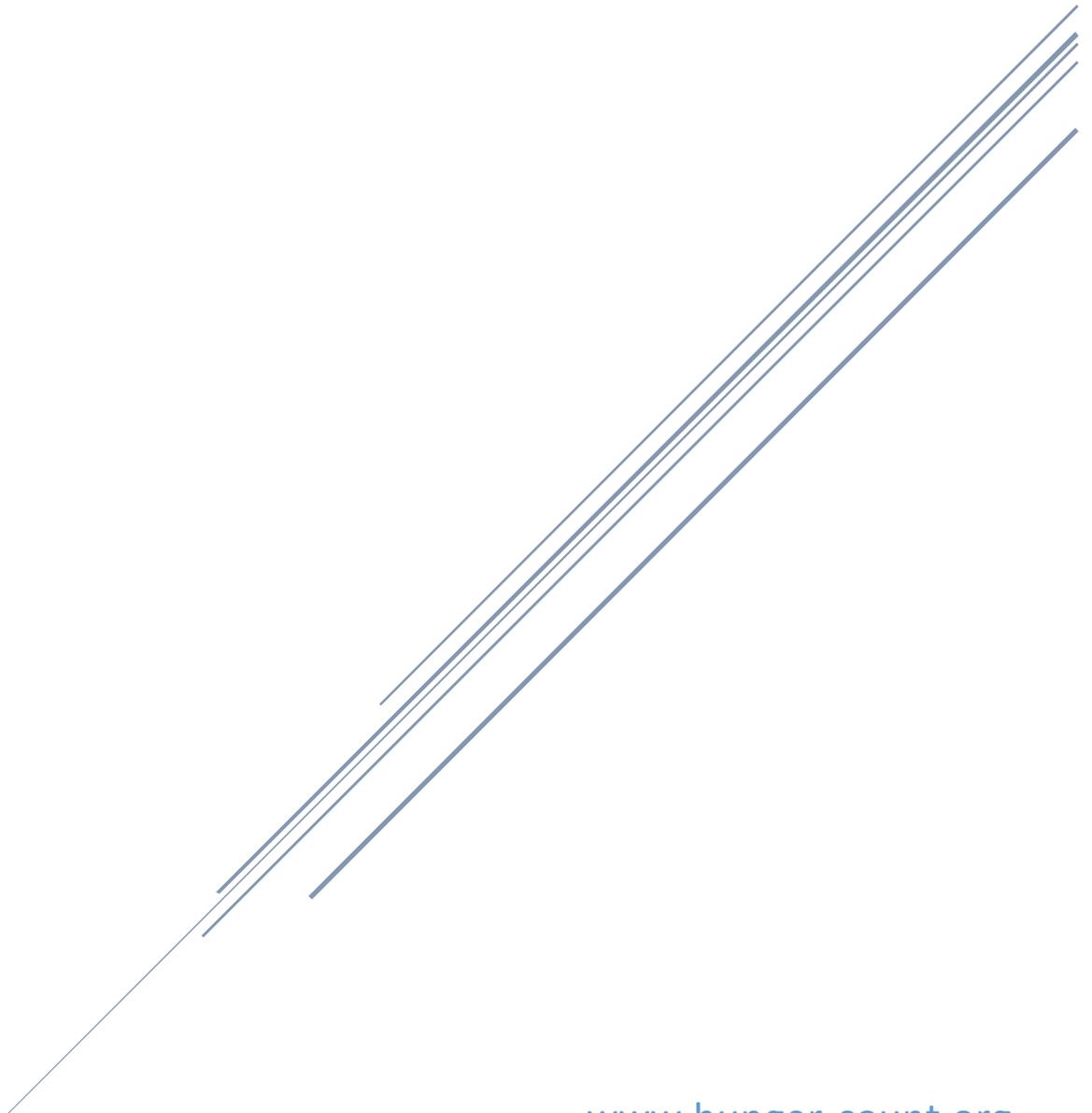


# FRESNO HUNGER COUNT

## Survey Methodology



[www.hunger-count.org](http://www.hunger-count.org)

