



Washington State Population Survey

Recommendations for the 2010 Survey

FINAL REPORT

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The nonresponse bias analysis (NRBA) on the 2006 Washington State Population Survey (WSPS) data, Ferraro and Krenzke (2008), indicated the potential bias for estimates relating to metropolitan statistical area status, education attainment, race/ethnicity, marital status, household income and home ownership, some of which are characteristics of cell phone only households. As discussed in the aforementioned report, these characteristics could be integrated into the weighting process to reduce the potential bias due to nonresponse and undercoverage.

A second report, Montaquila, Ferraro, and Krenzke (2008), was the result of a broader review of the 2006 WSPS structure and how the survey is conducted. The review identified approaches to improve response rates and also identified opportunities for increased operational efficiency. In addition to modifications to the weighting process, other potential sources of bias were identified, and additional recommendations were provided to reduce such bias. Further, the review of the WSPS survey procedures lead to a number of suggested improvements in the survey structure.

Several recommendations in the second report were implemented in the 2008 WSPS. In an era when response rates are driving downward, the response rate for the WSPS rose six percentage points¹ between the 2006 WSPS and the 2008 WSPS, perhaps partly a result of the recommendations put forward. The impact of the incorporated recommendations was investigated and is reported in Section 2.

To investigate the potential for bias in the 2008 survey, an NRBA was conducted, which includes investigating the impact of the weighting procedures. Section 3 contains the 2008 NRBA, which repeated several approaches used in the 2006 NRBA.

In Section 4, recommendations are provided for the 2010 WSPS, which considers the impact of the changes made to the 2008 WSPS, the recommendations not implemented in the 2008 WSPS, and the nonresponse bias analysis on the 2008 data. Other considerations for improvement are discussed, including potential use of 5-year American Community Survey (ACS) data, which is available for the first time in 2010 (the source of social and economic data).

¹ As given by the differences in response rates (RR4) and CASRO rate in the 2006 and 2008 versions (July 27, 2006 and June 19, 2008) of the Washington State Population Survey Data Collection Report, prepared for the Office of Finance and Management by the Gilmore Research Group.

Lastly, considerations for addressing non-landline households are presented. The prevalence of non-landline households (particularly, cell-only households) continues to increase is a growing source of potential bias in surveys. Westat is involved with current research that shows that nationally, coverage of households through a typical RDD landline-design, such as the WSPS, is less than 65 percent. A number of reasons contribute to the reduction from about 96 percent in the 1990s, including recent changes in assignments of telephone numbers to households. Section 4 contains a discussion of possible approaches to improve the coverage of the WSPS, thereby reducing the bias due to undercoverage.

Evaluation of Recommendations for the 2008 WSPS

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A summary of the recommendations for the 2008 survey is provided in Table 2-1. The table indicates which changes were made, and which were not made during the 2008 WSPS. This section reports on the incorporated recommendations that were evaluated.

Table 2-1. Summary of recommendations and implementation status for the 2008 WSPS

| Recommendation | Implemented in 2008? |
|-------------------------------------------------------------------------|----------------------|
| Pre-screening of telephone numbers (improve purge rate) | Y |
| Prior notification letter (improve match rate) | Y |
| Survey introduction | Y |
| Number of attempts guideline (at most 21 attempts for all cases) | Y |
| Call scheduling (increase automation and/or work cases equally) | Y |
| Refusal conversion letter | Y |
| Ever refused analysis (drop third conversion attempt) | Y |
| Subsample refusal prior to 2nd attempt | Y |
| Eligibility questions (ask county of residence) | Y |
| Tabulations (use household weight for household-level estimates) | Y |
| Multiple telephone number adjustment | Y |
| General weighting process | Y |
| Increase the sample size in one region | Y |
| Reserve sample | Y |
| Variance estimation (replication) | Y |
| Capture the sort order (for variance estimation) | Y |
| Human contact code for each attempt | Y |
| Incentives | N |
| Subsampling nonmailables | N |
| Providing a toll free number for respondents to call to complete survey | N |
| Classification of cases for refusal conversion (never call list) | N |
| Quotas (work all cases completely) | N |
| Interviewer awards/incentives | N |
| Cell-only households | N |
| Imputation | N |
| Item nonresponse reports | N |
| Pretest survey instrument | N |
| Enhance quality control procedure | N |
| Confidentiality procedures | N |

Pre-screening Process. In the 2006 survey, it was reported that about 13 percent of the statewide sample of phone numbers were purged for known non-working and business telephone numbers. Westat recommended using other pre-screening services from other vendors, which was incorporated in 2008. From the 2008 Data Collection Report, it was reported that a total of

91,266 telephone numbers were ordered. There were 39,582 numbers received after purging numbers from the pre-screening process. This purge rate of 56.6 percent is a significant improvement from the 2006 purge rate. The 2008 rate is similar to the purge rates for many of the Westat RDD surveys.

The higher purge rate reduces the number of unproductive telephone numbers attempted by interviewers. In addition to reducing cost, this may positively impact interviewer morale and save interviewing time.

An alternative to purging is to use predictive dialing. Predictive dialing is performed by specialized telephone equipment that dials several telephone numbers simultaneously then a complex set of algorithms "predicts" when an interviewer will be off the phone. When used correctly, interviewers receive calls already connected to live respondents and respondents hear no delays and never know that the call was delivered to an interviewer an instant before he or she said "hello". The labor costs are dramatically reduced because interviewers no longer receive ring no answers or busy signals.

There are drawbacks; however, to the use of predictive dialing because of the risk of abandonment. When used too aggressively to minimize labor costs, too many phone lines are dialed simultaneously which results in some respondents hearing dead air after answering the telephone because no interviewer was available to take the call. "Abandonment rate" is the term given to calls in which the respondent hangs up during this dead air and before the interviewer gets the call. This results in an increase in non-response. Another impact of overly aggressive predictive dialing is that the dialers will send the first answered line to an interviewer and drop the other calls. This means that respondents that can only answer after a larger number of rings have a lower probability of being interviewed. Inability to answer quickly can be correlated with health status, age, or other factors, which could introduce bias. This may not be feasible depending on the technology available.

Mailing Addresses. In the 2006 survey, prior notification letters were sent to about 25 percent respondents with valid mailing addresses. Westat recommended considering other vendors for the reverse append. For the 2008 survey, a new vendor was used to obtain addresses for the non-purged phone numbers. From the 2008 Data Collection Report, prior notification letters were sent to 21,148 (53.4% of 39,582) non-purged cases with valid mailing addresses. This is a considerable increase from 2006 and as seen later in the report prior notification letters (including prior to refusal conversion) has a positive effect on response rates.

Sending an advanced letter also had an impact on early return for completed interviews. The average number of attempts for cases with addresses (5.1) was lower than the average for cases without addresses (5.7). This difference is statistically significant¹.

Number of Attempts (Effort Analysis). In the 2006 survey, up to 42 attempts were made to complete a call. Westat recommended making at most 21 attempts. This was implemented in the 2008 survey except there 1,894 calls made after the 21st attempt with up to 35 calls for one case. The additional calls were made when a respondent requested a callback and to achieve targeted sample sizes. The extra attempts may be worth the effort depending on how positive the contact was. Westat has found that general call backs are not nearly as productive as specific callbacks. Re-releasing numbers is often used to reach targets, but is usually not efficient as seen where only 27 cases resulted in a complete interview. The 2008 Data Collection Report states that “the diminishing returns after 15 attempts have been made, suggests that setting the attempt limit at 15 would improve efficiency even if doing so required some additional sample to be ordered.” While it is clear there were diminishing returns after 15 attempts, there were still 425 completed interviews between 16 and 21 attempts. Since the 2008 survey is not available at this point, we compared some key statistics for cases completed in 1 to 15 attempts to the overall estimate (Table 2-2).

Two statistics were found to be statistically different, received Medicare and labor force status. Figure 1 in Montaquila, Ferraro, and Krenzke (2007) illustrates the differences in estimates by the number of calls in the 2006 survey for these key statistics. Though 21 attempts is generally more than the industry standard, we are hesitant to recommend limiting the number of attempts to 15 given the importance of the Medicare statistic and the bias (0.22) and relative bias (1.7%) detected. Ideally the same comparison should be run using the 2008 survey data.

Additionally, Westat recommended to work cases equally especially those assigned as no answer, answering machine, and busy signal cases. Table 2-3 shows the distribution of the number of call attempts for no answer, answering machine, and busy signal cases. Though the majority of cases had 21 attempts, there were still cases that were not worked equally with some as few as 10 attempts. There was a decision near the end of the field period to release all remaining cases for a minimum of 10 calls. Though not ideal, it is reasonable if the cases were partitioned as a random subsample. We also looked at whether human contact made a difference in completing a case with less than 21 attempts, but even though the majority had human contact there was no clear pattern.

¹ All statistical tests in this report are done at the 0.05 level of significance.

Table 2-2. Comparison of the number of attempts: 2006

| Characteristic | Overall estimate | Number of attempts 1-15 | Number of attempts Over 15 | Chi-square | |
|-------------------------------------------------------------|------------------|----------------------------|-------------------------------|-------------|---------------|
| | | | | Statistic | p-value |
| Insured | 90.7 | 90.7 | 89.9 | 0.09 | 0.7667 |
| Received Medicare | 13.0 | 13.2 | 7.5 | 15.37 | 0.0001 |
| Received Medicaid | 13.9 | 13.9 | 14.2 | 0.41 | 0.5206 |
| Education (25 and over) | | | | 5.17 | 0.1313 |
| Less than high school | 6.4 | 6.5 | 6.4 | | |
| High school | 24.0 | 23.8 | 25.4 | | |
| Some college | 29.7 | 30.1 | 23.1 | | |
| College graduate | 39.8 | 39.6 | 45.2 | | |
| Race | | | | 2.04 | 0.7343 |
| Hispanic | 8.9 | 8.9 | 11.6 | | |
| White | 76.8 | 76.9 | 70.5 | | |
| Black | 3.4 | 3.3 | 3.8 | | |
| American Indian/Alaskan Native | 1.4 | 1.4 | 1.6 | | |
| Native Hawaiian/Other PI | 1.5 | 1.6 | 1.7 | | |
| Asian | 5.2 | 5.2 | 8.2 | | |
| Others | 2.8 | 2.8 | 2.6 | | |
| Labor force status (15 and over) | | | | 7.26 | 0.0240 |
| Employed | 61.5 | 61.2 | 69.5 | | |
| Unemployed | 4.4 | 4.5 | 5.0 | | |
| Not in labor force | 34.0 | 34.3 | 25.5 | | |
| Household income as percent of Federal Poverty Level | | | | 4.95 | 0.2458 |
| 0-99% | 8.9 | 8.7 | 9.6 | | |
| 100-199% | 14.7 | 14.6 | 12.2 | | |
| 200-299% | 15.2 | 15.3 | 12.9 | | |
| 300-399% | 15.7 | 15.8 | 11.7 | | |
| 400% and over | 45.5 | 45.4 | 53.5 | | |
| Own/rent | | | | 0.28 | 0.5955 |
| Rent | 23.7 | 23.6 | 26.9 | | |
| Own | 76.3 | 76.4 | 73.1 | | |
| Household type | | | | 5.38 | 0.0906 |
| Husband-wife family household | 70.1 | 70.6 | 63.7 | | |
| Other family household | 18.6 | 18.4 | 21.6 | | |
| Non-family household (2 or more persons) | 1.8 | 1.8 | 2.8 | | |
| Single-person household | 9.4 | 9.3 | 11.9 | | |

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2006.

Table 2-3. Number of attempts by sample disposition: 2008

| Sample disposition | DISPOS | Attempts | Frequency |
|--------------------|--------|----------|-----------|
| No answer | 04 | 10-20 | 172 |
| | | 21 | 3,063 |
| | | 21+ | 625 |
| Answering machine | 05 | 10-20 | 250 |
| | | 21 | 3,202 |
| | | 21+ | 865 |
| Busy signal | 06 | 10-20 | 42 |
| | | 21 | 583 |
| | | 21+ | 150 |

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Call Scheduling. We have evaluated the day of the week and time of the day that Gilmore attempted to call cases based on commonly used time slices. The time slices are shown below. Note that there were calls made outside the normal calling hours, before 8 a.m. and after 9 p.m.

Table 2-4. Time slices

| Time slice description | | Day(s) of week |
|---------------------------------|-----------|-----------------------|
| Weekday, first half of the day | (D_first) | Monday through Friday |
| Weekday, second half of the day | (D_sec) | Monday through Friday |
| Weekday, first half of evening | (E_first) | Monday through Friday |
| Weekday, second half of evening | (E_sec) | Monday through Friday |
| Saturday, unrestricted | (SAT) | Saturday |
| Sunday, unrestricted | (SUN) | Sunday |

Based on Westat surveys, we have found the chances of reaching someone at home increases by varying the time and day of the week. Figure 2-1 shows the time slices, by call, for calls made to cases with a minimum of 10 attempts. This is to exclude any cases that were completed in a few attempts. We found it somewhat surprising the majority of calls were made in the second half of the day on weekdays. We generally find evenings and weekends more productive times to call. However, Figure 2-2 shows, among all completed cases, the percentage distribution falling across the time slices for the final call. It also shows, among all cases with a minimum of 10 attempts, the percentage distribution falling across the time slices. It can be seen that the complete cases match fairly closely to the attempts, though the evenings appear to be more efficient. We do not recommend making any changes to the current call scheduling, but you may consider making more attempts during weekday evenings. We recommend continuing to monitor the calling patterns in future surveys.

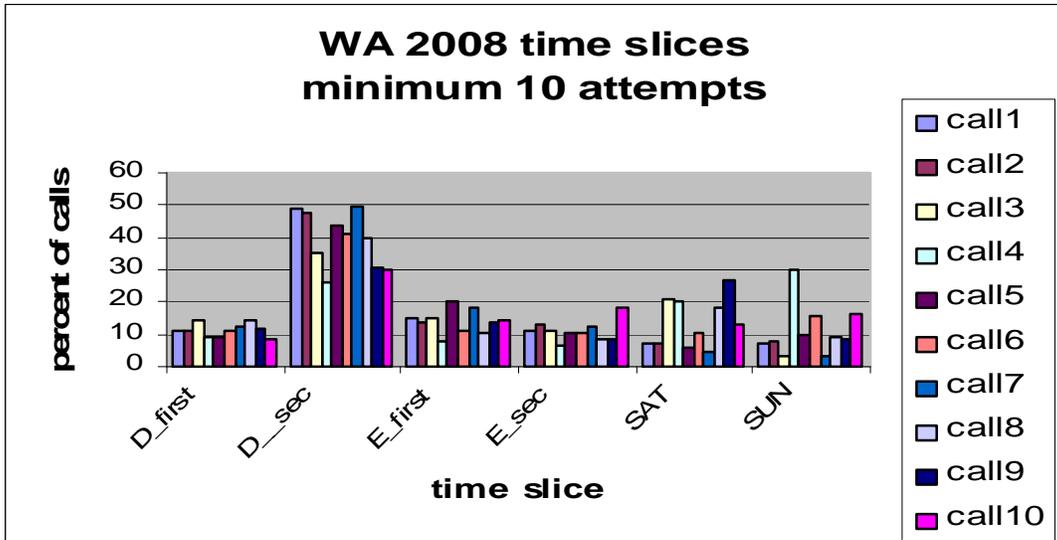


Figure 2-1. Time slices, by call, for calls made to cases with a minimum of 10 attempts: 2008

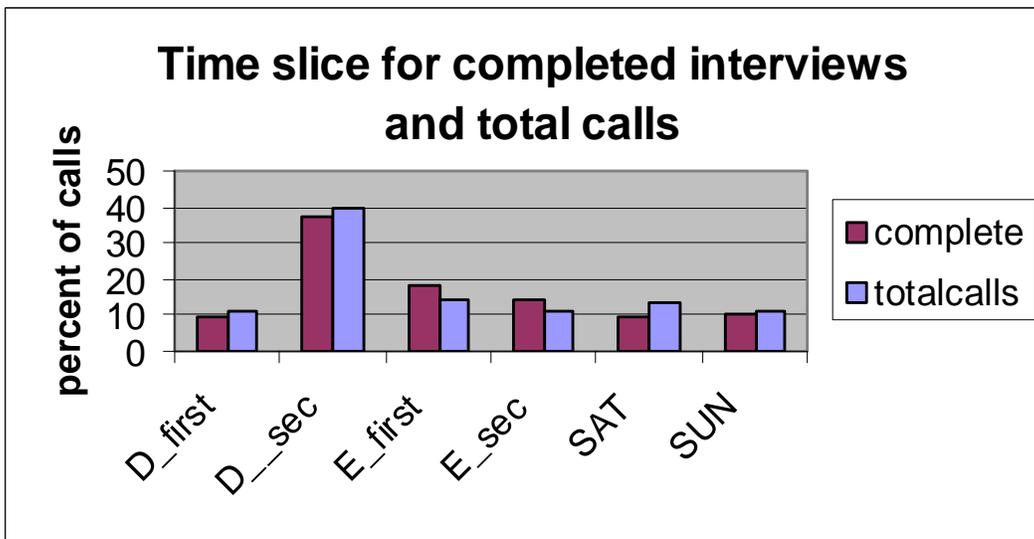


Figure 2-2. Percentage distribution across time slices for completed interviews and total calls: 2008

Refusal Conversion Letter. In the 2006 WSPS, there was no special mailing to refusal cases in advance of refusal conversion attempts. Westat recommend a special mailing (to mailable cases) prior to attempting refusal conversion which was incorporated. Table 2-5 shows the refusal conversion rates by presence of mailing address. Note that we are assuming all cases with a mailing address were sent refusal conversion letters. Clearly the refusal conversion letter was very effective in raising refusal conversion rates, among those that received only the first conversion attempt.

Though the difference is not as dramatic, they were also effective in raising the second conversion rate. Comparing the 2008 refusal conversion rates to 2006 shows an improvement in all cases that received a first conversion attempt (16% vs. 8%, respectively) and second conversion attempt (7% vs. 3%, respectively).

