To the Graduate Council:

I am submitting herewith a dissertation written by Jerrie Lorraine McGhee entitled "Public Choice: Transportation Preferences of Community Decision Makers and Transportation Consumers." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Home Economics.

Roger M. Swagler, Major Professor

We have read this dissertation
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Graduate Studies and Research

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PUBLIC CHOICE: TRANSPORTATION PREFERENCES OF COMMUNITY DECISION MAKERS AND TRANSPORTATION CONSUMERS

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Jerrie Lorraine McGhee

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ABSTRACT

The purpose of this study was to learn more about the expression of community decision makers' self-interest, public interest, and consumer interest concerns through an analysis of decision makers' policy preferences and consumers' travel behavior and attitudes. Decision makers' interests are central to the question of whether urban communities are capable of dealing effectively with transportation problems. The policy participation of automobile-dependent consumers is essential if decision makers are to determine effective policy solutions.

It was hypothesized that differences would exist in policy preferences related to public transportation improvement and expansion between decision makers affiliated with various political and bureaucratic organizations. The anticipated differences were based on the belief that decision makers express self-interest through policy preferences which do not conflict with organizational objectives and reelection aspirations. It was hypothesized further that a positive relationship would exist between decision makers' perceptions of transportation problems and decision makers' allocations of subsidy funds to transportation consumers with access to an automobile.

Data generated from surveys of decision makers' public transportation policy preferences and consumers' travel behavior and attitudes were used to test the hypotheses and determine whether the policy preferences of decision makers were consistent with the travel behavior and attitudes

of consumers. The sample consisted of 42 decision makers and 1,108 automobile-dependent consumers from the Jacksonville, Florida, urban area. Decision makers were assigned to one of four mutually exclusive groups based on organizational affiliation.

One-way analyses of variance indicated that there were differences between decision-maker groups in the allocation of subsidy funds to consumers with access to automobiles and in the evaluations of public transportation performance. Results of Duncan's multiple range tests showed that the pattern of group responses was consistent with identified group interests. No group differences were observed for the allocation of funds for trip purposes, public transportation, specific public transportation services, and support for categories of revenue sources. Pearson product-moment correlation coefficients indicated that there were no relationships between decision makers' perceptions of transportation problems and decision makers' allocations of subsidy funds to transportation consumers with access to automobiles. Though differences were found between decision-maker groups which reflected organizational interests, in the aggregate the opinions of decision makers were for the most part consistent with the travel behavior and attitudes of consumers.

TABLE OF CONTENTS

CHAPTER		PAGE
I.	INTRODUCTION	1
	Purpose of the Study	5
	Assumptions	5
	Conceptual Definitions	6
II.	REVIEW OF LITERATURE	9
	Decision-Maker Interests	10
	The Public Interest	13
	Citizen Participation in Policy Development	17
	Conclusions	24
III.	METHODOLOGY	27
	Research Hypotheses	27
	Rationale for Hypotheses	27
	Design of the Study	29
	Sample	32
	Selection of study site	32
	Selection of decision makers	33
	Description of decision makers	34
	Selection of consumer sample	35
	Instrumentation	36
	Public transportation goals and policies measure	39
	Urban travel and transportation use measure	41
	Operational Definitions	45
	Collection of Data	47
	Data Analysis	48
IV.	RESULTS	50
	Results of Tests of Hypotheses	50
	Subsidy to transportation consumers	50
	Public transportation revenue support	51
	Public transportation services	53
	Public transportation performance	53
	Revenue sources	60
	Perception of transportation problems	61
	Analysis of Occupational Groups	62
	Utilizing Consumer Information for Public Transportation Policy Development	66
	Service to consumer groups	66

CHAPTER PAGE

Trip purpose priorities 72
Performance characteristics 77
Public transportation services 81

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS 87

Summary and Conclusions 87
Limitations of the Study 93
Recommendations for Further Study 94

REFERENCES 99

APPENDICES 102

Appendix A 103
Appendix B 110
Appendix C 125
Appendix D 143
Appendix E 146

VITA 169

LIST OF TABLES

TABLE		PAGE
1.	Summary of Socio-Demographic and Travel Characteristics of Transportation Consumers and Their Households	37
2.	Analysis of Variance Summary for Decision-Maker Allocation of a $100 Subsidy to Consumers with Access to an Automobile	50
3.	Analysis of Variance Summaries for Decision-Maker Allocation of a $100 Subsidy among Trip Purposes	52
4.	Analysis of Variance Summary for Decision-Maker Allocation of an Additional $100 of Tax Revenues to Public Transportation	53
5.	Analysis of Variance Summaries for Decision-Maker Allocation of a $100 Subsidy among Public Transportation Services	54
6.	Analysis of Variance Summary for Mean Evaluation Scores of Public Transportation Performance for Decision-Maker Groups	56
7.	Analysis of Variance Summaries for Decision-Maker Evaluations of Public Transportation Performance Characteristics	58
8.	Analysis of Variance Summaries for Mean Support Scores for Transportation-Related and Other Consumption Revenue Sources for Decision-Maker Groups	61
9.	Correlation Coefficients of Decision Makers' Total Trip Purpose Allocation of a $100 Subsidy to Consumers with Access to an Automobile with Decision Makers' Perceptions of Transportation Problems	63
10.	Analysis of Variance Summary for Allocation of $100 of Tax Revenues to Public Transportation by Elected, Appointed, and Professional Staff Groups	65
11.	Attitudes of Transportation Consumers toward Personal Use of Public Transportation Services	68

TABLE PAGE

12. Attitudes of Transportation Consumers toward Personal Use of the Private Automobile 70

13. General Attitudes of Transportation Consumers toward Automobile and Public Transportation Usage and Support . . 71

14. Percentage of Transportation Consumers Reporting Different Numbers of People Traveling with Them within and outside the Household for Various Trip Purposes 75

15. Stops Made by Transportation Consumers Traveling from Home to Destination and Returning Home for Various Trip Purposes 76

16. Decision Makers' Opinions toward the Community's Performance of Activities in the Provision of Public Transportation Services 82

17. Familiarity of Transportation Consumers with Public Transportation Services 84

18. Percentage of Transportation Consumers Who Would Consider Utilizing Various Transportation Services for Alternate Trip Purposes 85

19. Tests of Homogeneity of Variance for Decision-Maker Groups Utilizing Cochran's C 147

20. Means and Standard Deviations for Allocation of a $100 Subsidy to Consumers with Access to an Automobile for Decision-Maker Groups 149

21. Means and Standard Deviations of Allocation of a $100 Subsidy among Trip Purposes for Decision-Maker Groups . . . 150

22. Means and Standard Deviations of Allocation of an Additional $100 of Tax Revenues to Public Transportation for Decision-Maker Groups 151

23. Means and Standard Deviations of Allocation of a $100 Subsidy among Public Transportation Services for Decision-Maker Groups 152

24. Mean Evaluation Scores and Standard Deviations of Public Transportation Performance for Decision-Maker Groups . . . 153

25. Mean Evaluation Scores and Standard Deviations of Performance Characteristics for Decision-Maker Groups . . . 154

TABLE PAGE

26. Mean Support Scores and Standard Deviations of Transportation-Related Revenue Sources for Decision-Maker Groups 155

27. Mean Support Scores and Standard Deviations of Other Consumption Revenue Sources for Decision-Maker Groups . . . 155

28. Correlation Coefficients of Decision Makers' Trip Purpose Allocations of a $100 Subsidy with Decision Makers' Perceptions of Transportation Problems 156

29. Means and Standard Deviations of Allocation of $100 of Tax Revenues to Public Transportation by Occupational Groups . . 157

30. Means and Standard Deviations for Decision-Maker Allocation of a $100 Subsidy by Trip Purpose to Transportation Consumers with and without Access to an Automobile 158

31. Mean Round Trips per Week Traveled by Transportation Consumers for Transportation Trip Purposes 159

32. Mean Number of Round Trip Miles Traveled by Transportation Consumers for Transportation Trip Purposes 160

33. Mean Evaluation Scores and Standard Deviations of Public Transportation Performance Characteristics for Decision Makers 161

34. Attitudes of Transportation Consumers toward Performance Characteristics of Transportation Services 162

35. Attitudes of Transportation Consumers toward the Importance of Performance Characteristics for the Work Trip and Most Frequently Taken Nonwork Trip 165

36. Means and Standard Deviations for Decision-Maker Allocation of a $100 Subsidy to Public Transportation Services 167

37. Mean Round Trips per Week Made by Transportation Consumers Utilizing Various Transportation Services 168

CHAPTER I

INTRODUCTION

Since World War II, urban transportation consumers have become increasingly dependent on the automobile as a means of satisfying their mobility needs. The automobile is valued for its high degree of travel reliability, flexibility, and privacy. In recent years, however, disenchantment with the concept of more freeways and more cars has grown, particularly within urban areas. Although the present arrangement is perceived as beneficial by the average automobile consumer, it is costly for the community as a whole. Costs to the community include air and noise pollution, traffic congestion and delay, community disruption from highway construction, costly land development patterns, and inequity in the opportunity for travel. Despite the threat to community well-being, few urban areas have enacted policies designed to encourage or require modifications in existing travel behavior patterns.

Recent federal transportation planning regulations have called for urban communities to establish specific transportation policies; these must provide for the consideration of alternatives to highway construction in alleviating urban transportation problems (U.S. Department of Transportation, 1975). In addition to an interest in community problems, the federal government urges the efficient allocation of limited petroleum resources. One of the principal objectives of the legislation

is to increase the competitive position of high occupancy public transportation services. Policies for improving public transportation services are designed to provide an attractive travel alternative to automobile-dependent consumers. Transportation problems can be alleviated if sufficient numbers of consumers modify their travel behavior toward increased usage of public transportation.

Although federal guidelines require each urban community to consider a variety of policies designed to reduce transportation problems, the adoption of such policies depends on community needs as perceived by transportation decision makers. In this connection, it is important to determine whether a recognition of transportation problems is associated with decision-maker support for policy solutions. If automobile pollution is perceived to be a community problem, attaching a higher priority to serving automobile-dependent consumers reflects decision-maker concern with community well-being. This study explores the inclination of decision makers to express public interest concerns through policy preferences.

A key question concerns the principal decision makers' ability to separate the public interest from personal objectives when arriving at policy decisions. According to Downs (1967), agency officials' conceptions of the public interest are influenced by personal desires to increase the income, power, and prestige associated with their organizational positions. Personal desires are realized through the support of policies which increase the scope of influence of the agency and do not conflict with funding, planning, and implementing interests. Elected

officials are said to be motivated similarly by reelection aspirations (Downs, 1957). Continued political viability is pursued through the support of policies favored by sufficient numbers of voters to assure reelection (Breton, 1974). This study examines differences in the public transportation policy preferences of decision makers representing various bureaucratic and political organizations involved in urban transportation planning.

In order to realize personal objectives, it is in the interest of all decision makers to be responsive to public opinion. In the event, however, that the interests of a majority of citizens remain undefined, resulting policy decisions are likely to reflect the interests of influential citizen groups and decision makers' perceptions of the public interest which are consistent with the interests of their respective organizations.

Citizens associate high information and communication costs with attempts to influence policy in an area as technical as transportation. When citizens do become involved in policy determination, it is usually indirectly. Individuals delegate the responsibility for representing their views to representatives of special interest groups, elected representatives, or other public officials (Downs, 1957). Over the years citizen groups which have tended to be the most vocal are those which perceived policies under consideration as a threat to their economic welfare (Downs, 1962). In the area of urban transportation policy, the most influential of these interests have been business and neighborhood groups. In recent years, social and environmental interests

have advocated policies to improve public transportation for disadvantaged groups and policies to preserve the urban environment (Taebel, 1973).

Considering the relatively small expenditures for any single public good, consumers generally do not perceive the benefits of policy participation in any area as justifying the high costs. Thus, although all citizens are consumers of transportation services, their participation is in terms of their roles as property owners, business people, or environmental advocates. The interests of citizens in their roles as transportation consumers remain undefined.

An understanding of transportation needs of automobile-dependent consumers is necessary if we are to learn whether public transportation systems can be utilized to reduce transportation problems in highly congested areas. The needs of the large automobile-dependent group have been inferred from statistics related to automobile usage. This approach should be reexamined because the choice set may be so restricted that users cannot express their preferences. When there is a choice, it may be between the automobile and the decidedly inferior fixed-route, fixed-schedule bus service.

It can be assumed that many consumers will not have the necessary information about public transportation service alternatives to express meaningful preferences. However, a knowledge of the service characteristics which are important to consumers, trip purpose needs, and attitudes toward the quality of existing services will provide valuable information in making service improvements and designing future systems. Relieved of the need to gather costly transportation information, consumers will

not incur information costs which are prohibitively high. Assuming also that high communication costs limit the attempts of consumers to influence policy decisions, it will be necessary for community decision makers to initiate programs of involvement. If communities are to deal effectively with transportation problems, future public involvement programs must provide varied opportunities for the automobile-dependent consumer to participate in policy development.

I. PURPOSE OF THE STUDY

This study examined aspects of decision makers' policy preferences related to their self-interest, the public interest, and interests of automobile-dependent consumers. The study was designed to (1) determine whether differences exist in the public transportation policy preferences of decision makers representing various political and bureaucratic organizations, (2) determine the relationship between decision makers' perceptions of transportation problems and their support for a policy solution, and (3) determine whether the policy preferences of decision makers were consistent with the travel behavior and attitudes of automobile-dependent consumers.

II. ASSUMPTIONS

1. Public transportation policy preferences are expressions of broadly based community needs, values, and goals.

2. Travel attitudes and behavior are expressions of individual needs and values.

3. The preservation of a healthful environment is a value shared by citizens and decision makers.

4. Citizens desire to maximize personal satisfaction from their consumption of public goods.

5. Community decision makers desire to maximize their self-interest through decision-making activity.

6. Perfect knowledge by decision makers of each individual's preference structure is not possible without incurring prohibitive expense.

7. The quality of urban transportation decision making may be improved by utilizing appropriate information gathering and processing techniques.

III. CONCEPTUAL DEFINITIONS

1. Attitude refers to the sum total of those feelings, beliefs, and intended responses that an individual has toward a social or physical object.

2. Congestion pricing indicates policies designed to reduce automobile travel in congested areas by increasing the personal cost of the automobile (e.g., special parking and toll taxes and area gasoline tax).

3. Consumers' travel behavior refers to the acts of consumers directly involved in obtaining and using urban transportation services (e.g., trip purposes, trip mileage, numbers of trips, and usage of specific services).

4. Decision makers are elected representatives of local government and the appointed officials and professional staff of departments and agencies of city and state government.

5. Paratransit services are flexible forms of intraurban passenger transportation which operate over the highway and street system (e.g., carpools, vanpools, taxis, and dial-a-ride services).

6. Perception is a series of mental processes which are involved in receiving, interpreting, and reacting to stimuli.

7. Performance characteristics are urban transportation characteristics or attributes (e.g., on-time performance, vehicle comfort, frequency of service, and fare structure).

8. Public goods are goods which are nonexclusively consumed; that is, they confer benefits or costs upon the community-at-large rather than exclusively upon particular citizens.

9. Public transportation services are all existing and potential service modes (i.e., conventional bus transit, express bus service, and paratransit) which may be regulated or supported publicly.

10. Subsidy funds are community government grants to assist in the provision of public or private goods and services.

11. Transportation consumers are citizens who utilize any form of urban transportation services.

12. Transportation disadvantaged refers to those transportation consumers without access to an automobile as a driver or rider who are dependent on public transportation services.

13. Transportation policies are specific courses of action adopted by community organizations which are viewed as contributing toward transportation goals (e.g., funding sources, priority allocations, performance characteristics of services, and trip purposes served).

14. Trip purposes are reasons for traveling within the urban area (e.g., health care, religious, employment, education, and social-recreational trips).

15. Urban transportation refers to automobiles, public transportation, and pedestrian facilities as elements of a single urban transportation system.

16. Values are elements of a shared symbolic system which serves as a guide for the selection from perceived alternatives of orientation.

CHAPTER II

REVIEW OF LITERATURE

The air pollution, noise, and congestion caused by automobiles have led many persons concerned with the quality of urban life to advocate such policy alternatives as the improvement and expansion of public transportation services, congestion pricing, and local prohibitions on auto usage. Despite early warnings and an awareness of transportation problems, few urban communities have implemented policy solutions.

In order to understand better the probable reasons why these policies have not been implemented widely, an examination of the literature on decision-maker interests and the public interest is necessary. The economic theories of political decision making formulated by Downs (1957, 1962, 1967) provide the rationale for the hypotheses in this study.

Because of high information and participation costs, minority or special interests are generally the only citizen groups who seek to influence the development of urban transportation policy. In the absence of public involvement activities, the preferences of a majority of citizens, particularly in their role as consumers, remain undefined. It is important to incorporate the views of consumers if decision makers in urban areas are to select the most effective transportation policies. The review of literature related to citizen participation contains a

discussion of the obstacles to participation and provides a rationale for incorporating consumer input into transportation policy planning.

I. DECISION-MAKER INTERESTS

The responsiveness of decision makers to citizen input has been debated in the literature. The politicians in Downs (1957) model

> . . . never seek office as a means of carrying out particular policies; their only goal is to reap the rewards of holding office per se. They treat policies purely as means to the attainment of their private ends, which they can reach only by being elected (page 28).

This does not mean that politicians are insensitive to the preferences of citizens, but it does indicate that in allocating limited resources, elected officials are likely to support the minimal level of funding for specific public goods and services needed to assure reelection.

Officials of bureaucratic agencies are appointed by politicians and are responsible for carrying out the specialized functions required for the delivery of public goods and services. Appointed officials employ professional, technical, and planning staffs who are responsible for developing plans and making policy recommendations.

An essential characteristic of a bureaucracy is its ordered structure of unified command and hierarchial relationships. A bureaucratic ordering is a way of reducing high information and decision costs associated with the delivery of public goods. As a result of the division of labor inherent in every bureaucratic agency, officials' incentives focus mainly on how well they do their specialized jobs. According to Downs (1967),

> each official's view of the public interest cannot be completely divorced from the way his self-interest is influenced by the incentives of the specialized bureaucracy. . . . Thus the competitive struggle for power and significance among officials provides one of the major ways in which society discovers and defines its basic policy alternatives. Self-interest leads men to make their search for new ideals, more evidence, and better policies far more intensive than if they were motivated solely by an "unbiased" desire to serve society (page 105).

According to Downs (1967), there are pressures for agency officials to become advocates of policies that enhance the power, income, and prestige of their positions. In an area of highly specialized information flows, officials tend to concentrate more of their attention on the narrow confines of their specialities. It follows that the needs and problems of their areas become more dominant, and thus officials tend to exaggerate the importance of their specialities. In this way, the officials' perceptions of the public interest are biased in support of greater expenditures to improve the quality of the public services they produce. The demand for more resources in such cases is justified by attributing greater social significance to the official's area than to others competing for the same funding sources.

The tendency of agency officials to concentrate on the narrow confines of their specialities inhibits coordination between separate agencies in the provision of public services. For example, transportation policies implementing park-and-ride lots, joint right-of-way development, and preferential bus lanes require cooperation between highway and transit agencies. Jones (1976) found that elected officials at state

and local levels managed "the coordination and differentiation of services at a faster pace than the routines of old line bureaucracies would permit" (page 134).

Unlike political representatives, most agency officials are responsible only for spending money, not raising it. Politicians are responsible for both raising and spending money, and they will permit spending only if they believe it will produce more votes. This condition provides constraints on government spending which are transmitted downward to each bureau (Downs, 1967, pages 103-109).

Bureaucrats may be less responsive to the preferences of citizens than to political and bureaucratic influences. Breton (1974) noted, however, that because the behavior of bureaucrats is to some extent determined by their interaction with politicians, there is an indirect response to the preferences of citizens. The political life of bureaucrats, such as appointed officials, is related closely to the political life of elected officials so that these bureaucrats will tend to be as responsive to the preferences of citizens as politicians are.

The agency is responsible for gathering and analyzing information to be used in making policy decisions. The information that reaches the ultimate decision makers may be incomplete, biased, and unreliable, a phenomenon which Tollock (1965) labeled control-loss. Control-loss arises when bureaucrats receive information from lower hierarchies but withhold or distort that information in order to increase the relative size of their budgets and ultimately their personal income and

status. If officials at all levels behave in the same manner, the total costs to politicians of acquiring undistorted information increases with the size of the bureaucracy.

One can conclude that both political representatives and agency officials are motivated by their self-interest. There is, however, insufficient evidence to demonstrate that this self-interest is necessarily incompatible with the public interest or the preferences of citizen groups. Elected officials could be expected to be influenced more by majority interests if these interests are known, whereas agency officials would be sensitive to interests (majority and/or minority) which serve to extend the power and influence of their respective organizations.

II. THE PUBLIC INTEREST

The concept of the public interest is an integral part of all democratic theories of government, yet there is no general agreement as to what is meant by the term. Banfield and Meyerson (1955) defined the concept of the public interest as it is expressed through governmental decision making.

> A decision is said to serve special interests if it furthers the ends of some part of the public at the expense of the ends of the larger public. It is said to be in the public interest if it serves the ends of the whole public rather than those of some sector of the public (page 322).

Downs (1957) attempted to explain the behavior of all individuals in a democracy on the basis of their pursuit of their own interests; the only goal sought by elected officials is to be reelected. In

response to criticism that such a model included no concept of the public interest, Downs (1962) attempted to place the concept of public interest in perspective in relation to real world political behavior. He assumed that citizens who adhere to a democratic system agree that the proper function of the government is to act for the greatest benefit of society as a whole, although they may disagree about what actions are best under any given circumstances. Downs (1962) thought that, in judging government performance,

> . . . each citizen tacitly assumes that society is a unit and has a single set of values that can be projected into the detailed determination of policy. The specific policies derived from this single set of values constitute the public interest as viewed by that particular citizen. In other words, his view of the public interest is represented by whatever policies he believes the government ought to carry out (page 3).

