A GUIDE TO SURVEY RESEARCH:

How to plan a survey, estimate costs, and use a survey research service

by PAUL D. REYNOLDS
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EXECUTIVE SUMMARY

A survey is a study in which information is systematically gathered from a portion of a population in order to provide a description of the entire population. Surveys are valuable because they provide information derived directly from a population rather than information based on assumptions or beliefs about that population. Surveys can be used to gather demographic data, assess the need for new programs or policies, test the feasibility of proposed programs, determine awareness of existing programs, and to evaluate policy or program effectiveness. Beyond these information gathering functions, surveys can also give citizens or clients an opportunity for input into policy and administrative decisions and can help educate people about issues, policies and programs.

The four basic types of survey, the mail-back questionnaire, the group-administered questionnaire, the telephone interview, and the face-to-face interview, each have advantages and disadvantages that need to be carefully considered in selecting the most appropriate type of survey for a given project. In addition to selecting the most appropriate type of survey to administer, a survey project involves a number of stages, each of which involves decisions that have implications for the subsequent survey stages and the survey project as a whole. These stages are the development of the survey problem or issue, review of the available information resources, selection of the survey type and design of the questionnaire or interview schedule, selection and training of interviewers, design and drawing of the sample, data collection, preparation of the data for analysis, data analysis, and presentation of the results.

The costs of a survey depend on a number of factors, including the type of survey conducted, the size and geographic distribution of the sample, the response rate required, and the types of analyses performed. Cost estimate data gathered from survey research firms for this handbook clearly demonstrate that data collection accounts for the lion's share of a typical survey project's cost, roughly forty to seventy percent of the total cost (see Table 2). Furthermore, the data indicate a considerable range among individual firms' cost estimates for a given project, with the high bid for one sample project more than six times that of the lowest.

There are a number of research firms or agencies, both commercial and public, that are available to provide various survey research services to organizations in the Twin Cities area. They range from one-person research consulting firms to large research organizations with sophisticated facilities and permanent professional staffs (see Appendix C). The survey-related services that they can provide also vary considerably, from full survey project packages to selected services such as data collection or data entry (see Appendix B). The organization seeking external survey assistance should

carefully consider as many research firms as possible before choosing the firm or firms offering the combination of quality, cost, services, and style best suited for a given survey project.

INTRODUCTION

This handbook is designed to provide a brief overview of the survey research process and its uses, an introduction to the important issue of estimating costs, and a description of the survey research services that are available to organizations in the Twin Cities area. It is intended for the administrator, manager, or policy-maker who might benefit from the use of survey research results but who has little familiarity with the survey process, its planning, or how to locate appropriate agencies (commercial or public) that provide survey services. Those well versed in survey design will likely find little new in this handbook, except perhaps for the information on survey costs and available survey services.

The approach is to discuss the various uses of surveys for administrative or policy decision-making and to briefly describe the general survey process and the basic survey variations. Survey cost estimation is discussed and actual estimates from survey research firms are reviewed. Finally, the reader is offered a listing of research firms and agencies and an inventory of the survey services that they can provide to organizations in the Twin Cities area.

WHY DO A SURVEY?

Survey research is useful for gathering information relevant to administrative decisions and policy formulation at various levels of government as well as in nonprofit and commercial organizations. Policy decisions that directly and indirectly affect large numbers of people are often improved by the broad-based, objective information that survey research can provide. Relying heavily on the beliefs, impressions, or perceptions of a few in formulating policies that affect many can be misleading and might result in policies that are inappropriate, ineffective or even counter-productive.

Surveys are designed to provide reliable, accurate descriptions. Information is systematically gathered from representatives of a population so as to represent the whole. Three types of data useful in policy formulation and implementation may be developed through surveys: demographic data on the characteristics of populations, attitudinal data (attitudes, opinions, beliefs, values, and perceptions), and behavioral data (activities, use of facilities, etc.). These three types of data offer information that is valuable for any number of policy purposes.

First, survey data provide accurate information about the demographic composition of populations. Description of gender, age, ethnicity, income, and other characteristics of populations is essential in developing policies and programs in almost every imaginable area, including health, transportation, education, recreation, housing, and public safety. For example, a city interested in maintaining the quality of its residential housing might use demographic data to target areas with large elderly and low-income populations for special housing maintenance assistance.

A second important use of surveys is to assess the need for new services or programs. Needs assessment, as it is commonly called, is a crucial first step in policy or program formulation. Particularly in times of scarce resources, it is important to address the issue of exactly what is needed and for whom. Duplication of services creates unnecessary waste, while duplication or overlap in policies leads to confusion.

Aside from the issue of the need for new policies, programs or services, survey research helps determine whether they are feasible before they are implemented. Reaction to public policies can range from enthusiastic acceptance to the most vehement, and even violent, opposition. In helping anticipate such reactions, survey research serves two functions. It provides information that can be used to adjust programs and policies in order to facilitate their implementation and success, and it helps avoid wasting resources on policies and services that are simply unacceptable to people. As an example, survey research could be valuable in helping a city predict the feasibility of converting its

street lighting system to one that is more energy efficient but may not be aesthetically pleasing to the public.

Survey research is valuable in determining the public's awareness of existing policies, programs, or services. Administrators sometimes assume a certain level of awareness of their programs without ever attempting to determine systematically the degree to which this is true among those for whom the programs are designed. Useful services may be cut or changed without potential clients ever being aware of them in the first place. On the other hand, time and resources may be wasted in trying to develop an awareness of services when that is not a problem. In determining the degree to which people are aware of programs, surveys can also help pinpoint common sources of information that can be used to effectively and efficiently inform various groups of potential clients about available services.

Program evaluation is another key function of survey research. Persons affected by policies or programs can be interviewed to evaluate the quality of programs and to identify problems as well as potential solutions to those problems. Systematic surveys can also be very useful in identifying gaps in program coverage, in determining who uses or does not use available services, and in explaining variations in the utilization and effectiveness of programs and services.

Finally, surveys have important benefits beyond the primary information gathering purposes for which they are usually designed. They give respondents input into the policy and program formulation process and thereby provide clients or citizens with a sense of involvement and participation. The survey process also helps educate the public and heighten awareness of public issues or of public agencies' policies and programs.

In summary, surveys can contribute to policy formulation and program administration in important ways. They can be used to:

1. Provide demographic information about populations.
2. Assess needs for new programs or policies.
3. Test the feasibility of new programs or policies.
4. Determine public awareness of existing programs or policies, and identify sources of information.
5. Evaluate the quality or effectiveness of programs or policies.
6. Give citizens or clients input into program or policy formulation or modification.
7. Educate the public about programs, policies, or issues.

PLANNING A SURVEY

In planning a survey, it is important to be familiar with the major survey variations and to understand the overall design of a survey project. Each of the four major variations has certain advantages and disadvantages. Time constraints, relative costs, and the subject matter of the survey are key factors in determining which variation to use. Understanding the stages of a survey project is important because decisions and choices made regarding each stage have implications for subsequent stages and for the overall project design.

MAJOR VARIATIONS

The four major types of survey are differentiated by the means in which the data are collected. Let us now consider the relative advantages and disadvantages of the mail-back questionnaire, the group-administered questionnaire, the telephone interview, and the face-to-face interview.

Mail-Back Questionnaire Survey

A questionnaire survey is one in which the data are collected by having respondents write in their own responses or circle responses to printed questions. Questionnaires are generally given or mailed to individual respondents for completion and return (mail-back questionnaire) or personally presented to groups of respondents for immediate self-completion and return (group-administered questionnaire).

The primary advantage of the mail-back questionnaire is its relatively low cost. The data collection phase is typically the most expensive stage of a survey project, and the questionnaire, by avoiding the use of interviewers, reduces costs considerably. This type of survey not only eliminates the need to pay the extensive wages and travel costs of interviewers, but it also avoids the costs of recruiting, training, and supervising interviewers. A second key advantage of the mail-back questionnaire survey is its potential for covering a large number of respondents spread over a wide geographic area within a relatively short period of time. By presenting the questions to all respondents in an identical format without using interviewers, the questionnaire also eliminates the difficult problem of interviewer effects, or biased responses resulting from the interaction between the interviewer and the respondent. Respondents and their answers may be affected by an interviewer who offends them in subtle ways or makes them feel uncomfortable or, on the other hand, by an interviewer who favorably impresses them or

whom they wish to please. A fourth advantage of the mail-back questionnaire is the sense of anonymity it may give respondents, something which should help encourage more open and forthright answers. Finally, this type of survey may help elicit more thoughtfully considered responses because there is less pressure for an immediate response than when one is being interviewed.

Of course, the low pressure setting of the mail-back questionnaire may also contribute to the most serious disadvantage of this type of survey, that is, the generally low response rate, or percentage of completed and returned questionnaires. Selected respondents not only have to receive the mailed questionnaire, but they must open it, read it, and be interested to the point that they will complete it and mail it back. The dropout rate at each stage is considerable. Despite the questionnaire's long-standing reputation for low response rates, there is evidence that the use of sophisticated techniques can result in thoroughly respectable response rates (see Don A. Dillman, Mail and Telephone Surveys). Because of the frequent use of mail-back questionnaires, the reader may wish to consult a guide prepared for processing such surveys at the University of Minnesota (Appendix E).

A second disadvantage of this type of survey is that there is no opportunity to clarify or explain questions or instructions for respondents. Likewise, there is no possibility for probing the respondent about an answer that seems ambiguous or incomplete. The final disadvantage of the questionnaire survey is that it excludes from participation people who cannot see or see well enough to complete questionnaires, people whose reading skills are limited, and people who are not fluent in the language of the questionnaire. While this may at first seem trivial, it could affect significant numbers of respondents, especially among the elderly, the poor, and refugee groups or immigrants.

Group-Administered Questionnaire Survey

The group-administered questionnaire has many of the same advantages and disadvantages as the mail-back questionnaire. Data collection costs are relatively low, large numbers of respondents can be processed in short periods of time, interviewer effects are limited, and respondents are provided a sense of anonymity that may encourage more forthright answers. This type of questionnaire also shares the disadvantage of eliminating respondents who have vision problems or reading difficulties.

The group-administered questionnaire, however, can overcome some of the mail-back questionnaire's problems. It does allow the person administering the questionnaire to the group to clarify or explain questions. It also assures a closure to the process because questionnaires are either completed or otherwise resolved (refused, returned incomplete,

etc.) within a short period of time. On the other hand, the group-administered questionnaire does require an assembled group of respondents and therefore cannot cover respondents who are spread over broad geographic area. Furthermore, such groups seldom comprise a randomly selected sample of people that are representative of a larger population.

Telephone Interview Survey

A telephone interview is, quite simply, an interview conducted over the telephone. The interviewer records responses on an interview schedule or enters them directly into a computer via a CRT (cathode ray tube) terminal. The telephone survey has become increasingly popular in recent years because it offers a combination of cost effectiveness and efficiency that is well suited for many purposes. Corresponding with, and contributing to, its popularity have been increasingly sophisticated telephone interview techniques and major technological advances such as the use of centralized phone banks, long distance WATTS lines, and CRT terminals.

Speed and low cost are the most obvious advantages of the telephone survey. Telephone interviews of local, statewide, or even national samples can be completed in a matter of days or sometimes hours when mailed questionnaires or face-to-face interviews would take weeks or months. The costs of telephone surveys, while more than mailed questionnaire surveys, are considerably less than face-to-face interviews would take weeks or months. The costs of telephone surveys, while more than mailed questionnaire surveys, are considerably less than face-to-face interviews. The increased costs are directly or indirectly related to the use of interviewers. Interviewers must be recruited, trained, and supervised; they need office space and telephones; and, finally, they must be paid. Long distance interviews and the use of high technology equipment such as CRT terminals increases costs significantly. Compared with face-to-face interviews, however there are no travel costs, and very little of the telephone interviewers' time is wasted in arranging interviews, traveling to and from interviews, and dealing with people who forget or skip appointments.

