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MICHIGAN PUBLIC OPINION TOWARD
MOTOR VEHICLE INSPECTION

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<p>16. Abstract To assist the Michigan Department of Transportation in developing plans for a state motor vehicle inspection program, the Michigan Office of Highway Safety Planning sponsored a state-wide public opinion survey of Michigan drivers conducted by The University of Michigan Highway Safety Research Institute. A sample of 999 drivers was contacted by telephone or mail between May and August 1979, and an 86% response rate was obtained from the available respondents.</p> <p>The questionnaire focussed particularly on emissions inspection, and a slight plurality of the sample (47.9%) said they were in favor of an emissions inspection program. Much larger proportions of the sample were in favor of safety inspection (81%), noise inspection (67%), and a combined safety and emissions inspection (73%). More than half of the respondents preferred that any inspection program be paid for by other state funds, and majorities in all parts of the state thought that an emissions inspection program should be statewide if it were set up.</p> <p>Complete survey results are included in the report. Appendices include 45 tables, a narrative listing of interesting respondent comments, copies of the questionnaires and respondent letters, and some methodological notes.</p>			
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TABLE OF CONTENTS

ACKNOWLEDGEMENTS	iii
EXECUTIVE SUMMARY	v
1. INTRODUCTION	1
2. SURVEY METHODOLOGY	3
3. SURVEY FINDINGS	7
3.1 General Air Pollution Attitudes	7
3.2 Details of an Emissions Inspection Program	9
3.3 Safety Inspection and Combined Emissions Safety Inspection	13
3.4 Noise and Diagnostic Inspections	16
3.5 Drivers, Vehicles, and Maintenance Practices	18
4. CONCLUSION	20
5. REFERENCES	22
APPENDICES	23
A. Tables for Survey Findings	
B. Respondent Comments on Inspection Programs	
C. The Telephone Questionnaire and Respondent Letter	
D. The Mail Questionnaire and Respondent Letters	
E. Further Methodological Notes	
Survey Operational Procedures	E1
The Telephone Survey Results	E3
Mail Survey Response Rates	E9
The Return Envelope Experiment	E9
The Replacement Questionnaire Experiment	E14
The Second Follow-up Mailing with Certified Letters	E15

EXECUTIVE SUMMARY

To assist the Michigan Department of Transportation in developing plans for a motor vehicle inspection program in Michigan, the Highway Safety Research Institute of The University of Michigan conducted a statewide telephone and mail survey of 999 drivers licensed in February 1979. A total of 826 complete or partial questionnaires were obtained from the still eligible respondents (not ill or moved away, etc.), for an unusually high 86% response rate.

The question of greatest interest in this survey concerned public opinion toward a motor vehicle emissions inspection program, and it turned out that slightly more than half of the respondents who had an opinion on this question were favorable toward an emissions inspection program in their counties, although about one-third were strongly opposed. A much larger proportion, 83%, were in favor of a safety inspection program, and when asked about combining a safety and emissions inspection program more than three-fourths were favorable to such a combined program. Similar large majorities said they were in favor of vehicle noise inspections and of state-operated motor vehicle diagnostic centers. So majority public sentiment seems favorable to a state vehicle inspection program, but it is more favorable to safety and noise inspections than to emissions inspections.

Regarding the details of an emissions inspection program, if it were established, public opinion was generally somewhat divided. Almost two-thirds of those expressing an opinion preferred a no-fee program paid for by other state funds, and more than half still preferred no inspection fee if emissions and safety inspections were combined. These proportions were fairly similar for both those in favor of and opposed to an emissions inspection program.

There was a slight preference for inspection by licensed private garages and service stations rather than by state stations, although on another question the public expressed greater trust in state inspectors than in private inspectors as far as doing a proper

emissions test. Almost two-thirds of the respondents felt that if such an inspection program was set up it should be required statewide and not only in the worst pollution areas. Majority sentiment in favor of a statewide program was expressed in all geographic areas of the state. The question which found the least division of opinion concerned the inclusion of buses and large trucks in an emissions inspection program, with 90% favoring such inclusion. More than half favored exempting older vehicles from high-cost repairs, and close to half were favorable to a special state fund to help motorists who couldn't afford to make required repairs.

Thus, in general, Michigan drivers seem favorable disposed toward a statewide vehicle inspection program, especially if it includes safety and noise inspection as well as emissions inspection. They tend to trust state inspectors more than private inspectors, but many fear that state inspection stations would be less convenient and more costly than licensing existing private facilities. Not surprisingly, a majority would prefer to have inspection costs come from other state funds rather than directly out of their own pockets, but probably a reasonable fee could be charged without directly arousing public opposition.

1. INTRODUCTION

Michigan is facing a mandate by the federal Environmental Protection Agency (EPA) to establish a program of periodic motor vehicle emissions inspections by 1982, at least in the Detroit urban area and perhaps in other urban areas which may not meet the air pollution standards set by the EPA. The purpose of such an inspection program is to ensure that, at least periodically, each motor vehicle will be operating within a specified tolerance of the ideal emissions level for vehicles of that model and model year. EPA estimates that a 25% reduction in motor vehicle emissions may be achieved by such a mandatory inspection and maintenance program.

Also for a number of years, Michigan has been under pressure from the National Highway Traffic Safety Administration to join the majority of states which have a mandatory periodic inspection program for the safety components of motor vehicles. In addition, Michigan has recently passed legislation regarding allowable motor vehicle noise levels, and there has been discussion of using a state inspection program as one means of enforcing these noise rules.

Accordingly, the Michigan Department of Transportation, specifically the Social and Economic Studies Section in the Bureau of Planning, is taking responsibility for studying various types of motor vehicle inspection programs and developing draft legislation for consideration by the Michigan Senate and House of Representatives. The Social and Economic Studies Section has been aided in this process by contracting with a private research organization and by setting up a statewide Advisory Committee representing many organizations with diverse views on vehicle emissions inspections.

Also, in order to obtain broader public input into the planning process, The University of Michigan Highway Safety Research Institute (HSRI) was asked to carry out a statewide public opinion

survey concerning motor vehicle emissions, safety, and noise inspections. This telephone and mail survey was supported financially by the Michigan Office of Highway Safety Planning. The remainder of this report describes the methods and findings of this survey which was carried out from May to August 1979.

Five appendices contain the detailed tables showing the survey results for each questionnaire item; some narrative comments made by respondents concerning inspections; copies of the telephone and mail questionnaires; and some additional notes on the survey methodology.

2. SURVEY METHODOLOGY

It was decided that a sample of Michigan licensed drivers would be appropriate for representing Michigan public opinion on motor vehicle inspections. The Department of State kindly furnished the names and addresses of a one-fortieth sample of new and renewal license applicants during one week in February 1979. Using the records of one recent week had the advantage of providing fairly up-to-date addresses. It had the slight disadvantage that drivers aged 16, 20, 22, 25, 28, etc. were somewhat overrepresented in the sample, but it was felt that this would not seriously limit the overall representativeness of the sample. The original sample contained 1024 names and addresses and 25 of these were randomly deleted to make a total sample size of 999.

This list was assigned case identification numbers from 001 to 999, and it was then divided into two groups: a telephone sample of 699 (last digits of 0, 2, 3, 4, 5, 8, 9) and a mail-only sample of 300 (last digits of 1, 6, 7). By consulting telephone directories and directory assistance services telephone numbers were obtained for 433, or 61.9% of the 699 drivers in the telephone sample. There were 111 drivers for whom telephone numbers were not available because their telephones were "unlisted" (15.9% of the telephone sample, 20.4% of the sample for whom some information was available), leaving 155 drivers (22.2%) for whom no telephone information was available.

The 433 potential telephone respondents were mailed letters signed by the Michigan Director of Transportation informing them of their desired participation in the telephone survey on May 8, 11, 21, or 30; and the actual interviewing took place between May 11 and early July. A total of 369 telephone interviews were successfully carried out (85.2%) and there were only 23 refusals. Also, eight

respondents were too ill or otherwise incapable (language difficulty, hard of hearing, retardation, etc.) to participate. The remaining 32 were nonreachable because they were away (5), or the telephone number was disconnected (22, including 6 who had changed to unpublished numbers), or the telephone number was never answered (5, including one attempted 43 times).

On June 27 the 330 non-interviewed members of the original telephone sample (64 for whom a telephone number had been obtained and 266 for whom no telephone number was available), plus the 300 drivers in the mail only sample were sent an 8-page mail questionnaire with a cover letter signed by the Director of Transportation. This mailing was followed six days later with a reminder postcard to all respondents signed by the HSRI Project Director. On July 18, a second reminder mailing was made from the HSRI Project Director to non-respondents with replacement questionnaires and stamped return envelopes included in about one-third of the letters. A third follow-up mailing was made on August 2-3 to all non-respondents by certified mail (80¢ per letter in addition to first class postage), all including a replacement letter and stamped return envelope. All mailings were light enough in weight to use 15¢ postage.

A total of 458 mail questionnaires were returned, including two in which the case identification number was crossed out or cut off. This included 13 from the 23 telephone refusals, and 22 from the 41 telephone respondents who had been ill, disconnected, away, etc. A total of 42 letters were returned by the post office as non-forwardable or as unclaimed certified letters, so the total eligible mail sample was reduced from 630 to 588. Thus the overall mail response rate was 77.9%, and for the 300 drivers in the mail only sample the response rate was 80.1%. All told, 827 interviews and questionnaires were received (6 only partially completed) for an unusually high overall telephone and mail response rate of 86.4%.

As might be expected, the response rate was somewhat below average in Wayne County (82.7%) and even lower for Detroit addresses specifically (77.5%), while it was well above average in Oakland and Macomb Counties (89.9%). But these small geographic variations

in response rate do not seem sufficient to obviate the overall state-wide representativeness of the total sample.

With this high response rate it seems reasonable to expect very little non-response bias in the survey results. Naturally, one expects normal sampling "error" because no sample will represent the full population with absolute accuracy. The following table shows estimates of the sampling error for various percentages for different sample and subsample sizes at a 95% level of confidence. This indicates, for example, that the survey finding of 47.9% of 812 respondents in favor of an emissions testing program has a sampling error of about 3.5; that is, that the chances are 19 out of 20 that the true percentage in the total driving population lies within the range 47.9% plus or minus 3.5% (thus between 44.4% and 51.4%). Similarly, one can use the table to determine that the finding of 39.4% strong opposition to emissions testing among 104 respondents in the most rural counties has a sampling error or "confidence limit" of about 9.8. Thus the true percentage has a 95% probability of being within the range from 29.6% to 49.2%.

TABLE 2.1
SAMPLING ERRORS FOR VARIOUS PERCENTAGES AND SAMPLE SIZES

Approximate Percentages	Sample or Subsample Size						
	820	400	250	200	150	100	50
50%	3.50	5.00	6.32	7.08	8.16	10.00	14.14
40% or 60%	3.42	4.90	6.20	6.92	8.00	9.80	13.86
30% or 70%	3.19	4.58	5.80	6.48	7.48	9.16	12.96
25% or 75%	3.02	4.34	5.48	6.12	7.08	8.67	12.24
20% or 80%	2.79	4.00	5.06	5.66	6.54	8.00	11.32
15% or 85%	2.49	3.58	4.52	5.04	5.84	7.14	10.10
10% or 90%	2.10	3.00	3.80	4.24	4.90	6.00	8.48
5% or 95%	1.53	2.18	1.76	3.08	3.56	4.36	6.16

If one wishes to compare two percentages from two subsamples to see if they have significantly different opinions, one can use the values in Table 2.1 multiplied by the square root of two (1.414). For example, on Question 6 42.7% of the male respondents and 34.6%

of the female respondents said they preferred state-operated inspection stations to state-licensed private garages. To see if this difference of 8.2% is statistically significant, one multiplies the 4.90 sampling error for percentages around 40% with sample sizes around 400 by 1.414. The result, 6.9, is less than the difference, 8.2, so one can say with 95% confidence that female drivers are less in favor of state inspection stations than male drivers.

3. SURVEY FINDINGS

The following report is based on replies from 821 respondents. Subsequent to the computer runs, five more questionnaires were received, and probably a few more will drift in during the fall.

Certainly the most relevant question in the survey was Question 4 which, after a fairly lengthy introduction, asked respondents if they "favor or oppose a required emissions inspection program" in their county. The final tally showed a slight plurality in favor of a required vehicle emissions inspection program in the respondent's home county. As can be seen in Table 4 of Appendix A, 31.0% were strongly in favor, 16.9% were not very strongly in favor (47.9% together), 12.0% were not very strongly opposed, 30.9% were strongly opposed (42.9% together), 1.4% said their answer depended on something, and 7.8% had no opinion. Support was stronger among women than among men (50.5% - 45.6%--in fact, a plurality of men respondents [48%] were opposed). Also, support was stronger among younger respondents with almost half of the respondents over 34 years of age indicating opposition while well over half of those 16-34 (60.8% of those 16-24) were in favor. Looking geographically, support was greatest in the six most populous counties and was least in the outstate areas, but there was both substantial support and substantial opposition in every area of the state. There is no indication of very large rural-urban differences in opinion on this issue. Looking at income levels, there was somewhat less support in the lowest income group but no large differences by income level.

3.1 GENERAL AIR POLLUTION ATTITUDES

As an introductory question respondents were asked if they had "personally ever been bothered by air pollution" in their home counties. Somewhat surprisingly only 36% said "yes" (Table 1 in Appendix A), and

only 5% said they had been bothered a lot in the past year. Again, younger people, women, and Wayne County residents were more likely to have been bothered (58% in Wayne County, 10% a lot), but even in the most rural counties, 21% said they had been bothered by air pollution in their county at some time. Those strongly in favor of emissions inspections were more likely to have been bothered by air pollution (48% --10% a lot), but 30% of those strongly opposed also said they had been bothered. Some of these added comments indicating that more should be done to stop the big stationary sources of pollution rather than worrying about vehicle emissions so much (see Appendix B).

When asked their sense of the geographic spread of air pollution problems in Michigan (Question 2), only 3% claimed it was a serious problem nowhere. However, 53% felt it was a serious problem in only a few big cities, while 21% said it was a serious problem throughout southern Michigan, and 13% said it was a serious problem all over the state (Table 2). Again, younger people and female respondents were more likely to consider it a serious problem statewide, but there were few differences by area of residence. Not surprisingly, those in favor of emissions inspection were more likely to see air pollution as a serious problem statewide (24% of those strongly in favor).

When asked how they felt about a law prohibiting motorists from using regular gas in cars designed for no-lead gas (Question 3), 50% said they were in favor, 36% were opposed, and 14% had no opinion (Table 3). However, only 38% of those in the lowest income group supported such legislation. As might be expected, there was a strong relationship with attitude toward emissions inspection. Among those strongly in favor of emissions inspection, 67% supported such a law, while only 35% of those strongly opposed to emissions inspections supported such a law.

At a later point in the questionnaire, respondents were asked if they had "ever had occasion to use regular gasoline in a vehicle designed to use no-lead gasoline" (Question 29). Only 7% admitted to having done so (Table 32); rather less than EPA estimates of this

practice. Younger people, men, and those opposed to emissions inspections were more likely to admit to engaging in this practice. Respondents were also asked if they believed their vehicles' emissions control systems were working properly at the time of the survey (Question 32). Only 6% said "no" (Table 40), again more frequently among younger and male respondents, but there seemed to be no relation to opinion on emissions inspection. When asked why it was not working properly, slightly over one-third mentioned missing or disconnected emissions control parts (thus a little over 2% of the total sample). Other problems mentioned included burning oil, leakage, visible smoke, bad smell, due for a tune-up, defective exhaust system, high gas consumption, etc. (Table 41). Naturally one would not want to consider these survey reports as providing definitive data on the extent of "tampering" with emissions control devices by Michigan drivers, but the survey suggests that this is not a very extreme problem.

One other general question concerned whether, if they had to choose, respondents would prefer a no-parking program to a vehicle emissions program in order to reduce air pollution in some places (Question 5). Only a small plurality favored emissions inspection (46% to 38%), while 5% said "neither" and 11% had no opinion (Table 5). Pluralities of persons over 54 and residents of more rural counties preferred the no-parking alternative, as did a substantial majority of those opposed to an emissions inspection program on the previous question.

3.2 DETAILS OF AN EMISSIONS INSPECTION PROGRAM

A major issue in any inspection program concerns whether the inspections should be carried out only at special state inspection stations or whether existing private garages or service stations should be licensed to conduct the inspections. When asked about this (Question 6), 39% of the respondents favored state inspection stations while 43% favored licensing private inspection stations (the most common procedure in states having periodic safety inspection programs), 1% said either one was okay, 1% said neither was okay, and 16% had no

opinion (Table 6). Younger persons, men, Detroit-area residents, and those in favor of an emissions inspection program were more likely to prefer state stations.

When asked the reason for their preferences, more than half of those favoring state stations cited such factors as fairness, consistency, and less likely to be cheated, while another one-fifth mentioned general competence or efficiency, and 7% expressed a feeling of general confidence in a state program (Table 7). Among the proponents of private licensing, the most common reason was the belief that it would be less costly to use existing stations and equipment (42%). About one-quarter cited the greater convenience and more personal service of private inspection stations, and one-fifth indicated a general opposition to expanded government activities or bureaucracy. Only 3% mentioned greater competence or efficiency as a reason for preferring private inspection stations.

In a later question specifically on trust of state versus private inspectors (Question 15), 44% answered that they would trust inspectors in state-operated stations more than they would trust inspectors in state-licensed garages and service stations to do a proper emissions test (Table 18). Only 14% said they would trust private inspectors more, while 37% said there would be no difference, and 6% had no opinion. Trust of state inspectors was particularly strong among respondents 25-34 years old, Wayne County residents, higher income residents, and those strongly in favor of an emissions inspection program. Trust of private inspectors was greatest among persons over 34, residents of the most rural counties, low income respondents, and those strongly opposed to an emissions inspection program. As can be seen at the bottom of Table 18, almost four-fifths of those who prefer state-operated inspection stations trust state inspectors more than private inspectors, while only 2% trust private inspectors more and 18% see no difference. Conversely, only one-fifth of those who prefer licensing private inspection stations trust state inspectors more, while over one-quarter trust private inspectors more and one-half see no difference. Clearly different degrees of trust in the inspectors is an important aspect of public preference for state-

operated or privately-operated inspection stations.

Another important issue in an inspection program has to do with what kinds of vehicles should be included. When asked if buses and large trucks should be included if an inspection program were set up (Question 7), an overwhelming majority were in favor (90%). Only 6% were opposed, and 4% had no opinion (Table 8). There was somewhat greater opposition among those opposed to an emissions inspection program.

A third important issue has to do with the geographic coverage of an inspection program. Respondents were asked if an emissions inspection program were set up whether it should be required statewide or only in the areas with the most pollution problems (Question 8). Half of the respondents were strongly in favor of making such a program statewide, and another 13% were not very strongly in favor of this approach (Table 9). Only 21% were strongly opposed, and another 12% were not very strongly opposed (only 3% had no opinion). Persons over 34 and residents of rural areas were more likely to be opposed, but majorities of respondents were favorable to a statewide program in all areas of the state. Even among those opposed to an emissions inspection program sentiment was almost equally divided for and against making the program statewide if it was established.

Another issue in implementing an inspection program concerns what longest driving distances and waiting times would be considered reasonable by the public (Questions 9 and 10). The average acceptable longest driving distance was 14 miles, and this varied from 11 miles in Wayne County to 18 miles in the most rural counties (Table 10). Not surprisingly, opponents of an emissions inspection program tended to suggest lower acceptable driving distances. In regard to reasonable longest waiting and inspection time, the average was 34 minutes (Table 11), and again this average was somewhat less (27 minutes) among those strongly opposed to an inspection program than among those strongly in favor of such a program (40 minutes).

A crucial concern to everyone in thinking about an emissions inspection program is cost. Respondents were asked: "What do you

think is a reasonable inspection fee, or do you think the inspection should be paid for by other state funds?" (Question 11). More than half of the respondents (58%) preferred a no-fee program, while 19% suggested \$6.00 or less, 7% suggested \$7-\$11.00, 5% suggested more than that (up to \$30.00), and 11% had no opinion (Table 12). The mean suggested inspection fee (including the no-fees) was \$2.60. Preference for no fee was somewhat greater among the lowest income group, but those in favor of an emissions inspection program were only very slightly more willing to pay for it themselves than were those who were opposed to such a program. Sources of funds for an inspection program suggested by respondents included lottery money, driver license fees, license plate fees, fuel tax, fines, and the automobile companies.

Another implementation issue has to do with a reasonable length of time for owners who fail the inspection to get their vehicles fixed (Question 12). The average number of days suggested was 42 (Table 13), while the range was from 2 days to over 3 months. About one-fifth of the respondents suggested a period of less than one month, two-fifths suggested one month, one-third suggested more than one month, and 8% had no opinion (Table 13). Again those opposed to the inspection program tended to suggest slightly longer repair periods.

A knotty detail in an emissions inspection program is what to do about older polluting cars for which repairs might cost almost as much as the value of the car. Respondents were asked if they thought vehicles should be exempted from repairing their emissions systems if the repair cost was a large percentage of the vehicle's value (Question 13). Slightly more than half (55%) favored this idea, 36% were opposed, and 9% had no opinion (Table 14). Lower income respondents and those opposed to an emissions inspection program were more likely to favor this exemption plan. Those in favor were asked to suggest the minimum percentage for exemption, and the average answer was 27%, although the range was 1% to 100% (Table 15). The most frequently chosen numbers were 10%, 50%, 25%, and 20% in that order.

Again, the lowest income respondents and those opposed to an inspection program tended to suggest lower exemption percentages.

The final issue concerning the details of an emissions inspection programs which was asked about had to do with motorists who could not afford to have their emissions systems repaired (Question 14). Nine percent of the respondents supported exempting such vehicles from the emissions requirements, 45% supported setting up a special state fund to help such motorists, 31% supported taking such vehicles off the road, 6% suggested some other course, and 9% had no opinion (Table 16). Male respondents, higher income respondents, and those strongly in favor of an emissions inspections program were more likely to favor taking such vehicles off the road, while low income respondents and those opposed to an inspection program were more likely to favor complete exemption. Respondents favoring a special state fund were further asked if this should be a loan fund which the owner has to pay back or should it be a welfare grant. A substantial majority (62%) favored a loan fund, 28% favored a welfare grant, 6% said either or both were okay, and 3% had no opinion (Table 17). On this question, the youngest and oldest age groups were more supportive of a welfare grant program, as were lower income respondents.

3.3 SAFETY INSPECTION AND COMBINED EMISSIONS-SAFETY INSPECTION

The survey also included a number of questions relevant to safety inspection. Respondents were asked if they favored or opposed a regular safety inspection program for Michigan (Question 16). A large majority (81%) reported being strongly in favor of such a program, and another 16% were not very strongly in favor (Table 19). Only 11% were strongly opposed, while 5% were not very strongly opposed, and 3% had no opinion. Support was fairly evenly spread throughout the state and was greatest among women, persons aged 16-24, and persons strongly in favor of emissions inspection. But even among those strongly opposed to emissions inspection, a substantial majority (64%) said they were in favor of safety inspection. Only

4% of those who favored emissions inspection said they were opposed to safety inspection.

Thus it is clear that the general public feels much more favorable to the idea of safety inspection than to the idea of emissions inspection. Strong support for safety inspection was also found in a statewide telephone survey conducted by Market Opinion Research (1978) in the summer of 1978. The question was worded as follows:

Some states have mandatory vehicle safety inspection programs, with each vehicle owner required to obtain an approved inspection sticker each year for each vehicle he owns and operates. This inspection normally costs about \$7.00 per vehicle. Do you feel that Michigan should have a required vehicle inspection program of this type?

Even with the specific mention of a normal \$7.00 fee, the Market Opinion survey found 62% of its sample of licensed drivers in favor of a required safety inspection program. A 1967 HSRI survey in Ann Arbor conducted among 536 drivers who were stopped for a random spot safety check also had found high support for safety inspection, with 92% favoring a periodic vehicle inspection law in Michigan (Sherman, 1972).

The Market Opinion Research survey also asked supporters of safety inspection if the program should be operated by the state or by private garage owners. In contrast to the results of the similar HSRI question discussed earlier, 78% of the Market Opinion Research supporters of safety inspections preferred a state-operated program and only 11% preferred operation through private garage owners. Similarly, the Ann Arbor survey in 1967 found 64% preferring state-operated inspection facilities, while only 29% preferred state-licensed private garages.

All HSRI respondents were also asked how they felt about a combined inspection program for both safety and emissions (Question 17). Much greater support was registered for the combined inspection than for an emissions inspection alone, although support for

combined inspection was somewhat less than for a safety inspection alone. Almost three-quarters of the sample (73%) said they were in favor of a combined program, while 21% were opposed, and 7% had no opinion (Table 20). Even a plurality (48.5%) of those opposed to emissions inspection alone were in favor of a combined program, although given the questionnaire context it may be that some meant to express support for the combined program only if an emissions inspection program were to be established anyhow. As with emissions inspection alone, support for combined inspection was somewhat greater among younger drivers, females, and more urban residents.