Written by Philip Erro  
Founder and Sponsor

## Design of Questionnaire:

Because Fresno Hunger Count would be a human subject survey, Community Food Bank Chief Executive Officer Andy Souza and Fresno Hunger Count Founder Philip Erro sought advice from epidemiologist-statistician Hillary Seligman, MD at the University of California, San Francisco (UCSF) Medical School regarding the confidentiality of food shortage data gathered from food insecure people. Dr. Seligman has conducted surveys as part of her medical research at UCSF. She advised Mr. Erro that Fresno Hunger Count Surveyors would need the permission of prospective interviewees to ask questions about their food shortages and further advised him that measures needed to be taken to avoid connecting the food shortage data to each respondent. To assure confidentiality of the food shortage data, the questionnaire was designed to ask only food shortage questions and the address of the interviewee but not the person's name, identification information, legal status or any other information. Obtaining the address for each survey was necessary to: 1) enable Fresno Hunger Count to report where food shortages occur; and 2) know where to distribute food needed in the future. The Surveyor conducting the interview was identified on the questionnaire with a surveyor number, not the Surveyor's name, to put distance between that person and the data gathered.

To assure the confidentiality of the food shortage data after it was entered into the database, Dean Fairbanks, PhD, Chair of the Geography and Planning Department (GEOP) at California State University, Chico (Chico State), set up a secure data base on Chico State servers and designed it to store food shortage data separately from addresses.

The USDA Food Security Survey, the California Health Interview Survey, the survey done for the Hunger Study of Amador and Calaveras Counties in 2006, and the hunger survey conducted for the doctoral dissertation of Sarah Whitley, PhD, Professor of Sociology at California State University, Fresno were studied to learn how to phrase questions pertaining to food shortages. The questions of the pilot questionnaire came from the USDA Food Security Survey, Dr. Whitley's hunger survey and Fresno-based dietician Ms. Ann Lentell. The first version of the questionnaire was translated to Spanish and Hmong and was tested in interviews with English, Spanish and Hmong speaking interviewees by an English and Spanish speaking Community Food Bank outreach worker, an English and Hmong speaking wellness educator, and the English and Spanish speaking Fresno Hunger Count Founder. It was tested using the English and Spanish questionnaires in the city of Fresno and in the rural communities of Kerman and Lanare. The questionnaire in Hmong was tested in southeast Fresno and at the Hmong non-profit Stone Soup in north Fresno. After examining the first version of the questionnaire, psychologist Ghia Xiong, Psy.D at the Fresno Center for New Americans suggested that the compound questions, which had questions within questions, of the USDA survey be unbundled and asked separately. He had recently conducted a human subject survey as part of his doctoral dissertation and said that based on his experience single, uncomplicated questions were more easily understood than compound questions, particularly among immigrants. Based on Dr. Xiong's advice, a second version of the questionnaire consisting of simple questions was written and translated to Hmong and Spanish. The second version was tested in the cities of Fresno and Huron. Because of its length, it took too long to administer. Several interviewees stopped answering questions during the interview,

saying they had other things to do. Some of the questions in the second version of the questionnaire were eliminated and others were shortened in the third version of the questionnaire. This version was field tested and adopted as the official version of the Fresno Hunger Count questionnaire after a few minor changes and was translated to Spanish and Hmong.

The Fresno Hunger Count questionnaire has seven questions. The first three questions ask about food shortages in the last month and last 12 months. An example of a food shortage is a mother and two children who have three hot dogs and one bun that the mother has to ration for four days until her next paycheck or food assistance date. The fourth question asks about occasions when the family had enough food but did not have the kinds of food they wanted to eat. An example of having enough to eat but not having a complete diet is a woman and a man who have five children between them who have plenty of potatoes and eggs but nothing else. They can subsist on potatoes and eggs indefinitely; but they would buy some chicken, beans, tortillas, vegetable oil and fresh fruits and vegetables, if they had enough money. The first four questions prepare the respondent for the fifth question, which asks the interviewee which kinds of foods she/he would like to have for her/his family each month of the year to improve the family's diet. The answers to questions #1 through #3 regarding when shortages occur do not necessarily correlate to when the interviewee would buy particular types of food, if she/he had enough money, in question #5. The foods listed in question #5 are divided into four food types: proteins, carbohydrates, fats, and fresh fruits and vegetables. The sixth and seventh questions pertain to children 5 years and younger and ask when the family did not have enough money to buy milk and formula\* for infants and small children. The objective of the questionnaire is to document the portions of proteins, carbohydrates, fats, fresh fruits and vegetables, and milk and formula households need each month of the year. To see the questionnaire, click on <http://www.hunger-count.org/reports.php>.