The concept of the public interest provides a means for citizen evaluation of government action. Officials must be able to defend each of their decisions as being "in the public interest." This is necessary in assuring continued voter support. According to Downs (1962),

> the official's defense must normally include showing a logical relationship between his decisions and his definition of society's welfare. If the official's definition is sufficiently close to the definition of those challenging him, and he can show a reasonable relationship between his decision and that definition, he can presumably satisfy their questions, even if his actual motive for making the particular decision had nothing whatever to do with the welfare of society as a whole (page 4).

The necessity of being prepared to defend their policy choices forces public officials to develop concrete concepts of the public interest.

The findings of a study by Wallin and Wright (1974) provide an illustration of how officials might justify a decision to expand

public transit services. Planning agency officials were found to place more emphasis than transportation consumers on the importance of traffic congestion as an impetus to riding public transit. It appeared that consumers would rather use the private automobile than public transportation, even when congestion was heavy. Even with the discrepancy of opinion, agency officials could justify requests for increased expenditures to expand public transit as being in the public interest, regardless of their personal interests in increasing the importance of the agency's planning function.

One way to view congestion and delay is in terms of the external costs that commuters impose on each other. In highway traffic, for example, everyone at the head of the queue imposes delay costs on those behind him or her which exceed the delay costs experienced by the individual. Associated externalities of pollution, noise, and the decline in the quality of urban life impose costs on the community which far exceed the costs to individual commuters. Thus, a policy to improve transit in order to attract consumers away from their automobiles is easily justified in terms of the public interest.

One should realize that the potential questioners of an agency's decision to expand transit are less likely to be transportation consumers than citizens acting in their roles as taxpayers and employers. This would further facilitate the development of a concept of the public interest which is unrelated to existing patterns of consumer behavior.

Downs (1962) contended that a governmental policy cannot be in the public interest if it conflicts with the elements of the minimal

value structure[1] which defines the society. He concluded that "anything that is in the long run detrimental to the majority of citizens cannot be in the public interest, unless it is essential to the protection of those individual rights included in the minimal consensus" (page 9). The commitment of the official may not be based on feelings of altruism; it can be simply an expression of long run self-interest. Unfortunately, uncertainty about the future, which can be reduced but not eliminated by additional information, causes people to weigh immediate consequences more heavily than ultimate ones. Excessive concentration on short run self-interest threatens the welfare and ultimately the survival of the society.

Preserving a healthful environment and limiting the inefficient use of energy resources would surely by among the "minimal consensus" components of society's value structure if one assumes that these are essential to human welfare and survival. The personal benefits of automobile travel do not begin to approximate the costs to society associated with a loss in social and economic well-being. The failure of communities to deal effectively with their transportation problems reinforces the view of decision makers as leaders who do not venture too far from the existing views of citizen interests for fear of losing votes. According to Downs (1962),

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[1]The minimal value structure refers to an implicit agreement among the majority of people concerning the behavior rules necessary for the operation of a democratic society. They relate to personal conduct, political conduct, and general principles regarding the social policies which the government should carry out (Downs, 1962, p. 5).

> one of democracy's basic problems today is freeing government decision makers from the necessity of conforming their policies to the erroneous views of a public whose members have chosen to remain uninformed politically, because becoming informed is not economically rational. We need to give our government officials enough independent power to tackle our basic problems with originality and initiative, without at the same time giving them enough power to develop a dictatorship (pages 33-34).

III. CITIZEN PARTICIPATION IN POLICY DEVELOPMENT

The model of decision making developed by Downs (1957) painted a discouraging picture for the potential of citizen participation to contribute to the solution of community problems. It indicated that the rational[2] course of action for most citizens is to remain ignorant about public affairs. Downs (1962) reasoned that "if public opinion is ignorant, and government officials are tied to public opinion in the creation of policy, the possibilities for successful solutions of our problems appear less than optimal" (page 34).

The participation of citizens in community decision making is minimal because even for those interested in public affairs, there are simply too many separate governing bodies, public organizations, and policies for the average citizen to monitor. Information about complex areas such as urban transportation is costly to gather and interpret. Competing demands on an individual's time make it virtually

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[2]It is rational for a citizen to assume only those information and communication costs which are equal to or less than the anticipated benefits of a favorable policy decision. According to Downs (1957), "in general, it is irrational to be politically well-informed because the low returns from data simply do not justify their cost in time and other scarce resources" (p. 259).

impossible for the average citizen to understand, let alone control, the public decisions which affect his or her life.

There are differences in acquiring information for voting and acquiring it to influence policy making. For most citizens the costs of attempting to influence decision makers are higher than the communication of preferences through voting. Policy formulation requires more knowledge than choosing alternatives proposed by others. Few citizens consider exerting influence in any particular area of public policy. Those who stand to gain the most from exerting influence in a policy area are those for whom the potential returns are high enough to justify the high costs of information and participation.

In almost every policy area, those who stand to gain the most from policy participation are those who earn their living through the area. For most citizens income is earned in one area but spent in many others. Thus, the preservation of earned income is more important than a single area of spending. Because income is usually tied to production, the costs of participation may be assumed by a business or labor union. Thus, producers are much more likely to participate in policy formulation than are consumers of the good or service. The interests of citizens in their roles as consumers are spread across many different areas. The expenditures for each service are minimal compared with the consumer's total income. Therefore, citizen-consumers perceive the benefits of participation to be less than the corresponding costs of information and communication (Downs, 1957, pages 252-255).

Only when the potential benefits are equal or greater than the costs of participation would the citizen attempt to affect policy decisions. For example, the location of a transit facility within a neighborhood and associated perceptions of neighborhood disruption might be expected to prompt individuals to attempt to influence policy. How such a proposal would be unacceptable to a homeowner living in the affected neighborhood is easy to imagine. A rational strategy for the individual would be to join with others holding similar views in order to have a greater influence on decision makers.

Olson (1965) concluded that individuals will form voluntary associations in pursuit of public interests only when members will derive separate benefits of a sufficient magnitude to justify the cost of membership or when they can be coerced into bearing their share of the costs. According to this view, individuals will not organize themselves in a strictly voluntary association to realize their common interests. An individual's actions will be calculated by the probability that his or her efforts themselves will make a difference. If that probability is low, the rational person would expend minimal effort. Through group associations, individuals may be able to reduce the costs of becoming informed on a variety of public issues. In a highly specialized area such as public transportation policy, expertise may be required which the group is unable to provide. However, citizen groups can seek the opinions of experts at a cost to individual members well below that encountered by individuals acting alone.

According to the analysis developed by Downs (1957), citizens are more likely to delegate information analysis than they are to delegate the evaluative steps of decisions. However, when it is determined that the expert possesses more information, has powers of judgment at least equal to the individual or group, and has similar political goals, then it becomes rational to delegate the evaluative process. Downs (1957) concluded that "it may be rational for a man to delegate part or all of his political decision making to others, no matter how important it is that he make correct decisions" (page 233).

Breton (1974) developed a theory of political decision making based on the costs of political participation. Three simplifying situations illustrate applications of the theory. In the first, the level of political participation costs are sufficiently low that the numbers of citizens who make their preferences known to political decision makers is larger than the number whose support is required for reelection. Politicians then have the freedom to implement the bundles of policies that satisfy the preferences of the number of citizens whose support is required for reelection, neglecting the preferences of the remainder. In this situation, the policies that will be chosen will be largely determined by relative bargaining strengths of politicians and bureaucrats. If there are a number of policy bundles among which bureaucrats are indifferent, politicians will be able to choose among those goals which are consistent with their reelection interests. Reductions in the cost of political participation therefore make it easier for politicians to implement policies at variance with the preferences of certain citizen groups.

Alternately, under conditions of high political participation costs, the numbers of citizens whose support is required for reelection is larger than the numbers whose preferences are known. To increase their knowledge of citizen preferences, politicians will engage in search activities (i.e., citizen participation activities). Politicians must determine the preferences of a sufficiently large fraction of the electorate to enable them to regain political office. Politicians also are required to demonstrate public involvement in the planning of community services which receive federal funding. Politicians frequently rely on information supplied voluntarily by organized minority interests to facilitate their search.

In the final situation, the number of citizens whose preferences are known is exactly equal to the number of citizens whose preferences must be satisfied. In this case, the citizens with known preferences, not the politicians or bureaucrats, select the policies. If political participation costs[3] are principally money costs, the citizens whose preferences are revealed are likely to be in higher income groups. If, however, political costs are mostly time and energy costs, preferences will reflect indirectly the distribution of income, but in such a

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[3]Assuming that political participation requires money and time costs in different proportions, an increase in money income will generally lead to an increase in the price of time. One expects higher income citizens to use political instruments which are market good intensive such as lobbying, private provision, and pressure-group behavior. Activities such as social movements and some pressure-group behavior such as boycotts and demonstrations require more time intensive inputs and should have a higher incidence among lower income groups (Breton, 1974, pp. 101-108).

society it is probably the preferences of low income groups that will be revealed.

Transportation decision makers have been responsive to the known preferences of specific interests. The most vocal, articulate spokespersons for the community have an impact, even when special citizen participation efforts are undertaken. For example, the Jacksonville Area Planning Board (1976) completed a public involvement program designed to aid local decision makers in establishing urban transportation policies. The expressed interest was to obtain a representative sample of all segments of community interest. Questionnaires were distributed at eight neighborhood subarea group meetings and meetings of groups such as the Sierra Club, Chamber of Commerce, media representatives, Optimist Club, and City Council and at a federal HUD meeting. Another questionnaire was published as a newspaper supplement.

Considerable effort was expended in the implementation of the survey, and it compares quite favorably to citizen participation efforts of other urban areas. Yet, there is a question of whether the citizen input was truly representative of Jacksonville community interests. The majority of responses were obtained from minority interest groups, although all those citizens purchasing a particular issue of the newspaper had the opportunity to respond. The survey questions concentrated on patterns of travel behavior and travel preferences, but respondent groups were identified in their roles as property owners, business people, and environmental advocates, not as transportation consumers. It is not known whether the results represent the opinions of Jacksonville's consumers.

As decision makers design methodologies for public involvement, it is essential that they understand that each individual plays multiple roles in the community and that each role involves a different set of goals. Just as there are conflicts between community interests, individuals experience conflicts between their private roles as taxpayers, consumers, employers, property owners, environmental advocates, and so on. Deciding which of these roles will dominate in the formulation of a single policy preference may be exceedingly difficult.

The decision process leading to the consumer's choice of a particular transportation service must be viewed in the context of the roles which the individual assumes as a family member. According to Hartgen and Tanner (1970), individuals evaluate available transportation services in relation to the requirements of the tasks or functions assigned to them by their families. Specific family resources such as money, time, and automobile usage are allocated to individuals to permit the completion of assigned activities such as the rearing of children and the earning of income. Because resources are normally scarce, they are usually assigned to those tasks which the family considers most important. The allocation of automobile services seems to be particularly applicable to families, as most households composed of single or nonrelated individuals probably do not have well-developed, joint decision-making mechanisms for allocating resources.

Through the citizen role, individuals express what they believe to be the proper goals of society, that is, their conceptions of the public interest. As citizens, individuals regard society as a whole

instead of themselves as the focus of concern. In many instances, individuals' private interests differ from their views of the public interest. According to Downs (1962), it is possible theoretically for the private interest of the individual to differ from his or her public interest, even with perfect information. Divergence of views, however, is thought to be increased by the high cost of information (pages 18-20).

The nature of the communication between individuals and decision makers affects the role which individuals will assume. For example, discussions on topics of a generalized nature such as the importance of environmental quality are likely to elicit responses which reflect the individual's role as a citizen. Specific inquiries into consumers' personal behavior, preferences, and intentions are more valid indicators of the feasibility of specific policy alternatives. Information about specific policies is the most useful for political decision making.

If it is determined that a reduction in traffic congestion is essential in order to preserve the community's welfare, consulting individuals in their roles as transportation consumers will provide important information for evaluating various policy alternatives. No policy which fails either to win the support of transportation consumers or to cause behavior to be modified can deal effectively with transportation problems.

IV. CONCLUSIONS

The review of literature suggests that policy decisions are the product of a complex interaction among competing interests. Political

and bureaucratic decision makers are the primary developers of public policy. Motivated by personal objectives, agency officials are said to support policies which extend the power and influence of their respective organizations (Downs, 1967). Elected officials only support levels of funding which assure their reelection (Downs, 1957). Similarly, citizens in their roles as property owners, business people, and environmental advocates support policies which further their private economic and social interests. Decision makers' conceptions of the public interest are influenced by those special citizen interests that challenge policy decisions (Downs, 1962).

Unlike minority citizen interests, citizen-consumers seldom perceive the benefits of policy participation as justifying the high information and communication costs (Downs, 1957). The interests of consumers are spread across too many areas of spending for the expenditures for any single service to justify the costs of policy participation. Ironically, if urban areas are to cope effectively with transportation problems, the preferences of consumers must be heavily weighted in the development of transportation policy.

In the literature decision makers are characterized as individuals seeking to further their private interests through policy decisions. This view conflicts with the notion that public representatives base their policy preferences on an unselfish concern for the common good. Few empirical studies have tested theories related to the expression of self-interest and public interest concerns. To explore these aspects of policy development, it was decided to study the policy

preferences of decision makers within an urban setting. Specific research hypotheses were proposed.

CHAPTER III

METHODOLOGY

I. RESEARCH HYPOTHESES

1. Differences exist between decision-maker groups in relation to the (a) allocation of subsidy funds to transportation consumers with access to an automobile, (b) allocation of subsidy funds among trip purposes for transportation consumers with access to an automobile, (c) allocation of tax revenues for public transportation, (d) allocation of subsidy funds among public transportation services, (e) evaluation of public transportation performance, and (f) support for categories of public transportation revenue sources.

2. There is a positive relationship between decision makers' perceptions of transportation problems and decision makers' allocations of public transportation subsidies to transportation consumers with access to an automobile.

II. RATIONALE FOR HYPOTHESES

Differences in the policy preferences of decision-maker groups were based on the assumption that the decision maker's conception of the public interest is influenced by a personal desire to increase power, income, and prestige. These personal objectives are achievable primarily through decision-making activity associated with the individual's role as a representative of general purpose government or a specialized government agency (Breton, 1974; Downs, 1957, 1967).

Policies which strengthen or enlarge the scope of responsibilities and power possessed by the organization and do not conflict with organizational interests enable the individual to realize personal objectives.

Because of variations in the manner in which public transportation policies conflict with particular funding priorities, organizational objectives, revenue generating policies, and reelection interests, it was anticipated that decision-maker groups would respond differently to specific policy areas. All policy areas are based directly or indirectly on differences in decision makers' desire to expand and improve public transportation services, primarily, but not in every instance, for the benefit of transportation consumers with access to automobiles.

In order to attract the more affluent automobile-dependent consumer, services must aid in the achievement of a wide range of physiological, social, and psychological needs related to a variety of trip purposes.[4] Flexible paratransit services and express services can be designed to incorporate performance characteristics similar to those offered by the automobile.

A positive relationship was hypothesized between decision makers' perceptions of transportation problems and decision makers' allocations

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[4]An increase in the material well-being of consumers causes corresponding changes in patterns of consumption. Having progressed beyond the subsistence level, consumers are influenced not only by needs but also by wants and aspirations. An increasing proportion of the income of the affluent consumer is spent on optional purchases such as travel, recreational pursuits, durable goods, and housing (Katona, Strumpel, and Zahn, 1971).

of subsidy funds to transportation consumers with access to an automobile. It was assumed that the preservation of a healthful environment is a value shared by all members of the urban community, including transportation decision makers. Decision makers are obligated through their self-interest motives to be prepared to demonstrate to the public that there is a logical relationship between their policy preferences and their personal interpretation of community welfare (Downs, 1962).

In any urban community, not all decision makers could be expected to perceive that environmental problems pose an immediate threat to community welfare. Certainly decision makers can acknowledge the importance of environmental quality but contend, if it is in their interests to do so, that such problems do not threaten community well-being. However, the only logical defense for decision makers who strongly agree that such problems exist is to support policy solutions. The attraction of automobile-dependent consumers to improved and expanded public transportation services is a policy solution which is frequently considered alone or in combination with policies which increase the cost of automobile travel. The failure of decision makers to support such policy solutions would raise serious doubts about the willingness of decision makers to reflect the public interest through policy decisions.

III. DESIGN OF THE STUDY

The preferences and attitudes of community decision makers and automobile-dependent consumers residing within the Jacksonville, Florida,

urban area were studied. Surveys of decision makers and consumers were conducted in the spring of 1977. To test the hypothesis positing differences in the policy preferences of decision-maker groups, decision makers were classified into four mutually exclusive groups based on organizational affiliation. The four groups were identified as follows:

1. The General Purpose Local Government (GPLG) group consisted of 25 individuals primarily composed of the principal elected officials of the Jacksonville urban area (i.e., mayors, city council members, and county commission chairmen). Appointed city managers were also included in the grouping. The funding powers of the group are extensive. Members are instrumental in securing federal funding support for public transportation. The city council appropriates funds for the operation and maintenance of the bus transit services provided by the Jacksonville Transportation Authority. Group members also provide support for a variety of other public goods. It is in the interests of the group to provide the level of public transportation funding which satisfies the electorate.

2. The Jacksonville Transportation Authority (JTA) group consisted of nine individuals: seven appointed board members and two professional staff members. The JTA is the principal organization implementing public transportation services. It also possesses extensive powers relative to the construction and improvement of the Jacksonville expressway system, including the power to collect toll bridge and parking fees. Toll revenues are used by JTA to fund expressway construction. The Duval County (Jacksonville) gasoline tax funds are

not used directly for public transportation but are channelled into the general fund from which the JTA appropriation comes. The potential for intraorganizational conflict exists because expressway and transit interests coexist within a single agency. Whereas JTA may generally support improved public transportation services, efforts to attract the automobile-dependent consumer are likely to conflict with revenue generating policies of the agency.

3. The Jacksonville Area Planning Board (JAPB) group consisted of 11 individuals: 9 board members and 2 professional staff members. The JAPB is an independent planning agency concerned primarily with coordinated land use development for the region. The staff develops plans for the designated metropolitan planning organization for the urban area (composed of principal elected officials and chairpersons of the JTA and JAPB) and transit plans for JTA, but JAPB possesses only advisory powers. To the extent that public transportation is viewed as a facilitator of coordinated land use development and public transportation planning as an organizational function, improvements may be supported.

4. The Other Organization group consisted of 13 appointed officials and professional staff representing a variety of agencies and departments of city and state government. These individuals serve in an advisory capacity on various transportation committees because of the interface between transportation and their respective areas. In each instance, individuals represent organizations whose primary interest is in an area of public concern other than public transportation such

as highways, education, airways, riverport, housing, and downtown development. Although the interests of each organization are at variance with the interests of the others, all organizations are likely to perceive a conflict with improved public transportation services in the allocation of community funds.

Group membership was the independent variable for the study. Dependent variables included the allocation of subsidy funds to transportation consumers with access to an automobile, allocation of subsidy funds among trip purposes, allocation of tax revenues for public transportation, allocation of subsidy funds among public transportation services, evaluation of public transportation performance, support for categories of public transportation revenue sources, decision makers' perceptions of transportation problems, and decision makers' allocations of public transportation subsidies to transportation consumers with access to an automobile.

IV. SAMPLE

Selection of Study Site

The Jacksonville, Florida, urban area was selected as the site for the study of decision makers and consumers. Several factors influenced the selection of Jacksonville. The Jacksonville urban area was large enough to permit the examination of various aspects of the project[5], yet not so large as to make the field research unmanageable.

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[5]The study was undertaken in conjunction with a larger research project conducted by the Transportation Center of The University of

Jacksonville decision makers expressed an interest in participating in the study and a desire to attract automobile-dependent consumers to improved public transportation services.

The urban area was defined as the consolidated City of Jacksonville and portions of the adjoining counties of St. Johns and Clay regularly participating with Jacksonville in urban transportation planning. According to 1970 U.S. Census statistics, the population of the consolidated City of Jacksonville was 728,865, not including portions of the adjoining counties. Jacksonville has experienced some traffic congestion problems, particularly near bridge sites leading to the downtown area.

Selection of Decision Makers

Elected officials of local government, appointed officials, and professional planning staffs of different public agencies develop the policies which guide transportation planning within the urban area. The principal transportation planner for the Jacksonville Area Planning Board compiled a list of public officials, professional staff, and citizen representatives who routinely participate in transportation

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Tennessee, Knoxville. The project was funded by the National Cooperative Highway Research Program (NCHRP) and was entitled "Guidelines for Public Transportation Levels of Service and Evaluation." The objective of the larger project was to determine the nature of the relationships among public transportation services, the urban environment, and public transportation consumer segments. The instruments were developed and tested as part of an effort to develop methodologies which small and medium sized urban areas could utilize for carrying out short-range public transportation planning activities.

planning. The population of decision makers assigned the primary responsibility for planning and implementing public transportation services was selected for the study. The list of 58 principal decision makers consisted of 23 elected officials of local government, 22 appointed officials, and 13 professional executive and planning staff members.

Description of Decision Makers

An attempt was made to secure the participation of each of the principal decision makers in the Jacksonville urban area. Of the 58 decision makers contacted regarding his or her participation, 42 consented to participate. The overall response rate was 72 percent. Because some decision makers declined to participate, resulting policy preferences must be interpreted to represent only the views of those actually obtained.

The response by decision-maker groups was: 14 General Purpose Local Government officials, 8 Jacksonville Transportation Authority officials, 9 Jacksonville Area Planning Board officials, and 11 Other Organization officials. Nonparticipation was highest among city council members of GPLG. Of the 19 city council members, 9 declined to participate.

The sample consisted of 33 percent elected officials, 36 percent appointed officials, and 31 percent professional staff members. The median number of years decision makers expected to remain in their present occupational capacity was 3 years. The mode was 2 years with 40 percent registering this response.

Respondents had resided in the Jacksonville urban area long enough to become acquainted with community problems and policy issues. Both the mean and median number of years was found to be 24. The range was from zero years for state highway officials residing outside the urban area up to 65 years for residents.

Respondents tended to regard themselves as capable of determining goals and policies for the Jacksonville community. On a scale of 1 to 7 ranging from not capable to highly capable, the mean score for all respondents was 5.66 with a standard deviation of 1.36.

