GASOLINE USE CONTROL MEASURES IN CITIES AND REGIONS OF THE UNITED STATES

by

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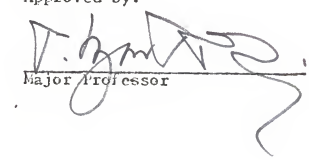

Major Professor

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Introduction

Problem Statement

Currently, the United States is confronted with one of the most serious resource problems it has ever faced. Gasoline, one of the nation's most important fuels is in critically short supply in many areas.[1] Many Americans are puzzled by this situation because, prior to this period, there had always been plentiful supplies of gasoline.

A factor of primary importance in the current gasoline shortage is the phenomenal increase in demand for gasoline, as well as for other petroleum products. In 1962 Americans used 66,255,943,000 gallons of gasoline; by 1972 demand had increased 54.9 per cent to a record 102,615,535,000 gallons.[2]

The large increase in demand over the years can be attributed to several factors: (1) The ever expanding economy required more fuel; (2) More new automobiles were produced and sold. (Most of these cars are heavier,

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[1]U. S. Senate Committee on Interior and Insular Affairs, The Gasoline Shortage: A National Perspective Report of the Committee on Interior and Insular Affairs, U. S. Senate, Serial No. 93-14, Washington, D. C.: U.S. Government Printing Office, 1973, p. 5.

[2]Ibid, p. 6.

less efficient, and equipped with energy consuming accessories, e.g., air conditioning, than ever before. The weight increase is due primarily to safety requirements, while the low engine efficiency is due to lower compression ratios necessary to permit operation on low lead gasoline. In addition, the emission control devices on new cars decrease mileage by 7 per cent or more.[3] Finally, air conditioning, when in operation can impose an additional penalty of as much as 20 per cent.[4]); (3) The increasing amount of leisure time combined with greater affluence has been manifested largely in recreational activities requiring large amounts of gasoline, e.g., long trips.

Table 1-1 indicates that for intercity passenger transportation the automobile is by far the dominant mode of transportation.

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[3]Ibid.

[4]Ibid.

Table 1-1, Intercity Passenger Modal Distribution[5]

(In percentage of total passenger miles)

	1947	1970
Automobile	82.5	87.1
Bus	5.9	2.2
Rail	9.7	0.5
Air	1.9	10.2

It is obvious that, if gasoline supplies are insufficient, much of the demand will necessarily not met. Until recently, most attention has not focused on the possibilities of reducing the demand for gasoline. However, the projections for continued increase in gasoline consumption have caused experts to seriously examine gasoline conservation.

Table 1-2 shows that for urban passenger travel automobile usage is continuing to grow.

[5]U. S. Senate, 92nd Congress, Initiatives in Energy Conservation. A Staff Report, Committee on Commerce, Washington D. C.: U. S. Government Printing Office, 1973, p. 8.

Table 1-2, Urban Passenger Travel
Modal Distribution[6]

(In percentage of total passenger miles)

	1960	1970
Automobile	89.2	94.5
Bus	5.9	2.7
Rail	4.9	2.8

The following general statistics relate the transportation sector, as an energy consumer, to the energy crisis.

Civilian transportation consumes directly about 25 per cent of the total United States energy budget and is projected to continue to consume at the same rate for the next several decades.[7] Energy consumption for the industrial, residential, and commercial sectors is about 43 per cent, 20 per cent, and 12 per cent of total respectively.[8] Energy consumption by military vehicles and by various vehicles used off the road for agricultural purposes is in the range of 10 to 15 per cent of energy consumption for civilian transportation.[9]

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[6]Ibid.

[7]Michael S. Macrakis, Energy, Cambridge, Massachusetts: The MIT Press, 1974, p. 426.

[8]Ibid.

[9]Ibid, p. 427.

Transportation is clearly a major user of petroleum. About 55 to 60 per cent of the petroleum consumed in the United States is used by transportation.[10] This share is projected to be relatively constant in the forseeable future, given the assumption that current policies and trends continue and that fuels are available. Further, transportation is intensively dependent on petroleum. More than 95 per cent of the transportation energy consumed is from a petroleum source.[11]

Table 1-3 summarizes the changes in the pattern of intercity freight shipments.

Table 1-3, Intercity Freight Modal Distribution[12]

(In percentage of total ton miles)

	1947	1970
Rail	54.0	35.9
Truck	5.2	15.9
Water	31.3	28.4
Pipeline	9.5	19.6
Air	---	0.2

[10] Initiatives in Energy Conservation, op. cit., p. 3.

[11] Robert H. Connery and Robert S. Gilmour, The National Energy Problem, D. C. Heath and Company, Lexington, Massachusetts, 1974, p. 59.

[12] Initiatives in Energy Conservation, op. cit., p. 5.

An estimate of the energy consumption of each of the transportation modes is provided in Table 1-4.

Table 1-4, Energy Consumption for Transportation Modes[13]

	*Btu per passenger mile		Btu per ton mile
	Urban passenger	Intercity passenger	Intercity freight
Bicycles	180	---	---
Walking	300	---	---
Buses	1,240	1,090	---
Automobiles	5,060	4,250	---
Railroads	---	1,700	680
Airplanes	---	9,700	37,000
Trucks	---	---	2,340
Pipeline	---	---	450
Waterway	---	---	540

*British Thermal Unit

The purpose of these tables is to show that the rapid growth in airplane usage and the sharp decline in the railroads share of both the intercity freight and passenger market reflect a shift away from the more energy efficient means of transportation and toward the more

[13] Initiatives in Energy Conservation, op. cit., p. 6.

energy intensive modes.

In 1970, highway transportation used 2.2 billion barrels out of a total consumption of 5.36 billion barrels of petroleum products. Stating this another way, 92.7 billion barrels of motor fuel were used on the highways of the United States by 111 million cars, trucks, buses, and motorcycles in traveling 1.1 trillion miles.[14]

Listed below is U. S. Transportation energy use by consuming sector for 1970.

Table 1-5, U. S. Transportation Energy Use by Consuming Sector, 1970[15]

Transportation Sector	Energy Use (per cent)
Highway	
Automobile	55.0
Trucks	21.0
Buses	0.2
Airplanes	7.5
Railroads	3.3
Waterways	1.0
Pipelines	1.2
Unaccounted for	10.8

[14] Energy, op. cit., p. 426.

[15] The National Energy Problem, op. cit., p. 58.

Options for Petroleum Conservation in Transportation

Purely for the purposes of discussion, suppose that as a result of a plan to establish an energy efficient interstate transportation system, it was concluded that a realistic goal was to redistribute the projected modal split for intercity passenger travel in 1985, as shown in Table 1-6.

Table 1-6, Projection for Intercity Passenger Travel Patterns[16]

(In percentage of total passenger miles)

		1985	
	1970	Current *D.O.T. projection	Modified projection to conserve energy
Automobile	87.1	79.8	71.0
Bus	2.2	1.2	9.0
Rail	0.5	0.3	13.0
Air	10.2	18.7	7.0

*Department of Transportation

[16]U. S. Department of Transportation, 1972 National Transportation Report, Present Status - Future Alternatives, Washington, D. C.: U. S. Government Printer, July 1972, p. 25.

Such a shift, planned as part of an energy conservation program, would represent no more of a drastic change in travel patterns than that which occurred between 1947 and 1970. The change would however, be in the opposite direction, with a restoration of the bus and train to the roles they previously played. Assuming that the total number of the projected passenger miles traveled in 1985 was not affected by the energy conservation measure, the modified modal split provides for a very substantial 30 per cent increase in air passenger miles and a 50 per cent increase in automobile passenger miles between 1970 and 1985. At the same time, the modified projection would yield a savings of 1.3 million barrels of oil per day in comparison to the DOT projection. This represents 10 per cent of the projected national requirement for overseas crude oil imports in 1985.[17]

The above scenario would require a massive expansion of the intercity passenger bus and rail industries. However, this expansion would be of the same order as the changes undergone by the commercial air transport industry between 1947 and 1970. The engineering talent and the manufacturing facilities needed for the expanded production of buses and trains can be found within the aircraft industry. In fact, several aircraft companies,

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[17]The Shell Oil Company, The National Energy Outlook, New York, New York: McGraw - Hill Publishing Company, March 1973, p. 26.

such as Boeing and Rohr, have already entered the subway car manufacturing business. Thus, a Federal committment to an ambitious expansion of intercity bus and train systems could provide a boost to the aircraft industry, which has been hurt by cutbacks in the defense and space programs.

Besides being an effective energy conservation measure, a shift away from automobiles and an increased use of buses and trains will save many lives. During 1968-70, the average death rate per million passenger miles was 2.2 for automobile travel, 0.13 for scheduled airlines, 0.09 on railroads, and 0.08 on intercity buses.[18]

Ten actions have been chosen to illustrate the conservation potential of several other options and to discuss the important factors that enter into the computations. Table 1-7 briefly describes the selected ten actions and summarizes their estimated fuel savings.

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[18]National Association of Motor Bus Owners, Bus Facts, 38th edition, New York, New York: Lipscott Publishers, 1971, p. 13.

Table 1-7, Summary of Discussed Actions and the Corresponding Petroleum Conservation Potential as Per cent of Total Transportation Energy for 1970[19]

Numbers	Action	% Fuel Conservation
1.	Convert 50% of passenger car population to small cars (22mpg)	9.0%
2.	Introduce in 50% of highway vehicles a 30% reduction of fuel consumption	11.5%
3.	Eliminate 50% of urban congestion	1.1%
4.	Achieve 50% success in limiting highway speeds to 50 mph.	2.9%
5.	Persuade 50% of commuters to car-pool	3.1%
6.	Shift 50% of commuters (to and from city centers) to dedicated bus service	1.9%
7.	Shift 50% of intercity auto passengers to intercity bus and rail evenly	3.0%
8.	Shift 50% of intercity trucking to rail freight	3.4%
9.	Shift 50% of short haul air passengers to intercity bus	0.3%
10.	Persuade 50% of the people to walk or bike up to 5 miles, instead of driving	1.6%

[19] Energy, op. cit., p. 433.

Actions 1 to 4 refer to different options for increasing the fuel economy of highway vehicles. These vehicles are of primary interest because they now consume 76% of the transportation energy. Action 5 is an example of increased vehicle occupancy. Modal shifts are illustrated by actions 6 to 9, while action 10 is an illustration of an attempt to reduce traffic demand. In all cases a 50 per cent change has been assumed, and the petroleum conservation potential has been computed as a per cent of total transportation energy, under 1970 transportation conditions. The conservation potential of action 1, conversion to small cars, is computed in a straight forward fashion. The present passenger car population is approximated by a two-component mix, namely: 90 per cent family type cars with a fuel economy of 13.1 mpg and 10 per cent small cars at 22 mpg. A conversion to a 50-50 per cent mix results in 9% fuel conservation. Conversion to small cars is known as one of the best ways to reduce fuel consumption. This action has the additional benefits of lower initial and maintenance costs to the user. The market share of standard-sized cars has decreased from 64 per cent in 1960 to 38 per cent in 1972.

Action 2 in Table 1-7 supposes a 30 per cent reduction in fuel consumption in half of all highway vehicles. The idea here is to introduce fuel conservative

aspects in the design of vehicles.

Devising a strategy for conservation is a positive and constructive approach to combating the petroleum crisis. This strategy relates to the fields of planning, design, operation, and maintenance, because activities in energy conservation must be applied to all of these areas to achieve resource management.

An analysis of the energy consumption patterns in this country shows that because of the breadth of the energy consumption market, each identifiable end use represents only a small fraction of total usage; hence, there is no single conservation measure that can significantly affect total consumption.

Purpose and Thrust of Research

Following a national energy crisis that necessitated radical changes in policy, it is interesting to determine whether new measures of energy use control which were adopted during the crisis are surviving. It is therefore the purpose of the study to survey gasoline use control measures in major urban and metropolitan regions. It is hoped that information gained from the study will establish: (a) The surviving gasoline use control measures, (b) The rated effectiveness of existing measures, (c) The common justification for the institution of these measures, (d) The reasons why some succeed where others fail, and (e) The tendencies of local and areawide bodies to adopt new gasoline use control measures. The findings will be used to determine recommendations to combat the energy shortage.

The second chapter describes in detail the research methodology. Chapter three dwells upon analysis of the data, implications to urban and regional planning, and recommendations for action by planning agencies. Chapter four summarizes the study and its major conclusions.

Chapter II

Research Methodology

The methodology of this study rests primarily on the development of a meaningful questionnaire which would yield the desired information from the respondents. Concerning questions, the researcher had two options. The first option was to ask open-ended questions, in which case the respondent would be asked to provide his own answer to a given question and would be provided with a space in which to write his answer. The second option was to ask closed-ended questions. Closed-ended questions can take many forms, but their distinguishing characteristic is that they limit the response to one or more of a number of pre-determined variables.