\*Fresno Hunger Count (FHC) asks about formula, because many mothers still use it. When mothers tell FHC Surveyors that they didn't have enough money to buy formula, this is an indication that nutrition may be lacking for their infants and small children. Fresno Hunger Count advocates breast feeding, as does the USDA Women, Infants and Children (WIC) program.

## In-person One-on-One Survey Using a Paper Questionnaire:

The use of the in-person, one-on-one survey method afforded two advantages for Fresno Hunger Count, namely the acquisition of reliable data and the ability to hire Surveyors who could easily relate to their interviewees. Using this method, the interviewer has a paper questionnaire from which she or he reads questions to the interviewee and records the respondent's answers immediately. The surveyor can conduct the survey by going door-to-door or by interviewing people in public places such as pedestrian malls, Social Security offices or public events. The in-person, one-on-one survey can reach people who live at remote locations (such as dispersed households in the hills), who do not have telephones and who often are not home. Telephone surveys, by contrast, do not reach people who do not have telephones. The one-on-one interview allows the respondent to ask questions and ask for clarification of survey questions. During the field testing of the first version of the questionnaire in Hmong at Stone Soup, a group interview was attempted. One of interviewees who was a fast reader jumped ahead of the group and answered questions on her own. She completely misinterpreted question #5 and consequently gave us invalid data. The one-on-one interview eliminates such misunderstandings. The interpersonal, dialogue interviewing method is labor intensive and requires transportation of Surveyors to survey sites. But it does deliver valid food shortage data. And, unlike small sample telephone interviews and small sample in-person interviews that rely on inferring hunger information using statistical techniques, the mass canvassing sample size of Fresno Hunger Count was large relative to the size of the population being surveyed and has enabled Fresno Hunger Count to attain a high degree of confidence in the data collected, to report directly from its survey results, and to provide a solid basis on which to make policy decisions about nutrition.

Though paper questionnaires cost more than using tablet-based questionnaires and required more handling, their use allowed Fresno Hunger Count (FHC) to hire Surveyors from the same economic class as the interviewees to help establish surveyor-interviewee rapport. Using Geographic Information System (GIS) software on tablets to input and transmit food shortage data to the data processing center could be a challenge for some people who have limited education and no experience transmitting data. FHC would most likely have had to hire individuals who had more education than survey respondents to use tablets instead of paper questionnaires. The Surveyors FHC did hire, on the other hand, learned to use the paper questionnaires quickly. As stated above, paper questionnaires cost more than the software for tablets to use electronic questionnaires. Also, the use of paper questionnaires required counting them to put them into clip board boxes daily, reading the answers on the questionnaires to be able to input them to the data processing center, and filing the questionnaires by surveyor number in file folders. But retention of hard copies of the questionnaires enabled FHC data entry and management personnel to check the accuracy of data entered to the databank.

## In-field paper questionnaire and desk top data entry:

The answers recorded on paper questionnaires were entered into the GIS database on desk top computers. Strict discipline among FHC data entry personnel minimized data entry errors and achieved a data entry time of 60 to 90 seconds per survey. Three Data Entry Specialists using three desk top computers were needed to input the data collected by 40 Surveyors. After the data from each questionnaire was archived in the secure database at Chico State, Program Assistants filed the questionnaires by surveyor number and date so that they could be easily retrieved at a later date, if necessary.

## Recruitment and Management of Personnel:

The first attempts to recruit Surveyors among school classroom aides who spoke Spanish and Hmong and their friends met with some success in small, rural school districts immediately south of Fresno. But numerous telephone calls and emails over a period of months to large, urban Fresno area school districts went unanswered. Early attempts to recruit African-American Surveyors through a family resource center in Southwest Fresno did not yield surveyor candidates, but a staff member there did advise Fresno Hunger Count how to write a job description for the Surveyor position that was informative and appealing, which was very helpful. FHC did have success recruiting African-Americans and Hispanics in Southwest Fresno at Bringing Broken Neighborhoods Back to Life meetings and word-of-mouth from attendees. Recruiting for Hmong surveyor candidates through Fresno Interdenominational Refugee Ministries (FIRM) won support for the hunger survey among Hmongs and Laotians in Fresno and eventually provided recruits. In a few instances a local staffing agency recruited surveyor candidates. Once FHC hired a few Surveyors, recruiting became easier. The recently hired Surveyors referred people they trusted and thought would be good at interviewing people. After FHC started interviewing heads of households about food shortages, several of the interviewees asked if we were hiring. A few of them became Surveyors and told their friends. Soon individuals called or walked in the Fresno Hunger Count office asking to be interviewed for the Surveyor job. The Surveyor Coordinators, who scheduled the surveying work and supervised the Surveyors; the Programs Assistants, who put questionnaires into clip board boxes and otherwise supported the Surveyors; the Administrator, who managed the payroll; and the Hunger Count Manager, who supervised the flow of food shortage and address data from the interview to the data processing center and back for report writing, were recruited by a staffing firm. To maintain a work force of 40 Surveyors in the field, FHC recruited, trained and hired over 70 Surveyors over a seven month period.