Decision makers considered themselves somewhat less influential than capable in determining goals and policies. On a similar 7-point scale ranging from 1 for no influence to 7 for highly influential, the mean score was 4.81 with a standard deviation of 1.87.

Selection of Consumer Sample

The sample was identified as those Jacksonville transportation consumers with access to an automobile for 50 percent or more of their trips within the Jacksonville urban area. An area probability sampling technique was used for the study. To make the sampling process as efficient as possible, census tracts within the Jacksonville urban area were screened to identify those with the highest concentrations of with-access consumers. Census tracts with very sparce populations and with high numbers of low income consumers were eliminated. Only census tracts containing households with an annual income of $7,000 or more were selected for the study because of the positive relationship between income and automobile ownership.

A step-by-step description of the sampling process and the instructions that interviewers followed to select households and respondents for interviewing are included. (See Appendix A.) A total of 1,000 households were selected randomly for study. Randomness was attained through the selection of blocks within tracts and the selection of households for interviewing on each block. One or more eligible respondents within each household completed a questionnaire concerning travel behavior, attitudes toward transportation services, and socio-demographic characteristics. The final sample consisted of 1,108 consumers with access to automobiles. A descriptive summary of socio-demographic and travel characteristics for the sample is provided in Table 1.

The sample was designed to represent Jacksonville's automobile-dependent consumers. For this reason, consumers' attitudes and behavior theoretically may be generalized to consumers residing in urban areas of comparable size.

V. INSTRUMENTATION

Two survey instruments were developed: the Public Transportation Goals and Policies Measure for determining decision-maker policy preferences and the Urban Travel and Transportation Use Measure for assessing the travel attitudes and behavior of automobile-dependent consumers.

As expressed through the survey instruments the policy perspectives of decision makers and consumers differed, yet it was assumed that the

TABLE 1

SUMMARY OF SOCIO-DEMOGRAPHIC AND TRAVEL CHARACTERISTICS OF TRANSPORTATION CONSUMERS AND THEIR HOUSEHOLDS

Characteristic	Percentage of Sample
Gender	
Male	50
Female	50
Age	
Under 20	18
20-24	12
25-29	15
30-34	9
35-39	8
40-49	12
50-59	12
60 and over	14
Family Income	
$0 - $4,999	9
$5,000 - $9,999	19
$10,000 - $14,999	25
$15,000 - $19,999	18
$20,000 - $24,999	15
$25,000 - $29,999	8
More than $30,000	6
Number Residing in Household	
1	6
2	26
3	23
4	24
5	11
6 or more	10
Possession of Driver's License	
Yes	88
No	12

Table 1 (continued)

Characteristic	Percentage of Sample
Number of Vehicles Regularly Available	
0	3
1	35
2	47
3	12
4 or more	3
Number of Other Licensed Drivers in Household	
0	11
1	53
2	24
3	8
4	3
5	1
Number of Days per Week Work Outside Home	
0	51
1	1
2	1
3	3
4	3
5	30
6	8
7	3
Require Auto to Perform Job	
Yes	26
No	74
Number of Household Wage Earners	
Male	
0	23
1	70
2	6
3	1
Female	
0	60
1	36
2	3
3	1

two perspectives were comparable. For the information to be useful for policy development, consumers and decision makers must respond in terms of their respective roles. Decision makers base their views on their conceptions of community needs. Through their travel attitudes and behavior, consumers express individual needs.

Public Transportation Goals and Policies Measure

The Public Transportation Goals and Policies Measure was used to determine the public transportation policy preferences of the principal transportation decision makers in the Jacksonville urban area. (See Appendix B.) Several alternative policies for reducing transportation problems were included for decision-maker consideration. The primary policy issue explored in the study was the improvement and expansion of public transportation services.

To determine decision-maker support for improved and expanded services, an indirect approach was adopted. Decision makers were asked to respond to four hypothetical situations by allocating a specified amount of community funds among several alternatives for four related policy areas. Decision makers were asked to allocate (a) a $100 subsidy among the services for which they favored some level of funding, (b) a $100 subsidy among various trip purposes to transportation consumers with and without access to an automobile, and (c) an additional $100 of tax revenues among all public goods and services. Although the $100 of community funds was constant in each situation, it was felt that differences in the relative support for various trip purposes,

transportation consumers, services, and overall public transportation support would reflect decision makers' interest in improved and expanded services.

Decision makers were asked to evaluate existing public transportation services in terms of 14 performance characteristics. A single mean evaluation score was calculated for each decision maker based on the sum of scores for all characteristics. A high mean evaluation score indirectly indicated decision-maker support for service improvements, although not necessarily for a particular consumer group.

Decision makers were asked whether they favored various revenue sources if the additional funds would be used to provide public transportation services. Decision makers could support as many sources as they wished, all of which are currently being utilized or under consideration by urban areas across the country. Decision makers were assigned two scores based on their support for two categories of revenue sources. Decision makers' perceptions of transportation problems were measured by the degree to which they agreed that specific transportation conditions (e.g., traffic congestion and pollution by automobiles) constituted community problems.

Preliminary drafts of the measure were reviewed by transportation professionals at the federal level, members of the university research team, and Jacksonville transportation planners. The Public Transportation

Goals and Policies Measure was pretested with 12 professional planners representing urban areas of a comparable size. On the basis of pretest results, additional response categories were included for some questions, and some changes were made in the wording of question instructions.

No tests of reliability were utilized. The measure was assessed by construct validity. A review of the transportation policy literature, studies conducted by other urban areas, and conversations with transportation professionals were used to determine relevant policy issues and alternatives.

Urban Travel and Transportation Use Measure

A methodology for gathering consumer travel behavior and attitude information was developed and field tested in the Jacksonville urban area.[6] (See Appendix C.) The measure represents an application of the abstract mode concept, in which a transportation mode or service is defined by its performance characteristics and the relative utility of these characteristics for the transportation consumer (Brown, 1972). The concept is based on Lancaster's (1966a, 1966b) thesis that it is the intrinsic characteristics of a good that give satisfaction, not the good per se. According to Lancaster (1966a), "utility or preference orderings are assumed to rank collections of characteristics and only

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[6]Only those sections of the measure which were utilized in the study are included.

to rank collections of goods indirectly through the characteristics that they possess" (page 133).

Viewed in this perspective, it is not the automobile itself which Americans find engaging but the performance characteristics which it offers. With increasing affluence American consumers are less concerned with the means of travel than with characteristics of performance such as travel time, comfort, reliability, and flexible scheduling. It is assumed that if public transportation services possessed levels of service equal to those offered by the automobile, consumers would be indifferent to the choice between transportation services provided that the price of alternative services is equivalent.

Under existing price conditions, the American automobile consumer is able to purchase higher levels of performance at a relatively lower cost than is possible for existing public transportation alternatives. A prime ingredient of cost is the value that transportation consumers place upon their own time. With an increase in income, the monetary costs of public transportation become almost insignificant compared to the time costs (including waiting time, travel time reliability, and total elapsed travel time) (Dewees, 1976). The higher income consumer can afford to reduce the time component of cost, thereby minimizing total costs (Swagler, 1975, page 141). A majority of transportation consumers have determined that the automobile is the most efficient[7] way of satisfying their mobility needs.

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[7]Efficient consumers obtain the greatest quantity of desired characteristics (in the preferred combination) at the lowest possible cost.

For many characteristics, the precise level of performance may vary somewhat with the particular automobile purchased. For example, operating costs may be higher for a more comfortable automobile. An increase in vehicle safety may also be associated with higher operation costs. Lancaster (1966b) assumed that the consumer has a "preference ordering over the set of all possible characteristics vectors, and his aim is to attain the most desired bundle of characteristics subject to the constraints of the situation" (page 14). As a result, consumers purchase according to their preferences different brands and models of automobiles, each possessing varying amounts of the same characteristics.

The strategy adopted by transportation professionals is to offer consumers desired levels of performance at prices which are competitive with automobile travel. Public transportation lends itself well to this strategy. Services can be designed with a variety of characteristics in different combinations even for identical vehicles. For example, bus services can be adjusted to provide door-to-door service as well as the more familiar fixed-route scheduling.

The difficulties of attracting automobile-dependent consumers in sufficient quantities to reduce transportation problems has caused some people to suggest alternative policies. Because the private cost of automobile travel is well below its social cost, automobile consumers could be required to pay for the externalities which they impose on others (Dewees, 1976). In this way it would no longer be efficient for many consumers to continue to depend on their automobiles, regardless of whether improved public transportation services were offered. The

revenue from various congestion pricing schemes could be used to improve and expand services to provide the level of performance desired by consumers.

The Urban Travel and Transportation use questionnaire[8] was subdivided into three major areas of investigation: trip purpose behavior, transportation usage, and transportation attitudes and activities. Additional sociodemographic and travel information was collected for each consumer.

Numerous attitude statements were related to the importance of individual performance characteristics for work and nonwork trips. Consumers also were asked whether these characteristics described specific transportation services, although it was assumed that consumers might not have specific knowledge of public transportation services. However, such attitudes are important for determining consumers' predispositions toward utilizing these services. Other attitude questions related to satisfaction with automobile travel and opinions of existing public transportation services.

Because improved services are suited to some trip purposes more than others, questions relating to trip purpose behavior were included to aid decision makers in assessing the feasibility of implementing specific services. Other questions were concerned with current usage of transportation services for particular trip purposes. Only a few

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[8]The questionnaire was developed by the marketing research team: preliminary drafts were circulated among remaining research team members and the NCHRP panel for comments and suggested revisions.

questions were related to the potential of alternatives such as congestion pricing and policies to restrict automobile usage in congested areas.

The measure was pretested in Jacksonville, Florida, with 23 consumers selected by the area probability sampling procedure developed for the study. On the basis of pretest results, additional revisions were made in the wording of question instructions and the ordering of questions. No specific tests of reliability were undertaken. The measure was assessed by construct validity. Questions were similar to those utilized in other studies of transportation consumers. The data were consistent with the findings of other studies.

VI. OPERATIONAL DEFINITIONS

1. Allocation of subsidy funds was defined as decision-maker allocation of a $100 community government subsidy to support public transportation services as indicated on the Public Transportation Goals and Policies Measure. Separate allocations were made between transportation consumers with and without access to an automobile, among various trip purposes, and among specific public transportation services.

2. Allocation of tax revenues for public transportation was defined as the decision-maker allocation for public transportation from an additional $100 of community tax revenues to be allocated among various public goods and services on the Public Transportation Goals and Policies Measure.

3. Decision-maker groups were identified as representatives of General Purpose Local Government and the appointed officials and professional staff of the Jacksonville Transportation Authority, Jacksonville Area Planning Board, and Other Organizations.

4. Evaluation of public transportation performance was defined as the mean evaluation score calculated for each decision maker based on a composite evaluation of 7 to 14 performance characteristics on the Public Transportation Goals and Policies Measure.

5. Perception of transportation problems was defined as the extent to which decision makers agreed or disagreed that specific transportation conditions (e.g., traffic congestion and auto pollution) constituted community problems on the Public Transportation Goals and Policies Measure.

6. Support for public transportation revenue sources was defined as the two scores calculated for each decision maker based on the sum of sources favored for two categories of tax revenues (i.e., transportation-related consumption sources and other consumption sources) on the Public Transportation Goals and Policies Measure.

7. Transportation consumers with access to an automobile were defined as those individuals at least 15 years of age or older who travel more than 3 blocks from home at least once per week and who have access to an automobile as a driver or rider for 50 percent or more of these trips. They were more generally referred to as automobile-dependent consumers and with-access consumers.

VII. COLLECTION OF DATA

Data were collected during the spring of 1977 in Jacksonville, Florida. The Public Transportation Goals and Policies Measure was delivered by an interviewer to all but 12 of the decision makers.[9] A letter from Dr. Kenneth W. Heathington, Director of The University of Tennessee's Transportation Center, requesting decision makers' cooperation in a study of the public transportation goals and policies for the Jacksonville community was mailed prior to the contact by the interviewer. (See Appendix D.)

The interviewer was familiar with each goal and policy question and was present to answer any inquiries related to question interpretation and response requirements. The confidentiality of decision makers' individual responses was assured. Some of the decision makers completed the questionnaire in the presence of the interviewer. Others retained the form to complete at their convenience. In the latter cases, the interviewer arranged to pick up the questionnaire at a later date, checking it for completeness at that time. When possible, the interviewer was present while the decision maker scanned the measure for possible difficulties in question interpretation. An interview record was completed by the interviewer on which the decision maker's identity, organizational affiliation, address, and time of interview were recorded. (See Appendix D.)

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[9]The remaining 12 questionnaires were mailed to decision makers representing the State Department of Transportation with offices in Tallahassee and those representing adjoining Clay and St. Johns Counties.

The Urban Travel and Transportation Use Measure was completed by respondents residing in households in Jacksonville, Florida. The data were collected by trained interviewers representing a local professional data collection organization. Interviewers were given specific guidelines for selecting respondents and answering questions concerning the research and question interpretation. Households were visited at different hours of the day to achieve a balance between male and female respondents. Many questionnaires were completed in the presence of interviewers. In other instances appointments were made to pick up the completed questionnaires. Interviewers were instructed to check the questionnaires before leaving respondents' homes in order to minimize missing data.

VIII. DATA ANALYSIS

A one-way analysis of variance (ANOVA) was used to determine the existence of differences in the policy preferences of decision-maker groups. Researchers have suggested that the F test is not robust to violations of the assumption of equal variances when group sizes are dissimilar, as in the case of the decision-maker groups (Huck, Cormer, and Bounds, 1974). For this reason the homeogeneity was not significant ($p > .05$) for any of the variances considered; therefore, no data transformations were required prior to the application of ANOVA procedures. Results of individual tests of homeogeneity of variance are appended (Table 19, Appendix E).

To determine how the four groups differed, Duncan's multiple range test was selected for post hoc comparisons between group means.

Pearson product-moment correlation coefficients were used to test the hypothesis in which a positive association between decision makers' perceptions of transportation problems and decision makers' allocations of public transportation subsidies was posited. Additionally frequency distributions and measures of central tendency and variability were computed for the samples of transportation consumers and decision makers. Differences and associations established at the .05 level were considered significant.

CHAPTER IV

RESULTS

I. RESULTS OF TESTS OF HYPOTHESES

Subsidy to Transportation Consumers

Each decision maker was asked how he/she would allocate a $100 subsidy among various trip purposes for those with and without access to an automobile. Decision makers' perceived allocation of subsidy funds to transportation consumers with access to an automobile represented the combined allocation for all trip purposes to the with-access group. Group differences were tested by a one-way ANOVA of the mean allocations of decision-maker groups. Results of the ANOVA appear in Table 2. Group differences were found to be significant ($p < .047$) supporting the hypothesis that differences would exist between decision-maker groups in the allocation of subsidy funds to transportation consumers with access to an automobile.

Table 2

ANALYSIS OF VARIANCE SUMMARY FOR DECISION-MAKER ALLOCATION OF A $100 SUBSIDY TO CONSUMERS WITH ACCESS TO AN AUTOMOBILE

Source	S.S.	d.f.	M.S.	F	p<
Between groups	3840.39	3	1280.13	2.90	.047
Within groups	16787.73	38	441.78		
Total	20628.12	41			

Follow-up analysis utilizing Duncan's multiple range test revealed that decision makers representing Other Organizations allocated fewer subsidy funds ($p < .05$) to transportation consumers with access to an automobile than the Jacksonville Area Planning Board and General Purpose Local Government decision makers. There was no difference between the allocations of Other Organizations and Jacksonville Transportation Authority representatives. Mean allocations and standard deviations by groups are shown in Table 20, Appendix E.

It was hypothesized that differences would exist between decision-maker groups in the allocation of subsidy funds among trip purposes. Analysis of allocation of subsidy funds among trip purposes revealed no differences between groups; therefore, the hypothesis was not supported. Results of the ANOVA for each trip purpose are summarized in Table 3. Mean allocations and standard deviations for trip purposes are appended (Table 21, Appendix E).

Public Transportation Revenue Support

Decision makers were asked how they would allocate an additional $100 of tax revenues among various public goods and services. Group differences in the mean allocation for public transportation were tested by a one-way ANOVA. The analysis revealed no difference in the allocation to public transportation ($p < .093$) for decision-maker groups. Results of the ANOVA appear in Table 4. The mean allocations and standard deviations for decision-maker groups are displayed in Table 22, Appendix E. The hypothesis which predicted

Table 3

ANALYSIS OF VARIANCE SUMMARIES FOR DECISION-MAKER ALLOCATION OF A $100 SUBSIDY AMONG TRIP PURPOSES

Source	S.S.	d.f.	M.S.	F	p <
Health Care					
Between groups	126.58	3	42.19	1.40	.256
Within groups	1142.75	38	30.07		
Total	1269.33	41			
Religious					
Between groups	90.84	3	30.28	.48	.702
Within groups	2401.95	38	63.21		
Total	2492.79	41			
Employment					
Between groups	725.88	3	241.96	1.99	.130
Within groups	4617.26	38	121.51		
Total	5343.14	41			
Education					
Between groups	176.98	3	58.99	1.22	.315
Within groups	1834.00	38	48.26		
Total	2010.98	41			
Shopping (Food)					
Between groups	118.25	3	39.42	1.76	.170
Within groups	851.08	38	22.40		
Total	969.33	41			
Shopping (Nonfood)					
Between groups	11.55	3	3.85	.60	.626
Within groups	245.78	38	6.47		
Total	257.33	41			
Personal Business					
Between groups	8.48	3	2.83	.69	.566
Within groups	155.42	38	4.09		
Total	163.90	41			
Social-Recreational					
Between groups	30.48	3	10.16	2.29	.092
Within groups	168.49	38	4.43		
Total	198.97	41			

that a difference would exist between decision-maker groups in the allocation of community revenues for public transportation was not supported.

Table 4

ANALYSIS OF VARIANCE SUMMARY FOR DECISION-MAKER ALLOCATION OF AN ADDITIONAL $100 OF TAX REVENUES TO PUBLIC TRANSPORTATION

Source	S.S.	d.f.	M.S.	F	p<
Between groups	686.68	3	228.89	2.28	.093
Within groups	3811.15	38	100.29		
Total	4497.83	41			

Public Transportation Services

Each decision maker was asked how he/she would allocate a $100 subsidy among 11 public transportation services. These included services such as local transit, community-owned vanpools, and dial-a-ride services. One-way ANOVA's were utilized to test for differences in the mean allocations of decision-maker groups. As shown in Table 5, the analyses revealed no differences for any of the services listed. Group means and standard deviations for each service are provided in Table 23, Appendix E. The hypothesis in which it was predicted that differences would exist between decision-maker groups in the allocation of subsidy funds among public transportation services was not supported.

Public Transportation Performance

A mean evaluation score was calculated for each decision maker based on the composite evaluations of 7 to 14 public transportation

Table 5

ANALYSIS OF VARIANCE SUMMARIES FOR DECISION-MAKER ALLOCATION OF A $100 SUBSIDY AMONG PUBLIC TRANSPORTATION SERVICES

Source	S.S	d.f.	M.S.	F	p<
Car/Vanpooling					
Between groups	84.77	3	28.56	1.42	.250
Within groups	754.85	38	19.86		
Total	829.62	41			
Company-Sponsored Vanpools					
Between groups	7.70	3	2.57	.82	.492
Within groups	118.58	38	3.12		
Total	126.28	41			
Community-Owned Vanpools					
Between groups	142.63	3	47.54	1.51	.227
Within groups	1197.66	38	31.52		
Total	1340.29	41			
Taxi Services					
Between groups	36.14	3	12.05	1.22	.316
Within groups	375.50	38	9.88		
Total	411.64	41			
Special Services for the Handicapped					
Between groups	1813.38	3	604.46	1.51	.225
Within groups	15168.90	38	399.18		
Total	16982.28	41			
Local Transit Services					
Between groups	407.98	3	135.99	.30	.828
Within groups	17347.35	38	456.51		
Total	17755.33	41			
Commuter Express Buses					
Between groups	724.52	3	241.51	1.66	.191
Within groups	5537.39	38	145.72		
Total	6261.91	41			
Dial-a-Ride Services					
Between groups	143.36	3	47.79	1.62	.200
Within groups	1121.97	38	29.53		
Total	1265.33	41			
Group Bus Leasing					
Between groups	4.58	3	1.53	.56	.647
Within groups	103.32	38	2.72		
Total	107.90	41			

Table 5 (Continued)

Source	S.S.	d.f.	M.S.	F	p<
School Buses					
Between groups	181.58	3	60.52	.50	.686
Within groups	4565.40	38	120.14		
Total	4746.98	41			
Bicycle Facilities					
Between groups	131.37	3	43.79	.39	.762
Within groups	4240.25	38	111.59		
Total	4371.62	41			

performance characteristics. For each characteristic a score of 1 to 5 was assigned to responses ranging from "satisfactory" to "excellent." Responses of "not offered" and "no opinion" were declared invalid prior to the calculation of each score. Differing responses were assumed to represent variations along a continuous scale. By basing each decision maker's mean evaluation score on the responses to several performance characteristics, collectively these responses were assumed to be valid indicators of perceptions of overall public transportation performance. Decision makers registering responses to 50 percent or more of the listed characteristics comprised the sample. Three individuals from the Other Organizations group who responded to the majority of characteristics with responses of "not offered" and/or "no opinion" were excluded.

A one-way ANOVA was used to test for differences between the mean evaluation scores of individuals making up the four decision-maker groups. The analysis indicated a difference ($p < .023$) among the groups, thus providing support for the hypothesis that decision-maker groups would differ in their evaluations of public transportation performance. Results of the ANOVA appear in Table 6.

Table 6

ANALYSIS OF VARIANCE SUMMARY FOR MEAN EVALUATION SCORES OF PUBLIC TRANSPORTATION PERFORMANCE FOR DECISION-MAKER GROUPS

Source	S.S.	d.f.	M.S.	F	p<
Between groups	3.66	3	1.22	3.60	.023
Within groups	12.23	35	.34		
Total	15.89	38			

Follow-up analysis was undertaken to determine where specific differences occurred. Results of the Duncan's multiple range test indicated that the evaluations of Jacksonville Transportation Authority (JTA) decision makers were higher ($p < .05$) than those of Other Organizations and Jacksonville Area Planning Board (JAPB) decision makers. No difference was found between the JTA and General Purpose Local Government (GPLG) decision makers. Group evaluation means and standard deviations are provided in Table 24, Appendix E.