In addition to speed and cost effectiveness, telephone surveys generally attain relatively high response rates. Telephone surveys also reach some form of closure by determining which respondents in the sample complete the interviews, which ones refuse (and frequently why they refuse), and which ones are never contacted. Telephone interviewing enables interviewers to probe when open-ended responses are vague and to clarify questions that respondents find confusing. Finally, telephone surveys offer the opportunity for quality control because supervisors can be present to manage and assist the interviewers.

Among the disadvantages of the telephone interview survey is the difficulty gaining respondents' cooperation when calling without prior notification. People frequently resent having their household or leisure activities interrupted by telephone calls from strangers. It is sometimes difficult to establish the survey's legitimacy over the phone and to convince respondents that the interviewer is not trying to sell something, to play a prank, or to gain personal information under the guise of legitimate research. Another problem is the phenomenon known as interviewer effects, the way in which answers are affected by the respondent's positive or negative personal reactions to the interviewer. The personal contact of the interview also raises the possibility that socially desirable responses will be obtained, with the respondent's answers unconsciously skewed to reflect a favorable self-portrayal.

The lack of visual contact in the telephone interview may create additional problems. Response cards listing alternative responses that the respondent can refer to as necessary cannot be used, nor can other visual aids such as pictures, diagrams, charts, or graphs. This means that orally presented response alternatives must be simple and brief, and even then they must be repeated frequently for some respondents. In general, both the individual questions and the overall interview must be brief and simple in order to avoid confusing respondents or having them terminate the interview due to boredom, frustration, or exhaustion.

Face-to-Face Interview Survey

The major advantage of the face-to-face interview is its potential for dealing in depth and at length with fairly complex issues. With the appropriate use of response cards and other visual aids, a great deal of data can be collected, and interviews are rarely terminated once they have begun. The personal contact of the face-to-face interview also enables the interviewer to present credentials and identification to help assure the respondent of the survey's legitimacy. This is especially important when topics of a sensitive nature are to be addressed. The interviewer can clarify questions when the respondent seems hesitant or confused and can probe for greater detail when answers seem vague or evasive. Because the interviews are conducted in person, this type of survey reaches people who don't have telephones and those who cannot see or read.

The overwhelming problem with face-to-face interviews is their expense. Interviewers must be carefully selected and thoroughly trained, travel costs must be reimbursed, and a good deal of paid time is spent traveling to and from interviews. Face-to-face surveys are also very time-consuming, typically taking months to complete. As

with telephone surveys, face-to-face surveys are susceptible to the complications of interviewer effects and socially desirable responses.

COMPARING THE VARIATIONS

Each of the four basic types of surveys offers certain advantages, and each has its problems and shortcomings. Table 1 offers a brief comparison of the relative strengths and weaknesses of the four survey variations. In planning a survey, such factors as time constraints, costs, and the type of data needed should be carefully considered in selecting the most appropriate type of survey to use.

TABLE 1

STRENGTHS AND WEAKNESSES OF THE MAJOR SURVEY VARIATIONS

	Mail-Back Questionnaire	Group-Administered Questionnaire	Telephone Interview	Face-to-Face Interview
Response rate	low - high	high	moderate - high	moderate - high
Minimum time for completion	moderate	moderate	fast	slow
Cost	low	low	moderate	high
Impact on cost of geographic area covered	low	low	moderate - high	high
Interviewer effects*	low	low	moderate	high
Ability to deal with complex issues	moderate	moderate	low	high

* The process by which a respondent's answers are influenced by the interviewer, sometimes subconsciously or in subtle ways.

STAGES IN THE SURVEY PROJECT

A survey project can be divided into several stages, with decisions made at each stage having implications for subsequent stages of the project and for the project as a whole. Typically, a survey project involves the following stages.

1. Development of survey issue or problem.
2. Review of available information resources.
3. Selection of survey type and design of questionnaire or interview schedule.
4. Selection and training of interviewers.
5. Designing and drawing the sample.
6. Data collection.
7. Preparation of data for analysis.
8. Analysis of the data.
9. Presentation of results.

Development of Survey Issue or Problem

The first stage of any survey project is to specify as clearly as possible what the problem or issue is and what information is needed to deal with it. This stage is crucial because it determines the direction of the whole project, and if it is not handled well, the survey results may be inappropriate, insufficient, or totally useless. It is important at this early planning stage of the project to involve all significant decision-makers and others relevant to the problem or issue. They can provide valuable ideas, insights, and perspectives, but even more important, their involvement is a key way of assuring that the results will be utilized by decision-makers once the survey is completed. This involvement of relevant others in the project also helps avoid major misunderstandings or conflicts that might complicate later survey stages or even jeopardize the entire project.

While the main objective of the development stage of the survey project is to specify what information is needed, it is also of great importance at this stage to determine what information is <u>not</u> needed, so that time and resources are not wasted. The distinction must be made between necessary information and information that "might be helpful" or would be "nice to know." Typically at this stage there is an almost irresistable urge to add extra issues and questions because the opportunity for a survey like this may not be available again for quite some time. There are, however, at least two solid reasons why the urge should be resisted. First, the excess data are extremely expensive, adding to costs at each subsequent stage of the project, particularly the data

collection and the analysis. Second, excess issues and questions tend to become a burden at later stages, making interviews or questionnaires too long, cluttering the data analysis and presentations, and generally detracting from the primary objectives of the survey.

Review of Available Information Resources on Survey Issues

Sources of available information on the survey topic should be reviewed so that time and money are not wasted gathering and processing information that is already available. Such a review may also help improve the design of the survey by revealing useful techniques or questions used in similar surveys or by pointing out problems or mistakes to avoid. Common resources to review include government publications, professional policy and administration journals, social science articles and books, and media reports. Professional colleagues, policy makers and administrators should also be consulted for suggestions regarding relevant material.

Design of Questionnaire or Interview Schedule

Careful consideration should be given to the overall design of the questionnaire or the interview schedule (sometimes called the interview guide). There should be an appropriate introduction to explain the purpose of the survey and to set the tone of the interview or questionnaire, the questions at the beginning should be simple and non-threatening, transitions between major topics should be smooth, and the conclusion should contain a statement thanking the respondents for their time and cooperation. Overly complex interview schedules can confuse respondents and discourage their participation. Likewise, long interviews or questionnaires can be counterproductive. One of the first things potential respondents want to know about a survey is "How long is it going to take?" Long interviews increase the likelihood of refusals to participate, and they also result in curtailed responses as respondents become impatient, bored, or tired during the interview. Once started, however, even long interviews will be tolerated if they are relevant and interesting to the respondent.

In addition to the overall design of the questionnaire or survey, the working and ordering of questions is an issue that demands careful attention. Questions and response alternatives should be clear and easily understood, and they should be worded so that they are as neutral as possible and do not influence respondents to answer in certain ways. Stanley Payne's The Art of Asking Questions offers an excellent treatment of this topic.

The final step in the construction of the questionnaire or the interview schedule is the pre-test, which involves actually interviewing people or having them complete

questionnaires. Ideally, pre-test respondents should be as much like the intended survey respondents as possible. Pre-testing helps detect problems and correct them before actually doing the survey. What seems perfectly clear to the person or persons who designed the questionnaire may be ambiguous, confusing, or eventually incomprehensible to others. In addition, pre-testing helps determine how long the interview will take to complete under "live" conditions, and it provides additional insight into the utility and propriety of the questions.

Selection and Training of Interviewers

The recruitment and selection of interviewers is of great importance because interviewers are the researcher's direct link to the respondents. Interviewers should be mature and responsible, they should have good communication skills, have a commitment to completing the data collection, and they ought to have a genuine interest in people. Respondents can quickly detect insincerity or disinterest in interviewers, and it is very difficult for respondents to seriously devote their time and interest to an interview when the interviewer shows little commitment to the project.

Care should also be taken to select interviewers so that interviewer effects (response biases due to interviewer-respondent interaction) will be kept to a minimum. Don't use interviewers who are likely to antagonize or alienate respondents or to make them feel uncomfortable. On the other hand, don't select interviewers who might overwhelm or unduly influence respondents. Good salespeople do not necessarily make good interviewers. Interviewers should be well-groomed, neatly and conservatively dressed, and should not have unpleasant voices. They should be polite, tolerant, and confident, and they should be able to handle the spontaneity of the interview situation. In addition to these criteria, the particular subject matter of the survey or the characteristics of the target population may have implications for the type of interviewers selected with regard to gender, race, age, ethnicity, education, and so forth.

The decision of whether to hire interviewers or to use volunteers deserves careful consideration. Although it may be tempting to use volunteers in an attempt to cut costs, paid interviewers should be used if at all possible. With paid interviewers, responsibilities and expectations can be clearly defined and monitored. The expectations for volunteers, are often not considered binding, thus leaving the researcher dependent on the good will and commitment of the volunteers. Although some volunteers may be highly skilled and experienced at interviewing, recruiting adequate numbers of skilled, motivated interviewers can be a major problem, and retaining them throughout the data collection stage is even more difficult. Motivation is a problem because volunteers frequently lack a

commitment to the survey project, and they feel free to choose when and how much to work. Finally, using a mixture of paid and volunteer interviewers is courting disaster because it may breed resentment when volunteers perceive themselves as working as hard or harder than those who are being paid to interview. In summary, the use of volunteer interviewers is a risky venture unless a sufficient number of qualified and highly motivated volunteers can be counted on for the duration of the project.

The training period for interviewers should serve at least three purposes. First, and most obvious, training should prepare the interviewers for the data collection task. In addition to the usual lectures and discussions, a major part of the training should involve actual interviews using the survey's interview schedule. This not only develops a thorough familiarity with the schedule, it also gives the trainees an understanding of the interview process and increases confidence in their ability to handle the unexpected in interview situations. Good training will also help increase motivation of interviewers and generate commitment to the survey project. A second function of the training period is to serve as a final selection stage for eliminating trainees who are found lacking in commitment or ability. Finally, the training period serves as a final pre-test of the interview schedule in which the interviewers' participation in improving the schedule should also help increase their motivation, confidence, and commitment to the project. (For further information about the selection and training of interviewers, see the CURA publication, Introduction to Community Interviewing, by Leslie H. Brown.)

Designing and Drawing the Sample

The purpose of a survey is usually to discover something about the behavior or attitudes of a group of people by asking them questions, either verbally or in writing. Typically, this target group, or population as it is normally called, is so large that it is simply not economically feasible to ask the questions of every individual member. Therefore, survey research usually involves selecting a sample of people from the population in such a way that the results gained from interviewing that sample should be very similar to the results gained by interviewing the entire population. For example, while it might be a bit taxing for the city administration to interview all 500,000 adult residents of St. Appolis, a well-designed sample of a few hundred could provide results representative of the city's entire adult population, at a somewhat more reasonable cost.

Probability samples provide the basis necessary for making statistical inferences to the larger population based on the results from the sample; however, there are situations in which there are legitimate reasons for using nonprobability samples. The design of

samples can be a technical and complex process, and inappropriate sampling techniques can have serious consequences for the representativeness and the utility of survey results. The actual costs of the sample design and selection can vary considerably, depending on the specific type of sample that is most appropriate for a given survey.

Data Collection

Once the questionnaires or interview schedules have been finalized, the interviewers thoroughly trained, and the sample selected, the data collection process is ready to begin. The time period for actual data collection should be kept as short as possible because long, drawn-out data collection periods create several difficult problems.

The longer the data collection period, the greater the possibility that external conditions may affect the survey results or the survey process itself. For example, a highly publicized case of extreme child abuse halfway through the data collection period may distort the results of a survey on the public's awareness of family violence as a social problem, or an election or political scandal may change key decision-makers or the decision-making atmosphere in the midst of a survey. A drawn-out process of data collection also tends to reduce the morale or interest of everyone involved in the project, as interviewers become tired and decision-makers become impatient or indifferent. Finally, a long project increases the risk that the data may become outdated for policy formulation purposes before the results are even presented.