Table 2-5. Refusal conversion rates by presence of mailing address: 2008

| Interview status | Mailing address? | Frequency | Percent |
|----------------------------------------|------------------|-----------|---------|
| Received first conversion only | | | |
| complete | no | 360 | 18% |
| not complete | no | 1,691 | |
| complete | yes | 1,074 | 27% |
| not complete | yes | 2,899 | |
| complete | | 1,434 | 24% |
| not complete | | 4,590 | |
| Received first conversion | | | |
| complete | no | 360 | 12% |
| not complete | no | 2,581 | |
| complete | yes | 1,074 | 18% |
| not complete | yes | 4,987 | |
| complete | | 1,434 | 16% |
| not complete | | 7,568 | |
| Received second conversion only | | | |
| complete | no | 49 | 6% |
| not complete | no | 841 | |
| complete | yes | 171 | 8% |
| not complete | yes | 1,917 | |
| complete | | 220 | 7% |
| not complete | | 2,758 | |

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Subsampling Second Refusals. In the 2006 survey, up to three conversion attempts were made on refusal. Westat recommended only attempting the first conversion and 60 percent of the second conversions based on a random subsample. Table 2-6 shows that the second conversion cases have significant differences from all refusal conversion attempts for some exchange-level variables from the 2008 NRBA (only those variables with significant results are shown). This implies there is some possibility of bias by not attempting a second conversion. Even though the conversion rate on the second refusals was low, it was an improvement over 2006. This may be due in part to the field staff having fewer refusal conversion cases to work. We still recommend keeping the current strategy with the second refusal conversions. Note there were 37 cases that had a second conversion attempt that were pre-assigned not to receive one (REFUS = 2). We recommend better control on releasing the second attempts.

Table 2-6. Comparison of the all refusal conversion attempts to second refusal conversion attempts: 2008

| Characteristic | All refusal conversion attempts | 2nd refusal conversion attempts | Chi-square | |
|-----------------------------------------------------------------------|---------------------------------|---------------------------------|--------------|---------------|
| | | | Statistic | p-value |
| Percent of population between 18- and 24-years-old (inclusive) | | | 8.75 | 0.0119 |
| Low: < 9.0 | 34.5 | 37.3 | | |
| Medium: 9.0 to 9.8 | 37.7 | 38.4 | | |
| High: > 9.8 | 27.7 | 24.3 | | |
| Percentage renters | | | 14.19 | 0.0008 |
| Low: < 26.9 | 32.6 | 37.7 | | |
| Medium: 26.9 to 36.2 | 30.8 | 28.6 | | |
| High: ≥ 36.2 | 36.6 | 33.7 | | |
| Percent White | | | 16.03 | 0.0003 |
| Low: < 79.4 | 41.4 | 35.9 | | |
| Medium: 79.4 to 87.5 | 31.1 | 34.9 | | |
| High: > 87.5 | 27.5 | 29.1 | | |
| Percent Hispanic | | | 31.91 | 0.0000 |
| Low: < 4 | 27.4 | 29.6 | | |
| Medium: 4 to 6.6 | 40.9 | 45.4 | | |
| High: > 6.6 | 31.7 | 25.0 | | |
| Percent Asian | | | 12.54 | 0.0012 |
| Low: < 1.6 | 23.3 | 19.4 | | |
| Medium: 1.6 to 4.8 | 32.8 | 37.2 | | |
| High: > 4.8 | 43.9 | 43.4 | | |

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Eligibility Questions. In the 2006 survey, the introduction asked to speak to a person *currently living at this residence*, then asked if they own more than one home; if the response was a single home, the state residence questions were skipped. We were concerned that in these cases, there was no confirmation as to whether the person was a current resident of the *state*, and therefore recommended asking county of residence for all households, to ensure accurate coverage of the target population.

Our recommendation was implemented for the 2008 survey, and a total of 69 households were classified as ineligible because they were determined to be ineligible based on the county of residence question. We are unable to ascertain how many of these 69 households were single-home households that, without the county of residence question, might not otherwise have been determined to be ineligible. However, we continue to feel it is worthwhile to ask this question of all households.

Tabulations for Household Statistics. The 2006 survey used person weights as the basis for the household-level estimates. Westat recommended using household-level weights for this purpose. An extensive weighting process was recommended, as given in Appendix A, to yield appropriate weights for the household statistics and to lead toward the person weighting process. Westat recommends continuing to use the resulting household-level weights as the basis for the household-level statistics.

Weighting and Variance Estimation. In the 2006 survey, two sets of weights were created for medical and general population statistics. In addition, the general weighting process was to assign weights of 1 to each case and then do a poststratification step for several sparse cells. To reduce to one set of weights for consistency of reporting, to reduce bias due to nonresponse, and to capture the sampling error due to complexities of the sample design (such as stratification) and to maintain scientific inference, the weighting and variance estimation approach in Appendix A has been recommended and implemented. As shown in Section 3, the household weighting procedure has helped to reduce the potential bias due to nonresponse.

Increased Sample Size in One Region. The design effect due to differential sampling rates can be expressed as adapted from Kish (1965):

$$DEFF_{wgt} = \sum (p_B / k_B) \sum (p_B k_B)$$

where,

$$p_B = N_B / N$$

N = total working banks multiplied by 100

N_B = total working banks multiplied by 100 in Stratum B

k_B = sampling rate for Stratum B

For the 2006 WSPS, the design effect due to differential sampling rates was 1.35, which says that the resulting variances for state-level estimates in 2006 will be 35 percent higher than variances associated with a simple random sample. Westat recommended a fresh look at allocating the sample sizes across regions while trying to meet regional level sample size targets for reporting purposes. OFM created new regions and re-allocated the sample sizes according to Table 2-7. Using the formula above, the design effect due to differential sample rates for 2008 was 1.03, a substantial improvement from 2006.

Table 2-7. Number of working banks and sample sizes by region

| Region | Working banks (multiplied by 100) | Sample size |
|--------|--------------------------------------|---------------|
| 1 | 456,300 | 7,826 |
| 2 | 471,400 | 6,402 |
| 3 | 2,140,600 | 25,423 |
| 4 | 433,200 | 6,281 |
| 5 | 342,200 | 7,275 |
| 6 | 540,900 | 7,918 |
| 7 | 419,700 | 6,567 |
| 8 | 383,800 | 6,810 |
| 9 | 553,100 | 8,402 |
| 10 | 690,300 | 7,933 |
| | 6,431,500 | 90,837 |

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Reserve Sample. In 2006, multiple sample draws occurred. Westat recommended having a reserve sample drawn at the same time as the original sample. The benefits of having a reserve sample in hand are that it could be loaded and readily available if the need arises. There were several changes to the sampling, including a revised purging process. This brought in some uncertainty with the initial sample sizes by region and resulted in multiple pulls (supplemental samples) in 2008.

Disposition Codes. The 2006 survey assigned final disposition codes based solely on the last call attempt. Westat recommended that if human contact is made on any attempt, not to code the household as no answer or answering machine no matter the result of the final attempt. Whether or not human contact was made was recorded for each attempt. Based on the disposition code (S_RES) and whether or not human contact was made (designated by a “C”), Westat recommends using the weighting status codes in Table 2-8 to properly apply the weighting adjustments to the sample. The Status column gives the overall status needed for weighting based on the following categories:

- 1 = Respondent
- 2 = Nonrespondent, known eligible
- 3 = Known ineligible
- 4 = Unknown eligibility status

The *STATUSUN* column is then used in the unknown eligibility weighting adjustment described in Appendix A.3. The *STATUSNR* column is then used in the nonresponse weighting adjustment described in Appendix A.6.

Table 2-8. Dispositions and weighting status codes: 2008

| S_RES | Human contact | Status | STATUSUN | STATUSNR | Frequency |
|-------|---------------|--------|----------|----------|-----------|
| 1 | | 1 | 1 | 1 | 8,162 |
| 2 | | 2 | 1 | 2 | 22 |
| 3 | | 2 | 1 | 2 | 119 |
| 4 | C | 2 | 1 | 2 | 585 |
| 4 | | 4 | 2 | 2 | 3,275 |
| 5 | C | 2 | 1 | 2 | 2,363 |
| 5 | | 4 | 2 | 2 | 1,954 |
| 6 | C | 2 | 1 | 2 | 138 |
| 6 | | 4 | 2 | 2 | 637 |
| 7 | | 2 | 1 | 2 | 3 |
| 10 | | 2 | 1 | 2 | 94 |
| 11 | | 2 | 1 | 2 | 78 |
| 12 | | 2 | 1 | 2 | 850 |
| 13 | | 2 | 1 | 2 | 2,033 |
| 14 | | 2 | 1 | 2 | 3,956 |
| 15 | C | 2 | 1 | 2 | 64 |
| 15 | | 4 | 2 | 2 | 250 |
| 17 | | 3 | 1 | 3 | 14 |
| 20 | C | 3 | 1 | 3 | 553 |
| 20 | | 3 | 1 | 3 | 3,735 |
| 21 | | 3 | 1 | 3 | 2,578 |
| 22 | C | 2 | 1 | 2 | 209 |
| 22 | | 3 | 1 | 3 | 3,824 |
| 24 | | 2 | 1 | 2 | 388 |
| 25 | | 2 | 1 | 2 | 205 |
| 26 | | 2 | 1 | 2 | 844 |
| 28 | | 2 | 1 | 2 | 272 |
| 30 | C | 2 | 1 | 2 | 12 |
| 30 | | 4 | 2 | 2 | 1 |
| 33 | | 2 | 1 | 2 | 38 |
| 34 | C | 2 | 1 | 2 | 159 |
| 34 | | 4 | 2 | 2 | 34 |
| 35 | C | 2 | 1 | 2 | 68 |
| 35 | | 4 | 2 | 2 | 10 |
| 36 | C | 2 | 1 | 2 | 19 |
| 36 | | 4 | 2 | 2 | 4 |
| 38 | | 2 | 1 | 2 | 1 |
| 39 | | 2 | 1 | 2 | 44 |
| 41 | | 3 | 1 | 3 | 95 |
| 42 | | 2 | 1 | 2 | 260 |
| 61 | | 3 | 1 | 3 | 69 |
| 62 | | 2 | 1 | 2 | 481 |
| 63 | | 2 | 1 | 2 | 41 |
| 65 | | 3 | 1 | 3 | 21 |
| 66 | | 3 | 1 | 3 | 11 |

Table 2-8. Dispositions and weighting status codes: 2008 (Continued)

| S_RES | Human contact | Status | STATUSUN | STATUSNR | Frequency |
|--------------|---------------|--------|----------|----------|---------------|
| 70 | | 2 | 1 | 2 | 55 |
| 81 | | 3 | 1 | 3 | 16 |
| 85 | C | 2 | 1 | 2 | 218 |
| 85 | | 3 | 1 | 3 | 280 |
| 97 | | 3 | 1 | 3 | 11 |
| | | 3 | 1 | 3 | 51,684 |
| Total | | | | | 90,837 |

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

A nonresponse bias analysis (NRBA) of the 2008 WSPS was conducted to determine the extent of the potential for nonresponse bias. The analysis uses similar approaches as presented in the 2006 NRBA with two exceptions. First, a comparison of the survey estimates to external estimates from the Current Population Survey (CPS) or the American Community Survey (ACS) could not be conducted due to the timing of the report and weighting process. However, CPS and ACS estimates are provided in the report so that comparisons can be done when WSPS estimates are available. Second, an additional bivariate analysis is provided to compare the nonresponse adjusted household weights to the full sample of eligible households (using base weights). The additional analysis provides a way of evaluating the impact of the weighting adjustments.

3.1 Methodology

Nonresponse bias is measured by two terms: the nonresponse rate, and differences between respondents and nonrespondents. To explain further, we introduce the following expression for nonresponse bias for a sample mean (\bar{y}_R):

$$Bias(\bar{y}_R) = (1 - W_R)(\bar{Y}_R - \bar{Y}_N),$$

where W_R is the weighted unit response rate, \bar{Y}_R is the population mean of the respondent stratum, and \bar{Y}_N is the population mean for the nonrespondent stratum. The formula shows that there are two components of the bias expression. While the response rate (first component) is universally recognized as a measure of survey quality, it is not by itself a good indicator of nonresponse bias. The difference between participants and nonparticipants (second component) is just as important. Theoretically, even if the response rate is low, if there is no difference in the mean of the characteristic y between participants and nonparticipants, then bias does not exist. In practice, the second component is unknown; however, proxies (auxiliary data) are used to estimate the difference. Weighting adjustments are used to reduce nonresponse bias; although, it is widely recognized that some nonresponse bias remains in survey estimates. The household weights used in the analysis were provided by OFM and were produced following the recommendations outlined in Appendix A.

This report provides the results of a systematic analysis of the potential for nonresponse bias. Using the auxiliary information, the analysis is conducted in four parts:

- First, a bivariate analysis (response indicator versus each auxiliary variable) compares the distribution of the participating households to the distribution of the total eligible sample of households for several auxiliary variables. Household-level base weights were used in the analysis. The base weights were computed to account for the unequal probabilities of selection, unknown eligibility status, and second refusal subsampling. Replicate weights were used to adequately reflect the effect of the sample design (stratification of households by regions, clustering of persons within households, and second refusal subsampling) on variance estimates.
- Second, another bivariate analysis was done by comparing participating households using nonresponse adjusted weights to sampled eligible households using base weights to determine the effect that nonresponse weighting adjustments have on reducing the potential bias. This analysis is similar to the first one except using nonresponse adjusted weights instead of base weights for the participating households.
- Third, multivariate analyses were conducted to determine the relationship between response status and the set of auxiliary variables (as a group). A main effects logistic regression model was processed as well as a classification analysis, which was used to detect important interaction effects among the auxiliary variables. The multivariate analyses use the household base weights.
- Lastly, for selected survey items, estimates from other data sources are provided which can be compared to WSPS estimates when available.

The bivariate analysis and the logistic regression were performed using WesVar (<http://www.westat.com/wesvar/>). The classification algorithm uses Search (<http://www.isr.umich.edu/src/smp/search/>). The results of this analysis are the basis for some recommendations for the 2010 survey as noted in Section 4.

3.2 Auxiliary Data

When attempting to measure the potential for bias, it is necessary to have available as much information as possible for survey nonparticipants. The auxiliary data includes sociodemographic characteristics for both participant and nonparticipant households. The data were estimated for each telephone exchange and obtained from a commercial supplier included with the data file from OFM. Variables obtained at the exchange level include the following:

- Age (percent within specified age ranges);
- Race/ethnicity (percent of specified races or ethnicity);
- Income (percent within specified income ranges);
- Housing (percent renting; median home value);
- Education (percent of college graduates); and
- Geography (Metropolitan Statistical Area, County).

The percentages are based on exchange-level estimates updated from Census 2000 data, and data from the American Community Survey. These exchange-level values should be regarded as rough estimates to be used for estimating nonresponse bias, and for nonresponse adjustments in weighting; however, they do not represent reliable figures for estimation purposes. Comparing exchange-level characteristics for participants and the total eligible sample is not an ideal measure of nonresponse bias if the characteristics are unrelated or weakly related to more substantive items in the survey; however, this is often the only approach available. The telephone exchange data, the mailing address availability status, and the resulting disposition codes have practical importance. Since the exchange data variables are available for both participants and nonparticipants, they can be used not only to identify areas with potential for nonresponse bias, but also to potentially reduce nonresponse bias through nonresponse adjustments in the weighting process.

While, for weighting purposes, it would be extremely beneficial to have auxiliary data that have pairwise correlation coefficients with key WSPS variables that are close to 1.0, this situation is very rare. Pairwise correlations between the set of analysis variables and 2006 WSPS survey variables (such as income, medical insurance, education, age, gender, own/rent status) were no higher than 0.2 (absolute value). This is moderate at best; however, such variables are still considered useful for evaluating nonresponse bias and for use in the household-level nonresponse adjustment.

Nonresponse bias is a function of the correlation between response propensity and the variable of

interest; therefore, if response propensities are correlated (or associated) with the auxiliary variables (either single variables or adjustment cells formed using these variables), and these response propensities are correlated with WSPS survey variables, then using auxiliary data in a nonresponse adjustment would be expected to reduce the nonresponse bias. Although the overall unit response rate for the 2008 WSPS was 35 percent, the response rates across cells that are available to be used in a unit nonresponse adjustment range from 26 percent to 41 percent, indicating that the variables used to define the cells effectively discriminate groups of cases with varying response propensities.

3.3 Weighted Response Rates

Weighted response rates estimate the coverage by the set of participants, of the population from which the sample was drawn. The response rates were computed using the accepted Council of American Survey Research Organizations (CASRO) procedure which was established to create a uniform formula for measuring response rates for survey research. The CASRO computation uses standard definitions to classify cases and to estimate the proportion of ineligible households of all contacted and identified households. This rate differs from the adjusted response rates (RR4) described in the 2008 WSPS Data Collection Report and used in the 2006 NRBA. It is the same procedure as shown in the appendix of the WSPS Data Collection Report, although some cases are classified differently based on human contact. The weighted and unweighted response rates, along with the residential rates are shown in Table 3-1.

Table 3-1. Unweighted and weighted response rates and the estimated percentages of ineligibles and non-residential, overall: 2008

| | Unweighted rate | Weighted rate |
|---------------------------------------------------------|-----------------|---------------|
| Estimated percentage of the sample that are residential | 25.8% | 26.9% |
| Response rate | 35.3% | 35.0% |

Note: All rates were adjusted for the second refusal subsampling and unknown eligibility status

Source: 2008 WSPS survey control files.

As shown in Table 3-1, the weighted response rate for the state was 35 percent. As shown in the overview for the state in Table B-1, the Snohomish region has the lowest rate (31%), while the East Balance region has the highest rate (41%). The subgroup with the highest response rate in the state is the set of telephone numbers for which an address was obtained (39%); the lowest rate is when an address is unavailable (26%). Among the telephone exchange data, the categories with the highest response rate (40%) are exchanges outside metropolitan statistical areas. Categories with the

lowest response rate (32%) are exchanges with low concentration of 65-years-old and up or high concentration of Asians. The weighted response rates for each region and for each analysis variable are shown in Tables B-2 through B-11. The response rates are analyzed in the following sections on bivariate and multivariate analysis.

3.4 Bivariate Analysis

The distribution of telephone exchange characteristics and the mailing address availability for participants were compared with those for the eligible sample, overall and by region (see Tables B-1 through B-22). The hypothesis of independence between the characteristic and participation status was tested using a Rao-Scott modified Chi-square statistic (Rao and Thomas 2003). The bias and relative bias are also given in each table. The bias is the difference between the respective estimates for the participants and the eligible sample. The relative bias is calculated as the bias divided by the estimated percent from the eligible sample. The relative bias is a measure of the size of the bias compared to the eligible sample estimate.