Of course, opinions on the separate emissions inspection and safety inspection programs were highly related to opinion on a combined inspection. Table 20A shows the interrelationship of opinions on these two questions to opinions on a combined inspection program. Almost everyone in favor of both types of inspection was in favor of a combined inspection, and substantial majorities of those opposed to emissions inspection but in favor of safety inspection also favored a combined inspection. Even substantial groups of respondents who had been opposed to both inspection programs were in favor of a combined program. Obviously this relatively strong public support for a combined inspection program should be taken into account in developing plans for a vehicle inspection program in Michigan.

When asked to suggest a reasonable fee for a combined inspection program (Question 18), a majority of respondents (51%) again opted for "other state funds." Almost 18% had no opinion, and 31% suggested a fee ranging from \$1.00 to \$60.00 (Table 21). Most of the 466 respondents who favored other state funds for an emissions inspection program also favored other state funds for a combined inspection program, but 46 respondents who had suggested no fee on the first question suggested a fee for the combined program, while 20 respondents who suggested a fee for emissions inspection chose no fee for a combined inspection. Respondents favorable to emissions inspection, safety inspection, and a combined inspection were somewhat more likely to suggest a fee, but still 49.3% of those in favor

of a combined inspection preferred other state funds as the financial source (Table 21A).

The average suggested fee for a combined inspection was \$4.98 (including the no-fees), considerably greater than the average suggested fee of \$2.57 for an emissions inspection alone. Ten dollars was the most frequent suggestion (made by 26% of those who suggested any fee), followed by \$5, \$15, \$20, \$25, \$7, \$2, \$30, and \$50.

Respondents were also asked how much they thought required safety inspections would reduce motor vehicle accidents in Michigan (Question 19). Twenty-nine percent answered "a lot" and 49% said "some," while only 20% said "not much" (Table 22). Women, Wayne County residents, low income respondents, and those strongly in favor of emissions inspections were more optimistic about the benefits of safety inspections. As would be expected there was also a strong relationship between favoring safety inspections and expecting a substantial safety benefit from such inspections.

When asked if they considered their oldest vehicle in safe operating condition (Question 27), 83% said yes and 14% said some repairs were needed (Table 29). Respondents aged 16-34, male respondents, and low-income respondents were more likely to have vehicles needing repair. Among the safety components needing repair, lights were mentioned most frequently (2%), followed by brakes (27%), tires (16%), muffler (14%), and engine problems (12%) (Table 30). When all respondents were asked what safety defects contribute most to accidents (Question 28), brakes were mentioned most frequently (78%), followed by tires (47%), lights (35%), and steering problems (29%) (Table 31).

3.4 NOISE AND DIAGNOSTIC INSPECTIONS

It has also been suggested that it would be desirable to have a state inspection program for vehicle noise to help enforce the new state rules on allowable vehicle noise. Accordingly, a question was asked about this kind of inspection (Question 20), and 50% said they were strongly in favor of a noise inspection. Another 17% were not

very strongly in favor, while 15% were strongly opposed, 11% were not very strongly opposed, and 7% had no opinion (Table 23). Thus public support for noise inspection (67%) was intermediate between support for safety inspection (81%) and support for emissions inspection (48%) and just a little less than support for a combined emissions and safety inspection (73%).

Opposition to noise inspection was somewhat greater among younger people, among males, and among those strongly opposed to emissions inspections, but substantial majorities of all groups were favorable to noise inspection, including 83% of those strongly in favor of emissions inspection and 54% of those strongly opposed to emissions inspection. There was a fairly strong relationship with attitude toward safety inspection with 79% of those favoring safety inspection also favoring noise inspection and 66% of those opposing safety inspection also opposing noise inspection (Table 23A).

When asked if they were ever disturbed by the noise made by individual noisy vehicles (Question 21), 30% said they were not, while 33% mentioned being disturbed by motorcycles, 21% by trucks, 20% by vehicles with bad mufflers, 13% by hot rods and other high performance vehicles, and 10% by other types of vehicles (snowmobiles, buses, cars, etc.) (Table 24). Respondents who reported having been disturbed by noisy vehicles were much more likely to favor noise inspection (79%) than respondents who said they had not been disturbed by noisy vehicles (17%) (Table 23A).

When asked how strictly state rules on motor vehicle noise should be enforced (Question 22), 36% were in favor of very strict enforcement, 45% of somewhat strict enforcement, and 14% of not very strict enforcement, while 5% had no opinion (Table 25). As with noise inspections, younger respondents, males, and those strongly opposed to emissions inspections were more likely to oppose strict enforcement of noise rules. As would be expected, there was a strong relationship between attitudes toward noise rules enforcement and noise inspection. Four-fifths of those favoring very strict enforcement were strongly in favor of noise

inspection, while one-half of those preferring not very strict enforcement were strongly opposed to noise inspection (Table 23A).

A few areas have also experimented with government-operated diagnostic centers where motorists can pay to have motor vehicle problems diagnosed by impartial mechanics, and it was thought interesting to include one question on this topic in the questionnaire (Question 23). More than two-thirds of the sample of Michigan drivers were favorable to the state setting up such diagnostic centers, while 24% were opposed and 8% had no opinion (Table 26). Persons aged 16-24, urban area residents, and respondents strongly in favor of emissions inspections were particularly supportive of such diagnostic centers.

3.5 DRIVERS, VEHICLES, AND MAINTENANCE PRACTICES

Only 16% of the driver sample reported living in one-driver households (Question 50), while 54% lived in two-driver households, 15% lived in three-driver households, and 15% lived in households with more than three drivers (Table 27). Similarly, only 24% reported living in a one-vehicle household, 40% lived in two-vehicle households, 18% lived in three-vehicle households, and 17% lived in households with four or more motor vehicles. Only four respondents reported no vehicles in their households. One-fifth of the respondents lived in households with more motor vehicles (including motorcycles, dune buggies, motorhomes, etc.) than licensed drivers, while 57% lived in households with the same number of motor vehicles as licensed drivers, and only 23% lived in households with fewer motor vehicles than licensed drivers. The average age of the oldest vehicle in respondent households was seven years, and 2% had pre-1960 vehicles, while another 14% were 1960-1968 vehicles (Table 28). Only 26% of the oldest vehicles in respondent households were 1976-1979 models.

All respondents were asked how closely they followed their owner's manuals for regular service and maintenance on their vehicles (Question 30), and 44% claimed to follow the manual very closely,

and another 40% said they followed it somewhat closely (Table 33). Only 12% said "not very closely." Younger drivers, male drivers, and low income drivers were less likely to follow the manual closely, but there was no relationship between following the owner's manual and degree of education. Drivers who followed their manuals very or somewhat closely were also asked how often they tuned up their oldest vehicle. Answers were given in either months or miles with six months the most frequent response, followed by 12 months (Table 34). For miles the most frequent response was 10,000; followed by 5,000; 3,000; 12,000; 15,000; 20,000; and 6,000. The largest number of months mentioned was 24, and the largest number of miles mentioned was 50,000.

Finally, all respondents were asked if they did routine maintenance and repair of their vehicles themselves or what (Question 31). Almost one-third said they did such maintenance themselves, while another 23% said such maintenance was performed by others in the household or friends (Table 35). Not unexpectedly, such self-maintenance activity was somewhat greater among younger respondents, and it was very much greater among male respondents (52%) than among female respondents (12%). Slightly over half of these self-maintenance respondents reported that they considered the emissions control devices when they did a tune-up (Table 36). Two-thirds of those strongly favoring emissions inspections reported doing this. About half of these respondents thought it very likely that they could perform major repairs on their emissions systems themselves, while 23% thought it somewhat likely, and 25% thought it not very likely (Table 37).

These self-maintenance respondents were also asked one safety-related question concerning brake maintenance (Question 31C). Some 84% reported that they check their brakes during normal maintenance, and another 9% said they sometimes do (Table 38). A majority of those who said they check their brakes reported doing so by pulling a wheel (56%) or by visual inspection (10%) (Table 39). Some other answers were by checking the brake fluid (10%), by checking the pedal pressure (11%), and by test driving (8%).

4. CONCLUSION

Establishing a motor vehicle inspection program in Michigan is not the kind of legislative issue on which public opinion might be expected to take a lead initiating role. Nevertheless, this survey indicates that even with very little prior discussion in the media almost half of Michigan drivers are favorably disposed toward a state emissions inspection program, and almost one-third are strongly supportive. Also the public seems overwhelmingly favorable to a state safety inspection program and strongly favorable to a state noise inspection program, and it appears that combining these with an emissions inspection program would enhance public support for it, even among those who are opposed to an emissions inspection program alone. However, there is also a substantial group who are strongly opposed to an emissions inspection program, and judging by the comments which have been added to the mail questionnaires (see Appendix B) some of these people are likely to remain strongly opposed.

Regarding the various details of a state inspection program, there are few clear public sentiments. The public is divided between preferring state inspection stations and preferring licensing of private garages and between charging an inspection fee and paying for the program from other state funds. There is fairly strong support for making any inspection program statewide in application, and there is very strong support for including buses and large trucks in any such program. The public is also divided in regard to exempting older vehicles which would be expensive to repair and in regard to providing a state fund to help those for whom repair would be a financial hardship.

It is hoped that these findings concerning the opinions of Michigan drivers toward vehicle inspections will be useful to the Department of Transportation and the legislature as they wrestle

with the question of what kind of an inspection program, if any, to establish in Michigan.

5. REFERENCES

Market Opinion Research. A Survey of Driver and Motorcyclist Attitudes Toward Highway Safety Issues, Volumes I and II, Detroit, September, 1978.

Sherman, Harold W. "Sampling of Driver Opinions Toward Periodic Motor Vehicle Inspection," in Highway Research Record Number 420, pp. 36-43, Washington: Highway Research Board, 1972.

APPENDIX A
Tables for Survey Findings

NOTE: Tables 7, 24, 30, and 31 are based on questions allowing more than one response per respondent, so the percentages in these multiple response tables may add to more than 100%.

TABLE 1
THOSE BOTHERED BY AIR POLLUTION (Question 1)

	N	Percentages				
		A Lot	Some	Not Much	Not in Last Year	Never
AGE						
16-24	171	3.5	19.3	11.7	4.1	61.4
25-34	219	5.5	20.5	11.4	2.7	59.8
35-54	262	3.8	16.4	9.2	4.2	66.4
55+	158	6.3	7.6	10.8	5.1	70.3
SEX						
Male	420	2.9	14.0	12.6	4.0	66.4
Female	390	6.7	19.0	8.5	3.8	62.1
GEOGRAPHICAL AREA						
Wayne	179	9.5	28.5	14.0	6.1	41.9
Oakland, Macomb	176	2.8	15.9	7.4	1.7	72.2
Other Detroit SMSA	86	4.7	11.6	10.5	7.0	66.3
Genesee, Ingham, Kent	93	1.1	15.1	15.1	3.2	65.6
Other Central SMSA Counties	83	4.8	15.7	8.4	3.6	67.5
Other Suburban SMSA Counties	50	6.0	8.0	4.0	2.0	80.0
Other Counties w/ Cities >15,000	41	0	14.6	14.6	2.4	68.3
Rural Counties	104	3.8	7.7	9.6	4.8	74.0
INCOME						
Over \$30,000	174	2.3	14.4	7.5	2.3	73.6
\$20,000 - \$30,000	237	4.2	14.8	10.5	2.1	68.4
\$10,000 - \$20,000	241	6.6	19.9	11.6	4.1	57.7
Under \$10,000	105	6.7	15.2	12.4	7.6	58.1
EMISSIONS INSPECTION ATTITUDE						
Strongly Favor	249	10.4	24.9	11.2	1.2	52.2
Weakly Favor	137	2.9	13.1	10.2	2.9	70.8
Weakly Oppose	96	1.0	13.5	5.2	2.1	78.1
Strongly Oppose	247	2.8	10.9	9.3	6.5	70.4
TOTAL	812	4.7	16.5	10.6	4.1	64.2

TABLE 2

HOW WIDESPREAD IS THE POLLUTION PROBLEM IN MICHIGAN? (Question 2)

	N	Percentages				
		Nowhere	Big Cities	Southern Michigan	Statewide	No Opinion
AGE						
16-24	172	2.3	54.1	22.1	15.7	5.8
25-34	222	1.4	51.8	24.3	15.3	7.2
35-54	264	4.2	52.7	21.2	10.6	11.4
55+	158	5.1	57.0	12.7	10.8	14.6
SEX						
Male	421	4.0	58.7	20.7	9.0	7.6
Female	395	2.3	48.1	20.5	17.2	11.9
GEOGRAPHICAL AREA						
Wayne	183	2.2	47.5	26.2	12.6	11.5
Oakland, Macomb	176	5.1	51.1	23.9	11.4	8.5
Other Detroit SMSA	86	3.5	57.0	18.6	10.5	10.5
Genesee, Ingham, Kent	94	2.1	58.5	17.0	16.0	6.4
Other Central SMSA Counties	82	2.4	52.4	19.5	14.6	11.0
Other Suburban SMSA Counties	51	7.8	52.9	17.6	13.7	7.8
Other Counties with Cities >15,000	41	4.9	63.4	12.2	9.8	9.8
Rural Counties	105	1.0	57.1	16.2	15.2	10.5
INCOME						
Over \$30,000	173	4.6	55.5	24.9	11.0	4.0
\$20,000 - \$30,000	238	2.1	57.6	21.0	11.3	8.0
\$10,000 - \$20,000	245	2.0	51.0	22.0	14.7	10.2
Under \$10,000	107	5.6	45.8	15.0	17.8	15.9
EMISSIONS INSPECTION ATTITUDE						
Strongly Favor	250	1.6	41.6	25.6	24.4	6.8
Weakly Favor	136	0.7	52.9	23.5	14.7	8.1
Weakly Oppose	97	4.1	62.9	17.5	8.2	7.2
Strongly Oppose	249	6.4	65.1	16.1	4.8	7.6
TOTAL	818	3.3	53.4	20.7	13.0	9.7

TABLE 3

LAW PROHIBITING REGULAR GAS IN NO-LEAD CARS (Question 3)

	N	Percentages		
		Favor	Oppose	No Opinion
AGE				
16-24	170	57.1	32.9	10.0
25-34	222	53.2	36.0	10.8
35-54	264	45.1	40.9	14.0
55+	160	45.6	33.1	21.3
SEX				
Male	421	46.8	41.1	12.1
Female	395	53.2	31.4	15.4
GEOGRAPHICAL AREA				
Wayne	180	48.3	38.3	13.3
Oakland, Macomb	177	57.1	29.9	13.0
Other Detroit SMSA	86	45.3	39.5	15.1
Genesee, Ingham, Kent	94	55.3	37.2	7.4
Other Central SMSA Counties	83	55.4	27.7	16.9
Other Suburban SMSA Counties	51	41.2	49.0	9.8
Other Counties with Cities >15,000	42	40.5	47.6	11.9
Rural Counties	105	42.9	37.1	20.0
INCOME				
Over \$30,000	174	51.7	37.4	10.9
\$20,000 - \$30,000	237	56.1	36.3	7.6
\$10,000 - \$20,000	245	49.8	35.5	14.7
Under \$10,000	107	38.3	36.4	25.2
EMISSIONS INSPECTION ATTITUDE				
Strongly Favor	251	68.5	23.9	7.6
Weakly Favor	135	58.5	26.7	14.8
Weakly Oppose	97	37.1	50.5	12.4
Strongly Oppose	249	35.3	53.8	10.8
TOTAL	818	49.9	36.4	13.7

TABLE 4
EMISSIONS INSPECTION ATTITUDE (Question 4)

	N	Percentages					
		Strong Favor	Weak Favor	Weakly Oppose	Strong Oppose	Depends	No Opinion
AGE							
16-24	171	38.0	22.8	10.5	21.6	0	7.0
25-34	218	38.5	14.7	11.5	26.1	1.8	7.3
35-54	259	28.6	12.7	11.6	39.8	0.8	6.6
55+	159	17.6	20.1	15.1	32.7	3.1	11.3
SEX							
Male	417	29.3	16.3	12.0	36.0	1.2	5.3
Female	390	33.1	17.4	12.1	25.4	1.5	10.5
GEOGRAPHICAL AREA							
Wayne	179	39.7	16.2	13.4	21.2	1.1	8.4
Oakland, Macomb	175	37.7	14.3	10.3	29.1	1.7	6.9
Other Detroit SMSA	86	23.3	23.3	12.8	34.9	1.2	4.7
Genesee, Ingham, Kent	92	34.8	21.7	9.8	23.9	4.3	5.4
Other Central SMSA Counties	81	29.6	13.6	11.1	38.3	0	7.4
Other Suburban SMSA Counties	50	16.0	14.0	18.0	44.0	0	8.0
Other Counties w Cities >15,000	42	19.0	23.8	14.3	35.7	0	7.1
Rural Counties	104	21.2	14.4	10.6	39.4	1.0	13.5
INCOME							
Over \$30,000	174	36.2	17.2	12.1	31.6	0.6	2.3
\$20,000 - \$30,000	238	29.4	16.8	12.2	32.8	2.9	5.9
\$10,000 - \$20,000	237	32.5	16.9	13.1	28.3	0.4	8.9
Under \$10,000	105	28.6	15.2	9.5	29.5	1.9	15.2
EMISSIONS INSPECTION ATTITUDE							
Strongly Favor							
Weakly Favor							
Weakly Oppose							
Strongly Oppose							
TOTAL	809	31.0	16.9	12.0	30.9	1.4	7.8

TABLE 5
NO PARKING OR EMISSIONS PROGRAM (Question 5)

	N	Percentages				
		No Parking	Emissions Inspection	Neither	Both	No Opinion
AGE						
16-24	172	32.0	57.6	2.3	0	8.1
25-34	222	38.3	47.7	5.4	0	8.6
35-54	261	40.2	42.1	6.1	0.4	11.1
55+	159	39.6	35.8	4.4	0.6	19.5
SEX						
Male	422	38.4	45.0	6.4	0.2	10.0
Female	392	37.2	46.4	3.1	0.3	13.0
GEOGRAPHICAL AREA						
Wayne	180	31.1	53.9	3.9	0	11.1
Oakland, Macomb	177	36.2	46.3	6.8	0	10.7
Other Detroit SMSA	86	40.7	41.9	8.1	0	9.3
Genesee, Ingham, Kent	93	38.7	48.4	3.2	0	9.7
Other Central SMSA Counties	83	33.7	47.0	3.6	0	15.7
Other Suburban SMSA Counties	50	50.0	34.0	4.0	0	12.0
Other Counties w/ Cities >15,000	42	42.9	31.1	0	2.4	16.7
Rural Counties	104	45.2	38.5	4.8	1.0	10.6
INCOME						
Over \$30,000	173	32.4	53.8	6.9	0	6.9
\$20,000 - \$30,000	237	46.8	41.8	4.2	0	7.2
\$10,000 - \$20,000	244	34.8	49.2	3.7	0	12.3
Under \$10,000	108	39.8	33.3	2.8	1.9	22.2
EMISSIONS INSPECTION ATTITUDE						
Strongly Favor	250	21.2	71.6	0.8	0.4	6.0
Weakly Favor	137	24.1	61.3	3.6	0.7	10.2
Weakly Oppose	96	49.0	37.5	3.1	0	10.4
Strongly Oppose	246	59.3	17.9	11.4	0	11.4
TOTAL	815	37.9	45.6	4.8	0.2	11.4

TABLE 6
STATE OR PRIVATE STATIONS FOR THE EMISSIONS INSPECTION (Ques. 6)

	N	Percentages				
		State	Private	Either	Neither	No Opinion
AGE						
16-24	172	44.8	40.7	1.2	0	13.4
25-34	221	43.4	43.0	0	1.4	12.2
35-54	253	32.4	48.6	2.0	0.8	16.2
55+	158	36.1	38.6	0	1.9	23.4
SEX						
Male	414	42.8	40.8	1.2	0.5	14.7
Female	390	34.6	46.2	0.5	1.5	17.2
GEOGRAPHICAL AREA						
Wayne	176	47.7	28.4	1.1	2.8	19.9
Oakland, Macomb	174	42.5	40.8	1.1	0.6	14.9
Other Detroit SMSA	84	36.9	47.6	0	1.2	14.3
Genesee, Ingham, Kent	93	35.5	50.5	1.1	1.1	11.8
Other Central SMSA Counties	83	37.3	38.6	1.2	0	22.9
Other Suburban SMSA Counties	50	34.0	52.0	0	0	14.0
Other Counties w/ Cities >15,000	42	28.6	54.8	2.4	0	14.3
Rural Counties	103	30.1	58.3	0	0	11.7
INCOME						
Over \$30,000	171	45.0	45.6	2.3	1.2	5.8
\$20,000 - \$30,000	235	37.9	44.3	0.9	0.9	16.2
\$10,000 - \$20,000	242	39.7	43.8	0	0.8	15.7
Under \$10,000	105	31.4	41.9	1.0	0	25.7
EMISSIONS INSPECTION ATTITUDE						
Strongly Favor	249	55.8	35.3	0.4	0	8.4
Weakly Favor	136	45.6	43.4	1.5	0	9.6
Weakly Oppose	97	34.0	48.5	0	1.0	16.5
Strongly Oppose	239	26.8	52.3	1.7	2.9	16.3
TOTAL	805	38.9	43.4	0.9	1.0	15.9

TABLE 7
WHY PREFER STATE OR PRIVATE STATIONS? (Question 6a)

	N	Percentages									
		Efficient	Fair & Honest	Convenient	Less Costly	Less Bureaucratic	Prefer Private	Prefer Government	Experience Elsewhere	Other	
Those preferring State Stations	297	19.9	57.9	2.4	6.4	0.3	0	7.4	2.0	10.1	
Those preferring Private Station	335	3.0	0.6	26.9	42.4	2.7	19.1	0	0.6	12.5	
Total	634	10.9	27.6	15.3	25.6	1.6	10.1	3.5	1.3	11.4	

TABLE 8
INCLUSION OF BUSES AND TRUCKS IN THE PROGRAM (Question 7)

	N	Percentages			
		Favor	Oppose	No Opinion	Did Not Answer
AGE					
16-24	171	87.1	9.4	3.5	0
25-34	219	92.7	4.1	3.2	0
35-54	262	88.9	6.5	4.2	0.4
55+	159	89.9	5.0	5.0	0
SEX					
Male	417	89.2	6.5	4.3	0
Female	394	90.4	5.8	3.6	0.3
GEOGRAPHICAL AREA					
Wayne	183	89.1	7.7	3.3	0
Oakland, Macomb	175	94.3	2.9	2.9	0
Other Detroit SMSA	84	90.5	7.1	2.4	0
Genesee, Ingham, Kent	92	90.2	7.6	2.2	0
Other Central SMSA Counties	82	84.1	9.8	4.9	1.2
Other Suburban SMSA Counties	51	86.3	5.9	7.8	0
Other Counties with Cities >15,000		90.2	2.4	7.3	0
Rural Counties	105	87.6	6.7	5.7	0
INCOME					
Over \$30,000	174	92.0	6.9	1.1	0
\$20,000 - \$30,000	237	92.0	5.9	2.1	0
\$10,000 - \$20,000	244	91.4	4.5	4.1	0
Under \$10,000	104	82.7	8.7	8.7	0
EMISSIONS INSPECTION ATTITUDE					
Strongly Favor	249	97.6	1.6	0.8	0
Weakly Favor	137	96.4	2.9	0.7	0
Weakly Oppose	97	89.7	8.2	2.1	0
Strongly Oppose	244	82.0	12.3	5.3	0.4
TOTAL	813	89.7	6.3	3.9	0.1

TABLE 9
STATEWIDE PROGRAM OR WORST AREAS (Question 8)

	N	Percentages				
		Statewide Strongly	Statewide Weakly	Worst Areas Weakly	Worst Areas Strongly	No Opinion
AGE						
16-24	172	53.5	15.7	9.9	16.9	4.1
25-34	220	55.9	14.5	10.5	17.7	1.4
35-54	260	48.5	11.2	11.2	25.4	3.8
55+	159	44.0	11.3	15.7	24.5	4.4
SEX						
Male	420	51.9	11.9	10.0	21.9	4.3
Female	391	49.4	14.3	13.3	20.7	2.3
GEOGRAPHICAL AREA						
Wayne	181	56.4	7.7	13.3	17.7	5.0
Oakland, Macomb	175	58.3	15.4	9.1	14.3	2.9
Other Detroit SMSA	84	40.5	15.5	14.3	29.8	0
Genesee, Ingham, Kent	93	52.7	15.1	5.4	23.7	3.2
Other Central SMSA Counties	82	51.2	13.4	12.2	19.5	3.7
Other Suburban SMSA Counties	51	33.3	19.6	17.6	27.5	2.0
Other Counties w/ Cities >15,000	42	40.5	19.0	14.3	23.8	2.4
Rural Counties	104	47.1	8.7	11.5	27.9	4.8
INCOME						
Over \$30,000	175	53.1	13.7	14.9	17.7	0.6
\$20,000 - \$30,000	236	48.7	14.8	9.7	23.3	3.4
\$10,000 - \$20,000	243	55.1	13.6	8.6	21.0	1.6
Under \$10,000	106	44.3	8.5	16.0	25.5	5.7
EMISSIONS INSPECTION ATTITUDE						
Strongly Favor	250	76.8	8.4	3.2	11.6	0
Weakly Favor	137	48.9	20.4	16.8	13.1	0.7
Weakly Oppose	97	36.1	12.4	24.7	25.8	1.0
Strongly Oppose	245	34.3	13.1	11.4	36.3	4.9
TOTAL	812	50.7	13.1	11.6	21.3	3.3

