Using Employer Surveys in Labor Market Planning:  
When and How to Conduct Surveys for Local Workforce Development Programs

If we do not choose to plan, then we choose to have others plan for us.  
— Richard Winword

Existing sources of labor market information (LMI) can substantially assist local workforce boards and employment program planners in carrying out their official responsibilities of identifying employment opportunities by industry, occupation, and geographic location. In most cases, available LMI sources will make it unnecessary to conduct employer surveys to obtain additional information. Through a systematic, analytical process, local boards can use the wealth of existing information to identify employment trends by industry and occupation, sources of potential job openings, and the employers that compose the industrial sectors which are expected to be hiring. (See Chapter 7: Getting Started for more information about plumbing existing data sources.)

When existing LMI sources lack certain information, however, planners may need to look elsewhere to fulfill data needs. For instance, available LMI can point toward potential job openings in a given industry, but the data may not verify that a particular opening actually exists. Aggregated data may not identify the factors causing the job opening, the needed skills or hiring requirements, benefits, nor precise working conditions. If planners must have a complete understanding of particular job opportunities, they may need to contact employers directly to obtain job-specific information. In these circumstances, a local employer survey may be the best method to obtain the needed data. Such surveys, if carefully conducted, can be combined with existing LMI to provide additional information on a number of issues that are critical to planning, design, and administration of workforce development programs. The purpose of this essay is to acquaint the reader with issues and potential problems associated with conducting direct employer surveys. It describes how to incorporate employer survey data into a regional planning process, how to decide if a survey is warranted, and how to conduct the survey itself.

Applications of Employer Survey Data

Local employer surveys can gather a wealth of information, which workforce planners can apply in many ways. Employer surveys may reveal (1) information on the nature and structure of the internal labor markets of local firms; (2) the number and occupational characteristics of existing job vacancies in local labor markets; (3) the hiring practices and policies of local firms; (4) the hourly, weekly, and/or annual earnings of workers in specific occupations; and (5) the impact of local board customer service and marketing efforts. A more detailed discussion of each of these survey areas and its potential uses appears below.

1. Internal Labor Markets and Entry-Level Occupations

In planning occupationally-oriented training programs under the Workforce Investment Act of 1998 (WIA), local board staff would benefit from the knowledge of the nature and the structure of internal labor markets within firms that would potentially hire training completers. The reasons are simple. First, the information itself, coupled with the closer ties to employers produced by conducting the survey, increases the chances of post-exit placement. Familiarity with internal labor markets affects placement activities because up to eighty (80) percent of job openings never appear in public listings or ads. Only those workforce boards who have ties with and understanding of local firms and their skill needs can take advantage of those “hidden” job openings.

The second reason a planner should be cognizant of employers’ internal labor markets is that such knowledge helps local boards plan training for occupations that will be in demand. An employer’s internal labor market likely includes entry-level jobs—or “ports of entry”—which allow persons outside the enterprise (“outsiders”)
to join the organization. It probably also contains jobs tied to internal career ladders, usually filled only by the promotion or transfer of incumbent employees (“insiders”). Knowing which occupations comprise the ports of entry within local establishments and their links with other jobs in the establishment helps planners select appropriate areas for training.

In most cases, graduates of classroom training programs can access only those positions that serve as ports of entry into local firms. These jobs, which tend to pay relatively lower wages and lack other desirable job qualities, can potentially lead to a positive career path that graduates can travel with additional education and training. The future earnings of workers placed into unsubsidized entry-level jobs depend in part on the nature and closeness of the ties between these entry-level jobs and other positions within the internal labor market.

Recent research by Career Development Resources (CDR) (formerly the Texas State Occupational Information Coordinating Committee (SOICC)) into the nature of career progressions in the new century indicates that this traditional model of internal labor markets and job mobility may not be as universal as was once believed (Texas Career Progressions, 2000). Indeed, workplace changes such as the rise of technology and technical specialists; higher entry-level educational requirements; increased reliance on temporary, contingent, and contract workers; and the increased general volatility of job creation and destruction, seem to be altering notions of a traditional career ladder. In this environment, knowledge of the occupational ports of entry for each firm within a target industry becomes even more critical and can only be identified through direct employer contact.

Conducting an employer survey is the best way to obtain this port-of-entry information. Planners can use industry-occupation matrices based on Occupational Employment Statistics (OES) surveys to gain insight into the relative importance of various occupations in different industries. However, by themselves, the OES data do not distinguish between ports of entry and positions open mainly to incumbent employees. A survey does. Of course, this type of employer survey should target only local employers in the industries or with the specific occupations that project above-average numbers of job openings.

2. Job Openings Data

Comprehensive data on the number and characteristics—both industrial and occupational—of current job openings in local labor markets would be useful for local workforce board program planning purposes in a number of different ways. Planners who know the number of current job openings by occupation and the number of unemployed workers by occupation could identify occupational labor shortages in the local labor market. Some—but not all—of these occupations would merit the provision of workforce development classroom training.