As mentioned in Section 3.1, two bivariate analyses were conducted. The first one used base weights for both eligibles and participants. There were several statistically significant results in this analysis. As shown in Table B-1, for Washington as a whole, all characteristics except the percentage in exchange that are college graduates are statistically significant, meaning that we reject the hypothesis that response status is independent from the levels of the analysis variable. In practical terms, the distribution across analysis variable levels for the participants is different from the distribution for the set of eligible cases, and therefore, this indicates the potential for bias, especially if the weighting process did not address the bias, and to the extent that the auxiliary variables are correlated with key WSPS variables. Tables B-2 through B-11 provide results by region. For each region, at least one of the characteristics is statistically significant. Many of these differences do not appear substantially large, especially given the large sample size which makes the tests very sensitive.

A second bivariate analysis was conducted using base weights for eligibles, but non-response adjusted weights for participants. The nonresponse adjustment is designed to adjust the distribution of the respondents to have a similar distribution as the sample of eligible households. Though there were still statistically significant results in this analysis, the number of significant characteristics decreased. As shown in Table B-12, for Washington as a whole, there were only two statistically significant characteristics compared to 14 in the previous analysis. Tables B-13 through B-22 provide

the results by region. Eight of the ten regions do not have statistically significant characteristics. West Balance region has only one statistically significant characteristic; while the Clark region still has several significant characteristics. With the exception of the Clark region, the distribution across most analysis variable levels for the participants is not different from the distribution for eligible cases, which indicates little potential for bias. Therefore, the non-response adjustment to weights has reduced the potential non-response bias dramatically.

To help summarize, Table 3-2 highlights the large indications of potential nonresponse bias for the overall state and each region. For the purpose of summarizing the results given in Appendix B, the large indications are defined by being statistically significant and having an absolute bias > 2 and an absolute relative bias > 10 percent. Without considerations to the weight adjustments, the overall state with base weights results show large indications of bias (denoted by “X”) relating to regions and mailing address availability. The availability of a mailing address is a key indicator of bias for all regions (lower participation when mailing address was not available) and the median home value in the exchange is a key indicator of bias for 3 of the 10 regions. The last two rows of the table also provide a count of the number of significant results for both analysis. This also shows the effectiveness of the nonresponse adjustment in reducing the potential for bias. The non-response adjustment dramatically reduced the potential bias from mailing address availability and median home value. However, the Clark region has three variables (income related and White population) with large indications of potential bias remaining (denoted by “Y”) in household-level statistics. In the nonresponse adjustment for the Clark region, cells were collapsed within the grouping of numbers where an address is unavailable, under a guideline to collapse cells with small number of cases in order to reduce the amount of variation added to the weights. For person-level statistics, it is possible to reduce the potential for bias further for these variables through the raking process.

Table 3-2. Characteristics with large¹ bias potential, by region

| Variable | North | | West | | Other | | East | | Spokane | Yakima | Snohomish | Pierce |
|-----------------------------------------------------------------|----------------|-------|---------|------|-------|-------|---------|----|---------|--------|-----------|--------|
| | State | Puget | Balance | King | Puget | Clark | Balance | | | | | |
| Region | X ² | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Mailing address available | X | X | X | X | X | X | X | X | X | X | X | X |
| Median home value | | | | | | | X | X | X | | | |
| Metro status flag | | | | | | | | | | | | |
| Percent of population between 0- & 17-years-old (inclusive) | | | | | | | | | | | | |
| Percent of population between 18- & 24-years-old (inclusive) | | | | | | | | | | | | |
| Percent of population 65-years-old & up | | | | | | | | | | | | |
| Percent are college graduates | | | | X | | | | | | | | X |
| Percent renters | | | | | | | X | | X | | | |
| Percent with income \$100K and up | | | | | | | X | Y | | | | |
| Percent with income between \$1K-10K (inclusive) | | | | | | | Y | | | | | |
| Percent White | | | | | | | Y | | | | | |
| Percent Black | | | | | | | X | | | | | |
| Percent Hispanic | | | X | | | | | | | | | |
| Percent Asian | | | | | | | | | | | | |
| Number of significant result with base weights | 14 | 1 | 2 | 6 | 1 | 6 | 2 | 3 | 3 | 1 | 2 | |
| Number of significant result with non-response adjusted weights | 2 | 0 | 1 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |

¹ Large bias is defined by being statistically significant and having an absolute bias > two and an absolute relative bias > 10 percent.

² X is for the first analysis (with base weights only), and Y is for the second analysis (with non-response adjusted weights for participants).

3.5 Multivariate Analysis

The bivariate analysis in the prior section addresses each auxiliary variable independently. In addition to these tests, logistic regression models were used to provide a multivariate analysis in which the conditional independence of these characteristics as main effect predictors of participation was

examined as a group. All the characteristics except region were treated as continuous variables. Dummy variables were created for each level of region, so that each level was included in the model separately. The last region is the reference category, and is not included in the model explicitly. The p -value of a region indicates whether there is a significant difference at the 5 percent level from the effect of the (omitted) region.

The results of the logistic regression are provided in Table C-1. The approach captured the key features of the sample design and used the household base weights. Using the size of the parameter estimate, the results show that regression coefficients for some variables are statistically significant at the 0.05 level. The largest impact is due to the mailing address availability status, as the chance of participation (as derived from the parameter estimate of 0.59) for no mailing address is 0.55 times the chance of participation if a mailing address was available, given all other variables accounted for in the model. The other variables at the exchange level that are statistically significant (*i.e.*, appear to correlate with response propensity) are the percent of population between 0- & 17-years-old, percent White, and various regions. Since the weighting process used these variables and was conducted within region, and since the bivariate analysis shows a reduction in the potential bias, then the conclusion is that the logistic regression results support the actions taken during the weighting process.

A classification algorithm, called Search, was used to identify pockets in the population with the lowest response rates. The Search algorithm (Sonquist, Baker, and Morgan 1974) uses the likelihood ratio chi-square to divide a population into homogeneous subgroups with respect to a target characteristic (the dependent variable). When response indicator is used as the dependent variable, the resulting classification categories best explain differential response rates. The analysis in Search begins by dividing the sample into two groups based on categories of the best predictor. Each of these groups is divided into smaller subgroups based on the best available predictor at each level. The splitting process continues until the specified stopping rules are met.

As shown in the chart in Figure C-1 that summarizes the Search results, the subgroup with the highest response rate (53%) has mailing addresses in East Balance or West Balance region, a low to medium concentration of college graduates, a medium to high concentration of 65-years-old and up, and a high concentration of renters. The four lowest response rates are for groups with no mailing address obtained in North Puget, King, other Puget, Clark, Snohomish, and Pierce region. Within these six regions, the subgroup with lowest response rate (10%) has no mailing address, medium to high concentration of White population, low to medium concentration of 18-24-years-olds, and high concentration of low incomes. The subgroup with the second lowest response rate (21%) represents

those in the six aforementioned regions without a mailing address in areas with a low percentage of White population and low percentage of 18-24-years-olds. Data users should use more caution when reporting for these subgroups for the household-level statistics. The person raking process could reduce the potential for bias for person-level statistics.

3.6 Population Estimates from Other Data Sources

Estimates produced from the 2006 American Community Survey (ACS) and the 2008 Current Population Survey (CPS) April Supplement are provided in Table D-1. Estimates from the 2007 ACS are soon to be available. Comparisons can be made between these estimates and those from WSPS when the final weighted estimates are available. Large differences between the WSPS estimates (using the final WSPS population) and the ACS/CPS would indicate a potential for nonresponse bias¹.

The characteristics included in Table D-1 are metro status, age, gender, education, race/ethnicity, marital status, household income and home ownership. The table also shows confidence intervals of the ACS and CPS estimates, which were derived from generalized variance functions provided in their respective technical documentation. The ACS response rate is 97 percent with over 41,301 completed household interviews in Washington. Although the size of the CPS sample in Washington State is smaller than the sample size of the WSPS, the unweighted response rate in Washington is on the order of 90 percent and therefore also provides a useful comparison.

It is also important to note the differences in the target populations between the three surveys when making comparisons. The 2006 ACS includes the total U.S. population. For the CPS, it is the civilian noninstitutional population living in housing units or group quarters and members of the Armed Forces living in civilian housing units on a military base or in a household not on a military base. The WSPS covers civilian and armed forces household members. In addition, since WSPS is a telephone survey, and the ACS/CPS are in-person interviews, there may be some differences between the estimates from WSPS and those from ACS/CPS. One possible source of differences may come from undercoverage issues as noted in Section 4.

¹ Such differences could also be attributable to other such biases (e.g., coverage bias) or to differences in the target population or survey administrations (timing, response categories, context, mode, etc.)

3.7 Summary

In a traditional nonresponse bias analysis, the potential for bias is evaluated using auxiliary data available for all eligible records, and results are evaluated to see if the weighting procedures reduce the impact of nonresponse on the survey estimates. The bivariate analysis and logistic regression, both using base weights (prior to weight adjustments), show some indications of potential bias due to nonresponse. When compared to the same analysis in the 2006 NRBA, the number of characteristics with large potential bias has been reduced, likely due to the increase in response rate. The second bivariate analysis compares the estimates using base weights with the estimates using non-response adjusted weights. It shows for the nonresponse adjustment was very effective in reducing the potential for bias in most of the characteristics. As mentioned earlier, the one exception to this is in the Clark region, where the potential for bias remains for household-level statistics. The estimates from external sources are also provided which can be compared with the final weighted WSPS survey estimates when available. This comparison can shed more light on potential response and coverage bias on person-level statistics.

Through the use of a classification approach, certain areas of the population are found to be seriously under-represented. These subgroups are:

- No address available in North Puget, King, other Puget, Clark, Snohomish, and Pierce regions in exchanges with medium to high concentration of White population, low to medium concentration of 18-24-years-olds, and high concentration of low incomes.
- No address available in North Puget, King, other Puget, Clark, Snohomish, and Pierce regions in exchanges with low percentage of White population and low percentage of 18-24-years-olds.

The key variable in the above subgroups is whether or not an address exists, which was found to be the variable with the most potential for bias in all 10 geographic regions. The percentage of eligible households with a mailing address is 63 percent, and the percentage of participating households with a mailing address is 76 percent. This reinforces the use of this variable during sampling and weighting activities which will result in a more efficient sample design and a more effective weighting process.

Recommendations for the 2010 WSPS

4

Through the evaluation of past recommendations (Section 2), the evaluation of the potential for nonresponse bias in the 2008 WSPS (Section 3), and new research results for Random Digit-Dialing frames, a list of recommendations has been accumulated for consideration for the 2010 WSPS. Section 4.1 provides a list of past recommendations with further guidance after evaluating their impact. Section 4.2 provides recommendations as a result of the 2008 nonresponse bias analysis. Perhaps the most notable set of recommendations is related to reducing the coverage bias in the WSPS and is given in Section 4.3. Lastly, after further review of the WSPS, other recommendations are provided to consider in Section 4.4.

4.1 Recommendations for the 2008 WSPS Revisited

In this section, we revisit the recommendations that were made for the 2008 WSPS, including both those that were incorporated for the 2008 WSPS and those that were not incorporated. First, we examine the recommendations that were incorporated for the 2008 WSPS. Drawing on the results presented in Section 2, we address whether the process/change was beneficial to the WSPS and whether we recommend continued incorporation of the recommendation for the 2010 WSPS. Please refer to Section 2 for more information and further discussion.

Pre-screening Process. It is recommended to continue with the pre-screening process as suggested and incorporated for the 2008 survey. The higher purge rate was beneficial in reducing efforts on non-working and nonresidential numbers. A viable alternative to consider is predictive dialing, which reduces cost and time during an initial phase of determining the eligibility status associated with the selected telephone number.

Mailing Address. It is recommended to continue with the merging process as suggested and incorporated for the 2008 survey. The higher match rate helped increase response rates through advanced letters prior to first contact and refusal conversion.

Survey Introduction. It is recommended to continue with the wording of the introduction as suggested and incorporated unless OFM sees a need to change based on feedback from interviewers.

Number of Attempts. It is recommended to continue to call up to 21 times as suggested and incorporated in 2008. The reduction from previous years was beneficial to reduce work on little return. We are hesitant to recommend limiting the number of attempts to 15 or less given the importance of the Medicare statistic and the potential bias detected.

Call Scheduling. It is recommended, as for the 2008 survey, to continue to call all no answers, answering machines, busy signals, etc. thoroughly until the minimum number of attempts is reached as suggested and incorporated. The call scheduling, periods of the day, was reviewed and looks good; however, you may consider making more attempts during weekday evenings and review the call pattern strategy and its success in future surveys as shown in Section 2, and adjust as necessary.

Human Contact. The residential status is unknown for cases where all attempts resulted in no answer and answering machines. When human contact occurred in at least one attempt and the respondent did not indicate that it was solely a business number, then it is widely considered a residential phone number. We recommend continuing to code cases where human contact occurs as residential for cases as specified in Section 2.

Refusal Conversion Letter. It is recommended to continue to use advanced letters prior to refusal conversion as suggested and incorporated.

Limit of Two Conversion Attempts. It is recommended to continue to do no more than two refusal conversion attempts as suggested and incorporated. More than two shows very little return.

Second Refusal Subsampling. It is recommended to continue to conduct the second refusal subsampling design as suggested and incorporated for the 2008 survey. There is some limited improvement to gaining cooperation among those eligible for the second refusal.

Eligibility Questions. We continue to feel it is worthwhile to ask this question of all households as suggested and incorporated for the 2008 survey.

Household Weights. Westat recommends continuing to use household-level weights as the basis for the household-level tabulations as suggested and incorporated for the 2008 WSPS. Westat provides an additional recommendation as to the household-raking process as given in Appendix A.

Multiple Phone Number Adjustment. It is recommended to continue to ask the phone line item and adjust the weights accordingly in order to approximate the chance of selection for the respondent with multiple phone lines.

General Weighting Process. See Appendix A.

Sample Size Allocation. Westat recommended a fresh look at the allocation of sample across regions in order to reduce the design effect on state-level statistics due to differential sampling rates and agrees with the current allocation of sample sizes across regions.

Reserve Sample. Due to the recommendations for 2010 and the uncertainty as to their effects on sample size requirements, we recommend a sizable reserve sample. We also recognize the cost of sampling and loading reserve sample that goes unused, and due to cost considerations and the uncertainty as to the impact of recommendations and the underlying changes to the survey industry, we are not in a position to determine an exact magnitude of reserve sample. Recently, Westat has drawn a reserve sample around 50 percent of the original sample, sometimes higher, and sometimes lower.

Variance Estimation. It is recommended to continue to capture the sort order used in sample selection and create replicate weights to facilitate variance estimates. We also recommend continuing to offer these to data file users and incorporating them into the process for computing the official standard errors. See Appendix A for more details.

Here, we revisit the recommendations for the 2008 WSPS that were not incorporated in 2008. For each of these unincorporated recommendations, we provide input on whether we recommend implementing the process/change for the 2010 WSPS.

Mailing address – second vendor. It may be considered, for marginal gain, to use a second vendor to achieve a slightly higher match rate. We would expect a one to four percentage point increase.

Incentives. Although past discussions with OFM have been beneficial toward understanding the difficulties of incorporating incentives in the WSPS beyond the control of OFM, and therefore have led toward not incorporating incentives for sampled cases, we continue to mention it only since incentives have been shown in the literature to be one of the largest factors for increasing response rates. Incentives can be monetary or non-monetary (*e.g.*, pen, notepad, candy, voucher, gift certificate, etc.).

Subsampling Nonmailables. The benefit to subsampling nonmailables is purely operational and can be considered to reduce costs and allocate resources to other aspects of the survey.

Toll-free Number. The toll-free number was suggested to help with respondent's questions. And there is limited benefit.

“Never Call” List. There were over 1,000 cases in both 2006 and 2008 that were coded as “Never Call”. Westat provided text for interviewers to follow when faced with a “Never Call” case. Past discussions with OFM have led to the understanding that OFM's position is that re-calling “Never Call” cases would be considered as putting forth a ‘mandatory’ impression on the citizens of Washington State. In contrast, Westat classifies cases by the intensity of the refusal, and that determines whether or not they are called back. Westat does not determine strategy based on the reason for refusal. We recommend monitoring and looking at the procedures for the “Never Call” coding in the WSPS. It may be that you are getting as much as possible, or it may be that interviewers are just using the “Never Call” code without effectively challenging the objections. WSPS seems to be using “Never Call” with “Do Not Call” interchangeably, but it is not clear. Surveys are exempt from that list and Westat does not reference that list when calling. Westat trains interviewers on the law and how to respond to households that are on the list and raise the issue when called. With over 1,000 cases, it is worth the effort to evaluate this process further, and perhaps code cases on the intensity of the refusal (mild, firm, hostile) rather than the reason for the refusal.

Quotas. Westat recommended from the 2006 survey to work all released cases thoroughly and completely and interviewing should not be stopped when the quotas were reached. However, as seen through data sent to us, there were 16 cases coded as Over Quota and were attempted which is a significant reduction from the 261 cases coded as Over Quota in 2006. It is still our recommendation to work all released cases completely, per the full data collection protocol. Though 16 cases do not represent much of a potential bias, it is also not costly to work the cases completely.

In addition, a total of 429 records were not released during the field period because they were not needed to reach the regional goals. It has been our understanding that the sample was released in “parts” by Gilmore. We recommend forming random release groups of say 200 cases and release the sample by these groups. In that case, then all cases in each release group, once attempted, should be dialed to completion.

A quota sampling approach deviates from a probability sample. The impact of quota sampling is that the cases that were released, but not worked (or treated as ineligible as in WSPS), were not given a chance of selection, thus creating a sampling bias. Adherence to probability based sampling reduces or eliminates sample bias, undercoverage or other nonsampling error. It also increases credibility with regards to statistical inferences concluded from the WSPS data. It is still our recommendation to work all numbers completely.

Interviewer Awards. For the 2008 survey, interviewers were given awards/incentives for completed cases. This was also the case for the 2006 survey, and our recommendations in Task 2 included a caution against this practice. In lieu of awards/incentives for completed cases, we suggested rewarding interviewers based on other measures of productivity and quality, such as working harder-to-fill shifts.