TABLE 10
REASONABLE MAXIMUM MILES TO INSPECTION STATION (Question 9)

	N	Percentage							Mean
		0-3	4-7	8-12	13-22	23-47	48-300	No Opin.	
AGE									
16-24	169	9.5	15.4	28.4	22.5	11.8	3.0	9.5	14.7
25-34	215	7.4	16.3	28.4	26.0	10.7	4.7	6.5	15.1
35-54	254	11.4	19.3	20.9	27.6	7.5	2.8	10.6	13.2
55+	158	11.4	17.1	25.9	15.8	8.2	2.5	19.0	12.2
SEX									
Male	409	10.8	17.4	26.4	22.2	9.8	2.9	10.5	13.5
Female	387	9.0	17.1	24.5	25.3	9.0	3.6	11.4	14.3
GEOGRAPHICAL AREA									
Wayne	178	11.2	24.2	21.3	20.2	5.1	0.6	17.4	10.7
Oakland, Macomb	173	8.7	19.7	31.8	26.0	5.8	0.6	7.5	12.2
Other Detroit SMSA	82	7.3	12.2	31.7	20.7	11.0	6.1	11.0	16.1
Genesee, Ingham, Kent	93	8.6	16.1	32.3	22.6	8.6	4.3	7.5	14.1
Other Central SMSA Counties	80	11.3	17.5	20.0	25.0	11.3	3.8	11.3	14.7
Other Suburban SMSA Counties	51	15.7	7.8	21.6	27.5	13.7	2.0	11.8	14.4
Other Counties with Cities >15,000	42	7.1	11.9	23.8	23.8	19.0	4.8	9.5	16.3
Rural Counties	98	10.2	12.2	17.3	27.6	15.3	9.2	8.2	18.0
INCOME									
Over \$30,000	171	9.9	15.8	25.1	28.1	12.3	3.5	5.3	15.3
\$20,000 - \$30,000	232	6.9	16.4	28.0	25.9	7.8	4.3	10.8	14.4
\$10,000 - \$20,000	239	10.9	21.3	25.1	23.0	9.2	2.5	7.9	12.5
Under \$10,000	105	11.4	14.3	21.9	19.0	9.5	3.8	20.0	14.5
EMISSIONS INSPECTION ATTITUDE									
Strongly Favor	247	6.5	15.0	24.3	31.2	13.8	4.9	4.5	16.8
Weakly Favor	133	8.3	17.3	26.3	27.8	10.5	3.0	6.8	14.2
Weakly Oppose	97	7.2	18.6	30.9	15.5	9.3	3.1	15.5	12.7
Strongly Oppose	236	16.9	18.2	26.3	21.6	5.1	2.1	9.7	11.2
TOTAL	797	9.9	17.2	25.5	23.8	9.4	3.3	10.9	13.9

TABLE 11
REASONABLE MAXIMUM MINUTES AT THE INSPECTION STATION (Ques. 10)

	N	Percentages							Mean
		0-12	13-29	30	31-59	60	61-600	No Opin.	
AGE									
16-24	171	9.9	21.1	31.0	11.7	17.0	2.3	7.0	34.0
25-34	218	10.1	27.5	35.8	6.4	12.8	1.4	6.0	30.2
35-54	258	13.2	18.2	34.5	4.7	16.7	3.9	8.9	36.2
55+	160	8.1	15.6	33.8	5.0	21.9	3.1	12.5	37.4
SEX									
Male	418	12.4	23.0	32.3	4.1	18.2	2.6	7.4	34.0
Female	389	8.7	18.5	35.7	9.5	15.2	2.8	9.5	34.6
GEOGRAPHICAL AREA									
Wayne	180	9.4	20.0	28.9	10.0	17.8	0.6	13.3	32.9
Oakland, Macomb	173	9.2	19.7	33.5	9.2	21.4	1.7	5.2	35.6
Other Detroit SMSA	85	10.6	27.1	36.5	4.7	9.4	3.5	8.2	29.7
Genesee, Ingham, Kent	93	9.7	23.7	40.9	3.2	14.0	1.1	7.5	30.4
Other Central SMSA Counties	82	14.6	26.8	29.3	7.3	14.6	2.4	4.9	31.4
Other Suburban SMSA Counties	51	19.6	11.8	35.3	7.8	13.7	2.0	9.8	41.4
Other Counties w/ Cities >15,000	41	4.9	17.1	34.1	2.4	22.0	7.3	12.2	40.4
Rural Counties	103								
INCOME									
Over \$30,000	173	9.2	25.4	28.3	9.2	22.0	1.7	4.0	33.9
\$20,000 - \$30,000	235	10.6	20.0	33.2	6.8	18.3	3.0	8.1	34.7
\$10,000 - \$20,000	241	9.5	20.3	40.2	4.6	14.9	4.1	6.2	37.1
Under \$10,000	107	11.2	20.6	35.5	6.5	11.2	0.9	14.0	30.0
EMISSIONS INSPECTION ATTITUDE									
Strongly Favor	250	4.0	19.2	36.0	10.8	23.2	4.4	2.4	40.0
Weakly Favor	136	5.1	25.7	35.3	4.4	22.1	1.5	5.9	34.0
Weakly Oppose	97	6.2	19.6	39.2	8.2	13.4	2.1	11.3	39.1
Strongly Oppose	241	19.9	24.9	32.0	4.1	10.0	2.1	7.1	27.4
TOTAL	808	10.6	20.9	33.9	6.7	16.7	2.7	8.4	34.3

TABLE 12
REASONABLE INSPECTION FEE IN DOLLARS (Question 11)

	N	Percentages							Mean
		None	1-3	4-6	7-11	12-22	23-30	No Opin.	
AGE									
16-24	172	55.8	4.7	14.5	3.5	6.4	2.3	12.8	3.4
25-34	216	55.1	8.3	17.6	5.6	3.2	1.4	8.8	2.7
35-54	253	58.9	7.1	9.9	9.5	3.2	0.8	10.7	2.5
55+	158	63.9	7.0	8.9	7.0	0.6	0	12.7	1.6
SEX									
Male	412	59.0	6.8	12.6	7.5	3.9	1.5	8.7	2.8
Female	387	57.4	7.0	12.9	5.7	2.8	0.8	13.4	2.4
GEOGRAPHICAL AREA									
Wayne	180	62.8	5.0	12.8	8.3	2.2	0.6	8.3	2.3
Oakland, Macomb	172	54.1	6.4	15.7	8.7	4.7	0.6	9.9	3.0
Other Detroit SMSA	85	61.2	4.7	9.4	5.9	3.5	1.2	14.1	2.4
Genesee, Ingham, Kent	93	47.3	8.6	17.2	4.3	4.3	2.2	16.1	3.3
Other Central SMSA Counties	78	73.1	6.4	10.3	1.3	1.3	0	7.7	1.0
Other Suburban SMSA Counties	51	45.1	9.8	15.7	5.9	5.9	0	17.6	3.0
Other Counties w/ Cities >15,000	39	53.8	10.3	15.4	5.1	5.1	2.6	7.7	3.5
Rural Counties	102	61.8	8.8	5.9	7.8	2.0	2.9	10.8	2.6
INCOME									
Over \$30,000	170	55.3	5.9	17.1	8.8	4.7	1.2	7.1	3.2
\$20,000 - \$30,000	232	56.0	6.5	13.4	9.1	3.0	0.4	11.6	2.6
\$10,000 - \$20,000	240	59.2	9.6	10.4	5.0	2.9	2.1	10.8	2.5
Under \$10,000	107	66.4	4.7	11.2	4.7	0.9	0.9	11.2	1.7
EMISSIONS INSPECTION ATTITUDE									
Strongly Favor	248	54.4	5.2	15.3	9.3	4.8	2.0	8.9	3.4
Weakly Favor	134	62.7	4.5	11.9	5.2	3.7	1.5	10.4	2.6
Weakly Oppose	97	61.9	10.3	8.2	6.2	2.1	0	11.3	1.8
Strongly Oppose	236	59.7	9.7	12.7	5.5	3.0	0.8	8.5	2.2
TOTAL	800	58.3	6.9	12.8	6.6	3.4	1.1	11.0	2.6

TABLE 13
 MAXIMUM DAYS FOR GETTING EMISSIONS SYSTEM WORKING PROPERLY (Ques. 12)

	N	Percentages							Mean
		2-7	8-14	15-29	30	31-60	90+	No Opinion	
AGE									
16-24	169	3.0	10.7	3.6	44.4	14.8	18.9	4.7	43.9
25-34	217	2.3	14.3	4.6	39.2	16.6	17.5	5.5	42.6
35-54	255	4.7		4.7	40.4	16.5	14.9	9.0	41.4
55+	157	6.4	10.2	4.5	40.1	11.5	15.3	12.1	39.8
SEX									
Male	415	4.8	10.8	5.3	45.1	13.5	13.0	7.5	38.7
Female	383	3.1	11.7	3.4	36.3	17.0	20.4	8.1	45.6
GEOGRAPHICAL AREA									
Wayne	175	4.6	7.4	6.9	38.9	10.9	20.0	11.4	43.8
Oakland, Macomb	173	2.9	11.0	2.9	42.8	17.9	18.5	4.0	44.2
Other Detroit SMSA	84	4.8	17.9	3.6	33.3	9.5	20.2	10.7	41.7
Genesee, Ingham, Kent	93	2.2	12.9	3.2	45.2	15.1	15.1	6.5	41.0
Other Central SMSA Counties	81	3.7	8.6	3.7	39.5	24.7	12.3	7.4	42.3
Other Suburban SMSA Counties	50	6.0	12.0	6.0	38.0	18.0	10.0	10.0	37.8
Other Counties w/ Cities >15,000	41	2.4	7.3	0	58.5	17.1	4.9	9.8	37.1
Rural Counties	102	5.9	14.7	5.9	38.2	13.7	16.7	4.9	40.1
INCOME									
Over \$30,000	170	2.4	12.9	6.5	41.2	19.4	14.1	3.5	40.8
\$20,000 - \$30,000	234	4.3	10.3	4.7	42.7	13.2	16.2	8.5	41.5
\$10,000 - \$20,000	241	3.7	10.4	3.3	39.4	16.2	20.7	6.2	45.2
Under \$10,000	105	7.6	12.4	4.8	40.0	13.3	10.5	11.4	36.4
EMISSIONS INSPECTION ATTITUDE									
Strongly Favor	249	6.4	7.6	5.2	48.2	13.7	17.3	1.6	41.2
Weakly Favor	136	4.4	19.1	5.9	40.4	17.6	11.0	1.5	36.8
Weakly Oppose	96	4.2	10.4	1.0	39.6	14.6	15.6	14.6	42.2
Strongly Oppose	234	1.7	12.4	4.3	37.2	16.2	19.7	8.5	45.0
TOTAL	799	4.0	11.3	4.4	40.8	15.3	16.5	7.8	42.0

TABLE 14

REPAIR EXEMPTION TO SOME OLD CARS (Question 13)

	N	Percentages		
		Favor	Oppose	No Opinion
AGE				
16-24	172	55.8	37.8	6.4
25-34	218	63.3	30.3	6.4
35-54	258	50.0	38.8	11.2
55+	160	49.4	37.5	13.1
SEX				
Male	418	54.8	37.6	7.7
Female	390	54.6	34.4	11.0
GEOGRAPHICAL AREA				
Wayne	178	56.7	32.0	11.2
Oakland, Macomb	175	48.0	42.3	9.7
Other Detroit SMSA	84	63.1	32.1	4.8
Genesee, Ingham, Kent	93	49.5	44.1	6.5
Other Central SMSA Counties	82	56.1	31.7	12.2
Other Suburban SMSA Counties	51	68.6	25.5	5.9
Other Counties with Cities >15,000	42	57.1	35.7	7.1
Rural Counties	105	51.4	37.1	11.4
INCOME				
Over \$30,000	174	49.4	47.1	3.4
\$20,000 - \$30,000	235	55.7	37.0	7.2
\$10,000 - \$20,000	244	60.7	31.1	8.2
Under \$10,000	107	53.3	29.9	16.8
EMISSIONS INSPECTION ATTITUDE				
Strongly Favor	249	46.2	45.8	8.0
Weakly Favor	137	49.6	44.5	5.8
Weakly Oppose	97	58.8	35.1	6.2
Strongly Oppose	243	67.9	26.7	5.3
TOTAL	810	54.7	36.0	9.3

TABLE 15
REPAIR COST AS % OF VEHICLE'S VALUE FOR EXEMPTION (Ques. 13a)

	N	Percentages							No Opinion	Mean
		1-7%	8-17 %	18-27 %	28-49 %	50%	51-100 %			
AGE										
16-24	96	3.1	14.6	29.2	10.4	18.8	7.3	16.7	31.3	
25-34	145	7.6	22.1	22.1	7.6	15.2	4.8	20.7	27.1	
35-54	140	11.4	17.1	22.9	5.0	10.7	5.0	27.9	25.7	
55+	84	14.3	15.5	10.7	2.4	10.7	4.8	41.7	24.4	
SEX										
Male	240	10.4	19.6	21.3	7.5	14.6	5.4	21.3	26.8	
Female	225	7.6	16.0	22.2	5.3	12.9	5.3	30.7	28.0	
GEOGRAPHICAL AREA										
Wayne	107	6.5	17.8	17.8	9.3	17.8	3.7	27.1	28.7	
Oakland, Macomb	87	5.7	31.0	18.4	5.7	12.6	3.4	23.0	24.7	
Other Detroit SMSA	57	14.0	8.8	31.6	3.5	14.0	10.5	17.5	30.1	
Genesee, Ingham, Kent	51	7.8	21.6	19.6	5.9	17.6	9.8	17.6	30.0	
Other Central SMSA Counties	49	12.2	10.2	24.5	12.2	8.2	4.1	28.6	26.1	
Other Suburban SMSA Counties	34	8.8	14.7	14.7	0	11.8	5.9	44.1	27.2	
Other Counties w/ Cities >15,000	26	3.8	15.4	30.8	7.7	0	7.7	34.6	25.6	
Rural Counties	55	14.5	12.7	23.6	3.6	18.2	1.8	25.5	25.3	
INCOME										
Over \$30,000	89	10.1	25.8	15.7	10.1	10.1	5.6	22.5	24.7	
\$20,000 - \$30,000	134	8.2	17.2	26.1	6.0	21.6	4.5	16.4	29.2	
\$10,000 - \$20,000	155	6.5	16.1	21.9	6.5	12.9	5.8	30.3	28.3	
Under \$10,000	63	15.9	17.5	22.2	4.8	6.3	1.6	31.7	19.6	
EMISSIONS INSPECTION ATTITUDE										
Strongly Favor	124	4.8	16.9	21.8	6.5	21.0	8.1	21.0	32.3	
Weakly Favor	72	6.9	20.8	18.1	4.2	11.1	8.3	30.6	28.1	
Weakly Oppose	62	14.5	16.1	9.7	8.1	9.7	4.8	37.1	24.1	
Strongly Oppose	164	11.6	18.9	28.0	5.5	11.6	3.7	20.7	24.7	
TOTAL	466	9.0	17.8	21.7	6.4	13.9	5.4	24.8	27.4	

TABLE 16
WHAT TO DO IF OWNER CAN NOT AFFORD A REPAIR (Question 14)

	N	Percentages				
		Exempted	State Fund	Taken Off the Road	Other	No Opinion
AGE						
16-24	170	4.1	57.1	28.2	4.7	5.9
25-34	217	10.1	44.7	27.2	8.8	9.2
35-54	255	10.2	39.2	38.0	3.9	8.6
55+	159	10.7	43.4	28.9	4.4	12.6
SEX						
Male	411	9.5	40.4	36.7	5.1	8.3
Female	390	8.5	50.5	25.4	5.9	9.7
GEOGRAPHICAL AREA						
Wayne	179	5.6	45.3	30.2	6.7	12.3
Oakland, Macomb	173	6.4	50.3	33.5	2.3	7.5
Other Detroit SMSA	83	6.0	54.2	28.9	4.8	6.0
Genesee, Ingham, Kent	93	12.9	35.5	33.3	7.5	10.8
Other Central SMSA Counties	81	9.9	42.0	37.0	3.7	7.4
Other Suburban SMSA Counties	49	18.4	38.8	26.5	8.2	8.2
Other Counties with Cities >15,000	42	21.4	38.1	23.8	9.5	7.1
Rural Counties	103	8.7	46.6	30.1	5.8	8.7
INCOME						
Over \$30,000	173	7.5	45.7	38.2	6.4	2.3
\$20,000 - \$30,000	234	7.3	45.7	32.1	4.3	10.7
\$10,000 - \$20,000	243	9.9	44.4	30.0	7.0	8.6
Under \$10,000	103	14.6	50.5	20.4	4.9	9.7
EMISSIONS INSPECTION ATTITUDE						
Strongly Favor	249	2.8	51.4	35.3	5.2	5.2
Weakly Favor	136	4.4	55.1	30.1	4.4	5.9
Weakly Oppose	97	10.3	49.5	29.9	4.1	6.2
Strongly Oppose	238	18.9	34.0	31.1	5.5	10.5
TOTAL	803	9.1	45.2	31.3	5.5	9.0

TABLE 17

STATE HELP AS A LOAN OR A WELFARE GRANT (Question 14a)

	N	Percentages			
		Loan	Welfare Grant	Either	No Opinion
AGE					
16-24	97	56.7	32.0	6.2	5.2
25-34	97	72.2	19.6	7.2	1.0
35-54	101	64.4	26.7	5.9	3.0
55+	69	52.2	39.1	5.8	2.9
SEX					
Male	167	62.9	28.1	5.4	3.6
Female	197	61.4	28.9	7.1	2.5
GEOGRAPHICAL AREA					
Wayne	81	51.9	42.0	3.7	2.5
Oakland, Macomb	87	62.1	23.0	10.3	4.6
Other Detroit SMSA	45	73.3	22.2	4.4	0
Genesee, Ingham, Kent	34	50.0	32.4	14.7	2.9
Other Central SMSA Counties	34	64.7	29.4	2.9	2.9
Other Suburban SMSA Counties	19	84.2	15.8	0	0
Other Counties with Cities >15,000	16	62.5	18.8	12.5	6.3
Rural Counties	48	66.7	27.1	2.1	4.2
INCOME					
Over \$30,000	79	62.0	29.1	6.3	2.5
\$20,000 - \$30,000	107	72.0	15.0	11.2	1.9
\$10,000 - \$20,000	107	58.9	33.6	4.7	2.8
Under \$10,000	54	48.1	46.3	0	5.6
EMISSIONS INSPECTION ATTITUDE					
Strongly Favor	127	65.4	28.3	4.7	1.6
Weakly Favor	75	70.7	18.7	6.7	4.0
Weakly Oppose	48	60.4	25.0	10.4	4.2
Strongly Oppose	81	60.5	33.3	4.9	1.2
TOTAL	457	62.1	28.6	6.3	3.0

TABLE 18
STATE OR PRIVATE INSPECTORS FOR EMISSIONS TEST (Question 15)

	N	Percentages				
		State	Private	No Difference	Neither	No Opinion
AGE						
16-24	171	45.0	9.9	40.9	0	4.1
25-34	219	55.3	8.7	33.3	0	2.7
35-54	259	36.7	17.4	38.6	0.4	6.9
55+	159	39.0	17.6	34.0	0	9.4
SEX						
Male	417	47.7	13.7	34.3	0	4.3
Female	391	39.9	13.3	39.4	0.3	7.2
GEOGRAPHICAL AREA						
Wayne	178	52.2	7.9	32.6	0.6	6.7
Oakland, Macomb	174	45.4	12.1	36.2	0	6.3
Other Detroit SMSA	84	41.7	14.3	41.7	0	2.4
Genesee, Ingham, Kent	94	37.2	14.9	41.5	0	6.4
Other Central SMSA Counties	83	44.6	16.9	28.9	0	9.6
Other Suburban SMSA Counties	51	37.3	15.7	43.1	0	3.9
Other Counties with Cities >15,000	42	50.0	7.1	40.5	0	2.4
Rural Counties	103	35.9	22.3	37.9	0	3.9
INCOME						
Over \$30,000	175	50.3	9.1	37.7	0	2.9
\$20,000 - \$30,000	236	44.9	14.0	35.6	0	5.5
\$10,000 - \$20,000	242	42.6	14.5	38.4	0.4	4.1
Under \$10,000	108	36.1	17.6	36.1	0	10.2
EMISSIONS INSPECTION ATTITUDE						
Strongly Favor	251	57.0	8.0	33.5	0.4	1.2
Weakly Favor	135	48.1	10.4	37.0	0	4.4
Weakly Oppose	97	41.2	8.2	45.4	0	5.2
Strongly Oppose	242	32.6	22.3	38.0	0	7.0
TOTAL	809	44.0	13.5	36.7	0.1	5.7
Prefer State Stations	312	78.8	2.2	17.9	0	1.0
Prefer Private Statns	349	19.8	26.4	50.7	0.3	2.9

TABLE 19
SAFETY INSPECTION ATTITUDE (Question 16)

	N	Percentages				
		Strongly Favor	Weakly Favor	Weakly Oppose	Strongly Oppose	No Opinion
AGE						
16-24	172	67.4	20.9	3.5	6.4	1.7
25-34	218	64.2	14.2	6.0	11.9	3.7
35-54	260	61.9	15.8	6.5	13.1	2.7
55+	159	65.4	14.5	2.5	11.9	5.7
SEX						
Male	418	61.2	16.3	5.5	13.6	3.3
Female	391	67.8	16.1	4.3	8.4	3.3
GEOGRAPHICAL AREA						
Wayne	179	63.1	17.3	5.0	11.2	3.4
Oakland, Macomb	175	64.0	18.3	4.6	9.7	3.4
Other Detroit SMSA	85	64.7	18.8	4.7	11.8	0
Genesee, Ingham, Kent	94	68.1	13.8	5.3	9.6	3.2
Other Central SMSA Counties	81	67.9	11.1	8.6	8.6	3.7
Other Suburban SMSA Counties	51	58.8	27.5	2.0	9.8	2.0
Other Counties with Cities >15,000	41	68.3	7.3	4.9	17.1	2.4
Rural Counties	105	61.9	12.4	3.8	15.2	6.7
INCOME						
Over \$30,000	175	66.9	17.1	5.1	10.3	0.6
\$20,000 - \$30,000	237	64.1	13.9	5.1	14.3	2.5
\$10,000 - \$20,000	242	66.5	18.2	4.5	8.3	2.5
Under \$10,000	106	65.1	11.3	4.7	10.4	8.5
EMISSIONS INSPECTION ATTITUDE						
Strongly Favor	251	88.4	8.0	1.2	2.0	0.4
Weakly Favor	137	65.7	25.5	2.9	2.9	2.9
Weakly Oppose	97	54.6	16.5	14.4	10.3	4.1
Strongly Oppose	244	46.7	17.2	7.0	27.5	1.6
TOTAL	811	64.4	16.2	4.9	11.2	3.3

TABLE 20
 COMBINED SAFETY AND EMISSIONS INSPECTION PROGRAM (Ques. 17)

	N	Percentages		
		Favor	Oppose	No Opinion
AGE				
16-24	172	77.3	16.3	6.4
25-34	218	74.3	21.6	4.1
35-54	260	70.8	23.5	5.8
55+	160	68.8	18.8	12.5
SEX				
Male	418	70.8	22.5	6.7
Female	392	74.7	18.4	6.9
GEOGRAPHICAL AREA				
Wayne	180	76.1	15.6	8.3
Oakland, Macomb	173	74.6	19.7	5.8
Other Detroit SMSA	85	71.8	23.5	4.7
Genesee, Ingham, Kent	94	74.5	18.1	7.4
Other Central SMSA Counties	83	75.9	20.5	3.6
Other Suburban SMSA Counties	51	68.6	25.5	5.9
Other Counties with Cities >15,000	41	68.3	26.8	4.9
Rural Counties	105	63.8	25.7	10.5
INCOME				
Over \$30,000	173	80.9	16.2	2.9
\$20,000 - \$30,000	237	70.9	24.5	4.6
\$10,000 - \$20,000	243	72.4	20.6	7.0
Under \$10,000	108	69.4	18.5	12.0
EMISSIONS INSPECTION ATTITUDE				
Strongly Favor	251	92.8	5.2	2.0
Weakly Favor	137	87.6	8.0	4.4
Weakly Oppose	97	70.1	21.6	8.2
Strongly Oppose	243	48.6	45.7	5.8
TOTAL	812	72.7	20.6	6.8

TABLE 20A
RELATION OF OPINIONS ON EMISSIONS INSPECTION AND SAFETY INSPECTION TO OPINION
ON A COMBINED PROGRAM (Question 17)

