EXECUTIVE SUMMARY

BISMARCK-MANDAN

AVAILABLE LABOR AND BUSINESS NEEDS

2003

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Table of Contents

AREA DESCRIPTION

The Bismarck-Mandan Metropolitan area, with over 94,000 residents and a trade area population over 200,000, has much to offer . . . abundant and affordable energy, virtually unlimited water resources, available land, modern and reliable infrastructure, accessible government, and a dependable, productive, highly educated workforce. The population is centered in Bismarck and Mandan, with 55,532 and 16,718 residents (Census 2000), respectively. Bismarck-Mandan offers a world-class redundant communication infrastructure, as well as access to major U.S. highways, interstate, scheduled jet service to major hubs, and railways. The community of Bismarck-Mandan is located in the Central Standard Time zone, a part of the Plains Midwest region of the United States. This central North American location is ideal for conducting business throughout all mainland U.S. time zones as well as Canada.

Bismarck was designated an All-American City in 1997, and the tradition of excellence continues to thrive in Bismarck-Mandan today. Bismarck-Mandan is simply a great place to live and work. It is a solid community of individuals and businesses that offer mutual support to assure continued traditions of working hard, caring for one another, and enjoying life to its fullest.

SCOPE OF THE STUDY

During the spring of 2003, the Bismarck-Mandan Development Association (BMDA) sponsored a study to identify the available labor force in the area. The study had two separate components, consisting of two surveys: the first was a collaboration of BMDA with the Workforce Development Division of the North Dakota Department of Commerce, Job Service North Dakota, and the Social Science Research Institute (SSRI) at the University of North Dakota. The second was sponsored by the BMDA and conducted by Job Service North Dakota.

Figure 1 Area included in the study

The first survey was a telephone survey; this survey measured the characteristics of the adult population and the potential labor force in and around the Bismarck-Mandan area. The area highlighted in the adjacent map indicates the geographic area included in this report. The telephone survey, conducted by SSRI, contacted 1,220 respondents from the following counties: Burleigh, Morton, Oliver, Mercer, McLean, Sheridan, Kidder, Emmons, Sioux, and Grant. The area to

be included in the survey was determined by the BMDA and was based on established commuting and business trade patterns. Based on U.S. Census, it is estimated that there were 81,623 people 18 and older in the Bismarck-Mandan area at the time of the survey.

In addition to the telephone survey given to residents, a questionnaire was mailed to 656 businesses in the area to determine local recruiting, staffing, and training patterns. The questionnaire, mailed by Job Service North Dakota, had an overall response rate of 61.1 percent, with 401 completed questionnaires being received. Not all of the establishments that completed questionnaires were still in business. Others were wholly owned subsidiaries or they had multiple locations. Still others did not have appropriate addresses. As a result, the number of usable questionnaires was reduced to 332, for a usable response rate of 51.6 percent.

THE POPULATION

Over 80 percent of the sample came from Burleigh and Morton Counties. The adjacent table reports the residence of the respondents. Slightly more women (51.9 percent) than men completed the survey. The typical respondent is 46 years old, currently working (59.6 percent) and travels about 10 minutes to work. While their occupations are varied, the largest occupations involved office support (14.2 percent), health care (10.6 percent), sales (10.2 percent), and management (9.9 percent).

County of Residence

County	Percent
Burleigh	65.4
Morton	16.0
Mercer	6.0
McLean	2.7
Emmons	2.0
Oliver	1.7
Grant	1.6
Sheridan	1.6
Sioux	1.6
Kidder	1.4

According to the U.S. Census, the population in Burleigh and Morton Counties is well-educated. The U.S. Census reported that 85.8 percent of the adult population (25 and older) are high school graduates, and 25.5 percent have obtained a 4-year college degree or higher. This is higher than the national average of 80.4 percent and 24.4 percent, respectively. Of the telephone survey respondents, 89.7 percent had achieved their high school diploma (or the equivalent) and one-third (33.6 percent) had at least a 4-year college degree.

Training and skill development is a life-long process, and a sizable portion of the population (31.5 percent) has undergone some training in the last three years. The most common type of training that individuals have taken in the last three years related to technical skills.