In telephone surveys, unlike many personal interview field studies, interviewers typically do not “own” cases. That is, call schedulers typically serve up cases to interviewers based on calling priorities, without regard to whether the particular interviewer has previously worked the case. Therefore, an interviewer’s ability to complete an interview may depend, at least in part, on prior contacts that other interviewers have had with the household. (See Lipps 2008 for further discussion of this issue.) Furthermore, noncontact cases can be quite frustrating to interviewers, and that frustration may increase if the interviewer perceives these as a barrier to his ability to earn an award or incentive. Thus, the important job of attempting noncontact cases may be minimized through the use of awards/incentives for completes.

Similarly, refusal converters have a very important, challenging task and are expected to get relatively fewer completes due to the nature of their cases. Additionally, if there is an award/incentive for completed cases, an interviewer may push too hard on initial contact making refusal conversion on that case more difficult.

For all of these reasons, we suggest that the use of interviewer awards/incentives for completed cases (both individual and phone center-wide) be revisited for the 2010 survey.

Cell-only Households. Refer to Section 4.3.

Imputation. Westat recommended a more exhaustive approach to the imputation process. Besides the completion of data vectors, the preservation of covariance structure is a goal of an imputation process. There is some impact of conducting a more sophisticated approach by considering a large pool of variables (frame variables, survey items with both imputed and observed values) and using a variable selection process to determine predictors. Bringing in more covariates into the imputation process and using them to form hot deck imputation cells will help preserve the covariance structure. See Krenzke and Judkins (2008) for an illustration of the benefits.

Item Response Rates. Weighting reduces the potential for bias due to unit nonresponse and unit response rates give the data user a measure of the quality of the data. Imputation addresses item nonresponse, and item response rates would give the data user an analogous measure of data quality, and would alert the user to any item that had a low response rate and thus lower quality. Westat recommends providing data users with a list of the items with item response rates less than 70 percent. WSPS estimates could be compared with estimates from other surveys that offer the same item to determine the extent of the potential for bias.

Pretest Survey Instrument. An independent pretest would only apply if there are enough changes to the survey instrument or process to deem it necessary.

Quality Control Procedures. It is recommended that the list provided in Section 5.7 in Montaquila, Ferraro, and Krenzke (2007) be reviewed and any QC procedures not already incorporated be considered for implementation. More weighting checks are provided in Appendix A.

Confidentiality. Recognizing more and more the benefits of applying statistical disclosure control (SDC) methods prior to releasing microdata for public use, survey sponsors have become more demanding for a safe and secure approach to data dissemination. As a result, Westat has much experience in SDC approaches, disclosure risk analysis, and conforming to agency standards. As an illustration, the National Center for Education Statistics developed statistical standards for maintaining confidentiality (http://nces.ed.gov/StatProg/2002/std4_2.asp). As another example, the U.S. Census Bureau goes to great lengths to protect individual identities prior to releasing data (Zayatz 2008). Westat continues to recommend considering current standard practices for releasing public use microdata.

4.2 Impact from the 2008 Nonresponse Bias Analysis

In this section, we will draw on the results given in Chapter 3 to develop a set of recommendations for the 2010 WSPS. As with the 2006 NRBA report and in Montaquila, Ferraro, and Krenzke (2007), wherever possible, we will provide results from other surveys conducted by Westat and/or findings reported in the literature to substantiate our recommendations.

Mailable Address Status. Mailable address status continues to have the most differential response rates, therefore we continue to emphasize the need for mailable addresses in order to send advanced notification and to reduce nonresponse bias. The classification approach used in the NRBA pinpointed certain areas of the population that are found to be seriously under-represented due to nonresponse. The noted subgroups exclusively involved cases without a mailable address.

Nonresponse Adjustment. The NRBA in Section 3 shows that the nonresponse adjustment was very effective in reducing the potential for bias in most of the characteristics. Therefore we recommend continuing to conduct nonresponse adjustment at the household level.

Evaluate the Nonresponse Adjustment. As noted in Section 3, the cell collapsing was extensive for the Clark region and it may have been possible to improve the cell collapsing with either relaxing the constraints of maximum adjustment factors or minimum cell size in order to ‘save’ a few more cells. We suggest to produce a table such as B-17 after nonresponse adjustment to determine if there is any bias indications remaining and revise the cell collapsing approach as deemed necessary. This would be an additional quality control check on the weights. Westat routinely checks the distribution of weights across subgroups before and after each weighting step.

Minority Groups. Areas with a high concentration of minorities (Asians, Blacks, Hispanics) have lower response rates than other areas. Incentives have been shown to increase response rates among minority groups and therefore aligning the respondent population with the survey population distribution.

4.3 Reducing Coverage Bias

The undercoverage of landline RDD samples is a growing concern to survey methodologists and practitioners. Recent estimates (Blumberg and Luke 2008) are that nationally, about 16 percent of U.S. households have only cellular service. Traditional landline RDD surveys, that exclude telephone exchanges designated for cell usage, do not cover this portion of the population. Additionally, recent research (Fahimi, Kulp, and Brick 2008) has shown that the inclusion of only “1+” 100-banks (*i.e.*, the inclusion of 100-banks, or sets of telephone numbers having a given first eight digits, that have at least one white pages-listed telephone number; and the exclusion of 100-banks having no white pages-listed telephone numbers) results in undercoverage of an additional 20 percent of households. While characteristics of cell-only households have been studied, the characteristics of households in zero-listed banks are unknown. Table 4-1 gives estimated household coverage rates for the 2008 WSPS, by region. These estimates are in line with expectations (based on, nationally, the 16% noncoverage of cell-only households and 20% noncoverage of landline households with telephone numbers in zero-listed banks).

Table 4-1 Estimated coverage rates by region, 2008 WSPS

| Region | Estimated household coverage rate* (%) |
|--------|----------------------------------------|
| 1 | 68.1 |
| 2 | 68.1 |
| 3 | 59.9 |
| 4 | 66.2 |
| 5 | 60.6 |
| 6 | 68.1 |
| 7 | 60.4 |
| 8 | 65.6 |
| 9 | 56.4 |
| 10 | 64.9 |
| All | 62.7 |

* Coverage rates are estimated as the ratio of the weighted total of the nonresponse adjusted household weights to the weighted total of the raked household weights.

The best approach to limiting undercoverage bias is to minimize the amount of undercoverage in the sample. While not a substitute for a sampling frame with high coverage, carefully designed weighting adjustments may be used to reduce noncoverage bias. These weighting adjustments include calibration adjustments such as poststratification and raking. In the 2006 WSPS, age and sex were used in the poststratification adjustment. However, research has shown that many other characteristics are associated with cell-only households. As a result, Westat worked with OFM to

develop the list of raking dimensions to be used for the 2008 WSPS, including variables associated with undercoverage such as age, sex, household size, and home tenure.

With landline telephone coverage at unprecedented lows and expectations of continuing declines, we believe it is worth considering alternatives to a strictly landline RDD sample of telephone numbers in 1+ 100-banks. Issues with undercoverage of the 1+ 100-banks might be remedied by broadening the criteria for inclusion in the RDD frame (*e.g.*, including all 1+ 1,000-banks). Under such a scheme, a larger proportion of telephone numbers will be nonresidential. However, with effective means (*e.g.*, purging) of screening out many nonresidential telephone numbers that do not require interviewer labor, the lower hit rate of this approach would probably not be prohibitive. However, research remains to be done on the coverage of alternative schemes (such as using 1+ 1,000-banks).

Issues with noncoverage of the cell-only population could be addressed through inclusion of a sample of cell phone numbers. There are many statistical and operational considerations involved in selecting and fielding a cell phone sample, and Westat has experience with the design, selection, and fielding of cell phone samples. For example, promised repayment is needed to cover any costs involved for the respondent's cell usage. The length of the instrument does not seem to be an issue for up to 30 minutes, and is unknown for longer questionnaires. There are weighting complexities, and it depends on how the cell phone and landline samples are designed.

Because of concerns about declining coverage and response rates in RDD surveys, concurrent with the availability of alternative sampling frames, some studies that have historically used RDD sampling frames are moving to or evaluating alternative sampling frames. One approach that is receiving considerable attention as a possible alternative to RDD is the use of address frames based on U.S. Postal Service (USPS) residential delivery files. It is generally believed that these USPS-based address frames now have coverage superior to landline RDD samples. Furthermore, their usage facilitates consideration of mixed-mode approaches. Possible mixed mode approaches are to conduct the survey through the mail and conduct phone follow-ups. Another approach is to allow both mail and web-based responses.

Recommendation. At this point, we believe that it is worth considering alternatives to traditional landline RDD. One such alternative is the use of USPS-based address frames. However, such an approach would require consideration of alternative modes of collection (mail and/or in-person) since telephone number matches would not be available for a sizable portion of such a sample.

A second such alternative is supplementing the sample with a sample of cell phone numbers. Westat has been engaged in research on this topic (see, for example, Brick et al. 2007 and the CHIS methods report found in http://www.oxfordjournals.org/our_journals/poq/special.html) and has followed the research conducted by other organizations on this topic (see for example the AAPOR task force report

http://www.aapor.org/uploads/Final_AAPOR_Cell_Phone_TF_report_041208.pdf. In the 2006 WSPS Data Collection Report, it was noted that “Gilmore Research is working with the Washington State DOH and the Centers for Disease Control in an experiment to understand the benefits and drawbacks to conducting random surveys among cell phone only households.”

Although we have not seen the results of this Gilmore Research study, we recommend that OFM consider these results, as well as those of other studies on the topic, in order to determine whether to include cell phone numbers in the WSPS sample.

We also believe that it is worth considering broadening the inclusion criterion to include in the landline RDD sample telephone numbers in 1,000-banks with at least one listed number. The Fahimi, Kulp, and Brick (2008) result cited above is a new finding and it is not yet known what effects a move to 1+ 1,000-banks will have on efficiency and coverage of the sample. At this early stage of research, it is believed that the coverage rate could increase by 10 percentage points, however the residential rate could decrease from say an estimate of 30 percent to an estimate of 20 percent. This requires about 50 percent more in the initial sample; however, the resulting number of non-purged cases would be at about the same level as in a 1+100-bank frame.

We realize that expanding the RDD telephone number inclusion criteria to 1+ 1,000-banks, including a sample of cell phone numbers, or using an address-based sample would have substantial operational and budgetary implications. Another recommendation aimed at reducing noncoverage bias is to continue to give careful consideration to the poststratification adjustment used in WSPS. For such an adjustment to be most effective in reducing noncoverage bias, the variables used in the adjustment should include, to the extent possible, those variables most associated with noncoverage. We recommend continuing to follow research into coverage of alternative designs, and to choose variables most appropriate for reducing noncoverage bias for the particular design.

Finally, if any of the aforementioned design changes are considered for the 2010 WSPS, we recommend conducting a pretest, scheduled to allow sufficient time for evaluation and changes in procedures before the main study is to be fielded.

4.4 Additional Recommendations

This section contains additional recommendations that we are able to offer as a result of reviewing aspects of the WSPS survey structure that were not previously examined/evaluated and due to emerging services.

Predictor Sample. Because of the uncertain impact that the recommendations for 2010 may have on response rates and residential rates, it is recommended that a predictor sample be selected. The predictor sample should be a random subset of the initial original sample. The objective is to give highest priority to the predictor sample and work it thoroughly on an expedited basis so that good initial return rates can be realized and acted upon. For example, suppose a 10 percent predictor sample is selected from the initial original sample. If early returns in the first two weeks are lower than expected, it is an early indication that shortfalls may occur. This analysis would trigger the release of a subset of, or the entire reserve sample.

Identify the Potential for Nonresponse Bias During Data Collection. As weekly monitoring reports are generated and reviewed to determine if shortfalls are projected for key subgroups, toward the end of data collection, after the standard data collection protocol has been exhausted for all cases, a more extensive sample monitoring report can be generated to identify subgroups with low response rates. The subgroups can be formed using Search according to demographic or area-level characteristics believed to be related to WSPS items. To the extent that WSPS key items differ among the subgroups, the differential response rates could be an indicator of potential nonresponse bias. The subgroups with low response rates, or areas containing these subgroups, can then be targeted for follow-up efforts to address the potential for nonresponse bias. See, for example, Krenzke, Van de Kerckhove, and Mohadjer (2005), where it is suggested to assign the best interviewers to hard-to-reach areas identified by the classification analysis toward the end of the field period.

American Community Survey. In 2010, the American Community Survey will offer direct survey estimates for all counties via 5-years of rolling samples. For the WSPS, this offers an opportunity to obtain county-level control totals on key survey items that match in wording to WSPS items. The goal is to supplement existing external population totals (control totals) to be used in weighting adjustments, with the primary goal of reducing undercoverage bias. Raking dimensions can be set up to target variables susceptible to undercoverage of the population.

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Appendix A

Recommended Weighting Procedures

The recommended weighting steps for the 2008 WSPS were as follows.

- Conduct a ‘data reconciliation’ step that compares reported data with final disposition codes at the end of data collection.
- Create household base weights to account for differential sampling rates.
- Create replicate weights to measure the sampling variance attributable to the sample design and weighting adjustments.
- Create disposition codes for the following broad categories: respondents, eligible nonrespondents, ineligible, and unknown eligibility status.
- Downweight base weights (both full sample and replicate weights) for cases with unknown eligibility status to estimate the number eligible among those that are unknown.
- Adjust full sample weights and replicate weights for second refusal subsampling.
- Run Search to determine nonresponse adjustment cells.
- Conduct the nonresponse adjustment in WesVar to adjust full sample and replicate weights for nonresponse.
- Conduct the multiple phone line adjustment on the full sample and replicates.
- Conduct a raking adjustment for households to create the final household weights and replicate weights.
- Conduct a raking adjustment for persons to create the final person weights and replicate weights.
- Trim extreme weights and re-rake to external control totals.

The following sections describe the weighting steps in more detail.

A.1 Household Base Weights

In general, the base weight of a telephone number is the ratio of the total number of telephone numbers in the eligible 100-banks in the region to the number of telephone numbers sampled by region. Each 100-bank contains the 100 telephone numbers with the same first eight digits (*i.e.*, the identical area code, telephone exchange, and first two of the last four digits of the telephone number). With three pulls of data, assuming all pulls are done independently from the same Quarter

data from MSG, the overall probability of selection for each telephone number can be calculated for each region h as:

$$\begin{aligned} p(\text{telephone number}) &= 1 - p(\text{not selected for either main sample or supplements}) \\ &= 1 - (1 - p(\text{selected for main}))^* \\ &\quad (1 - p(\text{selected for first supplement}))^* \\ &\quad (1 - p(\text{selected for second supplement})) \end{aligned}$$

where,

$$p(\text{selected for main}) = \frac{m_b}{M_b};$$

$$p(\text{selected for first supplement}) = \frac{m'_b}{M_b};$$

and

$$p(\text{selected for second supplement}) = \frac{m''_b}{M_b};$$

where,

m_b = number of telephone numbers selected in Region b for the main sample;

m'_b = number of telephone numbers selected in Region b for the first supplemental sample;

m''_b = number of telephone numbers selected in Region b for the second supplemental sample; and

M_b = total number of telephone numbers in exchange frame (number of working banks multiplied by 100) in Region b .

The household base weight (BASEWGT) is calculated as $1 / p(\text{telephone number})$.

Any duplicates are dropped from the file; however, they need to be counted in the numerator of the probability of selection formula. This formula can be extended to more or less pulls for a particular region.

A.2 Create Replicate Weights

The precision of the survey estimates derived from a survey can be evaluated by estimating the variances of these estimates. The design of WSPS deviates from the assumption of simple random sampling, since households, via telephone numbers, were sampled in a stratified design, and a subsampling of second refusals occurred. In addition, the weighting adjustments (the multiple phone number adjustment, nonresponse adjustment, and raking adjustments) also make the simple random sampling formula assumptions inappropriate and generally need to be accounted for in the variance estimation. Weighting adjustments generally add to the variance. We recommend the replication method for estimating variances, as it is better able than Taylor series linearization to capture the effects of all of the weighting adjustments, in addition to the complex sample design.

The idea underlying replication is to create subsamples from the sample, compute the estimate from each of the subsamples, and estimate the variance from the variability of the subsample estimates. Specifically, subsamples of the original full sample are created to calculate subsample estimates of a parameter for which a full-sample estimate of interest has been generated. The variability of these subsample estimates about the estimate for the full sample can then be computed. The subsamples are called replicates or replicate subsamples, and the estimates from the subsamples are called replicate estimates. The paired jackknife replication method (JK2 approach in WesVar) is recommended to create the replicate weights for WSPS (refer to Brick, Morganstein, and Valliant 2000 for more information).

Typically, to create the variance strata and variance units, sampled telephone numbers are arranged in the same sort order used in sample selection. Adjacent sampled telephone numbers are paired to establish initial variance estimation strata (the first two sampled phone numbers were the first initial stratum, the third and fourth sampled telephone numbers were the second initial stratum, etc.). Each telephone number in the pair is randomly assigned to be either the first or second variance unit within the variance stratum. Each pair is sequentially assigned to 1 of 60 final variance estimation strata (the first pair to variance estimation Stratum 1, the second to Stratum 2, ... the 60th pair to Stratum 60, the 61st pair to Stratum 61, etc.). As a result, each variance stratum has approximately the same number of telephone numbers for each region. Table A-1 illustrates the assignment for a small example of forming three replicates.

