TRANSPORTATION PLANNING:

A CASE STUDY OF SPOKANE

GOALS AND OBJECTIVES SURVEY, 1974

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

In partial fulfillment of the requirements for a Masters Degree in Urban Planning from the University of Arizona, I have completed an internship of one year with the Spokane Regional Planning Conference, Transportation Study Division. This paper is a description and critique of work accomplished while in this position.

My appreciation goes to Wayne Gruen, Transportation Study Director, Jose Urcia, Spokane Regional Planning Conference Director and the United States Department of Transportation for making this job opportunity and report possible.

The contents of this report in no way represent the opinions or beliefs of either the Transportation Study Division or the United States Department of Transportation.

SUMMARY

This paper contains a detailed account of the methodology and survey procedures used in conducting the Transportation Goals and Objectives Study by the Spokane Regional Planning Conference, Transportation Study.

In April and May of 1974, an 11% random sample of the Spokane Metropolitan Area Households was given a questionnaire related to their attitudes and opinions toward the Spokane area transportation system. The addresses were selected from a list supplied by a commercial direct mailing company.

A Transportation Goals and Objectives Supervisor was hired to organize and direct the survey process. Forty temporary personnel were hired to deliver the questionnaire to selected households, and pick up the completed survey at a later date convenient to the respondent. Standardized forms were used by these personnel to maintain an accurate account of the addresses surveyed to ensure valid and reliable results.

Each section of the questionnaire is critiqued and format changes suggested. All procedures used in the survey process are also described and recommendations made for possible improvements. Difficulties not previously mentioned in the report, are recounted in the final section of the paper.

DESIGN OF THE TRANSPORTATION GOALS STUDY

INTRODUCTION

The Spokane Regional Planning Conference is established to facilitate coordinated and cooperative comprehensive planning and orderly development of the City of Spokane, Spokane County, and other Spokane County municipalities. The Conference conducts an area-wide regional planning fuction preparing, through the cooperation of member planning commissions and governmental agencies, a Comprehensive Regional Plan, and reviews, for coordination, the local plans, projects and programs of member agencies. The Conference's Transportation Study Division conducts the Transportation Planning Program as a coordinated part of the Comprehensive Regional Planning Program.

This Transportation Planning Program is designed to accomplish Section 134 to Title 23, USC, requirements (Section of the Federal-Aid Highway Act of 1962), and Section 9 requirements of the Urban Mass Transportation Act of 1964, as amended. These Acts provide that Transportation Planning be based on a continuous comprehensive planning process carried on cooperatively by State and local communities.

The purpose of the Transportation Goals and Objectives Study, being conducted through the Conference's Transportation Study Division, is to become cognizant of community goals and objectives and changes therein as they relate to the development of the transportation system as a coordinated element of the Comprehensive Plan. Preparation of Goals and Objectives Statements by the Conference is coordinated with the work of the City and County Planning Departments on

Comprehensive Goals and Objectives through a subcommitte of the Transportation Technical Committee. This Transportation Goals and Objectives Subcommittee is composed of the following persons: Jose Urcia, Conference Director, Chairman of the Subcommittee; Charles Huggins, Director of Planning, Spokane County; Terry Clegg, Planning Director, City of Spokane; Evan Iverson, Sociologist, Washington State Highway Department, a representative of the Citizens Advisory Committee on Transportation; Wayne Gruen, Transportation Study Director. Additional input to this subcommittee is provided by Vaughn Call, Assistant City Manager for Planning, Programming and Community Development, City of Spokane, and K. Kelsey, Transportation Goals Study Supervisor. The Citizens Advisory Committee on Transportation reviews the work of the Study staff and provides input into the development of goals and objectives statements. The Transportation Goals and Objectives Statements will be presented to the Transportation Steering Committee and Spokane Regional Planning Conference for adoption.

The following four phases represent the procedures used in conducting the Transportation Goals and Objectives Study.

Phase I. Design of the Transportation Goals Study. A Study prospectus and flow chart were developed to guide the Transportation Study.

Phase II. Design and conducting of an additudinal survey. As the first stage in the identification of citizen goals and objectives for transportation, a comprehensive transportation survey was developed. Eleven percent (11%) of the Spokane Metropolitan Area households participated in the survey.

Phase III. Analyze and prepare goals statements. This document is an analysis of information obtained from the survey which will be used as a basis for development of Transportation Goals and Objectives Statements by the Citizens Advisory Committee, City and County Plan Commissions and the Study Staff.

Phase IV. Develop framework for application of Goals Statements. Based on the Transportation Goals and Objectives Statements, a series of recommendations will be developed by the Study Staff to be used as a basis for implementation of Goals and Objectives Statements.

METHODOLOGY

The purpose of the study is to obtain information to assist in the preparation of the Transportation Goals and Objectives Statements. The function of the survey is to investigate the attitudes, beliefs and value judgments of the citizens of the Spokane Metropolitan Area; the results to be used as a basis for community discussion and to assist in the formulation of Transportation Goals and Objectives Statements for the Spokane Metropolitan Area. The methodology employed in the survey represents standard techniques utilized in public opinion and attitude surveys. There are three components to the data obtained in this study; 1) attitudes and behavioral data as supplied by the respondents, 2) demographic and personal data of the respondents, and 3) the information from questions in which respondents were asked to express their attitudes and beliefs regarding Spokane's traffic and transportation system, and in addition, their willingness to actively participate in the development of the Spokane Transportation

System.

Survey Technique

Several survey techniques, including personal interview and mail-in types were considered prior to selecting the drop-off pick-up survey method. Unlike the mail-in survey, the drop-off pick-up survey method permits the surveyor to explain the purpose of the survey and encourage its acceptance, thereby raising the low return rate usually found in mail-in surveys. Although personal interview methods have a high return rate the drop-off pick-up method allows a larger sample to be interviewed without being as time consuming or expensive. The personal interview method requires hiring highly qualified interviewers, or conducting an extensive interview training program in order to avoid the potential of interviewers biasing respondents' answers. The drop-off pick-up method avoids the possibility of interviewer bias by permitting a respondent to complete the questionnaire in the privacy of his home, at his leisure, and without an outsider recording and interpreting his thoughts. Questions of a personal nature, such as age and education are confidential, allowing answers to be more freely given than if the respondent had to convey his answers to an interviewer.

Using the drop-off and pick-up survey technique, a surveyor delivered the questionnaire to a responsible member of the household and briefly explained the survey. A responsible member of the household was defined to be someone who appeared to be approximately 12 years of age or older. The surveyor then indicated when he would return to pick up the survey, and at a designated date, returned to pick up the completed questionnaire. In this manner the use of the

surveyor was optimized in several ways. First he could see that the dwelling unit was lived in, and that the receiving person appeared to be a responsible person. He was also present to encourage the reception of this questionnaire, provide general explanations, and answer questions. In addition, he could return to the household several times until the survey was completed and received, thereby reducing the large number of non-responses usually found in a mail-in type survey. This type of interviewing process has the advantages of a surveyor at the delivery and pick-up stages but without the disadvantages of excessive cost and time.

THE SAMPLE

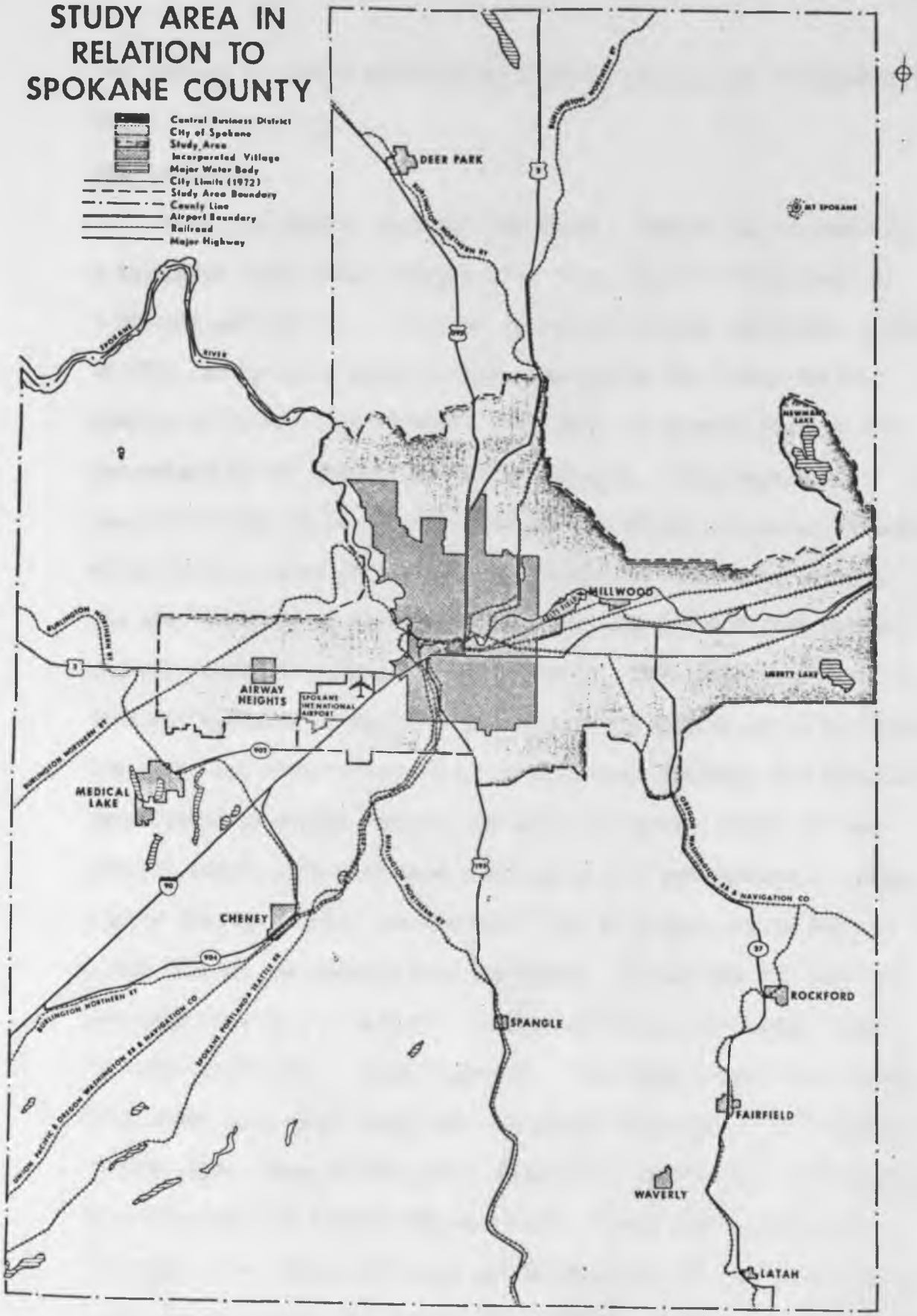
For the purpose of the study the words "population" and "sample", as used in the study, have the following definitions. The first, "population", is defined as the group of subjects of interest to the researcher. In this study the population is all dwelling units within the Spokane Metropolitan Area (figure 1). The second section term, "sample" is a sub-group of the population. Generalizations from the sample to the population will not be made, however, because a randomly selected representative sample was chosen, the results are representative of the Spokane Metropolitan Area population.

The Sample Area

The sample area is the Spokane Metropolitan Area. It is bounded on the North by Nine Mile Falls and Colbert Road, Hallet and Jamison Road to the South, Fairchild Air Force Base to the West, and to the East, the Idaho border. Within this area specific geographic boundaries

FIGURE 1

STUDY AREA IN RELATION TO SPOKANE COUNTY



are defined by Origin-Destination zones as used by the Transportation Study. (figure 2.)

Sample Source

There are several sources from which a sample can be obtained; a telephone book, voter registration list, the Polk Directory, or a private mailing list. For the following reasons the system selected in this survey was a mailing list compiled by the Direct Mailing Company of Spokane, Washington. The list was updated monthly and guaranteed by the company to be 95% accurate. This degree of accuracy could not be obtained through use of the telephone directory which tends to bias the sample by eliminating low-income persons who are likely to be without a telephone, and professional persons who are likely to have an unlisted number. The voter registration list was not used because of its unequal representation of the young, the poor, and other minorities. Using Direct Mailing, the households were listed by street address and were, therefore, ideal for the present sample which included dwelling units, not individual names. Listed also by address was the Polk City Directory but it did not include 100% of the Spokane area residents. The Direct Mailing list was organized by zip code and included all O-D zones except those in very rural areas. (see figure 3). For these areas, the Transportation Goals Supervisor used land use parcel maps to select a random sample, and, through the County Assessor's office obtained the appropriate addresses for sampled houses, mobile homes and apartments. In areas where addresses could not be obtained, (e. g. Newman Lake), maps, descriptions, and directions to the dwelling units were given