Only adults 18 and older were involved in the telephone survey. Consequently, the median age of the sample (46.0) is higher than the general population (36.3). The median age for the nation is 35.3. Of the adults who responded to the survey, 28.8 percent are between the ages of 18 and 34.

According to the survey, more than one out of ten people over the age of 64 are currently working. People over the age of 64 make up 4.4 percent of the workforce. The typical person over the age 64 works 30 hours a week.

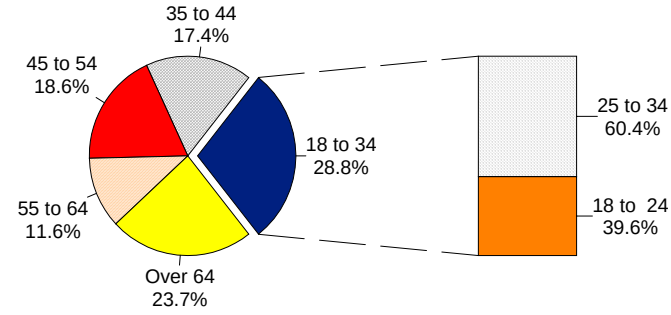

Figure 2 Age Distribution of all respondents

THE WORKFORCE

The Bismarck-Mandan area workforce displays a strong work ethic. Unemployment is typically low, with a 3.0 percent unemployment rate reported by Job Service North Dakota at the time of the study. Of the total survey respondents, 67.8 percent are working for wages, self-employed, or actively seeking work. The typical employed respondent works an average of 40 hours a week and makes $12.00 an hour. A majority of workers have only one job and work full-time (81.8 percent). In most cases, when someone is working an additional job, the work is part-time. Less than a quarter of the employed respondents (23.6 percent) have shift-oriented work schedules.

Employees in the Bismarck-Mandan area are loyal to their employer, with a typical tenure length of 60 months and a low employer reported turnover rate—70.5 percent of employers reported having less than 10 percent turnover. The adjacent table displays the responses from the employers. Likewise, most employers reported that absenteeism is low with 85.2 percent reported daily absenteeism below 6 percent. Labor disputes were rare, with the vast majority of employers (97.2 percent) reporting 5 days or less lost due to labor disputes during the last calendar year. Of those employers who responded, 72.7 percent reported their Bismarck-Mandan area workforce is more productive than those in other areas.

Labor Turnover

	Percentage of Firms Reporting
0 to 5 Percent	52.2
6 to 9 Percent	18.3
10 to 14 Percent	14.2
15 or More Percent	15.3

THE WORK ENVIRONMENT

The typical local firm had 19 individuals working full-time and 4 working part-time. Managers generally had 6 years of management experience. A majority of the staff (89.0 percent) is paid on an hourly basis. Only 7.6 percent of the employers reported having an organized workforce.

Location of Business

County	Percent
Burleigh	72.2
Morton	17.7
McLean	2.8
Emmons	1.8
Grant	1.5
Mercer	1.2
Sheridan	1.2
Kidder	1.0
Oliver	0.6
Sioux	0.0

The location of the businesses follows a pattern similar to the population, with most of the firms (89.9 percent) concentrated in Burleigh or Morton Counties. Within the Bismarck-Mandan area, there are several different types of firms. The services industry was the largest industrial sector with 44.0 percent of the firms. Typical services industry businesses perform lodging, repair, medical, legal, and educational services; this is consistent with the industrial pattern reported by Job Service North Dakota. In addition to the preponderance of firms involved in services, Bismarck is the state capital as well as the county seat for Burleigh County, and Mandan is the county seat for Morton County. Consequently, there are a number of people who work for government in the Bismarck-Mandan area.

Employers were asked to quantify the difficulty in finding people to fill a list of occupations. Employers reported the most difficulty filling part-time positions, with 15.9 percent reporting some degree of difficulty. Finding seasonal help was perceived to be less difficult than finding part-time staff, with 9.7 percent of the employers reporting some difficulty. Most businesses

expected their full-time employment to remain the same or slightly rise over the next year, with an average growth of 0.8 positions.

