

**OREGON ECONOMIC AND COMMUNITY DEVELOPMENT DEPARTMENT**  
**“OREGON HOUSEHOLD TELECOMMUNICATIONS SURVEY”**

**EXECUTIVE SUMMARY**

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**INTRODUCTION AND METHODOLOGY**

The Oregon Survey Research Laboratory (OSRL) conducted an anonymous random-digit-dial telephone survey of 1,696 households January - February 2000 for OECD. Interviews averaged 21 minutes, with a 72% response rate and 11% refusal rate. This “Executive Summary” presents the study’s main findings, with some attention to regional variation. The complete report, which focuses upon the distinct findings of eleven geographic regions, is posted on the World Wide Web at: <http://darkwing.uoregon.edu/~osrl/telecomoeedd/frmtelecom.htm>.

The survey questions address telecommunications-related behaviors, plans, needs, knowledge, and attitudes, including:

- Computers and Internet - ownership, skill, WWW access at home and work, willingness to pay for better WWW service, use WWW of for a variety of buying, learning, informational and interactive purposes
- Television - ownership, cable service, and wireless cable
- Telephones – costs, number of lines, service quality, amount willing to pay for a 2<sup>nd</sup> home line, cell telephones, computer- and business-dedicated lines, telephone services (call waiting, caller ID, or voice mail), amount willing to pay for new telephone services, home fax capability
- Knowledge of the ability to place long distance telephone calls via the Internet, and awareness of digital subscriber lines
- Demographics - age, sex, race/ethnicity, education, employment, home business, presence of children in home, household income, and county

The 1,696 interviews were completed in the following 11 geographic areas of Oregon:

- Region 1 Urban areas - Multnomah County, urban areas of Washington and Clackamas Counties, larger cities (Albany, Ashland, Bend, Eugene, Springfield, and Salem).
- Region 2 Clatsop, Columbia, and Tillamook Counties, rural areas of Washington County.
- Region 3 Benton, Lane, Lincoln, Linn Counties.

- Region 4 Coos, Curry, and Douglas Counties.
- Region 5 Jackson and Josephine Counties.
- Region 6 Baker, Morrow, Umatilla, Union, and Wallowa Counties.
- Region 7 Grant, Harney, and Malheur Counties.
- Region 8 Hood River, Gilliam, Sherman, Wasco, and Wheeler Counties.
- Region 9 Klamath and Lake Counties.
- Region 10 Crook, Deschutes, and Jefferson Counties.
- Region 11 Marion, Polk, and Yamhill Counties, rural areas of Clackamas County.

Completed sample sizes for Regions 1, 2, 3, 4, 5, 7, 8, 9, and 10 were between n=150 and n=154. Region 5 had n=148, Region 6 had n=160, and Region 11 had n=175. The most conservative estimate of sampling error within these sampling strata is  $\pm 8$  percentage points.

### **COMPUTER OWNERSHIP AND SKILLS**

Overall, 58% of households in the sample own a personal computer. Computer ownership ranges from a low of 44% in Region 7 to a high of 69% in urban areas. Computer ownership varies substantially by respondent and household characteristics. Those most likely have computers are:

- Younger (66% of those age 18-34 vs. 27% of those age 55 or more)
- White (58%, vs. 42% for nonwhites)
- Better-educated (77% of college-educated vs. 26% of those without high school diplomas)
- Employed (67%, vs. 34% of retirees)
- Able to access the Internet at work (75%, vs. 50% of those without work access)
- Skilled in computers (76%, vs. 68% of those without computer skills)
- Earn more (81% of households annually earning \$50,000 or more vs. 27% of those earning \$15,000 or less).
- Have children (71%, vs. 50% of households without children)
- Have home businesses (77%, vs. 54% of households without home businesses)
- Have multiple telephone lines (78%, vs. 42% of homes with one telephone line)

The Oregon Benchmark question about computer skills (“Do you know how to use a computer to create or edit documents or graphics, or to analyze data?”) shows that, overall, 52% of respondents in the sample have basic computer skills. This varies from a high of 63% in urban areas to lows of 43% in Region 7 and 45% Region 8.

Respondents who have never heard of the WWW (n=37) live in all regions, but proportionately are slightly more in Regions 7 and 10.

### **HOME INTERNET ACCESS**

Among households with personal computers, 79% have Internet access overall. But Internet access varies from a low of 67% in Region 7 to a high of 88% in urban areas. Cross-tabulating computer ownership and home Internet access, only 29% of households in Region 7 have both, compared to 61% in Region 1’s urban areas.

