

VERNONIA LIBRARY/SCHOOL DISTRICTS  
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 Library/School Districts Survey,” a random-digit-dial sample telephone survey of 320 adults in the Vernonia Library/School Districts in 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 the Vernonia Library/School Districts and to provide the community with public opinion data about how citizens believe it could improve. Our final analysis demonstrates that 55.6% of persons in this community live in families with 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 Library/School Districts 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 the Vernonia Library/School Districts 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 question especially for this project.

Project Director Derek Darves-Burnoz programmed the survey instrument into OSRL's computer-aided telephone interviewing system (WinCATI) and research assistants pretested it. 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 later use a portion of interviews conducted for the districts' survey in the parallel study of Vernonia City. However, OSRL had no way to predict in advance how many interviews with Vernonia City residents would be achieved while screening for the districts' residents.

Census 2000 provides no population data for the Vernonia Library/School Districts separate from Vernonia City or Columbia County. The closest census geography matching the districts is Census Tract 9711, minus the eastern part of Block Group 1. Census Tract 9711 comprised 1,316 households in 2000. OECDD estimated that the districts' population comprised 1,200 households in 2003. The sample size needed for 95% confidence intervals for a population of 1,316 is 298 and for population of 1,200 is 291. OSRL recommended 300 completed interviews with valid answers to the key income question.

OSRL employed random digit dialing (RDD) to select the sample for this survey. Project Director Derek Darves-Burnoz loaded 2,057 randomly generated telephone numbers for the larger Vernonia community and Census Tract 9711 into WinCATI to complete the required 300 interviews. A summary of interviewers' dial attempts and their outcomes may be found in the sample report in Section 4 of the report binder.

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

*“Do you live in the Vernonia School District 47J?”*

*PROBE: “Do you pay property taxes for the elementary and secondary schools there?”*

*PROBE: “Do you live in the Vernonia library district?”*

A second question determined the smaller city geography:

*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 two potential biases to the Vernonia Library/School Districts study sample, discussed below. We conclude, however, that neither affected this study's results.

Census 2000 indicated that over 97% of Vernonia had households and that over 98% of both Census Tract 9711 and Columbia County households had telephones, compared to 95% statewide. Since this study is based on a telephone survey, it necessarily excluded households lacking telephones from the study sample. Needless to say, poor persons most often lack home telephones. However, in the Vernonia Library/School Districts geographic area, the proportion of households without telephones is too small to affect this study's final outcome.

Another potential source of sample bias for the Vernonia Library/School Districts survey is the possibility that Vernonia City residents could be over-represented in the districts-only study. This situation could occur because the districts' geography is less densely populated and the city is more densely populated. To avoid this, we were prepared to screen and exclude Vernonia City residents once the sample size required for the Vernonia City survey was achieved (n=260). However, only 212 Vernonia City residents were interviewed in the process of conducting the districts' survey.

### 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 was conducted between 9 AM and 9 PM June 2-10, 2003 until the target sample size was achieved. Up to 20 calls were made to each valid telephone number. Altogether, OSRL interviewers made 4,083 telephone calls to complete 320 interviews with adults age 18 and over. Of those, two were conducted in Spanish. Interviews averaged 3 minutes; interviews in Spanish averaged 3.5 minutes. Overall, OSRL achieved an 82% response rate and 4% refusal rate.

Although interviewers completed 320 interviews, 19 respondents did not know their family income or refused to answer. (Specifically, 12 refused and 7 did not know.) Thus, the sample size for the key income question is effectively n=301, which slightly exceeds the minimum sample requirements for standard 95% confidence intervals.<sup>1</sup> In presenting results for income thresholds, we use data for n=301. For all other results, we use n=320.

## III. SURVEY RESULTS

### A. OPINIONS ON COMMUNITY IMPROVEMENTS

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

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<sup>1</sup> For more detail, see OSRL's "Sampler" at <http://osrl.uoregon.edu/papers/sampler/>.