POTENTIAL JOB SEEKERS

Potential Job Seekers (PJS) include both the employed and the unemployed population 18 years of age and older. In fact, the largest group of PJS are people who are already employed. Despite the area's low unemployment rate, 32.0 percent of the adult population could be encouraged to work for a different or a new employer. The five types of potential job seekers are detailed below.

Employed

Will change jobs
Those currently working, but would consider changing employers.

Will take additional job
Those currently working, but would be willing to take an additional job.

Unemployed

Seeking work
These people are not working, but are actively seeking work.

Will seek work (1 year)
Those who plan to seek work within the year. They are not working, or currently actively seeking work.

Discouraged
Those not working, discouraged from actively seeking work, or not planning to seek work within the next year, but would accept a job if it met their minimum acceptable wage requirements.

Potential Job Seekers

	Number*	Percentage
Potential Job Seekers**	26,120	32.0
Employed	18,530	22.7
Will change jobs	16,730	20.5
Will take additional job	5,710	7.0
Unemployed	7,840	9.6
Seeking work	2,610	3.2
Will seek work (1 year)	1,140	1.4
Discouraged Workers	4,080	5.0

*Rounded to the nearest 10.
**The numbers will not total to the Potential Job Seekers, as duplication is possible.

Note: PJS differ from the labor force as defined by the U.S. Department of Labor and the Census Bureau, which measures the adult population 16 years and older.

The number of available workers an employer can expect in the Bismarck-Mandan area depends on the individual work history and skills of the applicants, the working conditions, as well as wages and benefits offered. The following table reports the current or most recent occupation of the potential job seekers.

Current or Most Recent Occupation of Potential Job Seekers

	Number*	Percentage
Management	2,670	10.7
Business and Financial Operations	1,130	4.5
Computer and Mathematical Science	480	1.9
Architecture and Engineering	530	2.1
Life, Physical and Social Science	70	0.3
Community and Social Services	400	1.6
Legal	130	0.5
Education, Training and Library	1,530	6.1
Arts, Design, Entertainment, Sports and Media	480	1.9
Healthcare Practitioner	1,330	5.3
Healthcare Support	1,200	4.8
Protective Service	680	2.7
Food Preparation and Serving	1,810	7.2
Building and Grounds, Cleaning and Maintenance	1,330	5.3
Personal Care and Service	530	2.1
Sales	2,890	11.5
Office and Administrative Support	3,110	12.4
Farming	400	1.6
Construction and Extraction	1,930	7.7
Installation, Maintenance and Repair	600	2.4
Production	1,130	4.5
Transportation and Material Moving	730	2.9
Total	**25,090**	**100.0**

*Rounded to the nearest 10.

DEMOGRAPHICS OF THE POTENTIAL JOB SEEKER

The demographics of the PJS are different from the adult population in the Bismarck-Mandan area. With a median age of 39, the typical age of the PJS is younger than the general population . As shown in the adjacent chart, 42.7 percent of the PJS are under the age of 35. In addition to being younger, the PJS are more likely to be male, possess more education when compared to rest of the adult population, have a shorter tenure with their current employer, have more experience in management, and less experience with computers.

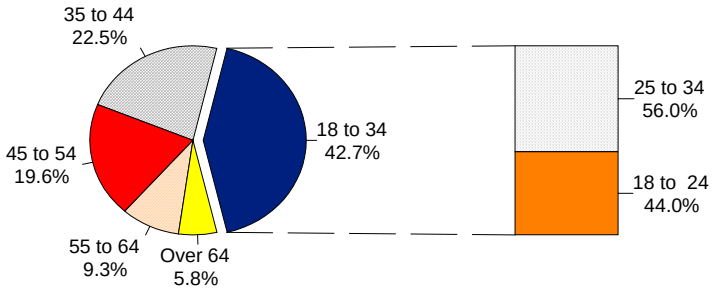

Figure 3 - Age Distribution of PJS

There is a difference between those willing to consider a different employer as opposed to those willing to consider additional work. Those who are involved in farming/ranching are the least likely to consider changing jobs, while those who are involved in transportation are the least likely to consider taking additional employment.

