

# So You Want to Do a Survey . . .

*Maureen Berner, Ashley Bowers, and Laura Heyman*

**A** city council wants to gauge citizens' views on the city's future. A human resources department wants to find out what employees think of the benefits the county currently offers. A public health office wants to assess the community's understanding of the need for childhood immunizations before it launches a major new immunization campaign. How can these various units gather the information they need to meet their objectives? Surveys.

Surveys are becoming an increasingly popular tool for local government analysts. For example, each year, more than 230 communities with a population greater than 25,000 use citizen surveys.<sup>1</sup> If surveys are conducted and analyzed using the appropriate methodology, they can be very useful for gathering information from a variety of audiences. However, they have some limitations.

This article describes the main types of surveys used by local governments and the advantages and the disadvantages associated with each. It also briefly discusses sample size and cost. Then it summarizes the main steps in conducting a survey. In sidebars (see pages 24, 25, 26, and 27), the article highlights the experiences of four jurisdictions,

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showing how common both good and bad experiences with surveys are.

## When and Why to Use Surveys

Surveys are relatively new, historically speaking. The first person to use a mail survey was none other than Karl Marx, as he was gauging support for his views among workers in France in 1880.<sup>2</sup> Yet not until the twentieth century did government, academic, and private-sector researchers begin to implement a vast range of surveys to measure phenomena from political attitudes to job satisfaction to soft drink preferences. The

twentieth century also witnessed the birth of the discipline of survey methodology, dedicated to improving the quality and the cost-effectiveness of survey research. As with everything in modern society, the discipline is changing rapidly as technology expands when and how people can conduct surveys, and whom they can survey.

In considering whether to use a survey to gather information, it is important to recognize what surveys offer. Analysts frequently turn to surveys for three reasons: (1) direct, often quantifiable, answers to questions; (2) anonymity; and (3) randomness.

# CONCORD: FIRE, WATER, SEWER, AND ELECTRIC SERVICES

## Selection of the Method

On the recommendation of a public relations firm with which it was working, Concord decided to see how satisfied citizens were with the performance of the city's police, fire, water, sewer, and electric services. An independent professional hired by the public relations firm developed and implemented a telephone survey. To help ensure a representative sample, the professional randomly pulled those contacted from the database of all Concord's utility customers.

## Analysis and Use of the Data

The independent professional collected and analyzed the data, acting as a subcontractor to the public relations firm. The analysis found that Concord had been successful in meeting the needs of its citizens. The analyst stated that Concord scored extremely high in comparison with results from surveys done in other municipalities and that the city ranked higher than average in all areas.

The data were shared with the city council, as well as with all departments involved in the survey questions. The departments took pride in the areas in which citizens saw them as highly effective and took note of the areas in which citizens saw them as weaker. They also looked at the specific suggestions made by citizens to improve their service.

## Recommendations for Future Surveys

A significant comment made by Vickie Weant, city clerk and administrative coordinator, was that a city should be aware of the costs that can be involved in administering a survey. She stated that in the future the city will work directly with a firm to implement a survey, instead of working through a public relations firm. This will significantly reduce costs.

Another of Weant's recommendations was to use an outside firm. She felt that by not doing the survey in-house, the municipality had a more neutral survey and therefore more accurate responses and results. Weant advised that, before contracting with outside firms, a city inquire about their performance, skills, costs, and other factors.

## Recommendations in Brief

- Use outside consultants to help create a more neutral product.
- But don't have the outside consultants subcontract the work; doing it that way is too expensive.
- Research whom to hire (looking at costs, skills, history, and so forth).

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**Direct answers** from a well-targeted, well-conducted survey can reveal or confirm information that previously was the subject of guesswork. Surveys can gather responses to specific questions that are posed in a uniform way to a representative group of people. In many cases the responses can be reported as percentages so that information can be measured and presented in an easy-to-understand, sometimes comparable format. Surveys repeated over time can measure changes in attitude or support. Surveys also help identify issues that can be investigated more fully through more qualitative methods, such as focus groups or in-depth interviews.

**Anonymity** means that the survey researcher has no way to link a specific response to a particular individual. Therefore respondents are more likely to be honest. This is especially important when the topic of a survey or a question is sensitive or controversial. Some people answer questions as they feel they should, rather than as they really feel. For example, a citizen may say that he fully supports a new busing system in the county, even though he has reservations, because he may think that the survey results will be made public and his

response will be traced to him. A survey that guarantees anonymity tends to avoid this problem and may provide more reliable information.

Anonymity is different from confidentiality, and often survey researchers can offer respondents only a pledge of confidentiality. For example, in conducting telephone surveys, interviewers commonly reach respondents by sampling telephone numbers. In this survey design, respondents cannot be anonymous because they are identifiable by their telephone number. So interviewers typically read respondents a pledge that their data will never be released in a form that would allow them to be individually identified. Respondents must trust that their identity is safe with the project team, and indeed most do. As with anonymity, researchers hope that by promising respondents confidentiality, respondents will be more truthful in their responses.