It was the decision of the researcher to design a highly structured, closed-ended questionnaire. The decision was made, first, so that the respondents could easily answer the questions, and second so that when the respondents returned the questionnaire, the results would be relatively easy to code and to analyze. Although open-ended questions might have allowed for freer responses on the part of the various planning agencies, and thus for a fuller expression of ideas, it was decided that the percentage of returns would be higher if the questionnaire was easy to complete. Specifically, it was estimated

that the highly structured (i.e., closed-ended) questionnaire would take from five to ten minutes to complete or somewhat longer if additional comments were made.

Selection of Respondents

The questionnaire was sent to 200 planning agencies across the United States. Planning agencies were selected as respondents because they are areawide organizations which are in strategic positions of learning about and reviewing proposals, studies and other information concerning a wide range of policies within its jurisdiction. These agencies were selected at random, from the 1974 Roster of the American Institute of Planners. A table of random numbers was used to generate those agencies which were to receive the questionnaire. The breakdown of the planning agencies to which the questionnaire was sent is as follows: 75 per cent went to city planning agencies, and 25 per cent went to regional planning agencies.

The researcher received a 52 per cent return rate. Any return on a mail questionnaire of over 50 per cent is considered adequate for analysis and report.[20]

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[20]Earl R. Babbie, Survey Research Methods, Belmont, California: Wadsworth Publishing Company, 1973, p. 165.

Survey Responses

Number of regions surveyed	Numbers of regions reporting	Number of cities surveyed	Numbers of cities reporting	Per cent return
50	30	150	74	52

Data Processing

After a questionnaire has yielded the specific data necessary, it is essential to develop the tools and procedures with which this information can be fruitfully analyzed. The care with which this phase is conducted can determine the difference between the presentation of bits of unrelated information and organized analyses upon which meaningful conclusions can be based.

The processing of the data was accomplished in three phases. The first phase, involved coding the completed questionnaires into machine readable form. The second phase involved the writing of a computer program which would show the frequency distribution as well as cross tabulations for each respective question. The final phase involved analyzing the results. The outcome of which is presented in the next chapter.

Analysis

Two tools of analysis used are frequency distributions and contingency analysis. By inspecting the raw frequencies of responses, the central tendencies - the mean, median, and mode - are derived. Measures of dispersion of responses

around the mean are also obtained. These statistics are rough indicators of the character of the distributions of responses as perceived by planning agencies.

Contingency analysis involves the test of the chi square (x^2). This tool is employed to test whether the responses significantly differ in frequency from expected responses on the null hypothesis. Observed differences were hypothesized to be merely chance variations to be expected in a random sample survey of the population of city and regional planning agencies. The rejection of the null hypothesis on the relationships of any two variables will mean that the relationship was not merely due to chance, and in fact, exists. Such identified variables should be recommended for policy applications as significantly perceived energy control use measures.[21] The variables would have been seen as effective in the nation that further examination of their application in resolving energy problems of cities and regions in the United States would be wise.

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[21]See Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences, New York: McGraw - Hill Book Company, 1956, pp. 42-47; and Donald A. Krueckeberg and Arthur L. Silvers, Urban Planning Analysis: Methods and Models, New York: John Wiley and Sons, 1974, pp. 136-149. The level of significance used in the test x^2 is a probability of .05.

Hypotheses to be Tested

Null Hypothesis: No significant relationship exists between the twenty-six gasoline use control measures and variables listed in Appendix A. The rejection of any of these hypotheses should indicate the perceived incidence and effectiveness of the gasoline use control measures, the reasons for the effectiveness, and likelihood of future adoptions of the measures. This knowledge would be useful in formulating local and regional energy policies.

These use control measures have been recommended for adoption from sources examined above. A brief definition of each measure is given below.

1. Public education: This refers to educating the public to the fact that there is an energy shortage.

2. Citizen involvement in conservation activities: This refers to the point of having citizen involvement in planning for the energy shortage.

3. Business and industry involvement and cooperation: This refers to getting business and industry involvement and cooperation in the energy conservation effort.

4. Stop truck operation during peak travel periods: This refers to stopping truck traffic during the rush hours.

5. Freight consolidation: This refers to consolidating all freight to a specific area.

6. Improved truck engines and inspection: This refers to improving truck engines and setting up a means

of inspection.

7. Delivery control and programming: This refers to controlling the deliveries so that there would be no waiting for the trucks to be unloaded.

8. Sales on smaller engines and vehicles policies: This refers to instituting policies making it advantageous for the car dealer to sell small cars, and the car buyers to buy small cars.

9. Car pooling: This refers to getting people to share a ride, mainly to work.

10. Improve traffic flow: This refers to synchronizing traffic signals.

11. Auto maintenance inspection and monitoring: This refers to setting up some means of inspection of automobiles.

12. Decrease auto operation in slow traffic: This refers to decreasing the operation of automobile use in any kind of slow traffic.

13. Decrease of mass transit fares: This refers to decreasing the charge to ride mass transit modes.

14. Increase mass transit modes: This refers to increasing the ways of traveling mass transit.

15. Improve bicycle paths and bicycling facilities. This refers to the improvement of bicycle paths.

16. Increase urban fringe parking facilities: This refers to parking on the urban fringe, and the use

of buses or rail to get to places of work.

17. Increase car pooling to trunk lines: This refers to the use of car pooling to get to bus or rail service.

18. Privileged lanes and thoroughfares for buses and car pools: This refers to no one using certain lanes except buses and car pools.

19. Improve rail service: This refers to using rail service more.

20. Create incentives to walking: This refers to encouraging people to walk rather than driving short distances.

21. Increase consumer choices in nearby facilities: This refers to including more goods in the stores.

22. Promote use of communication facilities (telephones, letters, advertisements, etc.) in lieu of travel: This refers to the use of communication facilities in place of travel.

23. Increase fuel taxes: This refers to increasing the cost of fuel.

24. Auto registration tax by size, horsepower and power attachment: This refers to putting a tax on the registration of automobiles by size, horsepower and power attachment.

25. Encourage demonstration of alternatives to internal combustion engines: This refers to methods

of encouraging demonstrations of alternatives to internal combustion engines.

26. Long range metropolitan and areawide regional planning: This refers to planning for the fuel shortage.

Chapter III

Results

The data guiding and supporting this study was gathered in the summer and fall of 1974. A total of 104 questionnaires were returned. Twenty-three planning agencies returned blank questionnaires, the reason given was that there was no gasoline use control measures instituted in their cities or regions. The final count showed 81 usable questionnaires. The questionnaires returned were closely examined, the results of which are on the following pages.

The results of frequencies of responses are shown in Appendix B. According to these results the following findings can be shown.

Control measures used and their effectiveness: The control measures used have been presented in the rank order of their effectiveness. Accordingly, car pooling is reported to be the most used measure as well as the most effective. About 62.5 per cent of respondents indicated the use and knowledge of effectiveness of car pooling as a control measure. Public education was seen as the second most used measure. About 48.1 per cent indicated use and knowledge of effectiveness of public education. The least used measure, of the 26 measures examined, is recorded as freight consolidation. About

2.9 per cent of all respondents indicated use and knowledge of its effectiveness.

Justification of measures instituted: The justification of measures instituted are presented in their absolute numbers with most of the responses being due to concern for energy crisis, the category having 185 responses. The category having the least amount of responses being, due to national efficiency, with 37 responses.

Explanation of failure or success of measures: The explanation of failure or success of measures are presented in absolute numbers. Political leadership is the category with the most response, having 125 responses. Legislation and supervision was the category that had the least response, having only 61.

Gasoline use control measures to be used in the near future: The gasoline use control measures to be used in the near future are recorded in absolute numbers. Accordingly, the majority of respondents indicated that the category marked "Likely" was the most prevalent. There was a tie for category least responded to. The tie was between "Certain" and "Very unlikely".

Relationships among variables

Relationships were hypothesized between public education as a control measure and 26 variables, between business and industry involvement and cooperation used as a control measure and 26 variables, and between long range metropolitan and areawide regional planning used as a control measure and 26 variables. Hypotheses tested are listed in Appendix C. The appendix presents the results of the chi square analysis at the level of .05 which test for a significant relationship between each of the pairs of variables. Because of the large number of hypotheses tested, only those in which significant relationships were observed are discussed.

The category that yielded a significant response only measured the future use of the variables. The following significant relationships are presented in greater detail.

The future use of public education as a gasoline use control measure: It was hypothesized that there was no significant relationship between public education as a control use measure and the future use of public education. This was hypothesized because of the difficulty in knowing the content and quality of public education on gasoline control use measures. There are no systematic studies which show what the public is educated about, how regularly it is educated and how suitable the education

is. It was therefore reasonable to expect that urban and regional planners in the United States would not perceive this relationship as significant in controlling for gasoline use.

Appendix C displays data on this relationship.

The null Hypothesis 1-3 was rejected. This hypothesis was rejected because at a level of significance of .05 at 20 degrees of freedom equal 31.410, the chi square equals 38.868. This significant relationship is because in the cities and regions where public education was utilized it was found to work, and therefore it would be used in the future.

Public education and the future use of business and industry involvement and cooperation as a gasoline use control measure: It was hypothesized that there was no significant relationship between the two variables. This was hypothesized because of the difficulty involved in knowing the content and quality of business and industry involvement and cooperation and the future use of public education.

The null Hypothesis 1-7 was rejected. This hypothesis was rejected because at a level of significance of .05 at 38.868 with 16 degrees of freedom, the chi square equals 26.296. This significant relationship is because in the cities and regions in which public education was used, the planning agencies were also looking at the

future use of business and industry involvement and cooperation.

Business and industry involvement and cooperation used as a control measure and the future use of citizen involvement in conservation activities: It was hypothesized that there was no significant relationship between the two variables. This was hypothesized because of the difficulty involved in knowing anything about them, and how they would do in the area of gasoline conservation.

Appendix C displays the data on this relationship.

The null Hypothesis 2-2 was rejected. This hypothesis was rejected because at a level of significance of .05 at 31.410 with 20 degrees of freedom the chi square equals 40.414. This significant relationship is because in the cities and regions in which business and industry involvement and cooperation was used as a control measure that one of the next steps was to have citizen involvement in conservation activities.

Business and industry involvement and cooperation used as a control measure and the future use of business and industry involvement and cooperation: It was hypothesized that there was no significant relationship between the two variables. This was hypothesized because of the difficulty in knowing the extent and quality of business and industry involvement on gasoline use control measures. There are no systematic studies which

show how great and what kind of business and industry involvement and cooperation is used.

The null Hypothesis 2-3 was rejected. This hypothesis was rejected because at a level of significance of .05 at 31.410 with 20 degrees of freedom, the chi square equals 40.263. This significant relationship is because in the cities and regions where business and industry involvement and cooperation was utilized it was found to work, and therefore it would be used in the future.

Business and industry involvement and cooperation used as a control measure and the future use of freight consolidation: It was hypothesized that there was no significant relationship between these two variables. This was hypothesized because there are no studies which shows that there is a relationship between the two variables.

The null Hypothesis 2-5 was rejected. This hypothesis was rejected because at a level of significance of .05 at 31.410 with 20 degrees of freedom, the chi square equals 39.920. This significant relationship is because in the cities and regions that business and industry involvement and cooperation was used as a control measure freight consolidation was also examined.

Long range metropolitan and areawide regional planning used as a control measure and the future use of improved truck engines and inspections: It was hypothesized that

there was no significant relationship between these two variables. This was hypothesized because of the lack of any systematic studies of these variables. There are no studies which even show what kind of regional planning is in use.

Appendix C displays data on this relationship.

The null Hypothesis 3-6 was rejected. This hypothesis was rejected because at a level of significance of .05 at 26.296 with 16 degrees of freedom, the chi square equals 37.026. This significant relationship is because in the cities and regions where long range metropolitan and areawide regional planning was used as a control measure, the future use of improved truck engines and inspection was also under consideration.

Long range metropolitan and areawide regional planning used as a control measure and the future use of decreasing of mass transit fares: It was hypothesized that there was no significant relationship between the two variables. This was hypothesized because of the lack of knowledge in this area.

The null Hypothesis 3-12 was rejected. This hypothesis was rejected because at a level of significance of .05 at 12 degrees of freedom equals 21.026, chi square equals 27.025. This significant relationship is because in the cities and regions where long range metropolitan and areawide regional planning were used as a control

measure the future use of a decrease in mass transit fares were also under consideration.