If local board staff and program operators could design and administer training programs that would successfully prepare unemployed and economically disadvantaged persons for employment in such occupations, they would simultaneously meet the needs of private sector employers and the unemployed. They would also create a favorable net impact by reducing the level of unemployment and welfare program participation in the local community. Planners should focus such efforts, however, only on those occupations that may provide the employment stability and earnings necessary to achieve longer-term goals. They should avoid those that offer relatively low wages, adverse working conditions, and consequent high rates of voluntary turnover.

How can local boards obtain valuable job openings information? They can choose from a variety of sources. America's Job Bank (http://www.ajb.org/) offers the largest list of current job openings nationwide. In Texas, job postings appear on the Governors Job Bank and HIRE TEXAS websites. These sites have limitations, however. Estimates suggest that the job orders placed with HIRE TEXAS by private sector firms and public agencies, for instance, account for only a relatively small proportion (10-15 percent) of total job openings—although this ratio varies by industry and occupation within the state. Since these job listings are not random, they may not necessarily reflect a true cross-section or unbiased sample of all available job openings. In other words, users cannot generalize them to all local job openings.
Many regional employer services units in the Workforce Centers reach out to employers to increase the volume of openings posted through the employment service. Statistically, the more openings they post, the greater the likelihood that these data will represent all job openings in the region. Even if the data are not representative, some of the openings listed may be appropriate for workforce development programs and a segment of resident customers—especially lower skilled jobs that may be suitable for transitioning welfare recipients.

What can local boards do if sufficient data on job openings are not available from the Employment Service? Some local boards conduct local employer surveys to estimate the number and occupational characteristics of current job openings in the area. Such surveys should focus on subsets of local industries characterized by recent above-average rates of growth in employment and by staffing patterns containing occupations that have substantive skill requirements which workforce participants can receive through training in a reasonable period of time (e.g., 6-8 months). Such targeted survey efforts cost less and are more useful than attempts to cover the entire labor market.

Employer surveys to capture job opening information can be a mixed bag, though. Since even the most efficient survey requires several months to complete, supposedly “current” job openings are already dated by the time planners analyze survey results. Thus, even surveys purporting to capture information on current openings may actually provide limited guidance for direct placement activities and even less basis for long-range planning.

Moreover, asking employers about current job openings is one thing; asking them to speculate about future job openings is another. For a variety of reasons, some of which this essay describes in subsequent sections, employers have proven to be notoriously poor at quantifying their future staffing needs.

Employer surveys can, however, be useful in estimating the number of current job openings in selected occupations and industries. Job opening estimates can provide, at a minimum, a baseline of employer demand, e.g., the employers answering a survey report at least “X” number of unfilled openings. This demand is true whether or not the survey results represent the entire labor market or not. Employer surveys also capture information on the duration of such job openings (how long have they been available) and the factors responsible for their existence (turnover, lack of qualified skilled applicants, etc.). In any event, planners should always use a snapshot of available job openings derived through an employer survey in conjunction with readily available labor market information in a comprehensive planning effort—not in isolation.

3. Hiring Policies and Practices of Local Firms

Local workforce boards need to know the hiring policies and practices of local firms in order to properly design and administer occupationally-oriented classroom training programs and to successfully develop on-the-job (OJT) slots for eligible individuals. These practices include firms’ propensity to recruit workers, their strategies, and whether they regularly use contract or contingent workers.

Many of the available LMI sources provide information on the hiring practices and policies of local firms. For instance, the job orders placed with the Employment Service by employers frequently contain detailed information on hiring requirements, including educational levels and previous experience. The occupational profiles available in automated information systems, such as CDR’s SOCRATES, Texas CARES and OSCAR software, detail employee characteristics that are generally necessary to succeed in a given occupation, such as temperament, interests, knowledge, skills, and abilities.

Another source of hiring information is “local wisdom.” Most local boards have employer or LMI subcommittees to provide information on the job duties of workers in specific occupations and the typical hiring requirements of local employers for such jobs. This information is primarily descriptive and qualitative in nature, rather than quantitative. Nevertheless, this local wisdom can represent a valuable addition to the more empirical, though sometimes detached, analyses performed using statistical data. Local planners must ascertain,
however, whether local employer input and other anecdotal evidence is indeed representative before using them to guide program decisions. The infamous “Cousin Ernie Phenomenon,” gathering information informally from the unique experiences or impressions of family members or close friends (maybe even local board members), does not constitute legitimate labor market analysis and must be applied judiciously if at all. (See Connecting the Dots, Chapter 6: Using “Local Wisdom” in Regional Planning for more on this topic.)

In the absence of suitable data from these sources, planners may conduct local employer surveys to collect a wide variety of information on the hiring requirements of local firms for particular occupations. These surveys may also reveal sources of labor supply or recruitment practices utilized by various local firms in securing their employment needs in those same occupations. Knowing the formal education, experience, and specific skill requirements for particular occupations, as well as personality traits, test scores, licensing, and other requirements of local employers would help planners design the appropriate curriculum content of classroom training programs of eligible training providers. This information would also be useful in developing appropriate criteria to guide choices of eligible individuals via Individual Training Account vouchers for participation in such programs. Detailed local employer input into the planning and design of occupationally-oriented classroom training programs would help improve the overall placement performance of such programs.