**Randomness** assures researchers that they have made the best effort possible to get results that are reflective of the overall group, or "population," they are targeting. Surveys are usually done with a small portion, or "sample," of the population, since in many cases it is impractical and cost-prohibitive to survey

everyone. For example, cities or counties cannot expect to survey all their citizens on an issue; to do so would be similar to conducting a nonbinding referendum. Randomly deciding who will be included in a survey sample means that everyone in the population has an equal chance of being chosen to participate. As a result, those included in the survey will not automatically over- or under-represent any group or view.<sup>3</sup>

## Types of Surveys

Local governments typically use three types of surveys: mail questionnaires, telephone surveys, and in-person interviews. The next three sections outline some advantages and disadvantages of these three types.

The use of new modes of data collection, such as Web and e-mail surveys, is growing as Internet access increases. These new ways are still being evaluated, but their advantages and disadvantages are most clearly aligned with those of traditional mail surveys.

### Mail Questionnaires

The biggest advantage of using a mail questionnaire is lower cost and less

## DURHAM: CITIZENS' PRIORITIES

### Selection of the Method

Durham recently conducted a survey of citizens' priorities for the city. The city had previously conducted a small-scale, in-house telephone survey of citizens, but this time it wanted to contract for the resources and the expertise to conduct a more methodologically rigorous survey. It canvassed local universities and institutes, including North Carolina Central University, North Carolina State University, Research Triangle Institute, and The University of North Carolina at Chapel Hill (UNC Chapel Hill), to determine how they could help with the survey process. Durham was especially interested in working with a group that had a call center, believing that such a facility would enable callers to reach citizens in a more timely fashion, as well as increase the response rate.

Durham decided to work with the UNC Chapel Hill Survey Research Unit (SRU). The parties kept communication lines open during the process, discussing all concerns or issues that were raised. The SRU staff frequently provided recommendations and suggestions to improve the survey. These suggestions were particularly helpful because implementing a major survey was a new challenge for Durham.

### Analysis of the Data

The SRU aggregated the information from the survey, including demographic information so that there could be cross-referencing to ensure that the final view was representative of all citizens, not just the particular citizens surveyed. Largely because of financial constraints, Durham decided to do the analysis itself. City staff did a number of simple counts and tabulations, and calculated some percentages, without attempting more complicated analysis techniques. They were able to analyze the responses by geographic, socioeconomic, and other groupings in order to determine how successfully the city was meeting the needs of its citizens.

### Use of the Data

The main purpose of the data collected in this survey was to help the city council set its priorities and then focus the city's strategic strengths on those priorities. A number of issues that Durham officials thought needed to be addressed were confirmed as a result of the survey. For example, officials were concerned about citizens' use of various types of city facilities, such as parks, so

the survey inquired about this. City officials also learned that about 80 percent of the participants in Little League were from upper-middle-class families, who were not being charged the full cost of participation. If the city implemented a sliding scale, it would save significant funds in youth programming.

Among Durham staff, there is considerable interest in continuing the survey process, particularly regarding safety issues. Tracking a particular group of citizens, while continuing random sampling, to determine whether the city is successfully increasing the feeling of safety among its citizens is a major interest. The council is very interested in this survey and future surveys as a way of gathering citizen input on the city's goals.

### Recommendations for Future Surveys

In determining to do a survey, a municipality should have a deliberate use in mind for the data, says Jonathan Swift, Durham senior budget and management analyst at the time of the survey. The Durham survey was effective because it focused on areas of specific interest to the city. Had the use not been identified before implementation, the data would likely have had less significance to all involved parties.

Once a municipality has decided to do a survey, it should speak with personnel in several other cities about similar efforts and borrow ideas from the more successful and effective ones. Municipalities also should give themselves sufficient time to understand the data. Swift recommends, "If you expect a report to be presented in December, you should have at least six weeks with the report before presenting."

Finally, if a municipality is using a consultant to help implement the survey, it should have a cap on the contract but make sure that it has some additional funds available if anything more is needed.

### Recommendations in Brief

- Have a purpose at the outset.
- Borrow from other effective surveys.
- Give yourself enough time to understand the data.
- Have some funds for unforeseen extras.

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demanding staffing requirements relative to the other modes of data collection, particularly if the printing of the survey and mail preparation (envelope stuffing and so forth) can be done in-house. Some units have the additional advantage of being able to distribute the survey in unit mailings that already are going to the "target population"—that is, the group to be surveyed. For example, if a water and sewer department wants to survey its customers on service satisfaction, it can send out questionnaires in a sample, or even in all, of its monthly bills.

A second advantage of a mail survey

is anonymity or confidentiality. Respondents do not need to identify themselves to a department conducting the survey, or to an interviewer, and therefore may be more honest in their responses. If the unit administering the survey wants to keep track of respondents for purposes of sending out reminders, or if it wants to link survey data with external data (for example, with address information, to analyze survey data by region of the city), it can code responses—say, by putting a random number in the corner of each survey—and keep a confidential code key.

Mail questionnaires also are a great survey tool if the researcher wants or needs to include explanatory information or graphics. The respondent has more time to absorb the information and respond.