The Fresno Hunger Count Administrator interviewed prospective surveyors by giving them a script in which the job seeker interviewed the Administrator as if she/he were talking to a head of household. The Administrator also asked questions about work experience, drug use and criminal history. If the surveyor candidate passed the job interview, the staffing agency then had them tested for drug use and had a search of criminal history done. If the candidate was recommended by the staffing agency after the drug test and background check, FHC invited her or him to a paid three hour training session. If they successfully completed the training, they were given a Fresno Hunger Count identification number, their photograph was taken for their FHC ID card and uniforms (polo shirts with Fresno Hunger Count logo) were ordered for them.

The surveyor training consisted of teaching surveyor candidates how to quickly greet heads of households, explain the purpose of the survey, tell them how the survey would benefit them and their families and how important their information would be, and ask their permission to ask questions about their household food shortages. Trainees were told to let interviewees answer the questions in their own way and at their own pace and not to lead them toward certain answers. They were also told to record the respondents' answers immediately and proceed to the next question. They were instructed to avoid contradictions in the data they recorded such as indicating dates on which shortages occurred during months that they did not record shortages. They were shown how to write addresses legibly and to reject addresses from outside of Fresno County so that the GIS database software would validate the addresses. The questionnaire was explained question by question, after which trainees interviewed each other. They interviewed each other three times and were judged to be proficient or not on the third time. Those who did not attain interviewing proficiency were scheduled for a future training session. The training also included safety, suitable attire to wear for surveying and professional decorum. After Surveyors were hired, they were paired with experienced Surveyors for in-field coaching. When some of them lapsed into bad practices such as skipping questions or not recording answers until after the interview, they were given in-field corrective training. Briefings for teams of Surveyors were often given at the beginning of their shift to remind them to use good surveying techniques.

The Administrator and a Surveyor Coordinator met with new Surveyors on their first day, asked them which hours during the week they were available to work and scheduled them to work 28 hours per week. A Surveyor Coordinator assigned them and other Surveyors to teams to survey in neighborhoods or at events such as ethnic celebrations. The Surveyors' available working hours changed, often on short notice, because of a family member's illness, a change in a college student's classes in the new semester, need for time off and a host of other reasons. A master schedule of all Surveyors' schedules for each week was posted on a wall at the FHC office. Surveyors could also access their schedules on the Fresno Hunger Count website using an application on their smart phones or by email on a smart phone or computer. A scheduling software application called "When I Work" was used to keep track of Surveyors' schedules, to enable Surveyors to notify both Surveyor Coordinators and the Administrator of changes in their schedules, and to inform Surveyors of changes in their assignments when FHC's schedule for the week changed.

With 40 Surveyors and their supervisors in the field, there was considerable liability exposure. Employees driving on company time could accidentally injure someone or cause property damage. There was also the likelihood of Surveyors walking house-to-house getting injured on the job. Workers compensation insurance was needed for the Surveyors and other workers, in addition to liability insurance. FHC's local staffing agency subcontracted its contract with Fresno

Hunger Count to a firm in Southern California that had experience with door-to-door employees and had an insurer that would cover this class of workers. The staffing companies had to be paid for their cost for recruiting employees, drug testing and doing background checks as well as insuring for work injuries and liability. For every \$100 Fresno Hunger Count paid its employees, it paid another \$50 in staffing commission fees for those personnel recruited by the staffing firm and \$42 in commissions for people FHC recruited.