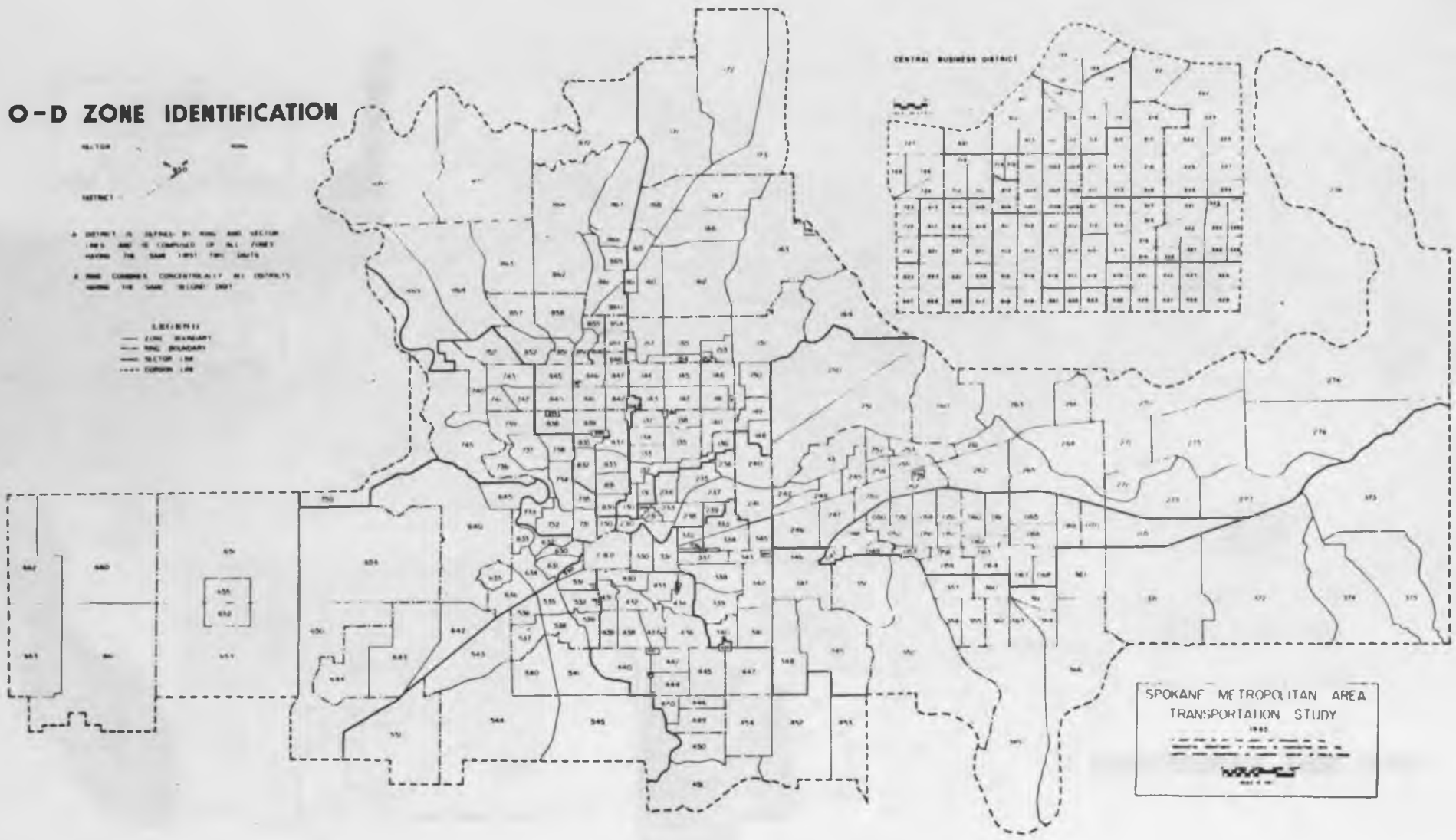
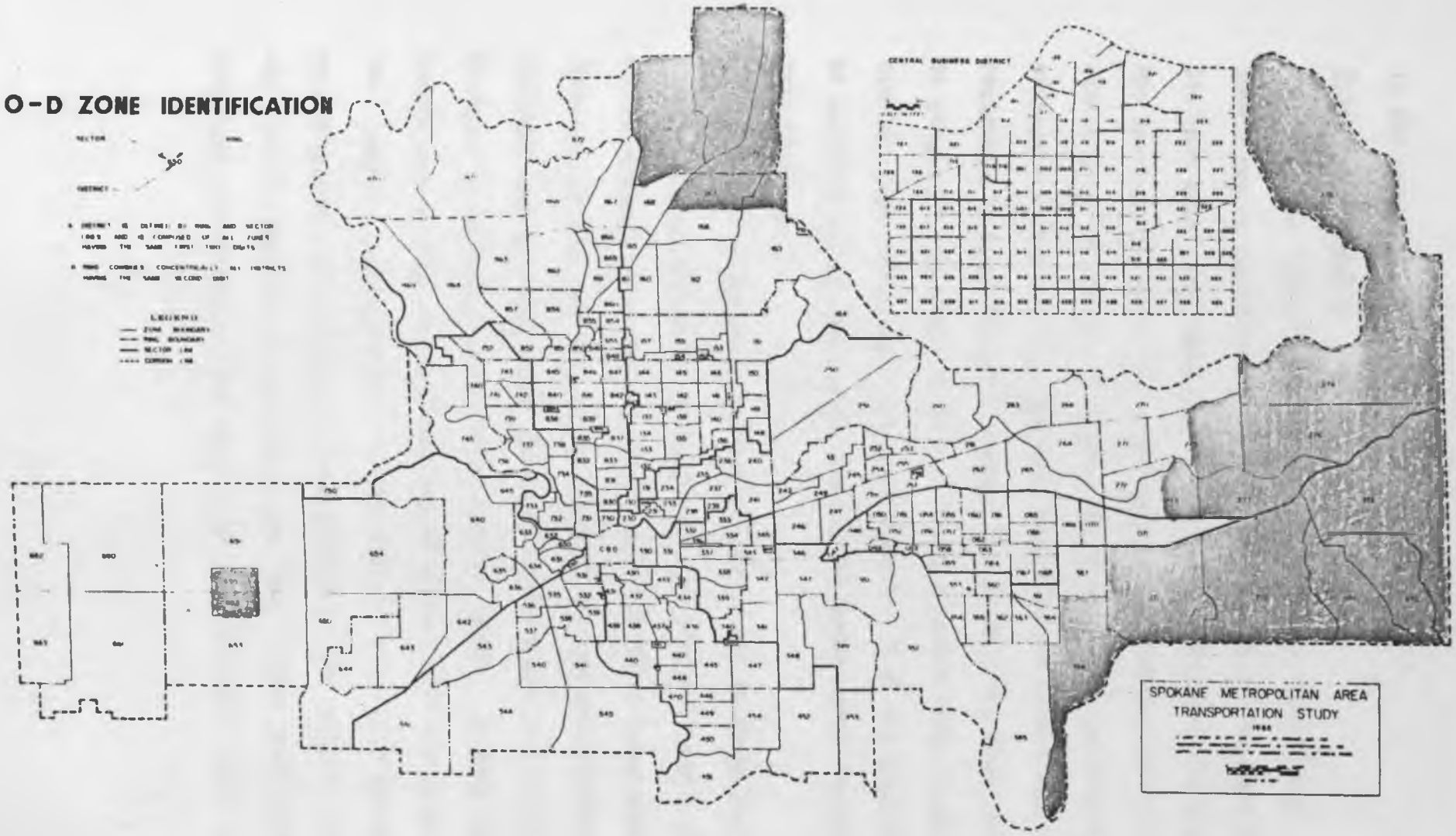

O-D ZONE IDENTIFICATION
CENTRAL BUSINESS DISTRICT
SPOKANE METROPOLITAN AREA
TRANSPORTATION STUDY

FIGURE 2

FIGURE 3


O-D ZONE IDENTIFICATION
CENTRAL BUSINESS DISTRICT
SPOKANE METROPOLITAN AREA
TRANSPORTATION STUDY

to the surveyor.

Selection of Sample

A random sampling technique was chosen for this survey. A sample can be considered random if every member of the population (in this case every household in the Spokane Metropolitan Area) has the same chance of being included in the sample, and it is only chance which determines the selection of units for the sample. The addresses on the mailing list were separated and categorized by their respective Origin-Destination zones (O-D zones), and then clustered in groups of five dwelling units. Using a random number table, clusters were chosen to equal approximately 11% of the population of each O-D zones. The result was an 11% random sample by geographic area (O-D zone.)

In order to obtain a desired 7% return rate of those households sampled, it was necessary to supplement the original sample with a second randomly selected sample in areas that had a large number of "non-deliverable" surveys. This category of "non-deliverables" included vacant homes, wrong addresses, homes where no contact could be made, or apartments with locked security doors. In some instances people were moving, on vacations and no contact with any member of the household could be made. To test for reliability of the two random samples, an analysis of the variance of the refusal, return, and mail-in rates of the two sample was done. These tests exhibited comparable circumstances and results to the .05 significance level.

DESIGN AND PROCEDURES OF THE ATTITUDINAL SURVEY

QUESTIONNAIRE DEVELOPMENT

The work on the development of the Transportation Goals and Objectives Survey was coordinated with the City and County Planning Departments through the Transportation Technical Subcommittee on Transportation Goals and Objectives.

The original draft of the questionnaire was written by Wayne Gruen and Evan Iverson, and revised through recommendations and suggestions by the Technical Committee Subcommitte and Transportation Goals Study Supervisor, K. Kelsey.

The survey incorporated questions on demographic data, land use development, transportation behavior, transportation problems of the residents, and their preceived solutions. Using several base surveys, including the Yakima Valley and the Bothel Citzen Surveys conducted by the Washington State Department, the National Survey of Transportation Attitudes and Behavior Survey conducted by Chitton Research Services and National Analysis, and the Northeast Seattle Survey conducted by the University of Washington Office of Institutional Education Research, seven drafts were developed over a four month period (October, 1973 to February, 1974), each being presented to the sub-committee for revision and then to the Transportation Technical Committee and the Transportation Steering Committee for review and the Transportation Steering Committee for review and adoption.

The major effort of the survey was directed toward obtaining atittudes and beliefs of the respondents of the metropolitan area concerning the transportation system. Since transportation is closely

related to other planning areas questions were included on land use development, environmental actions and public services. (Appendix A).

The survey was pre-tested on the Transportation Study Staff, a planning class at Eastern Washington State College, and an adult planning class at Spokane Falls Community College. This pilot Study was used to find defects in format, vagueness in questions, and deficiencies in explanations.

Cover Letter

A cover letter to the Citizens of the Spokane Metropolitan Area was delivered with the questionnaire. (figure 4) The letter briefly explained the purpose of the survey, the survey process, and a request to the resident to answer the questionnaire. The letter was signed by Ray W. Christenson, Chairman of the Spokane Regional Planning Conference.

Brochure

A brochure entitled "Spokane's Transportation Future is in Your Hands" was distributed along with the survey as part of the public information program (figure 5). A public information program was used to ensure citizen support and participation in planning activities as well as maintain public confidence in the resulting goals and objectives statements. The brochure included a description of the Comprehensive Planning Process, and purpose of developing Transportation Goals and Objectives. The brochure stressed the importance of citizen participation in "policy planning" (the establishment of goals and determination of the best means of obtaining them), and explained how citizens can influence planning actions.

FIGURE 4

spokane regional planning conference

TRANSPORTATION STUDY DIVISION

TO THE SPOKANE METROPOLITAN AREA CITIZENS:

The Transportation Study Division of the Spokane Regional Planning Conference is conducting a survey of citizens to determine their attitudes and beliefs about the metropolitan transportation system. The purpose of the survey is to obtain information and give you, a resident of the Spokane metropolitan area, an opportunity to have an active part in formulating Transportation Goals and Objectives statements.

Residents, statistically selected in a 10% random sample, are being requested to complete the distributed questionnaire. Because many residents are not included in this sample, the questionnaire will also be available to others wanting to participate, however, their responses will be analyzed separately from the statistically selected sample.

The survey will take about 25 minutes of your time. We request that you briefly scan the entire survey before answering the questions. This will give you an idea of the range of questions and their inter-relationships. Please answer all parts of all questions even though you may generally use only one form of transportation.

After the survey results have been analyzed a summary report will be published. If you have any questions regarding this survey, please call the Spokane Regional Planning Conference, Transportation Study Division, phone 456-4325.

Thank you for your cooperation.

Sincerely yours,

Ray W. Christensen

Ray W. Christensen, Chairman
Spokane Regional Planning Conference

9-1

ADDRESS REPLY TO: SPOKANE REGIONAL PLANNING CONFERENCE, ROOM 353, CITY HALL, SPOKANE, WASHINGTON 99201

FIGURE 5
BROCHURE

SPOKANE'S TRANSPORTATION FUTURE IS IN YOUR HANDS!

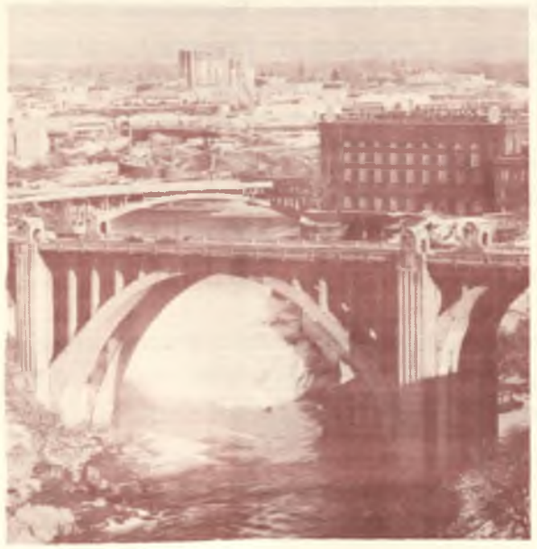
As the title suggests this report is designed to give you as a resident of the Spokane urban area, an opportunity to become an active participant in the planning of the Spokane metropolitan transportation system (streets, roads and public transportation).

The Transportation Study Division of the Spokane Regional Planning Conference is working with the City of Spokane and Spokane County in developing Goals and Objectives Statements for their Comprehensive Plans. Comprehensive Planning is a process of planning for interrelated community needs, including land use, housing, public services and transportation. The Transportation Study is doing the detailed work on Transportation Goals and Objectives as a coordinated part of the Comprehensive Goals and Objectives.

In the following weeks there will be a citizen's attitude survey and follow-up public meetings to determine citizen's desires about the transportation system of Spokane and to establish two-way communications between planners, decision-makers and the community.

The Conference has chosen an approach to determine desires and values of citizens with regard to how the transportation system should be developed. The Statement of Goals will be used as a guide to constructive planning of the transportation system and implementation of specific projects. This planning process provides an opportunity for citizens to become involved, not just for planners and decision-makers, but bricklayers, teachers, clerks, businessmen, parents – people just like you.

TRANSPORTATION GOALS STUDY PROCEDURES



1. Conduct random sample survey to determine Citizen's Attitudes.
2. Summarize results of survey and present to the citizens for additional input.
3. Prepare preliminary statements of Transportation Goals and Objectives (statements coordinated with City and County Comprehensive Goals).
4. Review of statements by citizens at public meetings.
5. Prepare finalized statements.
6. Present statements for adoption.
7. Outline procedure for applying Goals and Objective Statements in planning and implementation of projects.

TRANSPORTATION OBJECTIVES

In search for mutually compatible solutions to the problems facing Spokane residents, the Transportation Attitudes Survey will ask the same kinds of questions we hear every day:

1. What are the best ways to solve our transportation problems?
2. What additional transportation services does Spokane need?
3. What is the appropriate balance in service provided by Spokane's arterial street system and its public transportation system?

In order that the Conference can obtain a complete view of citizen's values, reasonable travel alternatives allowing response to divergent travel viewpoints are included in the survey. In this way the consequences of trade-offs between transportation values and styles of life (type of house, living area, shopping patterns, etc.) can be considered. Because of fiscal and other concerns, choices will usually consist of "more of this and less of something else." The preferences are not mutually exclusive, rather they indicate the amount of time and planning consideration that each area should be given.

Alternative plans and policies in area of growth, land use, public ser and housing will have widely var impact on both the amount and (auto, bus, walk, etc.) of travel. considering possible alternative acti we should remember that transp tion is both a server and a shape development. Future desired land and growth patterns must be consid along with the transportation sys neither can be treated as somet separate and apart.

CITIZEN'S ROLE

Now you ask, "What does all this mean to me? Can I really be involved?" The answer is *yes*. You as citizens can participate in "policy planning" (the establishment of goals and determination of the best means of obtaining them), by identifying your problems and indicating the relative importance of development factors on transportation. This valuable assistance to planners and elected officials can help produce solutions and planning directions for Spokane's Transportation System.

What will Spokane be like tomorrow, or in thirty years? We can help determine that future **NOW!**

The survey, cover letter, and information brochure were adopted by the Technical Committee on February 19, 1974.

SURVEY PERSONNEL

Goals Study Supervisor

The supervisor was hired for the duration of the study, one year. The work entailed assisting with the design of the Transportation Goals and Objectives Survey, organizing and supervising the collection and analysis of the survey data and providing assistance in the preparation of these goals and objective statements. (Appendix B) The supervisor was responsible for hiring and supervising the work of forty temporary personnel needed to conduct the survey.

The supervisor was hired early enough to be familiar with the entire goals study operation as well as have time to acquire the team leaders and work out a systematic design for work procedures acceptable to both supervisor and the team leaders.