Further, mail surveys are the best vehicle to gauge citizens' preferences or priorities from a list of options. For example, if a parks and recreation department wants to know citizens' preferences for the location of a new park, presenting the options on paper is far easier than describing them over the telephone.

# PITT COUNTY: RECREATION PROGRAMS

## Selection of the Method

Over the years Pitt County has used three data collection strategies, including newspaper, telephone, and mail surveys, to understand citizens' views on a variety of issues. Using a local newspaper, *The Daily Reflector*, Pitt County annually publishes a survey on budgeting issues. Even though the *Reflector* reaches approximately 28,000 homes, the county received fewer than fifty responses on its most recent attempt—a response rate of less than 1 percent.

Pitt County uses telephone surveys to gather public opinion on specific projects it is considering. The most recent one was administered by Master of Public Administration students from East Carolina University (ECU). Using the county's list of registered voters, the students randomly called approximately 15,000 residents but achieved only about a 10 percent response rate.

Pitt County also has sent mail surveys to randomly selected people who have filled in comment cards regarding county services.

Pitt County staff have felt that the county's surveys could be improved. The county never has been able to hire a professional research group, but its surveys have improved as it has turned to university resources. For example, county staff have long been interested in measuring citizens' satisfaction with recreation programs, believing that the board of county commissioners would find this information helpful. After being approached by the group of ECU students interested in doing a citizen satisfaction survey, Pitt County decided to use the students' skills to answer the county's questions about recreation programming.

## Analysis and Use of the Data

The ECU students, with the assistance of the ECU Regional Development Institute, implemented and analyzed the citizen satisfaction survey. Pitt County staff knew that they would be spending additional funds on recreation and wanted to identify the services most wanted by the population. The survey found that the citizens did indeed want increased funding of programs, in addition to creation of an intergenerational recreation facility. Because of the feedback from the survey, an intergenerational facility has become a county priority.

## Recommendations for Future Surveys

Melonie Bryan, director of financial services for Pitt County, thinks that one of the pluses of its recent survey has been the fostering of collaboration between government and the local universities. University resources can benefit both local governments and university students. The collaboration maximizes both organizations' resources.

Bryan also emphasizes the time-consuming nature of a survey. She recommends allowing plenty of time to complete and analyze the surveys, in order to get the best results and the most effective use.

## Recommendations in Brief

- Collaborate with local universities to maximize resources.
- Give yourself enough time.

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Mail surveys have several distinct disadvantages. Often there is no comprehensive address list for the group of interest—for example, citizens in Orange County. Further, mail surveys can take a long time relative to other survey types because they have to be printed, folded, mailed, returned, and tabulated, and reminders must be sent to those who did not initially respond.

Mail surveys generally yield lower response rates than other survey modes. However, with the use of multiple techniques to increase response (for example, personalization of letters and follow-up mailings), a lower response rate is not inevitable.

Finally, mail surveys rely on the literacy of the population. A classic problem with written surveys is too much information, and information written in a way that is difficult for the average citizen to understand. This is especially the case when part of the target population is made up of people who are not native English speakers or have limited reading skills. These groups may not be adequately

represented in the results of a mail survey. Beyond reading and answering the questions, respondents have to navigate through the survey form, so complex questionnaires involving lots of directions like "Skip to question 25 if you answered A to question 13 and B to question 14" are usually not suited to mail surveys.

## Telephone Surveys

Surveys conducted by an interviewer, like telephone surveys, have advantages over written surveys because there is more flexibility in their administration. That is, the interviewer can react to the respondent immediately. Because of this flexibility, surveys with nested questions are best administered over the telephone. "Nested questions" are a series of related questions; whether the interviewer asks a follow-up question depends on how the respondent answers an initial question. For example, an interviewer may ask a citizen if she has used a service. If she answers yes, the interviewer can ask her about her experience with it. If she answers no,

the interviewer can skip that question and continue with the survey. This can be done on paper, of course, but a telephone or face-to-face interviewer has more control of the survey and can guide a respondent more quickly through the pertinent parts with less chance of confusion.

Flexibility is particularly critical if the order of the questions is important. With a paper survey, respondents can start at the beginning or the end, or jump around. If it is important for citizens to go through the questions in a particular order, an interviewer can accomplish this far better on the telephone or in person.

The flexibility of telephone and face-to-face surveys also means that an interviewer can clarify a difficult term or phrase for a respondent or request further information if a response is unclear. Telephone surveys are not constrained by the literacy problem mentioned for mail surveys.

Telephone surveys have the additional advantage of being able to cover

# WINSTON-SALEM: BOND REFERENDUM FOR CAPITAL PROJECTS

## Selection of the Method

Winston-Salem was interested in determining whether citizens would support a bond referendum and what specific capital projects they wanted the city to undertake. The city had completed a citizen satisfaction survey two years before, working with the Catherine Bryant and Associates (CB & A) research firm. City staff felt that the firm had performed well on the previous survey, so they asked it to do the new survey. The city staff decided to undertake a telephone survey.