The Administrator wrote incident reports for the local staffing agency when Surveyors had conflicts with other Surveyors or their supervisors, when there were dog bites and twisted ankles, and when there were minor auto accidents in which no one was injured. When an employee was injured, the Administrator ensured that the employee was seen by a doctor at an urgent care facility and completed medical forms for workers compensation and disability coverage and submitted them to the staffing agency in Southern California. The Team Leads and the Administrator received first aid training; and the Hunger Count Manager, Administrator, both Surveyor Coordinators and the Team Leads received sexual harassment training.

The Hunger Count Manager (Manager) used a spreadsheet to keep track of the number of surveys each Surveyor completed each day, the total number of households she or he went to, both interviewed and “not home”, and the number of hours she or he worked. The Manager consulted the Team Leads, the immediate supervisors of the Surveyors, regarding substandard recording of data and behavioral problems. Surveyors were called into the office and asked about their deficient data recording or disruptive behavior. After they told their side of the story, they were either admonished to correct their performance or were encouraged to continue to record interview answers carefully and went back to work. If they needed to return to the office for counsel a second time, they were given a second warning about poor performance leading to termination. If they repeated the substandard behavior after the second warning, they were terminated. Those Surveyors who frequently turned in questionnaires with invalid addresses or with the same sections of their questionnaires left blank repeatedly were audited. If they were found fabricating data, they were terminated. If they were found deliberately skipping questions and thereby knowingly not recording important data, they were terminated. Upon termination, the staffing agency was immediately notified of the termination and the hours the employee had worked up to that point. The local staffing agency quickly emailed a request for payment to the separated employee to the staffing firm in Southern California, which then electronically paid the terminated employee or mailed a check to her or him within 72 hours. Throughout the counseling and termination process, the Hunger Count Manager kept accurate notes of all that transpired.

## Fiscal Agency:

Fresno Hunger Count sought a fiscal agent to assume the liability for harm done to other parties by FHC staff and injury of its staff, to pay bills for FHC, and to do the accounting for FHC. The assumption of worker related liabilities by the two staffing agencies eliminated the need for a Fiscal Agent to insure Fresno Hunger Count against those liabilities. Fresno Hunger Count entered an agreement with the Fresno Economic Opportunity Commission (Fresno EOC) to have its Financial Department pay FHC’s bills and account for all expenses and revenues. Fresno EOC provided a monthly FHC Variance Report to inform FHC management of budget overs and unders, a monthly FHC Income Report that listed costs by category, and a monthly Project Detail

Report that showed individual transactions. These services performed by Fresno EOC and the staffing agencies removed the need to have an overarching fiscal agent.

## Target Population for Interviews:

The target area for the 2014 survey included Pinedale north of Herndon Ave. and the city of Fresno, the county islands within Fresno city limits, Calwa, Malaga and two census tracts in southwest Clovis all south of Shaw Ave., referred to collectively as the Fresno-Clovis metropolitan area. Individuals and families whose income was 200% of the Federal Poverty Level or less who lived in mobile homes, apartments and houses and needed food were the people Fresno Hunger Count targeted for interviews. These households commonly consisted of two to five people who didn't have enough income to pay the rent and utilities and have enough money left to buy food for the whole month. Other times there were one person households such as an elderly person living alone or college students or farm workers who each bought his/her own food. These individuals and families had stable housing and presumably had refrigerators, stoves, cooking utensils to store and cook food that the Community Food Bank, pantries and churches distributed such as frozen chicken, cheese, and fresh fruits and vegetables. The food provided to households by these organizations generally lasted 3 to 7 days. These food agency clients were the target population for the hunger survey. The additional food they reported needing will most likely be provided by the food agencies. Because Fresno Hunger Count Surveyors went door-to-door, they did not generally interview homeless people. Some formerly homeless people who had recently received housing, however, may have been interviewed. Commonly homeless people live on the streets, do not have refrigerators and stoves, and cannot refrigerate and cook fresh and frozen foods. They usually rely on organizations that give them ready to eat food like sandwiches and cooked meals. For this reason, Fresno Hunger Count did not seek out homeless people to interview them. FHC surveyors did seek to interview individuals in drug rehabilitation programs housed in apartments but were not allowed entry. FHC surveyors were also denied entry into apartments where former convicts lived. Attempts to interview transient people staying in motels and low cost mobile homes were only partially successful, because these people were normally not home during the day. Intoxicated individuals generally provided marginal data, because they had difficulty understanding the questions and did not focus on appropriate answers. FHC Surveyors generally avoided intoxicated people and individuals who had obvious mental health challenges. Affluent residents who lived in upscale apartments and large houses were seldom interviewed. When they were approached, they often refused to interview or indicated that they did not need food by answering "No" to the first four questions of the survey.