Goals Study Clerk-Typist

The amount of typing and bookkeeping needed for the goals study project required a temporary clerk-typist. The clerk-typist did typing and clerical work related to the study, plus additional office work. The clerk-typist assisted in developing work schedules of temporary employees, organized survey data, and prepared Transportation Goals and Objectives Statements. (Appendix C)

Goals Study Team Leaders

The magnitude and technique of the survey required a number of temporary employees, four of which were team leaders.

Each leader was responsible for supervising the work of six to ten Transportation Goals and Objectives Study Surveyors, including organizing, assigning, and checking interviewer work. The team leaders were the organizational backbone of the survey. Their work involved selecting survey addresses, preparing work assignments, organizing interviewer assignments, recording results, and the initial tabulating survey of data. (Appendix D)

Unless experienced team leaders can be found, team leaders should be hired early enough to provide ample time for their preparation. The compilation of a survey procedure manual which deals with both sample selection and interviewer training would be extremely useful. Sufficient time must be allowed to pre-test and subsequently modify the questionnaire and survey procedure.

Goals Study Surveyors

Qualifications for surveyors were maturity, neat appearance, a driver's license, and access to the use of an insured automobile. (Appendix E) A pre-determined hourly rate for mileage compensation was chosen to avoid the use of mileage sheets. Surveyors were asked to sign a written agreement specifying their wage and mileage, and exempting the Conference from responsibility in case of any car accidents. (Appendix F)

There were thirty-six surveyors hired. Of these the majority were college age students, but also included were several middle-aged men and women, two young mothers, two school teachers, and two high school students. There was a continual turnover of interviewers, as half the people working on a temporary basis found permanent employment. Any supervisor of temporary work must expect to lose person-

nel to permanent employment. Therefore, the best employees for survey work are those not seeking full time career employment, such as college students and housewives.

A variety of racial/ethnic background, age, and social affiliation of surveyors is beneficial in the delivery and return of surveys in a particular neighborhood.

TRAINING

Surveyors participated in a four hour preparation session to become familiar with the survey and interviewing procedures. They received explanations concerning the survey, an exercise in role playing interview situations, and time to practice a prepared speech.

The transportation supervisor stressed neatness, warned that spot checks on addresses would be made, and indicated that if there were any problems or suggestions to please make them known to their respective team leader. Each surveyor was given the material needed for his work, which included a clipboard, map of the Spokane Metropolitan Area, copy of the prepared speech, and a verification letter which identified the surveyor as a legitimate employee of the Transportation Study. (Appendix G)

Below is the short speech that the surveyors were asked to learn. "Hello, my name is Mike. We have been directed to do a survey on transportation attitudes. Your home was selected on a random basis. We would like you to fill out this survey and I will be back tomorrow to pick it up. Please take this opportunity to tell us your problems and suggestions for the transportation system in Spokane. I'll be back tomorrow to pick it up. If you won't be here, please leave the survey in the door or underneath the mat or any place that is convenient and easy for me to find."

The surveyors were instructed to encourage the acceptance of the survey and to get, if possible, a committment to complete the survey to the best of the respondent's ability and have it ready for pick up on the designated date. When interviewers used this method, less man hours were wasted and more surveys were returned.

Recommendations

1) Compile survey procedural manual.

2) Hire interviewers who are neat and mature.

3) Hire interviewers of diverse racial/ethnic background.

4) Pay surveyors as often as possible, perhaps semi-monthly. (Interviewers were paid monthly.)

5) Provide incentive bonuses to encourage interviewers to stay through the contracted period.

6) Hire extra interviewers to work "on call" in case a regular interviewer quits.

7) Prepare surveyor thoroughly.
   a. Instruct surveyor as to how to answer questions in the field.
   b. Surveyors must be thoroughly briefed and understand drop-off, pick-up, and call-back procedures.

8) Hire interviewers in groups of three. Allow enough time for team leaders to give each group a one-day instruction and practice period in the field.

The hiring process may take one week, yet qualified personnel are a necessity. During this period the pilot test could be conducted.

SURVEY PROCEDURE

In this survey, approximately 10,000 residents of the Spokane region were contacted, utilizing nearly thirty-six surveyors; each contacting approximately forty dwelling units per night for a period of six weeks.

Time Keeping

Surveyor working hours were from 4:00 p.m. to 9:00 p.m. Surveying was done between 4:15 and 8:45 p.m. These working hours were recorded on time sheets and handed into the supervisor daily. These hours were optimum although many residents were not at home between 4:15 and 5:15 p.m. Surveying was done Monday through Thursday evenings, however Wednesday showed a high "not at home" rate since this is "shopping day" for residents of the metropolitan area. Perhaps working Friday evening from 4:15 to 8:00 would be more beneficial. Two Saturday mornings were included but are not recommended for future surveys.

Meeting Places

Meeting places for team leaders to give daily surveying assignments to interviewers were chosen outside the Central Business District in order to reduce the driving time and parking problems of the surveyors. These meeting places consisted of parking lots, restaurants (such as Sambo's and K-Marts), parks and drive-in restaurants. Weather permitting, parks and drive-in restaurants proved to be the best meeting places. In out-lying areas, team leaders "traveled to" surveyors by meeting them in places close to their interviewing area. By using this method, surveyors spent less time driving and more time distributing and collecting surveys.

The Spokane Metropolitan Area was divided into four areas. Team leaders and interviewers were assigned to areas according to their residence, assuming they would be more familiar with their own area of town. The team leader then selected one neighborhood

within this area and sent all surveyors there. Although an effort was made to equalize gas and driving time, without total control over call-backs, this was not consistently done. Major areas were color coded and a map was used to visually illustrate the O-D zones completed and show the zones in which the surveying was being done.

As the survey progressed, it was apparent that certain procedures would have to be modified. For example, to reduce confusion and facilitate bookwork a surveyor would be assigned to one O-D zone until it was completed. A coded map with flags or pins indicating each surveyor's name would allow the team leader to know exactly where each surveyor was, how much driving time he had, and how fast he was moving within his assigned area. This kind of organization is needed when a team leader is working with six to ten surveyors per day, making assignments, receiving completed surveys, and recording what happened at each house that was contacted.

Regular "spot checks" were made on an interviewer until the surveyor had proven he was doing the job as instructed. Team leaders obtained telephone numbers of residents by using the reverse Polk City Directory. A two percent check of each zone was adequate.

The majority of dwelling units contacted were single family homes. The remaining dwelling units contacted were apartment houses, duplexes or other types of living situations. Apartment houses were identified by address. When available, interviewers contacted apartment managers prior to going to specific apartments. Compared to single family households, apartment dwellers often refused to fill out the surveys, and many times access was prohibited by locked security doors. For these reasons the team leader often called and arranged for the surveyor

to re-enter the apartment house. In fact, many apartment managers were helpful in encouraging their tenants to fill out the survey and have it ready for pick-up.

In areas with a high elderly residential population refusal rates were often double that of areas with a generally younger population. The reason given for refusing the survey included: illness, did not drive or go out, lived in a rest home, not interested, and too old to have an opinion. Many elderly persons were afraid to open their doors in the evening. When possible, special times were arranged for a surveyor to visit the home.

The downtown Central Business District had a very poor return rate, as most residents are transient or elderly with small incomes.

"Drop-Off" and "Pick-Up Survey Method

A surveyor delivered a survey to a cluster of five pre-selected houses, and at a later date picked up the completed forms. To facilitate this process, "tally sheets", each containing one cluster of five addresses, were used for marking what occured at each dwelling unit. (figure 6) Surveyors put the date, the survey serial number, and a check in the appropriate place on the "tally sheet" if the survey was received, if the home was vacant, if the resident was not at home, or if the home did not exist. If the resident refused to accept the survey on delivery the surveyor explained why on the "tally sheet." When the resident was not home the surveyor would record the date he would be returning to deliver the survey. During the pick-up phase, the surveyor returned with the same "tally sheet" and marked exactly what happened to the survey; if it was returned, refused, not yet completed, or if the resident was not at home. These sheets were turned in daily and the team leaders recorded

FIGURE 6

TALLY SHEET

O-D Zone _____ Number _____ Of Cluster Total _____ Form Number _____

Interviewer Name _____ Team No. _____

Area of Town _____

Directions _____

1st Address	2nd Address	3rd Address	4th Address	5th Address
_____	_____	_____	_____	_____
Completed	Completed	Completed	Completed	Completed
DELIVERY	DELIVERY	DELIVERY	DELIVERY	DELIVERY
Date _____	Date _____	Date _____	Date _____	Date _____
Time _____	Time _____	Time _____	Time _____	Time _____
Accepted	Accepted	Accepted	Accepted	Accepted
Refusal	Refusal	Refusal	Refusal	Refusal
Not Home	Not Home	Not Home	Not Home	Not Home
Date Will Call Back _____	Date Will Call Back _____	Date Will Call Back _____	Date Will Call Back _____	Date Will Call Back ___
CALL BACK	CALL BACK	CALL BACK	CALL BACK	CALL BACK
Date _____	Date _____	Date _____	Date _____	Date _____
Time _____	Time _____	Time _____	Time _____	Time _____
Accepted	Accepted	Accepted	Accepted	Accepted
Refusal	Refusal	Refusal	Refusal	Refusal
Not Home	Not Home	Not Home	Not Home	Not Home
**********	**********	**********	**********	**********
PICK-UP	PICK-UP	PICK-UP	PICK-UP	PICK-UP
Date _____	Date _____	Date _____	Date _____	Date _____
Time _____	Time _____	Time _____	Time _____	Time _____
Received	Received	Received	Received	Received
Refusal	Refusal	Refusal	Refusal	Refusal
Not Home	Not Home	Not Home	Not Home	Not Home
Need More Time	Need More Time	Need More Time	Need More Time	Need More Time
Date Will Call Back _____	Date Will Call Back _____	Date Will Call Back _____	Date Will Call Back _____	Date Will Call Back ____
Telephoned	Telephoned	Telephoned	Telephoned	Telephoned
CALL BACK	CALL BACK	CALL BACK	CALL BACK	CALL BACK
Date _____	Date _____	Date _____	Date _____	Date _____
Time _____	Time _____	Time _____	Time _____	Time _____
Received	Received	Received	Received	Received
Refusal	Refusal	Refusal	Refusal	Refusal
Not Home	Not Home	Not Home	Not Home	Not Home

exactly what had happened at each address on a "survey worksheet." When "tally sheets" were completely filled out, there was a record of what had happened at each dwelling unit.

The category on the "tally sheet" entitled "not home" was a large factor in survey time consumption, requiring many surveyors to make five calls per house. It was found that many of these calls could have been eliminated when the surveyor specified the importance of having the survey ready upon his return. Surveyors did not leave surveys where people were not at home, but left a "call-back card" stating what time the surveyor would return the next day to deliver or pick up the survey. (figure 7) On this "call-back card" the surveyor would write "please leave the survey on the porch if you are not going to be home" and sign his name. When a surveyor left a personalized note on the "call-back card", the survey pick-up was greatly facilitated. If on the second call-back, the resident was still not home, envelopes were left at the door with a note asking the residents to mail in the completed survey. The mail-in return rates were quite small. To increase the mail-in return rates one interviewer could be employed in the early evening to call persons to remind them to mail in the survey. This extra telephone surveyor could be used to call apartment dwellings, and to do spot checks. If Wednesday is not a survey day, telephoning could be accomplished then.

SPECIAL PROBLEMS IN THE FIELD

1) Surveyors needed training to deal with the various types of residents, e. g. elderly, deaf, etc...
2) Two people were bitten by dogs and several surveyors refused to

FIGURE 7

CALL-BACK-CARD

I am working for the Spokane Regional Planning Conference; conducting a Citizen's Attitude Survey to help determine the Transportation Goals and Objectives for the Spokane Metropolitan Area.

Since you were not at home I will call back to:

☐ Deliver ☐ Pick-Up

the Transportation Goals and Objectives Survey on:

Date: _____

Time: _____

Name: _____

If you have any questions, please call 456-4325.

Thanks For Your Cooperation.

enter a yard with a large dog.

3) Even though maps were provided, some surveyors had difficulty locating certain addresses.

4) Surveyors needed extra training by the team leaders to be effective and efficient in the field.

5) Some "tally sheets" were lost in the field.

Recommendations

1) Use visual indicators to show progress of survey (color coded map with survey indicators.)

2) Work early evening hours (4:15 to 8:45 p.m.)

3) Survey meeting places should have adequate parking and be near the area to be surveyed.

4) Have team leaders and supervisors available to surveyors for consultation and advice.

5) Hire a surveyor to man the telephone for refusals, call-backs, mail-ins, and special entrances to apartment houses.

6) Familiarize surveyor with the type of resident he will be interviewing and advise on the type of approach to use with the resident.

7) Surveyor should be provided with all the materials he will need each day.

RECORDKEEPING

Team leaders kept an up-to-date record of what happened at each house and to each survey, by means of the "tally sheets", the "work-sheets" and the "O-D zone score sheets."

The "tally sheet", previously explained, was used by the surveyors when interviewing households. An identical record was kept on the

team leader's "worksheet." The "worksheet" and survey serial numbers were used as a double check on the "tally sheet" to ensure that each address had been surveyed. (figure 8) On the "work sheet" was the O-D zone number, the number of clusters per zone, the cluster number and the color code of the group. Space was available where acceptance, refusal and not at home could be written. As the survey progressed the "worksheet" and "tally sheet" were modified to facilitate faster and more efficient bookkeeping. Carbon paper was used so that both "tally sheet" and "worksheet" could be written out at the same time. (figure 9) The "tally sheet" was then given to the surveyor and the "worksheet" was kept by the team leader. As the "tally sheet" was returned to the team leader, he would record what happened on the "worksheets."

An "O-D score sheet" was kept for each Origin-Destination zone. (figure 10) It contained the total number of dwelling units for the given O-D zone and the 11% sample taken. A space was reserved for the number of surveys received, the number of surveys refused on the delivery, the number of surveys refused on the pick-up, and the number of surveys refused because people were too old or not physically capable of filling out the survey. The category "not home/ mail-in" was used for surveys that were delivered but not recovered and envelopes were left with a request to mail the survey in. The last category, called "no contact", was designated for addresses of vacant homes, wrong addresses, or any addresses where no contact with any individual could be made. The revised sample number was obtained by taking the number of total calls and subtracting the number of no contacts. Team leaders entered the numbers and percent in each of these

categories thereby facilitating easy access to any data on the operation of the survey.

Although bookkeeping involved a great amount of time and effort, accurate records and accounts of each survey was necessary for valid and reliable data.

Recommendations

1) Linear "tally sheets" and "worksheets" should be made with carbon paper to facilitate easy transferring of data.
2) Team leaders should be familiar with all bookwork and know procedure before the survey begins.
3) Ample time must be set aside for bookwork.

THE SURVEY: A CRITIQUE

The purpose of the survey was to obtain attitudes and opinions of the Spokane Area residents concerning the transportation system of Spokane. Respondents were asked to complete scaled attitudinal questions about specific transportation problems. The questions covered the existing transportation system, proposals for future alternative systems, and a list of specific actions that could be undertaken by the individual, or local, state, and national governments to solve these problems. There were questions regarding demographic data about the respondents, and three open-ended questions were provided for written responses and comments by citizens.