Before conducting the survey, CB & A pretested the survey with a small sample of representative respondents to make sure that it was asking questions in a way that would be understood as the city had intended in formulating its goals for the survey. Although pretesting requires time and money, it helps identify any potential problems with a survey questionnaire or procedures. CB & A found overall that it had “smooth sailing.”

## Analysis of the Data

Winston-Salem used CB & A to analyze the data that it had gathered. CB & A worked closely with city staff to ensure that they had significant input and got consistent feedback on the process and the results.

## Use of the Data

The overall reaction to the survey was very positive, and Winston-Salem saw real results with the feedback from its

citizens. The city learned that citizens had four priorities for major projects: transportation, housing redevelopment, public safety, and economic development. The city then proposed bond issues in these four areas, and all four passed. The use of the data allowed the city to work toward meeting the goals of its people, with direct input on what those goals were.

## Recommendations for Future Surveys

One of the major recommendations given by Kristi McCarley, the special projects coordinator in the city's Office of Organizational Effectiveness, was to know your final objectives before you start. A municipality should not do a survey just to do a survey.

McCarley also recommended that if a municipality chooses to work with a consultant, it make sure that the consultant works with it, not just for it. Another recommendation was to be aware of the political environment and be prepared to work within the existing system.

## Recommendations in Brief

- Know your objectives before you start.
- Find a consultant who will work with you.
- Be aware of the political environment.

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a large geographic area more cheaply and efficiently than face-to-face surveys, which might require interviewers to travel significant distances to complete an interview. Also, in a centralized call center, supervisors can closely monitor the quality of interviewing. This is much more difficult with a field staff that is spread out across a large geographic region.

Perhaps the most desirable characteristic of telephone surveys for local governments is that they can be conducted, and the results tabulated, relatively quickly through the use of technology. For example, one of the authors recently responded to a completely automated telephone survey in which she keyed in her answers with the telephone keypad. If time is of the essence, telephone surveys usually are preferable to either mail surveys or face-to-face interviews.

A commonly cited negative characteristic of telephone surveys is their higher cost, relative to mail. Recruiting, training, supervising, and paying interviewers to make calls simply costs more than mailing a form. In addition, for most telephone surveys of the general

population, researchers randomly draw telephone numbers, and a significant percentage of them are lines no longer in service, or businesses, or households outside the city limits. At the beginning of a telephone survey, interviewers spend a large amount of time simply identifying eligible households. With mail surveys, local governments typically have a list that already contains eligible members of the population. On the positive side for telephone surveys, interviewers can key answers directly into a database while they are talking, in contrast to coders having to key mail-survey data in from paper forms. Still, telephone surveys are more expensive.

Telephone surveys also are limited by people's access to the technology. The “sampling frame,” or the list from which a researcher chooses names or numbers to call, includes only people who have telephones. Thus the part of a community without telephones is immediately excluded from the survey, and results cannot be generalized to, or said to represent, the entire community. According to March 2000 data from

the Federal Communications Commission, more than 94 percent of U.S. households have a telephone, so this usually is not a major strike against telephone surveys.<sup>4</sup> However, if the researcher is surveying in an area with low telephone ownership—for example, Mississippi, where less than 89 percent of households overall, and an even lower percentage of poorer households, have a telephone—then a telephone survey may not be the preferred approach.<sup>5</sup>

Technology is obviously changing the way in which people communicate, and telephone communications are no exception. They used to be connected with a place: a household, an office, or a business. With the spread of cell phones and other personal communication devices, telephone communications are becoming more tied to individuals. Younger people sometimes are choosing a cell phone over a land line, and since cell phones are typically excluded from telephone surveys, their owners will not be contacted. At present the number of people with only a cell phone is rela-

tively small, but this could be a major problem in the future.

Another significant challenge for telephone surveys is people's reliance on answering machines and Caller ID to screen calls.<sup>6</sup> Survey organizations have tried to use answering machines to their advantage by leaving messages explaining what the survey is and saying that the citizen will be called again. In this case, citizens may be more likely to participate because they have more information and time to consider the request. Research organizations also may find it valuable to identify themselves on Caller ID, but this is not as easy to implement.

In another major area of technological change, there has been a rapid increase in the percentage of households with access to the Internet and in the percentage that maintain a dedicated fax or modem line. Reaching households that are frequently online is no easy task. Identifying dedicated fax or modem lines that constantly produce a "No Answer" response is another challenge that is making it more difficult to conduct telephone surveys in today's world.

Even if an interviewer can reach a household, a troubling trend for telephone surveys has been an overall decline in the percentage of people contacted who agree to participate. Refusal rates have increased over the past several decades.<sup>7</sup> Given the rise in telephone solicitation, it is not surprising that people are less eager to answer survey questions.

### **In-Person Interviews**

Face-to-face interviews are a very useful way to gather information, but they take time, effort, and lots of money. Interviews are the best way to gather complex or lengthy information while being sensitive to the respondent's needs or situation. Interviewers can use visual aids to explain complex items or response categories. For example, respondents can look at a map or review a long list of response options. Interviewers also can ask follow-up questions or probe for details or clarification. Further, like telephone surveys, interviews are good if the order of questions is important.