Willingness to Consider Different Job or an Additional Job by Occupation

	Number*	Changing Jobs*	Additional Job*
Management	2,210	1,980	470
Business and Financial Operations	960	890	270
Computer and Mathematical Science	480	480	70
Architecture and Engineering	410	410	70
Life, Physical and Social Science	70	70	70
Community and Social Services	350	340	70
Legal	130	140	70
Education, Training and Library	1,090	680	600
Arts, Design, Entertainment, Sports and Media	410	270	270
Healthcare Practitioner	1,170	1,090	270
Healthcare Support	840	680	470
Protective Service	610	610	200
Food Preparation and Serving	1,090	1,090	200
Building and Grounds, Cleaning and Maintenance	1,040	1,020	330
Personal Care and Service	480	480	200
Sales	2,130	1,840	740
Office and Administrative Support	2,280	2,120	530
Farming	70	0	70
Construction and Extraction	1,040	960	270
Installation, Maintenance and Repair	480	480	70
Production	840	750	400
Transportation and Material Moving	350	340	0
Total	**18,530**	**16,720**	**5,710**

*Rounded to the nearest 10.

EXPECTATIONS OF THE POTENTIAL JOB SEEKERS WHO ARE CURRENTLY EMPLOYED

The minimum acceptable wage for those members of the PJS who are currently employed is somewhat dependent on their current wage and whether they would take a different job or an additional job. The reasons why people would consider alternative jobs will vary; however, the most common reason to consider alternative employment is wages (57.1 percent). In addition, 19.3 percent would be willing to work for a different employer to further their career.

Reasons to Consider Different Employment

	Percentage
An Increase in Pay	57.1
Career Advancement	19.3
Increase in Benefits	9.4
Improved Working Conditions	5.2
Better Fit of Skills and Abilities	5.2
Job Security	3.8
Total	**100.0**

The typical PJS is willing to travel to go to work. As a group, the typical PJS was willing to travel approximately 30 miles to go to work. However, the distance willing to travel depends on the personal situation of the PJS. Those involved in construction, production or installation and repair generally were

willing to travel further (in excess of 40 miles) than other groups, while those who work in business or financial operations were the least willing (25 miles).

As shown in the next table, the PJS who are currently working would generally accept a lower wage to work at an additional job. In addition, some who would consider changing jobs would be willing to take a lower pay. While reasons can vary for taking a new position, if the new job were to help advance their career or provide more desirable benefits, people would consider changing employers. The previous table indicated that nearly three in ten would consider taking a different job for career advancement or benefits. The three most desired benefits by PJS are health insurance, retirement, and paid vacations.

Typical Minimum Acceptable Wage by Current Occupation of PJS

	Current Wage	Changing Jobs	Additional Job
Management	$12.00	$10.00	$10.00
Business and Financial Operations	12.00	12.00	10.00
Computer and Mathematical Science	16.00	16.00	13.50
Architecture and Engineering	13.00	13.22	12.00
Life, Physical and Social Science	NA	NA	NA
Community and Social Services	14.00	10.40	10.00
Legal	NA	NA	NA
Education, Training and Library	10.50	9.50	8.00
Arts, Design, Entertainment, Sports and Media	8.75	7.00	7.00
Healthcare Practitioner	12.50	10.00	12.11
Healthcare Support	10.00	9.00	9.00
Protective Service	16.00	14.50	15.00
Food Preparation and Serving	7.00	6.75	6.50
Building and Grounds, Cleaning and Maintenance	9.00	9.50	8.00
Personal Care and Service	8.00	8.00	5.15
Sales	8.88	8.25	7.00
Office and Administrative Support	10.00	7.89	7.50
Farming	6.00	NA	10.00
Construction and Extraction	12.53	10.00	10.00
Installation, Maintenance and Repair	16.00	11.06	5.15
Production	15.44	12.00	11.00
Transportation and Material Moving	14.00	10.00	NA
Total	**$10.85**	**$10.00**	**$8.00**

NA = Not Available.

