Income Survey Methodology Handbook

Connecticut Community Development Block Grant Program

Mandatory Procedures for Conducting an Income Survey to Determine Whether the Majority of Persons in an Area Meet the HUD Established Low and Moderate Income (LMI) Guidelines (1/14/15)

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Introduction

CDBG guidance standards for conducting surveys, which are located at 24CFR 570.483(b)(1)(i) for the State program require surveys that are "methodologically sound" to be used as the basis for low to moderate income (LMI) area benefit when Census data are not used. Experienced researchers employ survey methods that are easy to complete, gather data consistently and accurately, and produces results that answer specific questions. This handbook contains a six step ***mandatory*** procedure to assist localities develop surveys with acceptable levels of accuracy for the purpose of determining that at least ***51 percent*** of residents in a service area of a Connecticut State CDBG-funded project are LMI. The area to be served by a CDBG-funded activity need not be coterminous with census tracts or other officially recognized boundaries; it is critical that the service area be the entire area served by the activity—24CFR 570.483(b)(1)(i).

Once a potential service area is identified, the next step is to determine that the area is primarily residential, and that at least 51 percent of the residents are LMI persons. There are two ways to do this. One way is to utilize US Census data provided by HUD to determine the percent LMI. However, Census data may be inadequate in determining whether at least 51 percent of the residents of the service area are LMI, especially for small service areas that are not coterminous with census areas. The second method of determining LMI benefit is conducting a survey.

HUD generally accepts the determination of the service area by the State and its grant recipients unless the nature of the activity or its location raises serious doubt about the area claimed by the State and its grant recipients. As a matter of Connecticut state CDBG policy any potential service area ***(community-wide or target area)*** where the most recent census figures show a LMI percentage of ***less than 46%*** and the municipality cannot demonstrate to the satisfaction of the DOH that there have been significant changes that would reasonably be expected to cause a higher percentage of LMI residents since the last census; any survey results will not be accepted.

Prior to conducting an income survey for any area with an established LMI percentage of less than 46%, a community must first submit a Survey Waiver Form to DOH. DOH will then review the waiver and issue an official ruling within 14 days. The Survey Waiver Form is contained on Page 26 of this handbook.

A survey for the purpose of satisfying regulatory requirements for the LMI area benefit for the Connecticut CDBG program will be valid for ***no more than three years and in all cases be superseded by the 2010 U.S. census data.*** In addition surveys must be updated if the service area experiences economic and non-economic changes that would reasonably be expected to change the LMI percentage. Such changes may include factory openings or closings, layoffs by a major employer in the service area, or the occurrence of a major disaster (e.g., hurricanes, tornadoes, or earthquakes, etc.). (Note that even if a survey is current, it cannot be used for a different activity in a different service area.)

If you are going to conduct a survey, you must emphasize to respondents that their answers will be kept confidential. People are more likely to provide honest answers if their answers are to remain anonymous. You should do your very best to maintain this confidentiality. Usually, the respondent's name, address, and telephone number appear only on a cover sheet. After the survey is completed, the cover sheet can be shredded or at least separated from the actual interview. If the cover sheets and the questionnaires are both numbered, they can be matched up if it is necessary to do so.

Step 1: Selecting the Survey Type

The most commonly used surveys for this application are: (a) mail survey (or self-mailing), (b) face-to-face (or door-to-door) interviews, (c) telephone interviews, and (d) web-based survey (see Table A). For telephone and door-to-door surveys, it might be useful for the survey team to notify people by mail in advance to let them know that they will be contacted for a survey. This can overcome resistance due to experience with 'telemarketers.'

Table A – Summary Comparison of the Four Survey Methods

Dimension of Comparison	Mailed Questionnaire	Face-to-Face Interviews	Telephone Interviews	Web-Based Survey
Cost	Moderate	High	Low	Low to Moderate
Data Quality: Response rate Respondent motivation Interview bias	 Low Low None	 High High Moderate	 Moderate to High High Low	 Low Low None
Sample quality	Low	High	Moderate	Low
Interview length	Short	Very Long	Long	Short
Ability to probe and clarify	None	High	High	None
Speed	Low	Low	High	High
Interviewer supervision	None	Low	High	None
Anonymity	High	Low	Low	High
Ability to use computer assistance during process	None	Possible	High	High
Dependence on respondent's reading and writing abilities	High	None	None	High
Control of context and question order	High	High	High	High

(a) Mail Survey: This is a basic method for collecting data through the mail: a questionnaire is a set of questions sent by mail to randomly selected households accompanied by a letter of explanation and self-addressed stamped envelope for returning the questionnaire. The respondent is expected to complete the questionnaire, put it in the envelope and return it. A common reason for not returning a questionnaire is that some people may feel it's too much burden. To overcome this problem, researchers send a self-mailing questionnaire that can be folded in a certain way so that the return address appears on the outside. In this manner, the respondent does not risk losing the envelope.

The DOH will not accept the use of this method unless at least two follow-up letters or telephone calls are made to achieve an adequate response rate. Combining a mail survey with a follow-up letter or telephone call will improve the rate of response.

(b) Face-to-Face (Door-to-Door) Interviews: This is a data collection technique in which one person (an interviewer) asks questions of another (the respondent) in a face-to-face encounter. It involves more work since the interviewer must visit households selected randomly to obtain interviews. However, in small areas this type of survey may be the easiest because one can define the service area by its geographic boundaries and develop procedures for sampling within those boundaries so that a list of families living in the area is not required. Interviewers have to be well trained to ensure that procedures are consistently followed and that responses are not influenced by facial expressions or voice intonations.

(c) Telephone Interviews: A telephone interview is a data collection technique in which one person (an interviewer) asks questions of another (the respondent) via telephone. Telephone numbers of potential participants must be selected randomly. The interviewer must ensure that the respondent is someone competent and knowledgeable enough to answer questions about the family income status. In a telephone survey, you must devise a method for contacting those families without telephones or those with unlisted numbers. Hence it may be preferable to conduct door-to-door interviews in small service areas, especially in rural areas.

(d) Web-Based Survey: A web-based survey is a data collection method whereby the questionnaire is administered online (i.e., through the internet). The questionnaire in a web-based survey may be the same as the questionnaire in mail surveys. The only difference is that rather than send it to the respondent by mail, the questionnaire is administered online.