People may be more willing to participate in face-to-face interviews



*Clipboard and pen  
—tools of the field  
interviewer.*

than in telephone surveys. Shutting the door on a professional-looking interviewer is a lot harder than hanging up on an unknown voice that interrupts a family during the dinner hour. The interview session also can be longer than with a telephone survey because the respondent is more committed in his or her participation.

Interviews may be the only option in trying to reach particular populations, such as people without reliable telephone service or addresses. In such cases the interviews are conducted in places where these populations use services, such as shelters and benefit offices.

The best advantage of face-to-face interviews also is one of its problems. With interviews the interviewer can adapt to the situation, explaining terms, asking for more complete answers, even engaging in conversation so that the information being sought is drawn out. This survey style can be very useful in gathering information when the topic is sensitive or when cultural sensitivity is key. For example, surveys on the effects of welfare reform typically rely on face-to-face interviews with beneficiaries.

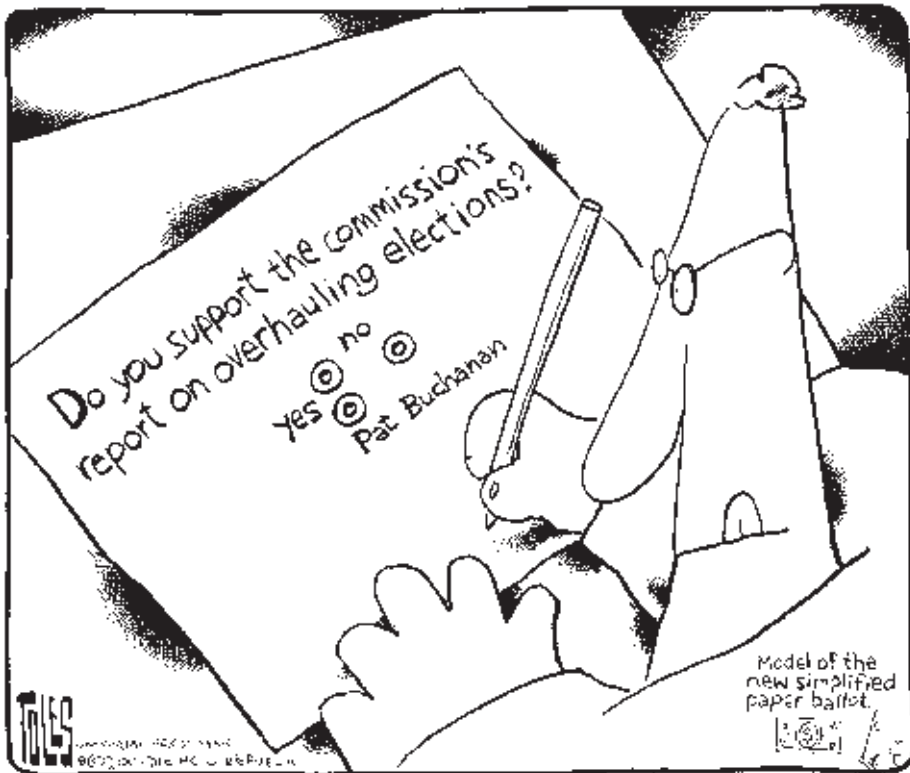
However, the ability of interviewers to be flexible also is a threat to the survey. Interviewers can conduct the

survey or ask questions inconsistently, making the answers not comparable and introducing what are formally termed "interviewer effects." For example, an interviewer may feel sympathy toward or aversion to a person, and these feelings may feed into how the interviewer conducts the interview or records the responses. Typically, face-to-face interviewers are highly trained, and a percentage of their work is evaluated to ensure that the large amounts of money spent on a face-to-face survey will ultimately yield quality data.

Unfortunately, a face-to-face approach often is not considered because of the time and the expense associated with it. The cost and the time to hire, train, and manage a field staff, along with the travel expenses and the wages for interviewers in the field, are major considerations in assessing the feasibility of a face-to-face survey approach.

### **Sample Size**

The number of people to be included in a survey sample depends on how many usable responses the researcher needs and how many people respond to the survey.



### Usable Responses Needed

How many usable responses researchers need for a project depends on three factors: how confident they want to be in the results, how varied the responses will be, and how much error they are willing to tolerate. “Confidence” refers to how sure the researchers would like to be that their results accurately reflect the value in the population. That is, if researchers want an estimate of average income, would they like to be 90, 95, or 99 percent sure that the average income value they obtain from the survey is close to the average they would find if they surveyed everyone in the population? The more confidence they want, the larger their sample must be.

Sample size also depends on the variation in values of what the researchers are surveying. For example, if everyone in town is earning the same amount, researchers would not have to survey many people to have a good estimate of average income. If there was a large variation in income levels, they would need more “observations” (survey responses) to obtain a good estimate. In practice, researchers will not understand the variation in responses until they start surveying. Often an estimate of the variation in responses can be made from

a pretest, or it can be based on past experience or the experience of similar surveys in other jurisdictions.