SKILLS OF POTENTIAL JOB SEEKERS

The skills of the PJS in the Bismarck-Mandan area are impressive, with 88.8 percent having at least a high school diploma and 27.4 percent having a college degree or higher. About half, 56.8 percent, reported having some management experience, with the median being 6 years.

A majority, 78.4 percent, has experience using computers and 76.2 percent reported experience using office suite productivity software. However, the level of expertise for different software applications did vary, with programming being the lowest.

Percentage of PJS by Degree of Proficiency by Computer Application						
	Very Skilled 5	4	3	2	Not skilled 1	No Response
Office Suite Software	14.8	16.6	17.6	4.9	1.8	44.2
Spreadsheet	4.1	13.3	18.4	10.2	9.7	44.2
Database	4.6	9.2	20.2	13.0	8.4	44.5
Desktop Publishing	4.1	11.0	16.9	11.0	12.8	44.2
Writing HTML	0.8	1.0	4.3	2.8	6.9	84.1
Computer Programming	0.5	0.8	4.3	2.3	7.9	84.1
Hardware Proficiency	4.1	3.8	4.3	2.6	1.0	84.1

WILLINGNESS TO BE TRAINED

As impressive as the skills of the PJS are, there is recognition that some businesses have unique operations and/or procedures that require specialized training. People who expressed a willingness to be considered members of the PJS were asked if they were willing to undergo training to work in particular industries. As shown in the following table, there were some perceptional differences between industries. The industry that people were most willing to undergo training for was in computer technology, with 71.0 percent of the PJS responding. The industry that people were least willing to undergo training for was in the machine or construction trades (34.0 percent). As a rule, the most desired form of training would be on-the-job with 61.8 percent of the PJS preferring this form of training.

Percentage Interested in Specialized Training by Industry			
	PJS	Changing Jobs	Additional Job
Computer Technology	71.0	74.1	79.8
Health Services	46.8	45.3	53.1
Engineering Fields	33.4	34.3	39.2
Production and Manufacturing	38.4	40.0	38.3
Machine or Construction Trades	34.0	30.3	39.8
Business Service Operations	58.6	59.5	63.1

DISCOURAGED WORKERS

Approximately 4,000 individuals were categorized as being discouraged workers. In the Bismarck-Mandan area the typical discouraged worker has been out of the labor force for more than two years (67.2 percent). As a group, the discouraged workers are older than other PJS members, with a median age of 50. These individuals are well-educated with 84.5 percent possessing at least a high school diploma and 22.4 percent having completed a 4-year college degree.

There can be a variety of reasons why someone might be a discouraged worker. Approximately 400 individuals (10 percent) are not in the labor force because of a belief that there are not jobs available that would meet their economic needs. The largest group (34.4 percent) refused to provide a reason for their lack of involvement in the labor force, and another 31.1 percent are not interested in being members of the labor force. Other reasons why people are not part of the labor force include a desire to be home with the children, childcare costs, and disabilities. The minimum acceptable average wage the discouraged worker would accept is $9.26 per hour.

RECRUITMENT

The percentage of the labor force in the Bismarck-Mandan area actively seeking work (unemployed) for the month of April 2003 was 3.0 percent, while the potential labor pool is 32.0 percent of the adult population. This indicates that those businesses willing to compete for employees would find a large supply of talented, willing workers.

Only 4.3 percent of the employers reported having a recruitment program and those that do use on-line job orders to help meet their staffing requirements. While some employers reported difficulties in filling specific positions, 47.4 percent did not answer the question, "What are the most difficult job positions to fill?" Of those that did respond, 5.7 percent reported difficulty in filling seasonal, part-time or shift work employees. Many employers, 41.1 percent, indicated that they do not have jobs that push the abilities of their workforce. In addition, only 21.2 percent of the employers envision those who are overqualified to be possible members of their workforce.

Employers were asked to report the skill levels of the applicants on a five-point scale in eight specific areas. As shown in the following table, employers reported that most applicants possessed appropriate skill levels. The highest skill reported is the ability to use English, followed by teamwork, reading, verbal, and problem-solving skills. While employers reported that 64.7 percent of the applicants had strong English skills, the lowest score was the ability to write.