Step 2: Developing a Questionnaire

Constructing a questionnaire is a skill which requires decisions concerning the content, wording, format, and placement of questions—all of which have important consequences on the results of what you intend to measure. There are basically four areas involved in constructing a questionnaire:

- Determine the question content, scope, and purpose
- Choose the response format to be used in collecting information from the respondent
- Word the questions so as to get at the issue of interest
- Determine how best (i.e., the order) to place the questions in the survey

It is important that all respondents are asked the same questions and that their responses are recorded exactly without additions or deletions. To ensure this, the questions must be written properly and the exact response of each respondent recorded as it is presented. There are

several formats for accomplishing this. A sample questionnaire for the purpose of determining income eligibility for a CDBG program award is attached.

Information about the racial and ethnic composition of the service area must also be obtained. Section 24 CFR 570.491 of the State CDBG Rule requires states to submit to HUD data on the racial, ethnic and gender characteristics of persons who are applicants for, participants in or beneficiaries of their CDBG programs. This information must be reported for each activity and should indicate the number persons benefiting by each of the racial/ethnic categories. A sample survey questionnaire which meets CDBG requirements is contained on **Page 27** of this handbook.

Making Contact

Initially, the interviewer should make contact with the head of the family or someone who is qualified to speak for the family and has knowledge about the family income. After making contact, the interviewer should introduce them self, state the purpose of the survey and solicit the participation of the respondent. Regardless of how the interview is being conducted, the questions should be asked in the same manner for each respondent. While the necessary questions are brief and simple, there are some additional factors to take into account when designing the questionnaire. First, the questions used in the survey cannot be "loaded" or biased. For example, the form and questions should not imply that the neighborhood will benefit or receive Federal funding if respondents say that they have low incomes. The questions must be designed to determine truthfully and accurately whether respondents have low- and moderate-incomes. It is permissible to state that the reason for the survey is to gather information essential to support an application for funding under the CDBG program or to undertake a CDBG-funded activity in the area.

Also, you should bear in mind that questions about income are rather personal. Many people are suspicious or reluctant to answer questions about their incomes—especially if they do not see the reason for the question. A good way to handle this problem is to put questions about income at the end of the questionnaire especially if the questionnaire is also being used to gather other information not related to the program income eligibility issue. In this instance, a local agency can use this questionnaire to gather some information on what the neighborhood sees as important needs or to gather feedback on a proposed policy or project. At the end of such a questionnaire, it is usually possible to ask questions on income more discretely. If this option is chosen, however, the interviewer should be cautioned that a lengthy questionnaire might cause respondents to lose interest before completing the survey. The ideal length would probably be less than ten minutes, although certainly you could develop an even longer or shorter questionnaire as necessary.

Asking only the critical questions on income; however, you should know best how people in your community would respond to such questions. With a proper introduction that identifies the need for the information, you can generate an adequate level of response with just enough questions to determine family size, income and the required demographic information questions.

Step 3: Selecting the Sample

The selection of a sample of families or in some cases households to interview involves a series of steps. You must begin by defining the group whose characteristics you are trying to estimate. Then you must determine how many families/households in that group must be sampled in order to estimate the overall characteristics accurately. Next you must make some allowances

for families/households that, for whatever reason, you will not be able to interview. And finally you must actually select the families/households from which you will try to obtain interviews. This section discusses each of these steps.

Defining the Population

If you are trying to determine the number of residents in a neighborhood that meet the LMI guidelines, that neighborhood is the target population. However, instead of a neighborhood, the population may be a town or a county, or it may be defined in some other boundary. Prior to obtaining a sample population, clearly define the area that the sample represents. Let us assume that the population is a neighborhood that contains about 400 families; sample from the 400 families and make estimates about the income level of all of the persons in the sample.

Once you have defined your population, you then need a method of identifying the families in that area so that you can interview them. Ideally, for a given neighborhood, you would have a list of every family living in the neighborhood and perhaps his or her telephone number. Then you would devise a procedure to randomly select the families you want to interview. In reality, you probably will not even have a list of all of the families in the neighborhood, so you will have to improvise. One way would be to go to the neighborhood determine the number of households, number them and then using the numbers table, randomly select which homes to go to for an interview—the advantage of this method is that the houses are there for you to "inventory" and therefore you will have an accurate accounting of the households from which to begin. After collecting information on the selected families, you then can make some estimates about the number of people in the neighborhood and their incomes.

City indexes (if available and up-to-date) may also provide a good source of household information suitable for determining sample size. Telephone books may be adequate, but keep in mind that you will miss people without telephones or with unlisted numbers. Also, telephone directories usually will have far more people listed than those who are in the service area, so you will need to eliminate those outside of your service area. Tax rolls are a source of identifying addresses in an area; however, they identify only owners whereas you are interested in residents including tenants. Also, tax rolls generally identify building addresses, whereas in the case of apartment buildings you are interested in the individual apartments. You can use tax rolls to identify addresses to go to, in order to get an interview, but you cannot use them as the basis of a mail or telephone survey (use **www.reversephonedirectory.com** to access telephone directory that identifies telephone numbers by property address.)

After you have defined your population and selected a method for identifying individual families in the service area, you must next determine how many families to survey. For most surveys, non-responses from the target sample constitute a potentially serious bias, since the goal is to generalize to the total population. Assuming that you develop a procedure whereby every family in your service area has an equal chance of being included in your sample, you can use Table B to determine how many families you need to interview to develop a survey of acceptable accuracy.

The first column of Table B shows the number of families in the service area and the second column shows the number of completed responses relative to the number of families. For the purpose of this discussion, 400 families are hypothetically chosen for illustration as shown in Table B; if for example, the service area has 399 – 650 families, 250 families would be the acceptable number of families to be interviewed and obtain completed surveys from.

How Big a Sample?

Table B – Required Number of completed Interviews randomly selected for the identified Service Area that must be obtained for the survey process to be valid for areas of Various Sizes

Number of Families in the Service Area	Number of Reponses	% over sampling
1 –55	All	0
56 – 63	55	0
64 – 70	60	0
71 – 77	65	0
78 – 87	70	0
88 – 99	80	0
100 – 115	90	10
116 – 138	100	10
139 – 153	110	10
154 – 180	125	10
181 – 238	150	10
239 – 308	175	15
309 – 398	200	15
399 – 650	250	20
651 – 1200	300	20
1,201 – 2,700	350	20
2,701 or more	400	20

Can there be a 100 percent survey? Instead of taking a sample can the entire population be surveyed? Interviewing the entire population is the same as conducting a census since there is no random sampling. However, regardless of the size of the service area, a census should not be conducted as an attempt to meet the requirement that at least 51 percent of the residents be LMI persons because you may get back more than the number of surveys indicated in the table above and still be far short of actually having documentation that 51% or more of the population is at or below the LMI guidelines. A census will only be accepted by the DOH if acceptable documentation can be provided of the following:

- the total population of the identified service area
- tabulation and submission of the actual survey documents

- documentation from the survey documents that the number of LMI persons indicated on the survey forms is at least 51% of the total population of the identified service area

Unreachables and Other Non-responses

The standard requirements for conducting surveys includes not only the notion that random, representative sampling methods be used, but also that high response rates be obtained and statistical weighting procedures be imposed to maximize representativeness. It is important to realize that the sample sizes suggested in Table B indicate the number of interviews that you need to complete, and not necessarily the size of the sample you need to draw. No matter what you do, some families will not be home during the time you are interviewing, some probably will refuse to be interviewed, some will terminate the interview before you finish, and some will complete the interview but fail to provide an answer to the key question on income level. ***In order to be considered an adequate response, you must obtain complete and accurate information on the respondent's family size and income level.*** This ***DOES NOT*** however, especially in the mail survey method, mean that you mail forms to a significant number above the required response rate to "insure" the proper number returned. The acceptable percentages of over sampling for each size service area are contained on Table B and must be used to establish the number of households selected for over sampling. An example of what not to do is to mail surveys to everyone or if you expect an initial response rate of 50%, mailing survey forms to twice as many households as you need for responses, this is not random sampling.

The accepted method is to identify the households in the service area, number them, use the random number table to select the order for sampling and mail the surveys. You will be required to complete at least two follow-up contacts and must obtain a response rate of 80% or more before going to the next step to "make up" for unreachables and non-responders. The additional households to be contacted must be determined by using the next number from your random number list. While "over sampling" is recommended as an attempt to initially account for any unreachables and/or non-responders, you must not "over sample" by more than the percentage indicated in Table B.

Drawing Samples

In sampling you are looking at a portion of everyone in a group and making inference about the whole group from the portion you are observing. For those inferences to be most accurate, everyone who is in the group should have an equal chance of being included in the sample. For example, if you are sampling from a list, using a random numbers table will provide you with a random sample. See pages 28 – 30 of this Handbook for instructions on using a random numbers table. If, for example, the first three random numbers were 087, 384, and 102, then you would go through your population list and target the 87th, 384th, and 102nd families for an interview.

If your sample size is less than 384, you should skip '384' and go to the next number. Continue until you have achieved the desired sample size. If you encounter unreachables, you should replace them with the next family in the list, in the order they were selected. For example, if you draw a list of 300 families in an effort to obtain 250 interviews, the first family you write off as *unreachable* should be replaced with the 251st family.

A faster and easier way to draw a random sample is by using an electronic random sampler program available on the internet. Two excellent examples are: www.randomizer.org or

www.random.org. Both of these programs are capable of establishing a random sample in a matter of minutes.

You will achieve more accuracy if you are not too quick to write off a family as unreachable. You are more likely to achieve randomness if you obtain interviews from the families you selected first. Thus, beyond the initial mailing or door to door interview attempt, you must make at least ***two more*** attempts (preferably at different times depending on the type of survey) to try to obtain a completed response from each household selected. Frequently they will be busy, but may say that they can do the interview later—you should make an appointment and contact them at the agreed upon date/time. Remember only after the initial mailing or door to door interview attempt and at least ***two more*** attempts or an outright refusal can a sampled family be replaced. With a telephone survey, at least three or four calls must be made before replacing a family.

Step 4: Conducting the survey

To carry out the survey, you have to reproduce a sufficient number of questionnaires, recruit and train interviewers, schedule the interviewing, and develop procedures for editing, tabulating, and analyzing the results.

Publicity

To promote citizen participation, it may prove worthwhile to arrange advance notice. A notice in a local newspaper or announcements at churches or civic organizations can let people know that you will be conducting a survey to determine area income levels. Moreover, if you let people know in advance how, why, and when you will be contacting them, they may be more likely to cooperate.

As with all aspects of the survey and questionnaire, any publicity must be worded so that it does not bias the results. For example, it is better to say that the community is applying for a CDBG grant and that, as part of the application, the community has to provide current estimates of the incomes of the residents of the service area. It is not appropriate to say that, in order for the community to receive the desired funding, a survey must be conducted to show that most of the residents of the service area have low-and moderate-incomes.

Interviewers

It is not necessary to hire professional interviewers. Volunteers from local community groups serve well. Also, schools or colleges doing courses on civics, public policy, or survey research may be persuaded to assist in the effort as a means of providing students with practical experience.

It is best if interviewers are chosen that make the respondents feel comfortable. For this reason, survey research companies often employ mature adults as their interviewers. When interviewers are “representative” of the group being surveyed, the survey usually generates a better response rate and more accurate results. It is important that the interviewer commands the attention of the respondent, asks the question as they are written, writes down the responses as given, and follows respondent selection procedures.

It is also important that interviewers have all the materials needed to complete the interview. Usually, you will want to assemble an interviewer kit that can be easily carried and includes important materials such as:

- A ‘professional-looking’ 3-ring notebook (this may even have the logo of the organization conducting the survey)
- A map of the service area
- A sufficient number of copies of the survey instrument
- An official identification (preferably a picture ID)
- A cover letter from the sponsor of the survey
- A phone number the respondent can call to verify the interviewer’s authenticity.

Contact and follow-up

Interviewers should plan to contact respondents at a time when they are most likely to get a high rate of response. Telephone interviews are usually conducted early in the evening when most people are home. Door-to-door interviews also may be conducted early in the evening (especially before dark) or on weekends. You must try again (at least twice), at different times to reach anyone in the initial sample who is missed by the initial effort.

In general, you should know the best time residents of your community can be reached. What should be avoided is selecting times or methods that will risk yielding biased results. For example, interviewing only during the day, from Monday to Friday will probably miss families where both the husband and wife work. Since these families may have higher incomes than families with only one employed member, your timing may lead to the biased result of finding a high proportion of low-and moderate-income households.

Of course, in making contact with a member of the family, the interviewer first has to determine that the person being interviewed has sufficient knowledge and is competent enough to answer the questions being asked. The interviewer thus should ask to speak to the head of the family. If it is absolutely necessary to obtain an interview at the sample residence, the interviewer may conduct an interview with other resident adults or children of at least high school age only after determining that they are mature and competent enough to provide accurate information.

As part of your questionnaire, you should develop an introduction to the actual interview. This should be a standard introduction in which the interviewer introduces them self, identifies the purpose of the survey, and requests the participation of the respondent. Usually, it is also a good idea to note the expected duration of the interview—in this case, to let respondents know that the burden to them will be minimal.

Interviewers also must follow the set procedures for replacing “unreachables” (discussed in step 3). If they must write off an interview, they should not say, “Well, I was refused an interview here, so I’ll go over there where I think I can get an interview.” This replacement procedure is not random and thus will hurt the accuracy of your survey results.