Discussion

The reader is reminded that this study is attempting to identify, compare, and evaluate the effectiveness of gasoline use control measures in major urban and metropolitan regions in the United States. We have found that of 26 measures studied, only 1) car pooling, 2) public education, 3) business and industry involvement and cooperation, 4) citizen involvement in conservation activities, 5) improve bicycle paths and bicycling facilities are seen to be extremely good candidates for further policy development at local and metropolitan levels of government. All levels of government have policies which affect oil (gasoline) consumption.

The author would recommend that these five variables be looked into by all levels of government searching for a means of reducing gasoline use. Perhaps the planners could be the personnel to whom this task would be assigned.

In the first null hypothesis in which a significant relationship was observed, Hypothesis 1-3, states, "No significant relationship will be found between public education as a control measure and the future use of public education." As aforementioned, this significant relationship is because in the cities and regions where public education was utilized it was found to work, and therefore it would be used in the future.

By public education it was meant informing and educating the public that there is an energy shortage, or to be more specific, to educate the public to the fact that there is a petroleum shortage. This could be done by acquiring television or radio time or by printing a pamphlet telling how and why there is an energy shortage and how to combat this deficit in energy.

The locations that had no response to this variable points out the fact that they have failed to use one of the most important methods of skirmishing with the current energy shortage.

The next null hypothesis in which a significant relationship was observed, Hypothesis 1-7 states, "No significant relationship will be found between public education as a control measure and the future use of delivery control and programming."

As was stated before, this significant relationship is because in the cities and regions in which public education was used, the planning agencies were also looking at the future use of delivery control and programming.

By delivery control and programming it was meant informing and educating the various businesses about the petroleum shortage and thereby asking them to coordinate their deliveries, pointing out the gasoline savings to be had by doing this.

The author again would like to emphasize informing the various businesses about the petroleum shortage. Perhaps the respondents that did not reply to this variable are concentrating more on the delivery of people to their destination than the delivery of goods.

The next null hypothesis in which a significant relationship was observed, Hypothesis 2-2, states, "No significant relationship will be found between business and industry involvement used as a control measure and the future use of citizen involvement in conservation activities." As stated before this significant relationship is because in the cities and regions in which business and industry involvement and cooperation was used as a control measure one of the next steps was to have citizen involvement.

For this reason it is essential that the cities and regions have some means of informing business and industry as well as informing the citizens about the energy shortage and communicate the fact that there must be something done to combat the shortage. To do this means a concerted effort on the part of the newspapers, television and radio.

The questionnaires the author received that had no response in this area indicates that more could and should be done in this area.

In the null Hypothesis 2-3, it was found that a significant relationship was found between business and

industry involvement and cooperation used as a control measure and the future use of business and industry involvement and cooperation.

This significant relationship is because in the cities and regions where business and industry involvement and cooperation was utilized it was found to work, and therefore it would be used in the future.

This points out the fact that there is good rapport between all parties involved. It also shows that there had been an effort made to educate business and industry to the fact that there is an energy shortage and business and industry became involved.

Business and industry could have been involved by changing the employees time to report to work thereby easing the rush hour traffic. If more industries and business could and would engage in these activities a large amount of gasoline that is currently wasted in slow traffic could be saved.

The null Hypothesis 2-5 says, "No significant relationship will be found between business and industry involvement and cooperation used as a control measure and the future use of stopping truck operations during peak travel periods.

This hypothesis was rejected because in the cities and regions that business and industry involvement and cooperation was used as a control measure all phases of

business and industrial fuel consuming machines were examined and their various times of being on the street were studied. These times have to be coordinated so these fuel consuming machines were not on the streets during peak travel periods. These peak travel periods would most likely be during the so called rush hours.

To implement this is to educate business and industries to the fact that there is an energy shortage. After this is accomplished they can start on such things as stopping truck operations during peak travel periods.

In Hypothesis 3-6, it states, "No significant relationship will be found between long range metropolitan and areawide regional planning used as a control measure and the future use of improved truck engines and inspection."

A significant relationship was found because, in the cities and regions where long range metropolitan and areawide regional planning was used as a control measure, the future use of improved truck engines and inspection was also under consideration. By long range metropolitan and areawide regional planning it was meant that the metropolitan and areawide regional planning agencies should coordinate their gasoline use control measures so they could coincide with one another. In too many instances the two types of agencies are run as separate entities. They should coordinate these activities over a long span of time not just next week or next month.

The future use of improved truck engines and in-

spection was just one of several ways in which gasoline use control measures could be instituted if the metropolitan and areawide regional planning agencies would coordinate in this area.

The null Hypothesis 3-12 states that there will be no relationship between long range metropolitan and areawide regional planning used as a control measure and the future use of decreasing mass transit fares.

This is an example of what has already been stated in the last hypothesis. The idea that metropolitan and areawide planning agencies should coordinate their efforts over a long span of time. If this was done they surely could come up with more than the two measures stated.

Chapter IV

Summary

The United States is currently confronted with one of the most serious resource problems it has ever faced. Gasoline, one of the nation's most important fuels is in critically short supply in many areas. A factor of primary importance in the gasoline shortage is the phenomenal increase in demand over the preceding years. In 1962, Americans used 66,255,943,000 gallons of gasoline; by 1972 demand had increased 54.9 per cent to a record 102,615,535,000 gallons.

It is obvious that, if gasoline supplies are insufficient, (and they are, according to the oil companies) much of the demand will necessarily not be met. Because of projections for continued increase in gasoline consumption experts have begun to seriously examine gasoline conservation.

This study is seeking to identify, compare, and evaluate the effectiveness of gasoline use control measures in major urban and metropolitan regions. This was accomplished through the utilization of a questionnaire. The questionnaire was sent to two hundred planning agencies chosen at random from the Roster of the American Institute of Planners.

One hundred and four questionnaires were returned, but only eighty-one were usable.

The study arrived at the conclusion that of the twenty-six measures included in the survey, only five were seen to be extremely good candidates for further policy development at local, state, and national levels of government. These were: 1) car pooling, 2) public education, 3) business and industry involvement and cooperation, 4) citizen involvement in conservation activities, and 5) improve bicycle paths and bicycling facilities.

After recording the questionnaires in percentages and absolute numbers a chi square analysis was used to find out if there were any significant relationships. Seven relationships were found out of a total of seventy-eight null hypotheses.

Recommendations

Federal, state, metropolitan governments should give substantial support to the various bodies whose function it is to decide what should and must be done in the area of fuel conservation. By support, it is meant that federal, state, and metropolitan governments should make available to these bodies: (a) funds, (b) technical assistance, (c) enabling legislation, and (d) federal legislation.

The author found that the incentives for implementing the measures were 1) concern for energy crisis, 2) economic motives, and 3) environmental motives. These are recognized to be significant justifications for the

institution of local measures.

Cities and regions should be required to develop educational programs on the energy crisis, to recognize and demonstrate economic motives in conservation and to support environmental motives in the locality or region.

These findings say that there is a basic theoretical flaw underlying planning in the United States. What the planners are saying is that they should have the task of tackling the energy problem, but do not. Citizen involvement and business and industry involvement and cooperation in the planning process is basically the same thing as citizen involvement in conservation activities. Nothing can help solve this problem we are now in to the same extent as citizens input, because it is the citizen who uses gasoline. Yet, citizen involvement in conservation activities had a no response or don't know rating of 57.7 per cent.

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APPENDIX A

Gasoline Use Control Measures Survey

KSU KANSAS STATE UNIVERSITY

Regional and Community Planning
Seaton Hall
Manhattan, Kansas 66506
Phone: 913 532 5958

Summer, 1974

Gasoline Use Control Measures Survey

Dear Sir:

This study is seeking to identify, compare, and evaluate the effectiveness of gasoline use control measures in major urban and metropolitan regions. Your planning agency has been chosen as a respondent, since an areawide organization is in the strategic position of learning about and reviewing proposals, studies and other information about a wide range of policies within its jurisdiction. It is hoped that information gained from the study will establish: (a) the surviving gasoline use control measures, (b) the rated effectiveness of existing measures, (c) the common justification for the institution of these measures, (d) the reasons why some succeed where others fail, and (e) the tendencies of local and areawide bodies to adopt new gasoline use control measures.

The response should reflect the views and judgments of your agency. Please indicate your immediate reaction upon reading a question. If you have any other comments on the question or the subject it covers, please make them. The data will be used for statistical reports and no individual response or respondent will ever be identified. Please include any additional information about your gasoline use control measures that you might have.

Because a limited number of agencies are being asked to participate in this study, your response will comprise a significant variable, and will thus be of great value to the findings of the study.

Your cooperation in this research effort will be appreciated.

Yours truly,

Timothy M. Hamilton
Master of Regional and
Community Planning Candidate

TMH:gt

Enc.

GASOLINE USE CONTROL MEASURES SURVEY

1. Have any of the following gasoline use control measures been instituted in your city or region? If yes, indicate how effective it has been in the effectiveness columns. If no, skip to the next measure; show no indication.

	Very Effective	Effective	Not so Effective	Ineffective	Don't Know
1. Public education	___	___	___	___	___
2. Citizen involvement in conservation activities	___	___	___	___	___
3. Business and industry involvement and cooperation	___	___	___	___	___
4. Stop truck operation during peak travel periods	___	___	___	___	___
5. Freight consolidation	___	___	___	___	___
6. Improved truck engines and inspection	___	___	___	___	___
7. Delivery control and programming	___	___	___	___	___
8. Sales on smaller engines and vehicles policies	___	___	___	___	___
9. Car pooling	___	___	___	___	___
10. Improve traffic flow	___	___	___	___	___
11. Auto maintenance inspections and monitoring	___	___	___	___	___
12. Decrease auto operation in slow traffic	___	___	___	___	___
13. Decrease of mass transit fares	___	___	___	___	___
14. Increase mass transit modes	___	___	___	___	___
15. Improve bicycle paths and bicycling facilities	___	___	___	___	___
16. Increase urban fringe parking facilities	___	___	___	___	___
17. Increase car pooling to trunk lines	___	___	___	___	___
18. Privileged lanes and thorough-fares for buses and car pools	___	___	___	___	___
19. Improve rail service	___	___	___	___	___
20. Create incentives to walking	___	___	___	___	___
21. Increase consumer choices in nearby facilities	___	___	___	___	___
22. Promote use of communication facilities (telephones, letters, advertisements, etc.) in lieu of travel	___	___	___	___	___
23. Increase fuel taxes	___	___	___	___	___
24. Auto registration tax by size, horse power and power attachment	___	___	___	___	___
25. Encourage demonstration of alternatives to internal combustion engines	___	___	___	___	___
26. Long-range metropolitan and areawide regional planning	___	___	___	___	___

11. How did your city or region justify the institution of the measures used? Skip measures that do not apply.

	Due to national legislation requirement	Due to national efficiency	Due to environmental motives	Due to economic motives	Due to concern for energy crisis	Don't know
1. Public education	___	___	___	___	___	___
2. Citizen involvement in conservation activities	___	___	___	___	___	___
3. Business and industry involvement and cooperation	___	___	___	___	___	___
4. Stop truck operation during peak travel periods	___	___	___	___	___	___
5. Freight consolidation	___	___	___	___	___	___
6. Improved truck engines and inspection	___	___	___	___	___	___
7. Delivery control and programming	___	___	___	___	___	___
8. Sales on smaller engines and vehicles policies	___	___	___	___	___	___
9. Car pooling	___	___	___	___	___	___
10. Improve traffic flow	___	___	___	___	___	___
11. Auto maintenance inspections and monitoring	___	___	___	___	___	___
12. Decrease auto operation in slow traffic	___	___	___	___	___	___
13. Decrease of mass transit fares	___	___	___	___	___	___
14. Increase mass transit modes	___	___	___	___	___	___
15. Improve bicycle paths and bicycling facilities	___	___	___	___	___	___
16. Increase urban fringe parking facilities	___	___	___	___	___	___
17. Increase car pooling to trunk lines	___	___	___	___	___	___
18. Privilege lanes and thoroughfares for buses and car pools	___	___	___	___	___	___
19. Improve rail service	___	___	___	___	___	___
20. Create incentives to walking	___	___	___	___	___	___
21. Increase consumer choices in nearby facilities	___	___	___	___	___	___
22. Promote use of communication facilities (telephones, letters, advertisements, etc.) in lieu of travel	___	___	___	___	___	___
23. Increase fuel taxes	___	___	___	___	___	___
24. Auto registration tax by size, horsepower and power attachment	___	___	___	___	___	___
25. Encourage demonstration of alternatives to internal combustion engines	___	___	___	___	___	___
26. Long-range metropolitan and areawide regional planning	___	___	___	___	___	___

111. For measures that you have judged to be very effective or somewhat effective, indicate some reasons why they have succeeded where others failed. Skip measures that do not apply.