Cover letters are necessary when collecting data through questionnaires or face-to-face interviews. They should briefly state the purpose of the survey, mention the organization sponsoring the research, and identify the person in charge of the project. Cover letters should also state that participation in the survey is voluntary and describe the extent to which the confidentiality of individual questionnaires will be protected. All cover letters should contain the name and phone number of the survey project manager to whom any questions about the survey may be directed, and finally, a statement thanking respondents for their cooperation should be included. For face-to-face interviews, the above information should be sent by letter as well as a statement of the length of the interview and notification that an interviewer will soon be contacting the respondent to arrange an appointment to conduct the interview. Due to cost and time considerations, telephone interviews are generally not preceded by a letter.

It is important that interviewers be well prepared as they proceed to contact respondents. They should have a checklist to assure that all necessary materials (identification, name tags, interview schedules, response cards, pencils, consent forms, etc.) are ready and organized. Missing materials and disorganization can quickly destroy

an interviewer's credibility. At the completion of the interview, respondents should, of course, be thanked for their cooperation.

Supervision is very important in both telephone and face-to-face interview surveys. Supervisors help assure the quality of the data collected by monitoring the process, checking completed interview schedules, and by being available to help interviewers with any problems that may arise. Supervision is especially important in the early stages of data collection, when interviewers are most in need of encouragement and help in learning how to handle the interview situation. Supervisors can also perform follow-up validations of randomly selected interviews to assure that interviews are actually being conducted and to obtain feedback from respondents in order to evaluate the interview schedule and the interviewers.

Preparation of Data for Analysis

The first step in preparing the data for analysis is editing, a process that actually begins during data collection. Each interviewer should edit the completed interview schedule as soon as possible after the interview while the experience is still fresh. Editing involves correcting inadvertent mistakes made in recording responses, eliminating irrelevant material that might be confusing, completing or elaborating answers that time did not allow for during the interview, and generally correcting and filling gaps in order to facilitate the subsequent coding and data entry tasks. Interview supervisors typically review and further edit completed interviews as well, attempting to resolve contradictory or obviously misrecorded data.

Coding is the process of transforming the verbal or written responses of the respondents into numerical values that can be entered into the computer for analysis. It involves the development of a code book that formally lists and describes how responses for each question in a survey are coded. When questions in the survey require fixed-alternative responses (e.g., strongly agree, agree, disagree, strongly disagree), the questionnaire or interview schedule is pre-coded so that the respondent or interviewer simply circles a number indicating the appropriate response. However, questions that invite open-ended responses in the respondents own words (e.g., What do you think of the rest room facilities in Paradise State Park?) generally require considerable time in the design and implementation of coding procedures after the data have been collected.

Once the code design is completed and formalized in a code book and the data have been coded, the data must be entered into computer storage (data cards, computer tape or computer disks), a process involving keypunching the numerically coded responses at data

card machines or computer terminals. The final preparation of the data involves the design of data file systems and editing them to ensure their readiness for statistical analyses.

Analysis of the Data

Analysis of survey data can be performed at three levels. Descriptive analysis simply organizes and describes responses to questions (e.g., 53 percent of the respondents approved of the proposed Clark Avenue improvements, 32 percent disapproved, and 15 percent had no opinion) or provides data summaries (e.g., the average or mean age of adult state park users is 53).

Associational or relational analysis is a second type of statistical data analysis. This involves analyzing the strength and type (or direction) of relationships between variables. For example, the analysis of data from a family violence survey may indicate an inverse relationship between family income and the awareness of programs to help families with violence problems, that is, low income families are less likely to be aware of helping services than are higher income families.

The third type of analysis, causal analysis, attempts to explain the effects of some variables upon others. In the aforementioned family violence survey, causal analysis might try to determine whether alcoholism causes family violence, or family violence leads to alcoholism, or both, or neither. Causal analysis is extremely complex, and the typical nontheoretical survey project is designed for descriptive or associational analyses rather than to determine causality among variables.

There are a great many statistical analytic techniques available, including the calculation of simple percentages, correlation analysis, cross-tabulation, path analysis, cluster analysis, regression, automatic interactin detection, and so forth. The choice of analytic techniques depends on the type of data to be analyzed and on the purpose of the survey project. New, highly sophisticated, or exotic sounding analytic techniques should never be used simply to impress or overwhelm decision-makers. The best approach is to choose the appropriate analytic techniques that will be most understandable to the users of the survey results.

Presentation of Results

The final results of the survey should be presented both orally and in writing. The writing of a final report serves two important functions. It helps bring closure to the

survey project and, in so doing, forces the researchers to organize and consolidate the results of the overall project. Second, the written report provides a permanent document of the survey that can be used by others for administrative or research purposes. Written reports should be kept as brief and concise as possible. The length of the written report can be reduced significantly by issuing a supplementary technical report for those readers interested in all the details and documentation. If the main report is long, it should contain a summary of the most important findings.

Verbal presentations are important and effective because they allow the survey researchers to present the important findings with an emphasis that frequently has greater impact than a written presentation, and they provide the opportunity for questions and discussion of the survey results. The appropriate use of visual aids increases the effect of oral presentations dramatically. Whether the presentation is verbal or written, the most important consideration is to deal explicitly with the original issues and purposes of the survey.

In summary, the survey process involves at least the following steps, each of which is affected by decisions made at prior stages and has implications for subsequent stages as well as the overall project.

1. Development of survey issue or problem.
2. Review of available information resources.
3. Selection of survey type and design of questionnaire or interview schedule.
4. Selection and training of interviewers.
5. Designing and drawing the sample.
6. Data collection.
7. Preparation of data for analysis.
8. Analysis of the data.
9. Presentation of results.

ESTIMATING COSTS

Estimating costs for survey research can be a frustrating and sometimes risky venture. The best strategy is to determine as clearly as possible what type of survey is appropriate and then prepare a Request for Proposal (commonly called an "RFP"). An RFP is a request for research organizations to submit cost estimate bids to conduct the survey project, similar to the way bids are sought when adding a room to a house. It should be as specific and detailed as possible so that research firms can accurately judge the nature and extent of the work involved.

In preparing this handbook, four sample RFP's were developed and mailed to research organizations. These RFP's described the following four projects:

1. Social Problem Awareness (Appendix A-1a): Brief telephone interviews of 300 adults in a small city to determine awareness of counseling services dealing with family violence.
2. Elderly Needs Assessment (Appendix A-2a): Face-to-face interviews (60-90 minutes) of 400 elderly residents of an urban county to determine how well elderly needs are met by existing services.
3. Civic Improvement Acceptance (Appendix A-3a): Telephone interviews with 200 persons in an urban area to determine reactions to a proposed street reconstruction project.
4. Public Service Users (Appensix A-4a): Mail-back questionnaires distributed to 8,000 users of state parks to evaluate park services.

Each RFP briefly describes the purpose of the survey and notes what the research client will provide the research organization (an outline of issues to be addressed in the survey, a list of key questions, etc.). The RFP then specifies the work to be done (time frame for the survey, type of research method, type and size of the research sample, and the number and type of questions for the interview schedule or questionnaire)and the research results to be provided by the research firm to the client (type of data, analysis results, operational descriptions, written reports, etc.). Finally, the RFP concludes with a cost estimate request broken down according to the major research tasks involved in the project.

Some firms specialize in a limited number of research tasks (data collection or data entry, for example), while others provide a complete range of services, either with their own facilities and resources or by subcontracting selected tasks. Of the ten firms that completed and returned the sample RFP's for this handbook, six offered estimates for all research tasks listed on each of the four RFP's. These complete estimates for each RFP were used to create Table 2. (Note that each of the four listed survey projects

TABLE 2

SURVEY PROJECT COST ESTIMATES

	Survey Project Title			
	Social Problem Awareness (SPA)	Elderly Needs Assessment (ENA)	Civic Improvement Acceptance (CIA)	Public Services Users (PSU)
I. GENERAL COST ESTIMATES BY SURVEY PROJECT:				
Number of firms providing estimates	6	6	6	6
Average (mean) total cost of survey project*	6,027	25,595	5,508	24,158
Cost range of survey project	4300-8700	16000-30500	3800-8500	9500-60500
II. ALLOCATION OF COSTS BY RESEARCH TASK (as percentage of total survey project cost):				
Interview schedule design and pretesting	14%	6%	16%	NA
Questionnaire design and pretesting	NA	NA	NA	6%
Sample design and drawing	11%	4%	10%	NA
Development of written instructions and half-day training session on data collection	NA	NA	NA	5%
Interviewing (face-to-face)	NA	72%	NA	NA
Interviewing (telephone)	43%	NA	38%	NA
Editing, code design, coding	11%	7%	11%	49%
Keypunching and computer tape preparation	10%	5%	11%	30%
Computer analysis	11%	6%	13%	10%
Total cost of survey project	100%	100%	100%	100%
III. PERCENTAGE OF INCREASED COST FOR HIGHER RESPONSE RATE FOR SURVEY PROJECT:				
Base response rate (RR)	65% RR	65% RR	70% RR	NA
Optional higher response rate (RR)	75% RR	75% RR	80% RR	NA
Additional cost for higher response rate (as percentage of total project cost)	6%	8%	5%	NA
Details available in Appendix	A-1b	A-2b	A-3b	A-4b

*All estimates based on original or base response rate requested for survey project unless otherwise noted.

NA Not applicable for this survey project.

corresponds to an RFP. A more detailed cost estimate table appears in Appendices A-1a through A-4b.)

Perhaps the most obvious observation from this table is that survey research is not cheap. The average total cost of the survey projects listed varies from $5,508 to $25,595, depending upon the particular project. In addition to the average cost of a project, it is especially informative to note the cost range for each of the four projects. In three of the projects the highest estimate is approximately twice the cost of the lowest bid, while in the Public Services Users (PSU) Project the high estimate is more than six times greater than the lowest estimate!

What can cause such diverse cost estimates? One explanation might be that an RFP is ambiguous and is being interpreted in different ways by the research firms. For example, the PSU Project RFP (see Appendix A-4a) fails to explicitly mention the costs of printing the more than 8,000 questionnaires. Some firms may have assumed the printing costs to be their responsibility, while others assumed that the client would pay for printing. The ambiguous nature of the research project itself may account for wide-ranging cost estimates. Again, the PSU Project RFP specifies a maximum of 8,000 questionnaires to be processed, but the minimum number might be considerably less, thereby significantly cutting the costs of the subsequent coding, data entry, and analysis. Some firms may have been conservative, others very liberal in estimating the actual number of returned questionnaires to be processed.

Other explanations for divergent cost estimates include low-ball bidding, sometimes under actual costs, in an attempt to secure a research project. Quality work on such a project may help establish a reputation and clientele that will generate further business at normal rates. On the other hand, unusually high bids may indicate a relatively low level of interest in a project, unless, of course, the price is right.

It is important to remember that there is not necessarily a strong correlation between the cost estimates of research firms and the quality of their work. It is entirely possible that some firms may be very experienced in certain types of surveys and may be able to do better work at lower cost than other, less experienced organizations. Also, some firms may simply be better organized and more efficient than others. The obvious lesson from the cost range figures is to shop around, to get several estimates for a given survey project, and to talk with several research firms before deciding which one seems most appropriate for the project at hand.

The second part of Table 2 deals with the allocation of research task costs within each survey project. The most striking aspect of specific research task costs is the expense of data collection relative to the costs of other tasks. For the two projects

involving telephone interviewing (SPA and CIA), data collection accounts for 43 percent and 38 percent of the total cost of each project, respectively. Interview schedule design and pretesting involves 14 percent and 16 percent of telephone survey costs, while the costs of the other research tasks in these two projects are almost equally distributed at 10 percent to 13 percent of the total project cost. While data collection is costly in telephone surveys, it accounts for an astonishing 72 percent of the total cost of the face-to-face interview survey assessing elderly needs (ENA). Remember, interview survey projects require the recruiting, training, supervising and paying of interviewers. Telephone interviewing has the added expense of phoning facilities, and face-to-face interviewing involves substantially more labor and travel costs per interview. As with the telephone interview projects, costs of the other research tasks of the face-to-face project (ENA) are about equally distributed, ranging from 4 percent to 7 percent of the total project cost.