4. Hourly Wages and Hours of Work by Occupation

When selecting occupational areas for training, local workforce boards should determine the earned income potential of particular occupations in local labor areas. This potential depends on the occupations' prevailing hourly wages, the weekly hours of work they provide, and their employment stability. Local boards can measure the employment stability of jobs by the number of weeks of employment that they can potentially provide to jobholders during the year; i.e., whether they afford year-round employment (50-52 weeks) or only part-year employment due to seasonal factors.

Several state-level data sources publish information on the hourly or weekly wages of workers in particular occupations. One source is the state-produced regional occupational wage data estimated through aggregates derived from all job orders listed through HIRE TEXAS. A second and more comprehensive source is OES survey data collected and produced by the Texas Workforce Commissions' LMI department. Both of these sources provide current, detailed, and comprehensive occupational wage data. The 2000 Census of Population and Housing (http://www.census.gov/) will provide detailed information on the annual earnings of workers in state and local labor market areas during calendar year 1999, but the Census Bureau will not publish results of the 2000 Census until 2001 or even later. Moreover, the annual earnings data from the decennial census have a number of shortcomings that limit their usefulness for identifying the earnings potential of jobs in specific industries and occupations.

In general, the available data sources for wages of workers in specific occupations have a number of limitations, including reduced occupational coverage and limited geographic representation. The OES survey, for example, collects wage ranges, making calculations of a specific prevailing wage difficult. Furthermore, the OES survey focuses on metropolitan areas only. If a workforce board wants to compare wage data for a large central city, such as San Antonio, to the surrounding rural counties, the local board cannot find this information through any public data collection program.

A local employer survey can compensate somewhat for the limitations of extant LMI on occupational wages. Once again, planners should target those occupational areas under consideration for local board funding, rather than collect wage data for the universe of occupations. The survey should attempt to capture information on each occupation's starting hourly and/or weekly wages for workers with no previous experience in that position. It should also obtain the average or prevailing wage for incumbent workers and the maximum wage generally paid in each occupation. Finally, it should gather data on the weekly hours of work, as well as on the typical employment stability of these jobs.
Planners should analyze the wage and hours data for each occupation to determine the variations in wages paid to workers among local industries and among firms of different employment size classes within a given major industry group. Knowledge of these local inter-industry and inter-firm wage and earnings differentials for given occupations would help guide the development of OJT contracts for eligible individuals and the job placement process for graduates of future classroom training programs in these occupational areas.

Before commissioning a survey to collect mainly wage data, the local board should also investigate the many existing sources of wage data available through private firms. Collecting occupational wage data is a big business, especially in the human resources arena. While spending several thousand dollars to purchase wage data may seem costly on the surface, it may be less expensive then conducting a survey.

5. Local Board Customer Service/Marketing

Workforce boards may desire to survey local employers to obtain their views on the structure of the local workforce development system. Such surveys would reveal the extent to which local boards are fulfilling the mandate of WIA and Texas House Bill 1863 of 1995 to treat employers as customers on par with job seekers and public assistance recipients. (See Chapter 8: The Other Customer for more details.) Marketing-related surveys can obtain information on local firms' awareness of existing local board programs and services, their current use of those services, and their interest in obtaining further information on the availability of additional workforce development services.

Local boards may conduct customer service surveys as well. These employer surveys may ask local firms to assess the quality and effectiveness of services that they received in the past from the local board, as well as those provided by other employment and training agencies, including public vocational education agencies and private training schools. The local board could use this information to recommend ways to improve the effectiveness of local workforce development programs. The findings could also help the local board develop information based on results of exiters from local programs, using this “demonstrated effectiveness” to guide future funding decisions.

Before relying on employer surveys to determine the effectiveness of programs, local boards should review the annual research produced by the CDR’s Automated Student and Adult Learner Follow-Up System. The programs participating in the system have achieved tremendous economies of scale and extensive outcomes coverage. This approach uses automated record linkage techniques to administrative records databases, such as Unemployment Insurance wage records, instead of employer or participant surveys, to collect outcomes and training provider performance information. This new approach’s success in identifying the labor market and continuing education outcomes of workforce and education customers after they receive services has already surpassed that of the survey method, and at much reduced costs. Many of the results by training provider and program can be viewed via the DECIDE Internet-based system at (http://decide.soicc.state.tx.us/).

As the examples above reveal, local board surveys of local employers can achieve a variety of objectives. These objectives, however, may conflict with one another. It is highly unlikely that any one employer survey can achieve all of these competing goals. As mentioned before, local boards should use employer surveys to augment available labor market information rather than attempt to collect information on the universe of industries, employers, or occupations.