	Political leader-ship	Legislation and supervision	Business leader-ship	Economic feasibility	Individual Initiative
1. Public education	___	___	___	___	___
2. Citizen involvement in conservation activities	___	___	___	___	___
3. Business and industry involvement and cooperation	___	___	___	___	___
4. Stop truck operation during peak travel periods	___	___	___	___	___
5. Freight consolidation	___	___	___	___	___
6. Improved truck engines and inspection	___	___	___	___	___
7. Delivery control and programming	___	___	___	___	___
8. Sales on smaller engines and vehicle policies	___	___	___	___	___
9. Car pooling	___	___	___	___	___
10. Improve traffic flow	___	___	___	___	___
11. Auto maintenance inspection and monitoring	___	___	___	___	___
12. Decrease auto operation in slow traffic	___	___	___	___	___
13. Decrease of mass transit fares	___	___	___	___	___
14. Increase mass transit modes	___	___	___	___	___
15. Improve bicycle paths and bicycling facilities	___	___	___	___	___
16. Increase urban fringe parking facilities	___	___	___	___	___
17. Increase car pooling to trunk lines	___	___	___	___	___
18. Privileged lanes and thoroughfares for buses and car pools	___	___	___	___	___
19. Improve rail service	___	___	___	___	___
20. Create incentives to walking	___	___	___	___	___
21. Increase consumer choices in nearby facilities	___	___	___	___	___
22. Promote use of communication facilities (telephones, letters, advertisements, etc.) in lieu of travel	___	___	___	___	___
23. Increase fuel taxes	___	___	___	___	___
24. Auto registration tax by size, horse power and power attachment	___	___	___	___	___
25. Encourage demonstration of alternatives to internal combustion engines	___	___	___	___	___
26. Long-range metropolitan and areawide regional planning	___	___	___	___	___

IV. How likely is it for your city or region to adopt any of these gasoline use control measures in the near future? Skip measures that do not apply.

	Certain	Very likely	Likely	Unlikely	Very unlikely	Can't say
1. Public education	___	___	___	___	___	___
2. Citizen involvement in conservation activities	___	___	___	___	___	___
3. Business and industry involvement and cooperation	___	___	___	___	___	___
4. Stop truck operation during peak travel periods	___	___	___	___	___	___
5. Freight consolidation	___	___	___	___	___	___
6. Improved truck engines and inspection	___	___	___	___	___	___
7. Delivery control and programming	___	___	___	___	___	___
8. Sales on smaller engines and vehicles policies	___	___	___	___	___	___
9. Car pooling	___	___	___	___	___	___
10. Improve traffic flow	___	___	___	___	___	___
11. Auto maintenance inspections and monitoring	___	___	___	___	___	___
12. Decrease auto operation in slow traffic	___	___	___	___	___	___
13. Decrease of mass transit fares	___	___	___	___	___	___
14. Increase mass transit modes	___	___	___	___	___	___
15. Improve bicycle paths and bicycling facilities	___	___	___	___	___	___
16. Increase urban fringe parking facilities	___	___	___	___	___	___
17. Increase car pooling to trunk lines	___	___	___	___	___	___
18. Privileged lanes and thoroughfares for buses and car pools	___	___	___	___	___	___
19. Improve rail service	___	___	___	___	___	___
20. Create incentives to walking	___	___	___	___	___	___
21. Increase consumer choices in nearby facilities	___	___	___	___	___	___
22. Promote use of communication facilities (telephones, letters, advertisements, etc.) in lieu of travel	___	___	___	___	___	___
23. Increase fuel taxes	___	___	___	___	___	___
24. Auto registration tax by size, horse power and power attachment	___	___	___	___	___	___
25. Encourage demonstration of alternatives to internal combustion engines	___	___	___	___	___	___
26. Long-range metropolitan and areawide regional planning	___	___	___	___	___	___

APPENDIX B

Frequency Counts of
Gasoline Use Control Measures Survey

GASOLINE USE CONTROL MEASURES SURVEY

I. Have any of the following gasoline use control measures been instituted in your city or region? If yes, indicate how effective it has been in the effectiveness columns. If no, skip to the next measure; show no indication. (in percentage)

	Very Effective	Effective	Not so Effective	Ineffective	Don't Know
1. Car pooling	2.8	20.1	25.9	13.4	37.5
2. Public Education	1.9	30.7	13.4	1.9	51.9
3. Business and industry involvement and cooperation	3.8	19.2	16.3	4.8	55.7
4. Citizen involvement in conservation activities	2.8	17.3	17.3	4.8	57.7
5. Improve bicycle paths and bicycling facilities	2.8	15.3	16.3	5.7	59.6
6. Improve traffic flow	3.8	20.1	9.6	4.8	61.5
7. Decrease of mass transit fares	1.9	11.5	3.8	2.8	64.4
8. Long-range metropolitan and area-wide regional planning	2.8	18.2	19.2	3.8	65.7
9. Increase urban fringe parking facilities	.9	12.5	9.6	3.8	73.0
10. Increase mass transit modes	1.9	13.4	7.6	.9	75.9
11. Sales on smaller engines and vehicle policies	1.9	14.4	3.8	2.8	76.9
12. Increase car pooling to trunk lines	0	8.6	7.6	1.9	81.0

GASOLINE USE .... cont'd

13.	Promote use of communication facilities (telephones, letters, advertisements, etc.) in lieu of travel	0	7.6	5.7	3.8	82.7
14.	Increase consumer choices in nearby facilities	0	7.6	3.8	2.8	85.5
15.	Improve rail service	0	4.8	3.8	5.7	85.6
16.	Decrease auto operation in slow traffic	0	7.6	2.8	2.8	86.6
17.	Auto registration tax by size, horse power and power attachment	0	3.8	3.8	4.8	87.5
18.	Encourage demonstration of alternatives to internal combustion engines	0	1.9	5.7	4.8	87.5
19.	Auto maintenance inspections and monitoring	2.8	13.4	1.9	3.8	87.9
20.	Create incentives to walking	0	2.8	3.8	4.8	88.4
21.	Increase fuel taxes	0	.9	2.8	6.7	89.4
22.	Privileged lanes and thoroughfares for buses and car pools	.9	4.8	.9	3.8	89.4
23.	Delivery control and programming	0	2.8	3.8	0	93.2
24.	Improved truck engines and inspection	.9	2.8	0	.9	95.2
25.	Stop truck operation during peak travel periods	0	1.9	0	1.9	96.1
26.	Freight consolidation	0	1.9	.9	0	97.1

II. How did your city or region justify the institution of the measures used? Skip measures that do not apply.

	Due to national legislation requirement	Due to national efficiency	Due to environmental motives	Due to economic motives	Due to concern for energy crisis
1. Public education	0	4	4	3	7
2. Citizen involvement in conservation activities	0	5	2	14	11
3. Business and industry involvement and cooperation	5	3	2	19	25
4. Stop truck operation during peak travel periods	0	0	3	0	5
5. Freight consolidation	0	0	0	3	3
6. Improved truck engines and inspection	2	1	0	4	5
7. Delivery control and programming	0	0	0	3	3
8. Sales on smaller engines and vehicle policies	1	0	3	16	8
9. Car pooling	4	4	14	25	45
10. Improve traffic flow	1	3	5	10	8
11. Auto maintenance inspections and monitoring	4	3	3	7	4
12. Decrease auto operation in slow traffic	1	1	2	2	3
13. Decrease of mass transit fares	0	2	7	11	8
14. Increase mass transit modes	0	3	7	9	8
15. Improve bicycle paths and bicycling facilities	0	1	31	6	9

Question II cont'd

16. Increase urban fringe parking facilities	2	1	3	8	8
17. Increase car pooling to trunk lines	0	2	3	8	5
18. Privilege lanes and thoroughfares for buses and car pools	0	1	3	2	1
19. Improve rail service	3	0	1	5	5
20. Create incentives to walking	0	1	5	3	4
21. Increase consumer choices in nearby facilities	0	0	1	5	2
22. Promote use of communication facilities (telephones, letters, advertisements, etc.) in lieu of travel	0	0	3	8	8
23. Increase fuel taxes	1	1	0	0	0
24. Auto registration tax by size, horsepower and power attachment	1	1	0	2	0
25. Encourage demonstration of alternatives to internal combustion engines	1	0	0	0	0
26. Long-range metropolitan and area-wide regional planning	15	0	0	0	0
	41	37	139	173	185

III. For measures that you have judged to be very effective or somewhat effective, indicate some reasons why they have succeeded where others failed. Skip measures that do not apply.

	Political leadership	Legislation and supervision	Business leadership	Economic feasibility	Individual Initiative
1. Public education	18	7	7	10	14
2. Citizen involvement in conservation activities	10	2	6	5	19
3. Business and industry involvement and cooperation	8	1	15	11	4
4. Stop truck operation during peak travel periods	1	0	1	1	1
5. Freight consolidation	0	0	0	3	3
6. Improved truck engines and inspection	1	2	0	3	0
7. Delivery control and programming	0	0	0	0	0
8. Sales on smaller engines and vehicle policies	0	1	1	14	8
9. Car pooling	11	4	6	16	17
10. Improve traffic flow	10	10	2	10	4
11. Auto maintenance inspection and monitoring	4	3	3	7	4
12. Decrease auto operation in slow traffic	1	1	1	2	2
13. Decrease of mass transit fares	8	1	1	9	1
14. Increase mass transit modes	7	4	1	3	1
15. Improve bicycle paths and cycling facilities	12	9	4	4	14

Question III cont'd

16. Increase urban fringe parking facilities	4	4	5	4	5
17. Increase car pooling to trunk lines	3	2	2	2	3
18. Privileged lanes and thoroughfares for buses and car pools	2	2	0	2	1
19. Improve rail service	4	1	1	0	5
20. Create incentives to walking	0	0	0	0	3
21. Increase consumer choices in nearby facilities	1	0	3	7	0
22. Promote use of communication facilities (telephones, letters, advertisements, etc.) in lieu of travel	1	1	4	4	4
23. Increase fuel taxes	1	1	0	0	0
24. Auto registration tax by size, horse power and power attachment	1	4	0	0	0
25. Encourage demonstration of alternatives to internal combustion engines	2	1	0	0	0
26. Long-range metropolitan and area-wide regional planning	15	0	0	0	0
	125	61	63	117	110

IV. How likely is it for your city or region to adopt any of these gasoline use control measures in the near future? Skip measures that do not apply.

	Certain	Very likely	Likely	Unlikely	Very unlikely
1. Public education	9	5	25	7	2
2. Citizen involvement in conservation activities	7	4	31	8	2
3. Business and industry involvement and cooperation	7	6	22	7	5
4. Stop truck operation during peak travel periods	0	1	3	15	18
5. Freight consolidation	1	1	6	18	5
6. Improved truck engines and inspection	1		8	15	6
7. Delivery control and programming	0	1	10	11	8
8. Sales on smaller engines and vehicles policies	6	2	14	10	6
9. Car pooling	10	4	23	11	1
10. Improve traffic flow	15	13	17	10	5
11. Auto maintenance inspections and monitoring	6	4	8	17	4
12. Decrease auto operation in slow traffic	0	7	16	12	1
13. Decrease of mass transit fares	4	3	12	17	8
14. Increase mass transit modes	6	13	14	13	5
15. Improve bicycle paths and bicycling facilities	20	17	17	3	1

Question IV cont'd

16. Increase urban fringe parking facilities	10	13	18	6	6
17. Increase car pooling to trunk lines	5	4	7	15	8
18. Privileged lanes and thoroughfares for buses and car pools	1	2	13	14	15
19. Improve rail service	3	2	15	12	10
20. Create incentives to walking	5	13	16	6	1
21. Increase consumer choices in near-by facilities	0	2	13	12	3
22. Promote use of communication facilities (telephones, letters, advertisements, etc.) in lieu of travel	2	3	21	8	6
23. Increase fuel taxes	1	1	10	12	7
24. Auto registration tax by size, horsepower and power attachment	1	3	7	14	3
25. Encourage demonstration of alternatives to internal combustion engines	1	3	4	14	8
26. Long-range metropolitan and area-wide regional planning	25	25	10	14	2
	146	152	360	301	146