The data collection costs of the questionnaire survey (PSU) are not accurately reflected in the table because the distribution of the questionnaires and their mailed return was a cost to be born by the research client rather than the research firm. The relative cost of data collection in questionnaire surveys, however, is considerably less than in interview surveys. The relatively high cost of editing and coding the data (49 percent) and of the data entry or keypunching (39 percent) reflects, in part, the large sample size of this project (possibly as high as 8,000 questionnaires). Questionnaire design and the single training session are fixed costs, whether the sample size is 10 or 10,000, so the relative costs of these research tasks goes down as the costs tasks affected by sample size go up. Computer analysis costs are affected by the size of the sample but not nearly as drastically as the coding and data entry tasks.

The additional cost of a higher response rate is presented in the third section of Table 2. A higher response rate increases the likelihood that the sample used for a survey is representative of the population of interest. It also requires increased attempts to reach and gain the cooperation of persons selected in the sample, and that increases the cost of a survey. For the three surveys listed in Exhibit B, the additional cost for a higher response rate is between 5 percent and 8 percent of the total survey cost.

The total cost of a survey project is affected by a number of factors. The size of the geographic area over which the sample is selected has an impact, with neighborhood or community surveys costing less than the same type of survey conducted across a county, state, or the nation. Mailed questionnaires are least affected by distance because of the single rate for domestic postage. However, long distance telephoning is obviously expensive, and face-to-face interview costs increase dramatically as longer distances raise travel costs and labor costs for interviewers' time.

Perhaps less obvious is the variation in the cost of sampling procedures. Some procedures, such as cluster sampling or multistage area sampling require people to go out and enumerate all dwelling units of selected blocks, a procedure considerably more costly than drawing a sample from telephone books or city directories. The third and most obvious sampling factor that affects costs is the size of the sample. The larger the sample, the greater the cost at almost every stage of the survey project, from sample drawing through data collection to analysis.

The design of the interview schedule and questionnaire affects costs in at least three ways. The more questions asked, the greater the cost of data collection, editing, coding, and analysis. Open-ended questions increase interview time and significantly add to coding costs. Finally, a complex interview schedule can affect costs by raising the qualifications required of interviewers and by increasing the training time and the time necessary to complete each interview.

Interviewer costs are increased whenever a survey requires interviewers with special knowledge or special skills. Highly technical or specialized interviews or interviews of a sensitive nature not only require interviewers who are more mature, more skillful or who have had specialized education (and therefore usually more expensive), but they also increase interviewer training time. Volunteer interviewers may reduce data collection costs, although the use of volunteers increases the costs of training, supervision, and interview validation, and may also present other difficulties, as previously mentioned.

The complexity of the data analysis is a final cost in a survey project. Costs generally increase as analyses move from simple description to the analysis of associations among variables. Causal analysis tends to be the most expensive because it usually involves more sophisticated analytic techniques and because causal analysis may require more than one phase of data collection.

In summary, there are many factors that affect the cost of research. The geographic area over which a sample is spread, the type of sampling procedure used, and the size of the survey sample have significant impacts on survey costs. The length of interviews and questionnaires and the type of questions asked may increase data collection costs as well as the costs of subsequent stages of a survey project. The type and quality of interviewers that are needed and the amount of interviewer training, and supervision affect costs. Higher response rates normally increase costs, as do more sophisticated analytic techniques. Probably the most significant decision affecting cost is the choice of which type of survey to conduct: mail-back questionnaire, group-administered questionnaire, telephone interview, or face-to-face interview.

As with most research, survey research design usually involve a compromise, a balance among conflicting objectives. Cutting back on the sample size, the number of

questions asked, the sophistication of the analysis, and so forth does save money; however, each such cutback usually means some reduction in the quality or quantity of information gained from the survey. In dealing with survey costs, it is important to keep in mind the original purpose of the survey, to know what information is necessary for that purpose, and to resist the temptation to add unnecessary features at each stage of the research project. Bearing in mind that the costs of a survey project can vary considerably from one research firm to another, it would be wise to contact as many research organizations as possible before deciding which is the most appropriate in terms of costs and services.

USE OF SURVEY RESEARCH SERVICES

The use of outside firms for survey research assistance is feasible for almost any of the research tasks. Although many research firms prefer to conduct the entire survey project as a package, some will be willing to provide selected research services, while the client organization performs the rest. Also, some research firms specialize in performing a single research service such as data collection or data entry. While it is possible to have outside research firms perform all of the research tasks, from the overall research design to the final report, the client organization must at a minimum, provide some general input as to the purpose and goals of the survey. This task of specifying the purpose and goals of the survey is not always as simple as it may first appear, and, in fact, one of the most valuable services a research firm can provide its clients is assistance in clarifying an organization's survey research needs.

If external assistance is feasible for practically any and all aspects of a survey project, when is the use of outside research organizations desirable? As previously mentioned, it is desirable if an organization wants or needs to demonstrate that the survey results were achieved independently and that no conflict of interest was involved. For example, if Rampin County wants to evaluate its human services programs, an internally conducted evaluation survey may provide information of use in improving services; however, the results of such research may be suspect if they are cited as proof of well-run programs.

The use of outside research organizations is also valuable when an organization wants or needs information gathered and analyzed from a perspective other than its own. The state parks department, for example, may feel it needs an outside source to conduct a survey, analyze the results, and make recommendations on how to improve park services and increase park usage. The parks department may believe that as an organization its approach to park usage has become stagnant or unimaginative and that an outside survey and analysis might provide a fresh, productive perspective.

A third reason for using outside survey resources is that they may be more cost-effective. The cost-effectiveness of a complete outside survey package or of external assistance for select research tasks depends upon the expertise and personnel resources of the client organization. If the client organization has the qualified survey research analysts, it can best maintain control of the survey by performing the design tasks (overall survey design, sampling design, interview schedule or questionnaire construction, coding design, and design of the analysis strategy), the statistical analysis tasks, and the interpretation/reporting (including conclusions and recommendations). This would leave the data collection tasks (interviewer recruitment and training, and interviewing) and data

preparation tasks (coding, data entry or keypunching, and computer tape preparation) for external research firms. As noted earlier, these data collection and data preparation tasks account for a large proportion of the total survey cost, primarily because they require a great deal of labor. In other words, data collection and data preparation require many people working over a long period of time at relatively low levels of pay, while the survey design and interpretation/reporting tasks can be performed by one or a few highly trained professionals.

If an organization has qualified survey professionals, it can control and guide the survey while hiring an external research organization to perform the high labor volume tasks of data collection and data preparation. If, on the other hand, an organization has no available qualified survey professionals, it can contract with a research organization to perform the design and interpretation/reporting tasks, while perhaps using some of its own personnel for data collection and at least the coding task of data preparation. Even with the personnel available to perform these tasks, however, it may be more cost-effective to hire a research firm that already has trained and experienced interviewers and coders rather than to train and manage internal staff for a single survey project. Data entry or keypunching is another labor intensive task; however, it cannot be performed without special equipment. The remaining tasks of data file preparation (computer tapes or disks) and statistical analysis require specialized professional skills as well as access to computer facilities.

A variety of survey research organizations are available to serve the Twin Cities and Minnesota. Fifty-four organizations are listed in Appendix C as providing some type of survey research-related service. In terms of size, they range from one-person consulting firms to large, national research organizations with sophisticated facilities and permanent professional staffs. Several firms offer complete survey project packages, through their own resources or by subcontracting services, while others offer selected research services. A summary of the research services offered by each organization is provided in the Research Services Inventory (Appendix B).

Among the fifty-four research firms or agencies listed, the most commonly offered services are those that involve general research methodology or communications skills. Table 3 indicates that survey design, sampling design, questionnaire and interview schedule construction, editing of completed questionnaires and schedules, written reports, and oral presentations are the most commonly offered services. On the other hand, services that require special facilities or equipment (data entry and computer tape preparation) or highly sophisticated analytic skills (scaling/measurement analyses and multivariate analyses) are the least likely to be offered. The low percentage of firms offering to draw area samples is probably due to the expense and infrequent use of this technique.

TABLE 3

PERCENTAGE OF RESPONDING FIRMS OFFERING VARIOUS SURVEY RESEARCH SERVICES

Type of Research Service Offered	Number of Firms Offering Service	Percent of Firms Offering Service
Survey Design	43	80%
Sampling Design	42	78%
Sample Drawing	37	69%
Telephone Samples	34	63%
Area Samples (dwellings, etc.)	31	57%
Questionnaire Construction	41	76%
Pretesting	40	74%
Interview Schedule Construction	41	76%
Pretesting	40	74%
Interviewer Recruitment	36	67%
Interviewer Training	38	70%
Telephone Interviewing	38	70%
Face-to-face Interviewing	40	74%
Completed Questionnaires and Interviews		
Editing	42	78%
Coding Design	39	72%
Coding	38	70%
Data Entry (keypunching)	29	54%
Computer Tape Preparation	29	54%
Design of Analysis Strategy	37	69%
Statistical Analyses		
Scaling/Measurement Analysis	34	63%
Frequency Distributions	39	72%
Cross-tabulations	40	74%
Multivariate Analyses	37	69%
Written Reports	44	81%
Oral Presentations	42	78%
TOTAL	54	100%

While many of the listed organizations are market research firms, all have indicated an interest in providing social survey research services for administrative and policy purposes. Some firms may prefer not to deal with government organizations. Based on past experience, they feel that some government agencies request survey research bid estimates only to justify the proposed costs of their own in-house survey proposals to their administrative supervisors.

The best approach in seeking external assistance with survey research is to send a request for proposal (RFP) to as many firms as possible. Explain your organizations needs and ask each firm about its ability to meet those needs. Established firms will be pleased to provide names of clients they have served in the past. Finally, ask for advice from these organizations. If they can't provide the services your organization needs, most will be able and willing to suggest other firms that can. Remember, each survey project is unique, and it is worth the effort to explore the available resources in order to find the best combination of services, cost, and quality for a given project.

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APPENDICES A

FOUR SAMPLE RFP'S (REQUESTS FOR PROPOSALS)

AND

ASSOCIATED COST ESTIMATES

APPENDIX A-1a

SOCIAL PROBLEM AWARENESS (SPA)

REQUEST FOR PROPOSAL

SUBJECT: Survey to Ascertain Public Awareness of a Problem and of the Services Available to Help Deal with it.

DESCRIPTION: A private, nonprofit organization is considering development of a counseling program to help families that are experiencing problems with family violence. The agency would like to survey the general population of the city of Dulchester to determine the degree to which family violence is considered a personal problem and the level of awareness of available services to deal with this problem. It would also like to determine the feasibility of a new family counseling program at a private agency to respond to this problem.

TO BE PROVIDED BY THE CLIENT: Outline of issues to be addressed in this survey.

WORK SPECIFICATIONS:

Time Frame: Data due three months after agreement to begin survey.

Method: Telephone interviews (4-7 minutes).

Sample: Simple random sample of 300 adult (18 plus) residents of Dulchester in households drawn from the most recent city telephone directory. Dulchester contains approximately 50,000 residents and 20,000 households.

Interview Schedule: Specification of age, gender, family size and structure (presence of husband, wife, number of children by age and gender, and others in household), occupation, and approximate family income; not more than 7 fixed-alternative questions and 3 open-ended questions.

TO BE PROVIDED TO THE CLIENT:

Data: Card image data on computer tape.

Analysis: Frequency distributions and crosstabulations of substantive items (e.g., perception of family violence as problem, awareness of helping services, interest in private family counseling) by demographic variables (approximately 50 tables).