Identifying the Need for an Employer Survey

While information gaps exist in available LMI, local boards should think carefully before deciding to conduct an employer survey, weighing the benefits of the survey and the likelihood of obtaining the expected outcome. The local board may need additional data, but a formal employer survey may not be the appropriate data collection mechanism. Before turning to an employer survey, the local board should exhaust all other, less
costly options. Did it thoroughly research all available labor market information? Did it consider conducting employer focus groups if the desired data are limited to only a few industries or occupations? Because of the cost of most employer surveys and their relatively high failure rate, local board should follow several critical steps before deciding to conduct a formal survey.

Step 1: Define the information needs. What data do the local board need? How will planners use the data in the planning process? How will they assist the decision-makers? Local boards should clearly define their data needs in order to narrow the focus of the collection effort and avoid collecting unnecessary data. Data collection can be justified only when it will have an impact upon the decisions to be made.

Step 2: Use existing sources. Although the needed information may be unavailable in electronic or published, readily accessible formats, the LMI source agencies may have resources for special data development. After carefully defining the information needs, local boards should contact the Texas Workforce Commission (TWC)'s LMI and CDR departments to request the additional information. Their help may avert a costly employer survey.

Step 3: Assess the survey. If entities such as the TWC LMI department cannot produce the needed information, the local board should carefully review the potential costs of a survey, the correct survey procedures, and the likelihood that the data collected would be reliable. It should also consider the fact that relying on survey data to guide program operations forces continuous replication of the same survey over time to assess changing market conditions. Is the local board willing to carve out resources every year to update survey findings? The TWC LMI and CDR departments can help the local board assess these factors and consider all other alternatives to a survey.

Step 4: Make the decision. If data are not available, the local board should reevaluate the information requirements to determine whether planners absolutely need them, whether they can use alternative data or “proxy” variables instead, or whether they can drop the data items without adversely affecting the planning process. Finally, the local board should make a final determination of whether conditions warrant a survey.

Step 5: Coordinate the survey. If the local board decides to conduct a formal employer survey, planners might consider coordinating the survey through the TWC LMI department in order to take advantage of any related activity (e.g., available questionnaires, sample design, etc.), avoid duplication of effort, and preclude any adverse impact upon existing survey programs. Alternatively, the local board may rely on a university-based survey research center that may be willing to either piggyback questions on other survey forms or conduct the survey on the local board's behalf.

Local Employer Survey Design

No manual of survey operations would apply equally to all local employer survey efforts—especially given the potential for substantial diversity in the types of information that local workforce boards may wish to collect from local firms. As a result, the discussion here focuses primarily on a set of basic survey elements that are essential for designing and conducting any employer survey capable of yielding useful information. These elements include the formulation of survey goals and objectives, the use of survey concepts, the design of survey instruments, the use of a sampling frame, and the development of a sample design.

This section also briefly covers alternative data collection techniques, potential problems of non-response, survey management techniques, and data output. While these topics are discussed separately, they frequently inter-relate within the ongoing operation of a local data collection effort. In addition, inconsistencies in or problems with one component of the survey process can adversely influence other parts in such a way as to substantially undermine the value of the entire survey effort.

Developing Survey Goals
A survey's goals and objectives substantially shape other major components of the survey, particularly the sample design, the development of the survey instrument, the cost of the survey effort, and the selection of data collection techniques. Consequently, determination of goals and objectives deserves thoughtful consideration before proceeding.

The local board may establish two general sets of goals for its local employer surveys. The first set of goals is analytical in nature. These goals focus primarily on developing statistically reliable data for research, planning, and/or evaluation purposes. The second and quite different set of goals for a local employer survey concentrates on improving ongoing operational aspects of the local workforce development system. These components include improving the job development and placement performance of the system or enhancing the marketing of local board services to local business establishments. To clarify the desired goal, the local board staff might even create the types of tables and reports they hope the survey results will make possible in order to be certain of what they want.

Frequently, local boards want to accomplish both types of goals with a single type of survey in the name of expediency. Unfortunately, designing a survey that is both analytically and operationally useful can be quite difficult. Often, the two goals conflict with each other. A survey designed to produce information to support planning, research, and evaluation efforts, for example, would rely on a random selection of firms to participate in the survey. An effort to market local board services, such as soliciting job postings, however, would ideally target a specific set of firms—those most likely to need such services or be amenable to receiving such services.

Biases in survey results offer another reason analytically-oriented and operationally-oriented surveys cannot not easily be conducted in one instrument. “Response bias” may occur when a respondent willing to provide information for research purposes does not desire to participate in local board program activities. “Non-response bias” may arise when an establishment simply refuses to cooperate with the survey. Indeed, firms may choose not to participate in a local survey for a wide variety of valid reasons.

Clearly, a critical first step in the development of a local employer survey is to explicitly define the set of overall survey goals and to examine the extent to which such goals may conflict with one another. Local boards should pay particular attention to the potential biases that may occur as a result of attempting to achieve multiple goals within a single survey process.