The Interview

Every interview includes common components. There is the introduction, where the interviewer is invited into the home and establishes the rapport, and the actual process of asking questions. The first thing the interviewer must do is gain entry and several factors can enhance this. Probably the most important factor is your initial appearance. The interviewer needs to dress professionally and in a manner that will be comfortable to the respondent. The way the interviewer appears initially to the respondent sends simple messages—that you are trustworthy, honest, and non-threatening. Cultivating a manner of professional confidence, the sense that the respondent has nothing to worry about, because you know what you are doing, is an indispensable skill for achieving initial entry.

You are standing at the doorstep and someone has opened the door, even if only halfway. You need to smile and be brief. State why you are there and suggest what you would like the respondent to do. Don't ask—suggest what you want. For example, instead of saying "May I come in to do an interview?" you might try a more imperative approach like "I'd like to take a few minutes of your time to interview you for a very important study."

Without waiting for the respondent to ask questions, introduce yourself. You should have this part of the process memorized so you can deliver the essential information in 20-30 seconds at most. State your name and the name of the organization you represent. Show your identification badge and the letter that introduces you. If you have a three-ring binder or clipboard with the logo of your organization or sponsor, you should have it out and visible. You should assume that the respondent will be interested in participating in your study—assume that you will be doing an interview here.

If the respondent indicates that the interview should go ahead immediately, you need an opening sentence that describes the study. Keep it short and simple, no big words, and no details. Use the questionnaire carefully but informally. Interviewers should read the questions exactly as they are written. If the respondent does not understand the question or gives an unresponsive answer, it usually is best for the interviewer to just repeat the question. Do not attempt to guide the respondent to give particular responses. Questions should be read in the order in which they are written. The respondents' answers should be recorded neatly, accurately and immediately as they are provided. At the end of the interview, and before proceeding to the next interview, the interviewer should always do a quick edit of the questionnaire to be sure that they have completed every answer correctly. This simple check helps to avoid the frustrating mistake of having taken the time and expense of conducting the interview, but without getting the information sought.

If you elect to include other questions, and if you place the questions on income at the end, it is possible that a willing respondent will end the interview before you get to the critical question. If it appears to the interviewer that the respondent is about to terminate the interview, it is recommended that you immediately try to get an answer to the critical income question.

Editing

Interviewers should turn their completed surveys over to the person who will tabulate and analyze the data. That person should review each survey to ensure that it is complete and that each question is answered only once and in a way that is clear and unambiguous. Questions or errors that are found should be referred to the interviewer for clarification. It also may be desirable to call the new respondent, if necessary, to clarify incomplete or ambiguous responses. If a question or an error cannot be resolved, a replacement should be added and the respondent contacted. Note that editing is an ongoing process because, even after you have started to tabulate or analyze the data, you may come across errors that need correction.

Step 5: Determining the Results

After you have your data collected and edited, you need to add up the numbers to see what you have learned. Actually, it is useful to think of this in two parts: (1) tabulating the responses from the questionnaires and calculating an estimated proportion of low-and moderate-income persons; and (2) determining how accurate that estimate is. The first part can be taken care of by completing the enclosed Low-and Moderate-Income Worksheet.

Tabulation
Computer programs such as Microsoft Access and Excel, Minitab, SAS, and SPSS are easy to use in tabulating the data. Computers also make it relatively easy to check for accuracy and consistency in the data. However, you can perform the calculations by hand or with a calculator. Also, you can process the data by putting it on a code sheet, by entering it on a manual spreadsheet, or just by flipping through the completed surveys. Regardless of how you process and tabulate the data, when you are finished you should be able to complete the Low- and Moderate-Income Worksheet contained on Page 19 of this Methodology.

Analysis
If you have done everything right, including random selection of the required number of families, and your estimate shows that less than 51 percent of the residents of the service area are LMI persons, you cannot undertake LMI area benefit activities.

If the entry at Line 16 is at least 51 percent, you must perform additional analyses to determine the extent to which your estimate of the percent of LMI persons is correct and submit with the results to the DOH. First, compare the average size of low- and moderate-income families with non-LMI families. The closer these figures are to each other, the more confident you can be in your estimate. Thus if you estimate that 53 percent of the residents have low- and moderate-incomes and you find in your sample that both low- and moderate-income families and above low- and moderate-income-families have an average of 3.4 people, you can be pretty sure that your results are reliable.

The second simple calculation is to arrange your data into Table C. This table enables you to compare the distribution of family sizes of families of low- and moderate-incomes with those that are above low- and moderate-incomes. In completing Table C, you would count the number of low- and moderate-income families in your survey that have just one person and enter the figure under “number” across from “one.” You would proceed to enter the number of low- and moderate-income families with two persons, with three persons, and so forth through the “nine or more” category. Adding up all the entries in this column, you enter the sum across from “total” which will be the total number of low- and moderate-income families from which you obtained interviews. Then considering families that are above low- and moderate-income levels, you follow the same procedures to complete the “number” column for them. For each income group, divide the number of one person families by the total number of families in that income group and multiply it by 100, to yield the percent of that group that are in one-person families. Fill in the “percent” columns, using this procedure. Each of the percent columns should total to 100 or so allowing for rounding errors.

Once you have completed entering the data, compare the percentages of LMI respondents with the percentages of the above LMI respondents for each family size. The closer the distribution, the greater the degree of confidence you can have in your estimate of the proportion of LMI persons. For example, if among your LMI group, 10 percent have one person, 40 percent have two persons, and 50 percent have three persons, and among your above low- and moderate-income group 12 percent have one person, 41 percent have two persons, and 47 percent have three persons, you would have a great deal of confidence in your estimate.

Table C – Comparing the Distribution of Family Size by Family Income

Number of Persons in Family	Families With Low-Mod Incomes		Families Above Low-Mod Incomes	
	Number	Percent	Number	Percent
One				
Two				
Three				
Four				
Five				
Six				
Seven				
Eight				
Nine or more				
Total		100%		100%

Compare your survey results to the most recent Census-HUD LMI statistical data (LMISD) for the census geography that most closely matches the service area. If there is big difference (e.g., LMISD = 29%, survey = 55%), then there may be other known factors to explain the difference. For example, there may have been a major economic downturn in the service area since the last census or the service area is only a small part of a large census tract and is the LMI side of the tract. Also, compare the block-group level data to ascertain that there were no anomalies in one part of town versus another; review the map of respondents versus block groups to make sure the responses were not skewed toward one side of town. Carefully analyze each scenario and document the basis for any discrepancy.