Emissions Inspection Opinion	Safety Inspection Opinion	Combined Inspection Program			
		N	% Favorable	% Opposed	No Opinion
Strongly in Favor	Strongly in Favor	222	96.4	2.4	0.9
Strongly in Favor	Weakly in Favor	20	80.0	15.0	5.0
Strongly in Favor	Weakly Opposed	3	33.3	66.7	0
Strongly in Favor	Strongly Opposed	5	40.0	40.0	20.0
Weakly in Favor	Strongly in Favor	90	91.1	6.7	2.2
Weakly in Favor	Weakly in Favor	35	91.4	0.0	8.6
Weakly in Favor	Weakly Opposed	4	50.0	50.0	0
Weakly in Favor	Strongly Opposed	4	25.0	75.0	0
Weakly Opposed	Strongly in Favor	53	86.8	7.5	5.7
Weakly Opposed	Weakly in Favor	16	87.5	6.3	6.3
Weakly Opposed	Weakly Opposed	14	28.6	64.3	7.1
Weakly Opposed	Strongly Opposed	10	20.0	70.0	10.0
Weakly Opposed	Strongly in Favor	113	63.7	31.9	4.4
Strongly Opposed	Weakly in Favor	41	65.9	24.4	9.8
Strongly Opposed	Weakly Opposed	17	52.9	41.2	5.9
Strongly Opposed	Strongly Opposed	67	13.4	83.6	3.0
No Opinion	Strongly in Favor	35	74.3	8.6	17.1
No Opinion	Weakly in Favor	11	72.7	0.0	27.3
No Opinion	Weakly Opposed	2	0.0	50.0	50.0
No Opinion	Strongly Opposed	2	0.0	50.0	50.0
Total		812	72.7	20.6	6.8

TABLE 21
REASONABLE COMBINED INSPECTION FEES IN DOLLARS (Question 18)

	N	Percentages							Mean
		None	1-3	4-5	7-11	12-22	23-60	No Opinion	
AGE									
16-24	170	51.2	1.8	3.5	12.9	6.5	7.1	17.1	6.3
25-34	211	48.8	1.9	9.5	11.4	8.5	5.7	14.2	5.6
35-54	252	48.8	3.6	9.1	8.7	8.3	4.0	17.5	4.8
55+	158	55.7	1.3	5.1	8.9	2.5	1.9	24.7	2.7
SEX									
Male	408	52.5	2.5	6.1	10.3	9.1	5.4	14.2	5.4
Female	383	48.8	2.1	8.4	10.4	4.4	3.5	21.9	4.5
GEOGRAPHICAL AREA									
Wayne	175	50.9	1.7	6.3	10.9	7.4	4.6	18.3	5.3
Oakland, Macomb	171	42.1	2.3	8.8	14.0	8.8	7.0	17.0	6.8
Other Detroit SMSA	85	52.9	2.4	4.7	10.6	5.9	4.7	18.8	4.6
Genesee, Ingham, Kent	92	46.7	4.3	8.7	10.9	6.5	4.3	18.5	4.9
Other Central SMSA Counties	79	64.6	2.5	7.6	11.4	2.5	0	11.4	2.2
Other Suburban SMSA Counties	51	47.1	2.0	7.8	7.8	5.9	3.9	25.5	4.4
Other Counties w/ Cities >15,000	39	51.3	0	10.3	2.6	10.3	10.3	15.4	6.9
Rural Counties	100	58.0	2.0	5.0	6.0	6.0	3.0	20.0	3.6
INCOME									
Over \$30,000	167	51.5	1.8	7.8	13.2	9.6	8.4	7.8	6.5
\$20,000 - \$30,000	232	44.8	2.6	8.2	12.5	10.8	4.3	16.8	5.8
\$10,000 - \$20,000	238	52.5	2.1	8.0	8.4	3.8	2.5	22.7	3.8
Under \$10,000	107	57.0	3.7	5.6	7.5	3.7	2.8	19.6	3.1
EMISSIONS INSPECTION ATTITUDE									
Strongly Favor	249	48.6	1.2	8.0	12.4	9.6	6.0	14.1	6.3
Weakly Favor	129	54.3	0.8	1.6	10.1	7.0	7.0	19.4	5.6
Weakly Oppose	97	51.5	2.1	14.4	7.2	6.2	1.0	17.5	3.2
Strongly Oppose	232	55.2	3.9	6.9	10.3	5.6	5.2	12.9	4.5
TOTAL	792	50.8	2.3	7.2	10.4	6.8	4.7	17.9	5.0

REASONABLE COMBINED INSPECTION FEE IN DOLLARS IN RELATION TO OPINION
TOWARD SAFETY AND COMBINED INSPECTIONS (Question 18)

TABLE 21A

SAFETY INSPECTION ATTITUDE	N	Percentages						No Opinion
		None	1-3	4-6	7-11	12-22	23-60	
Strongly Favor	514	48.6	1.8	8.2	11.9	7.4	5.3	16.9
Weakly Favor	126	56.3	1.6	4.0	10.3	5.6	3.2	19.0
Weakly Oppose	37	51.4	2.7	13.5	8.1	5.4	8.1	10.8
Strongly Oppose	85	60.0	5.9	3.5	4.7	7.1	3.5	15.3
COMBINED INSPECTION ATTITUDE								
Favor	578	49.3	2.1	8.3	11.8	7.8	4.8	15.9
Oppose	158	58.9	3.8	4.4	7.6	5.7	4.4	15.2
Total	792	50.8	2.3	7.2	10.4	6.8	4.7	17.9

TABLE 22 (Question 19)
HOW MUCH SAFETY INSPECTIONS REDUCE ACCIDENTS IN MICHIGAN

	N	Percentages			
		A Lot	Some	Not Much	No Opinion
AGE					
16-24	172	31.4	54.1	14.0	0.6
25-34	218	29.8	50.0	18.3	1.8
35-54	262	26.3	45.4	25.6	2.7
55+	160	30.0	45.0	21.3	3.8
SEX					
Male	420	26.4	47.9	23.8	1.9
Female	392	31.9	49.0	16.6	2.6
GEOGRAPHICAL AREA					
Wayne	180	37.8	42.8	16.1	3.3
Oakland, Macomb	175	29.1	46.9	19.4	4.6
Other Detroit SMSA	85	29.4	48.2	22.4	0
Genesee, Ingham, Kent	93	32.3	49.5	18.3	0
Other Central SMSA Counties	83	21.7	59.0	16.9	2.4
Other Suburban SMSA Counties	51	23.5	51.0	25.5	0
Other Counties with Cities >15,000	42	26.2	45.2	26.2	2.4
Rural Counties	104	20.2	51.9	26.9	1.0
INCOME					
Over \$30,000	175	24.0	53.1	21.7	1.1
\$20,000 - \$30,000	237	30.0	46.8	21.9	1.3
\$10,000 - \$20,000	243	29.6	50.2	18.1	2.1
Under \$10,000	108	36.1	41.7	19.4	2.8
EMISSIONS INSPECTION ATTITUDE					
Strongly Favor	251	45.4	47.0	6.8	0.8
Weakly Favor	137	27.7	61.3	10.2	0.7
Weakly Oppose	97	16.5	57.7	21.6	4.1
Strongly Oppose	243	20.2	38.7	39.9	1.2
TOTAL					
	813	29.0	48.5	20.3	2.2
SAFETY INSPECTION ATTITUDE					
Favor	653	34.8	52.8	10.9	1.5
Oppose	129	4.7	27.9	65.9	1.6

TABLE 23
NOISE INSPECTION ATTITUDE (Question 20)

	N	Percentages				
		Strongly Favor	Weakly Favor	Weakly Oppose	Strongly Oppose	No Opinion
AGE						
16-24	172	36.6	22.7	15.7	19.2	5.8
25-34	217	51.6	15.2	10.6	16.6	6.0
35-54	258	48.1	17.8	10.5	15.1	8.5
55+	159	64.2	13.2	6.3	9.4	6.9
SEX						
Male	417	50.1	17.3	9.6	18.0	5.0
Female	389	49.4	17.2	12.1	12.1	9.0
GEOGRAPHICAL AREA						
Wayne	177	54.2	16.9	9.0	11.9	7.9
Oakland, Macomb	176	44.9	20.5	14.8	14.2	5.7
Other Detroit SMSA	85	38.8	16.5	12.9	22.4	9.4
Genesee, Ingham, Kent	93	59.1	12.9	8.6	15.1	4.3
Other Central SMSA Counties	80	51.3	13.8	11.3	17.5	6.3
Other Suburban SMSA Counties	51	49.0	17.6	13.7	13.7	5.9
Other Counties with Cities >15,000	41	48.8	14.6	12.2	17.1	7.3
Rural Counties	105	50.5	20.0	4.8	16.2	8.6
INCOME						
Over \$30,000	175	51.4	14.9	13.1	16.0	4.6
\$20,000 - \$30,000	235	46.0	20.4	14.5	16.2	3.0
\$10,000 - \$20,000	243	53.1	15.6	8.2	15.6	7.4
Under \$10,000	104	57.7	15.4	3.8	11.5	11.5
EMISSIONS INSPECTION ATTITUDE						
Strongly Favor	249	67.1	16.1	6.4	6.4	4.0
Weakly Favor	137	50.4	20.4	10.2	15.3	3.6
Weakly Oppose	97	35.1	20.6	21.6	15.5	7.2
Strongly Oppose	242	38.8	15.3	12.4	27.7	5.8
TOTAL	808	49.8	17.2	10.8	15.3	6.9

TABLE 23A
NOISE INSPECTION ATTITUDE (Question 20)

	N	Percentages				
		Strongly Favor	Weakly Favor	Weakly Oppose	Strongly Oppose	No Opinion
SAFETY INSPECTION ATTITUDE						
Strongly Favor	520	62.3	16.7	8.3	7.9	4.8
Weakly Favor	131	27.5	33.6	15.3	14.5	9.2
Weakly Oppose	40	30.0	10.0	30.0	25.0	5.0
Strongly Oppose	88	20.5	4.5	12.5	58.0	4.5
EVER DISTURBED BY NOISY VEHICLES						
Yes	562	63.7	15.5	8.0	8.2	4.6
No	242	17.4	21.5	17.4	31.8	12.0
NOISE ENFORCEMENT ATTITUDE						
Very Strict	288	80.2	10.8	2.1	5.2	1.7
Somewhat Strict	358	45.5	23.7	13.7	12.6	4.5
Not Very Strict	111	5.4	16.2	23.4	48.6	6.3
TOTAL	808	49.8	17.2	10.8	15.3	6.9

TABLE 24

TYPES OF VEHICLES DISTURBING YOU MOST (Question 21)

	N	Percentages						
		Trucks	Motor-cycles	Hot Rods	Snow-mobiles	Other	Bad Muffler	None
AGE								
16-24	172	19.2	19.2	11.6	0	8.1	25.6	35.5
25-34	220	26.4	21.4	16.9	1.8	12.3	18.2	27.7
35-54	261	22.2	38.3	12.3	2.3	6.1	15.7	31.0
55+	158	15.8	42.4	13.9	2.5	7.0	21.5	26.0
SEX								
Male	420	21.0	34.3	11.9	1.7	10.0	18.8	31.2
Female	391	22.0	31.5	13.6	1.8	6.6	20.5	28.9
GEOGRAPHICAL AREA								
Wayne	178	28.7	27.5	11.2	0.6	12.4	21.9	25.8
Oakland, Macomb	177	24.3	31.6	15.3	0.6	6.8	21.5	28.8
Other Detroit SMSA	85	22.4	32.9	8.2	2.4	5.9	15.3	37.7
Genesee, Ingham, Kent	93	15.1	43.0	14.0	3.2	8.6	25.8	23.7
Other Central SMSA Counties	83	18.1	36.1	15.7	0	3.6	16.9	31.3
Other Suburban SMSA Counties	51	17.7	27.5	15.7	0	7.8	9.8	41.2
Other Counties w/ Cities >15,000	42	14.3	40.5	16.7	7.1	9.5	19.1	23.8
Rural Counties	104	17.3	32.7	7.7	3.9	9.6	17.3	35.6
INCOME								
Over \$30,000	175	24.6	40.6	12.6	2.3	6.3	20.0	28.0
\$20,000 - \$30,000	237	24.1	30.0	14.4	0.8	9.7	12.7	32.1
\$10,000 - \$20,000	243	18.5	32.9	13.6	2.9	7.4	24.3	28.8
Under \$10,000	108	16.7	32.4	12.0	0.9	13.0	23.2	27.8
EMISSIONS INSPECTION ATTITUDE								
Strongly Favor	251	23.5	32.7	17.1	1.6	10.8	22.7	24.7
Weakly Favor	136	24.3	33.1	13.2	2.2	7.4	20.6	26.5
Weakly Oppose	97	20.6	28.9	9.3	2.1	5.2	14.4	39.2
Strongly Oppose	244	18.9	35.7	10.7	1.6	9.4	15.6	33.2
TOTAL								
	813	21.4	33.0	12.7	1.7	8.4	19.6	30.1

TABLE 25

HOW STRICTLY SHOULD NOISE RULES BE ENFORCED (Question 22)

	N	Percentages			
		Very Strictly	Somewhat Strictly	Not Very Strictly	No Opinion
AGE					
16-24	172	20.3	56.4	18.6	4.7
25-34	217	36.4	43.8	15.7	4.1
35-54	259	39.4	41.7	13.1	5.8
55+	158	45.6	39.2	7.6	7.6
SEX					
Male	415	37.3	41.7	17.3	3.6
Female	391	34.0	48.3	10.2	7.4
GEOGRAPHICAL AREA					
Wayne	179	34.6	45.3	15.1	5.0
Oakland, Macomb	174	37.4	44.8	11.5	6.3
Other Detroit SMSA	85	32.9	41.2	22.4	3.5
Genesee, Ingham, Kent	93	40.9	43.0	10.8	5.4
Other Central SMSA Counties	81	34.6	43.2	17.3	4.9
Other Suburban SMSA Counties	50	32.0	42.0	22.0	4.0
Other Counties w/ Cities >15,000	42	38.1	54.8	4.8	2.4
Rural Counties	103	35.0	47.6	8.7	8.7
INCOME					
Over \$30,000	173	39.9	43.4	13.9	2.9
\$20,000 - \$30,000	234	47.2	44.9	15.4	2.6
\$10,000 - \$20,000	243	37.0	44.4	11.9	6.6
Under \$10,000	107	31.8	45.8	13.1	9.3
EMISSIONS INSPECTION ATTITUDE					
Strongly Favor	250	45.2	44.4	7.2	3.2
Weakly Favor	137	32.8	49.6	13.1	4.4
Weakly Oppose	97	35.1	40.2	17.5	7.2
Strongly Oppose	239	28.5	43.9	22.6	5.0
TOTAL	807	35.8	44.9	13.9	5.5

TABLE 26
DIAGNOSTIC CENTERS ATTITUDE (Question 23)

	N	Percentages		
		Favor	Oppose	No Opinion
AGE				
16-24	172	78.5	14.5	7.0
25-34	219	69.9	24.7	5.5
35-54	261	63.6	26.4	10.0
55+	160	60.0	28.8	11.3
SEX				
Male	421	66.5	26.6	6.9
Female	391	69.1	21.0	10.0
GEOGRAPHICAL AREA				
Wayne	180	75.0	16.1	8.9
Oakland, Macomb	176	70.5	21.6	8.0
Other Detroit SMSA	84	71.4	21.4	7.1
Genesee, Ingham, Kent	93	72.0	20.4	7.5
Other Central SMSA Counties	83	61.4	30.1	8.4
Other Suburban SMSA Counties	51	56.9	39.2	3.9
Other Counties with Cities >15,000	42	69.0	19.0	11.9
Rural Counties	105	52.4	36.2	11.4
INCOME				
Over \$30,000	175	67.4	25.7	6.9
\$20,000 - \$30,000	236	67.4	27.1	5.5
\$10,000 - \$20,000	244	72.5	20.1	7.4
Under \$10,000	108	64.8	21.3	13.9
EMISSIONS INSPECTION ATTITUDE				
Strongly Favor	251	82.5	14.7	2.8
Weakly Favor	137	72.3	20.4	7.3
Weakly Oppose	97	60.8	24.7	14.4
Strongly Oppose	243	57.6	36.2	6.2
TOTAL	814	67.6	24.0	8.5

TABLE 27
 NUMBER OF DRIVERS AND VEHICLES IN THE HOUSEHOLD (Questions 24 & 25)

	N	Percentages of Total							Total
		One Driver	Two Drivers	Three Drivers	Four Drivers	Five Drivers	Six Drivers	Sevent+ Drivers	
No Vehicles	8	0.5	0.1	0.1	0.2	0	0	0	1.0
One Vehicle	191	12.6	10.2	0.7	0.2	0	0	0	23.8
Two Vehicles	319	2.4	31.6	4.2	1.1	0.4	0	0.1	39.8
Three Vehicles	147	0.5	7.9	6.6	2.9	0.5	0	0	18.4
Four Vehicles	86	0.1	2.7	2.0	4.1	1.5	0.1	0.1	10.7
Five Vehicles	22	0.1	0.5	0.7	0.4	0.7	0.2	0	2.7
Six Vehicles	14	0	0.4	0.2	0.5	0.1	0.5	0	1.7
Seven Vehicles	8	0	0.1	0.1	0.2	0	0	0.3	1.0
Eight Vehicles	1	0	0	0	0	0	0	0.2	0.1
More Than Eight	5	0	0	0	0	0.2	0.1	0.1	0.6
Total	801	16.2	53.6	14.9	9.7	3.6	1.0	1.0	100.0

TABLE 28
MODEL YEAR OF THE OLDEST HOUSEHOLD VEHICLE (Question 26)

	N	Percentages									Mean
		15 59	60 64	65 68	69 72	73	74	75	76 77	78 79	
AGE											
16-24	169	3.6	0.6	7.7	40.8	11.8	9.5	6.5	11.2	8.3	71.7
25-34	219	2.3	1.8	14.2	23.3	14.6	9.6	6.8	15.1	12.3	72.2
35-54	259	1.9	2.7	13.5	23.2	13.9	12.4	7.7	16.2	8.5	72.4
55+	153	0.7	2.6	12.4	22.9	7.2	11.8	7.8	22.2	12.4	73.1
SEX											
Male	415	1.9	1.4	14.0	28.7	12.8	10.8	5.8	15.7	8.9	72.1
Female	385	2.3	2.6	10.4	24.9	11.9	10.9	8.8	16.4	11.7	72.5
GEOGRAPHICAL AREA											
Wayne	173	1.7	1.2	12.1	21.4	11.6	13.9	9.2	20.8	8.1	72.8
Oakland, Macomb	176	0.6	1.7	11.4	23.9	14.2	11.9	9.1	15.9	11.4	73.1
Other Detroit SMSA	84	2.4	3.6	17.9	32.1	9.5	6.0	7.1	11.9	9.5	71.5
Genesee, Ingham, Kent	91	1.1	2.2	8.8	36.3	11.0	9.9	7.7	14.3	8.8	72.4
Other Central SMSA Counties	83	2.4	0	13.3	31.3	13.3	12.0	4.8	15.7	7.2	72.3
Other Suburban SMSA Counties	51	3.9	0	15.7	19.6	9.8	9.8	7.8	13.7	19.6	72.6
Other Counties w/ Cities >15,000	41	0	2.4	7.3	24.4	24.4	12.2	7.3	9.8	12.2	73.1
Rural Counties	102	5.9	4.9	11.8	30.4	9.8	7.8	2.0	16.7	10.8	70.5
INCOME											
Over \$30,000	174	1.1	1.7	10.9	27.0	12.6	11.5	8.6	17.2	9.2	72.6
\$20,000 - \$30,000	238	2.5	1.7	9.7	29.8	14.3	9.7	7.1	14.7	10.5	72.3
\$10,000 - \$20,000	241	3.3	2.1	14.9	24.9	12.0	10.0	7.1	14.9	10.8	72.1
Under \$10,000	102	1.0	3.9	14.7	27.5	9.8	13.7	7.8	14.7	6.9	72.0
EMISSIONS INSPECTION ATTITUDE											
Strongly Favor	248	2.0	0.4	12.9	23.8	11.7	13.7	9.3	14.9	11.3	72.7
Weakly Favor	136	2.2	0.7	14.0	30.9	11.8	8.8	5.9	16.2	9.6	72.4
Weakly Oppose	97	2.1	3.1	5.2	32.0	9.3	10.3	7.2	19.6	11.3	72.7
Strongly Oppose	241	2.5	3.7	13.3	28.6	14.1	9.1	5.0	14.9	8.7	71.6
TOTAL	801	2.1	2.0	12.2	27.0	12.4	10.9	7.2	16.0	10.2	72.3

TABLE 29
ARE REPAIRS NEEDED ON OLDEST VEHICLE? (Ques. 27)

	N	Percentage		
		Safe Now	Repairs Needed	Do Not Know.
AGE				
16-24	171	80.7	17.5	1.8
25-34	218	78.4	19.3	2.3
35-54	258	82.9	12.8	4.3
55+	158	91.8	6.3	1.9
SEX				
Male	416	81.5	16.3	2.2
Female	389	84.6	12.1	3.3
GEOGRAPHICAL AREA				
Wayne	178	83.7	12.4	3.9
Oakland, Macomb	177	83.1	14.7	2.3
Other Detroit SMSA	84	82.1	17.9	0
Genesee, Ingham, Kent	92	82.6	15.2	2.2
Other Central SMSA Counties	82	84.1	12.2	3.7
Other Suburban SMSA Counties	50	84.0	14.0	2.0
Other Counties with Cities >15,000	40	87.5	10.0	2.5
Rural Counties	103	79.6	16.5	3.9
INCOME				
Over \$30,000	175	86.9	12.0	1.1
\$20,000 - \$30,000	236	84.7	14.0	1.3
\$10,000 - \$20,000	243	82.7	14.0	3.3
Under \$10,000	104	73.1	20.2	6.7
EMISSIONS INSPECTION ATTITUDE				
Strongly Favor	248	82.3	15.3	2.4
Weakly Favor	137	80.3	18.2	1.5
Weakly Oppose	97	82.5	16.5	1.0
Strongly Oppose	242	87.2	11.2	1.7
TOTAL	806	83.0	14.3	2.7

TABLE 30
WHAT COMPONENTS NEED REPAIRING? (Question 27a)

	N	Percentages								
		Exhaust	Brakes	Align-ment	Wind-shield	Tires	Engine Problems	Lights& Signals	Suspension	Other
AGE										
16-24	25	12.0	32.0	8.0	0	16.0	20.0	28.0	4.0	
25-34	40	7.5	25.0	12.5	7.5	20.0	12.5	30.0	2.5	10.0
35-54	32	21.9	31.3	3.1	0	12.5	9.4	21.9	15.6	9.4
55+	9	22.2	11.1	11.1	0	11.1	0	44.4	0	0
SEX										
Male	63	15.9	31.8	7.9	4.8	11.1	7.9	33.3	4.8	6.4
Female	43	11.6	20.9	9.3	0	23.2	18.6	20.9	9.3	14.0
GEOGRAPHICAL AREA										
Wayne	22	4.6	13.6	9.2	4.6	9.2	27.3	31.8	4.6	4.6
Oakland, Macomb	24	12.5	25.0	12.5	0	29.2	8.3	29.2	4.2	12.5
Other Detroit SMSA	13	15.4	38.5	7.7	7.7	7.7	7.7	23.1	7.7	15.4
Genesee, Ingham, Kent	13	7.7	23.1	15.4	7.7	7.7	15.4	30.8	15.4	15.4
Other Central SMSA Counties	8	37.5	12.5	0	0	12.5	0	37.5	0	12.5
Other Suburban SMSA Counties	6	16.7	33.3	0	0	16.7	0	50.0	0	0
Other Counties w/ Cities >15,000	3	0	66.7	0	0	66.7	0	0	0	0
Rural Counties	17	23.5	41.2	5.9	0	11.8	11.8	17.7	11.8	5.9
INCOME										
Over \$30,000	19	15.8	26.3	0	5.3	21.1	5.3	36.8	0	10.5
\$20,000 - \$30,000	31	12.9	22.6	16.1	0	19.4	12.9	25.8	16.1	9.7
\$10,000 - \$20,000	32	9.4	25.0	6.3	6.3	12.5	15.6	34.4	3.1	6.3
Under \$10,000	19	26.3	42.1	10.5	0	5.3	15.8	15.8	5.3	10.5
EMISSIONS INSPECTION ATTITUDE										
Strongly Favor	38	23.7	26.3	10.5	0	18.4	13.2	21.1	5.3	2.6
Weakly Favor	22	4.6	13.6	0	4.6	22.7	13.6	36.4	13.6	13.6
Weakly Oppose	12	0	50.0	0	0	8.3	25.0	33.3	8.3	8.3
Strongly Oppose	25	16.0	32.0	16.0	4.0	16.0	4.0	24.0	0	16.0
TOTAL	106	14.2	27.4	8.5	2.8	16.0	12.3	28.3	6.6	9.4

TABLE 31
VEHICLE DEFECTS CONTRIBUTING TO ACCIDENTS (Question 28)