Table A-1. Illustrating the assignment of variance strata and variance units

| Region | Sort order | Variance stratum | Variance unit | Randomized variance unit |
|--------|------------|------------------|---------------|--------------------------|
| 1 | 1 | 1 | 1 | 2 |
| 1 | 2 | 1 | 2 | 1 |
| 1 | 3 | 2 | 1 | 1 |
| 1 | 4 | 2 | 2 | 2 |
| 2 | 5 | 3 | 1 | 1 |
| 2 | 6 | 3 | 2 | 2 |
| 2 | 7 | 1 | 1 | 2 |
| 2 | 8 | 1 | 2 | 1 |
| 3 | 9 | 2 | 1 | 2 |
| 3 | 10 | 2 | 2 | 1 |
| 3 | 11 | 3 | 1 | 2 |
| 3 | 12 | 3 | 2 | 1 |
| 4 | 13 | 1 | 1 | 1 |
| 4 | 14 | 1 | 2 | 2 |

A.3 Unknown Eligibility Status Adjustment

In general, status codes (*STATNRBA*) can be assigned as:

- 1 = respondent
- 2 = nonrespondent, eligibility status known
- 3 = ineligible
- 4 = unknown eligibility status (*e.g.*, no answer, answering machine)

Also useful for the weighting process is to assign the following two variables:

$$\begin{aligned} STATUSUN &= 1, \text{ if } STATNRBA = 1, 2, 3 \\ &= 2, \text{ if } STATNRBA = 4 \end{aligned}$$

$$\begin{aligned} STATUSNR &= 1, \text{ if } STATNRBA = 1 \\ &= 2, \text{ if } STATNRBA = 2, 4 \\ &= 3, \text{ if } STATNRBA = 3 \end{aligned}$$

Then the unknown eligibility factor *f1* is computed as:

$$f1 = \frac{S1 + S2}{S1 + S2 + S3}$$

where,

- $S1$ = sum of the weights for cases with $STATNRBA = 1$;
- $S2$ = sum of the weights for cases with $STATNRBA = 2$;
- $S3$ = sum of the weights for cases with $STATNRBA = 3$;

The factor $f1$ can be computed by region. Once $f1$ is computed, it is then applied to cases with unknown eligibility status:

$$HHBWT0 = f1 * BASEWGT, \text{ if } STATUSUN = 2;$$

$$= BASEWGT, \text{ otherwise.}$$

Repeat the adjustment for each of the replicates. The above adjustment of the initial base weights are done in a manner analogous to the response rate computation (CASRO).

A.4 Second Refusal Subsampling

A 60 percent subsample was selected from cases eligible for the second refusal conversion attempt. The following SAS code is appropriate for the weighting adjustment, where $HHBWT0$ is the weight after down-weighting unknown eligibility status cases, $REFUS = 1$ if selected for second conversion attempt, and $= 2$ if not selected, $CONV$ is the number of conversion attempts made, and $STATUSNR = 2$ for nonrespondents or cases with unknown eligibility.

if $REFUS = 1$ and $((CONV = 1$ and $STATUSNR = 2)$ or $(CONV = 2))$, then

$$HHLAWT0 = HHBWT0 / .60;$$

else if $REFUS = 2$ and $CONV = 1$ and $STATUSNR$ in (2), then $HHLAWT0 = 0$;

else $HHLAWT0 = HHBWT0$;

Repeat the adjustment for each of the replicates.

Figure A-1 illustrates the assignment of the weight adjustment factors for the second refusal subsampling. The figure is meant as a general illustration of the approach. The reason that you multiply by 0 (for the ones that went through the first refusal conversion attempt, but not the

second) is that they are being accounted for by the ones selected for the second refusal conversation attempt.

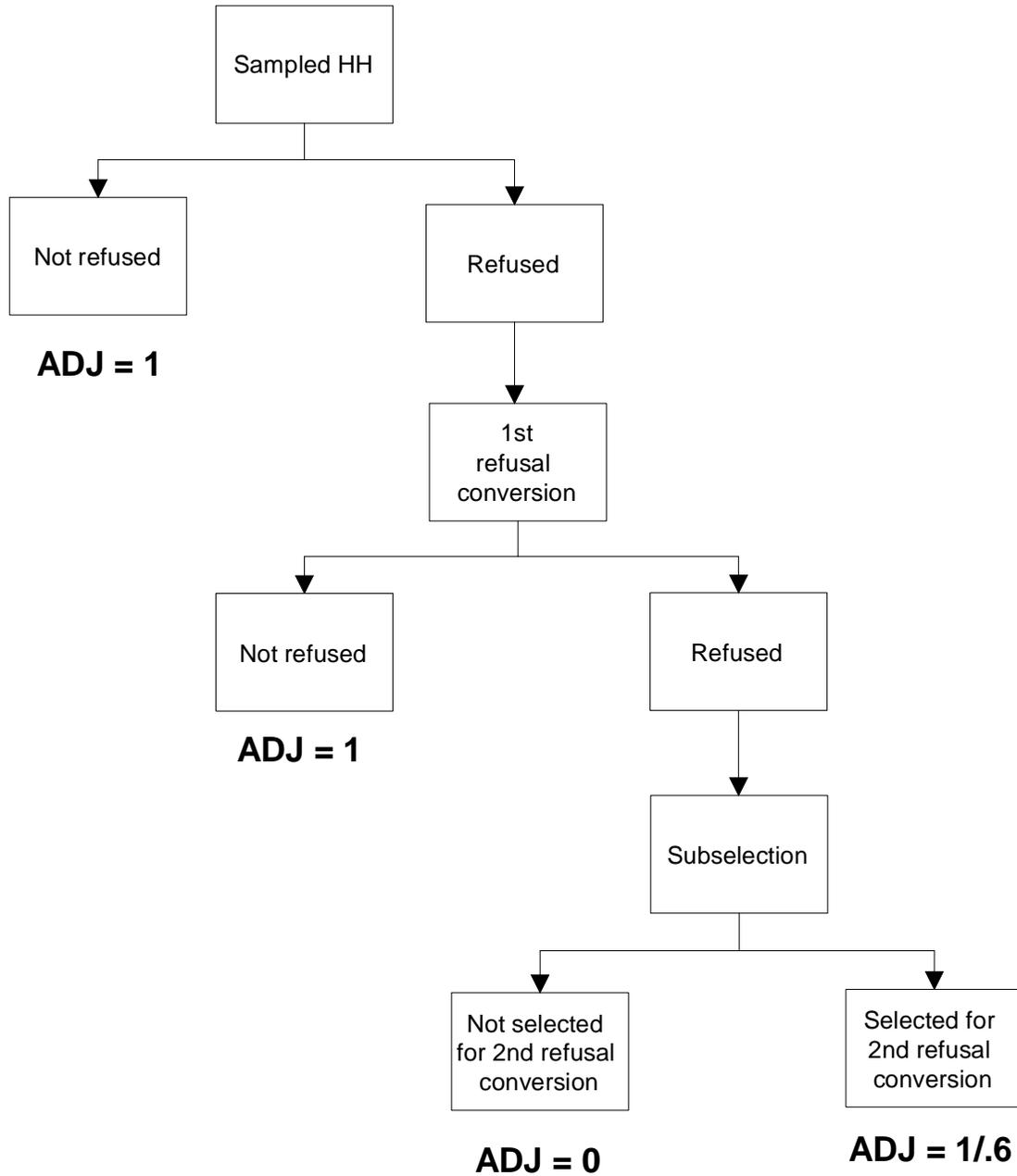


Figure A-1. Weight adjustment for second refusal subsampling

A.5 Search Process

The software Search, which is a freeware product developed and maintained by the University of Michigan (<http://www.isr.umich.edu/src/smp/search/>), is used in creating cells for the nonresponse adjustment. It is recommended to run Search on eligible cases (*STATUSNR* = 1 or 2) by Region, with cells formed to have a minimum of 200 eligible cases to allow for enough respondents for a stable nonresponse adjustment within the cell. The alpha level for each run is recommended to be 0.05, but may be relaxed for regions where few cells result. The dependent variable is *STATUSNR* and the weight is the *HHAWT0* value after the adjustment for refusal subsampling.

A.6 Nonresponse Adjustment

The nonresponse adjustment can be done in WesVar. The adjustment factor is computed as follows using the weight *HHAWT0*:

$$f2 = \frac{S1 + S2}{S1}$$

where,

S1 = sum of the weights for cases with *STATUSNR* = 1;

S2 = sum of the weights for cases with *STATUSNR* = 2;

The weighting adjustment is conducted as follows for respondent households (*STATUSNR* = 1):

$$NR_RPLN00 = f2 * HHAWT0$$

The weight *NR_RPLN00* is set to 0 for cases with *STATUSNR* = 2. Cases with *STATUSNR* = 2, 3 are dropped from the weighting process at this point.

As a guideline, there should be at least 30 respondents in each cell and the adjustment factor (inverse of the weighted response rate) no more than 5.5. The Search nonresponse adjustment cells need to be collapsed when violations occur. The nonresponse adjustment in WesVar adjusts both the full sample and each of the replicate weights.

A.7 Multiple Phone Line Adjustment

For households whose response to the multiple phone line item indicates more than one phone line, divide their weight by two. The item used in the questionnaire serves as a compromise between a more exhaustive set of items, and an approximation to the number of cases with multiple chances of selection.

A.8 Household Raking

As agreed with OFM, household weights are recommended to be calibrated to regional estimates of the number of households. Totals from the 2006 ACS are available for seven regions and the balance of the state. These totals can be calibrated to the OFM population groups state-level estimate for 2008 and used as control totals for the adjustment. The name of the household raked weights is *RK_RPL00*, and will serve as the final household weight for the household-level tabulations. The replicate weights are also adjusted.

To improve, depending on the available data for responding households, one dimension could be home tenure, one could be household size (dichotomized to 1 vs. > 1), and a third dimension could be region. The first two would be highly related to cell-only HHs and helpful in reducing residual coverage bias in the final household weights.

A.9 Person Raking

The final household weights that are merged onto the person records becomes the person 'base' weights. The person base weights are the input weights into the person raking process. The following raking dimensions are recommended to address differential undercoverage due to cell-only HHs. Below is a proposed set of dimensions.

- Age (0-4, 5-9, 10-14, 15-18, 19-29, 30-39, 40-49, 50-64, 65-79, 80+)
- Age5 (0-9,10-18 19-39, 40-64, 65+) * Medicaid
- Age4 (0-18, 19-39, 40-64, 65+) * sex * region

- Race/Ethnicity (Hispanic, NonHispanic White, NonHispanic Black, NonHispanic Native American, NonHispanic Asian, NonHispanic Other-multi)
- HH Size (1, > 1) * Tenure (own, rent)
- Marital Status (married, other)

WesVar allocates a couple of matrices to store the factors and cumulative sums. The dimension of these matrices is (raking cells) * (nrep + 1). The matrix size typically could not exceed ~20,000,000. The above dimensions should allow for WesVar to run without issue. The raked full sample and replicated person weights become the final person weights.

A.10 Trim Extreme Weights

The last step is to check for unusual weights. The distribution of weights for each region should be evaluated – checking on the variation of the weights, sum of weights equaling the control totals, and checking on extreme weights. Extreme weights could unnecessarily impact resulting variances. If weights are greater than some threshold (say five times the median weight for the region), then the weight should be investigated for reasons why, such as large raking factors, large initial base weights, large nonresponse adjustment factors, a large product of several weighting factors, or some other anomaly. If good reasons exist, then the weights should be trimmed; however, the amount of trimming should be limited since it introduces bias (the bias should be less than the amount of variation reduced). Several ways of trimming are appropriate. One approach is to trim full sample weights down to the threshold, multiply the trimming factor (trimmed weight divided by the untrimmed weight) by each replicate weight to adjust the replicate weights, and then re-rake the weights.

A.11 Recommended Quality Checks

The following quality control checks should be done after each weighting step.

- Check counts of records before and after each step.
- Check household base weights. The sum should be in the ball park of an external total number of household in scope.
- Check household unknown eligibility status adjustment. Sum of base weights for all records should equal the sum of adjusted weights for *STATUSUN* = 1.

- Check household nonresponse adjustment. Sum of weights (before household nonresponse adjustment) for records where $STATUSNR = 1$ and 2 should equal the sum of adjusted weights for $STATUSNR = 1$. Run tables similar to B-12 through B-23 and for any region with concern, re-check the collapsing rules and consider relaxing the minimum cell size or maximum adjustment to all more variables or cells into the adjustment.
- Compare the sum of final household weights to external sources for key characteristics.
- Check person weights by generating the record count, sum, mean, min, median, max, CV, and number trimmed by region.
- Compare the sum of final person weights to external sources for key characteristics.

Appendix B
Bivariate Analysis Tables

Table B-1. Percentage distribution of eligible and participating households for Washington State, by selected characteristics: 2008

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Region | | | | | | 93.74 | <0.0001 |
| North Puget | 36 | 7.1 | 7.3 | 0.2 | 0.03 | | |
| West Balance | 39 | 8.2 | 9.1 | 0.9 | 0.11 | | |
| King | 32 | 29.3 | 26.8 | -2.5 | -0.09 | | |
| Other Puget Metro | 37 | 7.9 | 8.3 | 0.4 | 0.05 | | |
| Clark | 36 | 5.7 | 5.9 | 0.2 | 0.04 | | |
| East Balance | 41 | 7.3 | 8.6 | 1.3 | 0.18 | | |
| Spokane | 40 | 7.0 | 7.9 | 0.9 | 0.13 | | |
| Yakima | 38 | 6.4 | 7.0 | 0.6 | 0.09 | | |
| Snohomish | 31 | 9.3 | 8.2 | -1.1 | -0.12 | | |
| Pierce | 32 | 11.9 | 10.9 | -1.0 | -0.08 | | |
| Mailing address available | | | | | | 313.29 | <0.0001 |
| Yes | 39 | 68.1 | 76.2 | 8.1 | 0.12 | | |
| No | 26 | 31.9 | 23.8 | -8.1 | -0.25 | | |
| Median home-value | | | | | | 40.98 | <0.0001 |
| Low: < \$162,105 | 38 | 15.3 | 16.8 | 1.5 | 0.10 | | |
| Medium: \$162,105 to \$213,734 | 37 | 22.3 | 23.7 | 1.4 | 0.06 | | |
| High: > \$213,734 | 33 | 62.4 | 59.6 | -2.8 | -0.04 | | |
| Metro status | | | | | | 29.87 | <0.0001 |
| In MSA | 34 | 86.4 | 84.7 | -1.7 | -0.02 | | |
| Outside MSA | 40 | 13.6 | 15.3 | 1.7 | 0.13 | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | | 16.94 | 0.0002 |
| Low: < 23.2 | 36 | 41.5 | 43.0 | 1.5 | 0.04 | | |
| Medium: 23.2 to 26.1 | 35 | 37.0 | 36.7 | -0.3 | -0.01 | | |
| High: > 26.1 | 33 | 21.5 | 20.3 | -1.2 | -0.06 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | | 12.00 | 0.0024 |
| Low: < 9.0 | 34 | 31.0 | 30.1 | -0.9 | -0.03 | | |
| Medium: 9.0 to 9.8 | 35 | 40.0 | 39.7 | -0.3 | -0.01 | | |
| High: > 9.8 | 37 | 28.9 | 30.2 | 1.3 | 0.04 | | |
| Percent of population 65-years-old and up | | | | | | 43.03 | <0.0001 |
| Low: <10.4 | 32 | 33.7 | 30.6 | -3.1 | -0.09 | | |
| Medium: 10.4 to 13.1 | 36 | 35.8 | 36.6 | 0.8 | 0.02 | | |
| High: > 13.1 | 38 | 30.4 | 32.8 | 2.4 | 0.08 | | |
| Percent college graduates | | | | | | 1.24 | 0.5359 |
| Low: < 22.9 | 35 | 31.4 | 31.7 | 0.3 | 0.01 | | |
| Medium: 22.9 to 31.9 | 35 | 33.5 | 33.0 | -0.5 | -0.01 | | |
| High: > 31.9 | 35 | 35.1 | 35.2 | 0.1 | 0.00 | | |
| Percent renters | | | | | | 10.43 | 0.0054 |
| Low: < 26.9 | 36 | 32.4 | 33.1 | 0.7 | 0.02 | | |
| Medium: 26.9 to 36.2 | 36 | 30.6 | 31.4 | 0.8 | 0.03 | | |
| High: ≥ to 36.2 | 34 | 37.0 | 35.5 | -1.5 | -0.04 | | |
| Percent with income \$100K and up | | | | | | 12.79 | 0.0016 |
| Low: < 11.8 | 37 | 22.6 | 24.1 | 1.5 | 0.07 | | |
| Medium: 11.8 to 18.2 | 35 | 37.5 | 37.3 | -0.2 | -0.01 | | |
| High: > 18.2 | 34 | 39.8 | 38.6 | -1.2 | -0.03 | | |

Table B-1. Percentage distribution of eligible and participating households for Washington State, by selected characteristics: 2008 (Continued)

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|--------------------------------------------------|------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent with income between \$1K-10K (inclusive) | | | | | | 6.95 | 0.0284 |
| Low: < 5 | 34 | 38.2 | 37.0 | -1.2 | -0.03 | | |
| Medium: 5 to 7.9 | 35 | 34.5 | 34.8 | 0.3 | 0.01 | | |
| High: > 7.9 | 36 | 27.3 | 28.3 | 1.0 | 0.04 | | |
| Percent White | | | | | | 40.38 | <0.0001 |
| Low: < 79.4 | 33 | 45.6 | 42.5 | -3.1 | -0.07 | | |
| Medium: 79.4 to 87.5 | 36 | 29.2 | 30.3 | 1.1 | 0.04 | | |
| High: > 87.5 | 38 | 25.3 | 27.2 | 1.9 | 0.08 | | |
| Percent Black | | | | | | 36.83 | <0.0001 |
| Low: < 0.7 | 38 | 22.3 | 23.9 | 1.6 | 0.07 | | |
| Medium: 0.7 to 1.8 | 37 | 35.3 | 36.7 | 1.4 | 0.04 | | |
| High: > 1.8 | 33 | 42.5 | 39.4 | -3.1 | -0.07 | | |
| Percent Hispanic | | | | | | 20.85 | <0.0001 |
| Low: < 4 | 37 | 22.8 | 24.1 | 1.3 | 0.06 | | |
| Medium: 4 to 6.6 | 36 | 39.9 | 40.5 | 0.6 | 0.02 | | |
| High: > 6.6 | 33 | 37.3 | 35.4 | -1.9 | -0.05 | | |
| Percent Asian | | | | | | 49.79 | <0.0001 |
| Low: < 1.6 | 38 | 21.8 | 23.6 | 1.8 | 0.08 | | |
| Medium: 1.6 to 4.8 | 37 | 33.8 | 35.4 | 1.6 | 0.05 | | |
| High: > 4.8 | 32 | 44.3 | 41.0 | -3.3 | -0.07 | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-2. Percentage distribution of eligible and participating households for North Puget region, by selected characteristics: 2008