APPENDIX C

Results of Statistical Analysis Utilizing Chi Square

Results of Statistical Analysis Utilizing

Chi Square

Hypotheses	x^2	df	Level of significance at = .05
1-1 (Pub. Educ. - Pub. Educ.)	20.155	20	31.410
1-2 (Pub. Educ. - Citizen)	26.542	20	31.410
1-3 (Pub. Educ. - Bus. Involve.)	38.868*	20	31.410
1-4 (Pub. Educ. - Stop Truck)	19.983	16	26.296
1-5 (Pub. Educ. - Freight)	12.657	20	31.410
1-6 (Pub. Educ. - Imp. Engines)	16.015	16	26.296
1-7 (Pub. Educ. - Del. Control)	29.353*	16	26.296
1-8 (Pub. Educ. - Sales)	22.151	20	31.410
1-9 (Pub. Educ. - Car)	11.912	20	31.410
1-10 (Pub. Educ. - Traffic)	22.886	20	31.410
1-11 (Pub. Educ. - Maintenance)	25.237	20	31.410
1-12 (Pub. Educ. - Dec. Auto)	9.203	12	21.026
1-13 (Pub. Educ. - Decrease Fares)	28.245	20	31.410
1-14 (Pub. Educ. - Inc. Modes)	14.061	20	31.410
1-15 (Pub. Educ. - Imp. Bike Paths)	17.630	20	31.410
1-16 (Pub. Educ. - Inc. Parking)	25.784	20	31.410
1-17 (Pub. Educ. - Inc. Pooling)	33.197	20	31.410
1-18 (Pub. Educ. - Priv. Lanes)	12.784	20	31.410
1-19 (Pub. Educ. - Imp. Rail)	16.448	20	31.410
1-20 (Pub. Educ. - Walking)	19.105	16	26.296
1-21 (Pub. Educ. - Inc. Choices)	17.669	16	26.296
1-22 (Pub. Educ. - Prom. Comm.)	26.314	20	31.410
1-23 (Pub. Educ. - Inc. Taxes)	22.497	24	36.415

* significant relationships were observed

Hypotheses	x^2	df	Level of significance at = .05
1-24 (Pub. Educ. - Reg. Tax)	20.859	20	31.410
1-25 (Pub. Educ. - Altern.)	30.419	20	31.410
1-26 (Pub. Educ. - Planning)	13.724	16	26.296

Hypotheses	x^2	df	Level of significance at = .05
2-1 (Bus. Inv. - Pub. Educ.)	30.645	20	31.410
2-2 (Bus. Inv. - Citizen)	40.414*	20	31.410
2-3 (Bus. Inv. - Bus. Inv.)	40.065*	20	31.410
2-4 (Bus. Inv. - Stop Truck)	12.460	16	26.296
2-5 (Bus. Inv. - Freight)	39.920*	20	31.410
2-6 (Bus. Inv. - Imp. Engines)	19.724	16	26.296
2-7 (Bus. Inv. - Del. Control)	21.401	16	26.296
2-8 (Bus. Inv. - Sales)	17.521	20	31.410
2-9 (Bus. Inv. - Car)	18.004	20	31.410
2-10 (Bus. Inv. - Traffic)	17.590	20	31.410
2-11 (Bus. Inv. - Maintenance)	25.362	20	31.410
2-12 (Bus. Inv. - Dec. Auto)	10.484	12	21.026
2-13 (Bus. Inv. - Decrease Fares)	17.352	20	31.410
2-14 (Bus. Inv. - Inc. Modes)	13.998	20	31.410
2-15 (Bus. Inv. - Imp. Bike Paths)	19.800	20	31.410
2-16 (Bus. Inv. - Inc. Parking)	17.924	20	31.410
2-17 (Bus. Inv. - Inc. Pooling)	19.456	20	31.410
2-18 (Bus. Inv. - Priv. Lanes)	12.591	20	31.410
2-19 (Bus. Inv. - Imp. Rail)	10.448	20	31.410
2-20 (Bus. Inv. - Walking)	14.034	16	26.296
2-21 (Bus. Inv. - Inc. Choices)	19.097	16	26.296
2-22 (Bus. Inv. - Prom. Comm.)	19.240	20	31.410
2-23 (Bus. Inv. - Inc. Taxes)	12.243	24	36.415
2-24 (Bus. Inv. - Reg. Tax)	13.407	20	31.410
2-25 (Bus. Inv. - Altern.)	21.309	20	31.410
2-26 (Bus. Inv. - Planning)	21.729	16	26.296

* significant relationships were observed

Hypotheses	x^2	df	Level of significance at = .05
3-1 (Planning - Pub. Educ.)	13.161	20	31.410
3-2 (Planning - Citizen)	21.942	20	31.410
3-3 (Planning - Bus. Inv.)	14.688	20	31.410
3-4 (Planning - Stop Truck)	13.424	16	26.296
3-5 (Planning - Freight)	26.533	20	31.410
3-6 (Planning - Imp. Engines)	37.026*	16	26.296
3-7 (Planning - Del. Control)	15.089	16	26.296
3-8 (Planning - Sales)	24.699	20	31.410
3-9 (Planning - Car)	21.198	20	31.410
3-10 (Planning - Traffic)	24.637	20	31.410
3-11 (Planning - Maintenance)	18.029	20	31.410
3-12 (Planning - Dec. Auto)	27.075*	12	21.026
3-13 (Planning - Decrease Fares)	22.831	20	31.410
3-14 (Planning - Inc. Modes)	21.125	20	31.410
3-15 (Planning - Imp. Bike Paths)	29.232	20	31.410
3-16 (Planning - Inc. Parking)	22.004	20	31.410
3-17 (Planning - Inc. Pooling)	9.717	20	31.410
3-18 (Planning - Priv. Lanes)	15.889	20	31.410
3-19 (Planning - Imp. Rail)	28.198	20	31.410
3-20 (Planning - Walking)	22.394	16	26.296
3-21 (Planning - Inc. Choices)	23.661	16	26.296
3-22 (Planning - Prom. Comm.)	17.595	20	31.410
3-23 (Planning - Inc. Taxes)	32.701	24	36.415
3-24 (Planning - Reg. Tax)	16.017	20	31.410
3-25 (Planning - Altern.)	22.579	20	31.410
3-26 (Planning - Planning)	18.224	16	26.296

* significant relationships were observed

APPENDIX D

Computer Tables of Frequencies

VAR 0031 REF 0031 DATA SET 10-EDUCS*
NAME-PUB EDUC/CONTROL MEASURE MD=0 OR GE 5

16. HAS PUBLIC EDUCATION BEEN USED AS A GASOLINE USE CONTROL MEASURE IN YOUR CITY OR REGION? IF YES, INDICATE HOW EFFECTIVE IT HAS BEEN BELOW. IF NOT, SKIP TO QUESTION 20.

2	1. VERY EFFECTIVE
37	2. EFFECTIVE
1[illegible]	3. NOT SO EFFECTIVE
7	4. INEFFECTIVE
31	0. NO RESPONSE

VAR 0032 REF 0032 DATA SET 10-EDUCS*
NAME-PUB EDUC/WHY USED MD=0 OR GE 6 MULT RESPS 5

18. HOW DID YOUR CITY JUSTIFY THE INSTITUTION OF PUBLIC EDUCATION ON GAS CONTROL? SKIP THIS QUESTION IF IT DOES NOT APPLY.

6	1. DUE TO NATIONAL LEGISLATION REQUIREMENT
4	2. DUE TO NATIONAL EFFICIENCY
3	3. DUE TO ENVIRONMENTAL MOTIVES
7	4. DUE TO ECONOMIC MOTIVES
45	5. DUE TO CONCERN FOR ENERGY CRISIS
18	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0033 REF 0033 DATA SET 10-EDUCS*
NAME-PUB EDUC/SUCCESS MD=0 OR GE 6 MULT RESPS 5

16. IF YOU JUDGED PUBLIC EDUCATION TO BE VERY EFFECTIVE OR SOMEWHAT EFFECTIVE, CHECK ANY OF THE FOLLOWING WHICH INDICATE WHY IT HAS SUCCEEDED. SKIP THIS QUESTION IF IT DOES NOT APPLY.

14	1. POLITICAL LEADERSHIP
7	2. LEGISLATION AND SUPERVISION
7	3. BUSINESS LEADERSHIP
13	4. ECONOMIC FEASIBILITY
14	5. INDIVIDUAL INITIATIVE
15	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0034 REF 0034 DATA SET 10-EDUCS*
NAME-PUB EDUC/USED IN FUTURE MD=0 OR GE 6

19. HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ADOPT PUBLIC EDUCATION AS A GASOLINE USE CONTROL MEASURE IN THE NEAR FUTURE? SKIP THIS QUESTION IF IT DOES NOT APPLY.

9	1. CERTAIN
5	2. VERY LIKELY
25	3. LIKELY
7	4. UNLIKELY
2	5. VERY UNLIKELY
32	0. NO RESPONSE

VAR 0035 REF 0035 DATA SET 10-EDUCS*
NAME-CITIZEN INV/CONTROL MEAS MD=0 OR GE 5

2[illegible]. HAS CITIZEN INVOLVEMENT BEEN USED AS A GASOLINE USE CONTROL MEASURE IN YOUR CITY OR REGION? IF YES, INDICATE HOW EFFECTIVE IT HAS BEEN BELOW. IF NOT, SKIP TO QUESTION 2[illegible].

5	1. VERY EFFECTIVE
18	2. EFFECTIVE
18	3. NOT SO EFFECTIVE
5	4. INEFFECTIVE
37	0. NO RESPONSE

VAR 0036 REF 0036 DATA SET 10-EDUCS*
NAME-CITIZEN INV/WHY USED MD=0 OR GE 6 MULT RESPS 5

2[illegible]. HOW DID YOUR CITY JUSTIFY THE INSTITUTION OF CITIZEN INVOLVEMENT IN CONSERVATION ACTIVITIES ON GAS CONTROL? SKIP THIS QUESTION IF IT DOES NOT APPLY.

5	1. DUE TO NATIONAL LEGISLATION REQUIREMENT
7	2. DUE TO NATIONAL EFFICIENCY
14	3. DUE TO ENVIRONMENTAL MOTIVES
11	4. DUE TO ECONOMIC MOTIVES
27	5. DUE TO CONCERN FOR ENERGY CRISIS
22	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

```
VAR 0023                          REF 0023                 DATA SET ID=FGUCS
    NAME=IMP TRK ENG/SUCCESS          MD=0 OR GE 6                MULT RESPS  5

             66.   IF YOU FOUND IMPROVED TRUCK ENGINES AND INSPECTIONS TO
              BE VERY EFFECTIVE OR SOMEWHAT EFFECTIVE, CHECK ANY OF THE
              FOLLOWING WHICH INDICATES WHY IT HAS SUCCEEDED. SKIP THIS
              QUESTION IF IT DOES NOT APPLY.
             ..............................................................

       1          1. POLITICAL LEADERSHIP
       7          2. LEGISLATION AND SUPERVISION
       0          3. BUSINESS LEADERSHIP
       3          4. ECONOMIC FEASIBILITY
       0          5. INDIVIDUAL INITIATIVE
      75          0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)


VAR 0024                          REF 0024                 DATA SET ID=FGUCS
    NAME=IMP TRK ENG/FUTURE USE?      MD=0 OR GE 6

             67.   HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ADOPT
              IMPROVED TRUCK ENGINES AND INSPECTIONS AS A GASOLINE USE
              CONTROL MEASURE IN THE NEAR FUTURE? SKIP THIS QUESTION IF
              IT DOES NOT APPLY.
             ..............................................................

       1          1. CERTAIN
       0          2. VERY LIKELY
       9          3. LIKELY
      15          4. UNLIKELY
       6          5. VERY UNLIKELY
      51          0. NO RESPONSE


VAR 0025                          REF 0025                 DATA SET ID=FGUCS
    NAME=DEL CONT-PROG/CONT MEAS      MD=0 OR GE 5

             68.   HAS DELIVERY CONTROL AND PROGRAMMING BEEN USED AS A
              GASOLINE USE CONTROL MEASURE IN YOUR CITY OR REGION? IF YES,
              INDICATE HOW EFFECTIVE IT HAS BEEN BELOW. IF NOT, SKIP TO
              QUESTION 70.
             ..............................................................

       0          1. VERY EFFECTIVE
       3          2. EFFECTIVE
       6          3. NOT SO EFFECTIVE
```

```
             (CONTINUED)
             ...........

       0          4. INEFFECTIVE
      74          0. NO RESPONSE


VAR 0026                          REF 0026                 DATA SET ID=FGUCS
    NAME=DEL CONT-PROG/WHY USED       MD=0 OR GE 6                MULT RESPS  5

             69.   HOW DID YOUR CITY JUSTIFY THE INSTITUTION OF DELIVERY
              CONTROL AND PROGRAMMING AS A GASOLINE USE CONTROL MEASURE?
              SKIP THIS QUESTION IF IT DOES NOT APPLY.
             ..............................................................

       0          1. DUE TO NATIONAL LEGISLATION REQUIREMENT
       4          2. DUE TO NATIONAL EFFICIENCY
       0          3. DUE TO ENVIRONMENTAL MOTIVES
       3          4. DUE TO ECONOMIC MOTIVES
       1          5. DUE TO CONCERN FOR ENERGY CRISIS
      75          0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)


VAR 0027                          REF 0027                 DATA SET ID=FGUCS
    NAME=DEL CONT-PROG/SUCCESS        MD=0 OR GE 6

             70.   IF YOU FOUND DELIVERY CONTROL AND PROGRAMMING TO BE
              VERY EFFECTIVE OR SOMEWHAT EFFECTIVE, CHECK ANY OF THE
              FOLLOWING WHICH INDICATES WHY IT HAS SUCCEEDED. SKIP THIS
              QUESTION IF IT DOES NOT APPLY.
             ..............................................................

       0          1. POLITICAL LEADERSHIP
       0          2. LEGISLATION AND SUPERVISION
       0          3. BUSINESS LEADERSHIP
       0          4. ECONOMIC FEASIBILITY
       0          5. INDIVIDUAL INITIATIVE
      81          0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)


VAR 0028                          REF 0028                 DATA SET ID=FGUCS
    NAME=DEL CONT-PROG/FUTURE USE     MD=0 OR GE 6

             71.   HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ADOPT
              DELIVERY CONTROL AND PROGRAMMING AS A GASOLINE USE CONTROL
              MEASURE IN THE NEAR FUTURE? SKIP THIS QUESTION IF IT DOES
              NOT APPLY.
             ..............................................................
```

(CONTINUED)

APPLY.

