table>

5. What do you appreciate most about Kentucky's transportation system?

<table>
<thead>
<tr>
<th>Appreciation</th>
<th>Description</th>
</tr>
</thead>
</table>

6. How satisfied are you with the opportunity offered for public participation and comment regarding proposed transportation projects?

<table>
<thead>
<tr>
<th>Satisfaction Level</th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
</tr>
</thead>
</table>

| Description | |
|-------------| |