Additional analyses were used to explore group differences for individual performance characteristics. As in the previous analysis, only the responses of those decision makers selecting valid responses for 50 percent or more characteristics were utilized. An evaluation score of 1 to 5 was assigned to the responses of decision makers for each characteristic. As shown in Table 7, group differences were observed for six performance characteristics.

Follow-up analyses were used to identify the location of differences in the mean scores of groups. Group means and standard deviations are displayed in Table 25, Appendix E. The JTA officials evaluated bus service to downtown higher ($p < .05$) than did decision makers from each of the other groups. The JTA and GPLG representatives evaluated bus service to other areas higher than the JAPB. The evaluations of officials from Other Organizations did not differ from that of other groups. The JTA, GPLG, and Other Organizations evaluated express bus service higher than the JAPB. Evaluations of frequency of weekday buses were higher for JTA officials than for Other Organizations and

Table 7

ANALYSIS OF VARIANCE SUMMARIES FOR DECISION-MAKER EVALUATIONS OF PUBLIC TRANSPORTATION PERFORMANCE CHARACTERISTICS

Source	S.S	d.f.	M.S.	F	p<
Bus Service to Downtown					
Between groups	8.62	3	2.87	5.09	.005
Within groups	19.20	33	.56		
Total	27.82	36			
Bus Service to Other Areas					
Between groups	7.03	3	2.34	3.26	.034
Within groups	22.97	31	.72		
Total	30.00	34			
Express Bus Service					
Between groups	17.36	3	5.79	6.13	.002
Within groups	32.11	33	.94		
Total	49.47	36			
Frequency of Weekday Buses					
Between groups	6.62	3	2.21	4.09	.014
Within groups	17.80	32	.54		
Total	24.42	35			
Frequency of Weekend Buses					
Between groups	5.33	3	1.78	2.02	.131
Within groups	27.35	31	.88		
Total	32.68	34			
Park-and-Ride Lots					
Between groups	3.84	3	1.28	.98	.415
Within groups	44.37	34	1.31		
Total	48.21	37			
Transfer Convenience					
Between groups	3.56	3	1.19	1.36	.278
Within groups	22.74	26	.87		
Total	26.30	29			
Customer Information					
Between groups	2.30	3	.77	.73	.546
Within groups	34.73	33	1.05		
Total	37.03	36			
On-Time Performance					
Between groups	4.86	3	1.78	3.10	.042
Within groups	14.64	28	.52		
Total	19.50	31			

Table 7 (Continued)

Source	S.S.	d.f.	M.S.	F	p<
Fare Structure					
Between groups	3.22	3	1.07	.77	.518
Within groups	45.54	32	1.38		
Total	48.76	35			
Bus Shelters and Benches					
Between groups	5.88	3	1.96	2.05	.124
Within groups	32.46	34	.95		
Total	38.34	37			
Location of Bus Stops					
Between groups	1.44	3	.48	.61	.615
Within groups	25.80	32	.78		
Total	27.24	35			
Vehicle Safety					
Between groups	4.63	3	1.54	5.06	.006
Within groups	10.07	33	.31		
Total	14.70	36			
Vehicle Comfort					
Between groups	1.06	3	.35	.72	.550
Within groups	15.69	32	.49		
Total	16.75	35			

for JAPB. The evaluation of GPLG representatives did not differ from other groups. The JTA and GPLG evaluations of on-time performance were higher than that of the JAPB. The evaluation of Other Organizations did not differ from other groups. The JTA evaluated vehicle safety higher than did any of the other groups.

Revenue Sources

Decision-maker support for two categories of potential public transportation revenue sources was studied. A gasoline tax, vehicle tag tax, downtown parking tax, and toll revenue were classified as transportation-related consumption sources. Other consumption sources included the sales tax, gambling tax, cigarette tax, utility tax, and revenue from liquor sales. Decision makers were assigned two scores based on their support for revenue sources within each categorization. The decision maker's score for transportation-related sources could range from 0 to 4 with 0 signifying that the decision maker favored none of the sources. Alternately, a score of 4 would indicate that all sources were favored. Similarly, the score for other consumption revenue sources could range from 1 to 5.

A one-way ANOVA was used to test for differences in the mean scores of decision-maker groups for each of the two categorizations. The analysis revealed no differences in decision-maker support for transportation-related sources ($p < .302$) or other consumption sources ($p < .358$). (See Table 8.) Mean scores for each categorization are appended (Tables 26 and 27, Appendix E). Therefore, the analysis did not

support the hypothesis that differences would exist between decision-maker groups in the support for specific categories of public transportation revenue sources.

Table 8

ANALYSIS OF VARIANCE SUMMARIES FOR MEAN SUPPORT SCORES FOR TRANSPORTATION-RELATED AND OTHER CONSUMPTION REVENUE SOURCES FOR DECISION-MAKER GROUPS

Source	S.S.	d.f.	M.S.	F	p<
Transportation-Related Revenue Sources					
Between groups	9.16	3	3.05	1.26	.302
Within groups	94.61	38	2.43		
Total	103.77	41			
Other Consumption Sources					
Between groups	7.84	3	2.61	1.11	.358
Within groups	92.06	38	2.36		
Total	99.90	41			

Perception of Transportation Problems

Decision makers were asked the degree to which they agreed that various conditions constituted community problems. Scores ranging from 1 to 5 were used to indicate the decision maker's relative agreement that each of 7 conditions was a community problem. Each condition was transportation-related; conditions included traffic congestion, pollution by automobiles, energy consumption, traffic accidents, urban sprawl, and costs of automobile travel.

It was hypothesized that decision makers' perceptions of transportation problems would be related positively to decision makers'

allocations of public transportation subsidies to transportation consumers with access to an automobile. Decision makers were asked how they would allocate a $100 subsidy between those with and without access to an automobile. The combined trip-purpose allocation to those with access to an automobile was used as a measure of the dependent variable.

Pearson product-moment correlations were calculated to determine the association between decision makers' perceptions of transportation problems and their allocations of subsidy funds. Resulting correlation coefficients showed low positive correlations between perceptions of transportation problems and subsidy allocations (with the exception of traffic accidents, where an extremely small negative correlation was observed). (See Table 9.) None of the correlation coefficients were significant at the .05 level; therefore, the hypothesis was not supported.

Additional analysis was undertaken to determine whether relationships existed between decision makers' perceptions of transportation problems and decision makers' allocations of subsidy funds for individual trip purposes. One-tailed tests of significance applied to each correlation coefficient revealed several significant correlations for individual trip purposes. (See Table 28, Appendix E.)

II. ANALYSIS OF OCCUPATIONAL GROUPS

The analysis of differences between decision-maker groups was based on the belief that the opinions of representatives of decision-making organizations reflect the varying interests of their respective

Table 9

CORRELATION COEFFICIENTS OF DECISION MAKERS' TOTAL TRIP PURPOSE ALLOCATION OF A $100 SUBSIDY TO CONSUMERS WITH ACCESS TO AN AUTOMOBILE WITH DECISION MAKERS' PERCEPTIONS OF TRANSPORTATION PROBLEMS

Transportation Problem	Total Trip Purpose Allocation	$p<$
Traffic congestion	.14	.188
Pollution by automobiles	.22	.083
Energy consumption	.12	.220
Traffic accidents	-.06	.349
Urban sprawl	.21	.091
Costs of automobile travel	.14	.188

N = 42

organizations. The review of literature supported this position. Indeed, some differences were observed which seem to be consistent with the interests of particular organizations. Although there is virtually universal agreement in the literature that group differences can be expected to follow organizational interests, few attempts have been made to test this theory or related ones empirically. For this reason further analysis of the data was undertaken to identify alternative response patterns.

For the additional analysis, the 42 respondents were reorganized into three decision-making groups based on occupational status. Fourteen elected officials made up group 1, 15 appointed officials group 2, and 13 professional staff members group 3. Differences of opinion about such issues as funding levels, allocation of funds, and potential revenue sources may be expected vary with occupational status. Each type of position is acquired in a different manner, and retaining the position is typically associated with different degrees and combinations of political factors.

Political aspects were incorporated into the analysis of organizational group differences to a limited extent. Most elected officials (93 percent) belonged to the General Purpose Local Government group. However, appointed officials and professional staff members represented a cross section of the remaining organizational groups. The majority of appointed officials (87 percent) represented the transportation authority (JTA) and the planning organization (JAPB). The majority of professional staff members (62 percent) were

representatives of the Other Organizations group. An additional 31 percent represented the JTA and JAPB.

One-way ANOVA's were used to determine whether differences existed between occupational groups on the same variables tested in hypothesis one. Two-tailed tests of significance were applied to mean scores and allocations. Only one difference between the groups was observed. A difference ($p < .039$) was found in the allocation of tax revenues to public transportation. Results of the ANOVA are shown in Table 10. Follow-up analysis utilizing Duncan's multiple range test showed that elected officials allocated fewer funds ($p < .05$) to public transportation than did appointed officials or professional staff. No difference was observed between the allocation of tax revenues by appointed officials and professional staff. Means and standard deviations for each occupational group are shown in Table 29, Appendix E.

Table 10

ANALYSIS OF VARIANCE SUMMARY FOR ALLOCATION OF $100 OF TAX REVENUES TO PUBLIC TRANSPORTATION BY ELECTED, APPOINTED, AND PROFESSIONAL STAFF GROUPS

Source	S.S.	d.f.	M.S.	F	p<
Between groups	658.55	2	329.27	3.50	.039
Within groups	3855.18	39	94.03		
Total	4513.73	41			

III. UTILIZING CONSUMER INFORMATION FOR PUBLIC TRANSPORTATION POLICY DEVELOPMENT

The primary purpose of this portion of the study was to compare the policy preferences of community decision makers with the opinions of automobile-dependent consumers. The degree of consistency affects the ability of decision makers to represent the majority interests of this consumer group in the formulation of public policy. The analysis also illustrates how consumer travel behavior and attitude information can be used by community decision makers to establish effective transportation policies. Consumer input increases the probability that the transportation needs of a majority of citizens will be met.

Responses to questions from the Urban Travel and Transportation Use Measure and the Public Transportation Goals and Policies Measure were used in the analysis. Both questionnaires were administered in the Jacksonville, Florida, urban area.

The discussion was developed around four areas of public transportation policy: service to consumer groups, trip purpose priorities, performance characteristics, and public transportation services. After the views of decision makers and consumers are compared in each of the four areas, suggestions are made to decision makers for utilizing consumer information in each area for transportation policy development.

Service to Consumer Groups

The majority of Jacksonville decision makers (85 percent) indicated that existing public transportation services should be improved or

upgraded to provide services to transportation consumers with access to an automobile. However, when a limited resource situation was used to force decision makers to make choices between consumer groups, support for services to with-access consumers declined in relative importance. The majority of the sample (81 percent) allocated some funds to at least one trip purpose for with-access consumers, although total funding support for those without access was over twice as great. Of the total funds allocated by the $100 subsidy, 31 percent were allocated to those with access to an automobile.

The inclination of consumers to use existing and improved public transportation services was studied. Consumer responses to 10 attitude statements relating to personal use of public transportation services are summarized in Table 11.

On the whole, consumers reacted negatively to statements related to current use or intended use of existing services. There were, however, indications that ridership increases might be anticipated if improvements were made. For example, the majority of consumers disagreed with the statement suggesting they would never use public transportation more frequently no matter how much the service improved.

From the responses, it is apparent that existing public transportation services did not appeal widely to automobile-dependent consumers. However, the views of up to 29 percent of the respondents were neutral toward statements relating to personal use. This may reflect consumers' unfamiliarity with public transportation services, or it may suggest that decision makers would have to cope with fewer negative perceptions of service if improvements were made.

Table 11

ATTITUDES OF TRANSPORTATION CONSUMERS TOWARD PERSONAL USE OF PUBLIC TRANSPORTATION SERVICES

Statement	Percentage of Respondents Holding Opinion[a]			Number of Respondents[b]
	Agree	Disagree	Neutral	
Although mass transit would be a good way of conserving energy, I really cannot use it since it is very inconvenient.	55	25	20	1041
Public transportation is fine for some people but not for me.	42	36	22	1076
Carpooling does not appeal to me.	37	42	21	1002
Traveling by public transportation is more relaxing than driving my car.	33	48	19	993
I often share a ride to work with a friend.	35	49	16	520
I do not mind my children riding on public buses without being accompanied by an adult.	37	52	11	498
I would never use public transportation more frequently than I do now no matter how much the service improved.	29	52	19	1065
I like to ride on city buses.	28	45	27	997
With the higher automobile insurance rates, I plan to make greater use of public transportation.	23	48	29	997
I don't mind being restricted to fixed times and schedules for my travel within the Jacksonville area.	27	57	16	1047

[a]Response categories of slightly agree and strongly agree were collapsed to form the agree category. Slightly disagree and strongly disagree responses were combined for the disagree category.

[b]The number of respondents represents those individuals from the sample of 1108 for whom each statement was applicable.

Consumer attitudes toward the personal use of the private automobile are presented in Table 12. The most widely held attitudes toward personal use of transportation services relate to the desirability of the private automobile. The American infatuation with the automobile was supported by these findings. The only condition which was reported by a majority of consumers to have affected automobile usage was the increase in gasoline prices.

As general transportation attitudes are studied, one senses the conflict between the individual's dual role as consumer and citizen. (See Table 13.) As individuals or consuming members of a family unit, the majority of consumers agreed that for most families two cars are a necessity. On the other hand, as citizens concerned with community welfare, half agreed that someone should take measures to discourage people from using autos in downtown areas of cities. The conflict was implicit between the decision of the family to increase accessibility through the purchase of a second automobile and a public policy decision to limit access to the downtown for automobile users.

Similarly, carpooling was viewed as an effective means of conserving gasoline and reducing the cost of transportation for a majority of consumers. Yet, when consumers were questioned concerning the number of people who usually travel with them for the work trip, it was found that the majority of the employed traveled alone.

In summary, the lower funding priority established by decision makers for with-access consumers appears consistent with feelings of travel satisfaction experienced by this group. Most consumers reacted

Table 12

ATTITUDES OF TRANSPORATION CONSUMERS TOWARD PERSONAL USE OF THE PRIVATE AUTOMOBILE

Statement	Percentage of Respondents Holding Opinion[a]			Number of Respondents[b]
	Agree	Disagree	Neutral	
I couldn't manage without my car.	71	21	8	997
The high price of gasoline has caused me to drive my car much less frequently.	53	33	14	972
My own car provides the cheapest transportation I can buy.	46	38	16	991
I frequently worry about having an accident while driving or riding in a car.	41	43	16	1060
Traveling by public transportation is more relaxing than driving my car.	33	48	19	993
With the higher automobile insurance rates, I plan to make greater use of public transportation.	23	48	29	997
I dislike having to chauffeur my children to and from activities in which they are involved away from home.	28	54	18	428
I would rather my fellow workers see me arrive at work by car than by public transportation.	14	56	30	611
Parking is an annoying problem at the place where I work.	20	70	10	563
I generally do not enjoy driving a car.	17	74	9	1015

[a]Response categories of slightly agree and strongly agree were collapsed to form the agree category. Slightly disagree and strongly disagree responses were combined for the disagree category.

[b]The number of respondents represents those individuals from the sample of 1108 for whom each statement was applicable.

Table 13

GENERAL ATTITUDES OF TRANSPORTATION CONSUMERS TOWARD AUTOMOBILE AND PUBLIC TRANSPORTATION USAGE AND SUPPORT

Statement	Percentage of Respondents Holding Opinion[a]			Number of Respondents[b]
	Agree	Disagree	Neutral	
Automobile				
Today in most families two cars are a necessity not a luxury.	75	17	8	1086
Someone should take measures to discourage people from using autos in downtown areas of cities.	50	27	23	1083
Public transportation				
Carpooling is an effective means of conserving gasoline and reducing the cost of transportation.	88	4	8	1073
We need better bus service more than we need better highways.	43	32	25	1060
Everyone pays for bus service through taxes; therefore, everyone should use it.	30	41	29	1070
Riders' fares provide all the financial support needed to operate Jacksonville's bus service.	20	43	37	1054
Only the really poor people in Jacksonville use the buses.	10	76	14	1085

[a]Response categories of slightly agree and strongly agree were collapsed to form the agree category. Slightly disagree and strongly disagree responses were combined for the disagree category.

[b]The number of respondents represents those individuals from the sample of 1108 for whom each statement was applicable.

negatively to the personal use of existing public transportation services but remained open to the consideration of improved services. Decision makers expressed a desire to improve service to this group, though the effect of the inquiry as worded may have been to elicit the more socially acceptable response. The reported effect on travel behavior of increased gasoline prices suggests that decision makers should consider congestion pricing as an alternative to or in combination with public transportation improvements. Conflicts in the attitudes of individuals toward the personal use and general use of transportation services confirm the importance of consumer input to public policy development.

Trip Purpose Priorities

The overall funding support for consumers without access to an automobile was greater than for those with access, but an examination of mean allocations by trip purpose showed the service priorities for with-access consumers to be greater in some instances. Mean allocations of a hypothetical $100 subsidy by groups and trip purposes are appended (Table 30, Appendix E).

Support was greatest for the employment trips of both groups. The trip purpose rankings for both groups were identical with the single exception that the ranking for the health care trip was higher than the education trip for consumers without access to an automobile. For each trip purpose, the mean allocation was higher for without-access consumers. In a few instances, the mean allocation for a trip(s) for those with access was greater than for a different trip(s) for those without access.

The following segment assesses the trip purpose needs of the consumer sample and consumers' inclination to utilize public transportation services to meet these needs. Travel behavior related to trip purpose was examined first.

Consumers' need for transportation was reflected by information about the kinds of trips made on a weekly basis. (See Table 31, Appendix E.) Social-recreational trips were reported to be taken weekly by the largest majority of consumers. However, among those reporting to take any particular trip on a weekly basis, the mean round trips traveled per week were highest for work trips. Although the mean number of social-recreational trips was almost as high as for the work trip, there was considerable variability in response.

To assess the probable contribution of specific trips to problems of traffic congestion, air pollution, and energy consumption, information about mileage also must be considered. The mean numbers of round trip miles were highest for entertainment and work trips. (See Table 32, Appendix E.) Because of the inherent problem of weighting responses to derive mean round trip miles, entertainment and visit with friends and relatives components of social-recreational trips were treated separately in the analysis. The percentage of those taking each of the two trips was equal but did not represent the same consumers (although some overlaps existed).

The potential of public transportation to alleviate transportation problems is dependent on the willingness of significant numbers of consumers to travel together in multioccupancy vehicles, including the

automobile. To find out to what extent consumers are presently traveling together for various trip purposes, they were asked to indicate how many people within and outside the household usually travel with them. (See Table 14.) Work trips exhibited the greatest solitary travel behavior. The majority of those employed reported that they commute alone. Most of the other trip purposes may be characterized as multi-person trips, primarily within the household. There seemed to be limited carpooling for the education trip.

Higher levels of public transportation service can be provided if stops between the origin and destination of the trip are minimal. Therefore, those trip purposes requiring fewer stops facilitate the implementation of improved public transportation services. Single stops (between leaving home and returning) were more frequently reported for religious, medical, education, and work trips. Multistop trips were greatest for shopping (nonfood and grocery) and personal business. The typical number of stops reported by consumers for each trip purpose are shown in Table 15.

To summarize, based on the analysis of the trip behavior of consumers, the work trip appears to have the greatest potential for the implementation of improved public transportation services. This assessment is consistent with the funding priority accorded to the employment trip by decision makers. Though the social-recreational trip is worthy of consideration based on numbers of consumers affected, round trips, and mileage, it is also characterized by multiperson ridership. Decision makers should recognize the limited potential

Table 14

PERCENTAGE OF TRANSPORTATION CONSUMERS REPORTING DIFFERENT NUMBERS OF PEOPLE TRAVELING WITH THEM WITHIN AND OUTSIDE THE HOUSEHOLD FOR VARIOUS TRIP PURPOSES

Trip Purpose	Number of People[a]										Number of Respondents[b]
	Within Household					Outside Household					
	0	1	2	3	4 or More	0	1	2	3	4 or More	
Work	82	15	2	1	-	83	10	3	2	2	510
Education	66	27	4	1	2	55	17	10	3	15	281
Shopping (nonfood)	31	40	17	8	4	73	18	6	2	1	930
Shopping (grocery)	30	43	17	5	5	86	11	2	1	-	824
Visit with friends, relatives	22	35	19	11	13	77	12	7	2	2	959
Entertainment	22	44	19	8	7	54	16	19	5	6	902
Personal business	58	31	8	2	1	90	8	1	-	1	762
Medical	37	41	15	5	2	91	7	1	-	1	716
Deliver/pick up children	17	37	27	12	7	74	11	6	2	7	305
Religious	15	30	22	15	18	81	10	4	2	3	684

[a]Consumers were asked to respond to both within and outside household categories so each category totals 100 percent of those for which the trip purpose was applicable.

[b]The number of respondents represents those individuals from the sample of 1108 for whom each trip purpose was applicable.

Table 15

STOPS MADE BY TRANSPORTATION CONSUMERS TRAVELING FROM HOME TO DESTINATION AND RETURNING HOME FOR VARIOUS TRIP PURPOSES

Trip Purpose	Percentage of Respondents Making Number of Stops					Number of Respondents[a]
	1	2	3	4	5 or More	
Work	68	16	6	2	8	554
Education	77	15	4	-	4	288
Shopping (nonfood)	38	31	20	6	5	953
Shopping (grocery)	54	30	10	4	2	875
Visit with friends, relatives	67	20	8	2	3	964
Entertainment	59	28	7	2	4	909
Personal business	52	26	15	3	4	809
Medical	81	16	1	1	1	753
Deliver/pick up children	62	28	6	2	2	310
Religious	85	9	2	2	2	687

[a]The number of respondents represents those individuals from the sample of 1108 for whom each trip purpose was applicable.

for further reductions in fuel consumption, traffic congestion, and pollution by providing improved services for multiridership trips. Though affecting a minority of consumers, there would also seem to be potential for attracting students to various forms of paratransit. This is consistent with the high funding priority accorded to consumers' educational trips.