Sample size also depends greatly on how precise researchers want their estimate to be. To continue with the income example, if they want to know average income within \$5,000, they need to survey fewer individuals than if they want average income within \$500. The more precision they want in their estimate, the larger the sample size must be.

Once local government officials have a general understanding of these three factors, a survey consultant can apply some standard formulas to generate the number of complete, usable responses that they should have at the end of their survey. For reasons that are beyond the scope of this article to explain, using generally accepted standards for confidence and precision, most surveys (even surveys of national scope) need only 350–450 responses.

### Response Rates

In an ideal world, 100 percent of citizens or employees sampled for a survey would complete it. Rarely, if ever, is this the case. In a telephone survey, some people may not respond because they screen their calls. Others

may assume that it is a sales call and hang up almost immediately. How well survey results represent the group of interest depends in part on (1) the percentage of sampled eligible people who respond and (2) the extent to which those who respond differ from those who do not respond.

Roughly speaking, the number of eligible people who respond, the “respondents,” divided by the number of eligible people who have been sampled, is referred to as the “response rate.” The American Association for Public Opinion Research (AAPOR) has published guidelines for reporting response rates.<sup>8</sup>

The response rate should be considered carefully in any analysis of survey data and should be a standard part of data reporting from any survey. For example, a description of results from a survey of water and sewer customers may mention that 400 people responded to the survey. Without a response rate, the reader of the report will have no idea how many eligible people were sampled to obtain the 400 responses. If the water and sewer department obtained only 400 responses from 1,200 eligible people (response rate =  $400/1,200 = 33\%$ ), the reader might be skeptical about whether the responses represented all sampled water and sewer customers.<sup>9</sup>

This inevitably brings up the question, What is a good response rate? A good response rate is, of course, 100 percent. Response rates of 20, 35, or 47 percent for general population surveys raise questions about the representativeness of the respondents. There is no magic or best response rate because each survey is unique. The general guideline is only that higher is better. The key question is whether the user of the information feels confident in the representativeness of the survey. As with any type of research and analysis, practical considerations must enter into the decision to try to achieve higher response rates and therefore better results.

A final note on response rates: there is a danger in considering response rate alone. Even when a large majority of the people sampled complete the survey, if the small group that did not complete it is very different on what the survey measures, then the results can be biased.

## Steps in Conducting a Survey

There are thirteen steps in conducting a survey:

- 1. Get the big picture.**
  - Define the purpose of the survey: exactly what you want to know and how you will use the information. Start at the end. For example, prepare blank analysis tables showing what information you would eventually highlight in the final report. Many people start surveys without understanding precisely what information they actually want at the end of the process. For example, in several instances, an audience reviewing the final information from a survey has said, “This Y is interesting stuff, but it would be really helpful if we understood X.”
  - Understand the financial and staff resources available. For example, one jurisdiction conducted a large mail survey but did not anticipate needing staff to key in and analyze the results. Ultimately the jurisdiction recruited a summer intern to work on the project. The intern finished it months past the expected completion date.
  - Be aware of when the results must be known. Is the information that you are seeking vital for a particular decision? When must that decision be made? When would it be most helpful for the decision makers to have your results?
  - Consult your stakeholders. What are their needs? Do they understand both the opportunities and the constraints that you face as you gather information? Will conducting a survey satisfy their needs and interests?
- 2. Plan.** Regardless of the mode you use to collect your data, it is vital to plan the survey recognizing the demands on your staff and realizing that a quality survey does not happen overnight. If you are conducting a survey with in-house staff, some methods will automatically appeal over others. For example, although a telephone survey may be attractive because of time savings, having your own staff conduct it may require that they work overtime, into the evening. Further, your staff may not be skilled in telephone communications. In such a situation, hiring an outside con-

tractor to conduct the survey may be a better idea. On the other hand, you may have flexible staff who could put together and process mail surveys with relative ease. The drawback is the time required to mail out questionnaires, get responses, and code responses.

Once you have decided on the mode of data collection, you should outline responsibilities and timelines for accomplishing steps 3–10 and then monitor progress. The scope of a survey often changes during the survey process, so frequently revisiting responsibilities and timelines is helpful.

- 3. Define your target population and sampling frame.** Suppose your target population is adults who have lived in your city for six months or more. First, you need to identify your sampling frame. A list of telephone numbers based on telephone exchanges within the city would be a sampling frame for a telephone survey. A list of water and sewer customers would be a sampling frame for a mail survey on citizens’ satisfaction with water and sewer services.

Next, you must determine whether your sampling frame has any limitations and whether these limitations are acceptable. For example, in a telephone survey of city residents, you may have a sizable Hispanic population but not be able to afford a Spanish-speaking interviewer. You must decide how many residents you are willing to exclude from the sampling frame. In practice, time and money usually play a major role in this determination.