*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. OECD D 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 the Vernonia Library/School Districts, the number of persons in households ranged from one to twelve.<sup>2</sup> Respondents' answers represented 923 persons, including themselves. All

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<sup>2</sup> One respondent claimed 15 household members and 10 family members. The interviewer reported that this person answered as if under the influence of drugs and/or alcohol; he also reported that “the one best thing”

persons distributed across household sizes as follows: 5% in one-person households, 26% in two-person households, 15% in three-person households, 24% in four-person households, 12% in five-person households, 8% in six-person households, 2% in seven-person households, and 7% 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 the Vernonia Library/School District area closely match Census 2000 family and household reports for Vernonia, which were 2.8 and 3.3, 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.

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about the community was drugs and alcohol. OSRL deleted this case from the data set because we lacked confidence in its validity.

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

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

OECCD 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, the Vernonia Library/School Districts, Oregon, June 2003**

1. Family / Household type	2. Low-moderate income thresholds	3. Number of persons in families	4. Number of survey respondents	5. Respondents above income threshold*	6. Respondents 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. Respondents who don't know or refuse income	12. Persons in families who dk/ref income	13. Total persons in families (including dk/ref)
<i>Formulas, by column number</i>						(3*5)	(3*6)	(7+8)	(8/9*100)		(3*11)	(9+12)
<b>One person families</b>	\$36,850	1	44	3	39	3	39	42	92.9%	2	2	44
<b>One family, with multiple persons</b>	\$42,100	2	119	58	51	116	102	218	46.8%	10	20	238
	\$47,400	3	45	21	23	63	69	132	52.3%	1	3	135
	\$52,650	4	56	20	33	80	132	212	62.3%	3	12	224
	\$56,850	5	22	11	11	55	55	110	50.0%	0	0	110
	\$61,050	6	12	7	5	42	30	72	41.7%	0	0	72
	\$65,250	7	2	2	0	14	0	14	0.0%	0	0	14
	\$69,500	8	4	1	2	8	16	24	66.7%	1	8	32
	\$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	
<b>Respondent's family in multiple-family households</b>	\$36,850	1	8	2	5	2	5	7	71.4%	1	1	8
	\$42,100	2	3	2	1	4	2	6	33.3%	0	0	6
	\$47,400	3	0	0	0	0	0	0	0.0%	0	0	0
	\$52,650	4	1	0	1	0	4	4	100.0%	0	0	4
	\$52,650	5	1	0	0	0	0	0	0.0%	1	5	5
<b>Totals</b>			320	127	174	387	485	872	<b>55.6%</b>	19	51	923

**Percent of persons in families in the Vernonia Library/School District below income threshold: 55.6%**

\* Numbers exclude respondents who did not know (dk) or who refused (ref) the income question.

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 the Vernonia Library/School Districts.

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 the Vernonia Library/School District. 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 the Vernonia Library/School Districts were below the low-to-moderate thresholds (485 out of 872). The confidence interval for this percentage based on persons is  $\pm 1.9\%$  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 the Vernonia Library/School Districts) is between 53.7% and 57.5%. The 55.6% result is well within these confidence intervals, thus qualifying the Vernonia Library/School District area for OECD-administered Community Development Block Grant, at least in part.

#### IV. CONCLUSIONS

This representative, scientific survey indicates that the Vernonia Library/School District area exceeds the 50% low-to-moderate family income level required to qualify for an OECD-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 the Vernonia Library/School District area for OECD, 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 the Vernonia Library/School Districts' 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				Total
		Above	Below	Refused	Don't Know	
Number in Household 1	Count	3	39	1	1	44
	% within Number in Household	6.8%	88.6%	2.3%	2.3%	100.0%
Total	Count	3	39	1	1	44
	% within Number in Household	6.8%	88.6%	2.3%	2.3%	100.0%

TABLE 2

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

		Income for One-Person Families				Total
		Above	Below	Refused	Don't Know	
Number in Household 1	Count	3	39	1	1	44
	% within Number in Household	6.8%	88.6%	2.3%	2.3%	100.0%
Total	Count	3	39	1	1	44
	% within Number in Household	6.8%	88.6%	2.3%	2.3%	100.0%

TABLE 3

**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			Total	
		Above	Below	Refused		
R's Family size in multi-family HH	1	Count	2	5	1	8
		% within R's Family size in multi-family HH	25.0%	62.5%	12.5%	100.0%
	2	Count	2	1		3
		% within R's Family size in multi-family HH	66.7%	33.3%		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%
Total		Count	4	7	2	13
		% within R's Family size in multi-family HH	30.8%	53.8%	15.4%	100.0%