Performance Characteristics

The opinions of decision makers toward public transportation performance characteristics were compared with those of transportation consumers. Decision makers evaluated existing public transportation services by rating the quality of specific service characteristics. A traditional fixed-route, fixed-schedule bus system serves the Jacksonville urban area. The mean evaluation scores of decision makers are shown in Table 33, Appendix E. Consumers indicated their agreement with attitude statements describing performance characteristics of transportation services (bus, carpool/vanpool, automobile) in the Jacksonville area. Mean responses are shown in Table 34, Appendix E.

Similarities were observed in the relative ordering of performance characteristics by decision makers and consumers. For bus service, aspects of vehicle comfort, fare structure, on-time performance, and customer information were rated higher than other characteristics by both groups, and the relative positioning of these characteristics was similar. Consumer opinions of vehicle comfort varied, with those aspects related to physical comfort receiving higher ratings than

those related to psychological comfort. Relative to other characteristics bus shelters were assigned a lower rating by both groups.

Consumers rated carpool/vanpool services more highly than bus services, although differences were not usually great. In instances where lower ratings were given, carpool/vanpool services were perceived to be more expensive, more difficult to board and leave, and less available than bus services. By comparison, consumers rated the performance of the automobile higher than bus and carpool/vanpool services on all characteristics except low cost. There also tended to be less variability in response for automobile characteristics. These findings reemphasize the competitive advantage of the privately-owned automobile over existing public transportation alternatives, including more flexible carpool/vanpool services.

Decision makers and consumers perceived the quality of Jacksonville's bus service similarly. However, to allocate additional funds to improve characteristics with lower ratings would be to assume that consumer choice depends on the quality of these service characteristics. Consumers do not compare existing public transportation services with improved public transportation services in making a choice. The comparison is with automobile services. In order to compete successfully with the highly rated automobile, improvements may be required in all areas of performance, even those which received higher ratings. Improvement priorities should reflect the importance which consumers place on specific characteristics in the selection of transportation services for various trip purposes.

Consumers were asked to rate the importance of various performance characteristics in the selection of a transportation service for the work trip and the most frequently taken nonwork trip. The mean importance ratings for statements relating to performance characteristics are shown in Table 35, Appendix E. A comparison was made between consumer evaluations of existing bus performance characteristics and attitudes toward the importance of these characteristics to the choice of services.

Differences were observed in the relative importance of characteristics and the relative quality of these characteristics for existing services. For example, although consumers agreed that existing bus service provided a low-cost trip, cost was perceived to be less important than many other characteristics in determining the choice of services. Aspects of vehicle comfort received lower importance ratings than other characteristics, yet evaluations of the comfort of existing services were high compared to other characteristics. Arriving at a destination when planned was considered the most important characteristic, although only a minority of the consumers strongly agreed that on-time performance characterized existing bus service. Only 9 percent strongly agreed that they could select the time for a bus trip, yet 55 percent felt that it was very important to be able to have this choice for the work trip. While only 8 percent strongly agreed that bus shelters were adequate, the majority (55 percent) considered shelters to be very important to service choice for work and nonwork trips.

Differences were also observed in the importance attributed to characteristics for work and nonwork trips. For example, time-related aspects of on-time performance, frequency of service, express service, and location of pick-up points were judged more important for the work trip than for the nonwork trip. Low cost was considered more important for the work trip. Amenities such as vehicle comfort, shelter, and customer information were judged more important for nonwork trips than for work trips. The importance of service availability and transfer convenience for nonwork trips reflected the travel behavior (evening hours and multiple stops) for social-recreational and shopping trips. Information related to differences in the importance of performance characteristics for work and nonwork trips should be particularly useful as decision makers determine trip purpose priorities and operating policies.

To summarize, the comparative evaluations of public transportation performance characteristics were similar for decision makers and consumers. This finding suggests that decision makers are capable of making an assessment of existing service which is representative of the views of a large proportion of their constituency. However, operating policies must also reflect the importance of performance characteristics to consumers' selection of transportation services. Those characteristics receiving the highest evaluations were not considered most important in determining service choice. Differences were also observed in the importance of characteristics for work and nonwork trips. Decision makers should note the importance of time-related characteristics on service choice for the work trip.

Public Transportation Services

Decision makers were asked to specify the nature of the community's involvement in providing public transportation services for Jacksonville. As shown in Table 16, decision makers advocated that community government perform a variety of activities in the provision of specific services. A majority of respondents advocated at least one activity for each service. The involvement for local transit services and commuter express buses encompassed the range of activities with approximately half the sample supporting every activity. Concensus was greatest for the encouragement of car/vanpooling and company-sponsored vanpools. There was moderate support across activities for community-owned vanpools, although nearly one-fourth of decision makers indicated no involvement for this service.

The mean allocations of a hypothetical $100 subsidy for public transportation services are displayed in Table 36, Appendix E. The relative positioning of services gives some indication of decision makers' priorities, although it is recognized that to supply even minimal service levels is more costly for some services than for others. However, tentative conclusions can be drawn from an examination of funding priorities.

First, service priorities seem consistent with the commitment to provide support for the essential trips of without-access consumers and the work trips of those with access. Local transit services and special services for the handicapped serve greater numbers of transportation-disadvantaged consumers. Commuter express buses provide suburban commuters with an alternative to the automobile for work trips.

Table 16

DECISION MAKERS' OPINIONS TOWARD THE COMMUNITY'S PERFORMANCE OF ACTIVITIES IN THE PROVISION OF PUBLIC TRANSPORTATION SERVICES

Service	Percentage of Respondents Favoring Activity[a]					
	Encourage Use	Regulate	Plan and Coordinate Services	Manage	Own Services	No Involvement
Car/vanpooling	87	7	38	2	2	7
Company-sponsored vanpools	87	4	22	-	2	13
Community-owned vanpools	51	22	44	29	29	24
Taxi services	20	76	11	2	-	13
Special services for handicapped	53	38	49	22	31	4
Local transit services	51	53	56	53	67	4
Commuter express buses	49	49	58	51	64	2
Dial-a-ride services	51	31	40	20	27	13
Group bus leasing	49	18	20	7	9	24
School buses	27	40	42	33	27	11
Bicycle facilities	69	20	49	11	22	4

[a]Respondents could select as many activities as desired; therefore, the line totals may exceed 100 percent.

N = 42

Secondly, a lower funding priority was accorded to paratransit services such as community-owned vanpools, dial-a-ride services, and car/vanpooling. The funding priority for bicycle facilities was greater than for paratransit, although the potential for widespread use of bicycles is limited to recreational and education trips in most urban areas. Because paratransit is oriented toward small groups of travelers, service can be personalized to meet consumers' expressed need for higher performance levels in terms of service frequency, shelter, express service, and pick-up points for work and nonwork trips.

Driving alone and driving/riding with a family member were the transportation services used by the majority of consumers for trips made on a weekly basis. Mean round trips traveled per week utilizing each service are appended (Table 37, Appendix E). Although mean round trips for other services approach or exceed those for automobile travel, other services are utilized by fewer consumers.

One of the difficulties of questioning consumers about their preferences for various services is their lack of familiarity with the service characteristics of various vehicles. Over half of the consumers claimed to know nothing about express/commuter buses and vanpool service. Results of the inquiry are shown in Table 17. Indeed, levels of performance may be varied for identical vehicles. For these reasons information about the importance of performance characteristics is perhaps more useful for planning, although service preferences reveal consumer prejudices which also must be considered.

Table 17

FAMILIARITY OF TRANSPORTATION CONSUMERS WITH PUBLIC TRANSPORTATION SERVICES

	Percentage of Respondents Holding Opinion of Service				
Familiarity with Service	Express/ Commuter Bus	Regular Bus	Carpool	Vanpool	Taxi
I know a lot about it.	4	19	20	10	17
I know something about it.	39	56	41	35	50
I don't know anything about it.	57	25	39	55	33

N = 1108

Consumers indicated the transportation services which they would consider using for each trip purpose, including those presently utilized. Results are shown in Table 18. A majority selected drive alone for all trips. With the exception of the work trip, a majority of consumers would also consider driving/riding with a family member.

Among public transportation services, carpool/vanpools were more popular than other services for education and work trips. This is important, as work and education trips were assigned the highest priority by decision makers. Express/commuter bus service was moderately popular only for the work trip. Across trip purposes, regular bus service was considered more frequently than other services. Although the priority for funding bicycle services was greater than for paratransit, fewer consumers considered using this service.

In summary, the subsidization of public transportation services reflected the priorities established for consumers with and without

Table 18

PERCENTAGE OF TRANSPORTATION CONSUMERS WHO WOULD CONSIDER UTILIZING VARIOUS TRANSPORTATION SERVICES FOR ALTERNATE TRIP PURPOSES

Trip Purpose	Transportation Service[a]									Number of Respondents[b]
	Drive Alone	Drive/Ride with Family Member	Carpool/ Vanpool	Express/ Commuter Bus Service	Regular Bus Service	Taxi	Motor-cycle	Bike	Rental Car	
Work	89	43	38	22	32	5	14	14	6	554
Education	64	51	53	17	44	3	18	16	6	288
Shopping (nonfood)	71	81	19	12	33	5	8	11	4	953
Shopping (grocery)	73	83	15	6	17	6	3	8	4	875
Visit with friends, relatives	66	82	16	8	22	3	9	14	4	975
Entertainment	56	80	27	8	19	7	10	9	4	920
Personal business	83	64	11	10	30	7	9	8	5	809
Deliver/pick up children	72	74	32	6	12	4	3	3	5	310
Medical	72	77	9	10	30	10	4	3	4	864
Religious	59	87	22	8	19	3	3	5	4	698

[a]Respondents could consider as many services as desired for each trip purpose; therefore, line totals exceed 100 percent.

[b]The number of respondents represents those individuals for whom each trip purpose was applicable.

access to an automobile. However, the lower funding priority for paratransit services was inconsistent with the importance consumers attributed to certain performance characteristics and to consumers' consideration of carpool/vanpool services for work and education trips. On this basis, decision makers should reevaluate public transportation service priorities and the scope of community involvement for paratransit services. The overwhelming popularity of the private automobile suggests that disincentives or restrictions on auto usage should be considered.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

I. SUMMARY AND CONCLUSIONS

Through their reliance on the private automobile, urban transportation consumers have created problems of congestion and pollution which threaten the welfare of the nation's urbanized communities. Community decision makers are exploring ways of reducing local transportation problems and contributing toward national energy conservation objectives. Minority citizen interests have demonstrated their willingness to participate in urban transportation policy planning. However, the majority interests of automobile-dependent consumers remain undefined.

This study suggested possibilities for incorporating transportation consumers' interests into transportation policy planning. Policies which are inconsistent with consumer attitudes and travel behavior cannot contribute toward the modification of consumer behavior necessary for the alleviation of transportation problems.

This study also investigated differences in the policy preferences and opinions of transportation decision-maker groups with varying organizational affiliations. The existence of group differences brings into question decision makers' ability to separate self-interest from the public interest in the formulation of transportation policy. Resulting policies are likely to reflect the self-interest of those

organizations possessing sufficient bargaining power to effect a favorable decision.

In each instance where differences between decision-maker groups occurred, the pattern of response was consistent with group interests. The findings supported Down's (1957, 1967) theory of political behavior in which decision makers as self-interested participants support policies which assure reelection and increase the influence of their organizations.

Representatives of Other Organizations allocated fewer subsidy funds to transportation consumers with access to an automobile than did Jacksonville Area Planning Board and General Purpose Local Government decision makers. Representatives of Other Organizations favored policies which would increase the sphere of influence and community funding support for their respective areas. They could not be expected to support policies which would increase the community's commitment to a public service with which they must regularly compete for funding support. Moreover, a policy which decreases the usage of the private automobile causes a corresponding decline in toll and parking revenues used to support improvements to local highways.

Conversely, it is probable that Jacksonville Area Planning Board and General Purpose Local Government representatives regard public transportation expansion as consistent with their respective interests. A decision to expand services increases the importance of public transportation planning in the Jacksonville area. New services could be designed to implement the program of expansion. Planning officials

may also view public transportation improvements as a way of encouraging desirable land development patterns. In the interests of reelection, local elected officials could be expected to recognize the value of advocating improved services to a majority interest. They would be careful not to advocate funding policies in which the discrimination between consumer groups is exaggerated.

Evaluations of public transportation performance were higher for Jacksonville Transportation Authority officials than for Other Organizations and Jacksonville Area Planning Board representatives. The Jacksonville Transportation Authority is the principal provider of public transportation services in the community. Authority officials establish operating policies which determine the level of performance for transit services. It is in the interests of officials to create a favorable impression of the agency's ability to provide an effective and efficient mass transit system. The agency's image is enhanced, and the likelihood of receiving additional community funding support is increased.

On the other hand, officials of Other Organizations would not wish their evaluations to increase the probability that additional funds would be allocated to a competitor. Having only the power to recommend programs and policies to the transportation authority, the inability of planning officials to implement changes or improvements which they feel should be made may have prompted lower evaluations. Thus, planning officials may have been registering their dissatisfaction with levels of performance which are considered below what may have been proposed.

Differences between decision-maker groups were found for six individual performance characteristics. The order of mean evaluation scores of decision-maker groups was the same for each performance characteristic as for overall performance. These results lend further support to the idea of organizational bias in evaluations of performance.

The analysis did not support hypothesized differences in decision-maker support for public transportation revenue sources or specific public transportation services. No differences were observed for the hypothesis related to trip purpose allocations.

No organizational group differences were found for the allocation of tax revenues to public transportation. When decision makers were reorganized into occupational groups, elected officials allocated fewer funds to public transportation than appointed officials or professional staff. This is consistent with the view that elected officials will support only the minimal level of funding for any area which is necessary to assure reelection.

No significant positive relationships were found between decision makers' perceptions of transportation problems and their allocations of subsidy funds to with-access consumers. Although the preservation of a healthful environment may be considered by decision makers to be in the public interest, alternatives to expanded series may have been preferred. The consideration of policy alternatives such as various forms of congestion pricing was limited. According to Downs (1962), the minimal consensus may be used only in a general way as a guide for making policy decisions.

Because the way of measuring policy support for service expansion was indirect, it is possible that decision makers did not recognize the allocation to with-access consumers as a policy solution. Had the relationship been recognized, decision makers might have felt compelled to allocate more funds to this group. The voluntary organization of majority consumer interests is unlikely (Downs, 1957; Olson, 1965). Automobile-dependent consumers are evidently satisfied with their present travel behavior patterns. Jacksonville decision makers may not support policy solutions unless special environmental interests challenge decisions which conflict with the public's interest in a healthful environment.

Differences existed among decision-maker groups which reflect their varying interests, but in most instances the preferences and opinions of decision makers in the aggregate were consistent with the travel behavior and attitudes of transportation consumers. The lower funding priority established for with-access consumers reflects consumer satisfaction with private automobile travel. The willingness of decision makers to support work and education trips is consistent with the travel behavior of consumers and the potential for reducing urban transportation problems. The quality of existing public transportation services was perceived similarly by decision makers and consumers. However, the importance attributed to selected performance characteristics and consumer willingness to consider specific public transportation services for the work and education trips were inconsistent with the lower funding priority for paratransit services. In the latter instance,

inconsistency between consumers and decision makers suggests that funding priorities for paratransit services should be reevaluated.

The discovery of few inconsistencies between consumers and decision makers conflicts with the view that majority consumer interests are not likely to be expressed through decision makers' policy preferences (Downs, 1957). The findings suggest that Jacksonville decision makers are capable of reflecting the views of consumers. The consistency of views related to travel behavior and perceptions of existing services may reflect the influence of the decision maker's alternate role as transportation consumer. Similarly, the lower priority accorded to paratransit services may reflect the lack of knowledge of paratransit expressed by consumers.

The popularity of the private automobile was evident throughout the analysis of consumer behavior and attitudes. No public transportation service was perceived to offer comparable levels of performance. In view of these findings, the potential of improved services to attract consumers in sufficient numbers to alleviate transportation problems must be questioned. The reported decline in auto usage because of higher gasoline prices suggests that alternatives to improve services should be considered by Jacksonville officials. Unaccompanied by policies which discourage or restrict auto usage, public transportation improvements cannot be expected to significantly alter consumers' travel behavior.

II. LIMITATIONS OF THE STUDY

Certain factors acted to limit the representativeness of the decision-maker sample and the extent of the analysis of decision-maker and consumer preferences. These factors were related to decision-maker nonresponse and the design of study instruments.

The nonparticipation of certain members of city council was attributed to the controversial nature of policy alternatives.[10] In this researcher's opinion, elected officials' cooperation was affected by reelection aspirations. In the absence of perfect information about the preferences of constituents, elected officials may not have wished to commit themselves on specific policies, particularly those policies which differentially affected consumer groups. According to Jones (1976),

> . . . overt, policy-guided discrimination between classes of citizens—or classes of transportation system users—runs counter to the fair-play, fair-share, equal-treatment philosophy which is so deeply imbedded in the values of American politics (page 139).

Thus, elected officials are more comfortable dealing with nonspecific generalized goals than in choosing among conflicting policy alternatives.

The study instruments were designed primarily to carry out the objectives of the NCHRP project. The exploration of research questions relating to the expression of decision makers' self-interest, public interest, and consumer interests was limited by project requirements relating to instrument content, measurement, and analysis. In particular, the analysis of comparisons of the consistency of decision-maker and

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[10] All decision makers initially contacted about their participation in the study were given an opportunity to examine the policy measure.

consumer preferences was limited by a divergence in question content and categories of response in the two measures. It is recommended that measures be developed which facilitate comparisons of consumer and decision-maker policy preferences, but which elicit responses reflecting individuals' varying decision-making and consumer roles.

III. RECOMMENDATIONS FOR FURTHER STUDY

Additional research should be undertaken to identify the transportation interests of community organizations. In the Jacksonville area, conflicts of interest were identified within as well as between organizations. The highway and public transportation interests of the Jacksonville Transportation Authority were notable in this regard. No single organization was identified whose interests did not conflict in some way with public transportation expansion. Additional differences in preferences might have been identified if the interests of one of the organizations had been more closely identified with service improvements. Urban areas should be studied in which the public transportation interests of organizations are more diverse. An understanding of how organizational interests are reflected through policy preferences aids citizen groups in identifying decision makers who are likely to hold views which are compatible or inconsistent with their own. In this way, citizens can concentrate their supportive and persuasive efforts efficiently.

Other ways of insuring consumer participation should be a focus of future research. The survey approach was advantageous for generating

the large amounts of attitude and travel behavior information necessary for an indepth market analysis. For purposes of policy participation, however, much of the detail is unnecessary. Approaches characterized by direct interaction between decision makers and smaller groups of representative consumers should be explored.

This study was focused on consumers' travel attitudes and behavior independent of the influence of family association. As decision makers evaluate the potential of policies designed to cause modifications in patterns of automobile usage, it is important to recognize that most consumers function as members of family systems. Policies which cause modifications in the travel behavior of one family member will tend to affect the behavior of other family members. For example, improved express bus services or congestion pricing for the downtown area of cities may cause a decline in auto usage for working members of families. However, the resulting increase in auto availability may encourage other family members to make greater use of the automobile for trips unaffected by transportation policies. As a result, policies designed to relieve transportation problems may be ineffective. Future research should focus on the family as the unit of analysis. It is important to understand more about the dynamics of family decision making and to determine how alternate policies and policy combinations affect the travel behavior of families.

The policy preferences of decision makers were compared in the aggregate to those of transportation consumers. Assuming that differences do exist between decision-maker groups, the responses of those groups

with greater decision-making power were not weighted more heavily in determining policy preferences. In the actual process of goal and policy development, the bargaining power of some decision-maker groups exceeds that of others. Through their powers of funding and implementation, these organizational groups are able to assure that many of their most important priorities are reflected in policy decisions. It is suggested that the dynamics of the policy development process be examined in future studies. Specifically, how does the exertion of organizational power affect the establishment of policy when the preferences of participants differ? Although few inconsistencies were observed between the opinions of decision makers and consumers using unweighted responses, how would a consideration of differences in bargaining power have affected the outcome? The fact that the opinions and preferences of groups were found to differ brings into question the ability of Jacksonville decision makers to reflect consumer interests through policy decisions and reinforces the need for consumer participation.

There is a need to study consumer acceptability of alternatives to improved public transportation services and the influence of alternative policies on consumer behavior. The exploration of alternatives such as congestion pricing and restrictions on auto usage was minimal, yet there were indications that these policies might help urban areas reduce transportation problems.

The question of whether community decision makers reflect the interests of transportation consumers through public transportation opinions and policy preferences was addressed in this study. Inconsistencies between the individual's dual role as citizen and consumer were

observed. A related question which was not studied is how the two conflicting viewpoints could be incorporated into public policy decisions. Are there conditions in which the conflict between individuals' private and public interests will be minimal or nonexistent?

In most medium-sized urban areas such as Jacksonville, traffic congestion and pollution have not yet reached critical levels. The most difficult times occur at peak hour travel periods for work trips. What is the potential for enacting policies seeking to reduce such problems at levels not yet viewed as critical? In future studies comparisons should be made between the attitudes and travel behavior of consumers living in larger urban areas, particularly those experiencing high levels of congestion and pollution. In these instances, do consumer attitudes toward personal usage of transportation services reflect a citizen's interest in community welfare?

The same kind of analysis should be carried out with community decision makers as with consumers. In Jacksonville, no significant relationships were found between the perceptions of transportation problems by decision makers and their allocations of subsidy funds to with-access consumers. This finding suggests that policies which reflect public interest concerns may conflict with the self-interest motives of decision makers. Would positive relationships exist between problem recognition and support for policy solutions in the larger urban areas? That is, are self-interest motives more likely to be consistent with the public interest with increased visibility of community transportation problems? Future research studies should

examine the potential for establishing alternative policies within a variety of urban settings.