Developing Survey Concepts

Survey concepts play a key role in any type of labor market survey. In a nutshell, “survey concepts” are operational definitions for specific terms used within the survey. They should be clear, concise, measurable, meaningful, and consistent with existing LMI. To be meaningful to both the data collector as well as the respondents, a survey should define concepts in a readily understandable, rigorously explicit manner. For example, if a survey questionnaire asks private sector employers to describe their “hiring requirements,” responses would likely differ quite sharply among respondents. The question does not sufficiently define the “hiring requirements” concept, forcing cooperating employers to depend on their own interpretations of the term, which might vary. If, on the other hand, a questionnaire asks employers to “list the number of job openings that were immediately available for workers outside the firm at a given point in time,” the range of responses would likely be narrower because the “hiring requirements” concept is more vigorously defined.

Rigorously defined concepts allow for accurate measurement of a specific type of employer activity or behavior, e.g., new hires and current job openings. Accurate measurement is a key requirement of concept design. Accuracy depends in part on how well respondents understand the measure. It also depends on whether individuals in the responding establishment (e.g., human resources managers) possess the information required to respond accurately to the survey questionnaire.
Firms usually possess more information related to recent or current firm behavior rather than its future intentions. An establishment may readily supply accurate information on its past and current employment levels, for instance, but have no projections about its anticipated employment levels at some future date (e.g., one to two years). It would similarly lack knowledge of what production practices, capital equipment, or other technology might drive the need for uniquely skilled workers in the future.

Employers' general inability to project future employment or skill needs is well-documented. Until 1975, the Area Skills Surveys, sponsored by state and local workforce development agencies (including Employment Service and vocational education agencies), sought to capture information on firms' projected levels of employment and anticipated hiring needs by occupation. A formal evaluation of the Area Skill Surveys program revealed those employers surveyed often simply did not know, nor were they able to reasonably project, the likely level of employment for their firm in the future. Although employers readily understood what the survey sought to measure (i.e., the concept was meaningful), they did not possess the means to provide accurate responses. The survey concepts in this situation were essentially not measurable for most establishments. As a result of this research, the U.S. Department of Labor replaced the Area Skill Survey methodology in the early seventies with the OES survey. The OES survey simply asks employers to describe their current occupational staffing. Employer responses provide government analysts with an industry-occupation matrix that analysts use to project occupational demand. The Bureau of Labor Statistics (BLS) continues to this day to support the development of long-range occupational projections through the use of the OES program.

Despite this history, some form of abridged employer surveys, designed to provide information on short-range (one to two years) local needs, may be useful. Such surveys intend to spot-check the occupational needs of local employers in order to verify the need for training programs in specific occupations. These abridged surveys (often referred to as Training Needs Surveys) usually occur over the telephone rather than through means of a mailed questionnaire. In addition, these surveys focus on a limited number of employers, industries, and occupations. They do not purport to generate a statistically representative measure of the entire labor market or labor market trends. Instead, they are used for internal purposes only to evaluate the need for establishing training programs for specific occupations. As a result, the data resulting from these abridged surveys should not be published or used as general-purpose statistics.

In addition to developing survey concepts that are both measurable and meaningful, local workforce boards and their staff should carefully consider the intended uses of the data. Local boards should devise concepts that are comparable with existing sources of labor market information to increase the data's usefulness. If a local survey's concept of “job opening,” for example, mirrored existing BLS concepts of employment and unemployment, analysts could integrate survey data with available LMI. By basing survey concepts on standardized concepts or classification systems, then, analysts could compare the estimated number of unemployed workers and job openings by occupation and calculate job openings rates [openings/(employment + openings)] for selected occupations.

Designing the Sample for Local Employer Surveys

The motive behind a survey is generally to collect facts or impressions from a representative sample of respondents in order to reasonably gain knowledge about a large group of persons without having to ask everyone the same question. A local board must select a representative cross-section of potential respondents if it wants to generalize the responses of these few to the whole. Designing a representative sample requires statistical precision and careful monitoring of responses. The following survey design elements explain some of the areas that local boards must consider as they conceptualize a survey.

Survey Scope

After developing overall survey goals and defining survey concepts, the next task entails determining the “scope” of the employer survey. An employer survey's scope refers to the population of business establishments about whom the local board would like to learn something. Depending on the survey goals, the scope can be
broadly or narrowly defined. If a local board wants to learn the number or occupational distribution of new hires
within their local labor markets, for example, it could define its survey scope as all non-agricultural business
establishments in the local labor market.

Alternatively, the local board may have analyzed existing industrial employment trends and occupational
staffing pattern data and identified a set of specific industry-occupational job clusters that it believed to be
suitable for training. The scope of this survey would include only those establishments whose Standard Industry
Classification (SIC) fell within one of the relevant industry-occupation clusters.

In general, employer surveys characterized by a broad scope are more difficult to conduct than more targeted
surveys. Identifying specific employers to target, thereby narrowing the survey's scope, is preferable. Through
the use of detailed industry employment data such as UI-covered employment and occupational staffing pattern
data, local board staff can identify industry/occupational clusters that are experiencing favorable employment
growth. Local board data collection efforts can focus on these specific job clusters to produce a wide variety of
information about their characteristics.