Critique by Question

Below are some comments about the Transportation Goals and Objectives Survey. These attitudes and remarks are a collection of ideas from the four survey team leaders, critiques and suggestions made by the

FIGURE 8
WORK SHEET

Team No. ____________ Completed ____________
Date: ____________
O-D Zone No. ________ Total Sample No. ____________
Total No. of Zones ________

Cluster No. _____ Addresses Interviewer Date Assigned Delivered Date Completed

1. ____________________ ____________ ________ ___ __________
2. ____________________
3. ____________________
4. ____________________
5. ____________________
6. ____________________
7. ____________________
8. ____________________
9. ____________________
10. ____________________

Cluster No. ______ ____________ ________ ___ __________

1. ____________________
2. ____________________
3. ____________________
4. ____________________
5. ____________________
6. ____________________
7. ____________________
8. ____________________
9. ____________________
10. ____________________

Cluster No. ______ ____________ ________ ___ __________

1. ____________________
2. ____________________
3. ____________________
4. ____________________
5. ____________________
6. ____________________
7. ____________________
8. ____________________
9. ____________________
10. ____________________

Cluster No. ______ ____________ ________ ___ __________

1. ____________________
2. ____________________
3. ____________________
4. ____________________
5. ____________________
6. ____________________
7. ____________________
8. ____________________
9. ____________________
10. ____________________

FIGURE 9

REVISED WORK SHEET

Team No._____ Completed_____

Date: _____

C-D Zone No. _____ Total Sample No._____

Interviewer_____

Total No. of Zones_____

Cluster No.____ Addresses	Delivery		Date Assigned	Pick-up		
	Not home	Accepted	Refused	Not home	Received	Refused
1._____						
2._____						
3._____						
4._____						
5._____						
6._____						
7._____						
8._____						
9._____						
10._____						

Cluster No._____

1._____

2._____

3._____

4._____

5._____

6._____

7._____

8._____

9._____

10._____

Cluster No._____

1._____

2._____

3._____

4._____

5._____

6._____

7._____

8._____

9._____

10._____

FIGURE 10
O-D SCORE SHEET

O-D Zone _____

Population _____

11% Sample _____

Revised Sample _____

% of D.U.'s Sampled _____

% of D.U.'s Returned _____

	Number of Addresses	Percent	Total After 1st Reassignment	Percent Total	Total After 2nd Reassignment	Percent Total
Received						
Refused 1 Refusal 2 Elderly						
Not Home (Mail)/After 4 Times						
Total Revised Sample						
Non-received; Incapable of filling out survey						
Moving						
Dogs						
Vacant						
No Entrance						
No Address						
No Contact						
		Reassigned		Reassigned		
TOTAL NUMBER OF CALLS						

interviewers on evaluation sheets, (Appendix H) and citizen remarks received on the survey or through telephone calls. This is not a thorough investigation of the survey, nor has the validity of the suggestions been tested. Some of these ideas could have been used, others could not be incorporated without adding length to an already six page long survey.

Question one seeks to identify transportation problems encountered in the use of Spokane's existing transportation system. (Appendix A) The question dealt with a variety of transportation situations. Some citizens who primarily use only one mode of transportation questioned their ability to answer problems concerning other types of transportation.

Question two asks about the relative desirability of various types of development as they related to location, design and access to transportation facilities. A comprehensive list of possible types of development including residential, commercial and industrial were offered for examination by the respondents. Additional implementation type questions pertaining to how this development should take place may have been asked; perhaps including alternatives for strict land use zoning and other plausible options in development, such as green belts, planned unit developments and satellite cities.

Question three asks the respondents what population change they would like to see occur in the Spokane Metropolitan Area; options offered were "substantial increase", "minor increase", "no change" or "decrease." Several citizens indicated that a more detailed question could have been asked to allow respondents to indicate the population and area size they would like the Spokane Metropolitan Area to

include. Respondents' answers to this question could be used as a point of departure for future decisions being made in the areas of transportation development, growth planning, and land use controls.

Question four asks whether more or less money and effort should be spent on each of a list of public services. This question is pertinent because it asks about provisions for public services in terms of the consumer's pocketbook. Space permitting, a sub-category could have been provided to allow the respondent to define what kind of support should be given (i.e. better management, more facilities, more money, better personnel).

Question five inquires about the importance of several area wide problems that are encountered in determining the location and design of transportation facilities. Numerous interpretations of the meaning of the question were anticipated as it was not specified as to whether judgment of the problem area was to be on its importance, the cost, or the facility itself. A particular example might be the problem area "cost of preserving or improving the environment." The question does not differentiate between what is important; the cost of the preservation, the improvement, or all of these in terms of the environment. Several telephone calls were received from citizens asking for an explanation of the term "displacement." They included questions like: "What does displaced mean?" "How is it being displaced?" "What is to replace the displaced facility?" An explanation of all the possible definitions and points of view of the question could not be included without excessive length or fear of introducing a bias into the question. Instead, the final page of the survey invited citizens to explain

and comment on exactly what they meant by their answers to the survey. These expressed ideas will be included in the analysis of the survey along with the review and comments by the Citizen Advisory Committee on Transportation.

Question six asks for an indication of the relative importance of proposals for transportation within the region. This question offered a comprehensive and specific list of possible alternative improvements for transportation. Problem areas receiving emphasis were parking, street maintenance, and bus service. When considering these alternatives the respondent was asked to indicate a relative degree of importance rather than a more specific response in terms of need, desire, or willingness to commit money and effort.

Question seven asks how often, if at all, the existing bus service is utilized by the members of the household. For continuity, this question could have been followed immediately by question twelve which asks, "If the present transit system was expanded or improved, would the resident then use the bus service?" For a more complete picture of transportation usage, questions could have been asked about the use of all modes of transportation in each household, how often they are used, on what occasion, and why they are used.

Question eight asks, "How significant do you believe a development of a more adequate transit system would be in altering the need to improve or develop new streets and highways in the Spokane Metropolitan Area?" The results of this question, along with the amount of expected future improvement in mass transit, could be used as a basis for future highway and transit planning.

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Question eight asks, "How significant do you believe a development of a more adequate transit system would be in altering the need to improve or develop new streets and highways in the Spokane Metropolitan Area?" The results of this question, along with the amount of expected future improvement in mass transit, could be used as a basis for future highway and transit planning.

Question nine deals with the probability of increased taxes to improve public transportation. Taxation, especially questions on raising taxes, may put respondents on the defensive. Question ten asked if the public is willing to have a portion of the gas taxes designated for mass transit. In question eleven the public is asked if they are willing to have a portion of their general taxes, such as sales and property taxes designated for mass transit. Questions on taxation can be confusing since the allocation and source of tax monies may be unclear to residents.

Question thirteen deals with the future probability of the limited use of the automobile. The public is asked to voice their agreement/ disagreement to actions that may be taken as a result of this limitation, either on an individual level such as reducing the use of a car for travel to work; on the local government action level such as limiting the use of cars in the downtown area; or on a national or state level such as gas rationing or limiting the number of cars per family. Although alternative suggestions in question thirteen have been proposed by the EPA (Environmental Protection Agency) respondents indicated that the alternatives seemed to be "pick the best of all these undesirable alternatives: as compared to the present use of the automobile. As example, words such as "ban", "limit", "require", mandatory", and "restrict" are used as descriptions of alternative proposals. For instance, instead of "requiring mandatory carpooling or use of transit for work trips to major employment centers" the alternative could be phrased "provide incentives for carpooling...". Ideally, all alternatives (including the auto-

mobile) would be shown to be equally desirable or undesirable.

Question 14-22 sought demographic data from the respondents which are necessary for statistical analysis and can be compared to 1970 Census data to verify sampling techniques. Many residents, however, refused to answer these questions because they were too personal. Perhaps if an explicit explanation was given as to why this data was needed, and what it would be used for, the citizen would have been more inclined to complete the data and not feel it was prying or personal in nature.

The last three questions of the survey, 23-25, were open ended, written response questions. These questions offered an opportunity for citizens to comment in detail about how they feel, their needs, suggestions, and why they answered the survey as they did. Since transportation planning must be based on citizen input, these comments will be invaluable in assisting in the development of the Transportation Goals and Objectives Statements. Question 23 asked respondents "What participation do you desire to have in the planning of transportation improvements?" Question 24 asked the respondents to complete this sentence, "I would use public transportation if...". Question 25 was seeking any additional comments that citizens would care to make pertaining to transportation.

General Survey Comments

The questionnaire was well received by citizens, although more publicity could have raised the survey completion rate. The survey was comprehensive, including objective questions and opportunities for

subjective written response as well as necessary demographic data. This citizen input, plus the review and comment by the Citizen's Advisory Committee on Transportation will be a basis for developing statements of Goals and Objectives for the Transportation system of Spokane.

Perhaps the questionnaire was too comprehensive as many respondents indicated that it was too long, (seven pages). A more convenient size might be three or four pages; however, a shorter survey would limit the detail, comprehensiveness, and scope of the questions and subjects that could be covered.

The language is explicit and explanatory, although it often seemed to be directed toward a college educated audience. To prevent misunderstanding rising from a complicated language level a pre-test of the questionnaire could be administered to a group of high school students, thereby eliminating vagueness in terminology such as one resident indicated in the following response: "If I check something as being important to me, how can you tell if I am for or against it? Feeling that a factor is important doesn't indicate my 'why'. "I believe your deductions from such a thing as this can be very invalid. For question number one, if I don't use the buses often, then are any of the things a problem for me? If you want to know why I (don't) or (do) use the system why didn't you clearly ask the question that way?"

A clean layout prevents the questionnaire from becoming confusing to the reader. Well done illustrations and pictures may be used to put the respondent at ease and avoid a test-taking atmosphere

in which there appears to be right or wrong answers; although these steps would reduce valuable space in which important questions could be asked.

Some alternative modes of transportation were not mentioned at all, such as electric buses, battery operated cars, monorails, pedicable, gyrocopters; others given only limited coverage, such as bicycles, and rail rapid transit.

Survey writing is an art, and difficult to learn. It is hoped that this hind-sight examination of the questionnaire can be used to produce a better survey next time. Below is a list of recommendations that could be used in future survey writing.

Recommendations

1) Survey not more than four pages in length.
2) Attractive format -- avoid test-taking questions with only one right answer.
3) Use illustrations.
4) Explanation of the question, why it is asked and what material will be used for (demographic data.)
5) Ask direct questions, avoid leading questions.
6) Categorize questions -- (groupings)
7) Use colored paper.

Since the major comments about the existing survey were made on length and format, below are suggestions for possible formats to be used in future surveys.

Three complete surveys would be distributed to the same randomly selected sample population. Each survey would be concerned with a different planning topic. The survey process would be repeated every two to five years, thereby 1) furthering citizen confidence in the

system, and 2) updating Spokane's Goals and Objectives.

The complete survey packet would include 1) a cover explanation sheet, 2) survey on transportation, 3) a survey on land use, and 4) a survey on environment and other public services. (Surveys #3 and #4 could theoretically include any planning area pertinent to Spokane's Goals and Objectives or the Comprehensive Plan. Land use and environment were chosen as examples. The participating agencies and their Citizen Advisory Committees would decide what areas the surveys would cover.)

SUGGESTED SURVEY PROCESS

A. A random sample of dwelling units would be taken. The sampling process used could be similar to the one used in the Transportation Goals and Objectives Study.

B. Three surveys, each on a different planning topic would be given to this sample population. Using the drop-off, pick-up method one of two techniques could be used. The sample could be randomly divided into thirds and different surveys given to each third, or at different periods of time three surveys could be given to the same population.

C. An introduction letter (or telephone call) would be sent to each dwelling unit in the randomly selected sample explaining the series of surveys, what they will be about, how they will be used, and what will happen to the results.

D. Survey I on transportation is delivered with a cover letter that would repeat the explanations given in the introduction letter. It will explain how the participating agencies will be attempting

to implement the citizens' suggestions. This cover letter will stress the need for citizen input; and at this time the surveyor would request that the household agree to fill out all three surveys.

E. The survey is three pages in length concerning only one planning area.

F. One week later Survey I is picked up and Survey II is delivered on i.e. Land Use. The following week Survey II is picked up and Survey III is delivered. A week later Survey III is picked up and the survey process is terminated.

G. Two to five years later a similar three-part survey is done. Included in the second three-part survey would be a report on the steps which have taken place to implement suggestions offered by citizens on the earlier survey.

ADVANTAGES

1) The survey would further public confidence by emphasizing the fact that people do have a valid input. Additionally, a "progress report" would be made every two to five years explaining what has happened and what is planned for the future.

2) This type of continual survey process would allow citizen input in the form of a "vote" every few years.

3) A survey of this kind would "update" goals and objectives statements. Of course, within two to five years only limited accomplishments would be made on long-range plans, but verification of these goals would take place and short-range objectives could be identified.

4) A three part survey covering three major topics of planning would

consolidate survey work and citizen input operations, thus reducing cost by allowing three separate surveys to be taken simultaneously. By using one sample, sampling work is reduced; only one set of interviewers need to be hired; the random sample is maintained; and a maximum amount of information can be obtained through a minimum number of man-hours spent.

5) Several planning agencies could contribute questions and the data from the three surveys will give an inter-related view of planning while independently each survey could update needs and objectives within a specific planning area.

REQUIREMENTS.

1) Surveyors would need to be well trained to introduce and explain the survey process so that citizens would be willing to commit themselves to filling out three surveys. This training would require an experienced supervisor familiar with the entire survey process.
2) To compensate for "non-deliverable" surveys, alternative addresses should be randomly chosen prior to beginning the survey process.
3) Initial expense may be higher as training and survey process would be more involved. To cover this expense, City, County, Regional Planning Offices and other contributing agencies, would need to coordinate their survey monies and effort, thus reducing the cost per department.
4) To continue the surveying process organization and follow up work would need to be done during in-between years.

SURVEY FORMAT

Survey I: Topic

Transportation System in the Spokane Metropolitan Area.

Cover Letter (included on the first page of the survey)

1) Explanation of what the series of surveys are.
2) Who is doing it and who pays for it.
3) What the results will be used for.
4) Follow up surveys (ask for a committment from respondents.)
5) Short discussion on importance of transportation.
6) For future surveys a progress report, on what has been accomplished since the last survey, would be included.

Questions

I. How the citizens utilize system presently.

II. Transportation problems of the citizens.

III. Alternative suggestions and proposals.

- A. Long-range goals.
- B. Short-range objectives (proposals which could be done in the next few years.)

IV. Citizen Participation

- A. Problems
- B. Suggestions

Survey II.

Topic: Land Use in the Spokane Metropolitan Area (any pertinent planning area.)

Cover Letter

1) Definition of land use.
2) Indicate relationship between transportation and land use.

3) How citizens' answers can influence land use development.

Questions

I. Present use of land by citizens

II. Problems of citizens

III. Alternatives and changes (the desired development of where, how much, and what kind.)

IV. Policies that could be instituted.

Survey III. Topic: Environmental concern of the Spokane Metropolitan Area.

Cover Letter

1) Explain relationship between land use, transportation, and and environment.

2) Explain what makes up environment.

Questions

I. What citizens think of the present environment (problems.)

II. What citizens want environment to be like in the future.

III. Suggested alternatives

A. Long-range goals

B. Short-range objectives (proposals that could be accomplished in two years.)

IV. Demographic data.

All surveys would have comment and suggestion page.

CONCLUSION

During the course of the Transportation Goals and Objectives Survey data collection phase, the Study Staff received, coded, and analyzed 6615 completed surveys.