10	1. POLITICAL LEADERSHIP
19	2. LEGISLATION AND SUPERVISION
9	3. BUSINESS LEADERSHIP
13	4. ECONOMIC FEASIBILITY
[illegible]	5. INDIVIDUAL INITIATIVE
45	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0040 REF 0040 DATA SET ID-[illegible]
NAME-IMP TRAF FLOW/FUTURE USE 0040 OR GE 6

10D. HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ADOPT IMPROVED TRAFFIC FLOW AS A GAS LINE USE CONTROL MEASURE IN THE NEAR FUTURE? SKIP THIS QUESTION IF IT DOES NOT APPLY.

15	1. CERTAIN
11	2. VERY LIKELY
17	3. LIKELY
2	4. UNLIKELY
5	5. VERY UNLIKELY
29	0. NO RESPONSE

VAR 0041 REF 0041 DATA SET ID-[illegible]
NAME-AUTO INSPECT/CONT MEAS 0040 OR GE 5

11A. HAVE AUTO MAINTENANCE INSPECTIONS AND MONITORING BEEN USED AS A GASOLINE USE CONTROL MEASURE IN YOUR CITY OR REGION? IF YES, INDICATE HOW EFFECTIVE IT HAS BEEN BELOW. IF NOT, SKIP TO QUESTION 11D.

3	1. VERY EFFECTIVE
14	2. EFFECTIVE
2	3. NOT SO EFFECTIVE
4	4. INEFFECTIVE
58	0. NO RESPONSE

VAR 0042 REF 0042 DATA SET ID-[illegible]
NAME-AUTO INSPECT/WHY USED 0040 OR GE 6 MULT RESPS 5

11B. HOW DID YOUR CITY JUSTIFY THE INSTITUTION OF AUTO MAINTENANCE INSPECTIONS AND MONITORING OR GAS CONTROL? SKIP THIS QUESTION IF IT DOES NOT APPLY.

4	1. DUE TO NATIONAL LEGISLATION REQUIREMENT
3	2. DUE TO NATIONAL [illegible]
3	3. DUE TO ENVIRONMENTAL MOTIVES
7	4. DUE TO ECONOMIC MOTIVES
4	5. DUE TO [illegible] FOR ENERGY CRISIS
60	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0043 REF 0043 DATA SET ID-[illegible]
NAME-AUTO INSPECT/SUCCESS 0040 OR GE 6 MULT RESPS 5

11C. IF YOU JUDGED AUTO INSPECTIONS AND MONITORING TO BE VERY EFFECTIVE OR SOMEWHAT EFFECTIVE, CHECK ANY OF THE FOLLOWING WHICH INDICATE WHY IT HAS SUCCEEDED. SKIP THIS QUESTION IF IT DOES NOT APPLY.

9	1. POLITICAL LEADERSHIP
13	2. LEGISLATION AND SUPERVISION
1	3. BUSINESS LEADERSHIP
5	4. ECONOMIC FEASIBILITY
3	5. INDIVIDUAL INITIATIVE
81	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0044 REF 0044 DATA SET ID-[illegible]
NAME-AUTO INSPECT/FUTURE USE? 0040 OR GE 6

11D. HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ADOPT AUTO INSPECTIONS AND MONITORING AS A GAS LINE USE CONTROL MEASURE IN THE NEAR FUTURE? SKIP THIS QUESTION IF IT DOES NOT APPLY.

5	1. CERTAIN
4	2. VERY LIKELY
4	3. LIKELY
17	4. UNLIKELY

(CONTINUED)
****

6	5. VERY UNLIKELY
67	0. NO RESPONSE

VAR 0045 REF 0045 DATA SET ID=*GUESS*
SAVE-DEC AUTO OPS/CONT MEAS MD=0 OR GE 5

12A. HAS DECREASED AUTO OPERATIONS IN SLOW TRAFFIC BEEN USED AS A GASOLINE USE CONTROL MEASURE IN YOUR CITY OR REGION? IF YES, INDICATE HOW EFFECTIVE IT HAS BEEN BELOW. IF NOT, SKIP TO QUESTION 12D.
****

0	1. VERY EFFECTIVE
8	2. EFFECTIVE
3	3. NOT SO EFFECTIVE
3	4. INEFFECTIVE
67	0. NO RESPONSE

VAR 0046 REF 0046 DATA SET ID=*GUESS*
SAVE-DEC AUTO OPS/WHY USED MD=0 OR GE 6 MULT RESPS 5

12B. HOW DID YOUR CITY JUSTIFY THE INSTITUTION OF DECREASED AUTO OPERATIONS IN SLOW TRAFFIC ON GAS CONTROL? SKIP THIS QUESTION IF IT DOES NOT APPLY.
****

1	1. DUE TO NATIONAL LEGISLATION REQUIREMENT
1	2. DUE TO NATIONAL EFFICIENCY
2	3. DUE TO ENVIRONMENTAL MOTIVES
2	4. DUE TO ECONOMIC MOTIVES
3	5. DUE TO CONCERN FOR ENERGY CRISIS
72	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0047 REF 0047 DATA SET ID=*GUESS*
SAVE-DEC AUTO OPS/SUCCESS MD=0 OR GE 6 MULT RESPS 5

12C. IF YOU JUDGED DECREASED AUTO OPERATIONS IN SLOW TRAFFIC TO BE VERY EFFECTIVE OR SOMEWHAT EFFECTIVE, CHECK ANY OF THE FOLLOWING WHICH INDICATE WHY IT HAS SUCCEEDED. SKIP THIS QUESTION IF IT DOES NOT APPLY.
****

(CONTINUED)
****

1	1. POLITICAL LEADERSHIP
1	2. LEGISLATION AND SUPERVISION
1	3. BUSINESS LEADERSHIP
2	4. ECONOMIC FEASIBILITY
3	5. INDIVIDUAL INITIATIVE
71	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0048 REF 0048 DATA SET ID=*GUESS*
SAVE-DEC AUTO OPS/FUTURE USE? MD=0 OR GE 6

12D. HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ADOPT DECREASED AUTO OPERATIONS IN SLOW TRAFFIC AS A GASOLINE USE CONTROL MEASURE IN THE NEAR FUTURE? SKIP THIS QUESTION IF IT DOES NOT APPLY.
****

0	1. CERTAIN
4	2. VERY LIKELY
7	3. LIKELY
16	4. UNLIKELY
12	5. VERY UNLIKELY
45	0. NO RESPONSE

VAR 0049 REF 0049 DATA SET ID=*GUESS*
SAVE-DEC MASS TRANS FARES/CONT MEAS MD=0 OR GE 5

13A. HAS DECREASE OF MASS TRANSIT FARES BEEN USED AS A GASOLINE USE CONTROL MEASURE IN YOUR CITY OR REGION? IF YES, INDICATE HOW EFFECTIVE IT HAS BEEN BELOW. IF NOT, SKIP TO QUESTION 13D.
****

2	1. VERY EFFECTIVE
12	2. EFFECTIVE
4	3. NOT SO EFFECTIVE
3	4. INEFFECTIVE
63	0. NO RESPONSE

(CONTINUED)
....

8	1. POLITICAL LEADERSHIP
4	2. LEGISLATION AND SUPERVISION
1	3. BUSINESS LEADERSHIP
1	4. ECONOMIC FEASIBILITY
1	5. INDIVIDUAL INITIATIVE
65	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0056 REF 0056 DATA SET ID-*GUCS*
NAME-INC MASS MODE/CONT USE? NO=0 OR GE 6

15?. HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ADOPT INCREASED MASS TRANSIT MODES AS A GASOLINE USE CONTROL MEASURE IN THE NEAR FUTURE? SKIP THIS QUESTION IF IT DOES NOT APPLY.
....

4	1. CERTAIN
13	2. VERY LIKELY
14	3. LIKELY
13	4. UNLIKELY
9	5. VERY UNLIKELY
39	0. NO RESPONSE

VAR 0057 REF 0057 DATA SET ID-*GUCS*
NAME-IMP BIKE FAC/CONT MEAS NO=0 OR GE 5

15?. HAS IMPROVED BICYCLE PATHS AND FACILITIES BEEN USED AS A GASOLINE USE CONTROL MEASURE IN YOUR CITY OR REGION? IF YES, INDICATE HOW EFFECTIVE IT HAS BEEN WHICH. IF NOT, SKIP TO QUESTION 15?.
....

1	1. VERY EFFECTIVE
10	2. EFFECTIVE
17	3. NOT SO EFFECTIVE
8	4. INEFFECTIVE
39	0. NO RESPONSE

VAR 0058 REF 0058 DATA SET ID-*GUCS*
NAME-IMP BIKE FAC/WHY USED NO=0 OR GE 6 MULT RESPS 5

15?. HOW DID YOUR CITY JUSTIFY THE INSTITUTION OF IMPROVED BIKE PATHS AND FACILITIES ON GAS CONTROL? SKIP THIS QUESTION IF IT DOES NOT APPLY.
....

0	1. DUE TO NATIONAL LEGISLATION REQUIREMENT
1	2. DUE TO NATIONAL EFFICIENCY
31	3. DUE TO ENVIRONMENTAL MOTIVES
4	4. DUE TO ECONOMIC MOTIVES
-	5. DUE TO CONCERNS FOR ENERGY CRISIS
34	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0059 REF 0059 DATA SET ID-*GUCS*
NAME-IMP BIKE FACIL/SUCCESS NO=0 OR GE 6 MULT RESPS 5

15?. IF YOU JUDGED IMPROVED BIKE PATHS AND FACILITIES TO BE VERY EFFECTIVE OR SOMEWHAT EFFECTIVE, CHECK ANY OF THE FOLLOWING WHICH INDICATE WHY IT HAS SUCCEEDED. SKIP THIS QUESTION IF IT DOES NOT APPLY.
....

17	1. POLITICAL LEADERSHIP
3	2. LEGISLATION AND SUPERVISION
4	3. BUSINESS LEADERSHIP
4	4. ECONOMIC FEASIBILITY
11	5. INDIVIDUAL INITIATIVE
	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0060 REF 0060 DATA SET ID-*GUCS*
NAME-IMP BIKE FACIL/FUT USE? NO=0 OR GE 6

15?. HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ADOPT IMPROVED BIKE PATHS AND FACILITIES AS A GASOLINE USE CONTROL MEASURE IN THE NEAR FUTURE? SKIP THIS QUESTION IF IT DOES NOT APPLY.
....

3?	1. CERTAIN
17	2. VERY LIKELY
1?	3. LIKELY
3	4. UNLIKELY

VAR 0066 REF 0066 DATA SET ID-*GUCS*
NAME-CPTOL TRK LIF/WHY USED NO+0 OR GE 6 MULT RESPS 5

17B. HOW DID YOUR CITY JUSTIFY THE INSTITUTION OF INCREASED CAR POOLING TO TRUNK LINES AS GAS CONTROL? SKIP THIS QUESTION IF IT DOES NOT APPLY.

2 1. DUE TO NATIONAL LEGISLATION REQUIREMENT
0 2. DUE TO NATIONAL EFFICIENCY
3 3. DUE TO ENVIRONMENTAL MOTIVES
4 4. DUE TO ECONOMIC MOTIVES
5 5. DUE TO CONCERN FOR ENERGY CRISIS
63 0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0067 REF 0067 DATA SET ID-*GUCS*
NAME-CPTOL TRK LIF/SUCCESS NO+0 OR GE 6 MULT RESPS 5

17C. IF YOU JUDGED INCREASED CAR POOLING TO TRUNK LINES TO BE VERY EFFECTIVE OR SOMEWHAT EFFECTIVE, CHECK ANY OF THE FOLLOWING WHICH INDICATE WHY IT HAS SUCCEEDED. SKIP THIS QUESTION IF IT DOES NOT APPLY.