Consider the scenario where you estimate that 51 percent of the residents have low- and moderate-incomes. You examine the distribution of the family sizes according to Table C and find that in your sample 100 percent of your low- and moderate-income group has just one person per family and 100 percent of your 'above low- and moderate-income' group has nine or more persons (this would be an exceptional neighborhood). This distribution would make it probable that your sample was badly distributed in favor of large above-lower income families.

Third, after completing data collection, non-respondents must be analyzed to determine that they were reasonably random. For example, you can tabulate the rate of response by street or block in the service area to see whether there are notable gaps in the coverage of your survey. You should also examine the racial or ethnic background of your respondents and compare them with what you supposed the distribution to be. If you do not detect any major gaps in the coverage of your sample or any anomalies in the characteristics of your non-respondents, you can be more certain of the accuracy of your estimates.

Step 6: Documenting Your Results

It is important that the results of the survey be documented, since those who audit or evaluate your program will review the procedures and data used to determine that the service area qualifies under the CDBG program regulations. You should therefore maintain careful documentation of the survey. The contents of that documentation are as follows:

1. Keep the completed surveys. This will show that you actually did the survey and that you asked the proper questions.

   It is best if each survey has a cover sheet that contains the information that identifies the respondent, such as name, address, and telephone number. Then, when the survey is complete, the cover sheets can be separated from the questionnaires. You can save the questionnaires as documentation of your work, but you maintain the privacy of your respondents.

   Saving the cover sheets separately provides you a record of who was contacted for the survey. If anyone wanted subsequently to verify that you have not made up that data, they could contact some of the respondents noted on the cover sheet and ask them whether, in fact, they have been contacted on such-and-such a date by such-and-such a person to discuss matters related to community development. The privacy of their original responses still is protected by this procedure.

2. Keep a list of the actual families sampled. This might be one list with the sampled families checked once if they were sampled, and checked twice if they were interviewed. Replacement families should be noted too. There should be written documentation about the method you used to select families from the list for interviewing. Note that this is different from keeping just the cover sheets, since it documents not just who was interviewed, but also who was not interviewed and how interviewees were selected.

3. Survey data should be retained in accordance with record-keeping requirements of the State program at **24CFR 570.490**. If you enter the data into a computer, keep a backup of the data in a CD or floppy. If you do tabulations on spreadsheets, retain the spreadsheets. If you read through the questionnaires, counted responses and entered them into a table progressively, keep the tables with the raw data counts.

REQUIRED SURVEY SUBMISSIONS CHECKLIST

To be considered for approval, each survey must contain <u>all</u> of the following completed components packaged in the exact order indicated below on the checklist.

- ❑ **Survey Information Form - Pages 17-18;**
- ❑ **A map detailing all residential units in the survey area <u>and</u> indicating those selected for interview;**
- ❑ **A copy of the random sample generated from the electronic program or random numbers table;**
- ❑ **A complete list of all service area households;**
- ❑ **Copies of all survey forms returned, both complete and incomplete;**
- ❑ **Low and Moderate Income Worksheet – Page 19**
- ❑ **Comparison of Distribution of Family Size & Family Income - Page 21;**
- ❑ **Beneficiary Profile – Page 22;**
- ❑ **CDBG Benefit Data Worksheet (for all target-area surveys) – Page 24; and**
- ❑ **CDBG Survey Certifications – Page 25.**

Incomplete or improperly packaged surveys will not be considered for approval.

STATE OF CONNECTICUT
COMMUNITY DEVELOPMENT BLOCK GRANT

Survey Information Form

(All Surveys *must* use this Form)

Community: _____ Date: _____

1. Type of Survey: ☐ Single Community ☐ Multi-Community ☐ Target Area

2. Description of survey area, how and why it was selected and description of population:

_____
_____
_____
_____
_____
_____
_____
_____
_____

3. List all Census Tracts #(s) contained in Survey Area (whole or partial):_____

---

4. List the original percentage of low-to–moderate-income persons in Survey Area according to the 2010 U.S. Census and HUD. _____%

5. Source of information used to develop listing of families in survey area:_____

_____
_____
_____
_____
_____
_____
_____
_____

Attach a map detailing all residential units in survey area and those selected for interview.

6. Detail how the random sample was established and whether a random numbers table or electronic program was utilized. _____

_____
_____
_____
_____

Attach a copy of the random sample generated from the electronic program or random numbers table.

7. Detail how the sample list accurately reflects the total population of the survey area and whether there was the potential for bias; and if there was bias, how this was dealt with.

_____
_____
_____
_____
_____
_____
_____
_____

8. Initial Sample Size: _____ # Over Sampling: _____

# of Follow-ups: _____ # Not Reachable: _____

Refused to Answer: _____ # Incomplete: _____

9. Survey Method: □ Door to Door □ Telephone □ Mail □ Web

10. Date Survey Conducted: From _____ to _____
Month/Date/Year Month/Date/Year

11. Survey conducted by: _____
_____
_____
_____
_____

List all organizations and individuals

12. Summarize the survey process utilized: _____
_____
_____
_____
_____
_____
_____
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_____
_____
_____
_____
_____
_____

Attach a complete listing of all survey area households and copies of all complete and incomplete survey forms

State of Connecticut CDBG Program
Low and Moderate Income Worksheet

1.	Enter the estimated total number of households in the target area.	1. _____
2.	Enter the total number of households interviewed.	2. _____
3.	Enter the total number of low- and moderate-income households interviewed.	3. _____
4.	Enter the total number of persons living in the low- and moderate-income households interviewed.	4. _____
5.	Enter the total number of households interviewed in which the income was above the low- and moderate-income level.	5. _____
6.	Enter the total number of persons living in the households in which the income was above the low- and moderate-income level.	6. _____
7.	Divide Line 4 by Line 3. (This is the average size of the low-mod household you interviewed.)	7. _____
8.	Divide Line 6 by Line 5. (This is the average size of non low-mod household you interviewed.)	8. _____
9.	Divide Line 3 by Line 2. (This is the proportion of households interviewed that have low- and moderate-incomes.)	9. _____
10.	Divide Line 5 by Line 2. (This is the proportion of households interviewed that do not have low- and moderate-incomes)	10. _____
11.	Multiply Line 1 by Line 9. (This is the estimate of the total number of low-mod households in your target area)	11. _____
12.	Multiply Line 1 by Line 10. (This is the estimate of the total number of non-low-mod households in your target area)	12. _____
13.	Multiply Line 7 by Line 11. (This is the estimate of the total number of low-mod persons in your target area)	13. _____
14.	Multiply Line 8 by Line 12. (This is the estimate of the total number of non-low-mod persons in your target area)	14. _____
15.	Add Line 13 and Line 14. (This is the estimate of the total number of persons in your target area)	15. _____
16.	Divide Line 13 by Line 15 and multiply the resulting decimal by 100. (This is the estimated percentage of persons in your target area that has low- and moderate-incomes)	16. _____

Tabulation

Computer programs such as Microsoft Access and Excel, Minitab, SAS, and SPSS are easy to use in tabulating the data. Computers also make it relatively easy to check for accuracy and consistency in the data. However, you can perform the calculations by hand or with a calculator. Also, you can process the data by putting it on a code sheet, by entering it on a manual spreadsheet, or just by flipping through the completed surveys. Regardless of how you process and tabulate the data, when you are finished you should be able to complete the Low- and Moderate-Income Worksheet.