Characteristics of respondents and households with Internet access include:

- Younger (about four-fifths of those age  $\leq 54$  vs. two-thirds of those age 55+)
- Male (83%, vs. 77% females)

- Nonwhites (83%, vs. 79% whites)
- Better-educated (89% of the college-educated vs. 65% without a high school diploma)
- Employed (81%, vs. 75% others)
- Can access the Internet at work (83%, vs. 76% of those without work access)
- Have computer skills (83%, vs. 68% of those not knowing how to use computers)
- Earn more (90% of households annually earning \$75,000 or more vs. 62% those earning \$15,000 or less)
- Have home businesses (84%, vs. 77% of households without home businesses)
- Have multiple telephone lines (96% of homes with 4 or more telephone numbers vs. 66% of those with one)
- Can send a fax (83%, vs. 68% of households that cannot send a fax)

For type of modem and modem speed, most households in all regions use a 56K telephone dial-up modem (42-54%), while 6-17% in each region use a 28.8K dial-up modem, 0-8% use a cable modem, 0-8% use a 14.4K dial-up modem, and 0-3% said T1DSL. However, 20-42% of respondents did not know the type of modem in their home.

Use of home computers to connect to the Internet or WWW varies directly with household members' ages. Adults age 30 and over are most likely to access the Internet from home, at 76-98% across regions. Just 20-41% of young adults ages 18-29, 20-55% of teenagers, and 9-30% of pre-teenagers access the Internet from home.

Households' modal monthly fee for Internet service is \$16-20. Those in rural areas, however, more frequently pay over \$20 per month than those in urban areas.

Willingness to pay more for better Internet service is low; i.e., a plurality of respondents will not pay more for four key services in addition to their current monthly Internet service bills. Overall, 49% volunteered that they would pay \$0 for fewer busy signals, 37% said \$0 for faster transmission speed, 47% said \$0 for the ability to always be connected, and 46% said \$0 for video capability. However, respondents in the most remote areas express somewhat greater willingness to pay \$20 or more for these services than those in urban areas, particularly faster transmission speed, continuous connection, and video capability. Respondents in all regions voiced slightly greater willingness to pay for faster transmission speed than any other service.

### **WORK AND PUBLIC INTERNET ACCESS**

Overall, 36% of respondents in the sample have a job or do volunteer work that makes it possible for them to access the Internet and WWW. This varies, however, from a low of 25% in Region 4 to a high of 50% in Region 2.

If they had the ability to access the WWW on public computers, 40% of all respondents said they would be "very likely" or "somewhat likely" to use them for employment-related purposes, such as finding a new job, workforce training, learning job-related skills, or on-the-job training. In addition, 52% said they would use the WWW on public computers to look up other information.

## WWW USE

Respondents in urban areas (Region 1) and in regions close to urban areas (Regions 2 and 9) already use the WWW more than those in other regions. Generally speaking, respondents in Regions 4, 6, 7, and 8 not only use the WWW less often, they are less interested in using it.

Just 5% of survey respondents have used the WWW to buy things, 14% are interested in doing so, and 80% are not interested. In urban areas, one fourth to one third of respondents already use the WWW for entertainment, learning things, checking financial information, purchasing tickets, making reservations, and buying non-necessities. In rural areas, WWW use for the same purposes is roughly one-fifth to one-sixth.

Across all regions, respondents express great interest in using Internet technology to do the following things:

- talk with medical specialists over long distances
- file taxes, pay property taxes, or register a vehicle
- make reservations or buy tickets - hotel, car, campground, concerts, sports, museums
- learn things, such as take college classes for credit, register for classes, learn new job skills, or on-the-job training
- take part in state and local government - give testimony or watch debates and votes

Fully 42-61% of respondents who do not currently use the WWW for these purposes would like to be able to do so. Somewhat smaller proportions express interest in using the WWW for entertainment, checking financial information, and shopping for non-necessities (29-34%).

Those least interested in using the WWW tend to be:

- age 55 and older
- retired
- have a high school education or less
- earn less than median household income
- not have children in the home
- have one telephone line
- lack computer skills
- not have a home computer
- if employed, their workplace lacks Internet access

## TELEVISIONS

Over 98% of households in the sample have a television. Across all regions, 58% have a hard wire cable for their TV, 17% have wireless cable, 2% have both, and 22% have no cable. Wireless television cables are most common in Regions 4, 7, 8, 9, and 10, at 24-30% of households, and rarest in urban areas, at 6%.

## TELEPHONES

The majority of households interviewed have one telephone number (56%), but 25% have two numbers, 11% three, and 7% four or more. Multiple telephone lines are most common in Regions 10 and 11 and least common in Region 4. Of households with one telephone number, just 12% are planning to add a second. The most respondents are willing to pay for a second telephone number varies substantially by region. A majority of those in urban areas and in Region 9 are willing to \$20 per month in addition to their regular telephone bill, while majorities

in other regions will only pay \$10 or \$15. Respondents willing to pay \$20 per month over their current telephone bill for a second line tend to be young, live in outlying areas (especially Regions 6, 7, 8, and 9), have children, have higher-than-average incomes, and have Internet access at work but not at home.

Of households with more than one telephone number, 83% have a wireless cell telephone number. Households in Region 11 are most likely to have wireless telephones (91%) while those in Region 5 are least likely (76%). Wireless telephones are most common among respondents ages 25-34, among whites, those who do not have a home business, who do not have a computer, and who do not have Internet access at home. Also, wireless phone ownership increases directly with education and income.

