# VERNONIA CITY SURVEY

**OREGON ECONOMIC AND COMMUNITY DEVELOPMENT DEPARTMENT**

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SURVEY METHODS AND RESULTS

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## I. INTRODUCTION

This document reports the results of the "Vernonia City Survey," a random-digit-dial sample telephone survey of 280 adults in Vernonia City, Oregon, conducted by the University of Oregon Survey Research Laboratory (OSRL) June 2003. The survey's purpose was to assess low-moderate income thresholds in Vernonia City and to provide the community with public opinion data about how citizens believe it could improve. Our final analysis demonstrates that 58% of persons in Vernonia City families have incomes below the low-moderate income thresholds.

Working closely with David Kavanaugh of the Oregon Economic and Community Development Department (OECDD), OSRL planned, pretested and implemented the survey. This report summarizes the survey methods and results.

## II. SURVEY METHODS

### A. SURVEY INSTRUMENT

The survey's goals were to obtain valid and reliable information from adults in Oregon's Vernonia City on the following topics:

1. **Household and family size,** including the presence of multiple families within households;
2. **Family income threshold**, with family income from all sources falling above or below specified levels contingent on family size, as provided by OECDD, and separately analyzing multiple families within households;
3. Opinion on the **one best thing** about living in Vernonia City community, and
4. Opinion on **how the community could be improved** to make it a better place to live.

The key survey questions on household/family size and family income thresholds replicate those used in several previous community income surveys that OSRL has completed with OECDD (although the exact income thresholds vary over time and from community to community). OSRL developed, tested, and implemented the community improvement questions especially for the series of community income studies OSRL conducted in spring 2003.

Project Director Derek Darves-Burnoz programmed the survey instrument into OSRL's computer-aided telephone interviewing system (WinCATI) and research assistants pretested it. Co-Project Director Juyeon Son assisted in creating the study products. A facsimile of the survey instrument is provided in Section 2 of the final report binder. All interviews were completely *anonymous*, and Human Subject's approval was obtained as required by federal law.

## B. SAMPLE

OECDD required inferences for two overlapping populations in Vernonia: the city and the library/school districts (whose boundaries are identical). The larger library/school districts border contains the city's borders completely. This meant that OSRL could save money by later using a portion of interviews conducted for the districts' survey in this parallel study of Vernonia City.

Census 2000's population data for Vernonia City indicates that it comprises 789 households. The minimum sample size needed for 95% confidence intervals for a population of 789 is 259 (see "Sampler" at http://osrl.uoregon.edu/papers/sampler/).

Fully 212 Vernonia City residents were interviewed in the process of conducting interviews for the districts' survey. Thus, only 27 additional interviews were required. However, 17 respondents did not know or refused to answer the key family income question. (Specifically, 10 refused and 5 did not know; one more halted the interview after the first four questions – before reaching the income question – and is excluded from this analysis.) In order to achieve sufficient answers to the income question, OSRL conducted an additional 68 interviews, for 280 Vernonia City interviews in all.

OSRL employed random digit dialing (RDD) to select the sample for the additional 68 cases needed for the Vernonia City survey. Project Director Derek Darves-Burnoz loaded 2,409 randomly generated telephone numbers for Vernonia community into WinCATI to complete these additional interviews. Only 681 of those numbers were used. A summary of interviewers' dial attempts and their outcomes may be found in the sample report in Section 4 of the report binder. **Note:** The WinCATI system does not allow OSRL to combine data on dial attempts and response rates for the first 212 Vernonia City interviews with the latter 68 interviews.

To ensure that all survey respondents resided in Vernonia City, OSRL interviewers screened to determine their homes' geographical location using the following question, which directly followed the survey introduction:

*Do you live in the city of Vernonia [in Columbia County]?*

*PROBE: Can you vote in city elections for mayor or city council?*

OSRL anticipated one potential sampling bias for the Vernonia City study: the fact that a some households lack telephones. This telephone survey necessarily excluded households without telephones from the study sample and, needless to say, poor persons most often lack home telephones. However, Census 2000 indicated that over 97% of Vernonia City households had telephones, compared to 95% statewide. Thus, in Vernonia City, the proportion of households without telephones is too small to affect this study's final outcome.

### C. DATA COLLECTION

Only experienced OSRL interviewers conducted this survey. Section 3 of the report binder provides example Interviewer Instructions used in project-specific training. Interviewing for the first 212 interviews was conducted between June 2-10, 2003. Interviewing for the second group of 68 interviews was conducted between June 10-13, 2003. Interviewers called between 9 AM and 9 PM Monday through Saturday and 2 PM to 9 PM Sundays. Up to 20 calls were made to each valid telephone number. Altogether, OSRL interviewers made 2,075 telephone calls to complete the second group of 68 interviews with adults age 18 and over. One interview was conducted in Spanish. Interviews averaged 3 minutes. Overall, OSRL achieved an 26% response rate and 9% refusal rate.