Comparison of the Distribution of Family Size by Family Income

Number of Persons in Family	Families With Low-Mod Incomes		Families Above Low-Mod Incomes	
	Number	Percent	Number	Percent
One				
Two				
Three				
Four				
Five				
Six				
Seven				
Eight				
Nine or more				
Total		100%		100%

Directions for Completion

To complete this comparison count the number of low- and moderate-income families in your survey that have just one person and enter the figure under “number” across from “one.” You would proceed to enter the number of low- and moderate-income families with two persons, with three persons, and so forth through the “nine or more” category. Adding up all the entries in this column, you enter the sum across from “total” which will be the total number of low- and moderate-income families from which you obtained interviews. Then considering families that are above low- and moderate-income levels, you follow the same procedures to complete the “number” column for them. For each income group, divide the number of one person families by the total number of families in that income group and multiply it by 100, to yield the percent of that group that are in one-person families. Fill in the “percent” columns, using this procedure. Each of the percent columns should total to 100 or so allowing for rounding errors.

Once you have completed entering the data, compare the percentages of LMI respondents with the percentages of the above LMI respondents for each family size. The closer the distribution, the greater the degree of confidence you can have in your estimate of the proportion of LMI persons. For example, if among your LMI group, 10 percent have one person, 40 percent have two persons, and 50 percent have three persons, and among your above low- and moderate-income group 12 percent have one person, 41 percent have two persons, and 47 percent have three persons, you would have a great deal of confidence in your estimate.

BENEFICIARY PROFILE

The demographic information is garnered from local survey forms and the Benefit Data Worksheet on Page 24.

1. Community: _____ Date: _____

2. Name of Target Area: _____ (If community-wide, state "same as above")

3. Description of Target Area: _____
_____

4. Census Tracts #(s) contained in Survey Area (whole or partial): _____
_____

5. POPULATION

   a. Total Population _____

   b. Total Persons at or below 80% of county median income_____

   c. Total Persons above 80% of county median income _____

6. FAMILY RACE **(Indicate total estimated persons for each racial group from Benefit Data Worksheet on Page 24; for town-wide surveys or contiguous census tracts use data from U.S. Census web site listed above.)**

Racial Group	At or below 80%	80% Plus
White		
Black/African American		
Asian		
Native Hawaiian/Other Pacific Islander		
American Indian/Alaskan Native		
Asian & White		
American Indian/Alaskan Native & White		
Black/African American & White		
American Indian/Alaskan Native & Black/African American		
Other		

7. DEMOGRAPHICS **(Indicate total estimated persons for each demographic group from Benefit Data Worksheet on Page 24; for town-wide surveys or contiguous census tracts use data from U.S. Census web site listed above.)**

Demographic Group	At or below 80%	80% Plus
Total Number of Elderly		
Total Number of Severely Disabled		
Total Female Heads of Households		

8. Date Submitted: _____

Authorized Signature: _____ Title: _____

Instructions for completing the Beneficiary Profile

Line 1 State name of community.

Line 2 Give name of target area; state “same as above” if community-wide.

Line 3 Give a brief description of target area.

Line 4 List ***all*** Census Tracts contained in the target area

Line 5a In regard to a target area; use the estimated total number of persons on line 15 of the Low to Moderate Income Worksheet contained on Page 19. In regard to the entire Town or City being the target area, use the latest census information.

Line 5b In regard to a target area; use the total estimated number of persons at or below 80% of county median income from the CDBG Benefit Data Worksheet on Page 24. In regard to the entire Town/City being the target area, use the latest census information.

Line 5c In regard to a target area; use the total estimated number of persons above 80% of county median income from the CDBG Benefit Data Worksheet on Page 24. In regard to the entire Town/City being the target area, use the latest census information.

Line 6 In regard to a target area; use the figures for all racial groups from the Low to Moderate Income Worksheet contained on Page 19. In regard to the entire Town/City being the target area, use the latest census information.

Line 7 In regard to a target area; use the figures for all demographic groups from the Low to Moderate Income Worksheet contained on Page 19. In regard to the entire Town/City being the target area, use the latest census information.

Line 8 **Sign, date and indicate the title of the Beneficiary Profile signatory.**

CDBG BENEFIT DATA WORKSHEET

(To Be Used For Target Area Surveys)

__	Total number of persons interviewed:	**Line 4 + Line 6 on Low/Mod Income Worksheet**
__	Number of LMI persons interviewed:	**From Line 4 on Low/Mod Income Worksheet**
__	Number of non-LMI persons interviewed:	**From Line 6 on Low/Mod Income Worksheet**
__	Total estimated number of persons in target area	**From Line 15 on Low/Mod Income Worksheet**

Number of persons interviewed who are:

	LMI	Non-LMI
White	0	0
Black/African American	0	0
Asian	0	0
Native Hawaiian/Other Pacific Islander	0	0
American Indian/Alaskan Native	0	0
Asian & White	0	0
American Indian/Alaskan Native & White	0	0
Black/African American & White	0	0
American Indian/Alaskan Native & Black/African American	0	0
Other	0	0
Total persons	0	0
Elderly	0	0
Severely Disabled	0	0
Female Heads of Household	0	0

Directions: This worksheet is designed to calculate all necessary information to complete the Beneficiary Profile contained on Page 22. You need to utilize the completed Low and Moderate Income Worksheet from Page 19 and the completed survey forms from the target area survey which was conducted. **1)** In the four boxes at the top of the worksheet enter the total number of persons interviewed, total LMI persons interviewed, total non LMI persons interviewed and total estimated persons in the target area. Use the totals from the Low/Mod Income Worksheet as indicated to the right of each box. **2)** Using the totals from all the survey forms, enter the number of persons interviewed who are LMI and Non-LMI for each of the 10 racial groups. **3)** Follow the same procedure for the Elderly, Severely Disabled and Female Heads of Households for LMI and Non-LMI persons interviewed.