Sample Frame
After determining the scope of the employer survey, the local board must secure a sample frame. The “sample
frame” is a listing or designation of the universe of elements in the sample population. At a minimum, this
sample frame should identify the name, address, size class, and industrial classification of the entire set of
establishments within the survey's scope. Today, sources for employer mailing lists abound for direct mail
marketing and other outreach and research purposes, including those in SOCRATES and the TRACER system.

If the local board does not have access to establishment address listings from a marketing or other employer
database already, local board staff might consider using existing local industrial directories, such as a Chamber
of Commerce membership list or a Directory of Manufacturers, as a sample frame. Such directories may require
a substantial alteration in the scope of the data collection effort, however. Only rarely will these directories
include all of the business establishments within a local labor market area or even all of the establishments
within a selected subset of industries within an area. Consequently, an employer survey using local industrial
directories will likely be limited in scope because the sample frame does not represent the universe of
employers. Inferences based upon such survey data can be made only for the set of firms included within the
directory, and not be generalized to the entire population.

Another limitation inherent within most local industrial directories is that they likely make attempts to develop
statistically reliable estimates of variables, such as new hire rates and job openings, quite difficult. Thus, while
local industrial directories can be useful as the sample frame, they are best suited for conducting surveys
designed to provide insights into the activities of that selected set of individual firms. Limited sample frames
developed from these directories may help in developing profiles of specific local business firms, including
their internal labor markets, hiring policies and practices, wage policies, and training practices.

Sample Size
After the local board defines the survey's scope and procures a sample frame, the next step involves determining
the overall sample size for the survey and developing methods for selecting establishments to include within the
sample. If local board staff intend to use an employer survey to produce statistically reliable estimates of labor
market variables, they face two major considerations. They can draw the sample size based on desire to avoid a
sampling error or on the amount of resources they can devote to the survey’s operation. In general, the larger the
sample size, the less likelihood of sampling error and the greater the survey cost.

In a sense, a sampling error measures the potential degree to which the mean of a given sample may fail to truly
reflect the mean of the entire population. It results from the fact that surveys reach only some fraction of the
population of establishments. The less chance of sampling error, the more confident a local board can feel about
estimates that the survey produces. In a probability-based survey, it generally follows that increasing the size of
the sample decreases the sampling error associated with estimates produced by the survey.

Sampling error is also influenced by variations or differences in the characteristics of elements of the
population. For example, if a local board wishes to measure new hires by occupation among local business
establishments, the sample size required to do so would depend in part on the degree to which new hires
occurred among firms, as well as on the desired level of confidence in the estimates produced. If all firms hired
the same proportion of new workers into similar occupations, required sample sizes would be relatively small,
even if researchers desire a high degree of confidence. If, however, local firms tend to hire sharply different
proportions of workers into diverse sets of occupations, then the sample size required to produce estimates with
a given level of confidence would be relatively large. Thus, on the basis of purely statistical criteria, the sample
size will be determined by the amount of sampling error that the local board is willing to tolerate and by the
relative homogeneity of the population to be studied.

The process of determining appropriate sample sizes requires consideration of more than the desire to avoid
sampling error. It must also look at the level of resources that the local board is willing to devote to the data
collection effort. Using the statistical approach discussed above, a local board may find, for example, that it
needs a stratified sample of 1,500 establishments to produce an estimate with the desired degree of statistical
confidence. Meanwhile, the local board allocates no more than $30,000 to the survey effort. Contacts with other
local workforce boards, a local university, the CDR, or the TWC LMI department reveal, however, that the
likely cost of such a survey would be $30 per sample unit. Sampling 1,500 units would, therefore, raise the
survey’s estimated cost to $45,000.

To stay within the predetermined budget, the local board would need to reduce the sample size to 1,000 units.
This reduction would increase the potential for sampling error. Nevertheless, determining sample sizes based on
a realistic appraisal of per unit costs and the overall survey budget is appropriate. Without such consideration,
local boards may encounter serious problems when data collection begins, including failure to achieve adequate
rates of response.

Sample Selection

Methods for selecting the sample of establishments depend on the reasons for the survey. Does the survey
produce statistically reliable data (i.e., that analysts can generalize to the larger population) or empirical data on
a specific population subset (i.e., that apply only to a certain group)? If researchers design the survey to produce
statistically reliable estimates with a given degree of confidence, they should use a random sample selection
process with a known probability of selection. Random selection simply means that, within a given population,
each unit (i.e., business establishment) has the same probability of being included within the sample. Planners
should calculate the probability of a given unit being selected (the sampling ratio), since they will use the
inverse of this particular probability to draw inferences about the overall population within the scope of the
survey. The inverse of the sampling ratio is the weight attached to each response when generalizing the survey
results to the entire population.