	N	Percentages								
		Exhaust	Brakes	Align- ment	Wind- shield	Tires	Engine Problems	Lights & Signals	Suspen- sion	Other
AGE										
16-24	153	1.3	74.5	32.0	0.7	43.8	3.9	46.4	3.3	1.3
25-34	201	0.5	80.1	28.4	5.0	50.8	3.0	38.8	3.5	1.5
35-54	226	1.3	76.1	26.1	5.8	42.1	4.4	28.8	2.6	3.1
55+	142	0	82.4	32.4	2.8	45.8	0	24.7	2.1	2.1
SEX										
Male	375	1.1	76.8	29.6	4.3	53.6	3.5	35.5	4.5	2.4
Female	347	0.6	79.5	28.8	3.5	40.9	2.6	33.4	1.2	1.7
GEOGRAPHICAL AREA										
Wayne	157	1.9	79.6	27.4	3.8	42.0	2.5	36.3	1.3	1.3
Oakland, Macomb	160	1.3	81.9	30.6	1.9	47.5	3.8	33.1	1.9	6.3
Other Detroit SMSA	77	0	79.2	31.2	5.2	46.8	2.6	40.3	3.9	0
Genesee, Ingham, Kent	84	0	76.2	25.0	3.6	53.6	2.4	32.1	8.3	0
Other Central SMSA Counties	73	1.4	71.2	28.8	4.1	46.6	4.1	34.2	1.4	0
Other Suburban SMSA Counties	44	0	72.7	27.3	4.5	40.9	4.5	38.6	2.2	4.5
Other Counties w/ Cities >15,000	37	0	91.9	27.0	8.1	54.1	2.7	35.1	2.7	0
Rural Counties	91	0	72.5	34.1	4.4	52.7	2.2	29.7	3.3	1.1
INCOME										
Over \$30,000	159	0.6	72.3	25.8	3.1	47.8	5.1	37.7	2.5	5.7
\$20,000 - \$30,000	217	0.5	77.4	28.6	6.0	50.2	2.8	35.0	5.5	0.9
\$10,000 - \$20,000	219	0.9	82.6	29.2	3.2	45.2	2.3	35.2	1.8	1.8
Under \$10,000	91	2.2	82.4	35.2	2.2	45.1	3.3	27.5	1.1	0
EMISSIONS INSPECTION ATTITUDE										
Strongly Favor	229	1.3	74.7	33.2	2.6	47.2	3.9	38.4	3.5	3.9
Weakly Favor	124	0	77.4	15.3	5.6	41.9	5.6	55.6	2.4	0.8
Weakly Oppose	86	2.3	84.9	33.7	3.5	40.7	1.2	37.2	2.3	2.3
Strongly Oppose	218	0.5	78.0	27.1	4.6	51.4	1.8	28.9	2.8	0.9
TOTAL	723	0.8	78.2	29.2	3.9	47.4	3.0	34.6	2.9	2.1

TABLE 32
EVER USED REGULAR IN NO-LEAD VEHICLES (Question 29)

	N	Percentages		
		Yes	No	Not Sure
AGE				
16-24	170	10.0	88.8	1.2
25-34	221	7.2	92.3	0.5
35-54	260	6.2	91.5	2.3
55+	160	3.8	92.5	3.8
SEX				
Male	417	8.9	89.2	1.9
Female	394	4.6	93.7	1.8
GEOGRAPHICAL AREA				
Wayne	181	5.5	93.9	0.6
Oakland, Macomb	177	5.6	93.2	1.1
Other Detroit SMSA	84	9.5	89.3	1.2
Genesee, Ingham, Kent	93	9.7	90.3	0
Other Central SMSA Counties	82	6.1	87.8	6.1
Other Suburban SMSA Counties	50	8.0	90.0	2.0
Other Counties w/ Cities >15,000	41	7.3	92.7	0
Rural Counties	105	6.7	88.6	4.8
INCOME				
Over \$30,000	174	6.3	92.5	1.1
\$20,000 - \$30,000	237	8.4	91.6	0
\$10,000 - \$20,000	244	5.7	92.2	2.0
Under \$10,000	108	6.5	87.0	6.5
EMISSIONS INSPECTION ATTITUDE				
Strongly Favor	250	3.6	94.8	1.6
Weakly Favor	137	5.8	93.4	0.7
Weakly Oppose	97	10.3	87.6	2.1
Strongly Oppose	244	10.7	87.7	1.6
TOTAL	813	6.9	91.3	1.8

TABLE 33 (Question 30)

HOW CLOSELY DO YOU FOLLOW THE OWNER'S MANUAL

	N	Percentages			
		Very Closely	Somewhat Closely	Not Very Closely	Do Not Know
AGE					
16-24	169	32.0	44.4	18.3	5.3
25-34	217	41.0	44.2	11.5	3.2
35-54	256	48.4	40.2	8.2	3.1
55+	157	54.1	31.2	11.5	3.2
SEX					
Male	412	41.7	41.5	14.6	2.2
Female	387	46.5	39.3	9.0	5.2
GEOGRAPHICAL AREA					
Wayne	175	41.1	42.9	11.4	4.6
Oakland, Macomb	175	42.3	40.0	14.9	2.9
Other Detroit SMSA	83	38.6	45.8	13.3	2.4
Genesee, Ingham, Kent	94	56.4	34.0	8.5	1.1
Other Central SMSA Counties	82	34.1	47.6	12.2	6.1
Other Suburban SMSA Counties	50	50.0	38.0	10.0	2.0
Other Counties w/ Cities >15,000	40	47.5	40.0	5.0	7.5
Rural Counties	101	49.5	33.7	12.9	4.0
INCOME					
Over \$30,000	171	42.1	40.9	15.8	1.2
\$20,000 - \$30,000	236	49.6	41.1	7.6	1.7
\$10,000 - \$20,000	242	40.9	43.0	13.2	2.9
Under \$10,000	105	38.1	37.1	15.2	9.5
EMISSIONS INSPECTION ATTITUDE					
Strongly Favor	256	47.3	39.2	11.0	2.4
Weakly Favor	136	45.6	40.4	10.3	3.7
Weakly Oppose	96	44.8	35.4	13.5	6.3
Strongly Oppose	240	44.2	42.9	11.7	1.3
TOTAL	800	44.1	40.4	11.9	3.6

TABLE 34
 FREQUENCY OF TUNE UP (Question 30a.)

	N	Percentages							
		2-5 Mo.	6 Mo.	7-12 Mo.	13-24 Mo.	1500-6000 Miles	7000-12,000 Miles	15,000-50,000 Miles	Don't Know
AGE									
16-24	127	18.1	16.5	17.3	0	12.6	13.4	7.1	15.0
25-34	183	6.0	28.4	18.6	1.1	15.8	10.9	8.2	10.9
35-54	227	4.0	24.2	24.2	0.9	8.4	17.2	5.3	15.9
55+	133	7.5	23.3	23.3	0.8	8.3	13.5	8.3	15.0
SEX									
Male	344	6.7	22.7	22.7	0.6	13.7	16.0	9.3	8.4
Female	326	9.2	24.8	19.6	0.9	8.6	12.0	4.6	20.2
GEOGRAPHICAL AREA									
Wayne	146	6.2	26.7	21.9	0.7	6.8	11.6	8.2	17.8
Oakland, Macomb	142	12.0	26.1	18.3	1.4	8.5	14.8	5.6	13.4
Other Detroit SMSA	71	14.1	29.6	22.5	0	11.3	11.3	4.2	7.0
Genesee, Ingham, Kent	84	6.0	20.2	21.4	1.2	14.3	15.5	7.1	14.3
Other Central SMSA Counties	65	6.2	18.5	23.1	0	12.3	20.0	6.2	13.8
Other Suburban SMSA Counties	42	4.8	19.0	16.7	0	16.7	11.9	14.3	16.7
Other Counties w/ Cities >15,000	36	0	22.2	27.8	2.8	27.8	8.3	2.8	8.3
Rural Counties	85	7.1	20.0	22.4	0	9.4	16.5	8.2	16.5
INCOME									
Over \$30,000	144	7.6	25.0	20.8	0.7	6.3	18.1	6.9	14.6
\$20,000 - \$30,000	211	8.5	23.7	23.7	0.5	10.0	13.7	8.5	11.4
\$10,000 - \$20,000	201	7.0	24.4	20.4	0.5	12.9	12.9	6.5	15.4
Under \$10,000	79	6.3	22.8	21.5	0	20.3	10.1	3.8	15.2
EMISSIONS INSPECTION ATTITUDE									
Strongly Favor	208	12.0	23.1	20.2	1.4	9.6	13.0	5.3	15.4
Weakly Favor	117	8.5	29.1	21.4	0.9	9.4	8.5	8.5	13.7
Weakly Oppose	75	1.3	22.7	22.7	1.3	8.0	16.0	9.3	18.7
Strongly Oppose	210	6.7	23.3	21.9	0	14.3	16.7	7.1	10.0
TOTAL									
	671	7.9	23.7	21.3	0.7	11.2	14.0	7.0	14.2

TABLE 35

ROUTINE MAINTENANCE/REPAIRS DONE BY: (Ques. 31)

	N	Percentages							
		Self	Some one Else	Garage	Someone Else & Garage	Someone Else & Self	Self and Garage	All Three	Don't Know
AGE									
16-24	171	38.0	26.9	31.0	0.6	1.8	0.6	0.6	0.6
25-34	220	34.5	22.3	38.2	0.9	2.3	0.9	0.5	0.5
35-54	255	25.5	20.4	49.8	1.6	0	2.0	0.4	0.4
55+	156	23.7	12.2	59.6	0.6	0	3.2	0	0.6
SEX									
Male	414	49.5	7.0	39.6	0	0.7	2.4	0.5	0.2
Female	388	9.8	35.3	49.7	2.1	1.3	0.8	0.3	0.8
GEOGRAPHICAL AREA									
Wayne	178	26.4	25.8	44.9	0	1.1	1.1	0.6	0
Oakland, Macomb	176	30.7	26.1	35.8	0.6	1.1	4.0	0.6	1.1
Other Detroit SMSA	84	34.5	26.2	36.9	0	2.4	0	0	0
Genesee, Ingham, Kent	92	27.2	14.1	55.4	1.1	0	2.2	0	0
Other Central SMSA Counties	80	32.5	15.0	50.0	2.5	0	0	0	0
Other Suburban SMSA Counties	50	28.0	12.0	52.0	2.0	4.0	0	2.0	0
Other Counties w/ Cities >15,000	40	27.5	15.0	55.0	0	0	0	0	2.5
Rural Counties	103	35.9	15.5	42.7	2.9	0	1.9	0	1.0
INCOME									
Over \$30,000	173	27.2	21.4	46.2	1.2	1.2	2.9	0	0
\$20,000 - \$30,000	237	33.3	22.8	41.4	0.8	0.4	0.8	0	0.4
\$10,000 - \$20,000	244	29.1	21.7	43.4	1.2	1.6	1.2	1.2	0.4
Under \$10,000	103	33.0	14.6	50.5	0	0	1.0	0	1.0
EMISSIONS INSPECTION ATTITUDE									
Strongly Favor	246	23.6	22.8	48.4	1.2	2.0	1.6	0	0.4
Weakly Favor	136	28.7	22.1	44.1	2.2	0.7	1.5	0.7	0
Weakly Oppose	97	34.0	24.7	41.2	0	0	0	0	0
Strongly Oppose	242	39.7	14.0	41.7	0.8	0.4	2.9	0.4	0
TOTAL	803	30.3	20.8	44.5	1.0	1.0	1.6	0.4	0.5

TABLE 36
CONSIDER EMISSION DEVICES AT TUNE-UP (Question 31a)

	N	Percentages of Self Maintainers			
		Yes	Somewhat	No	Do Not Know
AGE					
16-24	63	46.0	19.0	33.3	1.6
25-34	76	50.0	13.2	34.2	2.6
35-54	62	53.2	12.9	25.8	8.1
55+	37	67.6	21.6	8.1	2.7
SEX					
Male	199	52.3	17.6	28.6	1.5
Female	39	53.8	7.7	23.1	15.4
GEOGRAPHICAL AREA					
Wayne	46	45.7	26.1	26.1	2.2
Oakland, Macomb	53	50.9	13.2	34.0	1.9
Other Detroit SMSA	30	50.0	23.3	26.7	0
Genesee, Ingham, Kent	24	66.7	12.5	20.8	0
Other Central SMSA Counties	25	52.0	16.0	24.0	8.0
Other Suburban SMSA Counties	14	35.7	14.3	35.7	14.3
Other Counties w/ Cities >15,000	11	63.6	9.1	27.3	0
Rural Counties	36	58.3	5.6	27.8	8.3
INCOME					
Over \$30,000	45	42.2	13.3	44.4	0
\$20,000 - \$30,000	79	59.5	13.9	24.1	2.5
\$10,000 - \$20,000	71	47.9	18.3	28.2	5.6
Under \$10,000	30	60.0	16.7	16.7	6.7
EMISSIONS INSPECTION ATTITUDE					
Strongly Favor	55	67.3	20.0	12.7	0
Weakly Favor	40	47.5	20.0	30.0	2.5
Weakly Oppose	33	45.5	18.2	30.3	6.1
Strongly Oppose	94	50.0	11.7	33.0	5.3
TOTAL	239	52.3	15.9	28.0	3.8

TABLE 37
 LIKELIHOOD OF REPAIRING THE EXHAUST SYSTEM ONESELF (Ques. 31b)

	N	Percentages of Self-Maintainers			
		Very Likely	Somewhat Likely	Not Very Likely	Do Not Know
AGE					
16-24	65	53.8	24.6	16.9	4.6
25-34	77	55.8	22.1	20.8	1.3
35-54	65	49.2	20.0	30.8	0
55+	36	33.3	25.0	38.9	2.8
SEX					
Male	208	52.0	21.6	24.0	2.5
Female	39	41.0	28.2	30.8	0
GEOGRAPHICAL AREA					
Wayne	47	46.8	23.4	25.5	4.3
Oakland, Macomb	55	52.7	27.3	20.0	0
Other Detroit SMSA	30	53.3	26.7	20.0	0
Genesee, Ingham, Kent	24	45.8	12.5	37.5	4.2
Other Central SMSA Counties	26	57.7	11.5	23.1	7.7
Other Suburban SMSA Counties	14	57.1	21.4	21.4	0
Other Counties with Cities >15,000	11	54.5	9.1	36.4	0
Rural Counties	36	41.7	30.6	27.8	0
INCOME					
Over \$30,000	47	40.4	27.7	31.9	0
\$20,000 - \$30,000	79	48.1	22.8	29.1	0
\$10,000 - \$20,000	71	57.7	18.3	18.3	5.6
Under \$10,000	33	54.5	24.2	18.2	3.0
EMISSIONS INSPECTION ATTITUDE					
Strongly Favor	59	47.5	27.1	25.4	0
Weakly Favor	40	47.5	30.0	22.5	0
Weakly Oppose	33	36.4	24.2	36.4	3.0
Strongly Oppose	94	56.4	17.0	23.4	3.2
TOTAL	243	50.2	22.6	25.1	2.1

TABLE 38
 SELF CHECKING OF BRAKES (Question 31c)

	N	Percentages of Self-Maintainers		
		Yes	Sometimes	No
AGE				
16-24	65	83.1	10.8	6.2
25-34	76	81.6	13.2	5.3
35-54	64	85.9	3.1	10.9
55+	37	89.2	5.4	5.4
SEX				
Male	203	83.7	8.9	7.4
Female	39	87.2	7.7	5.1
GEOGRAPHICAL AREA				
Wayne	45	82.2	8.9	8.9
Oakland, Macomb	56	89.3	3.6	7.1
Other Detroit SMSA	29	75.9	17.2	6.9
Genesee, Ingham, Kent	24	75.0	12.5	12.5
Other Central SMSA Counties	26	92.3	7.7	0
Other Suburban SMSA Counties	14	78.6	7.1	14.3
Other Counties w/ Cities >15,000	11	100.0	0	0
Rural Counties	37	83.8	10.3	5.4
INCOME				
Over \$30,000	47	78.7	6.4	14.9
\$20,000 - \$30,000	80	87.5	5.0	7.5
\$10,000 - \$20,000	70	84.5	11.4	4.3
Under \$10,000	32	90.6	9.4	0
EMISSIONS INSPECTION ATTITUDE				
Strongly Favor	58	89.7	5.2	5.2
Weakly Favor	40	77.5	17.5	5.0
Weakly Oppose	33	72.7	18.2	9.1
Strongly Oppose	94	91.5	2.1	6.4
TOTAL	242	84.3	8.7	7.0

TABLE 39
HOW ARE THE BRAKES CHECKED? (Question 31d)

	N	Percentages of Brake Self-Checkers					
		Pull Wheels	Brake Fluid	Pedal Level	Test Drive	Visual Inspection	Other
AGE							
16-24	56	60.7	10.7	10.7	10.7	5.4	1.8
25-34	61	60.7	11.5	3.3	4.9	9.8	9.8
35-54	52	50.5	5.8	17.3	5.8	15.4	5.8
55+	26	46.2	11.5	15.4	11.5	7.7	7.7
SEX							
Male	173	59.0	8.1	10.4	7.5	10.4	4.6
Female	22	31.8	22.7	13.6	9.1	4.5	18.2
GEOGRAPHICAL AREA							
Wayne	34	52.9	11.8	8.8	5.9	14.7	5.9
Oakland, Macomb	46	54.3	8.7	13.0	4.3	10.9	8.7
Other Detroit SMSA	26	69.2	3.8	0	11.5	11.5	3.8
Genesee, Ingham, Kent	17	70.6	11.8	11.8	0	5.9	0
Other Central SMSA Counties	25	48.0	16.0	16.0	8.0	8.0	4.0
Other Suburban SMSA Counties	11	72.7	9.1	9.1	0	0	9.1
Other Counties w/ Cities >15,000	10	50.0	20.0	0	10.0	10.0	10.0
Rural Counties	26	42.3	3.8	19.2	19.2	7.7	7.7
INCOME							
Over \$30,000	39	64.1	5.1	10.3	2.6	7.7	10.3
\$20,000 - \$30,000	66	56.1	10.6	13.6	7.6	10.6	1.5
\$10,000 - \$20,000	56	55.4	8.9	7.1	10.7	12.5	5.4
Under \$10,000	25	40.0	20.0	12.0	12.0	4.0	12.0
EMISSIONS INSPECTION ATTITUDE							
Strongly Favor	49	59.2	12.2	12.2	8.2	6.1	2.0
Weakly Favor	33	63.6	12.1	6.1	12.1	3.0	3.0
Weakly Oppose	27	51.9	14.8	7.4	3.7	3.7	18.5
Strongly Oppose	78	51.3	5.1	12.8	6.4	17.9	6.4
TOTAL	195	55.9	9.7	10.8	7.7	9.7	6.2

TABLE 40
ARE EMISSIONS SYSTEMS WORKING PROPERLY? (Question 32)

	N	Percentages			
		Yes	No	Not Applicable	Do Not Know
AGE					
16-24	169	82.2	8.3	0	9.5
25-34	215	80.0	8.4	0.5	11.2
35-54	255	85.5	4.7	0.4	9.4
55+	159	91.8	2.5	0	5.7
SEX					
Male	408	83.8	8.3	0	7.8
Female	390	85.4	3.6	0.5	10.5
GEOGRAPHICAL AREA					
Wayne	178	83.1	7.9	0	9.0
Oakland, Macomb	176	85.2	6.3	0	8.5
Other Detroit SMSA	82	78.0	8.5	0	13.4
Genesee, Ingham, Kent	93	87.1	2.2	1.1	9.7
Other Central SMSA Counties	79	86.1	2.5	0	11.4
Other Suburban SMSA Counties	50	82.0	12.0	0	6.0
Other Counties w/ Cities >15,000	41	87.8	7.3	0	4.9
Rural Counties	100	88.0	3.0	1.0	8.0
INCOME					
Over \$30,000	173	85.5	9.8	0	4.6
\$20,000 - \$30,000	235	88.1	3.0	0	8.9
\$10,000 - \$20,000	242	84.3	6.6	0.4	8.7
Under \$10,000	103	73.8	7.8	1.0	17.5
EMISSIONS INSPECTION ATTITUDE					
Strongly Favor	246	85.8	6.5	0.4	7.3
Weakly Favor	134	86.6	6.0	0	7.5
Weakly Oppose	97	82.5	8.2	0	9.3
Strongly Oppose	239	84.9	6.7	0.4	7.9
TOTAL	799	84.6	6.0	0.3	9.1

TABLE 41
 WHY ARE THE EMISSIONS SYSTEMS BELIEVED
 NOT TO BE WORKING PROPERLY (Question 32a)

	N	Percentages							
		Burning Oil	Visible Smoke	Bad Smell	Missing Parts	Lack Main-tenance	Missing Exhaust System	High Gas Consump	Other
AGE									
16-24	12	0	8.3	8.3	41.7	8.3	16.7	0	16.7
25-34	16	0	6.3	0	31.3	12.5	12.5	0	37.5
35-54	13	7.7	7.7	15.4	30.8	0	7.7	7.7	23.1
55+	4	0	25.0	25.0	50.0	0	0	0	0
SEX									
Male	32	0	6.3	6.3	34.4	9.4	12.5	3.1	28.1
Female	13	7.7	15.4	15.4	38.5	0	7.7	0	15.4
GEOGRAPHICAL AREA									
Wayne	12	0	16.7	16.7	8.3	0	16.7	0	41.7
Oakland, Macomb	11	0	9.1	18.2	54.5	9.1	9.1	0	0
Other Detroit SMSA	7	0	0	0	42.9	14.3	14.3	0	28.6
Genesee, Ingham, Kent	2	0	50.0	0	50.0	0	0	0	0
Other Central SMSA Counties	1	0	0	0	100.0	0	0	0	0
Other Suburban SMSA Counties	5	20.0	0	0	20.0	20.0	0	20.0	20.0
Other Counties w/ Cities >15,000	3	0	0	0	0.33	0	0	0	66.7
Rural Counties	4	0	0	0	50.0	0	25.0	0	25.0
INCOME									
Over \$30,000	15	0	6.7	6.7	46.7	6.7	6.7	6.7	20.0
\$20,000 - \$30,000	6	0	0	0	33.3	0	33.3	0	33.3
\$10,000 - \$20,000	16	0	12.5	18.8	31.3	6.3	6.3	0	25.0
Under \$10,000	8	12.5	12.5	0	25.0	12.5	12.5	0	25.0
EMISSIONS INSPECTION ATTITUDE									
Strongly Favor	14	7.1	14.3	14.3	21.4	7.1	7.1	7.1	21.4
Weakly Favor	7	0	14.3	0	42.9	14.3	28.6	0	0
Weakly Oppose	8	0	0	0	25.0	12.5	25.0	0	37.5
Strongly Oppose	16	0	6.3	12.5	50.0	0	0	0	31.3
TOTAL	45	2.2	8.9	8.9	35.6	6.7	11.1	2.2	24.4

TABLE 42
LEVEL OF EDUCATION (Question 34)

	N	Percentages								
		None	Grade School	Some High School	Finish High School	Voc. School	Some College	Four Year College	Some Grad. Work	Finish Grad. Course
AGE										
16-24	172	0.0	2.3	25.6	30.2	2.3	28.5	7.6	0	3.5
25-34	221	0	0	6.3	29.0	5.4	29.4	16.7	5.9	7.2
35-54	257	0.1	1.9	12.1	37.4	3.5	23.0	9.7	2.3	9.7
55+	154	0	14.3	17.5	31.8	4.5	20.8	2.6	3.2	5.2
SEX										
Male	415	0.2	6.0	15.2	27.5	4.6	24.3	10.4	2.7	9.2
Female	389	0	1.5	13.6	37.8	3.3	26.7	9.3	3.3	4.4
GEOGRAPHICAL AREA										
Wayne	176	0.6	3.4	13.1	31.3	2.8	30.1	8.0	4.5	6.3
Oakland, Macomb	177	0	1.7	16.4	33.9	1.7	24.9	12.4	1.7	7.3
Other Detroit SMSA	84	0	3.6	13.1	41.7	6.0	20.2	6.0	2.4	7.1
Genesee, Ingham, Kent	94	0	2.1	18.1	21.3	6.4	29.8	12.8	0	9.6
Other Central SMSA Counties	80	0	2.5	10.0	35.0	3.8	32.5	6.3	2.5	7.5
Other Suburban SMSA Counties	51	0	5.9	7.8	41.2	5.9	21.6	11.8	3.9	2.0
Other Counties with Cities >15,000	41	0	7.3	4.9	24.4	4.9	24.4	12.2	7.3	14.6
Rural Counties	102	0	8.8	21.6	31.4	4.9	15.7	9.8	4.9	2.9
INCOME										
Over \$30,000	173	0	1.2	9.2	24.3	3.5	24.3	17.3	5.2	15.0
\$20,000 - \$30,000	237	0	2.1	12.2	33.8	2.1	29.1	12.7	2.1	5.9
\$10,000 - \$20,000	245	0.4	5.3	17.6	35.1	4.1	24.5	6.1	2.4	4.5
Under \$10,000	107	0	8.4		35.5	8.4	19.6	1.9	3.7	2.8
EMISSIONS INSPECTION ATTITUDE										
Strongly Favor	251	0.4	3.6	16.3	29.1	3.6	25.9	12.0	2.4	6.8
Weakly Favor	134	0	6.0	17.2	29.9	5.2	21.6	10.4	3.7	6.0
Weakly Oppose	96	0	1.0	14.6	33.3	4.2	25.0	7.3	7.3	7.3
Strongly Oppose	243	0	3.3	10.3	34.2	3.3	29.6	9.1	2.5	7.8
TOTAL	805	0.1	3.9	14.4	32.4	4.0	25.5	9.8	3.1	6.8

APPENDIX B

Respondent Comments on Inspection Programs

Obviously the program (if begun) will find opponents, however, I feel there is a need for such control, at least environmentally. As with many such programs, enforcement will be difficult, but absolutely necessary. Perhaps the area of enforcement ought to be addressed in subsequent questionnaires.