Employer Perceptions of Skill Levels of Job Applicants (Percent)

	Excellent 5	4	3	2	Poor 1
Basic Skills	7.6	31.6	48.7	11.3	0.7
English	24.5	40.3	28.2	6.2	0.7
Writing	6.8	29.4	47.9	14.0	1.9
Reading	6.8	38.5	49.1	4.2	1.5
Math	6.3	35.6	47.8	9.1	1.2
Problem-solving	5.1	37.7	46.4	10.1	0.7
Verbal	5.4	38.3	48.4	7.6	0.4
Teamwork	8.0	38.8	42.0	9.4	1.8

In order for a business to successfully compete for qualified workers, they need to consider the desires of the PJS. A majority (74.2 percent) desire year-round employment, although 12.8 percent would prefer seasonal employment. Likewise, the majority would prefer day shifts (72.6 percent), although 10.2 percent would prefer rotating shift work.

Another issue that can affect recruitment is the quality of local training providers and the flexibility of those providers to meet the needs of businesses. In general, when asked about the training environment in the Bismarck-Mandan area, the employers reported quite positively about the quality of training that is available locally.

Employer Perceptions of Quality of Local Training Providers (Percent)					
	Excellent 5	4	3	2	Poor 1
Local High Schools	21.4	48.8	26.2	2.8	0.8
Bismarck State	24.1	48.2	23.1	4.2	0.5
Dickinson State	25.8	48.5	23.7	0.0	2.1
Minot State	24.0	51.0	20.8	2.1	2.1
North Dakota State	31.7	50.8	15.8	0.8	0.8
U of North Dakota	30.4	48.6	18.8	1.4	0.7
United Tribes Tech. College	11.4	37.5	33.0	9.1	9.1
U of Mary	29.6	53.7	15.4	0.6	0.6
Private Vendors	17.1	45.7	31.4	4.3	1.4

METHODOLOGY

BUSINESS QUESTIONNAIRE

DEVELOPMENT OF QUESTIONNAIRE

A previous study developed by Younger Associates, LLC and The Wadley Donovan Group had been done in the Bismarck-Mandan area. To allow comparable analysis, the Labor Market Information Center, in conjunction with the BMDA and local Job Service North Dakota staff, developed a mail questionnaire that incorporated similar data elements as well as additional items to determine the level of difficulty that businesses face in the Bismarck-Mandan area

SAMPLE

Using established protocols developed by the U.S. Bureau of Labor Statistics, a list of businesses (656 firms) provided by the Bismarck-Mandan Development Association were contacted by mail during the months of April and May. Of these 656 firms, 13 reported they were out of business.

RESPONSE RATE

Of the 643 businesses that were in business, a total of 332 responses, or 51.6 percent of the firms contacted, responded in way that allowed for analysis. Responses were inputted by staff members of the Labor Market Information Center.

TELEPHONE SURVEY OF THE ADULT POPULATION

TARGET POPULATION

The target population was defined as adults 18 years of age or older who had the most recent birthday and resided in telephone households in the Bismarck labor market area.

BISMARCK LABOR MARKET AREA

The 2003 study included ten North Dakota counties (all of Burleigh, Morton, Oliver and selected areas of Mclean, Mercer, Grant, Sioux, Emmons, Kidder, and Sheridan) as defined by the Bismarck-Mandan Development Association. This draw area replicates the area included in the 2001 Workforce Survey conducted by Younger Associates, LLC and The Wadley Donovan Group.

SAMPLE SIZE

The Bismarck Labor Study sample size provides an accuracy at plus or minus 2.8 percent with a 95 percent confidence level. The sample was distributed in proportion to the total adult population over 17 years of age in the target labor market county area.

FIELD PERIOD

The survey was pre-tested March 24 and 25 and the data were collected March 26 through April 9, 2003.