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | | 54.97 | <0.0001 |
| Yes | 42 | 62.2 | 72.1 | 9.9 | 0.16 | | |
| No | 27 | 37.8 | 27.9 | -9.9 | -0.16 | | |
| Median home-value | | | | | | 0.11 | 0.7368 |
| Low: < \$162,105 | † | † | † | † | † | | |
| Medium: \$162,105 to \$213,734 | 35 | 16.5 | 16.1 | -0.4 | -0.01 | | |
| High: > \$213,734 | 36 | 83.5 | 83.9 | 0.4 | 0.01 | | |
| Metro status | | | | | | 0.56 | 0.4528 |
| In MSA | 35 | 73.2 | 72.3 | -0.9 | -0.01 | | |
| Outside MSA | 37 | 26.8 | 27.7 | 0.9 | 0.01 | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | | 1.31 | 0.4980 |
| Low: < 23.2 | 37 | 57.9 | 59.5 | 1.6 | 0.03 | | |
| Medium: 23.2 to 26.1 | 34 | 28.5 | 27.1 | -1.4 | -0.02 | | |
| High: > 26.1 | 35 | 13.6 | 13.3 | -0.3 | 0.00 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | | 1.19 | 0.5079 |
| Low: < 9.0 | 37 | 28.9 | 30.2 | 1.3 | 0.02 | | |
| Medium: 9.0 to 9.8 | 33 | 11.8 | 10.8 | -1.0 | -0.02 | | |
| High: > 9.8 | 36 | 59.3 | 59.0 | -0.3 | 0.00 | | |
| Percent of population 65-years-old and up | | | | | | 1.07 | 0.5844 |
| Low: < 10.4 | 32 | 3.3 | 2.9 | -0.4 | -0.01 | | |
| Medium: 10.4 to 13.1 | 37 | 52.6 | 54.0 | 1.4 | 0.02 | | |
| High: > 13.1 | 35 | 44.1 | 43.1 | -1.0 | -0.02 | | |
| Percent college graduates | | | | | | 2.39 | 0.2861 |
| Low: < 22.9 | 34 | 28.3 | 26.5 | -1.8 | -0.03 | | |
| Medium: 22.9 to 31.9 | 36 | 35.0 | 34.7 | -0.3 | 0.00 | | |
| High: > 31.9 | 38 | 36.7 | 38.8 | 2.1 | 0.03 | | |
| Percent renters | | | | | | 0.65 | 0.6558 |
| Low: < 26.9 | 36 | 45.8 | 45.7 | -0.1 | 0.00 | | |
| Medium: 26.9 to 36.2 | 34 | 20.1 | 19.2 | -0.9 | -0.01 | | |
| High: ≥ 36.2 | 37 | 34.1 | 35.2 | 1.1 | 0.02 | | |
| Percent with income \$100K and up | | | | | | 1.06 | 0.5828 |
| Low: < 11.8 | 38 | 12.1 | 12.7 | 0.6 | 0.01 | | |
| Medium: 11.8 to 18.2 | 36 | 76.8 | 77.1 | 0.3 | 0.00 | | |
| High: > 18.2 | 33 | 11.1 | 10.2 | -0.9 | -0.01 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | | 0.09 | 0.9533 |
| Low: < 5 | 36 | 25.5 | 25.2 | -0.3 | 0.00 | | |
| Medium: 5 to 7.9 | 36 | 45.4 | 45.8 | 0.4 | 0.01 | | |
| High: > 7.9 | 36 | 29.1 | 28.9 | -0.2 | 0.00 | | |
| Percent White | | | | | | 4.77 | 0.0888 |
| Low: < 79.4 | 32 | 20.4 | 18.3 | -2.1 | -0.03 | | |
| Medium: 79.4 to 87.5 | 38 | 44.3 | 46.7 | 2.4 | 0.04 | | |
| High: > 87.5 | 35 | 35.3 | 34.9 | -0.4 | -0.01 | | |
| Percent Black | | | | | | 0.76 | 0.6631 |
| Low: < 0.7 | 37 | 46.1 | 46.8 | 0.7 | 0.01 | | |
| Medium: 0.7 to 1.8 | 35 | 46.8 | 45.5 | -1.3 | -0.02 | | |
| High: > 1.8 | 38 | 7.2 | 7.7 | 0.5 | 0.01 | | |

Table B-2. Percentage distribution of eligible and participating households for North Puget region, by selected characteristics: 2008 (Continued)

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Hispanic | | | | | | 0.48 | 0.7565 |
| Low: < 4 | 37 | 29.3 | 30.3 | 1.0 | 0.02 | | |
| Medium: 4 to 6.6 | 36 | 42.8 | 42.4 | -0.4 | -0.01 | | |
| High: > 6.6 | 35 | 27.9 | 27.3 | -0.6 | -0.01 | | |
| Percent Asian | | | | | | 0.41 | 0.7686 |
| Low: < 1.6 | 36 | 33.4 | 33.2 | -0.2 | 0.00 | | |
| Medium: 1.6 to 4.8 | 36 | 59.4 | 59.1 | -0.3 | 0.00 | | |
| High: > 4.8 | 39 | 7.2 | 7.7 | 0.5 | 0.01 | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-3. Percentage distribution of eligible and participating households for West Balance region, by selected characteristics: 2008

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | | 26.89 | <0.0001 |
| Yes | 43 | 71.5 | 77.7 | 6.2 | 0.09 | | |
| No | 31 | 28.5 | 22.3 | -6.2 | -0.22 | | |
| Median home-value | | | | | | 2.46 | 0.2797 |
| Low: < \$162,105 | 41 | 42.0 | 44.3 | 2.3 | 0.05 | | |
| Medium: \$162,105 to \$213,734 | 37 | 45.1 | 43.0 | -2.1 | -0.05 | | |
| High: > \$213,734 | 38 | 12.9 | 12.6 | -0.3 | -0.02 | | |
| Metro status | | | | | | 0.51 | 0.4756 |
| In MSA | 41 | 22.7 | 23.6 | 0.9 | 0.04 | | |
| Outside MSA | 39 | 77.3 | 76.4 | -0.9 | -0.01 | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | | 3.51 | 0.1609 |
| Low: < 23.2 | 38 | 63.9 | 61.4 | -2.5 | -0.04 | | |
| Medium: 23.2 to 26.1 | 42 | 35.8 | 38.3 | 2.5 | 0.07 | | |
| High: > 26.1 | 35 | 0.3 | 0.3 | 0.0 | 0.00 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | | 1.61 | 0.4424 |
| Low: < 9.0 | 38 | 29.3 | 28.4 | -0.9 | -0.03 | | |
| Medium: 9.0 to 9.8 | 39 | 60.8 | 60.5 | -0.3 | 0.00 | | |
| High: > 9.8 | 44 | 9.9 | 11.1 | 1.2 | 0.12 | | |
| Percent of population 65-years-old and up | | | | | | 1.22 | 0.5349 |
| Low: < 10.4 | 48 | 1.7 | 2.0 | 0.3 | 0.18 | | |
| Medium: 10.4 to 13.1 | 36 | 5.8 | 5.3 | -0.5 | -0.09 | | |
| High: > 13.1 | 39 | 92.5 | 92.6 | 0.1 | 0.00 | | |
| Percent college graduates | | | | | | 0.07 | 0.9456 |
| Low: < 22.9 | 39 | 79.5 | 79.8 | 0.3 | 0.00 | | |
| Medium: 22.9 to 31.9 | 38 | 14.5 | 14.3 | -0.2 | -0.01 | | |
| High: > 31.9 | 39 | 6.0 | 5.9 | -0.1 | -0.02 | | |
| Percent renters | | | | | | 1.88 | 0.3909 |
| Low: < 26.9 | 38 | 46.4 | 44.6 | -1.8 | -0.04 | | |
| Medium: 26.9 to 36.2 | 40 | 47.4 | 48.5 | 1.1 | 0.02 | | |
| High: ≥ 36.2 | 43 | 6.3 | 6.9 | 0.6 | 0.10 | | |
| Percent with income \$100K and up | | | | | | 1.32 | 0.4844 |
| Low: < 11.8 | 39 | 71.4 | 71.8 | 0.4 | 0.01 | | |
| Medium: 11.8 to 18.2 | 39 | 28.0 | 27.8 | -0.2 | -0.01 | | |
| High: > 18.2 | 25 | 0.7 | 0.4 | -0.3 | -0.43 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | | 0.72 | 0.6953 |
| Low: < 5 | 34 | 2.9 | 2.5 | -0.4 | -0.14 | | |
| Medium: 5 to 7.9 | 40 | 23.2 | 23.4 | 0.2 | 0.01 | | |
| High: > 7.9 | 39 | 73.9 | 74.1 | 0.2 | 0.00 | | |
| Percent White | | | | | | 1.18 | 0.5503 |
| Low: < 79.4 | 42 | 2.6 | 2.7 | 0.1 | 0.04 | | |
| Medium: 79.4 to 87.5 | 38 | 36.7 | 35.1 | -1.6 | -0.04 | | |
| High: > 87.5 | 40 | 60.7 | 62.2 | 1.5 | 0.02 | | |
| Percent Black | | | | | | 0.30 | 0.8234 |
| Low: < 0.7 | 39 | 65.6 | 64.9 | -0.7 | -0.01 | | |
| Medium: 0.7 to 1.8 | 40 | 33.1 | 33.9 | 0.8 | 0.02 | | |
| High: > 1.8 | 37 | 1.3 | 1.3 | 0.0 | 0.00 | | |

Table B-3. Percentage distribution of eligible and participating households for West Balance region, by selected characteristics: 2008 (Continued)

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Hispanic | | | | | | 6.03 | 0.0436 |
| Low: < 4 | 36 | 41.3 | 38.3 | -3.0 | -0.07 | | |
| Medium: 4 to 6.6 | 44 | 25.3 | 28.3 | 3.0 | 0.12 | | |
| High: > 6.6 | 39 | 33.4 | 33.3 | -0.1 | 0.00 | | |
| Percent Asian | | | | | | 0.57 | 0.4510 |
| Low: < 1.6 | 39 | 66.2 | 65.1 | -1.1 | -0.02 | | |
| Medium: 1.6 to 4.8 | 41 | 33.8 | 34.9 | 1.1 | 0.03 | | |
| High: > 4.8 | † | † | † | † | † | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-4. Percentage distribution of eligible and participating households for King region, by selected characteristics: 2008

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | | 92.60 | <0.0001 |
| Yes | 36 | 67.7 | 76.6 | 8.9 | 0.13 | | |
| No | 23 | 32.3 | 23.4 | -8.9 | -0.28 | | |
| Median home-value | | | | | | 0.50 | 0.4779 |
| Low: < \$162,105 | † | † | † | † | † | | |
| Medium: \$162,105 to \$213,734 | 69 | 0.0 | 0.1 | 0.1 | # | | |
| High: > \$213,734 | 32 | 100.0 | 99.9 | -0.1 | 0.00 | | |
| Metro status | | | | | | # | # |
| In MSA | 32 | 100.0 | 100.0 | 0.0 | 0.00 | | |
| Outside MSA | † | † | † | † | † | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | | 13.30 | 0.0012 |
| Low: < 23.2 | 34 | 63.2 | 66.6 | 3.4 | 0.05 | | |
| Medium: 23.2 to 26.1 | 29 | 15.1 | 13.4 | -1.7 | -0.11 | | |
| High: > 26.1 | 30 | 21.7 | 19.9 | -1.8 | -0.08 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | | 10.82 | 0.0044 |
| Low: < 9.0 | 33 | 68.6 | 69.5 | 0.9 | 0.01 | | |
| Medium: 9.0 to 9.8 | 29 | 23.9 | 21.7 | -2.2 | -0.09 | | |
| High: > 9.8 | 37 | 7.5 | 8.7 | 1.2 | 0.16 | | |
| Percent of population 65-years-old and up | | | | | | 4.97 | 0.0810 |
| Low: < 10.4 | 31 | 45.9 | 43.9 | -2.0 | -0.04 | | |
| Medium: 10.4 to 13.1 | 33 | 35.6 | 36.9 | 1.3 | 0.04 | | |
| High: > 13.1 | 34 | 18.4 | 19.3 | 0.9 | 0.05 | | |
| Percent college graduates | | | | | | 8.69 | 0.0128 |
| Low: < 22.9 | 28 | 4.9 | 4.3 | -0.6 | -0.12 | | |
| Medium: 22.9 to 31.9 | 29 | 23.9 | 21.5 | -2.4 | -0.10 | | |
| High: > 31.9 | 33 | 71.1 | 74.1 | 3.0 | 0.04 | | |
| Percent renters | | | | | | 0.18 | 0.9051 |
| Low: < 26.9 | 32 | 20.5 | 20.5 | 0.0 | 0.00 | | |
| Medium: 26.9 to 36.2 | 32 | 21.1 | 20.8 | -0.3 | -0.01 | | |
| High: ≥ 36.2 | 32 | 58.3 | 58.7 | 0.4 | 0.01 | | |
| Percent with income \$100K and up | | | | | | 9.16 | 0.0099 |
| Low: < 11.8 | 23 | 2.0 | 1.4 | -0.6 | -0.30 | | |
| Medium: 11.8 to 18.2 | 30 | 28.0 | 26.1 | -1.9 | -0.07 | | |
| High: > 18.2 | 33 | 70.0 | 72.5 | 2.5 | 0.04 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | | 5.09 | 0.0660 |
| Low: < 5 | 32 | 46.9 | 47.3 | 0.4 | 0.01 | | |
| Medium: 5 to 7.9 | 33 | 40.7 | 41.9 | 1.2 | 0.03 | | |
| High: > 7.9 | 28 | 12.4 | 10.8 | -1.6 | -0.13 | | |
| Percent White | | | | | | 3.85 | 0.1392 |
| Low: < 79.4 | 31 | 71.2 | 69.3 | -1.9 | -0.03 | | |
| Medium: 79.4 to 87.5 | 35 | 21.1 | 22.7 | 1.6 | 0.08 | | |
| High: > 87.5 | 33 | 7.6 | 8.0 | 0.4 | 0.05 | | |
| Percent Black | | | | | | 1.04 | 0.5686 |
| Low: < 0.7 | 35 | 4.6 | 5.0 | 0.4 | 0.09 | | |
| Medium: 0.7 to 1.8 | 31 | 28.7 | 27.9 | -0.8 | -0.03 | | |
| High: > 1.8 | 32 | 66.7 | 67.1 | 0.4 | 0.01 | | |

Table B-4. Percentage distribution of eligible and participating households for King region, by selected characteristics: 2008 (Continued)

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|------------------------------|----------------------|-------------------------|------|---------------|--------------|---------------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Hispanic | | | | | | 11.27 | 0.0029 |
| Low: < 4 | 31 | 12.2 | 11.9 | -0.3 | -0.02 | | |
| Medium: 4 to 6.6 | 35 | 44.3 | 47.8 | 3.5 | 0.08 | | |
| High: > 6.6 | 30 | 43.5 | 40.4 | -3.1 | -0.07 | | |
| Percent Asian | | | | | | 0.71 | 0.6930 |
| Low: < 1.6 | 28 | 1.8 | 1.6 | -0.2 | -0.11 | | |
| Medium: 1.6 to 4.8 | 32 | 10.5 | 10.3 | -0.2 | -0.02 | | |
| High: > 4.8 | 32 | 87.7 | 88.1 | 0.4 | 0.00 | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-5. Percentage distribution of eligible and participating households for Other Puget Metro region, by selected characteristics: 2008

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | | 66.07 | <0.0001 |
| Yes | 42 | 70.9 | 80.0 | 9.1 | 0.13 | | |
| No | 26 | 29.1 | 20.0 | -9.1 | -0.31 | | |
| Median home-value | | | | | | 0.60 | .04370 |
| Low and Medium: ≤ \$213,734* | 36 | 47.9 | 46.6 | -1.3 | -0.03 | | |
| High: > \$213,734 | 38 | 52.1 | 53.4 | 1.3 | 0.03 | | |
| Metro status | | | | | | # | # |
| In MSA | 37 | 100.0 | 100.0 | 0.0 | 0.00 | | |
| Outside MSA | † | † | † | † | † | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | | 4.09 | 0.1217 |
| Low: < 23.2 | 40 | 37.3 | 40.6 | 3.3 | 0.09 | | |
| Medium: 23.2 to 26.1 | 35 | 62.4 | 59.1 | -3.3 | -0.05 | | |
| High: > 26.1 | 40 | 0.3 | 0.3 | 0.0 | 0.00 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | | 0.26 | 0.8589 |
| Low: < 9.0 | 38 | 17.2 | 17.6 | 0.4 | 0.02 | | |
| Medium: 9.0 to 9.8 | 36 | 47.0 | 46.2 | -0.8 | -0.02 | | |
| High: > 9.8 | 38 | 35.8 | 36.2 | 0.4 | 0.01 | | |
| Percent of population 65-years-old and up | | | | | | 0.27 | 0.8527 |
| Low: < 10.4 | 35 | 4.8 | 4.5 | -0.3 | -0.06 | | |
| Medium: 10.4 to 13.1 | 37 | 73.5 | 73.4 | -0.1 | 0.00 | | |
| High: > 13.1 | 38 | 21.6 | 22.1 | 0.5 | 0.02 | | |
| Percent college graduates | | | | | | 1.17 | 0.5181 |
| Low: < 22.9 | 36 | 22.0 | 21.2 | -0.8 | -0.04 | | |
| Medium: 22.9 to 31.9 | 36 | 43.5 | 42.7 | -0.8 | -0.02 | | |
| High: > 31.9 | 39 | 34.5 | 36.1 | 1.6 | 0.05 | | |
| Percent renters | | | | | | 1.20 | 0.5419 |
| Low: < 26.9 | 39 | 30.0 | 31.4 | 1.4 | 0.05 | | |
| Medium: 26.9 to 36.2 | 36 | 37.3 | 35.9 | -1.4 | -0.04 | | |
| High: ≥ 36.2 | 37 | 32.7 | 32.6 | -0.1 | 0.00 | | |
| Percent with income \$100K and up | | | | | | 0.44 | 0.7936 |
| Low: < 11.8 | 35 | 16.0 | 15.2 | -0.8 | -0.05 | | |
| Medium: 11.8 to 18.2 | 37 | 51.8 | 52.3 | 0.5 | 0.01 | | |
| High: > 18.2 | 37 | 32.2 | 32.5 | 0.3 | 0.01 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | | 1.17 | 0.5343 |
| Low: < 5 | 37 | 43.1 | 42.4 | -0.7 | -0.02 | | |
| Medium: 5 to 7.9 | 38 | 46.6 | 48.1 | 1.5 | 0.03 | | |
| High: > 7.9 | 34 | 10.2 | 9.4 | -0.8 | -0.08 | | |
| Percent White | | | | | | 2.78 | 0.2386 |
| Low: < 79.4 | 35 | 40.2 | 37.9 | -2.3 | -0.06 | | |
| Medium: 79.4 to 87.5 | 38 | 44.7 | 45.5 | 0.8 | 0.02 | | |
| High: > 87.5 | 41 | 15.1 | 16.6 | 1.5 | 0.10 | | |
| Percent Black | | | | | | 3.51 | 0.1640 |
| Low: < 0.7 | 41 | 11.6 | 12.8 | 1.2 | 0.10 | | |
| Medium: 0.7 to 1.8 | 38 | 44.7 | 46.2 | 1.5 | 0.03 | | |
| High: > 1.8 | 35 | 43.7 | 41.0 | -2.7 | -0.06 | | |