Operational Description: Data on the following:

a. Number of initial sample of phones.
b. Number of residential phones.
c. Number of residential phones where contact was made.
d. Number of residential phones where adult respondent was contacted.
e. Number of residential phones where adult interview was completed.

$$\text{Response Rate} = \frac{\text{Number of Adult Interviews}}{\text{Number of Residential Phones}}$$

ITEMIZED COST ESTIMATES:

		COST
Interview guide design and pretesting		_____
Sample design and drawing	65% Response Rate	_____
Interviewing		_____
Editing, code design, coding		_____
Keypunching and computer tape preparation		_____
Computer analysis		_____
Total		_____
Additional cost for a 75% response rate		_____

APPENDIX A-1b

SOCIAL PROBLEM AWARENESS (SPA)

ITEMIZED COST ESTIMATES

SURVEY TASK	SURVEY ORGANIZATION 1	2	3	4	5	6	RANGE	AVERAGE (mean)	Percent of total Survey Cost
Interview guide design and pretesting	1,000	600	850	900	1,000	800	600 - 1,000	858	14%
Sample design and drawing] 65% Response Rate	1,500	000	880	1,000	350	150	000 - 1,500	646	11%
Interviewing] 65% Response Rate	3,000	3,000	1,725	1,600	4,500	1,700	1,600 - 4,500	2,587	43%
Editing, code design, coding	1,200	150	650	900	500	650	150 - 1,200	675	11%
Keypunching and computer tape preparation	1,000	150	320	600	1,000	600	150 - 1,000	611	10%
Computer analysis	1,000	500	500	500	1,000	400	400 - 1,000	650	11%
Total Cost	8,700	4,400	4,925	5,500	8,350	4,300	4,300 - 8,700	6,027	100%
Additional cost for a 75% response rate	1,000		350	600	000	000	000 - 1,000	390	6%

APPENDIX A-2a

ELDERLY NEEDS ASSESSMENT (ENA)

REQUEST FOR PROPOSAL

SUBJECT: Public Needs Assessment of Elderly Residents Survey

DESCRIPTION: As part of its long-range planning program, the Rampin County Board of Commissioners wants to review and update its services for elderly residents living outside institutions. It has directed the county welfare department to determine the major problems facing the elderly and to devise a plan for dealing with these problems over the next decade. The key concern is to determine what the problems are, how they are being dealt with, and how to coordinate existing services for the elderly from all sources (public and private agencies, friends, relatives, etc.) so that needs are met as efficiently and effectively as possible.

TO BE PROVIDED BY THE CLIENT: Outline of key issues for study, typical problem areas for the elderly, and known existing services for the elderly in Rampin County.

WORK SPECIFICATIONS:

Time Frame: Raw data and initial descriptive analysis due within six (6) months of formal agreement to conduct survey.

Method: Face-to-face interview (60-90 minutes).

Sample: 400 elderly (age 65 or older) residents drawn in a multistage area probability sample (census tracts, blocks, households, respondents) of Rampin County. There are approximately 400,000 households in Rampin County, about 15% of which contain at least one elderly occupant.

Interview Schedule: No more than 40 fixed-alternative questions, 10 open-ended questions, and 10 socio-demographic items.

TO BE PROVIDED TO THE CLIENT:

Data: Raw data in the form of completed interview schedules, and card image data on computer tape.

Descriptive Analysis: Frequency distributions of all items; crosstabulations of all items by the socio-demographic items (approximately 500 tables).

Operational Description: Data on the following:

a. Number of dwellings selected.
b. Occupied dwellings identified.
c. Occupied dwellings where occupant was contacted.
d. Occupied dwellings where occupant was elegible for interview (elderly).
e. Occupied dwellings where elderly occupant was contacted.
f. Total elderly interviews completed.

$$\text{Response Rate} = \frac{\text{Number of Elderly Interviews}}{\text{Number of Dwellings with Eligible Elderly Residents}}$$

ITEMIZED COST ESTIMATES:

		COST
Interview schedule development and pretesting		_____
Sample design and drawing	65% Response Rate	_____
Interviewing		_____
Editing, code design, coding		_____
Keypunching and computer tape preparation		_____
Computer Analysis		_____
Total		_____
Additional cost for 75% response rate		_____

APPENDIX A-2b

ELDERLY NEEDS ASSESSMENT (ENA)

ITEMIZED COST ESTIMATES

SURVEY TASK	SURVEY ORGANIZATION						RANGE	AVERAGE (mean)	PERCENT OF TOTAL SURVEY COST
	1	2	3	4	5	6			
Interview schedule design and pretesting	4,000	600	1,250	1,500	1,500	1,000	600 - 4,000	1,641	6%
Sample design and drawing] 65% Response Rate	3,000	000	880	1,500	500	400	000 - 3,000	1,046	4%
Interviewing] 65% Response Rate	12,000	18,000	25,400	24,000	10,000	20,500	10,000 - 25,400	18,316	72%
Editing, code design, coding	3,000	800	1,440	2,000	1,000	2,700	800 - 4,000	1,823	7%
Keypunching and computer tape preparation	2,500	700	450	800	1,000	1,500	450 - 2,500	1,158	5%
Computer Analysis	2,500	1,800	750	700	2,000	2,000	700 - 2,500	1,625	6%
Total Cost	27,000	21,900	30,170	30,500	16,000	28,000	16,000 - 30,500	25,595	100%
Additional cost for 75% response rate	3,000		3,500	3,500	000	000	000 - 3,500	2,000	8%

APPENDIX A-3a

CIVIC IMPROVEMENT ACCEPTANCE (CIA)

REQUEST FOR PROPOSAL

SUBJECT: Survey to Determine Acceptance of a Proposed Civic Improvement

DESCRIPTION: The city of St. Appolis can receive $1,750,000 in state highway funds to match $250,000 of its own money for a much needed, two-mile, major reconstruction of Clark Avenue. If the city fails to complete the reconstruction work on schedule, it alone must pay for the entire project. The use of state funds will necessitate widening of Clark Avenue by five feet and removing boulevard trees on one side of the avenue. St. Appolis is seeking proposals to conduct a survey of residents in the immediate vicinity of the proposed street improvement project to determine: the likely degree of opposition to this project; its potential for stopping or delaying the project; and the feasibility of overcoming community opposition (by proposing measures to allay concerns about such things as increased traffic or traffic speeds, and aesthetic changes).

TO BE PROVIDED BY THE CLIENT: Outline of key issues or questions to be resolved by the survey.

WORK SPECIFICATIONS:

Time Frame: Data and preliminary analysis due within 30 calendar days of signing contract to conduct this survey.

Method: Telephone interviews (7-10 minutes).

Sample: Random sample of 200 heads-of-household living within three blocks of Clark Avenue between Placid Street and Tranquility Boulevard drawn from the city reverse directory. Estimated total number of households is approximately 1500.

Interview Schedule: No more than 20 fixed-alternative questions; 5 open-ended questions; plus age, family life-cycle stage, occupation, income, home-owner vs. renter status.

TO BE PROVIDED TO THE CLIENT:

Data: Card image data on computer tape.

Analysis: Frequency distributions of all items; crosstabulations all items by the five specified demographic variables (approximately 125 tables).

Operational Description: Data on the following:

a. Number of residential phones selected.
b. Number of phone numbers where no contact was made.
c. Number of head-of-household refusals.

$$\text{Response Rate} = \frac{\text{Number of Completed Interviews}}{\text{Number of Residential Phones Identified in Directory}}$$

ITEMIZED COST ESTIMATES:

		COST
Interview schedule design and pretesting		_____
Sample design and drawing	70% Response Rate	_____
Interviewing		_____
Editing, code design, coding		_____
Keypunching and computer tape preparation		_____
Computer Analysis		_____
Total		_____

Additional cost for an 80% response rate

APPENDIX A-3b

CIVIC IMPROVEMENT ACCEPTANCE (CIA)

ITEMIZED COST ESTIMATES

SURVEY TASK	SURVEY ORGANIZATION						RANGE	AVERAGE (mean)	PERCENT OF TOTAL SURVEY COST
	1	2	3	4	5	6			
Interview schedule design and pretesting	600	950	1,200	1,000	700	1,000	600 - 1,200	908	16%
Sample design and drawing	000	560	1,000	1,000	100	500	000 - 1,000	526	10%
70% Response Rate									
Interviewing	2,400	940	1,200	3,000	1,100	4,000	940 - 4,000	2,106	38%
Editing, code design, coding	200	450	800	500	700	1,000	200 - 1,000	608	11%
Keypunching and computer tape preparation	200	400	400	1,000	600	1,000	200 - 1,000	600	11%
Computer analysis	800	650	500	1,000	500	1,000	500 - 1,000	741	13%
Total Cost	4,200	3,950	5,100	7,500	3,800	8,500	3,800 - 8,500	5,508	100% *
Additional cost for an 80% response rate		000	500	000	000	1,000	000 - 1,000	300	5%

* The sum of the percentage figures in this column is actually 99% due to rounding.

APPENDIX A-4a

PUBLIC SERVICE USERS (PSU)

REQUEST FOR PROPOSAL

SUBJECT: Survey of State Park Users to Evaluate Park Services

DESCRIPTION: The state parks department would like to find out what kind of people typically use state parks, for what purposes, and how satisfied they are with various park services such as camping facilities, bicycle trails, naturalist lectures, and food services. The goal is to obtain information that will help improve services and increase park usage without major budget increases. Temporal variations in park usage (by time of day, day of the week, and season) are important.

TO BE PROVIDED BY THE CLIENT: List of selected parks with descriptions and respective hours, services, and costs. Labor for administering questionnaires. All costs associated with delivery of questionnaires.

WORK SPECIFICATIONS:

Time Frame: Data collection will cover twelve months beginning Novermber 1st, when the winter season starts. Data will be due February 1st, fifteen months after the data collection begins.

Method: Self-administered questionnaire handed out by park staff as respondents leave the park and to be returned by mail. A coupon worth a 50% discount on an annual park admission sticker will be mailed to each respondent whose completed questionnaire is postmarked within seventy-two hours of receiving it.

Sample: Random sample of 10 percent of park users age sixteen and older at ten selected state parks during the last week in January, April, July, and October. Maximum total sample for the year will be 8,000 respondents, 2,000 from each sampling period.

Interview Schedule: No more than 20 fixed-alternative questions; 5 open-ended questions; plus specification of respondents' gender, age, type of occupation, family status, and income. Questionnaire to be developed in consultation with parks department staff.

TO BE PROVIDED TO THE CLIENT:

Training: Written instructions and training for questionnaire administration by park staff. One half-day combined training workshop for all ten park staff persons who will supervise the data collection process (one supervisor at each park).

Data: Completed questionnaires and card image data on computer tape.

Analysis: Descriptive frequency distributions and crosstabulations of items by demographic variables (approximately 125 tables).

ITEMIZED COST ESTIMATES:

	COST
Questionnaire design and pretesting	_____
Development of written instructions and half-day training workshop on data collection. *	_____
Editing, code design, coding	_____
Keypunching and compter tape preparation	_____
Computer analysis	_____
Total	_____

*All questionnaire mailing costs will be paid directly by the state parks department.

APPENDIX A-4b

PUBLIC SERVICE USERS (PSU)

ITEMIZED COST ESTIMATES

SURVEY TASK	SURVEY ORGANIZATION						RANGE	AVERAGE (mean)	PERCENT OF TOTAL SURVEY COST
	1	2	3	4	5	6			
Questionnaire design and pretesting	500	3,000	600	1,250	2,000	2,000	500 - 3,000	1,558	6%
Development of written instructions and half-day training workshop on data collection *	500	2,500	600	750	1,500	1,000	500 - 2,500	1,141	5%
Editing, code design, coding	19,700	24,000	4,000	6,500	16,000	1,000	1,000 - 24,000	11,866	49%
Keypunching and computer tape preparation	2,500	24,000	3,500	5,600	4,000	4,000	2,500 - 24,000	7,266	30%
Computer analysis	600	7,000	2,400	1,250	2,000	1,500	600 - 7,000	2,458	10%
Total Cost	23,000	60,500	11,100	15,350	25,500	9,500	9,500 - 60,500	24,158	100%

* All questionnaire mailing costs will be paid directly by the state parks department.