- 4. Design the survey instrument.** This means designing a questionnaire that will accurately and reliably gather the information you want, is easy for the respondent to use, and is easy for the data recorder to use. Even loose, informal face-to-face interviews should have a well-designed set of questions to guide the process. Often a person sees designing a questionnaire as fairly straightforward. However, anyone involved in a survey quickly learns that designing the survey instrument takes considerable time and resources, particularly if you are trying to satisfy many different collaborators who have ideas about how they want to ask questions.

- 5. Consult with stakeholders.** Frequent communication with stake-

holders will minimize queries about the survey questions, process, and results.

- 6. Pretest the survey.** Pretesting is like test-driving a car you might want to buy. It allows you to identify any major problems before you have fully committed your resources. It can be as simple as asking someone who would be a typical respondent, such as a next-door neighbor or a staff person down the hall, to take the survey and give you feedback on the questions. It can be as extensive as administering the survey to a small random sample so that you can review initial results, understand response rates and variability in responses, and assess any problems with the instrument’s design. More pretesting, within time and budget constraints, typically leads to higher-quality data.

- 7. Train the project staff: interviewers, data-entry staff, coders, and analysts.** To avoid confusion (and resulting poor analysis), it is important that all the major contributors understand the process and the language being used. In a face-to-face interview, for example, if different respondents ask for clarification on the same question, each interviewer should give the same answer. Standard responses should be known. If staff are coding answers (assigning lengthy answers to categories so that they can be analyzed more easily), everyone should understand the coding procedure. Otherwise, one person may code a response in one way, and another person may code a similar response in another way.

For example, for one person the response time for a service call might mean the time from when the telephone call reporting the problem is answered to when the workers arrive. For another person it may mean the time from when the problem is reported to when the problem is fixed. Both are right, depending on how response time is defined. But mixing the data from the two respondents would be problematic. It is not uncommon for researchers to toss out results when they realize that the information was gathered or reported inconsistently. It is important for interviewers, data-entry staff, coders, and analysts to have standard definitions.

- 8. Conduct the survey.** There are specific steps for mail, telephone, and



**FOR MORE INFORMATION** on surveys, consult the American Statistical Association's series *What Is a Survey*, at [www.amstat.org/sections/SRMS/whatsurvey.html](http://www.amstat.org/sections/SRMS/whatsurvey.html), or contact the authors.

Another helpful resource is *Citizen Surveys*, by Thomas Miller and Michelle Miller Kobayashi, published by the International City/County Management Association.



face-to-face surveys, such as preparing mailing labels, cleaning bad numbers off telephone lists, or organizing an interview schedule. (For information on such details, consult the resources listed in the sidebar on this page.)

**9. Debrief the interviewers, the data-entry staff, and the coders.** The interviewers can highlight problematic questions, interpretation, or reporting issues and guide your initial analysis. This holds for data-entry staff and coders as well. After entering data from, or coding, hundreds of surveys, staff members often have a valuable perspective on problem areas in the survey and trends that may be important to examine in the analysis phase. Debriefing also is helpful as a first step in the next survey you undertake.

**10. Analyze the results.** Survey results can be analyzed using specialized

software, but common spreadsheets and databases also work very well. The responses can be analyzed as simple frequencies or counts for each question, or more advanced statistical methods can be applied to tease out additional information and to test relationships.

**11. Communicate the results to the stakeholders and the decision makers.** Information that cannot be communicated well is useless. It also is important to discuss the limitations of the data. Be careful about making statements like “X percent of city residents feel safe walking alone at night in their neighborhood” without some disclaimer that this number might be somewhat higher or lower depending on a number of factors—for example, if you had asked the question differently or if you had surveyed a different group of citizens.

**12. Use the results.** This step ties directly back to step 1. You would not undertake a survey if the information would not be useful for making decisions. However, many surveys are done, the results are communicated, and the report gathers dust on the shelf. The value of a survey depends on planning how the results will be used and then following through when the results are available.

**13. Evaluate the process.** The survey process and the results must be able to stand the test of critique. Was the purpose of the survey achieved? Was the information sought gathered and used? Were there any problems in the process that would discount or bias the results? Were the stakeholders adequately involved? Are there ways in which the process could be improved the next time? Recording this information will help future analysts and managers. Don't rely on the memory of individuals.

### A Word on Costs

Surveys are no different from any other project in the sponsors getting what they pay for. For example, if a county plans to conduct a telephone survey on citizen satisfaction and has only a couple thousand dollars, it probably is not going to get a quality survey, and it would spend its money better by conducting focus groups or in-depth interviews in preparation for a future survey. The costs of a typical telephone survey are major:

- Professional labor to plan and manage the project
- Professional labor to design the sample
- A fee to purchase a random sample of telephone numbers (sampling vendors provide random samples of telephone numbers for telephone surveys; contact the authors for additional information)
- Professional labor for drafting and refining the survey questionnaire
- Professional labor for programming and testing the survey (when using a computer-assisted interviewing system in which interviewers enter

survey responses directly into a computerized database)

- Training, salary, and materials for interviewers
- Professional and interviewer labor for pretesting

All these expenses occur before data collection even starts. If in-house staff conduct the survey, there may not be a cost for professional staff time per se, but there will be the loss of time that could have been spent accomplishing other tasks. Surveys cost a lot more than most people ever imagine, and it is important to plan ahead to earmark funds for a quality survey.