## Recap – People Not Included In The Survey:

People who needed food but who were not surveyed were: the homeless because they could not refrigerate food and cook it; people in drug rehabilitation programs, because surveyors were not allowed in the housing where they lived; former criminals who are transitioning into society, because surveyors were denied entry into their housing; and intoxicated people, because their answers were generally not good data.

# Outreach to Expand the Target Survey

## Population:

Fresno Hunger Count staff met with the Mono Tribe Temporary Assistance for Needy Families (TANF) management team to plan the surveying of members of the Mono Tribe in the Fresno-Clovis metropolitan area. FHC subsequently trained Mono TANF case workers to survey tribal members about food shortages, and the case workers interviewed heads of tribal households. A memorandum of understanding with the Owens Valley TANF to have their case workers interview their tribal members was signed by the tribe and Fresno Hunger Count, but changes of governance at the Fresno Owens Valley TANF office resulted in no surveying. Fresno Hunger Count staff attended Bringing Broken Neighborhoods Back to Life meetings at the Fresno Police Department field office in southwest Fresno to learn about events and gatherings where FHC Surveyors could interview heads of households. This led to canvassing at numerous African American and Hispanic Christian church events. In an effort to reach non-Christian faith communities, Fresno Hunger Count arranged to interview food insecure people at the Maasjid Al Aqabah Islamic temple in southwest Fresno and coordinated with the Muslim Society of Central California (MSCC) to survey people at an MSCC sponsored health fair staffed by Muslim health care providers. To reach out to the Sikh community, FHC staff called temple leaders in Fresno, Caruthers and Selma. FHC Surveyors subsequently interviewed people at a festival at the Sikh Center of the Pacific Coast. FHC staff attempted to reach Hindu temple leaders at the Fresno Baps Shri Swaminarayan Mandri temple to canvass at a festival there, but Fresno Hunger Count was unable to reach Hindu temple leaders. Fresno Hunger Count reached out to Laotian Buddhists as well as Laotian and Hmong Christians with Laotian and Hmong language flyers and radio messages. Members of those communities were interviewed.

Fresno Hunger Count gave a presentation to the Fresno State chapter of the Food Recovery Network to explain the FHC survey, and the students expressed their support. An estimated 7,000 to 10,000 Fresno State students experience food shortages. In an attempt to reach them, Fresno Hunger Count Surveyors interviewed students at the Fresno State Free Speech Area and at the Student Cupboard pantry, but getting the attention of students was difficult. Few students were interviewed because of a lack of advance publicity. Fresno Hunger Count Staff attempted to reach student leaders at Fresno City College (FCC) to devise a way to interview food insecure students there but did not have enough contacts at FCC to establish a working relationship.

# Data Collection by Fresno Hunger Count

## Surveyors:

Gathering food shortage data in the Fresno-Clovis metropolitan area consisted of canvassing neighborhoods with median incomes 200% of the Federal Poverty Level or less. Four teams of 6 to 10 people walked door-to-door to survey heads of households. Each team had a Team Lead who deployed surveyors in the neighborhoods, checked completed questionnaires to see if they had valid data, brought valid questionnaires to the project office and provided First Aid to Surveyors as needed. A Surveyor Coordinator planned the surveying each week, scheduled surveyors according to their availability, and assigned the four teams to neighborhoods and events where large numbers of low-income people went such as parades, the Fresno Fair, summer evening entertainment events and food distributions. Additionally, heads of food insecure households were interviewed weekdays at the Fresno Housing Authority office, the Fresno County welfare office, Social Security offices and Department of Motor Vehicle offices. People were also interviewed weekdays on the Fulton and Mariposa Malls in downtown Fresno.

Of the 103,502 households in the survey area, FHC Surveyors interviewed 42,137 heads of households, or 41%. Of those, 21,388 households indicated they had food shortages. Each of the hungry households had an average of 3.01 people, amounting to a total of 64,378 hungry people in the Fresno-Clovis metropolitan area.