The survey procedures were reasonably efficient. If supervisory personnel had been available earlier in the data collection, the unit costs may have been lower, and the survey completed a little sooner. The quality control program insured that the data was accurately collected and coded. By utilizing the data collection and coding procedures in this report, future citizen surveys of this type could be done easily, efficiently and accurately.

DEMOGRAPHIC INFORMATION ON RESPONDENTS

Transportation Goals Study surveyors contacted approximately 10,055 households in the Spokane Metropolitan Area, receiving 6615 completed surveys. This 66% completion rate is attributed to several factors: personal contact by the surveyor in delivering the questionnaire to the household member, careful sampling, thorough pick-up procedures to obtain all completed questionnaires, and most important citizen interest in transportation planning. When surveys were not completed, the reasons given with greatest frequency were:

1. Respondent could not be contacted; or was incapable of completing the survey (i.e. aged, blind, sick).
2. General apathy--the respondents did not want to be bothered or were too busy.
3. Lack of trust in local government. "The City Officials do what they want, regardless of what we say".
4. Questionnaire characteristics; too long, too involved, too personal etc.

Using a cluster method a random sample by geographic area was chosen for the survey. Addresses were separated by their respective Origin-Destination zones, (O-D zone) clustered into groups of five dwelling units, and from these an 11% sample was selected. As the number of dwelling units equalling 11% of the population of an O-D zone was not always divisible by five, the figure was rounded to the larger cluster. For example, in an O-D zone where six households equal 11% of the dwelling units, the sample taken was ten households

(two clusters), equalling an 18.5% sample. In small O-D zones of five or less households, a 100% sample was taken. Appendix H contains the number (percent) of households sampled for each O-D zone.

As an assessment of sample representativeness, a number of demographic variables were chosen for comparison with 1970 Census data. The choice of variables compared was dictated by the availability of reference data.

Table 14-A compares the total number of males and females in the sample with the 1970 Census data.

TABLE 14-A

NUMBER OF MALES AND FEMALES

	GOALS AND OBJECTIVES SURVEY		1970 CENSUS	
	No.	%	No.	%
Males	9,975	48.7	119,235	48.5
Females	10,489	51.3	126,367	51.5
Total:	20,464	100.	245,602	100.

The sample error for these variables is .05, so we may say that in 95 cases out of 100, the true porportion of males or females (if one surveyed the entire population) would not vary more than 5% from the percentages obtained in this survey.

Another comparable variable is the age distribution within a household. Table 15-A lists the data for the 1970 Census and Transportation Goals Study. The percent (8.2%) of elderly persons answering the survey was significantly lower than the percentage represented in the census data (12.1%).

TABLE 15-A

AGE DISTRIBUTION

AGE	G & O SURVEY		1970 CENSUS	
	No.	%	No.	%
0-5	2002	10.2	25,551	10.4
6-17	4436	22.6	46,404	18.9
18-24	2792	14.2	31,622	12.9
25-44	4835	24.6	57,050	23.2
45-64	4000	20.3	55,180	22.5
Over 65	1606	8.2	29,784	12.1
Total	19671	100.	245,601	100.

It is suggested that this under-representation of the elderly occurred because a greater percentage of the elderly population refused to complete the survey than did the younger population. (Elderly population had 30% refusal rate.) Several reasons for refusal were given; "too old for an opinion," ill, or incapable of completing the survey, did not drive or go out; or weren't interested. A large proportion of the elderly live in apartments or rest homes where the entrance to the building was hindered by locked security doors. It is assumed that there was no significant difference in the sample as it was randomly selected, yet the characteristics of the returned surveys indicate that a smaller proportion of the elderly population returned their surveys.

There were 6359 persons who completed the survey that were gainfully employed. There is no Census data directly comparable to this figure.

Table 16-A on page 36 reports a comparison of household income levels for the Goals Study and census data. Only 5761 of the 6615 (87.19%) who answered the survey completed this question. When standard statistical tests were applied to the data there was found to be a significant difference between Census and sample data results. There were fewer incomes under $4999 and more incomes over $15,000 in the Goals Studys than in the Census statistics. There are several suggested reasons why these differences exist:

1. Many lower income persons are apartment dwellers who had a higher refusal rate than did those living in single family homes.
2. Although exact statistics are not available, income levels have risen since 1969-70. The Goals and Objectives Survey sample may be a reflection of these higher earnings, especially in upper and lower income levels.
3. The elderly population, many of whom are on a fixed income (social security), had a high refusal rate, possibly reducing the sample of lower income persons.

Although there exists a difference between Census material and sample data all income levels of the population were randomly sampled.

TABLE 16-A

INCOME LEVELS OF RESPONDENTS

	GOALS AND OBJECTIVES SURVEY		1970 CENSUS	
INCOME	NO.	%	NUMBER	%
Under 4,999	932	16.2	13,111	19.8
$5,000 - $6,999	673	11.7	7,526	11.4
$7,000 - $9,999	1025	17.8	14,756	22.3
$10,000 - $14,000	1625	28.6	18,753	28.4
$15,000 - Over	1483	25.7	11,943	18.2
Total	5761	100.	66,088	100.

When comparisons were made between 1970 Census data and survey demographic results, it was found that a greater percentage of home owners was represented in the survey. The many respondents who owned their own homes is attributed to the fact that many apartments were inaccessable to surveyors, and, when entrance could be made, the apartment dwellers (renters) more often refused to complete the survey. Table 17-A lists the results for question seventeen.

TABLE 17-A

OWNERSHIP

	G & O SURVEY		1970 CENSUS	
	No.	%	No.	%
Own	4594	72.5	59,992	67.5
Rent	1503	23.7	26,789	30.2
Other	240	03.8	2,013	02.3
Total	6338	100.	88,724	100.

Respondents were asked to indicate the kind of home they lived in; single-family, duplex, apartment, or mobile home. The Goals survey tended to under-represent the apartment dwellers when compared to the 1970 U.S. Census. Table 17-B compares the two sets of figures.

TABLE 17-B

TYPE OF DWELLING UNIT

GOALS & OBJECTIVE SURVEY			1970 CENSUS	
Type	No.	%	No.	%
Single-family*	5411	84.9	72,970	79.5
Duplex	296	04.6	4,376	04.8
Apartment and Other	665	10.4	14,465	19.8
Total	6372	100.	91,811	100.

* Mobile Homes are included in the single-family category

Respondents were asked how many years they had lived in the Spokane Metropolitan Area. There was no Census data directly comparable to this question, therefore Table 18-A lists just the figures for the Goals and Objectives Survey results. Answers to this question were rounded to the nearest year using accepted statistical rounding methods. The average number of years respondents have lived in the Spokane area is twenty-two (22) years.

TABLE 18-A

LENGTH OF RESIDENCE IN SPOKANE AREA

Years	No.	%
Under 2 years	618	10.9
3-5 Years	127	02.2
6-10 Years	513	09.1
11-20 Years	590	10.4
Over 20 Years	3808	67.3
Total	5656	100.

Another comparable variable is respondent's length of residence in the present dwelling unit. Table 19-A illustrates a comparison with the 1970 U.S. Census.

TABLE 19-A

LENGTH OF RESIDENCE IN DWELLING UNIT

	GOALS & OBJECTIVES SURVEY		1970 CENSUS	
Years	No.	%	No.	%
2 or less	2295	34.7	30,963	35.7
3-5 Years	1172	17.7	15,409	17.8
6-10 Years	1059	16.0	12,219	14.1
11-20 Years	1223	18.5	17,063	19.6
Over 20 Years	859	13.0	11,062	12.6
Total	6608	100.	86,676	100.

The average number of years respondents had lived in their homes was 9.04 years; for the Census data it was 8.92 years.

Besides demographic characteristics the respondents were asked if they liked the area in which they lived, and if they planned to move from the Spokane Metropolitan Area. Eighty-seven point four percent (87.4%) of the respondents indicated that they liked the area and sixty-seven point four percent (67.4%) of the respondents were not planning to move. Tables 20-A and 21-A listed the responses for these questions.

TABLE 20-A

"DO YOU LIKE THE AREA IN WHICH YOU LIVE?"

	No.	%
Yes	5,784	87.7
No	567	08.6
No Response	239	03.6
Total	6,590	100.

TABLE 21-A

"DO YOU PLAN TO MOVE FROM THE SPOKANE METROPOLITAN AREA?"

	No.	%
Yes	557	08.4
No	4461	67.4
Uncertain	1334	20.2
No Response	262	04.0
Total	6615	100.

Question twenty-two asked respondents to indicate the number of household members employed according to each occupation category. Table 22 tives a list of 1970 Census and survey data figures.

TABLE 22-A

OCCUPATION OF RESPONDENTS

G & O SAMPLE			1970 CENSUS	
Type	No.	%	No.	%
Professional	1331	18.7	9851	11.5
Manager	1044	14.6	9549	11.2
Clerical	1212	17.0	16895	19.8
Craftsman	1143	16.0	12157	14.2
Equip. Opr.	507	07.1	11164	13.1
Labor	505	07.1	3652	04.3
Sales Work	790	11.1	8788	10.3
Service Wrkr.	597	08.4	13277	15.6
Total	7129	100.	85333	100.

Type	
Homemaker	2363
Student	3649
Retired	1523
	(7535)

Occupational categories of homemaker, student and retired cannot be directly compared to 1970 Census data so were excluded from the statistical comparison.

CRITIQUE AND EVALUATION
OF
INTERNSHIP EXPERIENCE

Introduction

In partial fulfillment of the internship requirements, I am asked to reflect on my personal feelings of my one year experience as a Transportation Goals and Objectives Surpervisor working for the Transportation Study Division of Spokane, Washington.

I have chosen to recount some difficulties encountered in the survey process not previously mentioned in this report. Specifically these problems concern ; (1) the random sampling procedures, (2) two questions in the survey, and (3) a few organizational problems ("bureaucratic barriers") pertaining to the citizen's role via the Citizens Advisory Committee.

Random Sampling Procedures

The number of households sampled upon completion of the survey was not the desired or projected 7% of the population in all origin-destination zones. Approximately 25% of the survey zones returned less than 7% The desire to become cognizant of resident attitudes in low-response zones without sacrificing survey validity and reliability led to the examination of additional options.

Ideally the first choice was to abstract a second sample of the entire population, and subsequently conduct the survey from this sample. A two or three percent random sample of the entire population was deemed impractical due to budgetary and time constraints. Temporary personnel (surveyors and team leaders) were only budgeted until fiscal year 1974 and survey completion date was set for this time. (If the survey process had begun at its original date; March 1, 1974, time

might have been allowed for this additional survey). As an alternative, the Transportation Study Director suggested a re-sampling and survey of areas of low return. These areas consisted of a large number of dwelling units in which no contact could be made with any member of the household ("non-deliverables"). A second random sample and survey was conducted in these origin-destination zones. The results of this second sample were separated and an analysis of variance test was done on the return, refusal and mail-in rates. The results would be used only if the significance tests indicated that there was no significant difference between the two samples, and therefore, the initial sample was not jeopardized.

The Survey: A Closer Look

The survey questionnaire was a combination of a number of other previously used surveys. The questionnaire was comprehensive, but lacked the continuity and organization to keep all respondents interested enough to complete the entire six-page survey. Pages 18-B through 25 of the staff report have discribed the survey and made recommendations for its improvement. To avoid duplication of effort and reading, the following section will include only comments that have not been mentioned before, but are pertinent to the results of the survey. These questions were not thoroughly dealt with in the staff report because it was felt that criticisms of this nature would have a negative impact on the survey process, survey results and agency. (See bureaucratic barriers below.)

Question number five asks that several area-wide problems be considered in terms of their relative importance to transportation. As

vital as these problem areas are, no conclusions can be drawn from the results of this question due to the vagueness of the term "importance". Is a presented item important in terms of money, aesthetics, land use, or value judgement? The problem areas were often too broad, such as "fuel consumption"; what kind of fuel? More specifically, approximately twenty telephone calls from citizens were received asking for an expanation of the term "dispacement". What is dispaced? How is it being dispaced? And what is goint to replace the displaced facility? The question did not specificly ask whether the respondent was to decide the importance of the cost of a particular facility of the importance of the facility itself. The problem areas discussed in this question could yield valuable information for planning the design, location and type of transportation facilities needed in the future. However, because the phrasing of this question was not explicit, respondents' answers can be misinterpreted and citizens' beliefs misre½resented. These problems need to be stated clearly in reporting survey results.

Question number 13 was probably on of the more informative questions for future transportation planning. Because many of the alternative suggestions were worded negatively there exists a bias against opinions for limiting the use of the automobile. Wording such as "restrict" or "provide for" yield entirely oppsite reactions from the public. Unless all alternatives, are impartially presented each item must be analized independently for its semantic bias. Because this was not done, legitimate comparison of alternatives is difficult.

Organizational Problems

The original draft of the survey was written by the Transportation Study Director and Washington State Highway Sociologist. In order to be adopted the survey must first pass through the Transportation Goals and Objectives Subcommittee and then be recommended by the Transportation Technical Committee for approval by the Transportation Steering Committee. Representatives from the Citizens Advisory Committee on Transportation were required to provid input and approve the questionnaire before being submitted for approval. (See Appendix J).

Several "bureaucratic barriers" obstructed the approval of the survey draft. Here "bureaucratic barriers" are defined as the actions of one or more bueaucrats that impede or retard the action of another agency (for reasons not necessarily in the public interest.)

Specifically, although the Transportation Goals Study work project was to be completed by June 30, 1974, and the survey was to have been approved by November, 1973, acceptance was delayed until February 19, 1974. The Assistant Manager of the Department of Programming, Planning and Community Development refused approval because his department was planning a mail-in type 100% survey of the residents of the City of Spokane in March 1974, and he wanted that survey to be well received by the public. Therefore, the Goals Study survey, initially planned for February-March 1974, was forced to delay until early April. This delay has postponed the Citizens Advisory Committee's development of Transportation Goals and Objectives Statements which must be completed by early Spring of 1975.

The Technical Committee includes the City Traffic Engineer, who during the design phase of the questionnaire adamently opposed the

the inclusion of several questions. These were questions concerning computerized traffic lights, bus lanes, bicycle lanes, pedestrian walkways, or implying a casual relationship between the automobile and air pollution. It was his contention that computerized traffic lights were not feasible; automobiles are not the cause of air pollution; and bicycle and bus lanes a waste of space, impossible to construct and no one would use them anyway.

One one question onexclusive bus lanes remained unmodified by the review pocess. The bicycle question was revised to include paths or lanes, " results to be interpreted for recreational purposes." All other controversial questions were excluded. When seeking attitudes concerning options to the present unhealthy, grossly limited, narrowly defined transportation "mess" these questionable topics are needed to provide the greatest degree of comprehensive choice to the citizenery.

A Citizen Advisory Committee representing the population of the Spokane area is required by a Federal mandate. Organization of the Committee began January 1, 1974. The Transportation Study invited 36 persons to join the committee, representing organizations, civic clubs, and unions in Spokane. (See Appendix K.) This committee was to take an active part in the design of the questionnaire, organization of the survey process, and analysis of the results of the survey. Using the results as a basis for discussion, one of the major tasks of the committee was to develop Transportation Goals and Objectives Statements.