APPENDIX B

RESEARCH SERVICES INVENTORY

	SURVEY DESIGN	SAMPLING DESIGN	SAMPLE DRAWING	TELEPHONE SAMPLES	AREA SAMPLES (DWELLINGS, ETC.)	QUESTIONNAIRE CONSTRUCTION	PRETESTING	INTERVIEW CONSTRUCTION	PRETESTING	INTERVIEWER RECRUITMENT	INTERVIEWER TRAINING	TELEPHONE INTERVIEWING	FACE-TO-FACE INTERVIEWING	COMPLETED QUESTIONNAIRES AND INTERVIEWS	EDITING	CODING DESIGN	CODING	DATA ENTRY (KEYPUNCHING)	COMPUTER TAPE PREPARATION	DESIGN OF ANALYSIS STRATEGY	STATISTICAL ANALYSES	SCALING/MEASUREMENT ANALYSIS	FREQUENCY DISTRIBUTIONS	CROSS-TABULATIONS	MULTIVARIATE ANALYSES	WRITTEN REPORTS	ORAL PRESENTATIONS	OTHER RESEARCH SERVICES
A & I of Minnesota			X	X						X	X	X	X		X													Focus groups, mall intercept
American Public Opinion Survey and Market Research Corporation	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Evaluation research, feasibility studies
Anderson & Berdie	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Survey research training workshops
Anderson Marketing Research	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Focus groups
Applied Marketing Concepts	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X			X		X	X	X	X	X	X	
Bengston Market Research													X													X	X	Focus groups
Ms. Betty Blume	X	X	X	X	X	X	X	X	X	X	X				X	X	X									X		Questionnaire validation
Biocentric	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Specializes in survey design and definition
Bulcroft & Paez	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X			X		X	X	X	X	X	X	Program evaluation, policy research
Burke Marketing Research	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Seminars on various aspects of research
Business Advisors of the Twin Cities	X	X				X	X	X	X	X	X		X		X	X	X	X	X	X		X	X	X	X	X	X	
Consumer Research	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Secondary analysis of data
Contacts Influential	X	X	X	X		X	X	X	X			X	X		X	X	X	X	X				X	X	X	X	X	Note: Deals only with businesses as the research subject.
Corporate Intelligence	X					X		X				X			X	X	X			X			X	X	X	X	X	
Custom Research	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Nationwide full-service research, focus groups
D'Arcy-MacManus & Masius	X	X	X			X	X	X	X		X					X				X		X	X	X	X	X	X	
Datamap																												Computer graphics: demographic display by census tract or county.
Bette Dickinson Research	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X							X		X	X	Focus groups, mall intercept
Doyle and Hendel	X	X				X	X	X	X		X				X	X	X	X	X	X		X	X	X	X	X	X	
Jeanne Drew Surveys		X	X	X								X	X															Focus groups, central location phoning
Dun's Marketing Services	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X						X	X	X	X	X	
Enright	X					X	X	X	X	X	X		X		X					X						X	X	
Focus Market Research	X	X	X	X	X			X	X	X	X	X	X		X								X	X		X	X	

	SURVEY DESIGN	SAMPLING DESIGN	SAMPLE DRAWING	TELEPHONE SAMPLES	AREA SAMPLES (DWELLINGS,ETC.)	QUESTIONNAIRE CONSTRUCTION	PRETESTING	INTERVIEW CONSTRUCTION	PRETESTING	INTERVIEWER RECRUITMENT	INTERVIEWER TRAINING	TELEPHONE INTERVIEWING	FACE-TO-FACE INTERVIEWING	COMPLETED QUESTIONNAIRES AND INTERVIEWS	EDITING	CODING DESIGN	CODING	DATA ENTRY (KEYPUNCHING)	COMPUTER TAPE PREPARATION	DESIGN OF ANALYSIS STRATEGY	STATISTICAL ANALYSES	SCALING/MEASUREMENT ANALYSIS	FREQUENCY DISTRIBUTIONS	CROSS-TABULATIONS	MULTIVARIATE ANALYSES	WRITTEN REPORTS	ORAL PRESENTATIONS	OTHER RESEARCH SERVICES
Friedrichs & Associates	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	
Geographic Data Technology																												Geocoding, census tract coding [1]
International Research and Evaluation	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Feasibility studies
Johnson, Powell	X	X				X	X						X													X	X	Focus groups
Key-Data																		X	X									
Mall Surveys of Minnesota	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Focus groups, mall intercept
Market Trends	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	
Measurment Services Center	X	X				X	X	X	X						X	X	X			X		X	X	X	X	X		Note: Services offered primarily to University of Minnesota clients
Mid-Continent Surveys	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X			X	X		X	X	Central location phone interviewing, cost-sharing quarterly survey of Minnesota adults
Midwest Interview and Research	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X			X		X	X	X	X	X	X	
Miller Research Services	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Central location phone interviewing, focus groups
Minnesota Analysis and Planning System		X																										
Minnesota Center for Social Research	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	
Minnesota State Demography	X	X	X	X	X	X	X	X	X	X	X	X	X							X		X	X	X	X	X	X	Note: Services primarily for Minnesota state government agencies
Molgren Research										X	X	X	X		X	X	X											Focus groups
Namakkal-Eringer Research	X	X				X	X	X	X	X	X	X	X		X	X	X			X		X	X	X	X	X	X	Focus groups
National Business Systems																		X	X									
Nelson M. Nones	X	X	X	X	X	X	X	X	X			X	X		X	X	X	X	X	X		X	X	X	X	X	X	Mini-computer software package for opinion surveys
Orman Guidance Research	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Focus groups
Phone Marketing Services	X	X	X	X		X	X	X	X	X	X	X			X	X	X			X		X	X	X	X	X	X	Customer account profiling (identifying customer characteristics)
S.K.Plasman	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Graphics for research reports, focus groups
Quatra Marketing Research	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Mathematical model building, depth interviews, focus groups
Quester	X	X	X	X				X	X			X			X	X	X	X	X	X		X	X	X	X	X	X	Computer content analysis of verbatum materials

	SURVEY DESIGN	SAMPLING DESIGN	SAMPLE DRAWING	TELEPHONE SAMPLES	AREA SAMPLES (DWELLINGS,ETC.)	QUESTIONNAIRE CONSTRUCTION	PRETESTING	INTERVIEW CONSTRUCTION	PRETESTING	INTERVIEWER RECRUITMENT	INTERVIEWER TRAINING	TELEPHONE INTERVIEWING	FACE-TO-FACE INTERVIEWING	COMPLETED QUESTIONNAIRES AND INTERVIEWS	EDITING	CODING DESIGN	CODING	DATA ENTRY (KEYPUNCHING)	COMPUTER TAPE PREPARATION	DESIGN OF ANALYSIS STRATEGY	STATISTICAL ANALYSES	SCALING/MEASUREMENT ANALYSIS	FREQUENCY DISTRIBUTIONS	CROSS-TABULATIONS	MULTIVARIATE ANALYSES	WRITTEN REPORTS	ORAL PRESENTATIONS	OTHER RESEARCH SERVICES
Readex	X	X	X		X	X	X								X	X	X			X		X	X	X		X	X	Secondary analysis of business advertising materials
St. Paul Computer Center																		X	X			X	X	X	X			
SRI (Selection Research)	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Note: Specializes in housing research
Gary Solomonson	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Focus groups
The Sutton Company	X					X	X	X	X			X	X							X						X	X	
Twin City Interviewing										X	X	X	X		X													
University of Minnesota Computer Center Professional Services	X	X	X		X	X	X	X	X	X	X		X		X	X	X	X	X	X		X	X	X	X	X	X	Computer graphics, all forms of computer manipulation & analysis
Winona	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	Central location phone interviewing, focus groups, mall intercept

1 Geographic Data Technology provides census tract numbers or specific latitudes and longitudes for street address listings provided by the client on computer tape .

Glossary:

Depth Interviews - intensive, open-ended response interviews.

Focus Groups (sometimes called small group research, qualitative research) - a popular market research technique in which small groups of people are brought together to discuss products or issues. The discussion, typically recorded or videotaped, is analyzed for information on people's reactions to the products or issues dealt with. This form of research may be useful in establishing and developing issues to be dealt with in survey research, or perhaps in following up survey research for more in-depth information about attitudes or behavior. It may complement survey research, but it is not a substitute for it.

Mall Intercept - on-the-spot interviews of customers in shopping malls.

Secondary Analysis of Data - analysis of data already collected and analyzed by another party.

NOTE: See the RESEARCH ORGANIZATION LISTING for the complete research organization title, address, telephone, and contact person.

APPENDIX C

RESEARCH ORGANIZATION LISTING

A & I of Minnesota
1196 Eden Prairie Center
Eden Prairie, MN 55344
Catherine Mannie
(612) 941-0825

American Public Opinion Survey
and Market Research Corporation
1216 South Minnesota Avenue
Sioux Falls, SD 57105
Warren R. Johnson, Vice President
(605) 338-3918

Anderson & Berdie Associates, Inc.
1821 University Avenue
St. Paul, MN 55104
John F. Anderson, Ph.D.
(612) 645-5577

Anderson Marketing Research
5200 Willson Road - Edina Executive
Plaza
Edina, MN 55424
Alfred Anderson, President
(612) 927-9151

Applied Marketing Concepts
5001 West 80th St., Suite 440
Minneapolis, MN 55437
Bruce Nelson
(612) 830-1555

Bengston Market Research
16856 Sherwood Road
Minnetonka, MN 55343
Roger Bengston
(612) 934-5616

Ms. Betty Blume
3437 Pilgrim Lane
Plymouth, MN 55441
Betty Blume
(612) 546-4175 or 542-9817

Biocentric, Inc.
514 Pioneer Building
St. Paul, MN 55101
Mary M. Blomquist, Ph.D.
(612) 293-0480

Bulcroft & Paez
734 Hall Avenue
St. Paul, MN 55107
Kris Bulcroft
(612) 225-7956

Burke Marketing Research
489 Taft Avenue, 2nd Floor
Glen Ellyn, Illinois 60137
David W. Brandt
(312) 469-7722

Business Advisors of the
Twin Cities, Inc.
6327 13th Avenue South
Minneapolis, MN 55423
David Hook
(612) 861-1223

Consumer Research Corp
811 LaSalle Avenue
Minneapolis, MN 55402
Howard Kushmar
(612) 332-8741

Contacts Influential
499 Metro Square Building
St. Paul, MN 55101
Robert E. Marquardt
(612) 221-1980

Corporate Intelligence, Inc.
P.O. Box 16073
St. Paul, MN 55116
Doug Schmidt
(612) 699-7310

Custom Research, Inc.
10301 Wayzata Blvd.
Minneapolis, MN 55426
Diane Kokal, Vice President
(612) 542-0816

D'Arcy-MacManus & Masius
Suite 600, 7900 Xerxes Avenue South
Minneapolis, MN 55431
George C. Scott or Susan Spaulding
(612) 831-7900

Datamap, Inc.
9749 Hamilton Road
Eden Prairie, MN 55344
Grant I. Warfield
(612) 941-0900

Bette Dickinson Research
3900 36th Avenue North
Minneapolis, MN 55422
Bette Dickinson
(612) 521-7635

Doyle and Hendel
9 Clarence Avenue Southeast
Minneapolis, MN 55414
Kenneth O. Doyle or Darwin D. Hendel
(612) 373-5708 or 373-2263

Jeanne Drew Surveys, Inc.
5005½ 34th Avenue South
Minneapolis, MN 55417
Jeanne Drew
(612) 729-2306

Dun's Marketing Services,
Dun & Bradstreet Corporation
Suite 175, 8120 Penn Avenue South
Minneapolis, MN 55431
Dan Millis, District Manager
(612) 888-6965

Enright and Associates, Inc.
867 Grand Avenue
St. Paul, MN 55105
T. J. Enright
(612) 222-8549

Focus Market Research, Inc.
2801 Woods Trail South
Burnsville, MN 55337
Judy Opstad
(612) 435-2509 or 435-2568

Friedrichs & Associates
Butler Square Building
Minneapolis, MN 55403
Norma Friedrichs
(612) 371-7500

Geographic Data Technology, Inc.
13 Dartmouth College Highway
Lyme, NH 03768
Donald F. Cooke
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International Research & Evaluation
21098 IRE Control Center
8900 Penn Avenue South
Minneapolis, MN 55431
Dr. R. Danford
(612) 888-9635 Telex 69-1008

Johnson, Powell & Company
510 Marquestte Avenue
Minneapolis, MN 55402
Alwyn L. Powell
(612) 333-1318