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APPENDICES

APPENDIX A

SAMPLING PLAN

1. Identify census tracts within which the population of interest resides. These tracts are within the Jacksonville urban area, but not inclusive of all census tracts. Criteria for excluding tracts are density of population, income, car ownership, and areas dominated by military bases.

   a. Density = leave out any tract with less than 100 people/ square mile.

   b. Income = leave out any tract with less than $7,000 median income. Check car ownership data for each exclusion candidate.

   c. Military bases = leave out any tract which is primarily comprised of military personnel living on a base.

   d. Tracts excluded are: 137, 106, 103, 101, 144, 136, 138, 2 3, 4, 5, 13, 12, 11, 10, 9, 19, 26, 18, 17, 16, 29, 28, 116, 115, 15.

2. Examine excluded census tracts (other than the military base tracts) with a person with local, first-hand knowledge of Jacksonville to determine whether there are important residential areas along the borders of excluded census tract that should be included in the population to be sampled.

3. Group census tracts into two strata based on the following criteria:

   a. Natural boundaries.

   b. Geographically contiguous areas.

c. Homogeneity of occupation (white vs. blue collar), income, and car ownership.

d. Stratified into two strata separated by the river natural boundary:

Stratum 1 - all census tracts to the east and south of the St. Johns river included in population

Stratum 2 - all census tracts to the west and north of the St. Johns river included in population

e. Sample equally (500) in each strata.

4. Group selected census tracts within strata into larger areas within which to draw samples. Focus is on merging the small population census tracts with contiguous census tracts that are relatively homogeneous with respect to all population characteristics on which census data is available. Those groups are:

a. 160-161

b. 154-152-151-149

c. 122-123

d. 127-135

e. 132-133

f. 124-123

g. 117-119

5. Within strata, determine the sample size by tract/tract-combination based on proportionality to:

$$\text{Sample size in area} = \frac{\text{\# households in tract/tract-combination}}{\text{\# households in total geographic area forming a strata}} \times 500$$

6. Draw a single random sample from each of the tract areas of the prespecified sample size. The procedure for drawing a sample within each census tract area is:

   a. Obtain listing of blocks in each tract.

   b. Assign random numbers to blocks in relation to the number of households per block.

   c. Systematically choose blocks from this list for inclusion in the sample.

7. Interviewer decision rules for selecting respondents are:

   a. Interview four household units per block.

   b. If sparse population/refusals/not-at-homes make it impossible to achieve four household interviews on the same trip, complete the quota of four from an adjacent block.

   c. To determine a starting point on a block, start at one end of a street bounding the block and choose the second housing unit on side of street.

   d. For not-at-homes/refusals, interview adjacent households.

   e. No adjacent households should be included in the sample.

   f. There should be no more than one household interviewed per side of block for blocks bounded by streets on four sides. For blocks bounded by streets on two or three, but not four sides, sample no more than two households per side with a minimum of two households in between households interviewed. For blocks bounded by one street only, sample every fourth household.

8. To qualify as a respondent, a person must:

   a. Be 15 years of age or older.

   b. Travel away from home to some other area in Jacksonville more than three blocks away at least once a week.

   c. Have access to an automobile (as a driver or rider) for 50 percent or more of these trips.

9. Interview all people within the household meeting the criteria for being a respondent and willing to comply up to a maximum of four per household.

10. There should be approximately 40 percent men, 40 percent women, and 20 percent children (ages 15-20) included in the sample.

SAMPLING INSTRUCTIONS FOR INTERVIEWERS

Use the list of block numbers and street addresses for your area as the basis for selecting the interview location. These locations typically will be identified by the intersection of the streets that form the southeast corner of the block. Interviewers will start at this intersection and, walking in a clockwise direction, will attempt their first interview at the second dwelling from the corner, interviewing in a maximum of four households per block and up to a maximum of four individuals per dwelling unit. For blocks bounded by streets on two or three, but not four sides, sample no more than two households per side with a minimum of two households in between households interviewed. For blocks bounded by one street only, sample every fourth household. (See the following Figure 1 for typical blocks showing starting points and directions.) If sparse population, refusals, and not-at-homes make it impossible to achieve four household interviews on the same block, complete the quota of four from an adjacent block. For non-at-homes and refusals, interview adjacent households; however, no adjacent households should be included in the sample.

In the event of apartment houses and other multiple dwelling buildings, the interviewer will call on the units within a building in the order in which they are numbered, beginning with the second lowest numbered unit. In all multiple dwellings, follow the rules outlined above, selecting a maximum of four households per block.

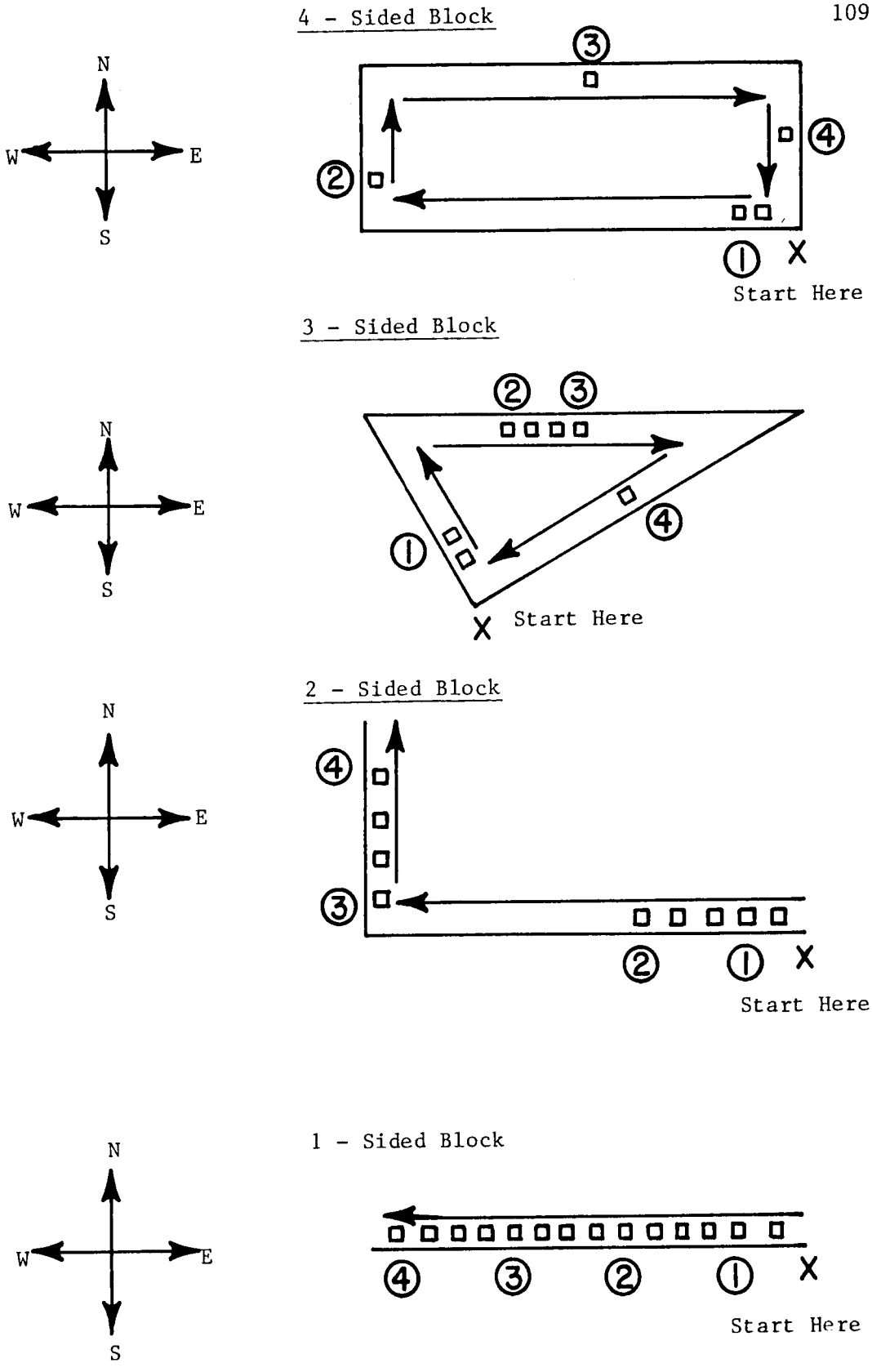


Figure 1. Typical blocks with starting points and directions.

APPENDIX B

Transportation Center

Research/Service

The University of Tennessee
Knoxville, Tennessee 37916
Phone (615) 974-5255

STUDY OF PUBLIC TRANSPORTATION
GOALS AND POLICIES

Purpose of the Study

The Jacksonville Area Planning Board is cooperating with the Transportation Center of The University of Tennessee in a study of the public transportation needs of the Jacksonville community. This is part of a larger project funded by the National Cooperative Highway Research Program to conduct research entitled "Guidelines for Public Transportation Levels of Service and Evaluation." An important aspect of the study is developing a methodology for determining public transportation goals and policies.

You have been identified as one who may have opinions and preferences that should be considered in the public transportation goal determination process for the Jacksonville community. Your support and cooperation in the project will be greatly appreciated.

Included in the definition of public transportation are all existing and potential services offered on a public basis, such as conventional mass transit (buses, trains, etc.) and various types of transportation services (vanpools, carpools, taxis, bicycle facilities, etc.) which may be regulated or supported publicly.

The Jacksonville community is defined as the Jacksonville Standard Metropolitan Statistical Area (SMSA).

THANK YOU FOR YOUR COOPERATION

I. WHAT TRANSPORTATION NEEDS SHOULD BE SERVED BY PUBLIC TRANSPORTATION?

A. Should existing public transportation services in Jacksonville be improved or upgraded to provide services to people with access to an automobile?

Yes _____ No _____ Undecided _____

If your answer to the above is "No," skip Question B and answer C below; if your answer is "Yes" or "Undecided," answer both B and C.

B. If yes, should existing public transportation services be improved or upgraded to provide services to people with access to automobiles in order to:

	Essential	Desirable	Unnecessary
Reduce pollution	_____	_____	_____
Conserve gasoline	_____	_____	_____
Reduce accidents	_____	_____	_____
Avoid highway construction	_____	_____	_____
Reduce traffic congestion	_____	_____	_____
Provide transportation choice	_____	_____	_____
Increase ridership (revenue)	_____	_____	_____
Promote desirable land development	_____	_____	_____
Other _____	_____	_____	_____

*Circle the reason above that you consider the most important of all those listed.

C. Do you agree that community government has a responsibility to provide public transportation services to the following groups? (Check Yes or No)

Rank those to which you answered "Yes," from 1, the highest priority; 2 for the next highest priority, and so on.

	Yes	No	Ranking of "Yes" Category
Elderly	_____	_____	_____
Handicapped	_____	_____	_____
Economically disadvantaged	_____	_____	_____
Young (under 16)	_____	_____	_____
Nondrivers	_____	_____	_____

	Yes	No	Ranking of "Yes" Category
Housewives without access to auto	____	____	____
Work commuters without access to auto	____	____	____
Students without own transportation	____	____	____
Out-of-town travelers	____	____	____
Work commuters with access to auto	____	____	____

II. TYPES OF SERVICES TO DIFFERENT GROUPS

A. Do you agree that community government should make public transportation services available to people without access to an automobile for the following purposes? Check Yes or No and then rank those to which you answered "Yes," from 1, the most important; 2 for the next highest and so on.

	Yes	No	Ranking of "Yes" Category
Health care	____	____	____
Religious	____	____	____
Employment	____	____	____
Education	____	____	____
Shopping (food)	____	____	____
Shopping (nonfood)	____	____	____
Personal business	____	____	____
Social-recreational	____	____	____

B. Do you agree that community government should make public transportation services available to people with access to an automobile for the following purposes? First check Yes or No and then rank those to which you answered "Yes," from 1, the most important; 2 for the next highest, and so on.

	Yes	No	Ranking of "Yes" Category
Health care	____	____	____
Religious	____	____	____
Employment	____	____	____

	Yes	No	Ranking of "Yes" Category
Education	____	____	____
Shopping (food)	____	____	____
Shopping (nonfood)	____	____	____
Personal business	____	____	____
Social-recreational	____	____	____

III. SCOPE OF SERVICES

A. Please indicate the activities which you feel community government should perform in the provision of each of the following transportation services.

Type of Service	Community Government Should: Encourage Use	Regulate	Plan and Coordinate Services	Manage	Own Service(s)	No Involvement
Car/vanpooling	____	____	____	____	____	____
Company-sponsored vanpools	____	____	____	____	____	____
Community-owned vanpools	____	____	____	____	____	____
Taxi services	____	____	____	____	____	____
Special services for the handicapped	____	____	____	____	____	____
Local transit services	____	____	____	____	____	____
Commuter express buses	____	____	____	____	____	____
Dial-a-ride services (e.g., van, bus, shared taxi)	____	____	____	____	____	____
Group bus leasing	____	____	____	____	____	____
School buses	____	____	____	____	____	____
Bicycle facilities (paths, storage)	____	____	____	____	____	____
Other _____	____	____	____	____	____	____

B. What is your opinion of the performance of existing public transportation services? For each item below, check the one category that best indicates your opinion.

	Not Offered	Unsatisfactory	Poor	Fair	Good	Excellent	No opinion
Bus service to downtown	___	___	___	___	___	___	___
Bus service to other areas	___	___	___	___	___	___	___
Express bus service	___	___	___	___	___	___	___
Frequency of weekday buses	___	___	___	___	___	___	___
Frequency of weekend buses	___	___	___	___	___	___	___
Park-and-ride lots	___	___	___	___	___	___	___
Transfer convenience	___	___	___	___	___	___	___
Customer information	___	___	___	___	___	___	___
On-time performance	___	___	___	___	___	___	___
Fare structure	___	___	___	___	___	___	___
Bus shelters and benches	___	___	___	___	___	___	___
Location of bus stops	___	___	___	___	___	___	___
Vehicle safety	___	___	___	___	___	___	___
Vehicle comfort	___	___	___	___	___	___	___
Other							
_____	___	___	___	___	___	___	___

IV. FINANCING PUBLIC TRANSPORTATION

A. Suppose you must decide how to allocate an additional $100 of tax revenues in your community. Please indicate below the amount you would assign to each area in the space provided. Note: Your total allocation should not exceed $100. Indicate "0" if you would not allocate any additional funds to a particular area.

	Amount to be Allocated
Local Public Schools	____
Public Housing	____
Streets and Roads	____
Public Transportation	____
Airport Facilities	____
Public Utilities	____
Health Services	____
Police Protection	____
Fire Protection	____
Parks and Recreation	____
Welfare and Social Services	____
Downtown Redevelopment	____
Other _____	____
TOTAL	$100

B. How important is it that the community government provide public transportation subsidies for each of the following purposes?

	Very Important	Somewhat Important	Not Important
To meet the needs of groups that do not have access to an auto.	____	____	____
To attract the ridership of people who have access to an auto.	____	____	____

C. First check whether community government should subsidize each service below when necessary to help cover the costs of providing the service. Then for those services checked Yes, indicate how you would allocate a $100 subsidy among them. The total allocation to all services should not exceed $100.

	Subsidy		Amount to be Allocated
	Yes	No	
Car/Vanpooling	____	____	____
Company-sponsored vanpools	____	____	____
Community-owned vanpools	____	____	____
Taxi services	____	____	____
Special services for handicapped	____	____	____
Local transit services	____	____	____
Commuter express buses	____	____	____
Dial-a-ride services (e.g., van, bus, shared taxi)	____	____	____
Group bus leasing	____	____	____
School buses	____	____	____
Bicycle facilities (paths, storage)	____	____	____
Other	____	____	____
		TOTAL	$100

D. Each line below corresponds to a trip purpose for each of the two groups shown. First place a "0" on the lines indicating where you feel that community government should not provide a subsidy. Next, assuming you have a total subsidy of $100 available, allocate it among the remaining group and trip purpose combinations. A total of $100 should be allocated to the two groups.

Trip Purpose	Those without Access to an Auto	Those with Access to an Auto
Health care	____	____
Religious	____	____
Employment	____	____
Education	____	____
Shopping (food)	____	____

Trip Purpose	Those without Access to an Auto		Those with Access to an Auto
Shopping (nonfood)	_____		_____
Personal business	_____	Combined	_____
Social-recreational	_____	Total	_____
		$100	

E. When transportation services are subsidized for particular groups do you favor: (Select one)

_____ subsidy to the individual in form of reduced fare tickets

_____ subsidy to those providing the service

_____ undecided

F. Indicate whether you favor use of the following revenue sources, assuming the additional funds will be used to provide public transportation services:

	Favor	Undecided	Do Not Favor
Property tax	_____	_____	_____
Gasoline tax	_____	_____	_____
Utility tax	_____	_____	_____
Sales tax	_____	_____	_____
Vehicle tag tax	_____	_____	_____
Local income tax	_____	_____	_____
Business tax	_____	_____	_____
Downtown parking tax	_____	_____	_____
Gambling tax	_____	_____	_____
Household tax	_____	_____	_____
Cigarette tax	_____	_____	_____
Resort tax	_____	_____	_____
Revenue from liquor sales	_____	_____	_____
Federal revenue sharing	_____	_____	_____
General fund	_____	_____	_____
Diversion of federal highway funds	_____	_____	_____
Lottery	_____	_____	_____

	Favor	Undecided	Do Not Favor
Bond issue	____	____	____
Toll revenue	____	____	____
Other _____	____	____	____

V. COMMUNITY BENEFITS

A. Do you agree that the following are community problems?

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Funds for public transportation	____	____	____	____	____
Traffic congestion	____	____	____	____	____
Pollution by automobiles	____	____	____	____	____
Energy consumption	____	____	____	____	____
Traffic accidents	____	____	____	____	____
Urban sprawl	____	____	____	____	____
Costs of automobile travel	____	____	____	____	____
Crime	____	____	____	____	____
Other _____	____	____	____	____	____

B. If any of the above are considered community problems, should the use of public transportation modes be encouraged as a solution?

____ Yes ____ No ____ Undecided

C. Assume there is a need for each of the possible actions listed below in order to reduce transportation problems. In your opinion, to what extent is each feasible for implementation in your community?

	Very Feasible	Moderately Feasible	Undecided	Moderately Unfeasible	Very Unfeasible	No Opinion
Encourage ride-sharing	____	____	____	____	____	____
Make transit more acceptable to auto users	____	____	____	____	____	____
Car-free zones	____	____	____	____	____	____
Staggered work schedules	____	____	____	____	____	____
Preferential treatment for high-occupancy vehicles	____	____	____	____	____	____
Reversible traffic lanes	____	____	____	____	____	____
Elimination of on-street parking	____	____	____	____	____	____
Reduced fares at off-peak hours	____	____	____	____	____	____
Park-and-ride lots	____	____	____	____	____	____
Improve timing of traffic signals	____	____	____	____	____	____
Congestion pricing (increase parking costs, area license tax)	____	____	____	____	____	____
Increase tolls during peak hours	____	____	____	____	____	____
More one-way streets	____	____	____	____	____	____
Improve highway intersections	____	____	____	____	____	____
Additional toll plazas	____	____	____	____	____	____

VI. INSTITUTIONAL ARRANGEMENTS FOR PUBLIC TRANSPORTATION SERVICES

A. What responsibilities should each organization/group below have with regard to the determination of goals and policies for public transportation in the community?

	Approve Goals/ Policies	Prepare Goal/ Policy Statement	Express Opinions	No Involvement	Undecided
Federal Highway Administration	____	____	____	____	____
Urban Mass Transportation Administration	____	____	____	____	____
State DOT	____	____	____	____	____
State Legislators	____	____	____	____	____
Mayor	____	____	____	____	____
City Council	____	____	____	____	____
Special Interest Groups*	____	____	____	____	____
Citizens	____	____	____	____	____
Jacksonville Transportation Authority	____	____	____	____	____
Metropolitan Planning Organization (Policy Committee)	____	____	____	____	____
Jacksonville Area Planning Board	____	____	____	____	____

* e.g., Chamber of Commerce, Clean Air groups, minority groups, etc.

B. What should the functions of each organization/group below be regarding planning for public transportation services in the community?

	Implement Plans	Approve Plans	Prepare Plans	Express Opinions	No Involvement	Undecided
Federal Highway Administration	____	____	____	____	____	____
Urban Mass Transportation Administration	____	____	____	____	____	____
State DOT	____	____	____	____	____	____
State Legislators	____	____	____	____	____	____
Mayor	____	____	____	____	____	____
City Council	____	____	____	____	____	____
Special Interest Groups	____	____	____	____	____	____
Citizens	____	____	____	____	____	____
Jacksonville Transportation Authority	____	____	____	____	____	____
Metropolitan Planning Organization (Policy Committee)	____	____	____	____	____	____
Jacksonville Area Planning Board	____	____	____	____	____	____

C. Do you agree that all phases in the provision of public transportation services (policy formulation, planning, design, operations, and financing) should be under the responsibility of a single transportation organization in the SMSA?

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
____	____	____	____	____

D. If you agree or strongly agree that responsibility for public transportation service should be placed under the responsibility of a single transportation organization, where do you feel this responsibility should be placed? (Use the list in question E below.)

_____

_____

E. How much influence on public transportation decision making do you feel the following groups have in your community?

	Very Little				Very Much
Federal Highway Administration	1	2	3	4	5
Urban Mass Transportation Administration	1	2	3	4	5
State DOT	1	2	3	4	5
State Legislators	1	2	3	4	5
Mayor	1	2	3	4	5
City Council	1	2	3	4	5
Special Interest Groups	1	2	3	4	5
Citizens	1	2	3	4	5
Jacksonville Transportation Authority	1	2	3	4	5
Metropolitan Planning Organization (Policy Committee)	1	2	3	4	5
Jacksonville Area Planning Board	1	2	3	4	5

VII. BACKGROUND INFORMATION

A. Which category below best represents your basis for completing the questionnaire?

_____ Interested Citizen

_____ Representative of Special Interest Group

_____ Elected Official

_____ Appointed Official

_____ Professional Staff

_____ Other _____

B. How long do you expect to remain in your present capacity as checked above? _____

C. How long have you resided in the Jacksonville area? _____ years

D. How capable do you feel you are to help determine the public transportation goals and policies for the Jacksonville community?