A simple example illustrates probability calculations. If a sample is designed to select one of every three units
in the population, its sampling ratio is 1:3. The inverse of this ratio (3) becomes the weight upon which
estimates for the entire population will be based. This process applies to simple random samples. Often,
however, employer surveys are based upon a “stratified random sample,” which divides the sampling frame into
clusters or cells. Such stratification permits over-sampling in some cells while maintaining overall randomness
since the probability of selection of a given unit within a cell remains the same for all units within the cell.

Random selection of units for inclusion within the survey would likely prove inefficient if a local board wanted
the survey to produce empirical data on a subset of firms. If the local board wanted general information on the
hiring, training, and wage policies of local firms or sought to develop information for use in local board
program operations, such as job placement, it would adopt a different sample selection method—one that would involve identifying a particular set of firms within the local labor market area that met certain criteria.

To develop these criteria, the local board should utilize existing labor market information on industry employment and occupational staffing patterns available from the TWC LMI department. (Quick Targeting at http://socrates.cdr.state.tx.us/). With the information on industry employment growth and the occupational composition of employment within industries, local board staff would gain insight into the specific industry and occupational areas in question and use that knowledge to select for the sample only specific establishments the local board wanted to study further.

This sample selection method precludes the development of statistically reliable estimates for the universe of establishments. Nevertheless, given the existing data gaps reviewed in previous sections of this essay, a non-random sample selection may be most appropriate for meeting the bulk of local board data needs.

Sample selection represents the final phase of survey design. The next step in the process is data collection.

Survey Data Collection

The data collection process typically employed in conducting local employer based surveys entails initiation, data collection, and follow-up. This section describes each component in some detail.

Initiation

“Initiation” simply refers to the process of enlisting employer cooperation in the survey effort and identifying the individual(s) within the establishment who have access to the desired information. Often, particularly in larger establishments, different types of employment and hiring information are available in different units within the establishment. In one firm, for example, the payroll office may have data on current employment levels and weekly earnings of employees, the human resources office may house information on starting hourly wages of jobs or current job openings, and the chief executive officer may possess information on the firm's strategic direction and changing business practices. Although many employer surveys simply mail the appropriate form to the payroll department or human resources department, targeting a specific individual with known access to the desired information yields better results.

Survey initiation, then, does not directly generate information on establishment behavior. Instead, its purpose is to identify a specific contact person within the establishment, to explain to that individual the survey's purpose and describe its features, and to request his or her cooperation. Generally, initiation takes place over the telephone prior to the actual data collection effort. In some cases, the researcher may send a well-designed pre-survey letter, fax, or e-mail and then follow up with a telephone call.

Information Collection

After initiation has been completed, the actual process of data collection begins. Researchers can use one of three approaches—mail, telephone, or personal visit—to collect the necessary information from employers. Currently, using the Internet and e-mail to conduct surveys raises significant issues of reliability and sample bias; these methods fall outside the scope of this discussion. Depending on the types of questions asked and the sample size, any one or a combination of the basic three approaches may be appropriate. If the questionnaire is brief and respondents purportedly have ready access to the information, researchers may use a phone survey. If, at the other end of the spectrum, the questionnaire is highly complex, i.e., requesting information on a variety of topics, personal visits may be required.

Often, a mix of approaches may be most appropriate for collecting information from various employers. For example, the collection of the requisite information from larger establishments may prove to be more difficult
due to organizational complexities, including information security concerns and firm protocol. In such cases, personal visits may prove necessary. Due to the lower degree of organizational complexity within the smaller establishments, however, phone collection may be the most effective strategy. In general, of course, most surveys rely on mailed questionnaires because they are less time- and staff-intensive than the other methods.

Follow-Up

Typically, initial attempts to obtain information from employers fail to produce an adequate overall rate of response. Consequently, in order to avoid non-response bias, substantial follow-up efforts will likely prove necessary. Even in cases where local boards conducted successful initiation, a large percentage of the response generated by the survey effort will require at least one follow-up contact. Since follow-up contacts made through the mail are usually ineffective, most follow-up efforts will consist of telephone reminders, direct collection of information over the phone, and field visits. With this reality in mind, local boards should plan from the start to devote considerable resources to follow-up data collection efforts.

Local board staff can minimize the costs associated with follow-up through organization and planning. They should carefully examine the control file (the record of survey responses described below) and identify particular industrial, geographic, or employment size-class areas with lagging response rates. They can then target only those areas for follow-up efforts, which will decrease the cost and effort of follow-up in general.

Internal Management of the Local Employer Survey

The organization of the employer survey data collection effort by the local workforce board greatly influences the production of information useful for either analytical or operational purposes. Most local employer surveys are designed to capture a rather substantial number of individual pieces of information from a large and diverse number of local firms. Consequently, survey operators must develop effective techniques for managing the data collection process in order to produce timely and accurate information. A “control file” and “schedule flow” are key to smooth information processing.