Table B-5. Percentage distribution of eligible and participating households for Other Puget Metro region, by selected characteristics: 2008 (Continued)

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|------------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Hispanic | | | | | | 3.63 | 0.1585 |
| Low: < 4 | 39 | 17.4 | 18.5 | 1.1 | 0.06 | | |
| Medium: 4 to 6.6 | 37 | 78.6 | 78.6 | 0.0 | 0.00 | | |
| High: > 6.6 | 27 | 4.0 | 2.9 | -1.1 | -0.28 | | |
| Percent Asian | | | | | | 3.91 | 0.1298 |
| Low: < 1.6 | 31 | 6.0 | 5.0 | -1.0 | -0.17 | | |
| Medium: 1.6 to 4.8 | 39 | 53.7 | 57.0 | 3.3 | 0.06 | | |
| High: > 4.8 | 35 | 40.3 | 38.0 | -2.3 | -0.06 | | |

Computation not applicable

† No respondents

* The low and medium categories were collapsed, because there were no participants in the high category.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-6. Percentage distribution of eligible and participating households for Clark region, by selected characteristics: 2008

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | | 30.55 | <0.0001 |
| Yes | 41 | 70.0 | 78.6 | 8.6 | 0.12 | | |
| No | 26 | 30.0 | 21.4 | -8.6 | -0.29 | | |
| Median home-value | | | | | | 4.96 | 0.0259 |
| Low: < \$162,105 | † | † | † | † | † | | |
| Medium: \$162,105 to \$213,734 | 32 | 25.7 | 22.7 | -3.0 | -0.12 | | |
| High: > \$213,734 | 38 | 74.3 | 77.3 | 3.0 | 0.04 | | |
| Metro status | | | | | | # | # |
| In MSA | 36 | 100.0 | 100.0 | 0.0 | 0.00 | | |
| Outside MSA | † | † | † | † | † | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | | 2.54 | 0.2806 |
| Low: < 23.2 | 27 | 2.7 | 1.9 | -0.8 | -0.30 | | |
| Medium: 23.2 to 26.1 | 36 | 51.9 | 52.0 | 0.1 | 0.00 | | |
| High: > 26.1 | 37 | 45.5 | 46.0 | 0.5 | 0.01 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | | 1.62 | 0.4352 |
| Low: < 9.0 | 34 | 19.9 | 18.6 | -1.3 | -0.07 | | |
| Medium: 9.0 to 9.8 | 37 | 65.1 | 66.9 | 1.8 | 0.03 | | |
| High: > 9.8 | 35 | 15.0 | 14.5 | -0.5 | -0.03 | | |
| Percent of population 65-years-old and up | | | | | | 0.10 | 0.7478 |
| Low: < 10.4 | 37 | 58.8 | 59.2 | 0.4 | 0.01 | | |
| Medium and high: ≥ 10.4* | 36 | 41.2 | 40.8 | -0.4 | -0.01 | | |
| Percent college graduates | | | | | | 0.27 | 0.8606 |
| Low: < 22.9 | 35 | 20.7 | 20.1 | -0.6 | -0.03 | | |
| Medium: 22.9 to 31.9 | 37 | 77.7 | 78.3 | 0.6 | 0.01 | | |
| High: > 31.9 | 38 | 1.5 | 1.6 | 0.1 | 0.07 | | |
| Percent renters | | | | | | 5.83 | 0.0475 |
| Low: < 26.9 | 40 | 41.6 | 45.7 | 4.1 | 0.10 | | |
| Medium: 26.9 to 36.2 | 35 | 32.6 | 31.6 | -1.0 | -0.03 | | |
| High: ≥ 36.2 | 32 | 25.8 | 22.7 | -3.1 | -0.12 | | |
| Percent with income \$100K and up | | | | | | 7.63 | 0.0184 |
| Low: < 11.8 | 32 | 18.6 | 16.5 | -2.1 | -0.11 | | |
| Medium: 11.8 to 18.2 | 34 | 44.8 | 42.3 | -2.5 | -0.06 | | |
| High: > 18.2 | 41 | 36.7 | 41.2 | 4.5 | 0.12 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | | 7.12 | 0.0284 |
| Low: < 5 | 38 | 71.2 | 74.5 | 3.3 | 0.05 | | |
| Medium: 5 to 7.9 | 31 | 10.0 | 8.7 | -1.3 | -0.13 | | |
| High: > 7.9 | 33 | 18.7 | 16.8 | -1.9 | -0.10 | | |
| Percent White | | | | | | 3.56 | 0.1667 |
| Low: < 79.4 | 32 | 20.7 | 18.4 | -2.3 | -0.11 | | |
| Medium: 79.4 to 87.5 | 37 | 55.1 | 56.7 | 1.6 | 0.03 | | |
| High: > 87.5 | 37 | 24.2 | 24.9 | 0.7 | 0.03 | | |
| Percent Black | | | | | | 10.51 | 0.0047 |
| Low: < 0.7 | 32 | 10.2 | 9.0 | -1.2 | -0.12 | | |
| Medium: 0.7 to 1.8 | 42 | 31.5 | 36.7 | 5.2 | 0.17 | | |
| High: > 1.8 | 34 | 58.3 | 54.3 | -4.0 | -0.07 | | |

Table B-6. Percentage distribution of eligible and participating households for Clark region, by selected characteristics: 2008 (Continued)

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|------------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Hispanic | | | | | | 4.91 | 0.0835 |
| Low: < 4 | 37 | 25.2 | 25.7 | 0.5 | 0.02 | | |
| Medium: 4 to 6.6 | 38 | 49.2 | 51.6 | 2.4 | 0.05 | | |
| High: > 6.6 | 32 | 25.6 | 22.7 | -2.9 | -0.11 | | |
| Percent Asian | | | | | | 5.45 | 0.0646 |
| Low: < 1.6 | 34 | 18.6 | 17.3 | -1.3 | -0.07 | | |
| Medium: 1.6 to 4.8 | 40 | 41.0 | 44.7 | 3.7 | 0.09 | | |
| High: > 4.8 | 34 | 40.4 | 38.1 | -2.3 | -0.06 | | |

Computation not applicable

† No respondents

* The medium and high categories were collapsed, because there were no participants in the high category.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-7. Percentage distribution of eligible and participating households for East Balance region, by selected characteristics: 2008

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|------------------------------|----------------------|-------------------------|------|---------------|--------------|-------------------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | | 24.20 | <0.0001 |
| Yes | 45 | 72.5 | 79.9 | 7.4 | 0.10 | | |
| No | 30 | 27.5 | 20.1 | -7.4 | -0.27 | | |
| Median home-value | | | | | | 0.17 | 0.9097 |
| Low: < \$162,105 | 41 | 49.4 | 49.0 | -0.4 | -0.01 | | |
| Medium: \$162,105 to \$213,734 | 42 | 43.6 | 44.1 | 0.5 | 0.01 | | |
| High: > \$213,734 | 40 | 7.1 | 6.9 | -0.2 | -0.03 | | |
| Metro status | | | | | | 0.00 | 0.9972 |
| In MSA | 41 | 26.4 | 26.4 | 0.0 | 0.00 | | |
| Outside MSA | 41 | 73.6 | 73.6 | 0.0 | 0.00 | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | | 1.85 | 0.3545 |
| Low: < 23.2 | 43 | 51.4 | 53.4 | 2.0 | 0.04 | | |
| Medium: 23.2 to 26.1 | 40 | 25.6 | 24.8 | -0.8 | -0.03 | | |
| High: > 26.1 | 39 | 23.0 | 21.8 | -1.2 | -0.05 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | | 2.79 | 0.2242 |
| Low: < 9.0 | 46 | 10.5 | 11.8 | 1.3 | 0.12 | | |
| Medium: 9.0 to 9.8 | 44 | 18.9 | 20.0 | 1.1 | 0.06 | | |
| High: > 9.8 | 40 | 70.6 | 68.2 | -2.4 | -0.03 | | |
| Percent of population 65-years-old and up | | | | | | 3.32 | 0.1861 |
| Low: < 10.4 | 35 | 10.5 | 9.0 | -1.5 | -0.14 | | |
| Medium: 10.4 to 13.1 | 43 | 15.7 | 16.4 | 0.7 | 0.04 | | |
| High: > 13.1 | 42 | 73.8 | 74.6 | 0.8 | 0.01 | | |
| Percent college graduates | | | | | | 0.53 | 0.7510 |
| Low: < 22.9 | 41 | 66.1 | 65.7 | -0.4 | -0.01 | | |
| Medium: 22.9 to 31.9 | 41 | 30.3 | 30.3 | 0.0 | 0.00 | | |
| High: > 31.9 | 46 | 3.6 | 4.0 | 0.4 | 0.11 | | |
| Percent renters | | | | | | 4.08 | 0.1240 |
| Low: < 26.9 | 44 | 22.1 | 23.9 | 1.8 | 0.08 | | |
| Medium: 26.9 to 36.2 | 39 | 59.8 | 56.6 | -3.2 | -0.05 | | |
| High: ≥ 36.2 | 45 | 18.0 | 19.5 | 1.5 | 0.08 | | |
| Percent with income \$100K and up | | | | | | 0.23 | 0.8783 |
| Low: < 11.8 | 41 | 66.2 | 66.0 | -0.2 | 0.00 | | |
| Medium: 11.8 to 18.2 | 42 | 31.0 | 31.4 | 0.4 | 0.01 | | |
| High: > 18.2 | 38 | 2.8 | 2.6 | -0.2 | -0.07 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | | 8.22 | 0.0157 |
| Low: < 5 | 66 | 1.6 | 2.6 | 1.0 | 0.63 | | |
| Medium: 5 to 7.9 | 37 | 32.1 | 29.2 | -2.9 | -0.09 | | |
| High: > 7.9 | 42 | 66.2 | 68.1 | 1.9 | 0.03 | | |
| Percent White | | | | | | 0.68 | 0.6879 |
| Low: < 79.4 | 40 | 49.0 | 47.6 | -1.4 | -0.03 | | |
| Medium: 79.4 to 87.5 | 42 | 17.3 | 17.5 | 0.2 | 0.01 | | |
| High: > 87.5 | 43 | 33.7 | 34.8 | 1.1 | 0.03 | | |
| Percent Black | | | | | | 0.89 | 0.6369 |
| Low: < 0.7 | 41 | 74.8 | 73.7 | -1.1 | -0.01 | | |
| Medium: 0.7 to 1.8 | 43 | 21.4 | 22.4 | 1.0 | 0.05 | | |
| High: > 1.8 | 42 | 3.8 | 3.9 | 0.1 | 0.03 | | |

Table B-7. Percentage distribution of eligible and participating households for East Balance region, by selected characteristics: 2008 (Continued)

| Characteristic | Weighted response rate (pct) | Sample of households | | | Relative bias | Chi-square | |
|-------------------------|------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | | Eligibles (percent) | Participating (percent) | Bias | | Statistic | p-value |
| Percent Hispanic | | | | | | 4.00 | 0.1262 |
| Low: < 4 | 43 | 31.8 | 33.1 | 1.3 | 0.04 | | |
| Medium: 4 to 6.6 | 48 | 9.8 | 11.4 | 1.6 | 0.16 | | |
| High: > 6.6 | 39 | 58.4 | 55.5 | -2.9 | -0.05 | | |
| Percent Asian | | | | | | 2.38 | 0.2960 |
| Low: < 1.6 | 41 | 85.1 | 83.7 | -1.4 | -0.02 | | |
| Medium: 1.6 to 4.8 | 43 | 11.6 | 12.2 | 0.6 | 0.05 | | |
| High: > 4.8 | 49 | 3.4 | 4.0 | 0.6 | 0.18 | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-8. Percentage distribution of eligible and participating households for Spokane region, by selected characteristics: 2008

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | | 27.18 | <0.0001 |
| Yes | 43 | 71.7 | 78.1 | 6.4 | 0.09 | | |
| No | 31 | 28.3 | 21.9 | -6.4 | -0.23 | | |
| Median home-value | | | | | | 9.91 | 0.0066 |
| Low: < \$162,105 | 35 | 34.6 | 30.0 | -4.6 | -0.13 | | |
| Medium: \$162,105 to \$213,734 | 43 | 56.8 | 61.3 | 4.5 | 0.08 | | |
| High: > \$213,734 | 40 | 8.7 | 8.6 | -0.1 | -0.01 | | |
| Metro status | | | | | | # | # |
| In MSA | 40 | 100.0 | 100.0 | 0.0 | 0.00 | | |
| Outside MSA | † | † | † | † | † | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | | 3.63 | 0.1451 |
| Low: < 23.2 | 45 | 23.1 | 25.9 | 2.8 | 0.12 | | |
| Medium: 23.2 to 26.1 | 38 | 75.2 | 72.6 | -2.6 | -0.03 | | |
| High: > 26.1 | 35 | 1.7 | 1.5 | -0.2 | -0.12 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | | 0.51 | 0.7705 |
| Low: < 9.0 | 33 | 1.8 | 1.5 | -0.3 | -0.17 | | |
| Medium: 9.0 to 9.8 | 40 | 57.2 | 57.8 | 0.6 | 0.01 | | |
| High: > 9.8 | 40 | 41.0 | 40.7 | -0.3 | -0.01 | | |
| Percent of population 65-years-old and up | | | | | | 0.77 | 0.6775 |
| Low: < 10.4 | 43 | 8.4 | 9.2 | 0.8 | 0.10 | | |
| Medium: 10.4 to 13.1 | 40 | 58.7 | 58.5 | -0.2 | 0.00 | | |
| High: > 13.1 | 39 | 32.8 | 32.3 | -0.5 | -0.02 | | |
| Percent college graduates | | | | | | 4.26 | 0.1160 |
| Low: < 22.9 | 36 | 11.8 | 10.8 | -1.0 | -0.08 | | |
| Medium: 22.9 to 31.9 | 39 | 56.9 | 55.0 | -1.9 | -0.03 | | |
| High: > 31.9 | 44 | 31.3 | 34.3 | 3.0 | 0.10 | | |
| Percent renters | | | | | | 2.16 | 0.3322 |
| Low: < 26.9 | 43 | 29.2 | 31.2 | 2.0 | 0.07 | | |
| Medium: 26.9 to 36.2 | 39 | 38.0 | 36.9 | -1.1 | -0.03 | | |
| High: ≥ 36.2 | 39 | 32.8 | 31.9 | -0.9 | -0.03 | | |
| Percent with income \$100K and up | | | | | | 7.33 | 0.0249 |
| Low: < 11.8 | 37 | 46.9 | 43.2 | -3.7 | -0.08 | | |
| Medium: 11.8 to 18.2 | 42 | 33.7 | 35.7 | 2.0 | 0.06 | | |
| High: > 18.2 | 43 | 19.4 | 21.2 | 1.8 | 0.09 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | | 4.50 | 0.1036 |
| Low: < 5 | 44 | 19.0 | 21.3 | 2.3 | 0.12 | | |
| Medium: 5 to 7.9 | 40 | 35.1 | 35.3 | 0.2 | 0.01 | | |
| High: > 7.9 | 38 | 45.9 | 43.4 | -2.5 | -0.05 | | |
| Percent White | | | | | | 5.08 | 0.0774 |
| Low: < 79.4 | 44 | 1.5 | 1.7 | 0.2 | 0.13 | | |
| Medium: 79.4 to 87.5 | 34 | 20.9 | 18.0 | -2.9 | -0.14 | | |
| High: > 87.5 | 41 | 77.6 | 80.3 | 2.7 | 0.03 | | |
| Percent Black | | | | | | 4.77 | 0.0798 |
| Low: < 0.7 | 40 | 9.2 | 9.4 | 0.2 | 0.02 | | |
| Medium: 0.7 to 1.8 | 41 | 69.0 | 71.9 | 2.9 | 0.04 | | |
| High: > 1.8 | 34 | 21.7 | 18.7 | -3.0 | -0.14 | | |

Table B-8. Percentage distribution of eligible and participating households for Spokane region, by selected characteristics: 2008 (Continued)

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|------------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Hispanic | | | | | | 0.37 | 0.8305 |
| Low: < 4 | 40 | 86.7 | 87.1 | 0.4 | 0.00 | | |
| Medium: 4 to 6.6 | 38 | 11.8 | 11.2 | -0.6 | -0.05 | | |
| High: > 6.6 | 43 | 1.6 | 1.7 | 0.1 | 0.06 | | |
| Percent Asian | | | | | | 0.01 | 0.9060 |
| Low: < 1.6 | 39 | 11.4 | 11.3 | -0.1 | -0.01 | | |
| Medium: 1.6 to 4.8 | 40 | 88.6 | 88.7 | 0.1 | 0.00 | | |
| High: > 4.8 | † | † | † | † | † | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-9. Percentage distribution of eligible and participating households for Yakima region, by selected characteristics: 2008