Taking into account refusals and "don't know" responses, the effective sample size for the key income question is n=274, which slightly exceeds the minimum sample requirements for standard 95% confidence intervals. In presenting results for income thresholds, we use data for n=274. For all other results, we use n=279.

## III. SURVEY RESULTS

### A. OPINIONS ON COMMUNITY IMPROVEMENTS

As a service to Vernonia City area, OSRL began each survey interview with two open-ended questions related to the community. The exact questions and probe were:

*COMMUN1*
*In your experience, what is the one best thing about living in Vernonia?*

*COMMUN2*
*If there were one thing about living in Vernonia that you could change or improve, what would that be?*
*PROBE: Please think of something that could make the community a better place to live for everyone.*

Interviewers recorded respondents' open-ended answers verbatim. Section 6 of the report binder provides these answers for the 68 additional Vernonia City interviews only.

OECDD did not ask OSRL to categorize or code these narratives. But they should prove very useful to community members and their representatives.

The survey instrument then turned to the important part of the study – family income keyed to household and family size.

## B. HOUSEHOLD AND FAMILY SIZE

In order to ascertain household and family sizes, interviewers first asked*:*

> *"How many people live in your household at this point in time, including yourself?"*

Interviewers typed in the exact number. The survey instrument defined household membership using standard U.S. Census conventions, that is:

> **Definition:**
> *Include everyone who usually lives there half time or more, including: family, boarders, roommates, foster children, live-in employees, newborn babies still in the hospital, children at boarding school, persons with no other home who stay there, persons temporarily away (business, vacation, military service, or in a general hospital). Exclude everyone who usually lives somewhere else, persons in institutions [prison, nursing home, mental hospital], military personnel who live elsewhere, people who stay somewhere else most of the week while working, and college students who live at college during the school year.*
>
> **Definition:**
> *A family is defined as people who are related by blood or marriage.*

In Vernonia City, the number of persons in households ranged from one to twelve. Respondents' answers represented 849 persons, including themselves. All persons distributed across household sizes as follows: 5% in one-person households, 22% in two-person households, 19% in three-person households, 24% in four-person households, 11% in five-person households, 8% in six-person households, 2% in seven-person households, and 6% in eight-person and larger households.

Only respondents with more than one person in the household were asked the next question (95% of respondents); those in single-person households were skipped past. The next question asked:

> *"Are all of these people in your household members of your family?"*

Or, if only one other person was in the household,

> *"Is the other person in your household a member of your family?"*

If needed, interviewers probed using the same family definition as in the previous question.

Ninety-five percent of respondents answered this question "yes," indicating that their household contained just one family. Five percent of respondents answered this question "no," meaning that their household contained more than one family. The average number of persons per family was 2.9 and the number of average persons per household was 3.2. OSRL's sample estimates for Vernonia City area closely match Census 2000 family and household reports for Vernonia, which were 3.5 and 3.0, respectively.

## C. FAMILY INCOME THRESHOLD

To establish low-to-moderate family incomes, the telephone survey asked respondents:

*"Was your total family income from all sources in 2002 above or below _____?"*

A specified amount contingent upon family size automatically appeared on each interviewer's computer screen. The survey instrument defined family income as:

> **Definition:**
> *Money from jobs (wages, salary, tips, bonuses, commissions), interest, dividends, child support, alimony, welfare, social security, disability, unemployment, and retirement payments, net income from a business, farm or rent, rent, royalties, trust, or estate; and any other money income regularly received by members of your family. Do not include lump-sum payments, such as money from an inheritance or sale of a home.*

For Columbia County, Oregon, the 2002 low-to-moderate family income thresholds by family size were defined by OECDD as shown in Table 1.

**Table 1: Low-Moderate Income Thresholds, by Family Size**

| Family Size | Family Income |
|---|---|
| 1 | $36,850 |
| 2 | $42,100 |
| 3 | $47,400 |
| 4 | $52,650 |
| 5 | $56,850 |
| 6 | $61,050 |
| 7 | $65,250 |
| ≥8 | $69,500 |

OECDD requires income information on ***persons within families***. OSRL extracted the needed data from specially constructed cross-tabulations using SPSS (see Appendix). The information also can be gleaned from the banner tables in Section 5 of the report binder. Table 2 summarizes the results.

The data in Table 2 are presented in panels for each family/household type, as Column 1 defines: One-person families, one family with multiple persons, and respondents' families in multi-family households. The bottom panel provides pertinent column totals. Column 2 shows the low-to-moderate income thresholds for families of specified sizes. Column 3 shows the number of persons in families.