## Quality Assurance:

Obtaining valid data was stressed during surveyor training and re-emphasized during surveying in the field. Team Leads reviewed questionnaires completed by Surveyors to assure that data had been recorded accurately and logically. Incomplete and invalid questionnaires were returned to Surveyors in the field several times during their shifts so that they could correct errors while the interviews were fresh in their minds. Team Leads took valid questionnaires to FHC data entry staff several times a day. Data entry personnel flagged any questionnaires that had invalid data or addresses not validated by the GIS database software. The Fresno Hunger Count Manager examined flagged questionnaires to correct them or to have the Team Leads of the Surveyors who filled out the questionnaires talk to the Surveyors to see if they could correct the questionnaires. There were instances in which Surveyors filled out questionnaires with fabricated data. Such questionnaires were rejected. Invalid addresses, more than one interview at one address and other discrepancies alerted the FHC Manager to this activity. He dispatched a Survey Auditor to go to addresses where fabricated data was suspected to talk to the occupants to see if they had been interviewed. If the Survey Auditor discovered that a resident had not been interviewed, the offending Surveyor had to explain the discrepancy to the FHC Manager. Obtaining valid data was stressed to Surveyors repeatedly throughout the seven month survey period.

## Data Processing:

The quality assurance measures implemented by Fresno Hunger Count succeeded in correcting food shortage data errors and nearly all of the addresses on the questionnaires submitted to FHC data entry staff. This helped limit the encoding error rate to 1.33%, far below the acceptable margin of error of 10%, when addresses and food shortage data from the questionnaires were entered into the Geographic Information System (GIS) database at California State University, Chico. There were 735 surveys that had invalid addresses because of misspelled street names, wrong zip codes and the like. The data processing center flagged these surveys, and FHC data entry staff were able to correct them. But there were 670 surveys with invalid addresses that they were unable to correct. These 670 survey records that were connected to addresses outside of the survey area were deleted. Throughout the data entry process, data entry personnel advised FHC management how the process could be improved to expedite data entry to ensure timely and accurate entry. When these recommendations were implemented, data entry speed and accuracy did in fact improve; and data reception at the Geography and Planning Department at CSU, Chico (GEOP) was streamlined.

Raw data was downloaded from the web-based Geographic Information System hosted by GEOP and ArcGISOnline.com using an Excel format. This resulted in separate files for surveys classified as “hunger” (The interviewee indicated hunger.), “no hunger” (The respondent said her/his household did not have food shortages.), “refused” (The prospective interviewee refused to do the survey.), and “rejected” (invalid questionnaires). “Hunger” surveys made up 50% of all surveys; “No Hunger” surveys accounted for 35% of the surveys, “Refused” surveys were 13% of all surveys, and “Rejected” (invalid surveys) were 2% of the surveys.

The GIS system software used by GEOP enabled the data processing center to place food shortage data from each household at that household’s address. This facilitated displaying clusters of hunger responses in heat maps at street level on each block. The heat maps show degrees of food shortage depicted by red tones from pink to bright red in each census tract, bright red indicating the most hunger responses per square mile and the greatest need for food. The FHC Data Analyst imposed the boundaries of City of Fresno council districts on the city-wide heat map so that Mayor Swearingin and city council members could readily see food shortages in their districts. The same was done for urban areas in Fresno County supervisorial districts.

## Data Analysis:

To find the daily nutritional needs of one adult, the FHC Data Analyst consulted reports of the U.S. Department of Agriculture, the U.S. Department of Health and Human Services and the World Health Organization (WHO). The USDA report was used to determine the number of pounds of proteins, carbohydrates, and fats were needed for an average adult to have a healthy 2,000 kilocalorie per day diet. The WHO report was used to find the daily requirements of fruits and vegetables in pounds.

Survey interviewees indicated whether or not they needed more proteins, carbohydrates, fats, or fresh fruits and vegetables each month. The Data Analyst added up the “need” responses for each type of food each month in each census tract to find the number of households that needed each

kind of food each month. Each household had an average of 3.01 people (2010 U.S. Census average household size for Fresno-Clovis). The number of households was multiplied by 3.01 to find the number of people who needed each type of food each month. The USDA and WHO daily nutrition requirements for one adult expressed in pounds were then multiplied by the number of people who needed food to obtain the pounds of each kind of food households needed daily. Based on conversations with survey respondents in which they stated that they needed food 7 to 10 days prior to pay day or public food assistance, it was decided to supply households enough food to last 14 days. To determine the monthly needs of households, the pounds of each type of food needed by households for one day was multiplied by 14. Using this method, the pounds of proteins, carbohydrates, fats, and fresh fruits and vegetables were computed for each month in each census tract.