The first committee of 35 choen in April, 1974 was not approved by the Steering Committee because the rural county population, minorities,

young people and lower income groups were not equally represented. The committee was then enlarge to seventy-five persons. In June of 1974 the Steering Committee approved membership with the condition that additional committee members be added to make the committee more representative of the general population. This organization took place after the survey was completed, the results obtained and the first draft report written.

It is my opinion that a representative Citizen Advisory Committee could, given accurate information and freedom to make decisions, have a valid and reliable impact on the planning process in Spokane.

Unless real citizen input is obtained from this Citizen Advisory Committee the Transportation Study, a vital link between the peoples' needs and political decision, could become so locked into the governmental system and power structure that real citizens' input cannot exist. Without this valuable citizen participation, knowledge, and action plans may be implemented because they are technically possible and economically feasible and efficient even though they may be humanly detrimental, socially unacceptable, and environmentally disasterous. Social and human costs must be considered by planners. These options must be made known to citizens so that real choices can be made.

APPENDIX A

SPOKANE REGIONAL PLANNING CONFERENCE
TRANSPORTATION STUDY DIVISION

1 | | | | | | | | | | | | | |
1 2 5 7 13

TRANSPORTATION GOALS AND OBJECTIVES SURVEY

This questionnaire has been prepared to obtain the opinions of Spokane area residents. It contains questions about alternative courses of action in the development of transportation facilities and about community values in general. This is your opportunity to become a part of the planning process concerning the transportation problem in the Spokane metropolitan area. **PLEASE ANSWER ALL PARTS OF EVERY QUESTION EVEN THOUGH YOU GENERALLY USE ONLY ONE FORM OF TRANSPORTATION. YOUR ANSWERS WILL REMAIN CONFIDENTIAL.**

1. **The following questions seek to identify transportation problems encountered in the use of Spokane's existing transportation system. As an individual do any of the following factors present a personal problem to you or the members of your household?**
(Please check one column for each item.)

	SERIOUS PROBLEM (4)	IMPORTANT BUT NOT SERIOUS (3)	MINOR PROBLEM (2)	NOT A PROBLEM (1)	
Traffic congestion					14
Traffic safety					15
Travel to work					16
Travel to airport					17
Travel to downtown area					18
Travel between north suburban area and Spokane Valley					19
Travel across town					20
Travel between shopping centers					21
Travel time					22
Travel costs					23
Travel comfort					24
Parking in downtown areas					25
Parking in other commercial areas					26
Bus schedules difficult to understand					27
Bus routes not known					28
Time between buses too long					29
Buses too crowded					30
Lack of bus service					31
Transfer between different types of transportation					32
Bicycle lanes or paths not provided					33
Sidewalks not provided					34
Problems in using taxis					35

2. **The location, design and access of transportation facilities are determined to a large extent by the manner in which an area develops over an extended period of time. What is the relative desirability of development of each of the following items for the Spokane metropolitan area in the years ahead? (Please check one column for each item.)**

	HIGHLY DESIRABLE (4)	DESIRABLE (3)	RELATIVELY UNDESIRABLE (2)	UNDESIRABLE (1)	
Single family housing on urban size lots					36
Single family housing tracts of one acre or larger					37
Multi-family housing tracts					38
Mobile home parks					39
No new housing developments					40
Develop new commercial centers					41
Improve or expand existing centers					42
No change in commercial centers					43

	HIGHLY DESIRABLE (4)	DESIRABLE (3)	RELATIVELY UNDESIRABLE (2)	UNDESIRABLE (1)	
Develop more parks					44
Develop more indoor recreation facilities					45
Develop more outdoor recreation facilities					46
Preservation of wildlife habitat					47
Preservation of farmland					48
Enlarge colleges and technical schools					49
Develop additional healthcare facilities					50
Develop new industrial facilities					51
Improve or expand existing industrial facilities					52
No change in industrial activity					53

3. **What population change would you like to see in the Spokane metropolitan area?**

Substantial increase _____ (4) Minor increase _____ (3) No change _____ (2) Decrease _____ (1) 54

4. **There are a number of public services provided to the residents of metropolitan Spokane. For each of the following items, identify whether you believe more or less money and effort should be spent:**

	MONEY AND EFFORT TO BE SPENT: MUCH MORE (5)	MORE (4)	SAME (3)	LESS (2)	MUCH LESS (1)	2 1
Urban renewal						14
Services for the aged						15
Education						16
Improved air quality						17
Improved water quality						18
Police & fire protection						19
Parks & recreation facilities						20
Roads, streets and highways						21
Public transportation						22
Health & hospital services						23
Social-welfare programs						24
Sewer & solid waste disposal						25

5. **There are many area wide problems encountered in determining the location and design of transportation facilities. Even though all of these factors are important, they are not considered of equal importance by each person. What is the relative importance of each of the following items to you?**

	EXTREMELY IMPORTANT (4)	IMPORTANT (3)	RELATIVELY UNIMPORTANT (2)	NOT IMPORTANT (1)	
Noise control					26
Air pollution control					27
Water pollution control					28
Fuel consumption					29
Opportunities for private development					30
Displacement of parks and recreation facilities					31
Displacement of residential housing					32
Displacement of commercial areas					33
Displacement of industrial areas					34
Displacement of wildlife and natural terrain					35
Disruption of school service areas					36
Disruption of church service areas					37
Cost of improving street or road facilities					38
Cost of providing improved transit service					39
Cost of providing bicycle and pedestrian facilities					40
Cost of preserving or improving the environment					41

6. What is your opinion of the relative importance of the following proposals for transportation in the Spokane metropolitan area?

A. Arterial Street and Highway System (Please give your opinion for each of the items listed.)

	EXTREMELY IMPORTANT (4)	IMPORTANT (3)	RELATIVELY UNIMPORTANT (2)	NOT IMPORTANT (1)	
Improve existing arterial streets and roads					42
Develop new arterial streets and roads					43
Develop new freeway/expressway facilities					44
Utilize one-way streets to relieve traffic congestion					45
Develop more safety features (pedestrian overpasses, street lighting, etc.)					46
Widen intersections					47
Improve street maintenance					48
Provide additional off-street parking areas in place of on-street parking					49
Eliminate on-street parking downtown					50
Provide free parking by cooperating stores and businesses					51

B. Bus Transit System (Please give your opinion for each of the items listed.)

	EXTREMELY IMPORTANT (4)	IMPORTANT (3)	RELATIVELY UNIMPORTANT (2)	NOT IMPORTANT (1)	
Provide more frequent service					52
Extend bus routes to provide better coverage					53
Maintain low bus fares (not to exceed 25¢)					54
Provide fare-free metropolitan wide bus service					55
Provide special services to and from major employment centers					56
Establish new crosstown bus routes (east-west in City and north-south in Valley)					57
Provide park-and-ride lots with express bus service					58
Provide dial-a-bus service (pickup from your house or nearby corner on call)					59
Ban *cars from the most congested downtown streets and* provide mini-bus service from fringe parking areas					60
Free bus service within downtown area					61
Designate one or more lanes of major streets for exclusive use by buses					62

C. Other Forms of Transportation (Please give your opinion for each of the items listed.)

	EXTREMELY IMPORTANT (4)	IMPORTANT (3)	RELATIVELY UNIMPORTANT (2)	NOT IMPORTANT (1)	
Develop bicycle lanes or paths					63
Provide more sidewalks along streets and roads					64
Establish commuter rail transit system					65

7. How often do you or members of your household use the existing bus service for each of the following types of trips?

3
1

	FREQUENT (Several times per week) (4)	OCCASIONAL (Several times per month) (3)	SELDOM (Several times per year) (2)	NEVER (1)	
Work					14
Business of shopping					15
School					16
Other					17

8. How significant do you believe the development of a more adequate transit system would be in altering the need to improve or develop new streets and highways in the Spokane metropolitan area?

_____ Very Significant (4) _____ Significant (3) _____ Relatively Insignificant (2) _____ Insignificant (1) 18

9. If it becomes necessary, would you be willing to pay additional taxes to improve the transit system?

_____ Yes (1) _____ No (2) 19

10. Would you be willing to have a portion of gas taxes designated for mass transit, realizing this will divert money that would otherwise be available for street and road improvements?

_____ Yes (1) _____ No (2) 20

11. Would you be willing to have a portion of general taxes, such as sales and property taxes, designated for mass transit, realizing this will divert money that would otherwise be available for other governmental services?

_____ Yes (1) _____ No (2) 21

12. If the present transit system were to be expanded or improved, would you ride the bus rather than drive your own car:

	FREQUENT (Several times per week) (4)	OCCASIONAL (Several times per month) (3)	SELDOM (Several times per year) (2)	NEVER (1)	
To work					22
For business or shopping					23
To school					24
For other trip purposes					25

13. Recently a series of events affecting automobile travel, including air quality control and the cost and shortage of gasoline, have occurred. It appears that these events will probably limit the use of automobile travel. What is your opinion regarding each of these suggestions?

A. Individual Action (Please check your opinion toward each of the following actions.)

	STRONGLY AGREE (4)	AGREE (3)	DISAGREE (2)	STRONGLY DISAGREE (1)	
Reduce use of my car for travel to work					26
Reduce use of my car for business and recreational activities					27
Take bus to work					28
Take bus for business and recreational activities					29
Form carpool for travel to work					30
Use air, rail or bus for trips beyond Spokane metropolitan area					31
Walk or use bicycle for transportation					32

B. Local Governmental Action (Please check your opinion toward each of the following actions.)

	STRONGLY AGREE (4)	AGREE (3)	DISAGREE (2)	STRONGLY DISAGREE (1)	
Limit use of cars in downtown area					33
Reduce number of parking spaces in downtown area					34
Provide bus service through downtown from parking lots outside downtown area					35
Require mandatory carpooling or use of transit for work trips to major employment centers					36
Ban cars from certain areas or during certain hours					37
Provide more bicycle and pedestrian facilities					38

	STRONGLY AGREE (4)	AGREE (3)	DISAGREE (2)	STRONGLY DISAGREE (1)	
Provide significantly improved metropolitan transit service	_____	_____	_____	_____	39
Provide free or low cost parking for vehicles carrying three or more persons (carpooling)	_____	_____	_____	_____	40
Increase parking fees in congested areas	_____	_____	_____	_____	41

C. National or State Action (Please check your opinion toward each of the following actions.)

	STRONGLY AGREE (4)	AGREE (3)	DISAGREE (2)	STRONGLY DISAGREE (1)	
Restrict horsepower and/or size of automobiles	_____	_____	_____	_____	42
Ration gasoline	_____	_____	_____	_____	43
Increase price of gasoline	_____	_____	_____	_____	44
Limit number of cars per household	_____	_____	_____	_____	45
Require autos to meet strict pollution control standards	_____	_____	_____	_____	46
Variable automobile fees, based on the number of persons carried, miles driven, number of cars owned, horsepower, etc.	_____	_____	_____	_____	47

The following questions are necessary for statistical analyses of the data obtained from the questionnaire. Would you please provide the following information concerning your household?

14. **How many persons, including yourself, reside in your household (family members and others living with you)?**

_____ Number of Male Members (48-49) _____ Number of Female Members (50-51)

15. **How many household members, including yourself, are in each of the following age groups?**

_____ 0-5 years (52) _____ 18-24 years (54) _____ 45-64 years (56)

_____ 6-17 years (53) _____ 25-44 years (55) _____ 65 & Over (57)

How many adult members of your household are gainfully employed? _____ (58-59)

16. **Total household income per year (before taxes)?**

_____ Under $4,999 (1) _____ $7,000 to $9,999 (3) _____ $15,000 to $20,000 (5)

_____ $5,000 to $6,999 (2) _____ $10,000 to $14,999 (4) _____ Over $20,000 (6) 60

17. **Do you rent or own the dwelling unit in which you live?** _____ Own (1) _____ Rent (2) _____ Other (3) 61

In what type of dwelling unit do you reside?

_____ Single Family dwelling (1) _____ Duplex (3) _____ Apartment (4)

_____ Mobile Home (2) _____ Other (specify) (5) 62

18. **How many years have you lived in the Spokane metropolitan area?** _____ (63-64)

19. **How many years have you lived in this house or dwelling unit?** _____ (65-66)

20. **Do you like the area in which you live?** _____ Yes (1) _____ No (2) 67

21. **Do you plan to move from the Spokane metropolitan area?**

_____ Yes (1) _____ Uncertain (2) _____ No (3) 68

22. **Please indicate the number of household members, including yourself, employed according to each occupation (by the following census categories):**

_____ 69 Professional and technical (doctors, teachers, engineers, lawyers, etc.)
_____ 70 Managerial and administrative (owners & managers of businesses, governmental administrators, etc.)
_____ 71 Clerical (office workers, secretaries, bookkeepers, etc.)
_____ 72 Craftsman (carpenters, mechanics, upholsterers, machinists, etc.)
_____ 73 Equipment operators (truck drivers, sewing machine operators etc.)
_____ 74 Laborers (window washers, hod carriers, track laborers, etc.)
_____ 75 Sales Workers (salesmen, checkers, clerks, etc.)
_____ 76 Service Workers (firemen, policemen, beauticians, practical nurse, etc.)
_____ 77 Homemaker
_____ 78 Student
_____ 79 Retired
_____ 80 Other

} Fill in only if not employed in another category greater than 50% of the time.

23. **As a metropolitan Spokane resident, what participation do you desire to have in the planning of transportation improvements?**

24. **Please complete the following statement. I would use public transportation if**

25. **Please make any additional comments you would like to make pertaining to transportation in Spokane metropolitan area (use additional pages as needed).**

APPENDIX B

TRANSPORTATION GOALS STUDY SUPERVISOR
(Temporary Position, January 1, 1974 to December 31, 1974)

DEFINITION: Under supervision, assists with the design of the transportation goals and objectives survey, supervises the collection and analyses of survey data to be used in the preparation of transportation goals and objectives, and provides assistance in the preparation of these goals and objectives statements.

JOB DESCRIPTION: (The following responsibilities are examples only. Other tasks of a similar level of difficulty and responsibility may be assigned).

Helps plan and design a random sample survey of residents to respond to the Transportation goals and objectives study questionnaire.

Assists with the selection and hiring of temporary employees needed to conduct the work of the transportation goals study.

Supervises the collection, coding, editing and processing of the transportation goals survey data. Supervises the analyses of these survey data.

Assists with the development of goals and objectives statements based on the survey data and on related data developed by other Spokane area governmental agencies and organizations.

Assists with presentations of the transportation goals and objectives study information to SRPC Committees, City and County Plan Commissions, and various citizen groups. Assists with the development and conduct of a process for involving these groups in the formulation of the goals and objectives statements.

Prepares public information releases necessary to the conduct of the transportation goals and objectives study.

QUALIFICATIONS: Some knowledge of survey procedures and techniques, including survey design, data collection, data coding and editing, and data analysis. Knowledge of how to apply statistical procedures in analyzing survey data.

Ability to assign and supervise the work of other temporary employees. Ability to establish and maintain effective public and working relationships. Ability to express technical data and conclusions in oral and written form.

Graduation from an accredited college or university with a Bachelor's Degree in one of the planning, engineering, business, administrative, or related fields. Preference will be given to those candidates having survey or related research experience.

SALARY RANGE: $12,000 per year.