CDBG Survey Certifications

We, the undersigned certify that the information contained in this survey is true and complete to the best of our knowledge and belief, and that the State of Connecticut, Department of Housing, the United States Department of Housing and Urban Development or their designees are hereby authorized to verify the information contained herein, as necessary or appropriate. It is further certified that all methodologies and processes used in conducting this survey are consistent with the mandatory procedures for conducting an income survey as established by the Department of Housing and the State of Connecticut CDBG Program.

Signature of Independent Verifier

Must be a CDBG Administrator or a Chief Elected Official.

Date: _____

_____

Authorized Signature Printed Name and Title

Approval by Local Board or Council

Municipal Seal

DATE APPROVED: _____

AUTHORIZED SIGNATURES	TYPED NAME AND TITLE

STATE OF CONNECTICUT
COMMUNITY DEVELOPMENT BLOCK GRANT

Survey Waiver Form

This form must be submitted to DOH prior to conducting an income survey for ***any*** area with an established LMI percentage of less than ***46%***.

Community: _____ Date: _____

Proposed Survey Area: _____
_____
_____

Attach a detailed map identifying all residential households in survey area

CDBG Activities Proposed for Survey Area: _____
_____
_____
_____

% Low to Moderate Income of Survey Area as Established by U.S. Census & HUD: _____%

Census Tract(s): _____
_____

Detailed justification for request to conduct an income survey: (Include all local economic and non-economic changes that would reasonably be expected to change the LMI percentage. Such changes may include factory openings or closings, layoffs by a major employer in the service area, or the occurrence of a major disaster (e.g., hurricanes, tornadoes, or earthquakes, etc.)**:** _____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Attach additional documentation as necessary.

Signature of Chief Executive Officer Date

Typed name and Title:	

TOWN/CITY OF _____
BENEFIT DATA INFORMATION SHEET

Date:_____ CDBG PROGRAM TYPE _____

The Town/City of _____ is currently preparing an application for Community Development Block Grant (CDBG) funds from the State of Connecticut, Department of Housing. The proposed activities are to: _____
_____

For the proposed activities, the CDBG program requires information regarding incomes of the beneficiaries of the activities. Therefore, the community is surveying the potential beneficiaries to ensure compliance with the regulations of the CDBG Program.

Your response to the following questions is critical in finalizing the application process. All responses will be kept confidential and used solely for securing CDBG grant funds.

==========

Name (optional): _____ Survey # _____
Address: _____

Please place an "X" in the appropriate spaces pertaining to your family's size, annual income and makeup.
In determining total family income use your total gross income for the 12 month period prior to completing this form.

FAMILY SIZE INCOME

1	$xx,xxx	Above	_____	Below	_____
2	$xx,xxx	Above	_____	Below	_____
3	$xx,xxx	Above	_____	Below	_____
4	$xx,xxx	Above	_____	Below	_____
5	$xx,xxx	Above	_____	Below	_____
6	$xx,xxx	Above	_____	Below	_____
7	$xx,xxx	Above	_____	Below	_____
8	$xx,xxx	Above	_____	Below	_____

BENEFICIARY INFORMATION:
Family Race: Indicate by putting a number on the appropriate line

White ____ Black/African American ____ Asian ____ American Indian/Alaskan Native _____ Native Hawaiian/Other Pacific Islander ____
American Indian/Alaskan Native & White ____ Asian & White ____ Black/African American & White ____ American Indian/Alaskan Native & Black/African American ___

Family Make-up: Enter number of elderly or severely disabled family members and indicate with an "X" if a female head of household is present

Number of Elderly: _____
Number of Severely Disabled: _____
Female Head of Household: ____ Yes ____ No

==========

TO BE FILLED OUT BY INDEPENDENT VERIFIER: LMI ____ NON-LMI _____

_____
Signature of authorized official Date

Selecting a Random Sample Using a Random Number Table

The Random Number Table below is a list of random one digit numbers (from 0 to 10 inclusive) that have be arbitrarily grouped into sets of 5 digits and arbitrarily divided into groups of 10 rows. ***[The row number is NOT part of the table.]***

Each entry in the table is equally likely to be one of the values from 0 to 10; each pair of digits in the table is equally likely to be one of the values from 00 to 99; each triplet in the table is equally likely to be one of the values 000 to 9999; and so on.

Suppose that you wanted to randomly select 10 survey units from a population that contains 500 units.

1. Label the survey units from 1 to 500.

2. Enter the table at an arbitrary row and position in the row, and pick off successive 3 digit groups. Each three digit group will select one of the experimental units. [Ignore 000, and 501-999.]. For example, suppose that you enter the table at row 48. The random digits are: 48 46499 94631 17985 09369 19009 51848 58794 48921 22845 55264 and so the three-digits groups from this line are: 464 999 463 117 985 093 691 900 951 848 .... The first 10 distinct three-digit groups that are between 001 and 500 (inclusive) are used to select the units for the survey. From the table below, units 464, 463, 117, 093 ... would be selected.

This can be optimized to avoid "wasting numbers" by saying that 001-500 would be used as above, but values 501-999 and 000 would refer to units 001 to 500 respectively.