1. Everybody is inspected
2. Those who pass inspection have no charge or a small refund (\$2.00) to reward them for being good conscientious citizens.
3. Those who violate are fined and given a time limit to bring cars up to code. Also, I like the idea of a loan (14a), no more give-a-ways!

All of the controls sound great but---taxes and money! People hate to be made to pay to protect themselves from themselves. There will definitely have to be exceptions made for exempting some people.

Regarding the point of passing a law prohibiting people from using regular gas in a no-lead gas car..mechanically it is not a good idea. In time it would hurt their engine. The prices should be somewhat comparable also, but that's the way it goes. I honestly believe if all these inspection laws were put to the people on a ballot it would be voted down, so we'll see how we are represented by those in higher places.

Many of the questions were answered "no opinion" because there was not provided an option that would express opposition to mandatory emission inspections. Had there been such an opinion, I would have circled it.

The condition of the economy, nor my feelings on more government controls is favorable at the time. It is also my opinion that this could become another "law", poorly written and certainly difficult to enforce, i.e., toothless. If not done well, if at all, only the honest and conscientious would be affected and they probably need the controls least. It would be those finding loopholes or enforcement weaknesses and clunkers that need it most and effected least. This may also be true on the safety inspections, but I feel the potential gain in correcting stupid mistakes and saving lives is worth it.

I have worked in law enforcement for five years. I am a state certified mechanic for the State of Michigan. I do not believe a fair and honest inspection program can be managed by private garages. I think it also difficult to enforce. Above all, when you make a program mandatory you must have an over-seeing power to keep it honest. I would support a state program if it takes this into consideration.

I do not believe that we in outstate Michigan should be penalized for the air pollution in our big cities.

I feel at the price of our license plates and drivers licenses, there should be enough in this fund to pay for any inspections to be made.

I believe a motor vehicle inspection law is unnecessary in view of the limited number of vehicles affected. With the vast number of vehicles on the highways of Michigan, inspection even on an annual basis would be a major undertaking and a very expensive burden on already heavily tax burdened people.

I would consider a vehicle inspection law a general nuisance to the public and the state. Please avoid such legislation.

- 1. The inspection would be nice if the State of Michigan can afford them without additional taxes hidden or otherwise. I am for safety and emission inspections only that way.
- 2. I didn't know that air pollution was that much of a problem. To have to spend large sums of money to police our cars, I think only a few people destroy their catalytic converters, and those who are determined will not be stopped by inspections. Plus, if certain cars are exempted, such as some older cars, then why bother to make people be inspected at all?
- 3. Perhaps if "no-lead" gasoline wasn't so much more expensive than "regular" I'm sure no one would destroy the equipment on their car to control emissions deliberately, but when you can save up to ten cents a gallon, it is probably tempting if money is short as in these inflationary times.

Ticket the guilty. Do not burden the driver or the taxpayers with more bureaucracy. Manufacturers should build a car with these facts in mind. By the time an inspection system is set up most older cars will be off the road. Don't burden every driver for the carelessness and laxity of some.

- 1. New and used car dealers should be required to have vehicles inspected as part of preparation for delivery to purchaser. This ensures inspection of a certain percentage of automobiles on an annual basis and fosters fair dealing in the used vehicle market.
- 2. It would appear that no law enforcement agency in the metropolitan Detroit area presently enforces noise regulations as to motorcycles. Are they too difficult to enforce and prove in court?
- 3. I feel that the public service campaign conducted by Shell Oil over the past couple of years, both in printed and audio-visual media, has been quite valuable in getting the energy conservation message across to the American public. I would suggest a similar common sense-informational presentation of any inspection and pollution program promulgated by the state.

I have lived in Florida for five years and have experienced the inspection stations. I don't like the waiting, the long lines, snobby attendants, \$3 fee, noise inspections or extensive steering inspections. The idea of pollution inspections and vehicle inspections are good ones if they are State funded and well organized. Also, I feel they shouldn't be as strict as Florida's inspections especially noise.

If we clear up our plants in industry the problem could be cleared up at a lower cost to taxpayers. We as a social have greater problems to solve at this time. The cost of this program is too high for the results that we will receive. Spend our tax money in other ways where the results are greater.

I would like to see air pollution and safety inspections done to all vehicles. If the state government were to handle this it will mean many more people hired to do the inspection and the paper work, which will include many "goof-off's" being hired at the taxpayers expense.

- 1. At this stage, I think we must be careful of putting tight limiting restrictions on emissions until scientists come up with a way to solve pollution problems in car engines. Emission systems should not decrease the efficiency of the engine, thus consuming more fuel.
- 2. I also feel cars, as well as trucks and motorcycles, should be required to have good rear mud flaps to keep stones from being thrown at windshields, which is really becoming frequent.

I think that this plan you have here would cost the American taxpayer a lot of money and I don't think the public will go for the idea, especially with the gas shortage upon us. We need car inspections as such, but the average american could not afford to pay from his own pocket with the economy such as it is.

Having lived in New Jersey where the state operates a free vehicle inspection program, and Virginia, where private stations operate the inspection program for a \$2.50 charge, I see two different views. The New Jersey operation is smoothly operated and seemingly honest; your car passes or it doesn't. In Virginia we had a car inspected at a station known for its oversight and the car passed when it really should not have. It had bad tread and non-working headlights. However, in Virginia, when your car is inspected and it doesn't pass, the station can correct the problem right there. Therefore, I endorse the private stations running the state regulated and licensed program.

I feel that we do not need the auto inspection as much as we need more law enforcement. Therefore, I feel that instead of forming a new agency, the money should be appropriated to the law and policing of the automobiles and highways.

Emission systems are fine, but just think how much trouble automobile manufacturers have had just trying to reach standards to sell the cars. If the auto firms had to guarantee emission standards on all cars sold for a six month period, they may be in financial trouble similar to Chrysler's.

Now, if the above would be true, and I think Ralph Nader would agree, how costly do you think the proposal would be to individuals? I don't think it would be inexpensive and in the true sense of the word it would be very costly.

I think the new emissions smell worse than the old ones. You get headaches faster. Also, I think they take more gas and engine problems. Right now gas seems to be the biggest problem.

I believe mobil inspection stations which change their locations regularly would be sufficient. Also, it would keep cost at a minimum. Spot checks are effective. The motorist should be responsible for having his vehicle meet requirements. The problem of noisy vehicles should be handled by area police agencies.

I am strongly opposed to any additional fees, taxes or government regulations. I feel the E.P.A. has caused the current recession, added billions of dollars to the cost of consumer products and should be dissolved. Further, I feel this questionnaire is a waste of time and taxpayer's money.

.....
It is my opinion that the general public is paying an excessive amount out of their pockets for air pollution control right now. This occurs by the regulation placed on the automotive industry in terms of standards, which are neither cost effective nor commensurate with available technology. Because of the forced timing the cost of these vehicle improvements have been excessive and the absolute gain, small. The resultant air quality gains are, I feel, more than offset by the cost increases on cars for these items and the penalty on innovative technology, such as, diesel engines where particulates are a problem in the upcoming years.

In summary, I feel that much of the air pollution assurance has been built in and the average life span of cars are such that the older, dirtier cars are constantly being replaced.

.....
I feel the pollution controls are not now helping. They are causing increased gasoline consumption and poor operation of most U.S. vehicles. I also feel the sulphur gas being emitted cannot be healthful. Are we exchanging one kind of pollution for another?

.....
Why not set up a spot check for those with oil burning, unsafe cars, and have them fixed or get another, or keep them off the road.

.....
There should be a comprehensive safety and motor inspection established which will conserve gas and eliminate dangerous and costly vehicles from our roads. This program should be paid for by the individual auto owners. Special provisions should be made for the poor and disabled. This program is long overdue.

.....
I think the above questionnaire about pollution and safety inspections should be adopted as soon as possible. The safety inspection should start now.

.....
The first concern now should be saving gasoline, (fuel). If a motor is running at its top efficiency and getting its best m.p.g, that should be enough. If some air pollution is still present we should allow it. We should use fewer heavy trucks, and move freight by other means, such as railroads, boats and pipelines.

.....
After working in the State of Florida Auto Registration Office, I know adding more requirements will cause confusion to many. Be sure that employees are schooled well so all can give basic information on these things and not give the people the run-a-round. Opposition to the inspection are:

1. Payola can buy a sticker from some employees.
2. Garages will do unnecessary repairs in the name of inspection necessity.
3. Poorer people will get the blunt. Not people on welfare, but those who are really trying to make it on their own and don't call for help.
4. As long as the insurance company can't use it for additional fee making.

If inspections do come. If yearly registering becomes a birthday month thing, the auto inspection should be in adjacent to registering. Inspection certificate to be shown along with proof of insurance at time of registration yearly. (Florida did not do it this way and many people forget to get it inspected at the proper time, giving the police something else to do.)
.....

I feel the safety program is very good and does get a lot of vehicles off the road that are in great need of repair.

.....

Some of your questions leave little room for a clear choice.

Public policy should be judged by (at least) three main standards: 1) Efficiency, 2) Liberty, and 3) Equity. The equity engendered in many of your proposals is regressive: i.e., poor people would be hit harder by the costs involved. The efficiency factor that is involved in the proposed bureaucracy is horrendous. Lastly, these proposals strip more of my liberty from me.

I attempt to properly maintain my vehicles in the interest of fuel conservation and operating efficiency. Even so, I resent bureaucrats telling me that I now have to do this.

.....

I'm in favor of an emissions inspection as long as the people doing the inspecting are not also doing the repairing. This would lessen the chance of being ripped off by the service stations or by the state.

.....

1. I seriously believe that industrial pollution is a greater contributor than automobiles.
2. I am cynical about any real improvements. There are existing laws supposedly regulating noise (vehicle). Enforcement has been minimal. Why expect new laws to work better?
3. Vehicle emissions reduction may be desirable but fuel economy is more critical. They counteract each other.

.....

It was very difficult for me to answer your questions which were based on the premise of reducing air pollution. How much are you suggesting that should be reduced? Would it be a significant reduction required for public health?

With the current national concern on the elimination of our energy problem and emphasis on returning to coal as a major substitute resource, it seems to me that motor-vehicle pollution problems by comparison are infinitesimal.

I drive approximately 35,000 miles per year and quite frankly, if there is substantial motor-vehicle pollution about me, which is detrimental to the public health, I cannot visually detect it, except on rare occasions, such as bus and truck emissions, which may or may not be a health detriment.

.....

I am really in favor of ridding air pollution and having motor vehicle inspections, but the money for these always falls on the taxpayer. We can't make it now with everything going up but the wages. Another tax increase would wipe us out. So really, even though I am in favor of it for our own safety, I am against it because of the expense.

.....

While emission control is important to our environment, I feel that an inspection program for safety of vehicles is more important at this time. I have seen far too many vehicles in a state of total disrepair on the road and feel that the owners are endangering their own and the lives of others by being allowed to operate said vehicles.

.....

I think that the #1 problem that you should be worried about is gas mileage. If you take emission control devices off a car and put on a good carburetor you would have better mileage. I think mileage first, pollution second, so how about working on both at the same time.

.....
I feel very strongly about having both pollution and safety inspections, very strongly! This is the "motor city" and we're one of the few states that doesn't have "any inspections." Myself, I favor both inspections every six months as it was in Virginia when I was in the service there. It was a real pleasure to drive most of the time, instead of a damn headache as it is to drive in Detroit all the time.

The inspections would eliminate so many cars in this city that the rush hour traffic would be drastically cut and so would gas consumption. In my opinion about 45% of the cars on the road in this state are JUNK and definitely unfit to be on the road and definitely unfit to drive!

So let's completely eliminate this small percent of junks on the road with very, very strict inspections every six months and very high fines for people who drive their junks despite not passing their inspection.

.....
I think it would be a mistake to start an expensive program in Michigan when other states are stopping theirs. What about the poor people who can't afford to drive now. How will you stop the dishonest inspections from grabbing money and passing friends by? Who is going to pay for a program like this?

.....
I'm tired of the average middle income working person getting stuck with all of the expense. No matter how we answer the questions we'll get the expense one way or another. Please whatever you decide to do, use our money wisely, get the best use of it possible. Thank you and may God Bless everyone in our government and help them to use wisdom in whatever they decide.

.....
I don't think air pollution from automobiles is a problem in Berrien County. I believe that centers could be set up to help reduce accidents due to faulty equipment. But I think that people are the main cause of auto accidents not the vehicle itself. Centers should be set up to teach people Driving Defensively to Stay Alive!

.....
I don't really feel air pollution is a great problem in Michigan - other than a few industrial areas. Our existing laws on vehicle pollution are enough to cope with problems - if enforced by local police agencies.

.....
I'm sure state operated inspection centers would do the best job and would be free of influence; however, the cost of setting up such a system with all the side costs would be huge.

If it had to be done we might as well pay for it and consider it part of the cost of driving. If the oil situation continues to get worse - it might solve the whole problem for us.

.....
I am really all for car safety and pollution checks. It's just that I can't afford either. I can't even afford to drive my car in safe running condition.

In reference to the question on locations of the proposed inspection stations, I believe that they should be within a certain radius for the purpose of making them convenient for persons in the community. It could be done by appointing certain service stations, in an area, with the duty of inspecting vehicles for the state. In big cities, the stations can be appointed to serve members of a precinct, (or the general public), and in rural areas, by district or county. In other words, place them in a location that people can drive to using the least amount of energy.

Mass transportation may be another alternative, (for persons in large cities) however, it must be effective and not too costly for tax payers. In my opinion, I think one is needed in Detroit.

.....
We have a foundry in our city which has pollution control installed and I work right next to it and there is more pollution coming from it than the cars in our area. I think that these tests should include everybody; factories, foundries and small companies.

.....
If the state wants to do something about air pollution they should begin with the factories. The pollution they put out doesn't even compare with that of cars. They clean up the cars and we're still going to die from Ford Rouge Plant, Great Lakes, and Wyandotte Chemical. These are only a few in my area. I see what they have done to Lake Erie and the Detroit River also. That is my drinking water.

.....
These type polls should be publicized as to inform the public whether or not vehicle inspections are preferred by majority, having taken time to answer this questionnaire.

.....
I think it's a very good idea to stop or at least slow down pollution. I know of several cities where the whole situation is already out of control. Our problem is affecting all of us and it's not getting any better as the days go on. I feel there is a drastic need to eliminate this crucial problem.

.....
Vehicle emissions reduction may be desirable but fuel economy is more critical. They counteract each other.

.....
Spot safety checks are ok NOT mandatory ones.

.....
A comprehensive safety and motor inspection to conserve gas and eliminate dangerous vehicles should be established and it should be paid for by auto owners.

.....
I do consider yearly inspections with inspection stickers on cars inspected vital. That way any unsafe car would be illegal to operate on the road. This is very effective in Texas for example, where I've lived previously.

.....
Should re-evaluate the catalytic converters in the light of the gas problems.

APPENDIX C
The Telephone Questionnaire
and Respondent Letter

STATE OF MICHIGAN



WILLIAM G. MILLIKEN, GOVERNOR

DEPARTMENT OF TRANSPORTATION

TRANSPORTATION BUILDING, 425 WEST OTTAWA PHONE 517-373-2090
POST OFFICE BOX 30050, LANSING, MICHIGAN 48909

JOHN P. WOODFORD, DIRECTOR

Your name has been randomly selected from a statewide sample of Michigan drivers for a public opinion survey concerning air pollution and a possible motor vehicle inspection program in Michigan. Within a few days you will receive a call from a telephone interviewer at the University of Michigan.

I am writing to you now because many people like to be informed ahead of time that they have been chosen to participate in such a research survey. The interview should take about ten minutes. If by chance you receive the telephone call at an inconvenient time, please tell the interviewer and he or she will be happy to call back later.

Motor vehicle exhausts contribute to air pollution which sometimes occurs in parts of Michigan. To reduce air pollution to acceptable health levels, the federal government has required engines in recent model cars to be equipped with catalytic converters or other devices. When properly maintained, these exhaust emissions control devices have greatly reduced automotive air pollution.

In spite of these improvements, some areas of Michigan will probably not reach the federal air pollution standards by the target year of 1982. Therefore, some areas of Michigan will be required to have a yearly vehicle emissions inspection program to identify polluting vehicles and to require owners to bring them to the minimum emissions standards for vehicles of that model year. In preliminary planning for such a program, the Department of Transportation is also considering the possibility of making the program applicable statewide, and also including safety and noise inspections in the program.

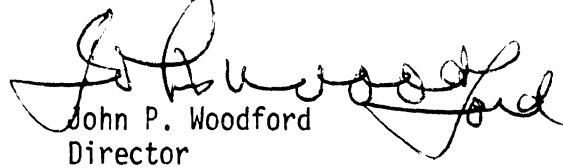
In order to develop an inspection program plan which best suits the drivers of Michigan, we need your advice. This is a unique opportunity for you to influence governmental decisions which will affect you. Participation in this survey is voluntary, but I hope you will be willing to answer the interviewer's questions



when you are called. Even if you do not have definite opinions on some of these issues, we would also like to know that so the survey report can accurately represent the attitudes of all groups of Michigan drivers.

Please note that your answers will be treated completely confidentially. If you have any further questions about this survey, please feel free to contact the Project Director, Dr. Arthur Wolfe, at (313) 764-0248.

Sincerely,



John P. Woodford
Director

Highway Safety Research Institute
University of Michigan
April 1979

TELEPHONE QUESTIONNAIRE

ID No. _____ [1-3]

County _____ [4-5]

Michigan Vehicle Inspection Program

Year/Sex _____ [6-8]

Hello, this is _____ at the University of Michigan in _____ City Size _____ [9]
Ann Arbor. I'm calling you as part of a survey of Michigan drivers
concerning air pollution and a possible state motor vehicle inspection
program. You should have received a letter about this survey from the
state Director of Transportation. Do you remember getting this letter? 1 YES
2 NO [10]

1. First, have you personally ever been bothered by air pollution in the
county where you live?

YES 5 NO → (go to Q2)

1a. In the past year would you say you have been bothered a lot, some,
not much, or not at all? [11]

1 A LOT 2 SOME 3 NOT MUCH 4 NOT AT ALL

2. How widespread do you think the air pollution problem in Michigan is? Would
you say that air pollution is a serious problem nowhere in Michigan, or only
in a few big cities, or throughout southern Michigan, or all over the state?

1 NOWHERE 2 BIG CITIES 3 SOUTHERN MICH. 4 STATEWIDE 8 DK, NO OPINION [12]

3. You probably know that using regular gas in cars designed for no-lead gas
increases the air pollution from such cars. Do you favor or oppose a
law prohibiting motorists from using regular gas in no-lead cars?

1 FAVOR 2 OPPOSE 8 DK, NO OPINION [13]

4. (As mentioned in the letter,) the state is thinking about reducing air
pollution by setting up yearly inspections of Michigan motor vehicles to
test their exhaust emissions and to require owners to fix those engines
which are causing too much air pollution. In trying to decide if such a
vehicle inspection program is desirable, one has to think about the value
of reducing air pollution against the total program costs in time, travel,
inspection fees, and repairs. What is your general opinion? Do you
favor or oppose a required emissions inspection program in your county?

1 FAVOR 2 OPPOSE 30 DEPENDS → (go to Q5) 80 DK, NO OPINION → (go to Q5) [14-15]

4a. Do you feel strongly about that, or not very strongly?

1 STRONGLY 2 NOT VERY STRONGLY [15]

5. Another idea which has been mentioned for reducing air pollution in some
places is to prohibit parking in certain areas with heavy air pollution in
order to encourage people to use public transportation. If you had to choose
between a no parking program and an emissions testing program, which would
you prefer?

1 NO PARKING 2 EMISSIONS INSPECTION 3 NEITHER 4 BOTH 8 DK, NO OPINION [16]

6. In thinking about a possible exhaust emissions inspection program for Michigan there are a number of decisions which would have to be made about how the program might work. One choice has to do with licensing a large number of private garages and service stations to do the inspections, or with setting up a limited number of new state stations to do the inspections. Do you think it would be better to set up special state inspection stations, or to license private garages to do the inspections?

1 STATE STATIONS 2 PRIVATE GARAGES AND SERVICE STATIONS 800 DK, NO OPIN. (go to Q7) [17-19]

6a. Why do you feel that way? _____

[18,19]

7. If an emissions inspection program is set up, do you favor or oppose including buses and large trucks in the program?

1 FAVOR 2 OPPOSE 8 DK, NO OPINION [20]

8. If an emissions inspection program is set up, do you think it should be required statewide, or only in the areas with the worst pollution problems?

1 STATEWIDE 2 WORST AREAS 80 DK, NO OPINION (go to Q9) [21-22]

8a. Do you feel strongly about that, or not very strongly?

1 STRONGLY 2 NOT VERY STRONGLY [22]

9. What do you think would be a reasonable longest distance for someone in your area to have to drive for an emissions inspection?

_____ MILES 98 DK, NO OPINION [23-24]

10. What do you think would be a reasonable longest time for someone to spend at the inspection station waiting and getting inspected?

_____ MINUTES 998 DK, NO OPINION [25-27]

11. What do you think would be a reasonable inspection fee, or do you think the inspection should be paid for by other state funds?

\$ _____ DOLLARS 00 FREE, OTHER FUNDS 98 DK, NO OPINION [28-29]

12. If a vehicle did not meet the emissions standards for vehicles of its age and type, what do you think would be a reasonable length of time to give the owner to get the emissions system working properly?

_____ DAYS 98 DK, NO OPINION [30-31]

13. It has been suggested that some older cars should be exempted from having to repair their emissions systems if the repair cost was a large percentage of the vehicle's value. Do you favor or oppose this idea?

1 FAVOR 200 OPPOSE →(go to Q14) 800 DK, NO OPINION →(go to Q14) [32-34]

13a. What percentage of the vehicle's value should the repair cost be in order to be exempted?

(at least) _____% 98 DK, NO OPINION [33-34]

14. If a vehicle owner could not afford to pay the costs of repairing the emissions system, do you think the vehicle should be exempted from the emissions requirements, or should the state set up a special fund for the repair of such vehicles, or should the vehicle be taken off the road, or what?

10 EXEMPTED 2 STATE FUND 30 TAKEN OFF ROAD →(go to Q15) 80 DK →(go to Q15) [35-36]
(go to Q15) 40 OTHER: _____ →(go to Q15)

14a. Should this be a loan fund which the owner has to pay back, or should it be a welfare grant?

1 LOAN 2 WELFARE GRANT 3 DEPENDS 8 DK, NO OPINION [36]

15. Who do you think could be trusted more to do a proper emissions test, inspectors in state-operated stations or inspectors in state-licensed garages and service stations, or don't you think there would be any difference?

1 STATE INSPECTORS 2 PRIVATE INSPECTORS 3 NO DIFFERENCE 8 DK, NO OPIN. [37]

16. Now I have a question about safety inspections. As you probably know, many other states require regular safety inspections of their registered vehicles for such components as lights, brakes, steering, and tires. Do you favor or oppose such a regular safety inspection program for Michigan?

1 FAVOR 2 OPPOSE 80 DK, NO OPINION →(go to Q17) [38-39]

16a. Do you feel strongly about that, or not very strongly?

1 STRONGLY 2 NOT VERY STRONGLY [39]

17. Some states have combined programs of inspection for both safety and emissions? Do you favor or oppose such a combined program for Michigan?

1 FAVOR 2 OPPOSE 8 DK, NO OPINION [40]

18. A combined emissions and safety inspection would cost somewhat more than an emissions inspection alone. What do you think would be a reasonable combined inspection fee, or do you think the combined inspection should be paid for by other state funds?

\$ _____ DOLLARS 00 FREE, OTHER FUNDS 98 DK, NO OPINION [41-42]

19. How much do you think required vehicle safety inspections would reduce motor vehicle accidents in Michigan: a lot, some, or not much?

1 A LOT 2 SOME 3 NOT MUCH 8 DK, NO OPINION [43]

20. It has also been suggested that an inspection program should include testing of vehicle noise and should make any noisy vehicles be fixed. Do you favor or oppose required state testing of motor vehicle noise?

1 FAVOR 2 OPPOSE 80 DK, NO OPINION →(go to Q21) [44-45]

20a. Do you feel strongly about that, or not very strongly?
1 STRONGLY 2 NOT VERY STRONGLY [45]

21. Are you ever disturbed by the noise made by individual noisy vehicles?

YES 77 NO →(go to Q22)

21a. What types of vehicles disturb you the most?
1 TRUCKS 2 MOTORCYCLES 3 HOT RODS 4 SNOWMOBILES 88 DK, NONE [46,47]
5 OTHER: _____

22. How strictly do you think state rules on motor vehicle noise should be enforced: very strictly, somewhat strictly, or not very strictly?