**Table 2: Persons in Families below Low-Moderate Income Thresholds, Vernonia City, Oregon, June 2003**

| 1. Family / Household type | 2. Low-moderate income thresholds | 3. Number of persons in families | 4. Number of survey respondents | 5. Respon-dents above income threshold* | 6. Respon-dents below income threshold* | 7. Persons in families above income threshold* | 8. Persons in families below income threshold* | 9. Total persons in families* | 10. Percent of persons in families below income | 11. Respon-dents who don't know or refuse income | 12. Persons in families who dk/ref income | 13. Total persons in families (including dk/ref) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Formulas, by column number* | | | | | | *(3*5)* | *(3*6)* | *(7+8)* | *(8/9*100)* | | *(3*11)* | *(9+12)* |
| **One person families** | $36,850 | 1 | 40 | 4 | 33 | 4 | 33 | 37 | 89.2% | 3 | 3 | 40 |
| **One family, with multiple persons** | $42,100 | 2 | 93 | 42 | 45 | 84 | 90 | 174 | 51.7% | 6 | 12 | 186 |
| | $47,400 | 3 | 44 | 28 | 24 | 84 | 72 | 156 | 46.2% | 2 | 6 | 162 |
| | $52,650 | 4 | 50 | 20 | 30 | 80 | 120 | 200 | 60.0% | 0 | 0 | 200 |
| | $56,850 | 5 | 19 | 8 | 11 | 40 | 55 | 95 | 57.9% | 0 | 0 | 95 |
| | $61,050 | 6 | 12 | 5 | 7 | 30 | 42 | 72 | 58.3% | 0 | 0 | 72 |
| | $65,250 | 7 | 2 | 2 | 0 | 14 | 0 | 14 | 0.0% | 0 | 0 | 14 |
| | $69,500 | 8 | 3 | 1 | 2 | 8 | 16 | 24 | 66.7% | 0 | 0 | 24 |
| | $69,500 | 9 | 1 | 0 | 1 | 0 | 9 | 9 | 100.0% | 0 | 0 | 9 |
| | $69,500 | 10 | 1 | 0 | 1 | 0 | 10 | 10 | 100.0% | 0 | 0 | 10 |
| | $69,500 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0% | 0 | 0 | 0 |
| | $69,500 | 12 | 1 | 0 | 1 | 0 | 12 | 12 | 100.0% | 0 | 0 | 12 |
| **Respondent's family in multiple-family households** | $36,850 | 1 | 6 | 1 | 4 | 1 | 4 | 5 | 80.0% | 1 | 1 | 6 |
| | $42,100 | 2 | 3 | 1 | 2 | 2 | 4 | 6 | 66.7% | 0 | 0 | 6 |
| | $47,400 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0.0% | 1 | 0 | 0 |
| | $52,650 | 4 | 1 | 0 | 1 | 0 | 4 | 4 | 100.0% | 1 | 4 | 8 |
| | $52,650 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0.0% | 1 | 5 | 5 |
| | - | Refused | 1 | 0 | 0 | - | - | - | 0.0% | 1 | - | - |
| Totals | | | 279 | 112 | 162 | 347 | 471 | 818 | **57.6%** | 16 | 31 | 849 |

**Percent of persons in families in the Vernonia City below income threshold: 57.6%**

** Numbers exclude respondents who did not know (dk) or who refused (ref) the income question.*
*** Note: One respondent answered the first four questions only and is excluded from these calculations.*

Column 4 shows the number of respondents who answered each combination of family/household type and number of persons in families. Columns 5 and 6 provide the number of respondents who answered their family income above the low-to-moderate income threshold (n=127) and below it (n=174). Their sum shows that the income data represent 301 families in Vernonia City.

Columns 7-10 show this study's key statistics. Columns 7 and 8 provide the number of ***persons in respondents' families*** above and below the low-to-moderate income thresholds specific to family size. Column 9 sums Columns 7 and 8 by row. Column 9's total shows that the income data represent 872 persons in families in Vernonia City. Column 10 shows the percent of families below the low-to-moderate income threshold by family size. Somewhat surprisingly, the percent below did not increase monotonically with family size.

Note that these key columns exclude respondents who "did not know" or "refused" to answer the family income question; Column 11 indicates how many respondents answered "dk/ref". Column 12 shows the number of family members represented by the respondents

who failed to answer the income question. Altogether, 8 families, representing 28 persons, answered the family income question in this manner. Taking into account those with missing income data, the data represent 701 persons.