APPENDIX C

CLERK TYPIST I (TEMPORARY)

DEFINITION: Performs varied typing and clerical work of a recurring nature requiring exercise of judgment in making minor decisions in applying established procedures.

JOB DESCRIPTION: (The following responsibilities are examples only. Other tasks of a similar level of difficulty and responsibility may be assigned.)

Sets up and types correspondence, memoranda, tables, reports, records and other material from copy, drafts, dictating machine records or instructions; cuts stencils and masters.

Assists in sorting and filing various materials according to a relatively complex file classification. Assists in maintaining a newspaper clipping file and library of reports, books and other publications.

Assists in developing work schedules of temporary employees for the Transportation Goals and Objectives Study.

Serves as receptionist in the absence of the regular receptionist; routes calls, provides information on routine calls; receives, screens and refers visitors; gives information concerning rules and procedures.

QUALIFICATIONS: Some knowledge of office practices and procedures; clerical aptitude; knowledge of good business English and arithmetic; ability to understand and follow oral and written instructions; and ability to type accurately at the rate of 50 wpm.

Education equivalent to graduation from high school shall be required. Preference will be given to those candidates having clerical and typing experience.

SALARY: $2.50 per hour.

APPENDIX D

SPOKANE REGIONAL PLANNING CONFERENCE

TRANSPORTATION GOALS STUDY SURVEY TEAM LEADERS (TEMPORARY POSITIONS)

Definition:

Responsible for supervising the work of 10 Transportation Goals Study Survey Interviewers. Will include organizing, assigning and checking interviewers work.

Job Description:

Help Transportation Goals Supervisor set up Transportation Goals Study Survey Interviewer work schedules. Work in selecting sample addresses to be included in survey. Will prepare and organize interviewers assignments. Be responsible for distributing and collecting Daily Survey Tally Forms. Will help in the editing and coding of Transportation Goals Study Survey Forms.

Qualifications:

Must be mature, organized and able to assign and supervise work of team interviewers. Preference will be given to persons having prior interview survey experience. Must have driver's license, car and knowledge of the Spokane Metropolitan Area.

Hours:

During sample selection 8:00 - 5:00. During interview period 1:00 - 9:00, Monday - Thursday. Friday hours are 8:00 - 5:00. Some Saturday work from 10-2 may be needed. (Actual work progress might require minor modification of these work hours). Position will not extend beyond June 30, 1974.

Salary:

$3.25 per hour (which includes $2.75 per hour salary and $0.50 per hour for use of your car when necessary).

Number of Positions:

4 (Positions to be filled as soon as qualified persons can be obtained).

EQUAL OPPORTUNITY EMPLOYER

APPENDIX E

SPOKANE REGIONAL PLANNING CONFERENCE

TRANSPORTATION GOALS STUDY SURVEY INTERVIEWERS (TEMPORARY POSITIONS)

Definition:

Is responsible for delivery and pick-up of the Transportation Goals Study Survey forms to designeated homes in the Spokane Metropolitan Area.

Job Description:

After receiving appropriate instructions, drives to assigned address -- explains the purpose of the survey and answers questions. Is also responsible for going back to the address and picking-up the completed survey forms.

Qualifications:

Must be mature, polite, responsible and neat in appearance. Must have the self-confidence to approach a house to deliver and pick-up surveys. Must have driver's license, and car and knowledge of the Spokane Metropolitan Area.

Hours:

4PM to 9PM Monday through Thursday night. Some Saturday work from 10 - 2 may be needed. Actual work progress might require minor modifications of these work hours. Work anticipated to last approximately one month.

Salary:

$3.00 per hour (which includes $2.50 per hour salary and $0.50 per hour for use of your car).

Number of Positions:

40 (positions to be filled starting March 25, 1974).

EQUAL OPPORTUNITY EMPLOYER

APPENDIX F

spokane regional planning conference

TRANSPORTATION STUDY DIVISION

I, _____, understand that my employment with the Spokane Regional Planning Conference, Transportation Study Division, as a Transportation Goals Study Interviewer is of a temporary nature. This signed agreement certifies the verbal agreement that was presented to me by K.Karmen Kelsey, Transportation Goals Study Supervisor, and Wayne T. Gruen, Transportation Study Director, on behalf of Jose M. Urcia, Conference Director. This agreement specifies a wage of $3.00 per hour ($2.50 per hour basic salary and $0.50 per hour for the use of employee's car for Goals Study purposes) and a work assignment on a temporary basis anticipated to last approximately one month. The hours of work are to be scheduled according to Goals Study needs. I also certify that I have a valid driver's license, a car available for Goals Study purposes, adequate insurance on the car, and that I will not hold the Conference responsible for any liabilities incurred in the use of the car.

I have read the above agreement and understand the provisions as indicated.

Signed this _____ day of April 1974.

Employee: _____

Transportation Study Director:

_____

ADDRESS REPLY TO: SPOKANE REGIONAL PLANNING CONFERENCE, ROOM 353, CITY HALL, SPOKANE, WASHINGTON 99201

APPENDIX I

QUESTION 14 - MALE - FEMALE

	GOALS f	GOALS %	CENSUS f	CENSUS %
MAle	99.75	48.7	119,235	48.5
female	10489	51.3	126367	51.5

PORPORTIONS TEST

SAMPle (Ps) #	SAMPle (Ps) Ration	Census (Pu) #	Census (Pu) Ratio
9975	.4874	119235	.4855

20464 = N

Ho: = There is no significant difference between census and sample data

Ps = sample porportion
Pu = census porportion

$$z = \frac{P_s - P_u}{\sqrt{\frac{P_u q_u}{N}}} \qquad z = \frac{.4874 - 4855}{\sqrt{\frac{.4855 \cdot 5145}{20464}}}$$

$$z = .54396994$$

Accept null hypothesis at .05 significance level.

QUESTION 15 - AGE

KOLMOGOROV - SMIRNOV TEST

Group.	Sample (R_s) #	Sample ratio	CENSUS. (R_c) #	CENSUS Ratio	D: P $R_s - R_c$
0-5	2002	.102	25,551	.104	.000
6-17	4436	.328	96,404	.293	.035
8-24	2792	.470	31,622	.422	.048
25-44	4835	.716	57,050	.654	.062 ←
45-64	4000	.919	55,180	.879	.040
65+	1606	1.000	29,784	1.000	
	19671		245,601		

Ho: There is no significant difference between census and sample data.

$$x^2 = 4D^2 \frac{N_1 N_2}{N_1 + N_2} \qquad x^2 = 4(.062)^2 \frac{19671 \cdot 24601}{19671 + 24601}$$

$$= 168.07$$

$df = 2$
$D^2 = .062$
$x^2 = 168.07$

REJECT NULL HYPOTHESIS.

CHI SQUARE

Age.	fo	fe	fo^2/fe
0-5	2002	2046.46	1958.51
6-17	4436	3716.65	5294.58
8-24	2792	2532.71	3077.84
25-44	4835	4569.32	5116.13
45-64	4000	4419.35	3620.29
65+	1606	2386.30	1080.85
	19671	19671	20248.19 -
			19671

Ho: There is no significant difference between census and survey data.

$$x^2 = \Sigma (fo - fe)^2$$

$$20248.19 - 19671 = 577.19 = x^2$$

$df = (r-1)(c-1) =$

Table x^2 with 5 df = 577.19

REJECT NULL HYPOTHESIS AT .05 SIGNIFICANCE LEVEL.

QUESTION 16 - INCOME

KOLMOGOROV - SMIRNOV TEST

GROUP	sample. (R_s) #	ratio	Census (R_c) #	ratio	Dif $R_s - R_c$
- 4999	932	.162	13,111	.198	-.036
5000 - 6999	673	.279	7526	.312	-.033
7000 - 9999	1025	.456	14,756	.535	-.079 ←
10000 - 14999	1648	.742	18,753	.819	-.077
15000 over	1483	1.000	11,942	1.000	.00
	5761		66,088		

Ho: There is no significant difference between census and sample data.

$$x^2 = 4D^2 \frac{N_1 N_2}{N_1 + N_2}$$

$$x^2 = 4(.079)^2 \frac{5761 \cdot 66088}{5761 + 66088}$$

$$x^2 = 1314$$

$df = 2$

$x^2 = 1314$

REJECT NULL HYPOTHESIS AT .05 SIGNIFICANCE LEVEL.

CHI SQUARE TEST.

INCome	f_o	f_e	f_o^2/f_e
- 4999	932	1143	760
5000 - 6999	673	656	690
7000 - 9999	1025	1286	817
10000 - 14999	1648	1635	1661
15000 over	1483	1041	2112
	5761		6040
			N = 279

Ho: There is no significant difference between census and sample data.

$$x^2 = \Sigma (f_o - f_e)^2$$

$x^2 = 6040 - 5761 = 279$

$df = (r-1)(c-1)$

Table x^2 with 4 df = 279.

REJECT NULL HYPOTHESIS AT .05 SIGNIFICANCE LEVEL.

QUESTION 17 - OWNERSHIP

KOLMOGOROV-SMIRNOV TEST

Group	sample (Rs) #	sample (Rs) ratio	census (Rc) #	census (Rc) ratio	Dif Rs - Rc
own	4595	.72499211	59922	.67538	.0496 ←
rent	1503	.96213316	26789	.9773	.0151
other	1240	.999999	2013	1.000	.000
	6338		88724		

Ho: There is no significant difference between sample and census data.

$$x^2 = 4D^2 \frac{N_1 N_2}{N_1 + N_2} \qquad x^2 = 4(.0496)^2 \cdot \frac{6338 \cdot 88724}{6338 + 88724}$$

$$x^2 = 58.25$$

df = 2
$D^2 = .0496$
$x^2 = 58.25$

REJECT NULL HYPOTHESIS AT .05 SIGNIFICANCE LEVEL

CHI SQUARE

	fo	fe	fo^2/fe
own	4595	4280.53	493257
rent	1503	1913.67	1180 96
other	240	143.80	400.56
	6338	6338	Σ = 6513.59

Ho: There is no significant difference between cesus data and sample data

$$x^2 = \frac{\Sigma(fo - fe)^2}{fe}$$

$$x^2 \quad \Sigma \frac{fo}{fe} - N \cdot \frac{6338}{88724} = .07143801$$

df = (r-1)(c-1)

x^2 = with 2df = 175.59

REJECT NULL HYPOTHESIS AT .05 LEVEL OF SIGNIFICANCE

QUESTION 17: TYPE OF DWELLING UNIT

KOLMOGOROV SMIRNOV TEST

Group	Sample (Rs) #	Sample (Rs) %	Census (Rc) #	Census (Rc) %	Dif Rs - Rc
single-family	5411	.849	72970	.795	.054 ←
Duplex	296	.896	4376	.842	.053
Apartment	665	.999	14465	.999	.00
other					
	6372		91811		

Ho: There is no significant difference between census and sample data.

$$x^2 = 4D^2 \frac{N_1 N_2}{N_1 + N_2} \qquad x^2 = 4(.054)^2 \cdot \frac{6372 \cdot 91811}{6372 + 91811}$$

$$x^2 = 70.53$$

$df = 2$
$D^2 = .054$
$x^2 = 70.53$

REJECT NULL HYPOTHESIS AT .05 SIGNIFICANCE LEVEL

CHI SQUARE TEST

Group.	f_o	f_e	f_o^2/f_e
single-family	5411	5014.369	5384.78
Duplex	296	303.709	279.29
Apartment	665	1003.921	440.49
other			
	6372	6372.999	$\xi = 6504.56$.

Ho: There is no significant difference between census and sample data.

$$x^2 = \xi \frac{(f_o - f_e)^2}{f_e}$$

$$x^2 = \xi \frac{f_o^2}{f_e} - N \cdot \frac{6372}{91811} = .06940344$$

$df = (r-1)(c-1)$

$x^2 =$ with 2 df $= 132.66$

REJECT NULL HYPOTHESIS AT .05 SIGNIFICANCE LEVEL

QUESTION 19 - YEARS IN DWELLING UNIT

MEAN - STANDARD DEVIATION

sample

YEAR	midpoint	f	Px	Px^2
2-less	1	2295	2295	2295
3-5	4	1172	4836	18752
6-10	8	1059	8472	67776
11-20	15.6	1223	18,956.5	293825.8
20+	30	859	25 770	773 100
		6608	59,729.5	1,155,748.8

$$\bar{x} = \frac{\Sigma Px}{N} = \frac{59729.5}{6608} = 9.04$$

$$s = \sqrt{\frac{\Sigma Px - N\bar{x}^2}{N-1}} = 9.65$$

Census

year	midpoint	f	Px	Px^2
2-less	1	30,963	30,963	30963
3-5	4	15409	48,876	246544
6-10	8	12219	97, 752	782016
11-20	15.6	17 023	263, 856.2	40,897757.5
20+	30	11 062	33, 1860	9,955.800
			77,3307.5	51913080.5

$$x^2 = \frac{\Sigma Px}{N} = \frac{773307.5}{86676} = 8.92.$$

$$s = \sqrt{\frac{\Sigma Px^2 - N\bar{x}^2}{N-1}} = 892$$

QUESTION 19 - YEARS IN DWELLING UNIT

CHI SQUARE TEST

year	fo	fe	fo^2/fe
2-less	2295	2360.56	2231.26
3-5	1172	1174.75	1169.26
6-10	1059	931.55	1203.89
11-20	1223	1297.79	1152.52
+20	859	843.34	874.95
	6608	6608	$\Sigma = 6631.88$

Ho: There is no significant difference between census and sample data.

$$x^2 = \Sigma \frac{(fo-fe)^2}{fe}$$

$$x^2 = \Sigma \frac{fo^2}{fe} - N \qquad 6631.88 - 6608 = 23.88$$

$df = (r-1)(c-1)$

x^2 with 4 $df = 23.88$

REJECT NULL HYPOTHESIS AT .05 SIGNIFICANCE LEVEL.

KOLMOGROV-SMIRNOV TEST

year	sample (Rs) #	sample (Rs) ratio	census (Rc) #	census (Rc) ratio	Dif Rs - Rc
2-less	2295	.347	30963	.357	-.010
3-5	1172	.524	15409	.535	-.011 ←
6-10	1059	.684	12,219	.676	.008
11-20	1223	.869	17,023	.872	-.003
+20	859	1.000	11,062	1.000	00

Ho: There is no significant difference between census and sample data

$$x^2 = 4D^2 \frac{N_1 N_2}{N_1 + N_2} \qquad - \qquad x^2 = 4(-.011)^2 \frac{6608 \cdot 86676}{6608 + 86676}$$

$$x^2 = 2.97.$$

$df = 2$
$D = -.011$
$x^2 = 2.97$

Accept Null Ho: at .05 level of significance
Reject Null Ho: at .01 level of significance

QUESTION 22 - OCCUPATION
KOLMOGOROV - SMIRNOV TEST

group	Sample (Rs) #	Sample (Rs) ratio	Census (Rc) #	Census (Rc) ratio	Difference (Rs - Rc)
Professional	1481	.187	9851	.115	.072
Manager	1044	.333	9549	.227	.106 ←
Clerical	1212	.503	16895	.485	.018
Craftsman	1143	.663	12,157	.567	.096
Equip. Operator	507	.724	11,164	.698	.036
Laborer	505	.805	3,652	.741	.064
Salesworker	.790	..916	6788	.844	.072
Service worker	.597	1.000	12,277	1.000	.00

'Ho: There is no significant difference between census and sample data

$$x^2 = 4D^2 \frac{N_1 N_2}{N_1 + N_2}$$

$$x^2 = 4(102)^2 \frac{7129 \cdot 85333}{7129 + 85333} = 295.70$$

df = 2
D = .106
x^2 = 295.70

Reject NULL HYPOTHESIS AT .05 SIGNIFICANCE LEVEL

Analysis of variance to determine

Assumption: Homogeneity of variance between samples

Null Hypothesis: The two independant variances estimates may be regarded as estimates of the same population value.