1 VERY STRICTLY 2 SOMEWHAT STRICTLY 3 NOT VERY STRICTLY 8 DK, NO OPIN. [48]

23. Another idea which has been suggested is that the state should set up special diagnostic centers where motorists could pay to have problems with their motor vehicles diagnosed by impartial certified mechanics before taking them to private garages for repair. Such a center could also be used by people buying a new or used car to check for defects. Do you favor or oppose the state setting up such diagnostic centers?

1 FAVOR 2 OPPOSE 8 DK, NO OPINION [49]

24. Now I have a few background questions about your household and its vehicles. How many licensed drivers are there in your household?

_____ NUMBER [50]

25. How many personal motor vehicles of what types are owned by your household?

CARS _____ [51]
VANS, PICKUPS, JEEPS . . _____ [52]
MOTORCYCLES. _____ [53]
OTHER: _____ [54]

26. What is the model year of the (oldest) vehicle? _____ YEAR [55-56]

27. Would you say this vehicle is in safe operating condition now, or that there are some safety components which need repair?

100 SAFE NOW →(go to Q28) 2 REPAIRS NEEDED 800 DK, CAN'T SAY →(go to Q28) [57-59]

27a. What components are these? _____ [58,59]

28. What do you think are the main types of vehicle defects which sometimes contribute to accidents?

_____ [60,61,62]

29. Have you ever had occasion to use regular gasoline in a vehicle designed to use no-lead gasoline?

1 YES 5 NO 8 DK, NOT SURE [63]

30. How closely would you say you follow your owner's manual for regular service and maintenance of your vehicle(s): very closely, somewhat closely, or not very closely?

1 VERY CLOSELY 2 SOMEWHAT CLOSELY 300000 NOT VERY CLOSELY →(go to Q31) [64-69]
800000 DON'T KNOW →(go to Q31)

30a. About how often do you get your (oldest) vehicle tuned up?

_____ MILES or _____ MONTHS 99998 DK [65-69]

31. Do you (or does someone else in your household) do routine maintenance and repair of your vehicle(s), or do you usually have it done by a garage or service station?

1 SELF 20000 SOMEONE ELSE →(go to Q32) 30000 GARAGE, ETC. →(go to Q32) [70-74]

31a. Do you consider the emissions control devices when you do a tune-up?

1 YES 3 SOMEWHAT 5 NO 8 DK, NOT SURE [71]

31b. If your vehicle exhaust system needed a major repair to meet the emissions standards, how likely is it that you would be able to make the repair yourself: very likely, somewhat likely, or not very likely?

1 VERY LIKELY 2 SOMEWHAT LIKELY 3 NOT VERY LIKELY 8 DK [72]

31c. Do you check your vehicle's brakes during the course of normal maintenance?

1 YES 3 SOMETIMES 50 NO →(go to Q32) [73-74]

31d. How do you check the brakes? _____ [74]

32. Do you believe that your vehicle(s)' emissions control systems are working properly now?

10 YES → (go to Q33) 5 NO 80 DK → (go to Q33)

[75-76]

32a. Why is that? _____

[76]

33. Finally I have three background questions for statistical purposes.
In what year were you born?

_____ YEAR 77 REFUSED

[77-78]

34. What is the highest level of education you have completed?

1 NO FORMAL EDUCATION 2 GRADE SCHOOL ONLY 3 SOME HIGH SCHOOL

[79]

4 COMPLETED HIGH SCHOOL 5 VOCATIONAL SCHOOL 6 SOME COLLEGE

7 COMPLETED A FOUR-YEAR COLLEGE 8 SOME GRADUATE WORK

9 COMPLETED A GRADUATE DEGREE 0 REFUSED TO SAY

35. In what category does your total yearly family income fall, before taxes?
Would you say it is more or less than \$20,000?

MORE
↓

LESS
↓

8 REFUSED TO SAY

35a. Is it more or less than \$30,000?

1 MORE 2 LESS 3 REFUSED

35b. Is it more or less than \$10,000?

4 MORE 5 LESS 6 REFUSED

[80]

Thank you very much for taking the time to be in this survey.

APPENDIX D
The Mail Questionnaire
and Respondent Letters

First Letter to Mail Respondents (June 25, 1979)
STATE OF MICHIGAN



WILLIAM G. MILLIKEN, GOVERNOR
DEPARTMENT OF TRANSPORTATION

TRANSPORTATION BUILDING, 425 WEST OTTAWA PHONE 517-373-2090
POST OFFICE BOX 30050, LANSING, MICHIGAN 48909

JOHN P. WOODFORD, DIRECTOR

Your name has been randomly selected from a statewide sample of Michigan drivers for a public opinion survey concerning air pollution and a possible motor vehicle inspection program in Michigan. I am writing to ask your cooperation in completing and mailing the short enclosed questionnaire in the postage-paid envelope as soon as possible.

Motor vehicle exhausts contribute to air pollution which sometimes occurs in parts of Michigan. To reduce air pollution to acceptable health levels, the federal government has required engines in recent model cars to be equipped with catalytic converters or other devices. When properly maintained, these exhaust emissions control devices have greatly reduced automotive air pollution.

In spite of these improvements, some areas of Michigan will probably not reach the federal air pollution standards by the target year of 1982. Therefore, some areas of Michigan will be required to have a yearly vehicle emissions inspection program to identify polluting vehicles and to require owners to bring them to the minimum emissions standards for vehicles of that model year. In preliminary planning for such a program, the Department of Transportation is also considering the possibility of making the program applicable statewide, and also including safety and noise inspections in the program.

In order to develop an inspection program which best suits the drivers of Michigan, we need your advice. This is a unique opportunity for you to influence governmental decisions which will affect you. For the results to accurately represent the opinions of all groups of Michigan drivers, it is important that each questionnaire be returned. So please complete the questionnaire even if you don't have strong opinions on some questions.

Please note that your answers will be treated completely confidentially. The questionnaire has an identification number only so that we may check your name off the mailing list when it is returned. Your name will never be placed on the questionnaire, and your answers will not be identified individually. They will be combined with all the answers to make a statistical report on Michigan public opinion concerning motor vehicle emissions inspections.

If you have any further questions about this survey, please feel free to contact the Project Director, Dr. Arthur Wolfe, at the University of Michigan. The telephone number is (313) 764-0248.

Sincerely,

A handwritten signature in cursive script that reads "John P. Woodford".

John P. Woodford
Director



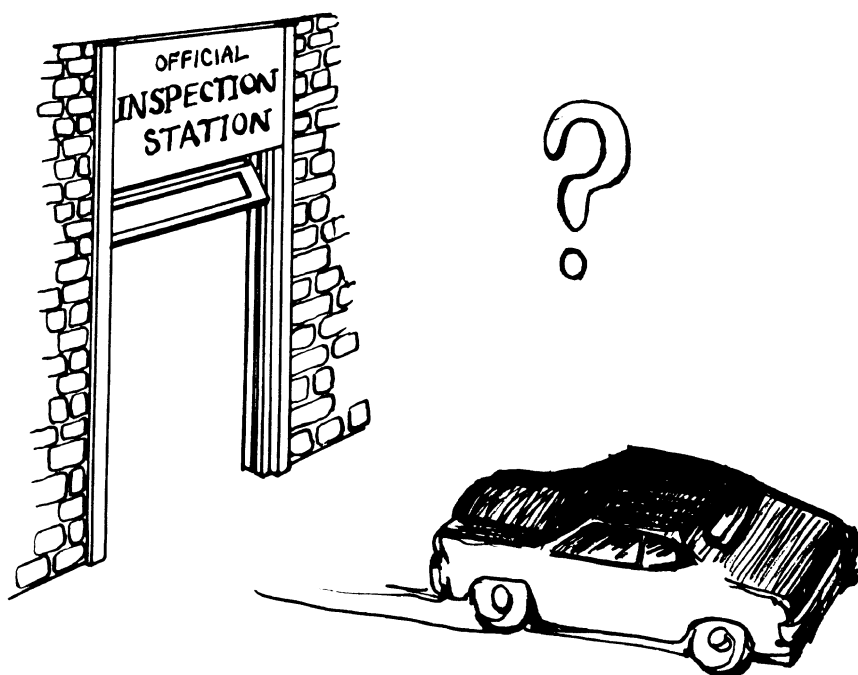
Enclosure

An Equal Opportunity Employer

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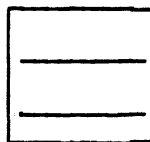
SURVEY OF MICHIGAN DRIVERS
CONCERNING MOTOR VEHICLE INSPECTIONS

A BRIEF QUESTIONNAIRE



Sponsored by: Michigan Department of Transportation

Survey Director: Dr. Arthur C. Wolfe
111 H.S.R.I.
University of Michigan
Ann Arbor, Mich. 48109
Tel. (313) 764-0248



DIRECTIONS: For most of the following questions please circle the number in front of your answer choice. On a few questions you will need to fill in a blank line or write out an answer in your own words.

1. Have you personally ever been bothered by air pollution in the county where you live?

- 11 YES
- 5 NO → (go to Q.2)

1a. In the past year would you say you have been bothered by air pollution:

- 1 A LOT [11]
- 2 SOME
- 3 NOT MUCH
- 4 NOT AT ALL ?

2. How widespread do you think the air pollution problem in Michigan is? Would you say that air pollution is a serious problem: (circle one answer)

- 1 NOWHERE IN MICHIGAN
- 2 ONLY IN A FEW BIG CITIES
- 3 THROUGHOUT SOUTHERN MICHIGAN
- 4 ALL OVER THE STATE ?
- 8 DON'T KNOW, NO OPINION [12]

3. You probably know that using regular gas in cars designed for no-lead gas increases the air pollution from such cars. Do you favor or oppose a law prohibiting motorists from using regular gas in no-lead cars?

- 1 FAVOR
- 2 OPPOSE
- 8 NO OPINION [13]

4. As mentioned in the letter, the state is thinking about reducing air pollution by setting up yearly inspections of Michigan motor vehicles to test their exhaust emissions and to require owners to fix those engines which are causing too much air pollution. In trying to decide if such a vehicle inspection program is desirable, one has to think about the value of reducing air pollution against the total program costs in time, travel, inspection fees, and repairs. What is your general opinion? Do you favor or oppose a required emissions inspection program in your county?

- 1 FAVOR
- 2 OPPOSE
- 8 NO OPINION → (go to Q.5) [14-15]

4a. Do you feel strongly about that, or not very strongly?

- 1 STRONGLY
- 2 NOT VERY STRONGLY [15]

5. Another idea which has been mentioned for reducing air pollution in some places is to prohibit parking in certain areas with heavy air pollution in order to encourage people to use public transportation. If you had to choose between a no parking program and an emissions testing program, which would you prefer?

- 1 NO PARKING
- 2 EMISSIONS INSPECTION
- 8 NO OPINION [16]

6. In thinking about a possible exhaust emissions inspection program for Michigan there are a number of decisions which would have to be made about how the program might work. One choice has to do with licensing a large number of private garages and service stations to do the inspections, or with setting up a limited number of new state stations to do the inspections. Do you think it would be better to set up special state inspection stations, or to license private garages to do the inspections?

- 1 STATE STATIONS 800 NO OPINION → (go to Q.7)
- 2 PRIVATE GARAGES AND SERVICE STATIONS [17-19]

6a. Why do you feel that way? _____ [18,19]

7. If an emissions inspection program is set up, do you favor or oppose including buses and large trucks in the program?

- 1 FAVOR 8 NO OPINION [20]
- 2 OPPOSE

8. If an emissions inspection program is set up, do you think it should be required statewide, or only in the areas with the worst pollution problems?

- 1 STATEWIDE 80 NO OPINION → (go to Q.9) [21-22]
- 2 WORST POLLUTION AREAS ONLY

8a. Do you feel strongly about that, or not very strongly?

- 1 STRONGLY [22]
- 2 NOT VERY STRONGLY

9. What do you think would be a reasonable longest distance for someone in your area to have to drive for an emissions inspection?

_____ MILES 98 NO OPINION [23-24]

10. What do you think would be a reasonable longest time for someone to spend at the inspection station waiting and getting inspected?

_____ MINUTES 998 NO OPINION [25-27]

11. What do you think would be a reasonable inspection fee, or do you think the inspection should be paid for by other state funds?

\$ _____ DOLLARS 98 NO OPINION [28-29]

00 FREE, OTHER STATE FUNDS

12. If a vehicle did not meet the emissions standards for vehicles of its age and type, what do you think would be a reasonable length of time to give the owner to get the emissions system working properly?

_____ DAYS 98 NO OPINION [30-31]

13. It has been suggested that some older cars should be exempted from having to repair their emissions systems if the repair cost was a large percentage of the vehicle's value. Do you favor or oppose this idea?

- 1 FAVOR
 - 2 OPPOSE → (go to Q.14)
 - 800 NO OPINION → (go to Q.14)
- [32-34]

13a. What percentage of the vehicle's value should the repair cost be in order to be exempted?

- (at least) _____ PER CENT
 - 98 NO OPINION
- [33-34]

14. If a vehicle owner could not afford to pay the costs of repairing the emissions system, do you think the vehicle should be exempted from the emissions requirements, or should the state set up a special fund for the repair of such vehicles, or should the vehicle be taken off the road, or what?

- 10 EXEMPTED → (go to Q.15)
 - 2 SPECIAL STATE FUND
 - 30 TAKEN OFF THE ROAD → (go to Q.15)
 - 40 OTHER: _____ → (go to Q.15)
 - 80 NO OPINION → (go to Q.15)
- [35-36]

14a. Should this be a loan fund which the owner has to pay back, or should it be a welfare grant?

- 1 LOAN
 - 2 WELFARE GRANT
 - 8 NO OPINION
- [36]

15. Who do you think could be trusted more to do a proper emissions test, inspectors in state-operated stations or inspectors in state-licensed garages and service stations, or don't you think there would be any difference?

- 1 STATE INSPECTORS
 - 2 PRIVATE INSPECTORS
 - 3 NO DIFFERENCE
 - 8 NO OPINION
- [37]

16. Now we have a question about safety inspections. As you probably know, many other states require regular safety inspections of their registered vehicles for such components as lights, brakes, steering, and tires. Do you favor or oppose such a regular safety inspection program for Michigan?

- 1 FAVOR
 - 2 OPPOSE
 - 80 NO OPINION → (go to Q.17)
- [38-39]

16a. Do you feel strongly about that, or not very strongly?

- 1 STRONGLY
 - 2 NOT VERY STRONGLY
- [39]

17. Some states have combined programs of inspection for both safety and emissions. Do you favor or oppose such a combined program for Michigan?

- 1 FAVOR
 - 2 OPPOSE
 - 8 NO OPINION
- [40]

24. Now there are a few background questions about your household and its vehicles? How many licensed drivers are there in your household?

_____ NUMBER [50]

25. How many personal motor vehicles of what types are owned by your household?

CARS _____ NUMBER [51]

VANS, PICKUPS, JEEPS, UTILITY VEHICLES . . _____ NUMBER [52]

MOTORCYCLES _____ NUMBER [53]

OTHER: _____ NUMBER [54]

26 What is the model year of the oldest vehicle? _____ YEAR [55-56]

27. Would you say that this vehicle is in safe operating condition now, or that there are some safety components which need repair?

100 SAFE NOW →(go to Q.28) 800 DON'T KNOW →(go to Q.28) [57-59]

↓ 2 REPAIRS NEEDED

27a. What components are these? _____ [58,59]

28. What do you think are the main types of vehicle defects which sometimes contribute to accidents?

_____ [60,61,62]

29. Have you ever had occasion to use regular gasoline in a vehicle designed to use no-lead gasoline?

1 YES 8 DON'T KNOW, NOT SURE [63]
5 NO

30. How closely would you say you follow your owner's manual for regular service and repair of your vehicle(s)?

1 VERY CLOSELY 800000 DON'T KNOW →(go to Q.31) [64-69]
2 SOMEWHAT CLOSELY
300000 NOT VERY CLOSELY →(go to Q.31)

30a. About how often do you get your oldest vehicle tuned up?

_____ MILES or _____ MONTHS 99998 DON'T KNOW [65-69]

31. Do you, or does someone else in your household, do routine maintenance and repair of your vehicle(s), or do you usually have it done by a garage or service station?

- 1 DO IT MYSELF
- 20000 DONE BY SOMEONE ELSE IN HOUSEHOLD OR BY FRIEND →(go to Q.32)
- 30000 DONE BY PRIVATE GARAGE OR SERVICE STATION →(go to Q.32) [70-74]
- 80000 DON'T KNOW →(go to Q.32)

31a. Do you consider the emissions control devices when you do a tune-up?

- 1 YES
- 3 SOMEWHAT
- 5 NO
- 8 DON'T KNOW [71]

31b. If your vehicle exhaust system needed a major repair to meet the emissions standards, how likely is it that you would be able to make the repair yourself?

- 1 VERY LIKELY
- 2 SOMEWHAT LIKELY
- 3 NOT VERY LIKELY
- 8 DON'T KNOW [72]

31c. Do you check your vehicle's brakes during the course of normal maintenance?

- 1 YES [73-74]
- 3 SOMETIMES
- 50 NO →(go to Q.32)

31d. How do you check the brakes? _____ [74]

32. Do you believe that your vehicles' emissions control systems are working properly now?

- 10 YES →(go to Q.33)
- 5 NO
- 80 DON'T KNOW →(go to Q.33) [75-76]

32a. Why is that? _____ [76]

33. Finally there are 3 background questions for statistical purposes. In what year were you born?

_____ YEAR [77-78]

34. What is the highest level of education you have completed?

- 1 NO FORMAL EDUCATION
 - 2 GRADE SCHOOL ONLY
 - 3 SOME HIGH SCHOOL
 - 4 COMPLETED HIGH SCHOOL
 - 5 VOCATIONAL SCHOOL
 - 6 SOME COLLEGE
 - 7 COMPLETED A FOUR-YEAR COLLEGE
 - 8 SOME GRADUATE WORK
 - 9 COMPLETED A GRADUATE DEGREE
- [79]

35. In which of the four categories below does your total yearly family income fall, before taxes?

- 5 LESS THAN \$10,000
 - 4 \$10,000-\$20,000
 - 2 \$20,000-\$30,000
 - 1 OVER \$30,000
- [80]

Is there anything else you would like to say about the problem of air pollution or about motor vehicle inspections, or do you have any suggestions concerning appropriate questions to include in a future questionnaire on this topic? If so, please use the space below for these additional comments.

THANK YOU VERY MUCH FOR EXPRESSING YOUR VIEWS ON THESE ISSUES OF GREAT IMPORTANCE TO YOUR STATE GOVERNMENT AND TO ALL OF THE CITIZENS OF MICHIGAN.

Reminder Postcard to All Mail Respondents

June 30, 1979

Dear Michigan Driver:

Last week a questionnaire seeking your opinion about air pollution and motor vehicle inspection was mailed to you. Your name was drawn from a random sample of Michigan drivers.

If you have already filled out the questionnaire, please accept our sincere thanks. If you have not done so yet, please do it today. Because the questionnaire has been sent to only a small, but representative, sample it is extremely important that your opinions be included if the study results are to accurately represent the opinions of Michigan drivers.

If by some chance you did not receive the questionnaire, or if it has been misplaced, please call me collect and I will get another one in the mail to you immediately (313-764-0248).

Sincerely,

Arthur C. Wolfe
Project Director

Second Letter to Some Mail Respondents

111 H.S.R.I.

THE UNIVERSITY OF MICHIGAN

Ann Arbor, Mich. 48109

July 18, 1979

On June 25 you were sent a letter from the Michigan Director of Transportation seeking your opinions on a motor vehicle emissions inspection program for Michigan. As of today we have not received your completed questionnaire.

The purpose of this survey is to find out how the people of Michigan feel about motor vehicle inspections and what kind of an inspection program would be most suitable to Michigan motorists. I am writing to you now because of the significance each questionnaire has to the usefulness of this study. Your name was randomly selected by a scientific probability procedure from the Michigan driver file, and if the survey results are to be truly representative of all Michigan drivers it is important that your opinions be included. I hope you will be able to send in your completed questionnaire right away.

If you can not find the questionnaire which was mailed to you last month, please call me collect at (313) 764-0248 and I will mail another one to you immediately.

Your cooperation is greatly appreciated.

Sincerely,

Arthur C. Wolfe
Survey Director

P.S. If your completed questionnaire has crossed in the mail with this letter, I apologize for writing to you again. Thank you very much for your assistance to this survey.

Second Letter to Other Mail Respondents
111 H.S.R.I.

THE UNIVERSITY OF MICHIGAN
Ann Arbor, Mich. 48109

July 18, 1979

On June 25 you were sent a letter from the Michigan Director of Transportation seeking your opinions on a motor vehicle emissions inspection program for Michigan. As of today we have not received your completed questionnaire.

The purpose of this survey is to find out how the people of Michigan feel about motor vehicle inspections and what kind of an inspection program would be most suitable to Michigan motorists. I am writing to you now because of the significance each questionnaire has to the usefulness of this study. Your name was randomly selected by a scientific probability procedure from the Michigan driver file, and if the survey results are to be truly representative of all Michigan drivers it is important that your opinions be included. I hope you will be able to send in your completed questionnaire right away.

In case your first questionnaire has been misplaced, a replacement is enclosed with another postage-free envelope. If you have any questions about this survey, please feel free to call me collect at (313) 764-0248.

Your cooperation is greatly appreciated.

Sincerely,

Arthur C. Wolfe
Survey Director

P.S. If your completed questionnaire has crossed in the mail with this letter, I apologize for writing to you again. Thank you very much for your assistance to this survey.

Third Letter to Mail Respondents

111 H.S.R.I.
THE UNIVERSITY OF MICHIGAN
Ann Arbor, Mich. 48109

August 2, 1979

I am writing to you again about our public opinion survey concerning motor vehicle inspections for the Michigan Department of Transportation. As of this date we have not received your completed questionnaire. I am using certified mail to make sure that this letter and questionnaire are delivered to you.

The large number of questionnaires returned so far is very encouraging. But, whether we will be able to describe accurately how Michigan drivers feel about motor vehicle emissions inspections depends on you and others who have not yet responded. This is because our past experience suggests that those of you have not yet sent in your questionnaires may hold somewhat different opinions from those who have already replied.

The Michigan Department of Transportation is anxious to obtain a representative sampling of opinions from all types of Michigan drivers as it tries to decide what kind of a vehicle inspection program, if any, is most appropriate for Michigan. We need your opinions to make our sample truly representative. So PLEASE take a few minutes to fill out the questionnaire and return it in the postage-free envelope as soon as possible.

Sincerely,

Arthur C. Wolfe
Survey Director

P.S. If your completed questionnaire has crossed in the mail with this letter, I apologize for writing to you again. Thank you very much for your assistance to this survey.

APPENDIX E

FURTHER METHODOLOGICAL NOTES

This appendix is intended as an elaboration of Section 2 of this report with further explanation and evaluation of the operational procedures used in the survey. It includes a summary description of the operational procedures, a brief discussion of the results of the telephone part of the survey, and a more extensive discussion of the mail part of the survey--including two methodological experiments in mailing procedures and the use of certified letters in the final mailing.

Survey Operational Procedures

The sample information on the 1024 randomly selected drivers was provided by the Michigan Department of State in a computer printout using capital letters. After subselecting the sample to 999 drivers in order to permit a three-digit identification number the first operational step was to type this information into a computer file using conventional lower and upper case letters. Each sampled driver had a five-line record--name, street address, city-state-zip code, salutation (Dear Mr. or Ms.... depending on the sex indicated on the printout), and demographic information (county, date of birth, sex). The computer was then used to generate a unique identification number for each case and also other information such as age on May 1, county name, county size, and telephone area code. These items were added to the fifth line of each case.

The next step was to create a one-page Control Form for each potential respondent (copy attached) via the Statistical Research Laboratory's TEXTEDIT program. Then a special program had to be written using the computer file for the sample to fill in the name and address and other useful information on a separate Control Form for each sampled driver. The last digit of the identification number was used to divide the sample into ten random groups, and Groups 2, 6, and 7 were randomly chosen as a reserve sample to be surveyed only by mail and only if sufficient funds were available after conducting the telephone survey with the other seven groups.

In order to obtain telephone numbers for these 699 respondents two procedures were used. First the current telephone directory was consulted if it was available in the Ann Arbor Public Library. If a telephone listing was not found there, Directory Assistance services were used. These procedures led to ascertaining 433 telephone numbers for the 699 drivers in the telephone sample. Respondent letters from Michigan Director of Transportation John Woodward were sent to Group 0 on May 8, Groups 2 and 3 on May 11, Groups 4 and 5 on May 21, and Groups 8 and 9 on May 30. A training session was held with five of the six telephone interviewers on May 9, and appropriate Control Forms were distributed to them shortly after each mailing so that they could proceed with interviewing their assigned drivers. Most interviewing was completed by mid-June, but some continued into early July--particularly because one interviewer found that she didn't have enough time to handle her assigned number of cases. The interviewers were borrowed from the University of Michigan Institute for Social Research but were paid directly by the Highway Safety Research Institute.