The basic tool used to manage a local employer survey is a control file. A control file, usually a database, contains a record for each establishment in the survey, including firm name, address, SIC code, employment level (if available), contact name, and a unique identification number assigned by the local board. The control file enables the local board to track the response status of individual units within the sample. In addition, it helps monitor the overall response rate of the survey.

The survey operator should develop unique response status codes to use when updating control cards to reflect a unit's status changes. At a minimum, these codes should include:

- Out of business
- Out of the survey's scope
- Usable response
- Unusable response
- Pending response
- Non-response
- Refusal

The use of such codes illustrates two benefits of a control file. It enables the survey operator to identify problem areas, such as high rates of non-response or a poor or dated sampling frame. The latter problem appears in the form of establishments found to be no longer in existence or outside the scope of the survey. Based on information contained within the control file, follow-up data collection efforts can focus on specific areas where response rates are relatively weak. In addition, it helps the operator track follow-up activities. The file should
provide space to record the date of each contact and the method of follow-up used—e.g., mail, telephone, or personal visit.

Assigning codes to different types of responses comprises only one aspect of response processing. In addition, the process includes the following tasks:

- Recording incoming responses in the control file, perhaps using a checklist, and marking each response as “received” so that responding employers do not receive a follow-up survey;

- Editing and screening responses, i.e., reviewing the information provided to ensure internal consistency and comparing control file information with response information;

- Following-up with employer contacts to obtain additional information or to correct inconsistencies in the information provided;

- Updating the response status of establishments in the control files (e.g., usable versus non-usable) after follow-up; and

- Organizing responses for use in producing data tabulations upon completion of the data collection effort.

While many of the tasks outlined above appear to be rather mundane, errors associated with the processing of data can lead to a substantial reduction in the accuracy of the data when final tabulations are produced. At best, mistakes can greatly increase the time and resources needed to process the data. In organizing internal processing efforts, local board staff might consult with TWC’s LMI research staff or faculty from a local institution of higher education on methods for effectively organizing the overall internal processing operation.

Tabulating the Results of the Survey

The final step in the survey process is tabulating the results. Depending on the local employer survey questionnaire design and sample size, the survey operator may be able to tabulate the survey data in a wide variety of ways, including probability-based estimates of key variables, summations of responses received, or cross-tabulation of responses by occupation and/or industry, as well as employer profiles. The method(s) chosen depend on the analyst’s expertise. The first method, probability-based estimates of new hire rates, turnover rates, and vacancy rates, requires substantial sophistication with respect to the use of statistical techniques and likely a computer system's capability as well. Problems in treating “atypical” responses and adjusting for non-response can prove quite challenging.

Not all methods require such skill. Even local board staff with little or no training in statistical analysis can produce some data tabulations. An operator may simply prepare a number of tables designed to summarize all of the response data received. If 700 local employers reported new hires data by occupation, for example, then the tables would summarize the responses by occupation across all 700 usable responses. Spreadsheet or database software make such tables relatively easy to produce. Of course, these tables do not provide information about those employers who failed to respond to the survey, but they may offer substantial insights into the hiring behavior of a substantial component of the local labor market. Since they do not reveal whether the responses received represent a true cross-section of all employers in the survey universe, however, these tables may seem misleading in cases where large numbers of firms within a specific segment of the sample failed to respond to the survey (response bias).

Finally, local boards may develop individual profiles of the hiring, training, and promotion practices and policies of local employers. Such profiles could contain information on ports of entry occupations, hiring practices and policies, starting wage rates and hours of work, and promotion or career path opportunities. Local
board staff could find that type of information—organized by occupation on an individual employer basis—extremely useful for a wide variety of counseling, planning, and job development purposes.

The initial process of thinking through the types of tabulations desired should occur simultaneously with the development of overall survey goals. During this planning stage, local boards might develop hypothetical table formats. As mentioned previously, the preparation of such tables will likely clarify a number of issues related to the overall design of the survey and help circumvent problems associated with producing desired tabulations once the data collection effort is complete.

Closing Thoughts

Employer surveys can provide useful and actionable information to help guide program operations. Conducting a survey to gather reliable and valid information, however, is far from easy. Some compare running an employer survey to committing a crime: think twice before doing it because there are innumerable ways to get caught! No one involved enjoys the frustration of conducting a survey, incurring the costs, and ending up with unreliable information. The best approach to gathering information for workforce development purposes is to exhaust the available labor market information before filling in the gaps with survey data. Hopefully this essay has provided some insight into the basics of survey design and administration so that even those local boards that decide to commission a survey can knowledgeably shepherd the process.

About the authors: Much of the conceptual foundation of this essay text originally appeared in a Department of Labor publication entitled Jobs in the Private Sector: Use of Labor Market Information published in October 1980. The original monograph was prepared and edited by Richard Froeschle, Mark Hughes, and William McKee at North Texas State University. Andy Sum and Paul Harrington of the Center for Labor Market Studies at Northeastern University compiled much of the original content. Richard Froeschle, CDR Director, updated and redrafted this essay in an effort to help local workforce boards better understand the various uses and limitations of both secondary statistical LMI and employer survey information.