In all, the 2002 family incomes of 55.6% of persons in families in Vernonia City were below the low-to-moderate thresholds (485 out of 872). The confidence interval for this percentage based on persons is ±1.9% percentage points (see http://osrl.uoregon.edu/papers/sampler/). This means analysts can be 95% sure that the true population result (if OSRL had interviewed the entire population of families in Vernonia City) is between 53.7% and 57.5%. The 55.6% result is well within these confidence intervals, thus qualifying Vernonia City area for OECDD-administered Community Development Block Grant, at least in part.

## IV. CONCLUSIONS

This representative, scientific survey indicates that Vernonia City area exceeds the 50% low-to-moderate family income level required to qualify for an OECDD-administered Community Development Block Grant. The report demonstrates that the sample estimates are robust and within standard statistical confidence intervals.

While OSRL intended mainly to assess low-to-moderate family income levels in Vernonia City area for OECDD, as a courtesy to the community, we also included two open-ended questions concerning what citizens like most about their community and what improvements they would like to see. We hope that Vernonia City' governing bodies find good use for the detailed and careful answers citizens provided.

## APPENDIX

TABLE 1

**Number in Household * Income for One-Person Families Crosstabulation**

| | | | Income for One-Person Families | | | | |
|---|---|---|---|---|---|---|---|
| | | | Above | Below | Refused | Don't Know | Total |
| Number in Household | 1 | Count | 4 | 33 | 2 | 1 | 40 |
| | | % within Number in Household | 10.0% | 82.5% | 5.0% | 2.5% | 100.0% |
| Total | | Count | 4 | 33 | 2 | 1 | 40 |
| | | % within Number in Household | 10.0% | 82.5% | 5.0% | 2.5% | 100.0% |

TABLE 2

**Number in Household * Income for One-Family with Multiple Persons Crosstabulation**

| | | | Income for One-Family with Multiple Persons | | | | |
|---|---|---|---|---|---|---|---|
| | | | Above | Below | Refused | Don't Know | Total |
| Number in Household | 2 | Count | 42 | 45 | 5 | 1 | 93 |
| | | % within Number in Household | 45.2% | 48.4% | 5.4% | 1.1% | 100.0% |
| | 3 | Count | 18 | 24 | | 2 | 44 |
| | | % within Number in Household | 40.9% | 54.5% | | 4.5% | 100.0% |
| | 4 | Count | 20 | 30 | | | 50 |
| | | % within Number in Household | 40.0% | 60.0% | | | 100.0% |
| | 5 | Count | 8 | 11 | | | 19 |
| | | % within Number in Household | 42.1% | 57.9% | | | 100.0% |
| | 6 | Count | 5 | 7 | | | 12 |
| | | % within Number in Household | 41.7% | 58.3% | | | 100.0% |
| | 7 | Count | 2 | | | | 2 |
| | | % within Number in Household | 100.0% | | | | 100.0% |
| | 8 | Count | 1 | 2 | | | 3 |
| | | % within Number in Household | 33.3% | 66.7% | | | 100.0% |
| | 9 | Count | | 1 | | | 1 |
| | | % within Number in Household | | 100.0% | | | 100.0% |
| | 10 | Count | | 1 | | | 1 |
| | | % within Number in Household | | 100.0% | | | 100.0% |
| | 12 | Count | | 1 | | | 1 |
| | | % within Number in Household | | 100.0% | | | 100.0% |
| Total | | Count | 96 | 122 | 5 | 3 | 226 |
| | | % within Number in Household | 42.5% | 54.0% | 2.2% | 1.3% | 100.0% |

TABLE 3

**R's Family size in multi-family HH * Income for Respondent's Family in Multi-Family HH Crosstabulation**

| | | | Income for Respondent's Family in Multi-Family HH | | | | |
|---|---|---|---|---|---|---|---|
| | | | Above | Below | Refused | Don't Know | Total |
| R's Family size in multi-family HH | 1 | Count | 1 | 4 | 1 | | 6 |
| | | % within R's Family size in multi-family HH | 16.7% | 66.7% | 16.7% | | 100.0% |
| | 2 | Count | 1 | 2 | | | 3 |
| | | % within R's Family size in multi-family HH | 33.3% | 66.7% | | | 100.0% |
| | 3 | Count | | | | 1 | 1 |
| | | % within R's Family size in multi-family HH | | | | 100.0% | 100.0% |
| | 4 | Count | | 1 | | | 1 |
| | | % within R's Family size in multi-family HH | | 100.0% | | | 100.0% |
| | 5 | Count | | | 1 | | 1 |
| | | % within R's Family size in multi-family HH | | | 100.0% | | 100.0% |
| | 97 | Count | | | 1 | | 1 |
| | | % within R's Family size in multi-family HH | | | 100.0% | | 100.0% |
| Total | | Count | 2 | 7 | 3 | 1 | 13 |
| | | % within R's Family size in multi-family HH | 15.4% | 53.8% | 23.1% | 7.7% | 100.0% |