SAMPLE DESIGN

Information about how survey samples are developed is important in assessing the validity and reliability of the results of the survey. While a fully random design is the most desirable approach in developing a representative sample of the population, this approach often results in under-sampling demographic groups with low rates of telephone ownership. These groups most often include young adults, minorities and individuals with low education and income. Increasingly, researchers use stratified random designs to guard against under-sampling. To determine whether a representative sample was obtained, it is helpful to calculate the response rate for the sample as a whole as well as to examine how closely the sample matches the known demographic characteristics of the population. If substantial differences are detected, post-stratification weights can be applied during analysis to ensure that the results of the survey can be generalized to the larger population.

To obtain a representative sample for the labor market survey, random selection of households and random selection of respondents within households by county were used during the data collection process. The survey of adults (17 or older) performed by SSRI was conducted by telephone. A random sample of 10-digit telephone numbers were generated for each county labor market area utilizing Genesys Sampling Systems Random Digit Dialing (RDD) in-house software. The list from which the numbers were drawn included only selected Bismarck labor market area codes and telephone banks (that is, blocks of 1,000 consecutive numbers) that had been determined to contain a threshold number of active residential numbers.

Overall, SSRI called 3,543 numbers in the selected labor market to determine whether it was a working residential number in contrast to a nonworking number, a commercial/business line, a cell phone, data or fax line, or a non-primary household telephone. SSRI staff classified 1,903 of these numbers as working residential numbers eligible for interview and successfully interviewed 1,220 of these households. Throughout the study, completed interviews were monitored to determine whether the sample matched population estimates in terms of gender and the age distribution. The following table presents the total sample dispositions.

Telephone Contacts and Outcome		
Sample Disposition	Number	Percent
Completed Interviews	1,220	34.4
Nonworking Number	1,640	46.3
Non-primary Household	41	1.2
Language Barrier	12	0.3
Refusals	288	8.1
Terminated Interview	56	1.6
Contacted Not Interviewed	286	8.1
Total	**3,543**	**100.0**

RESPONSE RATE

The most conservative approach to measure a response rate of telephone surveys is the method adopted by the Council of American Survey Research Organizations (CASRO). The CASRO method uses the known status of portions of the sample that are contacted to impute characteristics of portions of the sample that were not reached. The CASRO method of calculating the response rates for the overall project yields an average completion rate of 65.9 percent.

INTERVIEWING PROCEDURES

Telephone interviews were conducted from SSRI and the Department of Sociology at the University of North Dakota by trained interviewers with supervision and random monitoring for technique and adherence to established procedures. Production interviewing began after a pre-test of the survey in a series of actual telephone interviews. The majority of interviews were conducted on weekday and Sunday evenings. Throughout the study, completed interviews were monitored to determine whether the samples match U.S. Census 2000 North Dakota County population figures in terms of gender and the age distribution of respondents age 18 or older. Efforts to complete interviews with selected respondents were extensive. The number of callbacks to complete an interview with an eligible respondent ranged from 1 to 12.

Computerized Assisted Telephone Interviewing (CATI). To ease telephone interviewing, all telephone interviews were conducted with a computer assisted telephone interview (CATI) system. The SSRI version of CATI is implemented with microcomputers, which display survey questions on interview terminals and collect telephone interview data as the interview is being conducted. For CATI telephone interviews, all coding of numeric and categorical responses is done by microcomputer software, with error checking to catch out-of-range values at the time of the interview.

The use of CATI increases both the speed of data collection and the accuracy of data collected. All CATI questionnaires are tested prior to conducting telephone interviews to ensure accurate encoding of survey responses and accurate branching and skip patterns in the questionnaire. The system prompts interviewers for a valid response to every question in the survey. For numeric questions, legitimate ranges of responses are entered into the computer so that the computer can detect out-of-range values. When these are detected during the interview, the computer warns the interviewer that the entered value is out of range and prompts the interviewer for a legitimate response.

Data validation at the data management step consists of accounting for all cases in the survey, and ensuring that data record exists for every completed interview in the sample. Data records were passed through a SPSS program to ensure that all data fields are readable, and that all fields are reading the format specified for that variable. The final validation step consists of checking the consistency of respondents' answers to objective and verifiable survey questions. All data will be backed up and stored for immediate access and corrections, should data corrections be needed.