The prices of the food items survey participants indicated they wanted were based on USDA Economic Research Service data; the U.S. Bureau of Labor Statistics Consumer Price Index for the Western Urban market data; and data from Feeding America, a collective of food banks. The cost of each type of food was calculated by multiplying the pounds of each kind of food needed by its cost per pound. The dollars needed to buy each kind of food were added to get the total cost of food each month and for a whole year in each census tract. The number of hungry responses varied from census tract to census tract, requiring this calculation to be done for each of the 75 census tracts surveyed.

## Report Preparation:

Fresno Hunger Count staff has prepared four versions of the 2014 Fresno Hunger Report. The **Standard Report** can be adapted to distribute to news media, elected officials, business groups, civic clubs and others who want an overview of hunger in Fresno. It states the vision and mission of Fresno Hunger Count, shows a map of the 2014 survey area and displays heat maps to show exactly where hunger is the most severe. It explains that of the 192,180 households in the Fresno-Clovis metropolitan area, Fresno Hunger Count targeted 103,502 households with incomes 200% or less of the Federal Poverty Level to survey. FHC Surveyors interviewed 42,137 households, 41% of those targeted. There were 21,388 heads of household representing 64,378 people (3.01 people per household) who reported having food shortages in the past 12 months. They indicated they needed 5.3 million lb. of proteins, 6 million lb. of carbohydrates, 1.3 million pounds of cooking oil and other fats, and 13.4 million lb. of fresh fruits and vegetables in 2014 to have an adequate diet, a total of 26 million pounds of food. The report features pie charts that show the needs of the 64,378 hungry people and how much food is distributed now by food type by food relief agencies. It reports the pounds of food needed by survey respondents and the cost to purchase the food. An image of an empty refrigerator highlights that 80% of the hungry interviewees took the time to report the kinds of food they need each month. It also shows that of the hungry households that have children 5 years old and younger, 71% do not have enough milk for their infants and small children. The **Standard Report** displays photos of Beiden Field, Save Mart Center and Bulldog Stadium to illustrate how many hungry people there are in Fresno, enough to fill every seat in those venues. The last image in the report features a full refrigerator and says that if every family in the Fresno-Clovis

metropolitan area gave \$20 or two hours of volunteer time per month to local pantries, hunger would end in Fresno.

The **Food Relief Agency Report** has the same information as the Standard Report, but it also includes information and graphics that reveal the monthly fluctuations in the need for food and FHC website navigational tips to enable these agencies to go directly to in-depth information about food purchases and deliveries. The 2014 Fresno Hunger Report for the Salvation Army, the Community Food Bank and other agencies that provide food for the needy indicates the quantities and kinds of food needed and where and when they are needed. It also features a bar graph that clearly shows that November, December and January are the months when the need for food is the greatest and that July is close behind. Survey respondents were asked what kinds of food (i.e. proteins, carbohydrates, fats and fresh fruits and vegetables) they needed each month. There were several months that many of them indicated they didn't need any food or only one or two kinds of food. April was the month they said they least needed food. In January 80% said they needed all four kinds of food, in December 79.8% said they needed all types of food, in November 79.7% and in July 79.5%. What time of the month households needed food fluctuated, but the vast majority of interviewees needed food around the end of the month. A table showing the most often stated dates in the month when people needed food will help food agency planners time food distributions.

The **Successor Report** version of the 2014 Fresno Hunger Report is for individuals and organizations that want to implement the next hunger count in Fresno County. It has the same content as the food agency report, but the website navigational aids go directly to cost, risk management and other information of interest to the implementer of the next hunger survey but not of particular interest to food agencies. This report will link to financial reports; contracts that specify services to be provided, indemnification, payment schedules and other details; and critical correspondence between FHC and other organizations.

The **In-Depth Report** is the most detailed version of the 2014 Fresno Hunger Report has been prepared for those individuals who want to scrutinize all aspects of Fresno Hunger Count's findings to assure their validity and use them in their professional work. These people consist of academics in sociology, economics, health and other disciplines that are related to nutrition and the connection between nutrition and economic growth at the county level; non-university affiliated researchers who examine the relation of hunger to health, to economic stagnation and to other societal impacts; Fresno County heads of departments and offices such as health and education; and other people interested in drill down hunger findings in Fresno.