On Wednesday, June 27, mail questionnaires along with a cover letter from John Woodward were sent to the 266 drivers in the telephone sample for whom no telephone number had been obtained and also to the 300 drivers in the reserve sample. On June 28 or later a similar mailing was made to all but one of the 63 telephone sample respondents who could not be interviewed by telephone plus the two partial telephone interview respondents, each with a short added note from the survey director. This mailing, as with the telephone respondent mailing, used Michigan Department of Transportation envelopes. All mail respondents were also sent a reminder postcard six days later personally signed by the survey director, and this generated nine collect calls and one letter asking for a replacement questionnaire. Another mailing was made to all nonrespondents on Wednesday, July 18, with all letters personally signed by the survey director. Replacement questionnaires and return envelopes were included in the mailing to four groups (0, 1, 3, 9) but not to the other six groups. Twelve collect calls

were received requesting replacement questionnaires from drivers in these six groups.

The final mailing to all remaining nonrespondents was made by certified mail (80¢ plus 15¢ first class postage) on August 2 and 3. This mailing included a replacement questionnaire and return envelope and a letter personally signed by the survey director. The return envelopes and the three mailings from the survey director only indicated "H.S.R.I., University of Michigan" as the organization conducting the survey because of the possibility that respondents might be somewhat biased in their responses if they realized that the survey organization was directly concerned with highway safety. All questionnaires mailed had the respondent's identification number handwritten on the upper right corner of the cover, using a different color ink for each mailing, and the cover letter explained that this number was there only so the received questionnaires could be checked off the mailing list. All outer envelopes were mailed with a first class Oliver Wendell Holmes stamp affixed, and the certified letters also contained two 40¢ Thomas Paine stamps.

The original name and address computer file was used to print all envelopes and inside addresses on the letters via the TEXTEDIT program. The inside address type was similar to that used on the duplicated letters, but still differences in density made it apparent that the entire letter had not been individually typed. When an interview or questionnaire was received the case was deleted from the computer file, so that when the next mailing was made only nonrespondents would receive it. Then the questionnaire was edited, keypunched, and entered into a new computer file for analysis purposes. Similarly, the Control Forms were filled out, keypunched, and placed in a separate computer file for analysis.

The Telephone Survey Results

As mentioned above, telephone numbers were obtained from only 433 of the 699 drivers in the telephone sample, a 62% rate. Three hundred and seven numbers were obtained from consulting current directories, and 126 were obtained from Directory Assistance services. This latter source also indicated that 111

drivers had unlisted numbers (15.9% of the total sample--20.4% of the sample for whom some information was available), while no information was available for 155 drivers (22.2% of the sample). Obtaining telephone numbers was complicated by the fact that a large proportion of drivers are not listed in a telephone directory under their own first names. For many women and young people it was necessary to scan extensive listings with the same surname looking for the right address. This process was easier to control when HSRI staff were looking in a current directory, but Directory Assistance personnel seemed generally willing also to do such scanning in their lists when the number of listings with the same surname was not very long. That this process of scanning for the right address was fairly successful is suggested by the bottom parts of Table E1 which shows that the percentage with no information available was almost as high for males as for females and was only a small amount greater for young people than for those over 25.

Table E1 also shows the geographic variation in telephone number availability. Most striking is the high percentage of unlisted numbers in Detroit--almost one third of the sample and over 40% of those with telephone information available. This contrasts sharply with the small percentages of unlisted numbers in the most rural counties of Michigan (under 3%). The Detroit percentage is also considerably higher than the percentages in other major cities and in the surrounding suburban areas. Table E1 also shows that the largest percentages of no information available were in the most rural counties, although it seems unlikely that these counties contain substantially greater percentages of poorer people who can not afford telephones. Whether this result really reflects higher proportions of drivers without telephones in rural Michigan is unclear. In fact why no telephone information was available for over one fifth of the drivers statewide is unclear, considering that Census Bureau studies show that almost all American households have telephone service. As would be expected, Detroit had a substantially higher percentage of missing telephone information than other Michigan cities and suburban areas.

TABLE E1. Telephone Number Information Availability by
Geographic Area, Sex, and Age, in Per Cent

GEOGRAPHIC AREA	<u>N</u>	<u>Listed Telephone No.</u>	<u>Unlisted Telephone No.</u>	<u>No Information</u>
Detroit City	86	44.2	31.4	24.4
Grand Rapids, Flint, Lansing	38	68.4	15.8	15.8
Seven Other Major Cities	55	63.6	21.8	14.5
Large Suburbs	115	64.3	20.0	15.7
Other Communities	405	64.2	10.6	25.2
Wayne County	173	52.0	25.4	22.5
Oakland, Macomb Counties	157	64.4	18.5	17.2
Other 5 Detroit Area Counties	66	65.2	15.2	19.7
Genesee, Ingham, Kent Counties	73	69.9	12.3	17.8
Other Central SMSA Counties	71	59.2	18.3	22.5
Other Suburban SMSA Counties	37	72.9	8.1	18.9
Other Counties with Cities Over 15,000	39	61.6	2.6	35.9
Other Rural Counties	83	66.2	2.4	31.3
SEX				
Male	372	64.0	14.8	21.2
Female	327	59.7	17.1	23.2
AGE				
16-17	30	66.7	6.7	26.7
18-20	48	60.4	14.6	25.0
21-24	91	53.9	17.6	28.6
25-64	494	61.7	16.8	21.5
65-90	36	83.3	8.3	8.3
TOTAL	699	61.9	15.9	22.2

However, once a telephone number was obtained, the telephone interviewers were able to achieve an excellent response rate, 85.5% of the 433 cases. Only 23, or 5.3%, refused to participate or suggested that a mail questionnaire would be preferable, while another 13 (3.0%) were unavailable for various reasons (ill, out of town, language difficulty, hard of hearing, etc.). There were also 22 telephone numbers which were disconnected, or wrong numbers, or at which the sampled driver had moved away--including six which had changed to an unlisted number. Sixteen of these involved numbers obtained from telephone directories, including five which changed to an unlisted number, nine others which were disconnected or at which the sampled driver had moved, and two which were wrong numbers. Even the telephone numbers provided by Directory Assistance included two which were disconnected and one which was changed to an unlisted number when the interviewers called less than two weeks later. There were also three wrong numbers among the 111 Directory Assistance numbers, all involving female drivers. Thus the Directory Assistance information was somewhat more up-to-date regarding nonworking numbers, but it also seemed to be less accurate in tracing female drivers' numbers. Nevertheless in retrospect it appears that the process of obtaining telephone numbers would have been cheaper and more efficient if only Directory Assistance services had been utilized.

There were only five apparently working numbers at which no answer was ever obtained, despite a total of 76 calls to these numbers. For the successful interviews the average number of calls was 2.77. Almost one third were completed on the first call, and only five required ten or more calls. Length of interview was not recorded routinely, but it was calculable from the telephone charge sheets for the 216 successful interviews involving long distance calls. For these interviews the average time was 18.5 minutes. The average times for the six interviewers ranged from 15.3 to 20.7.

Total long distance telephone charges came to about \$1100, or about \$5 per long distance interview. Four of the inter-

viewers had Metro telephone service at home, so they were able to make calls in the Detroit area during the afternoon and evening without incurring long distance charges. Interviewer pay and other expenses (postage and mileage) came to about \$1000, or about \$2.70 per successful interview. Thus the overall direct cost external to HSRI for the 370 successful telephone interviews was about \$2100, or \$5.70 per interview (including both long distance and local call interviews).

The average number of days from mailing the respondent letter till the first interviewer call was 8.6, but the response rate was only slightly higher for respondents first called in the first week than for respondents first called in the second, third, or fourth week after the mailing. Over 90% of the telephone respondents who were asked said they remembered receiving the respondent letter. This proportion declined only slightly from 91.7% in the first week, to 90.7% in the second week, to 83.8% in the subsequent weeks.

Table E2 presents the telephone interview results for various geographic areas, by sex, and by age group. This shows that the refusal problem was not greater in Detroit than elsewhere among drivers with published telephone numbers, but Detroit did have above average proportions of other problems (disconnected, away, ill, etc.). The highest response rate was obtained in relatively wealthy Oakland and Macomb Counties (94.1%). However, none of the response rate differences seem statistically significant in relation to geographic area, nor in relation to age or sex, although it is interesting to note that none of the 91 available respondents under 25 refused to be interviewed.

If one drops the 13 unavailable respondents (sick, away, etc.) and the 22 disconnected, moved, or wrong number cases from the telephone sample, then the telephone response rate improves to the very impressive 370/398, or 93.0%. Two of these interviews were only partial, and one of these respondents later completed a mail questionnaire.

TABLE E2. Telephone Survey Results by Geographic Area, Sex, and Age, in Per Cent

GEOGRAPHIC AREA	N	Inter- viewed	Refused	Away, Sick, No Answer	Disconnected, Moved, Etc.
Detroit City	38	68.4	5.3	10.5	15.8
Ten Other Large Cities	61	85.2	9.8	1.6	3.3
Large Suburbs	74	90.6	4.1	0.0	5.4
Other Communities	260	86.6	4.6	5.0	3.8
Wayne County	90	76.7	6.7	5.6	11.1
Oakland, Macomb Counties	101	94.1	2.0	2.0	2.0
Other 5 Detroit Area Counties	43	79.0	11.6	2.3	7.0
Genesee, Ingham, Kent Counties	51	92.2	2.0	4.0	2.0
Other Central SMSA Counties	42	85.7	9.5	0.0	4.8
Other Suburban SMSA Counties and Counties with Cities Over 15,000	51	88.2	5.9	2.0	3.9
Other Rural Counties	55	80.0	3.6	12.8	3.6
SEX					
Male	238	84.8	5.4	5.5	4.2
Female	195	86.2	5.1	2.6	6.2
AGE					
16-17	20	100.0	0.0	0.0	0.0
18-20	29	93.1	0.0	6.8	0.0
21-24	49	89.8	0.0	4.1	6.1
25-64	305	83.6	6.9	3.7	5.9
65-90	30	80.0	6.7	10.0	3.3
TOTAL	433	85.5	5.3	4.2	5.1

Mail Survey Response Rates

As mentioned above, nonrespondents to the telephone survey and drivers in the telephone sample without a listed telephone number were sent a mail questionnaire along with the 300 drivers in the reserve sample. As demonstrated in Table E3, the multiwave mailings produced responses from more than half of the telephone refusals and large proportions of the other telephone nonrespondents, so that the final telephone and mail response rate for the sample with published telephone numbers came to 396/416 or an amazing 95.2%. For drivers with unlisted numbers the final mail response rate was a quite satisfactory 84.3%, but it dropped down to 75.0% for the drivers with no telephone number information available. Presumably this latter group contained larger proportions of poorer and less educated potential respondents who were less likely to complete the mail questionnaire even after four mailings. Also one doesn't know how diligent the post office workers were in returning unclaimed certified letters, and it may be that this group contained more drivers who have moved than HSRI was notified about.

The final telephone and mail response rate for the entire telephone sample was 593/665 for an impressive 89.2% (excluding the 34 out of sample cases). For the 292 non-moved drivers in the reserve mail only sample the final response rate was 80.5%, certainly a very satisfactory return rate for a mail survey. However, it is obvious that the combination of telephone and mail methods was substantially more effective in producing a high response rate than was the use of mail methods alone.

The total survey response rate for both the telephone sample and the reserve mail only sample came to 829/957, or an unusually high 86.6%. This rate excludes the 42 out-of-sample cases and includes one returned questionnaire which could not be identified, although it is included in the analyzed data.

The Return Envelope Experiment

Not mentioned earlier was the fact that three different types of return envelopes were used in the first questionnaire mailing on June 27-28. Drivers with identification numbers ending in 0,1,3, or 9 were sent a return envelope with a first

TABLE E3. Mail Response Rates for Various Types of Telephone Sample Nonrespondents and for the Reserve Mail Only Sample

	N	Questionnaire Returned	No Response	Out of Sample*	Response Rate ⁺
Telephone Refusal	23	12	11 ²	0	52.2%
Telephone Away	5	4	1	0	80.0%
Telephone Sick	4	1	2	1	33.3%
Telephone Hard of Hearing	2 ⁴	2	0	0	100.0%
Telephone Language Problem	1	1	0	0	100.0%
Telephone Retarded	1	0	0	1	----
Telephone Disconnected or Moved	10	4	4	2	50.0%
Telephone Partial Interview	2	1	1	0	50.0%
Telephone No Answer	5	3	2	0	60.0%
Unlisted Telephone	117	91	17 ¹	9 ³	84.3%
No Telephone Information	160	105	35 ¹	20 ⁴	75.0%
Total Telephone Sample	330	224	73	33	75.4%
Total Mail Only Sample	300	235	57	8 ⁵	80.5%
TOTAL MAIL RESPONDENTS	630	460 ⁶	130	41	78.1%
TOTAL SURVEY RESULTS (Telephone and Mail)	999	829 ⁶	129 ⁷	42	86.6%

*Out of sample includes 25 cases of letters returned by the post office with no forwarding address; 15 cases of unclaimed certified letters; 1 case of a sick person whose wife sent a note saying he was too sick; and 1 case of a telephone respondent who had left home and whose whereabouts were unknown.

⁺The response rate is the number of questionnaires returned over the number of questionnaires mailed, excluding the out of sample cases.

¹Includes one refused letter.

²Includes two refused letters.

³Includes five unclaimed certified letters.

⁴Includes seven unclaimed certified letters.

⁵Includes three unclaimed certified letters.

⁶Includes one questionnaire received which could not be identified.

⁷Excludes one mail nonrespondent for whom a partial telephone interview had been obtained.

class Oliver Wendell Holmes stamp affixed to it. Drivers with identification numbers ending in 4, 6, or 8 were sent a metered envelope marked "NO POSTAGE NECESSARY Postage has been pre-paid by [addressee]". Drivers with identification numbers ending in 2, 5, or 7 were sent a normal Business Reply envelope stating "POSTAGE WILL BE PAID BY ADDRESSEE". All envelopes were addressed to "Public Opinion Survey Section, 111 H.S.R.I., UNIVERSITY OF MICHIGAN, Ann Arbor, Mich. 48109". All outside envelopes had affixed to them a 15¢ Oliver Wendell Holmes stamp.

Table E4 shows the cumulative response rates for these different envelope groups for seven time periods following the June 27 mailing. By July 6, before the reminder postcard could have had any effect, only 14.6% of the questionnaires had been returned, but these returns were significantly greater in the stamped group (18.6%) than in the metered group (10.8%), while the business reply group fell in the middle (14.2%). Moving on to look at the full period before July 21 (the second mailing was on July 18), the results from the initial mailing plus the reminder postcard were still significantly favorable to the stamped envelopes (52.5%) compared to the metered envelopes (40.2). The business reply group maintained its intermediate position with a considerably lower return rate (45.3%) than the stamped group, but this difference was not large enough to be statistically significant at a 95% level of confidence. As can be seen in Table E4 these differences remain generally similar when one compares the three component subsamples within the three envelope groups. In particular, the superiority of the stamped envelope over the metered envelope is still statistically significant when one compares the mail only subsamples.

It was thought that perhaps there might be some differences in the educational background and income levels of drivers who would respond to the different types of envelopes, in particular that metered envelope respondents might be of somewhat higher socio-economic status. However, a comparison of education and income levels for the three types of first mailing respondents showed similar education and income distributions for the metered envelope and the stamped envelope respondents. Both of

TABLE E4. Cumulative Mail Response Rates for
the Three Return Envelope Samples
and Their Component Subsamples
for Seven Time Periods, in Per Cent*

	<u>N</u>	<u>Jun30</u> <u>July6</u>	<u>July7</u> <u>July9</u>	<u>Jul10</u> <u>Jul20</u>	<u>Jul21</u> <u>Jul23</u>	<u>Jul24</u> <u>Aug.3</u>	<u>Aug4</u> <u>Aug6</u>	<u>Aug7</u> <u>Sept</u>
STAMPED REPLY ENVELOPE	204	18.6	26.5	52.5	54.4	68.1	69.1	82.4
Telephone Nonrespondent	21	4.8	9.5	28.6	28.6	38.1	38.1	52.4
No Listed Telephone No.	87	16.1	24.1	57.5	60.9	77.0	78.2	89.7
Mail Only Sample	95	24.2	31.6	52.6	53.7	66.3	67.4	82.1
METERED REPLY ENVELOPE	194	10.8	17.5	40.2	44.8	68.6	69.1	74.7
Telephone Nonrespondent	19	5.3	21.1	21.1	21.1	52.6	52.6	57.9
No Listed Telephone No.	77	11.7	18.2	48.1	50.6	64.9	66.2	70.1
Mail Only Sample	98	11.2	16.3	37.8	44.9	74.5	74.5	81.6
BUSINESS REPLY ENVELOPE	190	14.2	18.9	45.3	45.8	67.9	70.0	77.4
Telephone Nonrespondent	16	6.3	12.5	31.3	31.3	62.5	62.5	75.0
No Listed Telephone No.	75	10.7	17.3	44.0	44.0	69.3	70.7	76.0
Mail Only Sample	99	18.2	21.2	48.5	49.5	67.7	70.7	78.8
TOTAL MAIL SURVEY	588	14.6	21.1	45.9	48.3	68.0	69.2	78.2

*Excluded from this table are 41 out-of-sample cases and one case for which the date of return was not recorded.

these groups were a little higher in income and education than the business reply respondents, but the differences were far from being significant at a 95% level of confidence.

Thus the main conclusion of this envelope experiment is that it is worth the extra trouble to affix a stamp to the return envelope rather than just running the envelopes through a meter machine. This finding agrees with an earlier study by Wolfe (Journal of Advertising Research, Feb. 1979) which found that stamped envelopes elicited a higher return rate than metered envelopes. In that study two types of stamps had been used, a commemorative one (Legend of Sleepy Hollow) and a regular one (Jefferson Memorial), and the commemorative one had proved superior in its response rate (but not enough so to be statistically significant). However, a study by Dillman (Public Opinion Quarterly, Summer 1972) found very little difference in response rate for an envelope with a commemorative ecology stamp and for a metered envelope. In this study the Oliver Wendell Holmes stamp had been issued as a regular stamp, but it might also have had some commemorative effects (if indeed there really are such effects). What difference in return rate might have resulted from a different first class stamp is difficult to guess. The OWH stamp was more convenient to use because it was available in rolls, while commemorative stamps are available only in sheets. However, it might have been worth the slight added inconvenience to have used a (noncontroversial) commemorative stamp.

This study also agrees with a number of previous studies in finding a stamped return envelope more effective than a business reply envelope, although this difference was not large enough to be significant at a 95% level of confidence. Since business reply envelopes only cost 27¢ per returned questionnaire (18.5¢ with a \$75 permit), they have the advantage of being cheaper than stamped envelopes for any initial return rate of less than 55.5%. Nevertheless, although further research would clearly be desirable, it appears that the results in a higher response rate are likely to be worth the extra cost and trouble of affixing a first class stamp on the return envelope.

The Replacement Questionnaire Experiment

The second experiment involved the third mailing on July 18. The nonrespondents in the stamped return envelope group were sent a replacement questionnaire and a second stamped reply envelope, while the remaining nonrespondents were just sent a reminder letter indicating that they could call collect for a replacement questionnaire if it were needed. The latter method saved about 40¢ per respondent in postage and questionnaire costs. However, it did generate 12 collect calls which had to be paid for, plus the trouble and cost of special mailings to these 12 nonrespondents (out of about 220 nonrespondents in this group). Nine of these calls came from the business reply group and three came from the metered group. All twelve of these drivers did return their questionnaires, while only six of the ten drivers who requested a replacement questionnaire after receiving the reminder postcard actually returned their questionnaires.

As can be seen in the fifth time period column of Table E4, by Aug. 3 this second mailing had resulted in amazingly similar response rates for all three envelope groups. The cumulative response rate was 68.1% for the stamped envelope group, 68.6% for the metered envelope group (!), and 67.9% for the business reply envelope group. Rather than further increasing the lead of the stamped envelope group, the use of the replacement questionnaire and stamped envelope was associated with a lower response rate from remaining nonrespondents in that group than in the two groups which only received reminder letters. Between July 21 and Aug. 3 (the fourth mailing was on Aug. 2-3) questionnaires were received from 33% of the 97 nonrespondents in the stamped envelope group and from 44.5% of the 220 nonrespondents in the other two groups which only received a reminder letter, a difference which is almost statistically significant. Thus it appears that the advantageous effect of affixing a first class stamp is somewhat transitory and does not carry over to a follow-up mailing to nonrespondents. And these results give strong support to the idea that it is not worth the additional cost to routinely include a replacement questionnaire in a first follow-up mailing to nonrespondents.

The Second Follow-up Mailing with Certified Letters

The second follow-up mailing contained replacement questionnaires and stamped return envelopes (except for a few metered and business reply envelopes which were used up in this mailing). It was sent by certified mail which meant adding an extra 80¢ postage plus a ~~CERTIFIED~~ sticker available free from the post office. Certified mail must be signed for by someone at the address, or else it is returned to the post office and a rather confusing pink notice is left called a "Delivery Reminder or Receipt". If one reads the checked boxes on the form carefully, one can ascertain that he or she has a certified letter at the post office which he or she can pick up in person or ask the post office to redeliver. The post office telephone number and hours of business are also listed. A certified letter can also be forwarded by the post office like regular mail. If a certified letter is not collected within 15 days it is returned to the sender. For an additional fee of 45¢ one can also get a return receipt which comes back as a postcard showing the date and signature of the receiving person; but this extra expense was not deemed worthwhile in this study, and no record was maintained of the certificate numbers assigned to each respondent.

Thus the sole purpose of using certified mail was to give an added sense of importance to the survey for those drivers who had not responded to the three previous mailings. It apparently had this effect for at least some of the nonrespondents, for an additional 59 questionnaires were eventually received. A few of these may have crossed in the mail or would have been sent in anyhow, but the effect of the certified mailing was probably at least an 8% increase in the total mail response rate. Since the total mailing was over 200, the cost per case for postage and questionnaire was about \$1.35, and a few of them would have been received anyhow, one may estimate the cost per received questionnaire from the certified mailing at about \$5.00--plus the clerical cost in addressing and mailing. So even these "expensive" mail questionnaires probably cost no more than the average telephone interview, and this mailing did reduce the number of remaining nonrespondents by more than 25%.

The certified mailing was made on Thursday, August 2, and Friday, August 3, in the hope that the letters would be delivered on Saturday, August 4, and that a maximum number of addressees would have some family member home to sign for them. Whether a Saturday is really an optimum time for delivery in the summer is not known. Without return receipts there is no way of knowing how many nonrespondents actually received their letters on Saturday, and even with returned receipts one would not know how many had them redelivered and how many went to the post office to obtain them. As mentioned earlier, 15 letters were returned unclaimed, but how many of these represent real out-of-sample cases and how many represent just not bothering to go to the post office is impossible to ascertain.

Two letters were sent back as refused, including one from a driver who had earlier refused a telephone interview. Also the certified mailing elicited notes from two of the three respondents who had crossed out their questionnaire identification numbers, and these notes enabled their questionnaires to be identified properly. One of these notes also complained about the high cost of the certified mailing, and indeed one does use this method with a certain amount of trepidation concerning possible backfiring effects from recipients being turned off by the high mailing cost or by having to make a special trip to the post office. It would be nice to have some more detailed research as to what happens to certified letters and how they are perceived by their recipients, but in the meantime there is evidence that the method does work to increase response rates substantially. Whether this increase in data quantity leads to sufficient improvement in data quality (in terms of accuracy of representation of the sampled population) to justify the high cost of the certified mailing is more difficult to evaluate.

SAMPLE CONTROL FORM

HSRI, U-M VEHICLE INSPECTION SURVEY CONTROL FORM
 P017222
 Spring, 1979

ID No. 373 (1-3)

County 33 (4-5)

NAME: Ms. E. W. H.

Sex 2 (6)

ADDRESS: 5303 D Ave.
 Lansing, Mich. 48910

Age 60 (7-8)

SMSA 4 (9)

County: Ingham Birthdate: 3/19/19 Sex: F

City _____ (10)

Telephone Number: (517) _____

(1 Directory; 2 Dir. Assistance; 3 Told Unlisted; 4 None) Source _____ (11)

TELEPHONE CALL RECORD

Call	I'er	Date	Day	Time	Result of the Telephone Dialing
1					
2					
3					
4					
5					
6					
7					
8					

Number of Telephone Calls _____ (12-13)

Final Telephone Result _____ (14)

Days from Letter Mailing: To First Call _____ (15-16)

QUESTIONNAIRE MAILING RECORD To Last Call _____ (17-18)

Mailing	Date Mailed	Date Received	Result of the Mailing
1			
2			
3			
4			

Number of Questionnaire Mailings _____ (19)

Final Questionnaire Mailing Result _____ (20)

Mailing Number of Returned Questionnaire _____ (21)

Days from Mailing to Return of Same Questionnaire _____ (22-23)

Days from Posting to Receipt of Questionnaire _____ (24)