Random Number Table

Row										
1	57245	39666	18545	50534	57654	25519	35477	71309	12212	98911
2	42726	58321	59267	72742	53968	63679	54095	56563	09820	86291
3	82768	32694	62828	19097	09877	32093	23518	08654	64815	19894
4	97742	58918	33317	34192	06286	39824	74264	01941	95810	26247
5	48332	38634	20510	09198	56256	04431	22753	20944	95319	29515
6	26700	40484	28341	25428	08806	98858	04816	16317	94928	05512
7	66156	16407	57395	86230	47495	13908	97015	58225	82255	01956
8	64062	10061	01923	29260	32771	71002	58132	58646	69089	63694
9	24713	95591	26970	37647	26282	89759	69034	55281	64853	50837
10	90417	18344	22436	77006	87841	94322	45526	38145	86554	42733
11	78886	86557	11295	07253	29289	44814	58898	36929	66839	81250
12	39681	54696	38482	48217	73598	93649	92705	34912	18981	74299
13	38265	45196	31143	82190	27279	79883	20219	38823	84543	22119
14	34270	41885	00079	63600	59152	10670	27951	77830	05368	58315
15	73869	34748	75787	88844	89522	71436	04166	06246	20952	56808
16	21732	36017	69149	70330	90500	73110	92908	55789	73450	68282
17	72583	49811	67519	98476	97889	37112	94963	91140	24571	23446
18	72678	49483	57039	18420	74773	16869	72077	27720	14058	66743
19	88572	01294	14117	56884	77107	53023	02243	26415	52233	12818
20	82868	59988	42323	96542	96733	00056	74887	21914	48300	96404
21	09949	56572	28104	64281	01217	76250	39511	19059	85172	35273
22	41942	91440	81609	38147	59406	88491	18079	29786	81499	85390
23	46777	74928	91290	55022	56629	01335	61379	71134	86187	70717
24	58280	17867	07990	85055	55279	83390	37598	93350	05666	55402
25	87042	55080	76185	19947	79551	77594	87381	99430	44251	30896
26	72183	39856	94385	55160	50680	68443	95437	74302	06204	71004
27	76768	16066	94109	90685	92058	81744	99133	36354	34292	90092
28	21703	64616	03431	47610	31968	61593	36259	70600	53491	95542
29	78269	12087	32204	81177	30333	83630	06026	89308	94179	54907
30	49285	16579	22109	63651	34778	28631	27285	95751	91704	59819
31	90016	10303	81862	41351	88681	76632	15336	91955	38436	43892
32	63651	93677	08027	80384	71134	79937	23322	10577	21413	86688
33	02780	37186	74076	33376	03782	64199	77333	12812	78027	89926
34	49414	09022	38644	53038	34634	36565	01984	88477	83879	60943
35	53861	74046	04778	08365	83104	79004	88335	54047	99675	41864
36	78677	55123	73447	00158	61482	02808	83475	59932	19044	27318
37	74550	84403	56850	83780	88847	65591	03859	58670	60057	25225
38	22866	64152	35023	35701	98228	53388	82321	34392	09589	97340
39	17601	32926	06120	27626	48687	42885	25858	53920	95764	84716
40	20862	64222	96951	19524	15866	52508	03763	98033	87268	71167
41	71490	83428	78903	81931	24345	37331	03971	38118	01065	36010
42	21050	12825	28217	99510	86900	09987	91244	06520	81108	87266
43	91632	96199	54191	77480	33049	00849	96668	65865	25164	98330
44	46988	84607	55711	43874	26532	76307	38846	55961	83227	16069
45	72200	24023	55848	09162	44976	15663	34697	83365	82930	63392
46	88621	25822	78463	72191	00625	85945	72522	29613	46473	51177
47	15384	03326	32091	20199	70046	64343	20566	79050	43837	15831
48	46499	94631	17985	09369	19009	51848	58794	48921	22845	55264
49	13520	96795	79714	66338	79836	44430	89290	06167	69090	29476
50	24323	00280	73922	43447	00319	92899	75411	91840	39594	17621

51 99090 55543 87734 80685 74261 70848 87196 59085 28471 74971
52 97585 33311 68919 33189 49987 24081 79404 45363 46920 94760
53 97622 85282 58594 83977 25002 39124 58350 67845 17771 58031
54 24260 21646 75111 41560 90082 57613 93807 04060 94811 60124
55 65250 83876 34806 08796 53719 94310 94363 55289 81226 18190
56 45817 37470 73508 84200 73933 80187 26207 69917 58064 95000
57 48898 28088 77723 81458 18981 35389 17199 85718 18019 66290
58 23900 87304 91349 27541 42047 23002 47976 99586 96453 06861
59 38635 66539 55139 56894 01608 05068 21910 41858 15382 98701
60 58095 49005 59108 12315 35856 19651 55545 79711 42424 67008

61 76474 40345 47744 45224 42903 86698 09851 87819 81523 34272
62 03535 70021 61645 84268 65636 94414 06266 12237 43147 16894
63 14364 82782 07176 53522 06834 46016 42758 04753 00023 15300
64 91751 29817 90578 31800 13393 35965 41128 92983 61660 50106
65 56151 59329 22926 66357 41724 68645 04327 27543 18723 11957
66 57881 15295 43246 47103 15977 84216 78875 06677 77219 50803
67 36126 70899 51669 79958 93311 62555 70694 16626 35623 18758
68 73389 33283 66929 73444 31434 10263 16868 74346 84838 82770
69 77383 40683 84063 45412 21358 84024 88935 77583 33522 53090
70 62798 96248 60474 36149 21187 23194 03696 74445 54525 12869

71 12283 00561 29955 05775 34520 47217 26059 35414 65998 49766
72 78433 49762 41177 80949 32843 64714 40450 15064 11389 78409
73 26348 29480 65497 34615 12888 19977 17597 25914 36394 79315
74 26078 36705 83043 61592 12459 61255 40550 59892 66163 97848
75 40115 70829 00654 12791 85668 19015 82785 92889 35041 18949
76 81560 62666 77627 09123 63484 49481 60451 88073 71000 63511
77 34074 51484 59356 20301 22365 95862 46995 26284 45273 35706
78 42176 81350 05941 09754 16987 98248 90319 33116 39120 34765
79 63288 62381 58461 13225 57138 19619 30877 82640 24888 02600
80 88820 33240 78977 98928 41160 29671 33299 95592 38493 05321

81 63532 20433 25690 09557 90207 95808 57383 68622 13359 25371
82 39033 68857 74705 91718 77485 32496 30737 28551 69056 95615
83 46964 90715 01804 14953 97658 71613 90353 78189 03195 73795
84 03528 92683 29740 31679 22941 92131 69021 21325 70930 19548
85 67027 36641 74347 54500 80074 94364 10164 99309 66272 24925
86 65462 73352 17392 09552 74361 46123 13020 63169 98318 91666
87 55797 95254 84279 88885 65569 96791 66118 05817 17867 88254
88 58697 56009 20438 06653 93978 51961 97609 97367 02795 04718
89 97876 76551 19215 87623 55326 85282 86292 18328 55016 84126
90 72443 02607 13183 06156 76680 62398 79369 77374 78292 41027

91 96152 80526 62087 12197 59252 68312 39759 63535 23675 47358
92 10277 64926 33378 48335 35488 47577 85954 97588 75873 31350
93 77557 25011 86663 97410 99845 42709 48407 63841 14727 00484
94 68784 85951 54232 30976 48666 15927 73072 00907 76237 56914
95 67778 30262 16944 36130 77604 34923 92336 66565 94490 68039
96 94104 06985 81837 53674 36266 21688 68769 18492 12242 34164
97 70107 17900 53497 71908 18186 59909 00400 53236 23016 70860
98 07847 64852 37719 68837 60757 92158 80433 17687 08916 01706
99 33167 35411 27473 13393 17714 59680 30888 98213 93364 03219
100 84527 88986 01665 23547 74666 25487 34977 59681 38520 57293