Eighteen percent of respondents' households have a telephone line dedicated mainly for computer use. Computer-dedicated telephone lines are most common in Regions 1, 7, and 8, for respondents who are middle-aged, who have college educations and high incomes, who have Internet access at work, and who have computer skills. Such lines are also most common in households that have children, Internet access, home businesses, the ability to send a fax, and 4 or more telephone lines.

Twenty-one percent of respondents' households have a telephone line dedicated for home business use. These are most common in Regions 5, 7, and 8, for respondents ages 45-54, nonwhites, those with less than high school educations but high incomes, and who have Internet access at work. Such lines are also most common in households that have children, a home computer, Internet access, the ability to send a fax, and 4 or more telephone lines.

Overall, 31% of surveyed households can send a fax from home. The ability to send a fax is most common in urban areas (39%) and least common in Region 7 (24%).

Overall, 55% have special telephone services, such as caller ID, call waiting, and voice mail (not a telephone answering machine). Special telephone services are most common in Region 11 (68%) and least common in Region 4 (46%). These services are most common among young respondents (e.g., 76% ages 18-24 vs. 21% ages 65-74), nonwhites, with some college, who are employed, have medium-to-high household incomes, children, home businesses, home computers, Internet access at home and work, computer skills, multiple telephone lines, and can send a fax from home.

Households without special telephone services who would like to have them tend to be located in Regions 4 and 6. Respondents who desire such services tend to be age 18-24, male, nonwhite, high school educated, with medium household incomes, children, home businesses, Internet access at home, computer skills, and 2 telephone lines. Those most willing to pay \$15-\$20 more on their telephone bill for the services are young, white, male, high school educated, employed, do not have a home business, have a personal computer, and just 1 telephone line at home.

Overall, 26% of respondents rated their telephone service "excellent," 49% "good," 20% "fair," and 5% "poor." Respondents in Regions 5, 6, 7, and 11 most often called their telephone service excellent (30-32%), while those in Regions 1 and 4 most often said poor or fair (31-33%).

Nearly half of households pay less than \$30 per month for long-distance telephone service, and two-thirds pay less than \$30 per month for local telephone service. Respondents' home telephone bills vary by region. They reported higher long distance bills Regions 1, 7 and 9 with 10-12% of respondents paying \$100 or more per month. They reported lower long distance bills in Regions 1, 2, 4, 9, and 11 with 50-51% less than \$30 per month. (Note: Regions 1 and 9 both have higher and lower costs.) Local telephone service is costliest in Regions 1, 10 and 11 with 10-11% of respondents paying \$50 or more per month, and cheapest in Regions 3, 4, 6, 7 and 10 68-70% paying less than \$30 per month. Respondents with the highest incomes and highest educational levels have the largest local and long distance telephone bills, as did households with children in the home, home businesses, Internet access, and fax machines.

### **KNOWLEDGE QUESTIONS**

Knowledge that it is possible to place long distance telephone calls over the Internet varies somewhat across regions, from a low of 52-54% in Regions 7 and 10 to a high of 62-63% in Regions 1, 2, 6 and 9. Respondents least likely to know about it are in the youngest two age groups, females, nonwhites, with the lowest level of education, without home computers, and without computer skills.

Ever having heard of a digital subscriber line (DSL) varies from lows of 22-23% in Regions 7 and 8 to highs of 33-36% in Regions 1, 5, and 11. The characteristics of those least likely to have heard of DSLs parallel the characteristics of those not knowing about long distance telephone calls over the Internet, with the addition of household income.

### **DEMOGRAPHIC PROFILE OF SURVEY RESPONDENTS**

Respondents' demographic and household characteristics closely match Oregon's population characteristics. Their median age is in the category 45-54 years, except in Regions 1 and 2 where median age is in the category 35-44 years. About three-fifths of respondents are female and about 90% white. A plurality achieved "some college" education, except in Regions 4, 7, 8 and 9 where a plurality have a high school diploma.

Between 53% and 73% are employed and between 13% and 28% are retired, varying across region. Employment is highest in Region 2 at 73% and lowest in Region 4 at 53%. Retirement is highest in Region 4 at 28% and Region 8 at 27%, respectively, and lowest in Region 2 at 13%. On average, 20% of households operate a business from their home, but this ranges from a low of 15% in Regions 1, 2 and 11 to highs of 32% in Region 10 and 26% in Region 8.

Households' median annual income is consistently in the \$35,000 - \$50,000 category, but the dispersion of household income varies by region. Urban areas and regions near urban areas are wealthiest (Regions 1, 2, and 11), with 20-21% of households earning above \$75,000. South-western Oregon and the Columbia River Gorge are poorest (Regions 4, 5, and 7), with 16% of households earning less than \$15,000.

On average, 63% of households have no children under age 18. However, this ranges from a low of 53% in Region 2 to a high of 71% in Region 8.