Key-Data Associates, Inc.
6043 Hudson Road
St. Paul, MN 55125
Julie Rottinghaus
(612) 735-4700

Mall Surveys of Minnesota, Inc.
2016 Maplewood Mall
Maplewood, MN 55109
Beverly Elznic
(612) 770-5636 or 770-6717

Market Trends, Inc.
14525 Highway 7, #125
Minneapolis, MN 55343
John Barlow
(612) 933-2222

Measurement Services Center
9 Clarence Avenue, Southeast
Minneapolis, MN 55414
Darwin D. Hendel, Research Associate
(612) 373-2263

Mid-Continent Surveys, Inc.
830 Midwest Plaza
Minneapolis, MN 55402
Bert Russick or Jim Frazee
(612) 333-7776

Midwest Interview and Research Associates
4561 South Cedar Larke
Minneapolis, MN 55416
Max Fallack
(612) 374-9515

Miller Research Services
7362 University Avenue NE
Minneapolis, MN 55432
Dale Longfellow or Tom Thul
(612) 571-9100

Minnesota Analysis & Planning System
415 Coffey Hall, University of Minnesota
1420 Eckles Avenue, St. Paul, MN 55108
Census Specialist
(612) 376-7003

Minnesota Center for Social Research
University of Minnesota
2122 Riverside Avenue
Minneapolis, MN 55455
Ron Anderson, Acting Director
(612) 373-0236 or 373-0177

Minnesota State Demography Unit
Department of Energy, Planning & Development
101 Capitol Square Building
St. Paul, MN 55101
R. Thomas Gillaspy
(612) 297-2434

Molgren Research Associates
1330 Jersey Avenue South
Minneapolis, MN 55426
Doug Dickerson
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Namakkal-Eringer Research, Inc.
100 Franklin Avenue West
Sam Namakkal
(612) 871-6551

National Business Systems, Inc.
9110 Meadowview Road
Bloomington, MN 55420
Joe Tafs
(612) 854-4664

Nelson M. Nones & Associates, INc.
2311 Wayzata Blvd
Minneapolis, MN 55405
Jane A. Waggoner
(612) 374-5420

Orman Guidance Research, Inc.
Southgate Office Plaza
Minneapolis, MN 55437
Allan Orman
(612) 831-4911

Phone Marketing Services, Inc.
395 White Bear Avenue
St. Paul, MN 55106
Sally Orlando
(612) 778-9169

S.K. Plasman and Associates, Inc.
3101 West 69th St.
Minneapolis, MN 55435
Steven Plasman or James LaFaye
(612) 925-1555

Quatra Marketing Research, Inc.
7200 France Avenue South, Suite 325
Minneapolis, MN 55435
Richard Hammett or Robert Johnson
(612) 831-1802

Quester, Inc.
1378 Forest Lane
Arden Hills, MN 55112
Don McTavish, Ph.D.
(612) 633-6541 or 633-0955

Readex, Inc.
140 Quail Street
St. Paul, MN 55115
John I. Butterfield or
Richard L. Rogers, Sr.
(612) 426-3221

St. Paul Computer Center
2005 Buford Avenue
St. Paul, MN 55108
Mel Sauve
(612) 373-0987

SRI Research Center
655 Shelard Tower
Minneapolis, MN 55426
John Wood
(612) 545-9660

Gary Solomonson Associates, Inc.
830 TCF Tower
121 South 8th St.
Minneapolis, MN 55402
Gary Solomonson
(612) 338-0012

The Sutton Company, Inc.
750 Boone Avenue North
Minneapolis, MN 55427
Charlie Sutton
(612) 546-7712

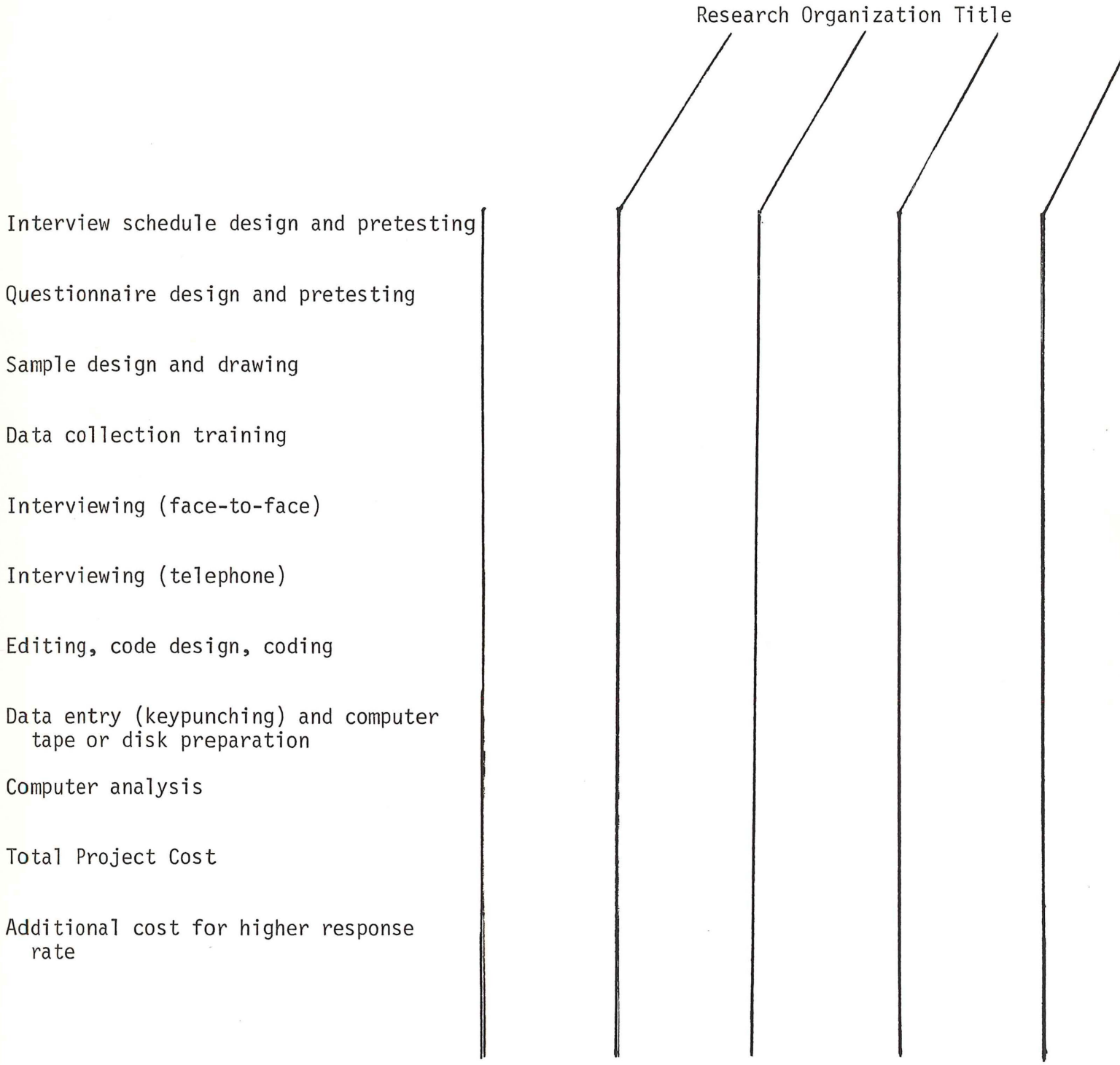
Twin City Interviewing Service, Inc.
1111 West 22nd St.
Minneapolis, MN 55405
Beth Fine or Nancy Lichy
(612) 374-9297

University of Minnesota Computer Center
Professional Services Division
227 Experimental Engineering
208 Union Street SE
Minneapolis, MN 55455
Mr. Shih-Pau Yen
(612) 376-1764

Winona, Inc.
8200 Humboldt Avenue South
Minneapolis, MN 55431
Dorothy Pterson, Client Services Director
(612) 881-5400

APPENDIX D

WORKSHEET FOR SURVEY COST ESTIMATES



APPENDIX E

CRITICAL PATH ANALYSIS AND UNIVERSITY SURVEYS: A GUIDE TO PROCESSING MAIL-BACK QUESTIONNAIRE SURVEYS AT THE UNIVERSITY OF MINNESOTA

by

Darrell Napton

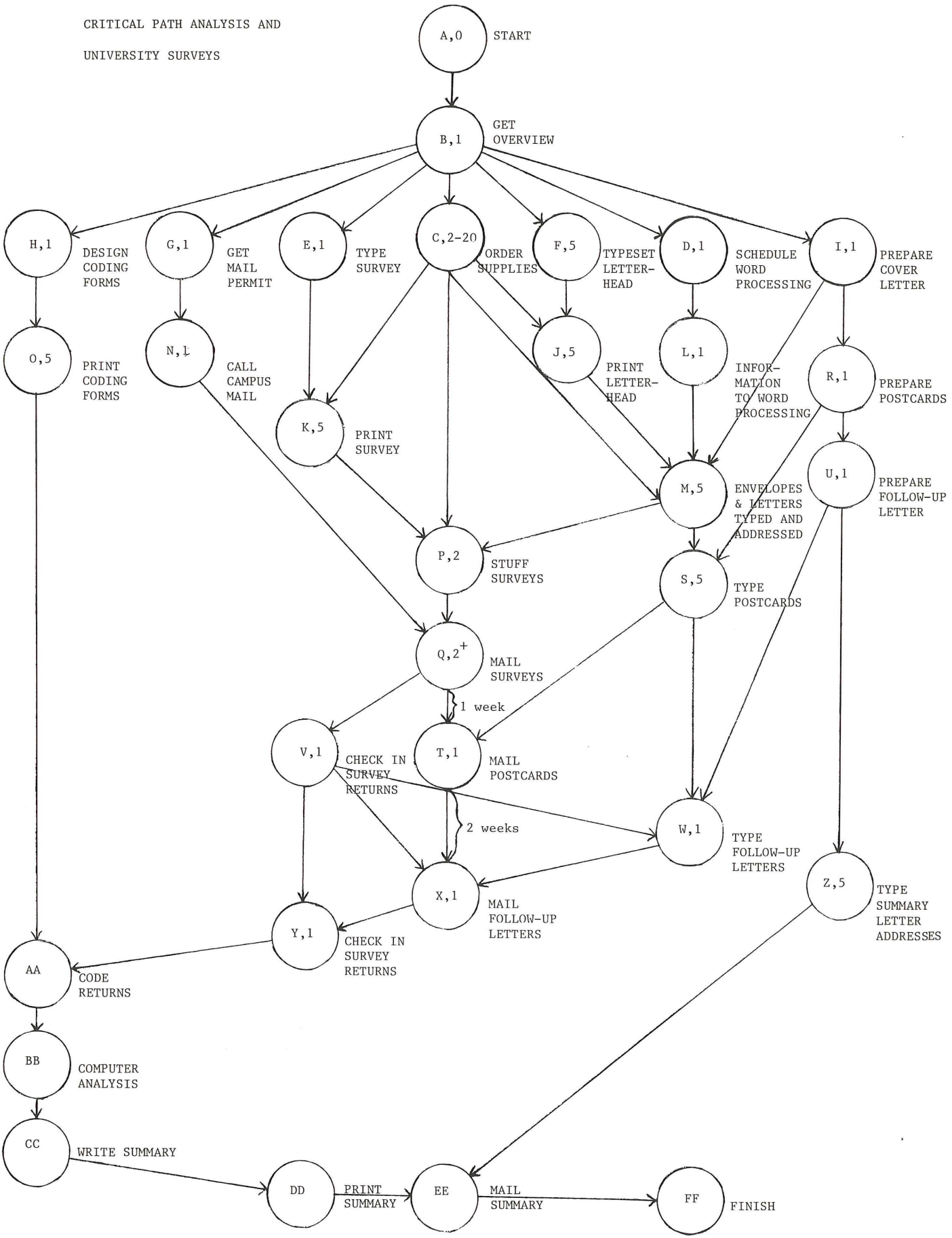
NOTE: This guide was originally prepared as an aid to persons at the University of Minnesota interested in conducting mail-back questionnaire surveys. The non-university reader may find it useful for processing such surveys, while ignoring those steps not relevant to his/her specific situation.