$H_0: \mu_1 = \mu_2$

I. Randomly select 20 O+D-zones. The row scores values are the per cent of surveys received of the total number of calls.

	Group 1		Group 2	
	%Rec	X_1^2	%Rec	X_2^2
50	86.7	7,516.9	33.3	1,108.9
54	62.2	3,868.8	71.4	5,098.0
56	60.0	3,600.0	53.9	2,905.2
61	57.5	3,306.3	80.0	6,400.0
62	33.3	1,108.9	90.0	8,100.0
63	46.7	2,180.9	75.0	5,625.0
71	60.4	3,648.2	42.8	1,831.8
57	72.5	5,256.3	40.0	1600.0
46	56.0	3,136.0	42.4	1,797.8
36	63.3	4,006.9	40.0	1,600.0
55	50.0	2,500.0	90.0	8,100.0
56	53.3	2,840.9	50.0	2,500.0
61	50.0	2,500.0	28.0	784.0
34	55.3	3,058.1	37.5	1,406.3
36	56.7	3,214.9	62.5	3,906.3
31	57.3	3,283.3	37.3	1,391.3
31	48.5	2,352.3	40.2	1,616.0
40	41.7	1,738.9	65.9	4,342.8
55	44.8	2,007.0	85.7	7,344.5
32	54.3	2,948.5	62.9	3,956.4
	1,110.5	64,072.9	1,128.8	71,414.2

$n_1 = 20$ $n_2 = 20$

$\bar{X}_1 = 55.5$ $\bar{X}_2 = 56.4$

$$\Sigma X_{+0+} = 2,239.3$$

$$N = 40$$

$$\bar{X}_{+0+} = 56.0$$

$$\Sigma x^2_{+0+} = \Sigma X^2_{+0+} - \frac{(\Sigma X_{+0+})^2}{N}$$

$$= 135,487.1 - \frac{5,014,464.5}{40}$$

$$\boxed{\Sigma x^2_{+0+} = 10,125.5}$$

$$\Sigma x^2_W = \Sigma x^2_1 + \Sigma x^2_2$$

$$\Sigma x^2_1 = \Sigma X^2_1 - \frac{(\Sigma X_1)^2}{n_1}$$

$$= 64,072.9 - 61,660.5$$

$$= 2,412.4$$

$\Sigma x_t^2 = 7,704.1$

$\Sigma x_W^2 =$ **10,117.1** (within group sum squares)

$\Sigma x_B^2 = \Sigma n_i (\bar{X}_i - \bar{X}_{tot})^2$

$= 20(55.5 - 56.0)^2 + 20(56.4 - 56.0)^2$

$=$ **8.2** (between group sum squares)

Check: $\Sigma x^2_{tot} = \Sigma x^2_W + \Sigma x^2_B$

$10,125.5 = (10,117.1 + 8.2)$

$10,125.\underline{5} = 10,125.\underline{3}$

$df_B = (\#\text{ of groups}) - 1 = 1$

$\hat{s}^2_B = 8.2$ (between group variance estimate)

$df_W = N - (\#\text{ of groups}) = 38$

$\hat{s}^2_W = 266.2$ (within group variance estimate)

$$F = \frac{\hat{s}^2_B}{\hat{s}^2_W} = \frac{8.2}{266.2} = .0308$$

$df = \frac{1}{38}$

Critical level for $F = 4.1$ at 0.05 level

: $\mu_1 = \mu_2$ cannot be rejected at 0.05 level of significance.

APPENDIX J

The Transportation Study is conducted as part of the Spokane Regional Planning Program under the direction of the Spokane Regional Planning Conference. The conference acts as the Policy Body coordinating the Study within the Regional Planning Program and Regional Comprehensive Plan, giving overall directions to the Study. The Study is authorized and supported by the City of Spokane, County of Spokane, and Washington State Highway Commission, in cooperation with the U.S. Department of Transportation, Federal Highway Administration and Urban Mass Transit Administration. The Conference is a regional planning body composed of seven members, two representatives from the Legislature, one from the planning bodies of both the City and County of Spokane and one Legislative representative from the smaller Spokane towns. When items concerning Transportation Study are on the agenda, two Washington State Highway Commission representatives sit with the Conference.

The Transportation Steering Committee gives specific direction to the Study, controlling the quantity and quality of work. In accordance with the terms of the Study Operations Plan, the Steering Committee provides limited direction to the Transportation Technical Committee, the Citizens Advisory Committee on Transportation, the Conference Director (on coordination of transportation items) and the Transportation Study Director. The Steering Committee is composed of one Spokane City Councilman, one Spokane County Commissioner, one Washington State Highway Commissioner, and one non-voting, ex-officio representative of the Urban Mass Transportation Administration, one non-voting, ex-officio representative of the Federal Highway Administration. The Transportation Steering Committee recommends to the Spokane Regional Planning Conference on Budgets, Specific Work Programs and Operations Plans.

The Transportation Technical Committee is composed of the Spokane Assistant City Manager, City Traffic Engineering Director, and City Planning Director, the Spokane County Engineer, County Planning and Traffic Engineer, and County Planning Director, the State Department of Highways, District Engineer State, District Traffic Engineer, and a representative of the Department of Highways Headquarter Planning Division, the Manager of the Spokane Transit System, the Director of Spokane Airports, and the Regional Manager of the Spokane Area Office of the Washington State Department of Ecology, one non-voting ex-officio representative of the Urban Mass Transportation Administration. The Transportation Technical Committee has authority and responsibility to advise the Transportation Steering Committee and Conference Director on all matters concerning the Study. The Technical Committee, composed of a variety of agency representatives, works closely with the Study advising and directing. All work projects must first be reviewed and approved through the Technical Committee.

APPENDIX K

SPOKANE REGIONAL PLANNING CONFERENCE
CITIZENS ADVISORY COMMITTEE ON TRANSPORTATION
MEMBERSHIP LIST

	BUSINESS ADDRESS	RESIDENCE
1. BARBIERI, Donald K.	Goodale & Barbieri Lincoln Building Spokane 99201 624-5177	East 1431 Park Lane Spokane 99203 534-7770
2. BEECHER, Kit	Walk In The Wild East 11105 Sprague Spokane 99206 928-1642	East 11224 Valley Way Spokane 99206 924-7220
3. BEHM, SR., Richard C.	Behm's Valley Creamery East 9405 Sprague Spokane 99206 926-1424	East 10905 - 29th Spokane 99206 924-9850
4. BENDER, PhD., Maruice	Comprehensive Health West 933 Third, Suite 206 Spokane 99204 456-8990	West 1004 Westover Spokane 99218
5. BESSE, James J.	EXPO YMCA Building Spokane 99204 456-6934	Route 4, Box 35 Spokane 99204
6. BEVER, Richard D.	Wash. Fed. of St. Emp. AFL-CIO East 102 Boone Spokane 99202 325-4911	
7. BOGART, Dennis W.	Dept. of Soc. & Health Ser. 711 North Lincoln Spokane 99201	
8. BOULTON, William S.	P. O. Box 27091 W. 30 International Way Spokane 99201 328-5020	West 3231 Boone Spokane 99201
9. BOURES, William R.		N. 1524 Altamont Spokane 99207 535-8547
10. BROOKIE, Dale S.	Tan/Brookie/Kundig N. 117½ Howard Spokane 99201 747-8043	S. 1526 Ash Street Spokane 99203

	BUSINESS ADDRESS	RESIDENCE
23. DYER, Roger D.	Flamingo Restaurant N. 5005 Division Spokane 99207 489-1370	N. 5428 Washington Spokane 99208 328-7416
24. EUCKER, Gene L.	~~East 120 Wellesley~~ N. 1319 Division Spokane 99207 ~~483-6444~~ 326-4183	West 39 - 40th Spokane 99203 624-1652
25. EMRY, Mrs. Merle F.	Spokane Rehab. Center N. 3128 Hemlock Spokane 99205 325-5451	West 3006 Excell Drive Spokane 99208 328-8944
26. EVANS, Robert E.	Piledrivers L.U. #2382 West 120 Mission Spokane 99205 326-0880	West 4617 Northwest Blvd. Spokane 99205 327-9550
27. FELLOWS, Margaret (Mrs. John)		East 13503 - 28th Spokane 99216 926-7492
28. GALLAGHER, Bernard J.	917 Paulsen Bldg. Spokane 99201 747-8071	East 414 Empire Spokane 99207 487-9935
29. GROSSMAN, Robert J.	800 Sherwood Bldg. Spokane 99201 747-6009	West 927 - 21st Spokane 99203 624-6754
30. HAGGIN, Morey		Route 5, Box 181 Spokane 99208 489-5554
31. HARE, Harlan E.		East 917 Sharp Spokane 99202 483-2372
32. HASKINS, Ken M.	ASC Industries, Inc. N. 800 Fancher Rd. Terminal Box 2706 Spokane 99220 535-1781	South 3914 Bowdish Rd. Spokane 99206 928-1389
33. HAYES, Richard G.	2526 N. Division Spokane 99207 326-6760	West 2105 Regina Spokane 99218 327-2200
34. HENSLEY, Joseph M.	South 121 Wall Spokane 99204 747-7181	East 3941 - 17th Spokane 99203 534-7917
35. HIBBERT, Page D.		9222 North Whitehouse Spokane 99218 489-7166

		BUSINESS ADDRESS	RESIDENCE
36.	HILL, Gary R.		East 1514 - 13th Spokane 99202 534-3552
37.	HOGUE, Mel	West 120 Mission Spokane 99202	East 558 Liberty Spokane 99207 489-4169
38.	HUNT, Kenneth	South 400 Jefferson Spokane 99201 624-2206	West 2503 Waikiki Road Spokane 99218 327-4848
39.	JACKSON, James W.	West 120 Mission Spokane 99201 326-0880	North 2910 Atlantic Spokane 99205
40.	JOHNSON, Dr. Cecil L.	Spokane Public Schools West 825 Trent Spokane 99201 455-3656	South 4519 Perry Spokane 99203
41.	JOHNSON, Mrs. Dennis L.		South 2427 Helena Ct. Spokane 99203 534-4730
42.	JONES, David J.	327. 2696	North 4621 Gustavus Spokane 99205
43.	KNOTT, William E.		Rt. 11, Five Mile Spokane 99208 327-2587
44.	KUNEY, Jeff	North 120 Ralph Spokane 99202 535-1681	East 1415 58th Spokane 99203
45.	LARSON, Ben R.	117 East Boone Avenue Spokane 99202 456-3680	Newport 99156
46.	LAWRENCE, Paul A.		7212 East 3rd Spokane 99206
47.	LEINEN, John	East 102 Boone Spokane 99202 327-7637	East 3326 Hills Court Spokane 99202
48.	LONG, Ed J.	202 East Trent P. O. Box 2507 Spokane 99220 838-2571	616 Montavilla Drive Spokane 99204 747-0084

		BUSINESS ADDRESS	RESIDENCE
49.	LUKE, William A.	Bus Ride P. O. Box 96 Spokane 99210 328-9181	West 2627 Providence Ave Spokane 99205
50.	MASON, Charles W.	Iron Workers Local #14 102 East Boone Spokane 99202 328-8452	East 327 Rich Spokane 99207
51.	MORGAN, Warren E.	~~Wash. Education Assoc.~~ ~~West 106 Nora Avenue~~ ~~Spokane 99205~~ ~~327-9531~~ Retired	West 1421 Courtland Spokane 99205 327-1444
52.	McFARLAND, William G.	Ernst & Ernst Lincoln Building Spokane 99201 838-2561	West 1018 Bellwood Dr. Spokane 99218
53.	McLERON, Mrs. Roy E.		South 2320 Jefferson Spokane 99203 747-4926
54.	NEWBURY, Vincent	Millwright L.U. 1862 West 120 Mission Spokane 99201 326-0880	South 521 Green St., Apt. 1 Spokane 99202
55.	O'NEILL, Cuba (Mrs. John J.)		East 1204 Augusta Spokane 99207 489-4911
56.	PETERSON, David M.	Spokane Unlimited, Inc. North 507 Howard Spokane 99201 747-1128	North 12124 Normandie Spokane 99218 489-7248
57.	POINTER, Homer F.		West 3408 Hartson Spokane 99204 747-5756
58.	REAM, Lorna (Mrs. Joel S.)		East 3505 Ben Burr Blvd. Spokane 99203 534-4993
59.	REUE, George		East 1217 Broad Spokane 99207 487-7209
60.	RICE, Bradford C.	323 East 17th Spokane 99203 624-0716	East 1820 - 10th Spokane 99202 535-4005

		BUSINESS ADDRESS	RESIDENCE
49.	LUKE, William A.	Bus Ride P. O. Box 96 Spokane 99210 328-9181	West 2627 Providence Avenue Spokane 99205
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59.	REUE, George		East 1217 Broad Spokane 99207 487-7209
60.	RICE, Bradford C.	323 East 17th Spokane 99203 624-0716	East 1820 - 10th Spokane 99202 535-4005

		BUSINESS ADDRESS	RESIDENCE
61.	ROTH, Gerhard O.		East 508 Nebraska Spokane 99207 Days 456-5091 4PM 487-8448
62.	RUDD, Milton C.	Spokane Reg. Agency on Aging West 313 Sprague Spokane 99204 624-5222	East 1420 - 44th Spokane 99203 747-0734
63.	RUEHL, Benjamin K.	1029 ONB Building Spokane 99201 747-2863	South 2908 Manito Spokane 99203 624-4865
64.	SHOWALTER, Thomas W.		414 1st Cheney 99004 235-6294
65.	SONNTAG, Victoria		West 5415 Princeton Spokane 99205 327-~~3430~~-3420
67.	STANTON, Marilyn		East 1540 South Riverton Spokane 99207 535-6267
68.	STEDMAN, Dale E.	West 1717 4th Avenue Spokane 99204 455-3400	West 711 - 24th Spokane 99203
69.	SWINYARD, James G.		Box 276 Deer Park 99006 276-6400
70.	WEBSTER, Kenneth	Building Trades Council West 120 Mission Spokane 99201 327-1650	
71.	WESTBERG, Robert J.	Wash. Water Power Co. P. O. Box 3727 Spokane 99220 489-0500	
72.	WILLIAMS, W. R.	SEIU. Local 202 102 East Boone Spokane 99202 328-4032	Route 1, Box 317 Spokane 99204
73.	WILKE, Ronald A.	Sacred Heart Hospital West 101 8th Avenue Spokane 99204 455-3040	South 4042 Regal #202 Spokane 99203

	BUSINESS ADDRESS	RESIDENCE
74. WOODKE, Jeralyn (Mrs.)		Route #1, Box 222 Colbert 99005 489-3973
75. NOLAN, E.J. 487-7629		East 1003 Rockwell Spokane, Wn. 99207