As this article points out earlier, face-to-face surveys typically are the most expensive, followed by telephone surveys and then mail surveys. But this is not always the case, so it is important to outline the cost components of each project.

Identifying the various tasks and the associated cost components for a survey project also gives a jurisdiction an excellent start in determining whether it wants to hire a consultant to assist with some or all of the survey-related tasks. Consultants can bring expertise in survey research and experience in planning and conducting surveys, but they do so at a price. Whether or not a jurisdiction uses consultants depends on its needs and the services available. For example, a county department might want to conduct a mail survey in-house but would need some methodological expertise in designing a random sample and developing a survey instrument. The department might contract with a survey organization for *X* hours from a sampling statistician and *Y* hours from a questionnaire designer. In another situation a county department may want to post a Web survey to gather comments on the layout of its Web site and to measure the demographics of Web site users. The department has an intern who has designed a couple of other Web surveys, and there will be no sophisticated sampling or analysis of the data. In this situation the department staff may decide to keep the entire project in-house.

## Conclusion

In conducting a survey, as with any other form of work, the researchers hope to have results that are timely, of high quality, and of low cost. Unfortunately, high quality usually means more money and time. Choosing a mode of data collection is one of the first decision points at which researchers must begin to think carefully about quality versus cost and time. Earlier this article presents a number of general advantages and disadvantages of the three major modes of data collection. Telephone surveys can provide information in a timely manner, but they can be hampered by access problems. Face-to-face surveys can address complex issues, yet often are expensive to conduct. Mail data collection requires a good address list, but the privacy that this kind of survey affords can increase the accuracy of responses on sensitive or controversial items. Understanding which is the best choice for a given jurisdiction requires understanding the jurisdiction's needs, audience, and time and monetary constraints.

When deciding whether to conduct a survey, and if so, how, the decision maker must be able to identify the project's overall goal. What specific information is being sought? Perhaps the biggest mistake that people make is to plan, conduct, and analyze a survey that meets none of their objectives because they had no clearly defined ones at the start. Sometimes a survey is not the appropriate tool for meeting particular objectives; a focus group or in-depth interviews would be more appropriate, or an analysis of existing data would answer the questions. But people can find this out only if they know what they want to measure from the start.

Finally, people interested in conducting a quality survey should be aware of minimum standards to be met (available at [www.aapor.org/ethics/best.html](http://www.aapor.org/ethics/best.html)). In many cases, people who have a poor experience with surveys simply lack knowledge about how to conduct a good survey.

On the other hand, local governments need not feel that they must conduct survey research in a manner meeting the most rigorous standards for

social science research, though they should be aware of the limitations in their survey approach. A general survey credo is that the quality of the data sought should equal the quality demanded by the intended use of the data. That is, if a government needs only some basic information to help it make a decision, it should keep the survey basic. If it needs in-depth understanding of an issue for a very important decision, then it should choose a survey method and process of sufficient quality for it to be highly confident in the results.

## Notes

1. THOMAS MILLER & MICHELLE MILLER KOBAYASHI, *CITIZEN SURVEYS 4* (Washington, D.C.: Int'l City/County Management Ass'n, 2000).
2. EARL BABBIE, *SURVEY RESEARCH METHODS 42* (Belmont, Cal.: Wadsworth Publ'g Co., 1973).
3. There may be reasons to over- or under-represent particular groups in a survey. For more information, contact the authors.
4. UNITED STATES FED. COMMUNICATIONS COMM'N, *TELEPHONE PENETRATION BY INCOME BY STATE 7* (Washington D.C.: FCC, 2001), available at [www.fcc.gov/Bureaus/Common\\_Carrier/Reports/FCCState\\_Link/lec.html](http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCCState_Link/lec.html).
5. *Id.* at 8.
6. Peter Tuckel & Harry O'Neill, *The Vanishing Respondent in Telephone Surveys*, Paper presented at the Annual Conference of the American Ass'n for Public Opinion Research, Montreal, Can. (May 20, 2001), available at [www.worldopinion.com/reference.html](http://www.worldopinion.com/reference.html).
7. ROBERT M. GROVES & MICK P. COUPER, *NONRESPONSE IN HOUSEHOLD INTERVIEW SURVEYS 166* (New York: John Wiley & Sons, 1998).
8. Although a response rate may sound straightforward enough, computing one can be quite complicated, requiring an in-depth understanding of data collection. For more information about how to compute and report response rates, consult the authors or visit the AAPOR Web site, [www.aapor.org/ethics/stddef.html#about](http://www.aapor.org/ethics/stddef.html#about). AAPOR is one of the major professional organizations for survey researchers in government, academe, and industry.
9. Calculated according to the response rate as defined by AAPOR in *STANDARD DEFINITIONS: FINAL DISPOSITIONS OF CASE CODES AND OUTCOME RATES FOR SURVEYS* (Ann Arbor, Mich.: AAPOR, 2000), available at [www.aapor.org](http://www.aapor.org).