Not Capable 1 2 3 4 5 6 7 Highly Capable

E. How would you rate your influence in determining public transportation goals and policies for the Jacksonville community?

No Influence 1 2 3 4 5 6 7 Highly Influential

F. Who do you believe are the locally influential people who could produce changes in Jacksonville's public transportation system or who could prevent such changes?

Please list by name and/or position.

_____ _____

_____ _____

_____ _____

_____ _____

G. What do you consider to be the most significant problem(s) relative to the provision of public transportation services in the community? (Discuss)

_____

_____

_____

_____

_____

_____

_____

_____

_____

THANK YOU FOR YOUR COOPERATION

APPENDIX C

3. When you take a trip within the Jacksonville area for each of the following purposes, how many stops do you typically make between leaving home and before returning home? (By a stop we mean when the vehicle stops so that you can get out or otherwise carry out the purpose of the trip. Please count <u>all</u> stops for the typical trip including stops for the primary purpose and any extra stops you may make. For example, if your typical work trip is from your home to a place of work and back home again, you would have 1 stop at your place of work. Or, if you typically stop at two stores in different locations on a non-food shopping trip then you would have 2 stops.

	1 stop	2 stops	3 stops	4 stops	5 or more stops
Work	[ ]	[ ]	[ ]	[ ]	[ ]
Education	[ ]	[ ]	[ ]	[ ]	[ ]
Shopping (non-food)	[ ]	[ ]	[ ]	[ ]	[ ]
Shopping (grocery)	[ ]	[ ]	[ ]	[ ]	[ ]
Visit with friends, relatives	[ ]	[ ]	[ ]	[ ]	[ ]
Entertainment	[ ]	[ ]	[ ]	[ ]	[ ]
Personal business	[ ]	[ ]	[ ]	[ ]	[ ]
Medical trips	[ ]	[ ]	[ ]	[ ]	[ ]
Deliver/pickup children	[ ]	[ ]	[ ]	[ ]	[ ]
Attend religious functions	[ ]	[ ]	[ ]	[ ]	[ ]
Other (Please list)_____					
_____	[ ]	[ ]	[ ]	[ ]	[ ]

5. Again we have listed below different reasons for traveling in Jacksonville. We want to know how many people usually travel with you during a typical week when you make these trips.

You will notice there are two sections below. One is for showing us the number of people in your household who travel with you. The other is for showing the number of people outside your household who travel with you.

For example, if you travel to work with your spouse and a neighbor, you would circle 1 under the section "Number of people within your household" and 1 under "Number of people outside your household." Again, think only of main purpose trips--not the extra stops you may make from home to destination and return. Also, if a person rides for only part of the trip, please count them as a rider.

	Does not apply to me	Number of People Within Your House					Number of People Outside Your Household				
Work	[ ]	0	1	2	3	4 or more	0	1	2	3	4 or more
Education	[ ]	0	1	2	3	4 or more	0	1	2	3	4 or more
Shopping (non-food)	[ ]	0	1	2	3	4 or more	0	1	2	3	4 or more
Shopping (grocery)	[ ]	0	1	2	3	4 or more	0	1	2	3	4 or more
Visit with friends, relatives	[ ]	0	1	2	3	4 or more	0	1	2	3	4 or more
Entertainment	[ ]	0	1	2	3	4 or more	0	1	2	3	4 or more
Personal business	[ ]	0	1	2	3	4 or more	0	1	2	3	4 or more
Medical trips	[ ]	0	1	2	3	4 or more	0	1	2	3	4 or more
Deliver/pickup children	[ ]	0	1	2	3	4 or more	0	1	2	3	4 or more
Attend religious functions	[ ]	0	1	2	3	4 or more	0	1	2	3	4 or more
Other (Please list)_____											
_____	[ ]	0	1	2	3	4 or more	0	1	2	3	4 or more

7. Below you will find a list of reasons for traveling within the Jacksonville area during a typical week. For each reason, (a) please write in the approximate number of "round trips" you take on each day of the week and (b) the approximate number of miles to and from that destination. By "round trips" we mean from your home to your destination and back again. If you take more than one round trip for the same purpose in a typical week, please take an average of these trips.

Please do not include extra stops you may have to make in between. For example, when coming home from work, if you stop at the grocery store, you would not count that as a separate trip. Remember, we are only interested in the main purpose trips--from your home to your destination and back to your home again in a typical week.

	(a)								(b)
	Not taken on a weekly basis	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Approximate number of average round trip miles
Work	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Education	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Shopping (non-food)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Shopping (grocery)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Visit with friends, relatives	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Entertainment	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Personal business (banking, attend meetings, etc.)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Medical trips	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Deliver/pickup children	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Attend religious functions	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Other (Please list) _____ _____	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

II. TRANSPORTATION USAGE

1. For each reason for travel listed below, which methods of transportation would you consider using for at least some trips as ways of traveling to and from your destination? Check each method of transportation including the one you use now that you would consider using for each of the purposes.

	Does Not Apply To Me	Drive Alone	Drive/Ride with Family Member	Carpool/ Vanpool	Express/ Commuter Bus Service	Regular Bus Service	Taxi	Motorcycle	Bicycle	Rental Car
Work	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Education	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Shopping (non-food)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Shopping (grocery)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Visit with friends, relatives	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Entertainment	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Personal business	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Medical trips	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Deliver/pickup children	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Attend religious functions	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Other (Please list)_____										
_____	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

4. Listed below are methods of transportation that people use for travel in the Jacksonville area. Please count the number of trips for which you use each method on each typical weekday. (By trip we mean a round trip from your home to your destination and back home again.) Then, write in this number for each weekday showing the number of trips on which you use each transportation method.

	Not taken on a weekly basis or not taken at all	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Drive alone	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Drive/Ride with Family Member	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Carpool/Vanpool	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Express/Commuter Bus Service	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Regular Bus Service	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Taxi	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Motorcycle	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Bicycle	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Walking	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

III. TRANSPORTATION ATTITUDES AND ACTIVITIES

We have listed a number of statements that people have made about travel and use of transportation in the Jacksonville area. We would like to know your opinion concerning each statement. Please check the category that best shows how much you personally agree or disagree with each statement. For example, if you strongly agree with the first statement below, "I make fewer non-work trips in the Jacksonville area than I used to" then you would check the "strongly agree" category; or if you strongly disagree, you would check the "strongly disagree" category; and so forth. If you do not think a statement applies to you, check the "Does not apply to me" category at the far right.

	Strongly Agree	Slightly Agree	Neutral	Slightly Disagree	Strongly Disagree	Does not apply to me
1. I make fewer non-work trips in the Jacksonville area than I used to.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
2. My ways of getting to and from work have not changed in years.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3. Getting from one place to another in the Jacksonville area is a major problem for me.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
4. I like to ride on city buses.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
5. We need better bus service more than we need better highways.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
6. The high price of gasoline has caused me to drive my car much less frequently.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
7. Everyone pays for bus service through taxes, therefore, everyone should use it.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
8. Carpooling is an effective means of conserving gasoline and reducing the cost of transportation.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
9. Public transportation is fine for some people but not for me.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
10. Riders' fares provide all the financial support needed to operate Jacksonville's bus service.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
11. Traveling by public transportation is more relaxing than driving my car.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
12. Carpooling does not appeal to me.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
13. I couldn't manage without my car.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
14. I fully understand Jacksonville's bus schedules and fares.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
15. I generally do not enjoy driving a car.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

	Strongly Agree	Slightly Agree	Neutral	Slightly Disagree	Strongly Disagree	Does not apply to me
16. I would not like to ride with the type of people who typically use public transportation.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
17. I do not travel within the Jacksonville area on a regular basis each week.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
18. Parking is an annoying problem at the place where I work.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
19. My friends judge people by the type of car they drive.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
20. I would rather my fellow workers see me arrive at work by car than by public transportation.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
21. I often share a ride to work with a friend.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
22. On the way to or from work I often stop to shop and do errands.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
23. Today in most families two cars are a necessity not a luxury.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
24. With the higher automobile insurance rates, I plan to make greater use of public transportation.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
25. Although mass transit would be a good way of conserving energy, I really cannot use it since it is very inconvenient.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
26. Someone should take measures to discourage people from using autos in downtown areas of cities.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
27. My own car provides the cheapest transportation I can buy.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
28. I enjoy staying at home as much as possible.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
29. I frequently go to parties and other social activities away from home.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30. I enjoy shopping in stores very much.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31. I am highly involved in non-business organization activities that take me away from home.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
32. The people I most frequently socialize with live in my neighborhood.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
33. I do not like to walk.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

	Strongly Agree	Slightly Agree	Neutral	Slightly Disagree	Strongly Disagree	Does not apply to me
34. I frequently participate in sports (tennis, golf, etc.) that are played away from home.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
35. I seldom attend sporting events as a spectator.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
36. I enjoy sightseeing as often as I can.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
37. Children in our house are involved in activities that require travel to other parts of Jacksonville.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
38. I do not mind my children riding on public buses without being accompanied by an adult.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
39. I really enjoy riding with other people I know when I travel within the Jacksonville area.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
40. I would never use public transportation more frequently than I do now no matter how much the service improved.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
41. Only the really poor people in Jacksonville use the buses.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
42. I frequently worry about having an accident while driving or riding in a car.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
43. I don't mind being restricted to fixed times and schedules for my travel within the Jacksonville area.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
44. I thoroughly enjoy being with other people.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
45. I do not like to ride in the same vehicle with people I do not know.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
46. It is dangerous to stand at a bus stop while waiting for a bus.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
47. I like to get away from my home frequently for entertainment activities.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
48. I do a lot of traveling within the Jacksonville area as part of my job.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
49. I dislike having to chauffeur my children to and from activities in which they are involved away from home.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

51. If you were going to choose between two or more methods of transportation for your most frequently taken trip other than work, how important are the following items. For example, if a short time spent traveling to the vehicle is not important to you when considering what method of transportation to use for your most frequently taken trip other than work, you would check the box under "not important." Do not answer this question with only one particular method of transportation in mind. Imagine that you have several alternatives and are trying to choose the one that is best for you.

	Very Important	Important	Slightly Important	Not Important
A short time spent traveling in the vehicle.	[ ]	[ ]	[ ]	[ ]
A short time spent waiting to use the vehicle.	[ ]	[ ]	[ ]	[ ]
Arriving at your destination when planned.	[ ]	[ ]	[ ]	[ ]
Adequate space near your seat for storing your packages while traveling.	[ ]	[ ]	[ ]	[ ]
A stylish vehicle exterior design.	[ ]	[ ]	[ ]	[ ]
Small variation in travel time from one day to the next.	[ ]	[ ]	[ ]	[ ]
Phones available in public places used to call for service.	[ ]	[ ]	[ ]	[ ]
Personal security from crime.	[ ]	[ ]	[ ]	[ ]
Adequate protection from the weather while waiting to use the vehicle.	[ ]	[ ]	[ ]	[ ]
Being able to ride in privacy.	[ ]	[ ]	[ ]	[ ]
A low cost for the trip.	[ ]	[ ]	[ ]	[ ]
Being able to make a trip without changing vehicles.	[ ]	[ ]	[ ]	[ ]
Short time spent getting to the vehicle.	[ ]	[ ]	[ ]	[ ]
Being able to select the time you can use the vehicle.	[ ]	[ ]	[ ]	[ ]
A vehicle whose size and appearance do not detract from the character of the neighborhood through which it travels.	[ ]	[ ]	[ ]	[ ]
Ease of entry and exit from the vehicle.	[ ]	[ ]	[ ]	[ ]
Little chance of meeting with people who make you feel insecure or uncomfortable.	[ ]	[ ]	[ ]	[ ]
Being able to take a direct route, with few turns and detours.	[ ]	[ ]	[ ]	[ ]
Being able to take routes which are pleasant or scenic.	[ ]	[ ]	[ ]	[ ]
Convenient method of paying for the cost of the trip.	[ ]	[ ]	[ ]	[ ]
The assurance of getting a seat.	[ ]	[ ]	[ ]	[ ]
Being able to talk and ask questions of system representatives when desired.	[ ]	[ ]	[ ]	[ ]
Being able to go to more than one destination on the same trip.	[ ]	[ ]	[ ]	[ ]
Service is available throughout the day.	[ ]	[ ]	[ ]	[ ]
Adequate room between you and others in the vehicle.	[ ]	[ ]	[ ]	[ ]

52. (Answer this question only if you travel to work.)
If you were going to choose between two or more methods of transportation to go TO AND FROM WORK, HOW IMPORTANT ARE THE FOLLOWING ITEMS. For example, if a short time spent traveling in the vehicle is not important to you when considering what method of transportation to use FOR WORK, you would CHECK THE BOX under "not important." Do not answer this question with only one particular method of transportation in mind. Imagine that you have several alternatives and are trying to choose the one that is best for you.

	Very Important	Important	Only Slightly Important	Not Important
A short time spent traveling in the vehicle.	[ ]	[ ]	[ ]	[ ]
A short time spent waiting to use the vehicle.	[ ]	[ ]	[ ]	[ ]
Arriving at your destination when planned.	[ ]	[ ]	[ ]	[ ]
Adequate space near your seat for storing your packages while traveling.	[ ]	[ ]	[ ]	[ ]
A stylish vehicle exterior design.	[ ]	[ ]	[ ]	[ ]
Small variation in travel time from one day to the next.	[ ]	[ ]	[ ]	[ ]
Phones available in public places used to call for service.	[ ]	[ ]	[ ]	[ ]
Personal security from crime.	[ ]	[ ]	[ ]	[ ]
Adequate protection from the weather while waiting to use the vehicle.	[ ]	[ ]	[ ]	[ ]
Being able to ride in privacy.	[ ]	[ ]	[ ]	[ ]
A low cost for the trip.	[ ]	[ ]	[ ]	[ ]
Being able to make a trip without changing vehicles.	[ ]	[ ]	[ ]	[ ]
Short time spent getting to the vehicle.	[ ]	[ ]	[ ]	[ ]
Being able to select the time you can use the vehicle.	[ ]	[ ]	[ ]	[ ]
A vehicle whose size and appearance do not detract from the character of the neighborhood through which it travels.	[ ]	[ ]	[ ]	[ ]
Ease of entry and exit from the vehicle.	[ ]	[ ]	[ ]	[ ]
Little chance of meeting with people who make you feel insecure or uncomfortable.	[ ]	[ ]	[ ]	[ ]
Being able to take a direct route, with few turns and detours.	[ ]	[ ]	[ ]	[ ]
Being able to take routes which are pleasant or scenic.	[ ]	[ ]	[ ]	[ ]
Convenient method of paying for the cost of the trip.	[ ]	[ ]	[ ]	[ ]
The assurance of getting a seat.	[ ]	[ ]	[ ]	[ ]
Being able to talk and ask questions of system representatives when desired.	[ ]	[ ]	[ ]	[ ]
Being able to go to more than one destination on the same trip.	[ ]	[ ]	[ ]	[ ]
Service is available throughout the day.	[ ]	[ ]	[ ]	[ ]
Adequate room between you and others in the vehicle.	[ ]	[ ]	[ ]	[ ]

53. Below are statements that have been used to describe kinds of transportation within the Jacksonville area. Please read each statement and then circle the number that best indicates how much you agree or disagree with that statement as a description of car, bus, and then again for carpool or vanpool travel on the trip you take most frequently. Please give your opinion for each method of transportation whether or not you actually use that vehicle.

For example, the first statement below is "I only have to spend a short time in the vehicle while traveling." First, think of the vehicle as "a car" that you are driving alone or riding with a family member and indicate the extent to which you agree or disagree with the statement. If you "strongly agree" that you only have to spend a short time in a car while traveling, you would circle the number "1." Then, think of the vehicle as "a bus" and indicate the extent to which you agree or disagree with the same statement. Finally, think of the vehicle as a car or van that you are sharing with other people in a car/vanpool and again indicate the extent to which you agree or disagree with the same statement, "I only have to spend a short time in the vehicle while traveling."

	Strongly Agree	Slightly Agree	Neither Agree Nor Disagree	Slightly Disagree	Strongly Disagree
I only have to spend a short time in the vehicle while traveling.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
I only have to spend a short time waiting to use the vehicle.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
When I use this vehicle, I am very likely to arrive at my destination on time.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5

	Strongly Agree	Slightly Agree	Neither Agree Nor Disagree	Slightly Disagree	Strongly Disagree
When using this vehicle, I have adequate space for storing packages.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
This transportation method provides a low cost for trip.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
Using this transportation method requires no vehicle changes.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
I only have to spend a short time in getting to the vehicle when I need to use it.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
I have great assurance of getting a seat.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
There is adequate ability to communicate with system representative when desired.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5

	Strongly Agree	Slightly Agree	Neither Agree Nor Disagree	Slightly Disagree	Strongly Disagree
It is very easy to go to more than one destination on the same trip.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
By using this vehicle, there is little chance of meeting people who make me feel insecure or uncomfortable.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
When using this vehicle I am able to take a direct route with few turns and detours.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
When using this vehicle I am able to take routes which are pleasant or scenic.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
This transportation method provides a convenient method of paying for the cost of the trip.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
There is usually only a small variation in travel time from one day to another.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5

	Strongly Agree	Slightly Agree	Neither Agree Nor Disagree	Slightly Disagree	Strongly Disagree
Riding in this transportation method provides me with high personal safety from crime.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
I usually would have adequate weather protection while waiting to use the vehicle.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
This transportation method provides adequate privacy when traveling.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
Vehicle typically has a stylish exterior design.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
I am able to select the time I want to go on a trip when using this method.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
I know that if I wanted to use this method, service would be available throughout the day.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5

	Strongly Agree	Slightly Agree	Neither Agree Nor Disagree	Slightly Disagree	Strongly Disagree
The vehicle used in this method of transportation has a size and appearance that will not detract from the character of the neighborhood through which it travels.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
I find it very easy to get in and get out of this vehicle.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5
There is adequate room between me and others riding in this vehicle.					
Car	1	2	3	4	5
Bus	1	2	3	4	5
Carpool/Vanpool	1	2	3	4	5

56. Please check the category that best expresses how familiar you are with each of the methods of transportation in the Jacksonville area.

	I know a lot about it	I know something about it	I don't know anything about it
Express/commuter bus	[ ]	[ ]	[ ]
Regular bus	[ ]	[ ]	[ ]
Carpool	[ ]	[ ]	[ ]
Vanpool	[ ]	[ ]	[ ]
Taxi	[ ]	[ ]	[ ]

IV. CLASSIFICATION

1. Your sex is: _____Male _____Female

2. What is your marital status? _____Single _____Married _____Separated _____Divorced _____Widowed

3. How many persons are currently residing in your household? ____1 ____2 ____3 ____4 ____5 ____6 or more

4. If you have children residing with you in your household, please circle the number in each age group.

Under 10 years	0	1	2	3	4 or more
10-14 years	0	1	2	3	4 or more
15 years or older	0	1	2	3	4 or more

5. Indicate in each blank below the number of family members in your household who are paid to work more than 30 hours per week.

_____Male Wage Earner(s) _____Female Wage Earner(s)

6. What is your occupation?

_____student	_____salesperson	_____skilled/semi-skilled	_____manager/proprietor
_____housewife	_____machine or vehicle operator	_____clerical/office worker	_____retired (omit questions 7&8)
_____military	_____professional/technical	_____service worker	_____Other (please specify):

_____

7. Are you the major wage earner in your household? _____Yes _____No

8. Write in the number of days per week you work outside your home. _____

9. How long have you lived in the Jacksonville area.

_____Less than 2 years _____5-7 years _____more than 10 years

_____2-4 years _____8-10 years

10. What was your age on your last birthday?

_____Under 20 _____25-29 _____35-39 _____50-59

_____20-24 _____30-34 _____40-49 _____60 and over

11. What was the last grade you completed in school?

_____0-8 _____high school graduate _____college graduate

_____1-3 years high school _____1-3 years college _____more than 4 years college

12. Please indicate your total family income before taxes last year.

_____$0-4,999 _____$10,000-14,999 _____$20,000-24,999 _____More than $30,000

_____$5,000-9,999 _____$15,000-19,999 _____$25,000-29,999

13. How many vehicles in operating condition are regularly available to you within your household?

_____None _____One _____Two _____Three _____Four or more

14. Please write in your address.

_____ _____ _____
Name Address Telephone number

15. The responses to the following question will be used to determine if the respondents included in this study are representative of the overall Jacksonville population. While we feel this information would be very helpful in determining if the results of this study can be generalized, if you feel that this question is irrelevant or offensive, please leave it blank.

Please indicate your race by placing a check in the appropriate blank.

_____White/Caucasian _____Black/Afro-American _____Other (please specify)_____

16. Do you have a driver's license? _____Yes _____No

17. How many other licensed drivers are in your household?_____

18. Do you have a physical handicap that you believe would prevent you from using public transportation services?

_____Yes _____No

19. Do you require an automobile to perform your job? _____Yes _____No

20. In what type of dwelling do you reside?

_____House, owned _____Apartment (less than 10 units per building) _____Trailer

_____House, rented _____Apartment (10 or more units per building) _____Other (please specify): _____

_____

APPENDIX D

Transportation Center

Research/Service

The University of Tennessee
Knoxville, Tennessee 37916
Phone (615) 974-5255

Dear:

The Jacksonville Area Planning Board is cooperating with the Transportation Center of The University of Tennessee in a study of the public transportation needs of the Jacksonville community. This is a part of a larger research project funded by the National Cooperative Highway Research Program entitled "Guidelines for Public Transportation Levels of Service and Evaluation." An important aspect of this study is developing a methodology for determining public transportation goals and policies.

You have been identified as one who may have opinions and preferences that should be considered in the public transportation goal determination process for Jacksonville. We have developed a questionnaire which allows you to react to a variety of important public transportation issues. The goal and policy information generated in the study will be provided to the Jacksonville Area Planning Board for their use in developing guidelines for public transportation planning. We will, of course, protect the confidentiality of individual responses.