A - INTRODUCTION

The diagram, Critical Path Analysis and University Surveys, and the accompanying text is designed to assist you in preparation and mailing of surveys at the University of Minnesota, Twin Cities campus. This procedure complements the Total Design Method (TDM) of survey design as discussed in Mail and Telephone Surveys, by Don A Dillman. The Total Design Method is a process of designing, mailing, and following up surveys by using complementary techniques which have proven effective in eliciting high response rates. The diagram provides a map of the steps required to print and mail your survey and prepare a summary of the results. The diagram does not cover survey design or getting approval to do the survey from the University Committee on Human Experimentation. The diagram is a list of tasks that must be performed. The steps are combined into job sequence paths. A step cannot be completed until the steps prior to it, connected by arrows, have been completed. The circles contain information about where a step fits into the process and how long the step will take. The letters in each circle show the overall order in which steps should be taken to use your time most effectively. The numbers in the circles indicate the time required to the step. Adding the numbers for each path through the diagram will show which job sequence is longest. This is the Critical Path. "It indicates the minimum time necessary to complete the entire project." (For more information on using this method to avoid bottlenecks see, "The ABC's of the Critical Path Method," by Levy, Thompson, and Wiest, Harvard Business Review, September-October, 1963, p. 98).

CRITICAL PATH ANALYSIS AND

UNIVERSITY SURVEYS



B - OVERVIEW

Talk to someone who has done a Total Design Method survey, on campus, recently. This conversation should provide you with an update on new postal regulations, different university printing procedures and information about other changes and unanticipated problems.

Look at copies of old Total Design Method surveys and become aware of their special requirements.

Design a critical path suitable for your survey using the diagram as a model. Each survey is different. Yours may have a different number of steps. The time required for doing each step will vary depending on availability of materials, seasonal work cycles, different university staff persons in offices which you will contact, or different regulations to follow.

C - ORDER SUPPLIES

Decide whether special weight paper or odd sizes of paper or envelopes will be needed. Determine the length of the survey. With the TDM the survey length must be in multiples of four pages (e.g. 4, 8, 12). Each survey will have a cover that does not contain questions and a back that allows the respondent to comment about the survey subject in an open-ended fashion. This means that two pages must be added to the number of pages of survey questions to determine the length. If the survey is 12 pages long then 16 weight paper must be ordered and trimmed to keep the mailing weight under one ounce. Caution! The university does <u>not</u> generally have 16 weight paper on hand. Special ordering it will add to your time budget.

When you order paper, envelopes and follow-up postcards take an old survey with its introductory letter and envelope. Most people are not familiar with the TDM and its special printing requirements so it is helpful to have an example at hand.

D - SCHEDULE WORD PROCESSING

If you have access to a word processing unit use it; if not, you will have to go through the bidding process to contract with a private agency. This will take additional time.

The length of lead time needed by the word processors may vary, depending on how busy they are.

The word processing services will type your list of names and addresses into a computer. They will then be able to type the addresses on your letter, envelope, postcard and follow-up letters and summary mailings. They will also type your letters and postcard message into the computer. The equipment will then type each person an original letter. You should visit with the operators to see what format they want your names and addresses in and to see if they can perform other tasks that can save you time and money.

E - TYPE SURVEY

If the survey is typed neatly with carbon ribbon it will not need to be typeset. If you have someone else doing your typing, find out how much time they will need to complete the job.

F - TYPESET LETTERHEAD

Most people will not require special letterhead to be typeset. If you do need special letterhead it must be typeset and reproduced through the University Print Shop. Even if you do not require special letterhead you will probably need your normal letterhead printed on special-sized envelopes. If the university does not stock the envelope size you need, add time for ordering them.

G - GET MAIL PERMIT

If you are posting and mailing your own survey, disregard this sequence. To use metered mail and postage-paid return envelopes talk to Mailing Services in the University Printing and Graphic Arts building at 27th & Como. They will meter your mail with postage, seal and mail it. When your surveys are returned they will deduct the postage cost of each return from your budget. This is more time consuming, but it is less expensive than pre-stamping each return envelope.

H - DESIGN CODING FORMS

While standard 80-column coding sheets could be used, experience has shown that specially designed coding forms minimize error. One option is to mark off fields on a standard coding sheet and have multiple copies printed in pastel colors.

I - PREPARE COVER LETTER

Write and type a letter which will accompany each survey. The letter will explain the survey's purpose, why the respondent was chosen to participate, confidentiality of information (see Figure 1 for an example) and availability of the survey results.

UNIVERSITY OF MINNESOTA
TWIN CITIES

Center for Urban and Regional Affairs
313 Walter Library
117 Pleasant Street S.E.
Minneapolis, Minnesota 55455
(612) 373-7833

FIGURE 1

March 3, 1981

Mr. & Mrs. John Smith
RR 1
Rochester, MN 55901

Dear Mr. & Mrs. Smith:

The Center for Urban and Regional Affairs at the University of Minnesota has a strong interest in changes occurring in rural Minnesota. Working with local officials and others, we have been taking a close look at changes in land use and land ownership in rural parts of Olmsted County during the last few years. In the fall of 1979 we surveyed the characteristics and attitudes of rural homeowners, focusing on the reasons people choose to build or buy homes in rural areas. Now we are involved in the next phase of our study: a survey of why some people choose to sell rural land while others do not. We are asking for your help in our efforts to understand changing patterns of land use and the reasons poeple buy, hold, or sell rural land.

Your name was selected for this survey from public records kept in the Olmsted County Courthouse. Because people buy, hold, or sell rural land for different reasons, each person's answers are important to our study. By completing and returning the enclosed survey form, you can help us understand the changing pattern of land ownership in rural areas of Olmsted County. The enclosed survey form should be filled out by the landowner to whom this letter is addressed, or an adult who is familiar with this person's landholding.

Your participation is completely voluntary. Facts from your survey will be kept confidential and used only in combination with other responses for statistical purposes. The return envelope has an identification number on it for mailing purposes only. This will allow us to check your name off the mailing list when your survey is returned. Please complete and return this survey in the enclosed postage-paid, self-addressed envelope at your earliest convenience.

We hope that our study of rural landowners in Olmsted County will lead to a better understanding of the changes occurring in rural areas throughout Minnesota and nation-wide. Summary results will be made available to all interested persons. You may receive a summary of the results by writing "Copy of Results Requested" on the back of the return envelope and printing your name and address below it. Thank you very much for your assistance.

Sincerely,

Thomas L. Anding
Associate Director

enclosure

J - PRINT LETTERHEAD

If you require special letterhead to be typeset, it should be printed.

K - PRINT SURVEY

Take the survey to Duplicating Services. Have them photo-reduce it, print, fold, and staple it.

L - INFORMATION TO WORD PROCESSING

Take your names, addresses and cover letter to word processing.

M - ENVELOPES AND LETTERS TYPED AND ADDRESSED

Word processing will type and address your cover letters and address your envelopes.

N - CALL CAMPUS MAIL

You should remind campus mail, three to five days before the survey is to be mailed, that you will be bringing the survey by. Remind them of the postage class you will be using and number of surveys that you will be sending.

O - PRINT CODING FORMS

The coding forms should be back from the printers before your anticipated initial coding date.

P - STUFF SURVEYS

Allocate plenty of time for stuffing and mailing the surveys. A normal length of time to plan for is one hour for each 60 surveys. This includes stuffing, signing, and numbering. Each survey number, and each address must be carefully checked with each envelope. Otherwise, people will receive a cover letter addressed to someone else and you will not know which recipients have responded.

To keep track of each person who receives a survey use a numbering machine. Stamp each return envelop with a number. Stamp the same number on your record of that individual. When a survey is returned match the numbers to find who to remove from the follow-up lists.

Q - MAIL SURVEYS

Take the surveys to Mailing Services the day before they are to be mailed. Be sure to tell them that the surveys are to be mailed first class. First class mail does not have to be sorted in zipcode order.

R - PREPARE POSTCARDS

Postcards are to be mailed to all survey recipients to remind them that their response is important, to thank them for responding, and to ask if they have any questions. See Figure 2 for an example.

S - TYPE POSTCARDS

Have word processing type the addresses and messages on the postcards. An option would be to have Duplicating Services print the postcard message. If the postcard message is prepared early enough word processing can type them at the same time that they address the letter and envelopes.

T - MAIL THE POSTCARDS

Mail the postcards one week after the survey is mailed.

U - PREPARE FOLLOW-UP LETTER

See Figure 3 for an example.

V - CHECK IN SURVEY RETURNS

Tabulate who has not responded to the survey so that you will know who to send the follow-up letters to. Give this list to word processing so they can now prepare follow-up letters for those individuals.

W - TYPE FOLLOW-UP LETTERS

Have word processing type and address your follow-up letter and address the envelopes for those survey recipients who have not yet responded to the survey.

X - MAIL FOLLOW-UP LETTERS

Two weeks after the postcards are sent, the follow-up letter and a duplicate survey is mailed to all individuals who have not yet responded.

You will get many surveys returned while the word processors are preparing the follow-up letters. There is no way to prevent this duplication. You should remove these letters before the mailing.

It is a good idea to use new numbers for your second mailing. One easy way to do this is to let the first digits of both mailings represent the date of the respective mailing.

FIGURE 2

POSTCARD:

Mr. & Mrs. John Smith
RR 1
Rochester, MN 55901

Dear Mr. & Mrs. Smith:

Last week a survey dealing with land ownership in rural areas of Olmsted County was mailed to you. We selected your name from public records of rural landholdings in Olmsted County. We mailed the survey only to a small number of people who were or are now rural landowners. Your response is important if the results of our study are to accurately represent decisions made by people concerning rural landholdings. If you have already completed and returned the survey, please accept our sincere thanks. If not, please take the time to complete and return it today. If you did not receive the survey, if it got misplaced, or if you have any questions about our study, please call me collect right now by dialing: 0-612-376-5350. I will be glad to answer your questions or get another copy of the survey in the mail to you today.

Sincerely,

Thomas L. Anding, Associate Director
Center for Urban & Regional Affairs
University of Minnesota

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Minneapolis, Minnesota 55455
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FIGURE 3

March 24, 1981

Mr. & Mrs. John Smith
RR 1
Rochester, MN 55901

About three weeks ago I wrote to you asking for your help in our study of changes occurring in rural land ownership and land use in Olmsted County. As of today we have still not received your completed questionnaire. We believe that the characteristics and attitudes of both the people who sold rural land during the last few years and those who did not sell any land should be considered when public policies are formulated for rural communities that surround a larger city.

I am writing to you again because our ability to accurately understand and describe both groups of people (sellers and nonsellers) depends on you and others who have not yet responded. Past experience suggests that those of you who have not yet sent in your questionnaire may have different characteristics and feel differently about changes occurring in rural areas than those people who have already responded. Because of this, it is important that all people contacted return their questionnaires. In case yours has been misplaced, I am enclosing a replacement. It should be filled out by the landowner to whom this letter is addressed or an adult who is familiar with this person's landholding. It will take approximately fifteen minutes to complete.

You may be assured of complete confidentiality. All responses will be used only in combination with the responses of other landowners in the final report. I'll be happy to send you a summary of the results if you want one. Simply put your name, address, and "Copy of Results Requested" on the back of the return envelope. We expect to have them ready to send this summer.

Your contribution to the success of this study is important and will be appreciated greatly.

Sincerely,

Thomas L. Anding
Associate Director

enclosure

Y - CHECK IN SURVEY RETURNS

You can determine your response rate and see if there is a pattern to responses or non-responses.

Z - TYPE SUMMARY LETTER ADDRESSES

Have word processing address envelopes for those respondents who indicated that they want a copy of the survey results. Be sure to tell word processing not to throw away your address file until this step is completed.

AA - CODE RETURNS

BB - COMPUTER ANALYSIS

CC - WRITE SUMMARY

DD - PRINT SUMMARY

EE - MAIL SUMMARY

FF - END!