3 1. POLITICAL LEADERSHIP
7 2. LEGISLATION AND SUPERVISION
2 3. BUSINESS LEADERSHIP
2 4. ECONOMIC FEASIBILITY
3 5. INDIVIDUAL INITIATIVE
69 0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0068 REF 0068 DATA SET ID-*GUCS*
NAME-CPTOL TRK LIF/FUT USE? NO+0 OR GE 6

17D. HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ADOPT INCREASED CAR POOLING TO TRUNK LINES AS A GASOLINE USE CONTROL MEASURE IN THE NEAR FUTURE? SKIP THIS QUESTION IF IT DOES NOT APPLY.

5 1. CERTAIN
4 2. VERY LIKELY
7 3. LIKELY
15 4. UNLIKELY

(CONTINUED)

9 5. VERY UNLIKELY
67 0. NO RESPONSE

VAR 0069 REF 0069 DATA SET ID-*GUCS*
NAME-PRIV LANE/THRT HGAS NO+0 OR GE 5

18A. HAS PRIVILEGED LANES AND THOROUGHFARES FOR BUSES AND CAR POOLS BEEN USED AS A GASOLINE USE CONTROL MEASURE IN YOUR CITY OR REGION? IF YES, INDICATE HOW EFFECTIVE IT HAS BEEN BELOW. IF NOT, SKIP TO QUESTION 18C.

1 1. VERY EFFECTIVE
5 2. EFFECTIVE
1 3. NOT SO EFFECTIVE
4 4. INEFFECTIVE
77 0. NO RESPONSE

VAR 0070 REF 0070 DATA SET ID-*GUCS*
NAME-PRIV LN/WHY USED NO+0 OR GE 6 MULT RESPS 5

18B. HOW DID YOUR CITY JUSTIFY THE INSTITUTION OF PRIVILEGED LANES AND THOROUGHFARES FOR BUSES AND CAR POOLS AS GAS CONTROL? SKIP THIS QUESTION IF IT DOES NOT APPLY.

2 1. DUE TO NATIONAL LEGISLATION REQUIREMENT
1 2. DUE TO NATIONAL EFFICIENCY
3 3. DUE TO ENVIRONMENTAL MOTIVES
2 4. DUE TO ECONOMIC MOTIVES
1 5. DUE TO CONCERN FOR ENERGY CRISIS
71 0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0071 REF 0071 DATA SET ID-*GUCS*
NAME-PRIV LANE/SUCCESS NO+0 OR GE 6 MULT RESPS 5

18C. IF YOU JUDGED PRIVILEGED LANES AND THOROUGHFARES FOR BUSES AND CAR POOLS TO BE VERY EFFECTIVE OR SOMEWHAT EFFECTIVE, CHECK ANY OF THE FOLLOWING WHICH INDICATE WHY IT HAS SUCCEEDED. SKIP THIS QUESTION IF IT DOES NOT APPLY.

```
            (CONTINUED)
            ***********

     2          1. POLITICAL LEADERSHIP
     2          2. LEGISLATION AND SUPERVISION
     3          3. BUSINESS LEADERSHIP
     8          4. ECONOMIC FEASIBILITY
     1          5. INDIVIDUAL INITIATIVE
    74          0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)


VAR 0072                          REF 0072                 DATA SET ID=*GUCS*
    NAME=PRIV LANE/FUTURE USE?        MD=0 OR GE 6

            18D.  HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ADOPT PRIV-
              ILEGED LANES AND THOROUGHFARES FOR BUSES AND CAR POOLS AS A
              GASOLINE USE CONTROL MEASURE IN THE NEAR FUTURE? SKIP THIS
              QUESTION IF IT DOES NOT APPLY.
            ************************************************************

     1          1. CERTAIN
     2          2. VERY LIKELY
    11          3. LIKELY
    14          4. UNLIKELY
    15          5. VERY UNLIKELY
    35          0. NO RESPONSE


VAR 0073                          REF 0073                 DATA SET ID=*GUCS*
    NAME=IMP RAIL SVC/CONT MEAS       MD=0 OR GE 5

            19A.  HAS IMPROVED RAIL SERVICE BEEN USED AS A GASOLINE USE
              CONTROL MEASURE IN YOUR CITY OR REGION? IF YES, INDICATE
              HOW EFFECTIVE IT HAS BEEN BELOW. IF NOT, SKIP TO 19D.
            ************************************************************

     3          1. VERY EFFECTIVE
     5          2. EFFECTIVE
     4          3. NOT SO EFFECTIVE
     6          4. INEFFECTIVE
    65          0. NO RESPONSE
```

```
VAR 0074                          REF 0074                 DATA SET ID=*GUCS*
    NAME=IMP RAIL SVC/WHY USED        MD=0 OR GE 6                MULT RESPS  5

            19B.  WHY DID YOUR CITY JUSTIFY THE INSTITUTION OF IMPROVED
              RAIL SERVICE AS GAS CONTROL? SKIP THIS QUESTION IF IT DOES
              NOT APPLY.
            ************************************************************

     3          1. DUE TO NATIONAL LEGISLATION REQUIREMENT
     1          2. DUE TO OPERATIONAL EFFICIENCY
     5          3. DUE TO ENVIRONMENTAL MOTIVES
     5          4. DUE TO ECONOMICAL MOTIVES
     9          5. DUE TO CONCERN FOR ENERGY CRISIS
    65          0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)


VAR 0075                          REF 0075                 DATA SET ID=*GUCS*
    NAME=IMP RAIL SVC/SUCCESS         MD=0 OR GE 6                MULT RESPS  5

            19C.  IF YOU JUDGED IMPROVED RAIL SERVICE TO BE VERY EFFECTIVE
              OR SOMEWHAT EFFECTIVE, CHECK ANY OF THE FOLLOWING WHICH
              INDICATE WHY IT HAS SUCCEEDED. SKIP THIS QUESTION IF IT DOES
              NOT APPLY.
            ************************************************************

     4          1. POLITICAL LEADERSHIP
     1          2. LEGISLATION AND SUPERVISION
     1          3. BUSINESS LEADERSHIP
     3          4. ECONOMIC FEASIBILITY
     1          5. INDIVIDUAL INITIATIVE
    74          0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)


VAR 0076                          REF 0076                 DATA SET ID=*GUCS*
    NAME=IMP RAIL SVC/FUTURE USE?     MD=0 OR GE 6

            19D.  HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ADOPT IM-
              PROVED RAIL SERVICE AS A GASOLINE USE CONTROL MEASURE IN
              THE NEAR FUTURE? SKIP THIS QUESTION IF IT DOES NOT APPLY.
            ************************************************************

     3          1. CERTAIN
     2          2. VERY LIKELY
    15          3. LIKELY
    12          4. UNLIKELY
    11          5. VERY UNLIKELY
```

(CONTINUED)
....

59 0. NO RESPONSE

VAR 0327 REF 0372 DATA SET ID-*GUCS*
[illegible] WALK/CONT MEAS [illegible] OR GE 5

20A. HAS CREATING INCENTIVES TO WALKING BEEN USED AS A GAS-
OLINE USE CONTROL MEASURE IN YOUR CITY OR REGION? IF YES,
INDICATE HOW EFFECTIVE IT HAS BEEN RATED. IF NOT, SKIP TO
QUESTION 20D.
....

0	1. VERY EFFECTIVE
3	2. EFFECTIVE
4	3. NOT SO EFFECTIVE
5	4. INEFFECTIVE
64	0. NO RESPONSE

VAR 0328 REF 0373 DATA SET ID-*GUCS*
[illegible] WALK/WHY USED [illegible] OR GE 6 MULT RESPS 5

20B. HOW DID YOUR CITY JUSTIFY THE INSTITUTION OF INCENTIVES
FOR WALKING IN GAS CONTROL? SKIP THIS QUESTION IF IT DOES
NOT APPLY.
....

3	1. DUE TO NATIONAL LEGISLATION REQUIREMENT
1	2. DUE TO NATIONAL EFFICIENCY
4	3. DUE TO ENVIRONMENTAL MOTIVES
3	4. DUE TO ECONOMIC MOTIVES
.	5. DUE TO CONCERN FOR ENERGY CRISIS
67	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0329 REF 0379 DATA SET ID-*GUCS*
[illegible] WALK/SUCCESS [illegible] OR GE 6 MULT RESPS 5

20C. IF YOU LISTED CREATING INCENTIVES TO WALKING AS VERY
EFFECTIVE OR SOMEWHAT EFFECTIVE, CHECK ANY OF THE FOLLOWING
WHICH INDICATE WHY IT HAS SUCCEEDED. SKIP THIS QUESTION IF
IT DOES NOT APPLY.
....

(CONTINUED)
....

0	1. POLITICAL LEADERSHIP
0	2. LEGISLATION AND SUPERVISION
1	3. BUSINESS LEADERSHIP
0	4. ECONOMIC FEASIBILITY
1	5. INDIVIDUAL INITIATIVE
78	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0330 REF 0380 DATA SET ID-*GUCS*
[illegible] WALK/FUTURE USE? [illegible] OR GE 6

20D. HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ADOPT IN-
CENTIVES TO WALKING AS A GASOLINE USE CONTROL MEASURE IN THE
NEAR FUTURE? SKIP THIS QUESTION IF IT DOES NOT APPLY.
....

1	1. CERTAIN
9	2. VERY LIKELY
13	3. LIKELY
16	4. UNLIKELY
4	5. VERY UNLIKELY
40	0. NO RESPONSE

VAR 0331 REF 0381 DATA SET ID-*GUCS*
[illegible] CON CHOICE/CONT MEAS [illegible] OR GE 5

21A. HAS INCREASED CONSUMER CHOICES IN NEARBY FACILITIES
BEEN USED AS A GASOLINE USE CONTROL MEASURE IN YOUR CITY OR
REGION? IF YES, INDICATE HOW EFFECTIVE IT HAS BEEN BELOW.
IF NOT, SKIP TO QUESTION 21D.
....

1	1. VERY EFFECTIVE
9	2. EFFECTIVE
4	3. NOT SO EFFECTIVE
1	4. INEFFECTIVE
65	0. NO RESPONSE

VAR 0342 REF 0082 DATA SET ID-*GUCS*
NAME-INC CON CHOICE/WHY USED MD=0 OR GE 6 MULT RESPS 5

21B. HOW DID YOUR CITY JUSTIFY THE INSTITUTION OF INCREASED CONSUMER CHOICES IN NEARBY FACILITIES AS GAS CONTROL? SKIP THIS QUESTION IF IT DOES NOT APPLY.

....

0 1. DUE TO NATIONAL LEGISLATION REQUIREMENT
0 2. DUE TO NATIONAL EFFICIENCY
1 3. DUE TO ENVIRONMENTAL MOTIVES
5 4. DUE TO ECONOMIC MOTIVES
7 5. DUE TO CONCERN FOR ENERGY CRISIS
73 0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0343 REF 0083 DATA SET ID-*GUCS*
NAME-INC CON CHOICE/SUCCESS MD=0 OR GE 6 MULT RESPS 5

21C. IF YOU JUDGED INCREASED CONSUMER CHOICES IN NEARBY FACILITIES TO BE VERY EFFECTIVE OR SOMEWHAT EFFECTIVE, CHECK ANY OF THE FOLLOWING WHICH INDICATE WHY IT HAS SUCCEEDED. SKIP THIS QUESTION IF IT DOES NOT APPLY.

....

1 1. POLITICAL LEADERSHIP
3 2. LEGISLATION AND SUPERVISION
3 3. BUSINESS LEADERSHIP
7 4. ECONOMIC FEASIBILITY
3 5. INDIVIDUAL INITIATIVE
70 0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0344 REF 0084 DATA SET ID-*GUCS*
NAME-INC CON CHOICE/FUT USE MD=0 OR GE 6

21D. HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ADOPT INCREASED CONSUMER CHOICES IN NEARBY FACILITIES AS A GASOLINE USE CONTROL MEASURE IN THE NEAR FUTURE? SKIP THIS QUESTION IF IT DOES NOT APPLY.

....

0 1. CERTAIN
7 2. VERY LIKELY
13 3. LIKELY
12 4. UNLIKELY

(CONTINUED)
....

3 5. VERY UNLIKELY
51 0. NO RESPONSE

VAR 0345 REF 0085 DATA SET ID-*GUCS*
NAME-PROM COMMUN/CONT MEAS MD=0 OR GE 5

22A. HAS PROMOTION OF USE OF COMMUNICATION FACILITIES IN LIEU OF TRAVEL BEEN USED AS A GASOLINE USE CONTROL MEASURE IN YOUR CITY OR REGION? IF YES, INDICATE HOW EFFECTIVE IT HAS BEEN BELOW. IF NOT, SKIP TO QUESTION 22D.