Mrs. W. S. Christenberry, a member of our research group, will contact you within the next three weeks to arrange a convenient time to meet with you to complete the questionnaire. The questionnaire has been designed to reduce the completion time to a minimum. A member of our research staff will be present to answer any questions you may have. If you desire, we will be glad to provide you with the results of the goals study.

Thank you for taking the time to express your opinions on public transportation goals for Jacksonville.

Sincerely,

Kenneth W. Heathington, Ph.D., P.E.
Director

KWH/jlj

Interview Record

Interview Number: _____

Date: _____

Time: _____

Length of Interview: _____

Interviewer's Name: _____

Respondent's Name: _____

Job Title: _____

Address: _____

_____

Phone Number: _____

Interviewer Remarks: _____

_____

_____

_____

Does the respondent want a copy of the survey results?

_____ Yes _____ No

APPENDIX E

Table 19

TESTS OF HOMOGENEITY OF VARIANCE FOR DECISION-MAKER GROUPS UTILIZING COCHRAN'S C

Test	Maximum Variance / Sum of Variances	p<
Allocations to with-access consumers	.3499	.173
Allocations for health care trip	.3238	.227
Allocations for religious trip	.8924	.060
Allocations for employment trip	.6465	.082
Allocations for education trip	.4479	.098
Allocations for shopping (food) trip	.4110	.111
Allocations for shopping (nonfood) trip	.3915	.124
Allocations for personal business trip	.3092	.267
Allocations for social-recreational trip	.5776	.088
Allocations for public transportation	.2747	.402
Allocations for car/vanpooling	.5017	.091
Allocations for company-sponsored vanpools	.7109	.079
Allocations for community-owned vanpools	.2514	.529
Allocations for taxi services	.8623	.056
Allocations for special services for the handicapped	.5769	.089
Allocations for local transit services	.3373	.196
Allocations for commuter express buses	.2573	.494
Allocations for dial-a-ride services	.3953	.121
Allocations for group bus leasing	.7898	.071
Allocations for school buses	.3646	.152
Allocations for bicycle facilities	.3657	.150
Scores for public transportation performance	.2419	.623
Scores for bus service to downtown	.3019	.319
Scores for bus service to other areas	.1989	.990
Scores for express bus service	.3310	.233
Scores for frequency of weekday buses	.2545	.579
Scores for frequency of weekend buses	.5034	.094
Scores for park-and-ride lots	.1968	.986
Scores for transfer convenience	.2704	.532
Scores for customer information	.3439	.229

Table 19 (Continued)

Test	Maximum Variance / Sum of Variances	p<
Scores for on-time performance	.1843	1.000
Scores for fare structure	.3700	.180
Scores for bus shelters and benches	.2220	.768
Scores for location of bus stops	.4499	.108
Scores for vehicle safety	.3094	.326
Scores for vehicle comfort	.2111	.885
Scores for transportation sources	.2549	.508
Scores for other consumption sources	.1941	.992

Table 20

MEANS AND STANDARD DEVIATIONS FOR ALLOCATION OF A $100 SUBSIDY TO CONSUMERS WITH ACCESS TO AN AUTOMOBILE FOR DECISION-MAKER GROUPS

Group	N	Mean	S.D.
Jacksonville Area Planning Board	9	43.33	14.79
General Purpose Local Government	14	37.50	26.66
Jacksonville Transportation Authority	8	23.75	15.29
Other Organizations	11	19.45	20.40

Table 21

MEANS AND STANDARD DEVIATIONS OF ALLOCATION OF A $100 SUBSIDY AMONG TRIP PURPOSES FOR DECISION-MAKER GROUPS

Trip Purpose	Group							
	General Purpose Local Government		Jacksonville Transportation Authority		Jacksonville Area Planning Board		Other Organizations	
	Mean (N = 14)	S.D.	Mean (N = 8)	S.D.	Mean (N = 9)	S.D.	Mean (N = 11)	S.D.
Health care	3.93	6.92	3.13	3.72	6.44	6.71	1.45	2.50
Religious	4.00	13.34	.88	1.81	1.11	2.20	.73	1.68
Employment	16.79	16.94	7.50	3.78	16.33	4.58	8.91	7.88
Education	6.93	9.51	5.00	3.78	8.89	4.86	3.27	6.07
Shopping (food)	3.29	5.14	6.25	6.94	4.67	3.67	1.45	2.50
Shopping (nonfood)	1.00	2.08	.75	1.75	2.22	3.63	1.45	2.50
Personal business	.93	2.02	.13	.35	1.11	2.20	1.45	2.50
Social-recreational	.64	1.74	.13	.35	2.56	3.54	.73	1.68

Table 22

MEANS AND STANDARD DEVIATIONS OF ALLOCATION OF AN ADDITIONAL $100 OF TAX REVENUES TO PUBLIC TRANSPORTATION FOR DECISION-MAKER GROUPS

Group	N	Mean	S.D.
Jacksonville Area Planning Board	9	18.89	9.28
Jacksonville Transportation Authority	8	17.50	10.69
Other Organizations	11	13.36	12.47
General Purpose Local Government	14	8.86	7.68

Table 23

MEANS AND STANDARD DEVIATIONS OF ALLOCATION OF A $100 SUBSIDY AMONG PUBLIC TRANSPORTATION SERVICES FOR DECISION-MAKER GROUPS

Service	Group							
	General Purpose Local Government		Jacksonville Transportation Authority		Jacksonville Area Planning Board		Other Organizations	
	Mean (N = 14)	S.D.	Mean (N = 8)	S.D.	Mean (N = 9)	S.D.	Mean (N = 11)	S.D.
Car/vanpooling	.14	.53	3.75	7.44	.00	.00	1.82	6.03
Company-sponsored vanpools	.21	.80	1.25	3.53	.00	.00	.45	1.51
Community-owned vanpools	4.93	6.47	5.00	5.35	6.67	6.61	1.55	3.21
Taxi services	.50	1.40	2.50	7.07	.00	.00	.00	.00
Special services for the handicapped	26.07	29.43	10.63	6.78	10.78	6.65	17.36	18.01
Local transit services	32.86	26.94	37.50	19.82	32.00	11.17	28.18	20.41
Commuter express buses	12.86	10.32	15.63	9.79	23.89	13.18	19.09	14.66
Dial-a-ride services	5.71	5.50	6.25	5.18	3.89	7.82	1.55	2.30
Group bus leasing	.29	.83	.00	.00	.22	.67	.91	3.02
School buses	8.00	10.59	13.13	15.34	11.89	8.04	8.82	9.71
Bicycle facilities	8.43	8.94	4.38	6.23	9.56	10.64	8.45	14.22

Table 24

MEAN EVALUATION SCORES AND STANDARD DEVIATIONS OF PUBLIC TRANSPORTATION PERFORMANCE FOR DECISION-MAKER GROUPS

Group	N	Mean	S.D.
Jacksonville Transportation Authority	8	4.04	.44
General Purpose Local Government	14	3.61	.62
Other Organizations	11	3.31	.52
Jacksonville Area Planning Board	9	3.18	.67

Table 25

MEAN EVALUATION SCORES AND STANDARD DEVIATIONS OF PERFORMANCE CHARACTERISTICS FOR DECISION-MAKER GROUPS

	Group											
	Jacksonville Transportation Authority			General Purpose Local Government			Other Organizations			Jacksonville Area Planning Board		
Performance Characteristic	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
Bus service to downtown	8	4.63	.52	14	3.53	.83	7	3.43	.53	8	3.38	.92
Bus service to other areas	7	3.57	.79	14	3.20	.77	7	2.71	.95	7	2.29	.95
Express bus service	8	4.38	.74	14	3.73	.88	8	3.38	1.30	7	2.29	.95
Frequency of weekday buses	8	4.00	.76	14	3.40	.83	8	3.13	.64	6	2.67	.52
Frequency of weekend buses	8	3.38	.52	14	2.64	1.28	7	2.71	.49	6	2.17	.75
Park-and-ride lots	8	3.63	1.06	14	3.50	1.22	8	3.25	1.04	8	2.75	1.17
Transfer convenience	6	3.83	.75	13	3.38	.87	5	3.00	1.00	6	2.83	1.17
Customer information	8	4.00	.76	14	4.00	.88	7	3.86	1.07	8	3.38	1.41
On-time performance	7	4.14	.69	13	4.08	.76	5	4.00	.71	7	3.14	.69
Fare structure	8	4.38	.92	14	3.67	1.45	6	4.17	.41	6	4.17	.41
Bus shelters and benches	8	3.38	.74	14	3.56	1.08	8	2.38	.92	8	3.25	1.04
Location of bus stops	8	3.75	.71	14	3.53	.83	7	3.43	.53	7	3.14	1.34
Vehicle safety	8	5.00	.00	14	4.36	.63	7	4.14	.69	8	4.00	.53
Vehicle comfort	8	4.50	.76	14	4.29	.73	6	4.17	.41	8	4.00	.76

Table 26

MEAN SUPPORT SCORES AND STANDARD DEVIATIONS OF TRANSPORTATION-RELATED REVENUE SOURCES FOR DECISION-MAKER GROUPS

Group	N	Mean	S.D.
Jacksonville Area Planning Board	9	3.44	1.01
Jacksonville Transportation Authority	8	2.63	1.51
General Purpose Local Government	14	2.60	1.64
Other Organizations	11	2.09	1.81

Table 27

MEAN SUPPORT SCORES AND STANDARD DEVIATIONS OF OTHER CONSUMPTION REVENUE SOURCES FOR DECISION-MAKER GROUPS

Group	N	Mean	S.D.
Jacksonville Area Planning Board	9	2.78	1.48
Other Organizations	11	2.09	1.64
Jacksonville Transportation Authority	8	2.00	1.69
General Purpose Local Government	14	1.60	1.40

Table 28

CORRELATION COEFFICIENTS OF DECISION MAKERS' TRIP PURPOSE ALLOCATIONS OF A $100 SUBSIDY WITH DECISION MAKERS' PERCEPTIONS OF TRANSPORTATION PROBLEMS

	Transportation Problems					
Trip Purpose	Traffic Congestion	Pollution by Automobiles	Energy Consumption	Traffic Accidents	Urban Sprawl	Costs of Automobile Travel
Health care	.10	.26*	.30*	.09	.21	.09
Religious	.15	.11	-.34*	.07	-.15	-.22
Employment	.16	.08	.18	-.26*	.26*	.13
Education	-.05	.03	-.01	.05	-.12	.05
Shopping (food)	-.01	.09	.30*	.07	.14	.22
Shopping (nonfood)	-.01	.20	.17	-.02	.40**	.32*
Personal business	.03	.16	.07	-.07	.33*	.22
Social-recreational	-.06	.08	-.10	.06	.13	.11

*$p < .05$

**$p < .01$

N = 42

Table 29

MEANS AND STANDARD DEVIATIONS OF ALLOCATION OF $100 OF TAX REVENUES TO PUBLIC TRANSPORTATION BY OCCUPATIONAL GROUPS

Group	N	Mean	S.D.
Appointed officials	15	16.88	7.93
Professional staff	13	15.86	12.63
Elected officials	14	8.14	8.03

Table 30

MEANS AND STANDARD DEVIATIONS FOR DECISION-MAKER ALLOCATION OF A $100 SUBSIDY BY TRIP PURPOSE TO TRANSPORTATION CONSUMERS WITH AND WITHOUT ACCESS TO AN AUTOMOBILE

	Allocation to Consumer Groups			
	With Auto Access		Without Auto Access	
Trip Purpose	Mean	S.D.	Mean	S.D.
Employment	12.86	11.42	20.93	14.11
Education	6.02	7.00	9.88	5.66
Health care	3.67	5.56	11.31	15.05
Shopping (food)	3.67	4.86	8.76	6.76
Religious	1.93	7.80	4.17	8.09
Shopping (nonfood)	1.33	2.51	4.29	3.68
Social-recreational	.98	2.20	4.05	8.10
Personal business	.95	2.00	3.07	3.59

N = 42

Table 31

MEAN ROUND TRIPS PER WEEK TRAVELED BY TRANSPORTATION CONSUMERS FOR TRANSPORTATION TRIP PURPOSES

Trip Purpose[a]	N[b]	Mean	S.D.
Work	532	6.25	6.43
Social-recreational	787	5.04	10.97
Education	288	4.91	5.78
Personal business	632	3.86	5.27
Shopping (nonfood)	620	2.15	3.81
Shopping (grocery)	742	1.85	2.20
Religious	632	1.74	2.21
Medical	188	1.54	2.46

[a]Social-recreational trips represent the combined purposes of entertainment and visits with friends, relatives. Deliver/pick up children is included with personal business trips.

[b]The number of respondents represents those individuals from the sample of 1108 who take the trip at least once per week.

Table 32

MEAN NUMBER OF ROUND TRIP MILES TRAVELED BY TRANSPORTATION CONSUMERS FOR TRANSPORTATION TRIP PURPOSES

Trip Purpose[a]	N[b]	Mean	S.D.
Entertainment	654	18.84	15.01
Work	532	18.22	16.09
Medical	188	15.79	12.08
Visit with friends, relatives	654	15.34	15.25
Education	288	12.90	11.56
Shopping (nonfood)	620	12.34	10.10
Personal business	565	10.71	9.33
Religious	632	9.18	9.52
Shopping (grocery)	742	7.72	7.29
Deliver/pick up children	233	3.88	9.54

[a]Average round trip miles for entertainment and visit with friends, relatives were analyzed separately, as are personal business and deliver/pick up children.

[b]The number of respondents represents those individuals from the sample of 1108 who take the trip at least once per week.

Table 33

MEAN EVALUATION SCORES AND STANDARD DEVIATIONS OF PUBLIC TRANSPORTATION PERFORMANCE CHARACTERISTICS FOR DECISION MAKERS

Performance Characteristic	N	Mean[a]	S.D.
Vehicle comfort	35	4.23	.69
Fare structure	36	3.89	1.17
On-time performance	31	3.87	.81
Customer information	36	3.83	1.03
Express bus service	37	3.49	1.15
Location of bus stops	36	3.44	.84
Frequency of weekday buses	36	3.33	.83
Park-and-ride lots	37	3.32	1.16
Transfer convenience	29	3.31	.97
Bus shelters and benches	37	3.08	.98
Frequency of weekend buses	34	2.77	.99

[a]The following rating scale was used: 1 = unsatisfactory; 2 = poor; 3 = fair; 4 = good; 5 = excellent.

Table 34

ATTITUDES OF TRANSPORTATION CONSUMERS TOWARD PERFORMANCE CHARACTERISTICS OF TRANSPORTATION SERVICES

Performance Characteristic	Response for Each Transportation Service[a]					
	Bus		Carpool/Vanpool		Car	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Fare structure						
This transportation method provides a low cost for trip.	4.10	.96	3.94	.94	3.76	1.28
Vehicle comfort						
I find it very easy to get in and get out of this vehicle.	4.05	1.09	3.99	1.05	4.86	.48
There is adequate room between me and others riding in this vehicle.	3.55	1.19	3.57	1.10	4.84	.51
I have great assurance of getting a seat.	3.30	1.19	3.97	1.07	4.93	.35
When using this vehicle, I have adequate space for storing packages.	3.05	1.18	3.24	1.09	4.85	.49
This transportation method provides adequate privacy when traveling.	2.55	1.20	3.14	1.21	4.88	.49
By using this vehicle, there is little chance of meeting people who make me feel insecure or uncomfortable.	2.95	1.18	3.57	1.13	4.67	.87
On-time performance						
There is usually only a small variation in travel time from one day to another.	3.46	1.19	3.64	1.05	4.67	.78
When I use this vehicle, I am very likely to arrive at my destination on time.	3.33	1.23	3.67	1.04	4.84	.51

Table 34 (Continued)

Performance Characteristic	Response for Each Transportation Service[a]					
	Bus		Carpool/Vanpool		Car	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Customer information						
There is adequate ability to communicate with system representative when desired.	3.41	1.09	3.84	1.04	4.55	.89
Frequency of service						
I know that if I wanted to use this method, service would be available throughout the day.	3.22	1.38	2.75	1.25	4.79	.66
I only have to spend a short time waiting to use the vehicle.	3.12	1.29	3.52	1.07	4.58	.94
I am able to select the time I want to go on a trip when using this method.	2.73	1.25	2.91	1.18	4.85	.57
Express service						
I only have to spend a short time in the vehicle while traveling.	3.21	1.30	3.52	1.09	4.35	1.03
Using this transportation method requires no vehicle changes.	2.93	1.30	3.95	1.11	4.89	.46
When using this vehicle I am able to take a direct route with few turns and detours.	2.83	1.24	3.40	1.13	4.79	.60
Location of pick-up points						
I only have to spend a short time in getting to the vehicle when I need to use it.	3.10	1.29	3.59	1.11	4.86	.51
Transfer convenience						
It is very easy to go to more than one destination on the same trip.	2.53	1.27	3.99	1.24	4.92	.39

Table 34 (Continued)

Performance Characteristic	Response for Each Transportation Service[a]					
	Bus		Carpool/Vanpool		Car	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Shelters						
I usually would have adequate weather protection while waiting to use the vehicle.	2.55	1.24	3.87	1.12	4.86	.49

[a]The following rating scale was used: 1 = strongly disagree; 2 = slightly disagree; 3 = neither agree nor disagree; 4 = slightly agree; 5 = strongly agree.

N = 1108

Table 35

ATTITUDES OF TRANSPORTATION CONSUMERS TOWARD THE IMPORTANCE OF PERFORMANCE CHARACTERISTICS FOR THE WORK TRIP AND MOST FREQUENTLY TAKEN NONWORK TRIP

Performance Characteristic	Importance of Characteristic[a]			
	Work Trip[b]		Nonwork Trip[c]	
	Mean	S.D.	Mean	S.D.
On-time performance				
Arriving at your destination when planned	2.69	.60	2.42	.76
Small variation in travel time from one day to the next	2.00	1.05	1.28	1.05
Frequency of service				
Being able to select the time you can use the vehicle	2.33	.89	2.16	.91
A short time spent waiting to use the vehicle	2.32	.92	1.87	1.06
Service is available throughout the day	2.26	.90	2.28	.81
Shelters				
Adequate protection from the weather while waiting to use the vehicle	2.33	.85	2.34	.83
Express service				
Being able to make a trip without changing vehicles	2.35	.84	2.22	.87
Being able to take a direct route, with few turns and detours	2.07	.98	1.78	.99
A short time spent traveling in the vehicle	2.05	1.06	1.49	1.08
Location of bus stops				
Short time spent getting to the vehicle	2.23	.89	1.96	.95
Fare structure				
A low cost for the trip	2.02	.94	1.20	.91

Table 35 (Continued)

Performance Characteristic	Importance of Characteristic[a]			
	Work Trip[b]		Nonwork Trip[c]	
	Mean	S.D.	Mean	S.D.
Customer information				
Being able to talk to and ask questions of system representatives when desired	1.69	1.08	1.77	1.00
Transfer convenience				
Being able to go to more than one destination on the same trip	1.60	1.11	1.93	.93
Vehicle comfort				
The assurance of getting a seat	2.13	.94	2.14	.92
Adequate room between you and others in vehicle	1.81	1.00	1.97	.88
Ease of entry and exit from the vehicle	1.71	1.03	1.74	.98
Adequate space near your seat for storing your packages while traveling	1.36	1.09	1.74	1.03
Little chance of meeting people who make you feel insecure or uncomfortable	1.17	1.06	1.18	1.08
Being able to ride in privacy	1.16	1.07	1.21	1.04

[a]The following rating scale was used: 0 = not important; 1 = only slightly important; 2 = important; 3 = very important.

[b]N = 553

[c]N = 1108

Table 36

MEANS AND STANDARD DEVIATIONS FOR DECISION-MAKER ALLOCATION OF A $100 SUBSIDY TO PUBLIC TRANSPORTATION SERVICES

Service	Mean	S.D.
Local transit services	32.33	20.81
Special services for handicapped	17.57	20.35
Commuter express buses	17.38	12.36
School buses	10.02	10.76
Bicycle facilities	7.91	10.33
Community-owned vanpools	4.43	5.72
Dial-a-ride services	4.33	5.55
Car/vanpooling	1.24	4.53
Taxi services	.64	3.17
Company-sponsored vanpools	.43	1.76
Group bus leasing	.38	1.62

N = 42

Table 37

MEAN ROUND TRIPS PER WEEK MADE BY TRANSPORTATION CONSUMERS UTILIZING VARIOUS TRANSPORTATION SERVICES

Transportation Service	N[a]	Mean	S.D.
Drive alone	809	8.80	15.74
Walking	332	7.31	12.21
Motorcycle	44	7.09	10.46
Bicycle	155	6.85	10.03
Drive/ride with family member	853	6.20	11.15
Regular bus service	122	5.38	7.75
Carpool/vanpool	210	4.25	4.88
Express/commuter bus service	22	2.90	1.97
Taxi	11	1.88	2.17
Rental car	11	1.30	2.36

[a]The number of respondents represents those individuals from the sample of 1108 who utilize the service at least once per week.

VITA

Jerrie Lorraine McGhee was born in Maryville, Tennessee, on December 2, 1942. She graduated from Everett High School in June 1960. The following September, she entered The University of Tennessee, Knoxville, and in March 1964, received a Bachelor of Science degree in home economics education.

She taught vocational home economics at Bradley Central High School, Cleveland, Tennessee, from 1964 to 1967. In 1967, she accepted a research assistantship at The Pennsylvania State University and began study toward a Master of Science degree in clothing and textiles. The degree was awarded in December 1968.

She was employed as a home economist for the National Cotton Council of America from 1968 to 1969. From 1969 to 1970, she was a research assistant for a study of the vocational needs of the Alcoa, Blount County, and Maryville, Tennessee, school systems. From 1970 to 1975, she was a faculty member in the Department of Home Economics, Marshall University, Huntington, West Virginia.

In the summer of 1975, she entered the interdisciplinary doctoral program in home economics at The University of Tennessee. While pursuing the doctorate with concentrations in consumer studies and textiles and clothing, she was a graduate research assistant at the Transportation Center. In June of 1978, she was granted the degree of Doctor of Philosophy. Following her graduation, she accepted an appointment to the faculty of Purdue University in the department of Consumer Sciences and Retailing.