....

0 1. VERY EFFECTIVE
4 2. EFFECTIVE
6 3. NOT SO EFFECTIVE
4 4. INEFFECTIVE
63 0. NO RESPONSE

VAR 0346 REF 0086 DATA SET ID-*GUCS*
NAME-PROM COMMUN/WHY USED MD=0 OR GE 6 MULT RESPS 5

22B. HOW DID YOUR CITY JUSTIFY THE INSTITUTION OF PROMOTING USE OF COMMUNICATION FACILITIES IN LIEU OF TRAVEL ON GAS CONTROL? SKIP THIS QUESTION IF IT DOES NOT APPLY.

....

0 1. DUE TO NATIONAL LEGISLATION REQUIREMENT
0 2. DUE TO NATIONAL EFFICIENCY
3 3. DUE TO ENVIRONMENTAL MOTIVES
[illegible] 4. DUE TO ECONOMIC MOTIVES
[illegible] 5. DUE TO CONCERN FOR ENERGY CRISIS
62 0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0347 REF 0087 DATA SET ID-*GUCS*
NAME-PROM COMMUN/SUCCESS MD=0 OR GE 6 MULT RESPS 5

22C. IF YOU JUDGED PROMOTION OF USE OF COMMUNICATION FACILITIES IN LIEU OF TRAVEL TO BE VERY EFFECTIVE OR SOMEWHAT EFFECTIVE, CHECK ANY OF THE FOLLOWING WHICH INDICATE WHY IT HAS SUCCEEDED. SKIP THIS QUESTION IF IT DOES NOT APPLY.

....

(CONTINUED)
****

1	1. POLITICAL LEADERSHIP
1	2. LEGISLATION AND SUPERVISION
4	3. CITIZENS LEADERSHIP
4	4. ECONOMIC FEASIBILITY
4	5. INDIVIDUAL INITIATIVE
67	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0318 REF 0038 DATA SET 10-FGUCS*
NAME-PROM COMM/FUTURE USE? NO=0 OR GE 6

223. HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ADOPT PROMOTION OF USE OF COMMUNICATION FACILITIES IN LIEU OF TRAVEL AS A GASOLINE USE CONTROL MEASURE IN THE NEAR FUTURE? SKIP THIS QUESTION IF IT DOES NOT APPLY.
****

7	1. CERTAIN
3	2. VERY LIKELY
21	3. LIKELY
8	4. UNLIKELY
4	5. VERY UNLIKELY
41	0. NO RESPONSE

VAR 0319 REF 0099 DATA SET 10-FGUCS*
NAME-INC FUEL TAX/CONT MEAS NO=0 OR GE 5

234. HAS INCREASING FUEL TAXES BEEN USED AS A GASOLINE USE CONTROL MEASURE IN YOUR CITY OR REGION? IF YES, INDICATE HOW EFFECTIVE IT HAS BEEN BELOW. IF NOT, SKIP TO QUESTION 237.
****

0	1. VERY EFFECTIVE
1	2. EFFECTIVE
3	3. NOT SO EFFECTIVE
7	4. INEFFECTIVE
73	0. NO RESPONSE

VAR 0320 REF 0090 DATA SET 10-FGUCS*
NAME-INC FUEL TAX/WHY USED NO=0 OR GE 6 MULT RESPS 5

235. HOW DID YOUR CITY JUSTIFY THE INSTITUTION OF INCREASED FUEL TAXES AS GAS CONTROL? SKIP THIS QUESTION IF IT DOES NOT APPLY.
****

1	1. DUE TO NATIONAL LEGISLATION REQUIREMENT
1	2. DUE TO NATIONAL EFFICIENCY
0	3. DUE TO ENVIRONMENTAL MOTIVES
3	4. DUE TO ECONOMIC MOTIVES
3	5. DUE TO CONCERN FOR ENERGY CRISIS
71	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0321 REF 0021 DATA SET 10-FGUCS*
NAME-INC FUEL TAX/SUCCESS NO=0 OR GE 6 MULT RESPS 5

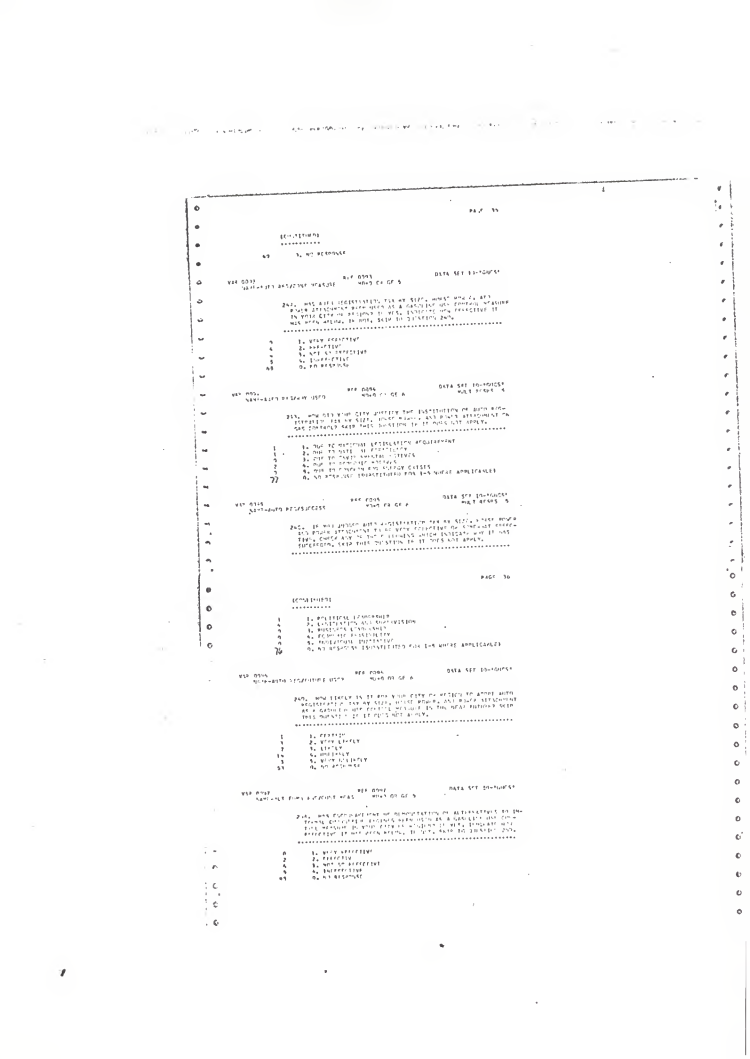
236. IF YOU JUDGED INCREASED FUEL TAXES TO BE VERY EFFECTIVE OR SOMEWHAT EFFECTIVE, CHECK ANY OF THE FOLLOWING WHICH INDICATE WHY IT HAS SUCCEEDED. SKIP THIS QUESTION IF IT DOES NOT APPLY.
****

1	1. POLITICAL LEADERSHIP
1	2. LEGISLATION AND SUPERVISION
0	3. CITIZENS LEADERSHIP
0	4. ECONOMIC FEASIBILITY
0	5. INDIVIDUAL INITIATIVE
71	0. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)

VAR 0322 REF 0092 DATA SET 10-FGUCS*
NAME-INC FUEL TAX/FUTURE USE? NO=0 OR GE 6

237. HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ADOPT INCREASED FUEL TAXES AS A GASOLINE USE CONTROL MEASURE IN THE NEAR FUTURE? SKIP THIS QUESTION IF IT DOES NOT APPLY.
****

1	1. CERTAIN
1	2. VERY LIKELY
13	3. LIKELY
12	4. UNLIKELY
7	5. VERY UNLIKELY



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                                                                PAGE  33

                                      REF 0098                DATA SET ID=*GUCS*
VAR 0098
    HAVE-ALT COMB ENG/WHY USED          MD=0 OR GE 6

                 257.  HOW DID YOUR CITY JUSTIFY THE INSTITUTION OF ENCOURAGING
                   DEMONSTRATION OF ALTERNATIVES TO COMBUSTION ENGINES ON GAS
                   CONTROL? SKIP THIS QUESTION IF IT DOES NOT APPLY.
                 ..........................................................

        1            1. DUE TO NATIONAL LEGISLATION REQUIREMENT
        0            2. DUE TO NATIONAL EFFICIENCY
        0            3. DUE TO ENVIRONMENTAL MOTIVES
        0            4. DUE TO ECONOMIC MOTIVES
        0            5. DUE TO CONCERN FOR ENERGY CRISIS
       63            9. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)


                                      REF 0099                DATA SET ID=*GUCS*
VAR 0099                                                          MULT RESPS  5
    HAVE-ALT COMB ENG/SUCCESS           MD=0 OR GE 6

                 258.  IF YOU JUDGED ENCOURAGEMENT OF DEMONSTRATION OF ALTERN-
                   ATIVES TO COMBUSTION ENGINES TO BE VERY EFFECTIVE OR SOME-
                   WHAT EFFECTIVE, CHECK ANY OF THE FOLLOWING WHICH INDICATE
                   WHY IT HAS SUCCEEDED. SKIP THIS QUESTION IF IT DOES NOT
                   APPLY.
                 ..........................................................

        2            1. POLITICAL LEADERSHIP
        1            2. LEGISLATION AND SUPERVISION
        0            3. BUSINESS LEADERSHIP
        0            4. ECONOMIC FEASIBILITY
        0            5. INDIVIDUAL INITIATIVE
                     9. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)


                                      REF 0100                DATA SET ID=*GUCS*
VAR 0100
    HAVE-ALT COMB ENG/FUTURE USE?       MD=0 OR GE 6

                 259.  HOW LIKELY IS IT FOR YOUR CITY OR REGION TO ENCOURAGE
                   DEMONSTRATION OF ALTERNATIVES TO INTERNAL COMBUSTION ENGINES
                   AS A GASOLINE USE CONTROL MEASURE IN THE NEAR FUTURE? SKIP
                   THIS QUESTION IF IT DOES NOT APPLY.
                 ..........................................................

        1            1. CERTAIN
        3            2. VERY LIKELY
        4            3. LIKELY


                                                                PAGE  34


                 (CONTINUED)
                 ...........

       14            4. UNLIKELY
        4            5. VERY UNLIKELY
       51            9. NO RESPONSE


                                      REF 0101                DATA SET ID=*GUCS*
VAR 0101
    HAVE-METRO-REG PLAN/CONT MEAS       MD=0 OR GE 5

                 263.  HAS LONG-RANGE METROPOLITAN AND AREAWIDE REGIONAL PLAN-
                   NING BEEN USED AS A GASOLINE USE CONTROL MEASURE IN YOUR
                   CITY OR REGION? IF YES, INDICATE HOW EFFECTIVE IT HAS BEEN
                   [illegible]. IF NOT SKIP TO QUESTION 265.
                 ..........................................................

        7            1. VERY EFFECTIVE
       19            2. EFFECTIVE
       20            3. NOT SO EFFECTIVE
        6            4. INEFFECTIVE
       35            9. NO RESPONSE


                                      REF 0102                DATA SET ID=*GUCS*
VAR 0102
    HAVE-METRO-REG PLAN/WHY USED        MD=0 OR GE 6

                 264.  HOW DID YOUR CITY JUSTIFY THE USE OF METROPOLITAN AND
                   AREAWIDE REGIONAL PLANNING ON GAS CONTROL? SKIP THIS QUEST-
                   ION IF IT DOES NOT APPLY.
                 ..........................................................

       15            1. DUE TO NATIONAL LEGISLATION REQUIREMENT
        9            2. DUE TO NATIONAL EFFICIENCY
        3            3. DUE TO ENVIRONMENTAL MOTIVES
        0            4. DUE TO ECONOMIC MOTIVES
        0            5. DUE TO CONCERN FOR ENERGY CRISIS
       64            9. NO RESPONSE (SUBSTITUTED FOR 1-5 WHERE APPLICABLE)


                                      REF 0103                DATA SET ID=*GUCS*
VAR 0103                                                          MULT RESPS  5
    HAVE-METRO-REG PLAN/SUCCESS         MD=0 OR GE 6

                 265.  IF YOU JUDGED METROPOLITAN AND AREAWIDE REGIONAL PLAN-
                   NING TO BE VERY EFFECTIVE OR SOMEWHAT EFFECTIVE, CHECK ANY
                   OF THE FOLLOWING WHICH INDICATE WHY IT HAS SUCCEEDED. SKIP
                   THIS QUESTION IF IT DOES NOT APPLY.
                 ..........................................................
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