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | | 15.48 | 0.0001 |
| Yes | 41 | 69.6 | 75.7 | 6.1 | 0.09 | | |
| No | 30 | 30.4 | 24.3 | -6.1 | -0.20 | | |
| Median home-value | | | | | | 5.03 | 0.0249 |
| Low: < \$162,105 | 37 | 82.6 | 79.4 | -3.2 | -0.04 | | |
| Medium: \$162,105 to \$213,734 | 45 | 17.4 | 20.6 | 3.2 | 0.18 | | |
| High: > \$213,734 | † | † | † | † | † | | |
| Metro status | | | | | | # | # |
| In MSA | 38 | 100.0 | 100.0 | 0.0 | 0.00 | | |
| Outside MSA | † | † | † | † | † | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | | 1.19 | 0.5487 |
| Low: < 23.2 | 38 | 1.3 | 1.3 | 0.0 | 0.00 | | |
| Medium: 23.2 to 26.1 | 40 | 31.1 | 32.8 | 1.7 | 0.05 | | |
| High: > 26.1 | 37 | 67.6 | 66.0 | -1.6 | -0.02 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | | 3.79 | 0.1413 |
| Low: < 9.0 | 37 | 5.8 | 5.6 | -0.2 | -0.03 | | |
| Medium: 9.0 to 9.8 | 44 | 17.0 | 19.6 | 2.6 | 0.15 | | |
| High: > 9.8 | 37 | 77.2 | 74.8 | -2.4 | -0.03 | | |
| Percent of population 65-years-old and up | | | | | | 4.46 | 0.1000 |
| Low: < 10.4 | 36 | 40.1 | 37.7 | -2.4 | -0.06 | | |
| Medium: 10.4 to 13.1 | 38 | 41.8 | 41.6 | -0.2 | 0.00 | | |
| High: > 13.1 | 43 | 18.1 | 20.7 | 2.6 | 0.14 | | |
| Percent college graduates | | | | | | 1.46 | 0.4752 |
| Low: < 22.9 | 37 | 60.6 | 58.6 | -2.0 | -0.03 | | |
| Medium: 22.9 to 31.9 | 40 | 21.0 | 22.3 | 1.3 | 0.06 | | |
| High: > 31.9 | 39 | 18.4 | 19.1 | 0.7 | 0.04 | | |
| Percent renters | | | | | | 9.59 | 0.0065 |
| Low: < 26.9 | 44 | 23.8 | 27.5 | 3.7 | 0.16 | | |
| Medium: 26.9 to 36.2 | 38 | 44.7 | 45.1 | 0.4 | 0.01 | | |
| High: ≥ 36.2 | 33 | 31.5 | 27.4 | -4.1 | -0.13 | | |
| Percent with income \$100K and up | | | | | | 0.00 | 0.9988 |
| Low: < 11.8 | 38 | 33.8 | 33.9 | 0.1 | 0.00 | | |
| Medium: 11.8 to 18.2 | 38 | 49.6 | 49.6 | 0.0 | 0.00 | | |
| High: > 18.2 | 38 | 16.6 | 16.6 | 0.0 | 0.00 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | | 4.39 | 0.0981 |
| Low: < 5 | 38 | 16.4 | 16.6 | 0.2 | 0.01 | | |
| Medium: 5 to 7.9 | 41 | 42.5 | 45.6 | 3.1 | 0.07 | | |
| High: > 7.9 | 35 | 41.0 | 37.9 | -3.1 | -0.08 | | |
| Percent White | | | | | | 3.71 | 0.1539 |
| Low: < 79.4 | 36 | 61.0 | 58.4 | -2.6 | -0.04 | | |
| Medium: 79.4 to 87.5 | 40 | 36.7 | 38.7 | 2.0 | 0.05 | | |
| High: > 87.5 | 49 | 2.3 | 2.9 | 0.6 | 0.26 | | |
| Percent Black | | | | | | 0.38 | 0.8259 |
| Low: < 0.7 | 37 | 25.3 | 24.9 | -0.4 | -0.02 | | |
| Medium: 0.7 to 1.8 | 38 | 73.1 | 73.7 | 0.6 | 0.01 | | |
| High: > 1.8 | 33 | 1.6 | 1.4 | -0.2 | -0.13 | | |

Table B-9. Percentage distribution of eligible and participating households for Yakima region, by selected characteristics: 2008 (Continued)

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|--------------------------|------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Hispanic | | | | | | 0.36 | 0.5499 |
| Low: < 4 | † | † | † | † | † | | |
| Medium: 4 to 6.6 | 40 | 15.7 | 16.4 | 0.7 | 0.04 | | |
| High: > 6.6 | 38 | 84.3 | 83.6 | -0.7 | -0.01 | | |
| Median home-value | | | | | | 0.55 | 0.7595 |
| Low: < 1.6 | 39 | 49.8 | 51.0 | 1.2 | 0.02 | | |
| Medium: 1.6 to 4.8 | 37 | 48.9 | 47.7 | -1.2 | -0.02 | | |
| High: > 4.8 | 38 | 1.3 | 1.3 | 0.0 | 0.00 | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-10. Percentage distribution of eligible and participating households for Snohomish region, by selected characteristics: 2008

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | | 26.07 | <0.0001 |
| Yes | 35 | 60.4 | 68.2 | 7.8 | 0.13 | | |
| No | 25 | 39.6 | 31.8 | -7.8 | -0.20 | | |
| Median home-value | | | | | | 0.49 | 0.4823 |
| Low: < \$162,105 | † | † | † | † | † | | |
| Medium: \$162,105 to \$213,734 | 25 | 1.1 | 0.8 | -0.3 | -0.27 | | |
| High: > \$213,734 | 31 | 98.9 | 99.2 | 0.3 | 0.00 | | |
| Metro status | | | | | | # | # |
| In MSA | 31 | 100.0 | 100.0 | 0.0 | 0.00 | | |
| Outside MSA | † | † | † | † | † | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | | 2.46 | 0.2887 |
| Low: < 23.2 | 34 | 20.2 | 22.0 | 1.8 | 0.09 | | |
| Medium: 23.2 to 26.1 | 30 | 55.9 | 53.7 | -2.2 | -0.04 | | |
| High: > 26.1 | 32 | 23.9 | 24.2 | 0.3 | 0.01 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | | 0.37 | 0.8287 |
| Low: < 9.0 | 32 | 24.7 | 25.5 | 0.8 | 0.03 | | |
| Medium: 9.0 to 9.8 | 31 | 67.3 | 66.5 | -0.8 | -0.01 | | |
| High: > 9.8 | 31 | 7.9 | 8.0 | 0.1 | 0.01 | | |
| Percent of population 65-years-old and up | | | | | | 1.04 | 0.5896 |
| Low: < 10.4 | 30 | 71.0 | 69.3 | -1.7 | -0.02 | | |
| Medium: 10.4 to 13.1 | 33 | 19.9 | 21.0 | 1.1 | 0.06 | | |
| High: > 13.1 | 33 | 9.1 | 9.7 | 0.6 | 0.07 | | |
| Percent college graduates | | | | | | 0.91 | 0.6199 |
| Low: < 22.9 | 33 | 28.8 | 30.3 | 1.5 | 0.05 | | |
| Medium: 22.9 to 31.9 | 31 | 39.1 | 38.5 | -0.6 | -0.02 | | |
| High: > 31.9 | 30 | 32.1 | 31.3 | -0.8 | -0.02 | | |
| Percent renters | | | | | | 2.66 | 0.2463 |
| Low: < 26.9 | 31 | 56.3 | 56.4 | 0.1 | 0.00 | | |
| Medium: 26.9 to 36.2 | 35 | 15.9 | 17.7 | 1.8 | 0.11 | | |
| High: ≥ 36.2 | 29 | 27.8 | 25.9 | -1.9 | -0.07 | | |
| Percent with income \$100K and up | | | | | | 0.07 | 0.9642 |
| Low: < 11.8 | 32 | 7.1 | 7.3 | 0.2 | 0.03 | | |
| Medium: 11.8 to 18.2 | 31 | 38.6 | 38.8 | 0.2 | 0.01 | | |
| High: > 18.2 | 31 | 54.3 | 53.9 | -0.4 | -0.01 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | | 2.92 | 0.2210 |
| Low: < 5 | 32 | 73.1 | 74.5 | 1.4 | 0.02 | | |
| Medium: 5 to 7.9 | 28 | 20.3 | 18.2 | -2.1 | -0.10 | | |
| High: > 7.9 | 35 | 6.6 | 7.3 | 0.7 | 0.11 | | |
| Percent White | | | | | | 2.21 | 0.3235 |
| Low: < 79.4 | 30 | 49.6 | 47.3 | -2.3 | -0.05 | | |
| Medium: 79.4 to 87.5 | 33 | 27.6 | 29.5 | 1.9 | 0.07 | | |
| High: > 87.5 | 32 | 22.8 | 23.2 | 0.4 | 0.02 | | |
| Percent Black | | | | | | 2.36 | 0.3046 |
| Low: < 0.7 | 32 | 21.6 | 22.0 | 0.4 | 0.02 | | |
| Medium: 0.7 to 1.8 | 34 | 27.3 | 29.4 | 2.1 | 0.08 | | |
| High: > 1.8 | 30 | 51.0 | 48.6 | -2.4 | -0.05 | | |

Table B-10. Percentage distribution of eligible and participating households for Snohomish region, by selected characteristics: 2008 (Continued)

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|--------------------------|------------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Hispanic | | | | | | 2.28 | 0.3159 |
| Low: < 4 | 27 | 8.1 | 6.9 | -1.2 | -0.15 | | |
| Medium: 4 to 6.6 | 32 | 52.2 | 53.4 | 1.2 | 0.02 | | |
| High: > 6.6 | 31 | 39.7 | 39.6 | -0.1 | 0.00 | | |
| Median home-value | | | | | | 0.99 | 0.5760 |
| Low: < 1.6 | 34 | 9.2 | 10.2 | 1.0 | 0.11 | | |
| Medium: 1.6 to 4.8 | 31 | 28.2 | 28.4 | 0.2 | 0.01 | | |
| High: > 4.8 | 31 | 62.5 | 61.4 | -1.1 | -0.02 | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-11. Percentage distribution of eligible and participating households for Pierce region, by selected characteristics: 2008

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|------------------------------|----------------------|-------------------------|------|---------------|--------------|---------------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | | 16.40 | 0.0001 |
| Yes | 35 | 67.9 | 75.0 | 7.1 | 0.10 | | |
| No | 25 | 32.1 | 25.0 | -7.1 | -0.22 | | |
| Median home-value | | | | | | 4.18 | 0.1217 |
| Low: < \$162,105 | 38 | 4.9 | 5.9 | 1.0 | 0.20 | | |
| Medium: \$162,105 to \$213,734 | 29 | 32.5 | 29.5 | -3.0 | -0.09 | | |
| High: > \$213,734 | 33 | 62.6 | 64.6 | 2.0 | 0.03 | | |
| Metro status | | | | | | # | # |
| In MSA | 32 | 100.0 | 100.0 | 0.0 | 0.00 | | |
| Outside MSA | † | † | † | † | † | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | | 3.31 | 0.1864 |
| Low: < 23.2 | 35 | 26.8 | 29.1 | 2.3 | 0.09 | | |
| Medium: 23.2 to 26.1 | 32 | 46.3 | 46.2 | -0.1 | 0.00 | | |
| High: > 26.1 | 29 | 26.9 | 24.7 | -2.2 | -0.08 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | | 1.78 | 0.4090 |
| Low: < 9.0 | 37 | 3.8 | 4.4 | 0.6 | 0.16 | | |
| Medium: 9.0 to 9.8 | 33 | 60.1 | 61.2 | 1.1 | 0.02 | | |
| High: > 9.8 | 30 | 36.2 | 34.4 | -1.8 | -0.05 | | |
| Percent of population 65-years-old and up | | | | | | 5.27 | 0.0647 |
| Low: < 10.4 | 29 | 47.6 | 43.8 | -3.8 | -0.08 | | |
| Medium: 10.4 to 13.1 | 33 | 27.6 | 28.2 | 0.6 | 0.02 | | |
| High: > 13.1 | 36 | 24.7 | 28.0 | 3.3 | 0.13 | | |
| Percent college graduates | | | | | | 7.69 | 0.0193 |
| Low: < 22.9 | 30 | 53.1 | 49.3 | -3.8 | -0.07 | | |
| Medium: 22.9 to 31.9 | 33 | 32.3 | 33.1 | 0.8 | 0.02 | | |
| High: > 31.9 | 39 | 14.6 | 17.6 | 3.0 | 0.21 | | |
| Percent renters | | | | | | 0.30 | 0.8605 |
| Low: < 26.9 | 31 | 35.8 | 35.3 | -0.5 | -0.01 | | |
| Medium: 26.9 to 36.2 | 33 | 24.5 | 25.3 | 0.8 | 0.03 | | |
| High: ≥ 36.2 | 32 | 39.6 | 39.4 | -0.2 | -0.01 | | |
| Percent with income \$100K and up | | | | | | 0.84 | 0.6362 |
| Low: < 11.8 | 33 | 17.9 | 18.5 | 0.6 | 0.03 | | |
| Medium: 11.8 to 18.2 | 30 | 30.0 | 28.6 | -1.4 | -0.05 | | |
| High: > 18.2 | 32 | 52.1 | 53.0 | 0.9 | 0.02 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | | 0.26 | 0.8726 |
| Low: < 5 | 31 | 47.9 | 47.0 | -0.9 | -0.02 | | |
| Medium: 5 to 7.9 | 33 | 32.1 | 32.7 | 0.6 | 0.02 | | |
| High: > 7.9 | 32 | 20.0 | 20.3 | 0.3 | 0.02 | | |
| Percent White | | | | | | 0.25 | 0.8751 |
| Low: < 79.4 | 32 | 54.6 | 54.1 | -0.5 | -0.01 | | |
| Medium: 79.4 to 87.5 | 33 | 21.2 | 21.9 | 0.7 | 0.03 | | |
| High: > 87.5 | 32 | 24.2 | 24.0 | -0.2 | -0.01 | | |
| Percent Black | | | | | | 1.19 | 0.5449 |
| Low: < 0.7 | 35 | 9.2 | 10.0 | 0.8 | 0.09 | | |
| Medium: 0.7 to 1.8 | 30 | 15.9 | 15.0 | -0.9 | -0.06 | | |
| High: > 1.8 | 32 | 74.9 | 75.0 | 0.1 | 0.00 | | |

Table B-11. Percentage distribution of eligible and participating households for Pierce region, by selected characteristics: 2008 (Continued)

| Characteristic | Weighted response rate (pct) | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|------------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Hispanic | | | | | | 2.29 | 0.3114 |
| Low: < 4 | 36 | 15.6 | 17.5 | 1.9 | 0.12 | | |
| Medium: 4 to 6.6 | 32 | 45.9 | 45.9 | 0.0 | 0.00 | | |
| High: > 6.6 | 30 | 38.5 | 36.6 | -1.9 | -0.05 | | |
| Percent Asian | | | | | | 0.04 | 0.9794 |
| Low: < 1.6 | 32 | 8.0 | 8.2 | 0.2 | 0.02 | | |
| Medium: 1.6 to 4.8 | 32 | 37.3 | 37.4 | 0.1 | 0.00 | | |
| High: > 4.8 | 32 | 54.7 | 54.4 | -0.3 | -0.01 | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-12. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for Washington State, by selected characteristics: 2008

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Region | | | | | 23.53 | 0.0024 |
| North Puget | 7.1 | 7.1 | 0.0 | 0.00 | | |
| West Balance | 8.2 | 8.2 | 0.0 | 0.00 | | |
| King | 29.3 | 29.1 | -0.2 | -0.01 | | |
| Other Puget Metro | 7.9 | 7.9 | 0.0 | 0.00 | | |
| Clark | 5.7 | 5.7 | 0.0 | 0.00 | | |
| East Balance | 7.3 | 7.3 | 0.0 | 0.00 | | |
| Spokane | 7.0 | 7.0 | 0.0 | 0.00 | | |
| Yakima | 6.4 | 6.5 | 0.1 | 0.02 | | |
| Snohomish | 9.3 | 9.3 | 0.0 | 0.00 | | |
| Pierce | 11.9 | 12.0 | 0.1 | 0.01 | | |
| Mailing address available | | | | | 2.54 | 0.1109 |
| Yes | 68.1 | 68.2 | 0.1 | 0.00 | | |
| No | 31.9 | 31.8 | -0.1 | 0.00 | | |
| Median home-value | | | | | 0.13 | 0.8789 |
| Low: < \$162,105 | 15.3 | 15.4 | 0.1 | 0.01 | | |
| Medium: \$162,105 to \$213,734 | 22.3 | 22.4 | 0.1 | 0.00 | | |
| High: > \$213,734 | 62.4 | 62.2 | -0.2 | 0.00 | | |
| Metro status | | | | | 0.00 | 0.9439 |
| In MSA | 86.4 | 86.4 | 0.0 | 0.00 | | |
| Outside MSA | 13.6 | 13.6 | 0.0 | 0.00 | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | 1.52 | 0.4612 |
| Low: < 23.2 | 41.5 | 41.6 | 0.1 | 0.00 | | |
| Medium: 23.2 to 26.1 | 37.0 | 36.6 | -0.4 | -0.01 | | |
| High: > 26.1 | 21.5 | 21.8 | 0.3 | 0.01 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | 2.05 | 0.3475 |
| Low: < 9.0 | 31.0 | 30.6 | -0.4 | -0.01 | | |
| Medium: 9.0 to 9.8 | 40.0 | 40.5 | 0.5 | 0.01 | | |
| High: > 9.8 | 28.9 | 28.9 | 0.0 | 0.00 | | |
| Percent college graduates | | | | | 1.37 | 0.4942 |
| Low: < 22.9 | 31.4 | 31.4 | 0.0 | 0.00 | | |
| Medium: 22.9 to 31.9 | 33.5 | 33.8 | 0.3 | 0.01 | | |
| High: > 31.9 | 35.1 | 34.7 | -0.4 | -0.01 | | |
| Percent renters | | | | | 2.57 | 0.2676 |
| Low: < 26.9 | 32.4 | 33.1 | 0.7 | 0.02 | | |
| Medium: 26.9 to 36.2 | 30.6 | 30.2 | -0.4 | -0.01 | | |
| High: ≥ 36.2 | 37.0 | 36.7 | -0.3 | -0.01 | | |
| Percent with income \$100K and up | | | | | 0.97 | 0.5549 |
| Low: < 11.8 | 22.6 | 22.8 | 0.2 | 0.01 | | |
| Medium: 11.8 to 18.2 | 37.5 | 37.1 | -0.4 | -0.01 | | |
| High: > 18.2 | 39.8 | 40.1 | 0.3 | 0.01 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | 0.99 | 0.5888 |
| Low: < 5 | 38.2 | 38.5 | 0.3 | 0.01 | | |
| Medium: 5 to 7.9 | 34.5 | 34.5 | 0.0 | 0.00 | | |
| High: > 7.9 | 27.3 | 27.0 | -0.3 | -0.01 | | |

Table B-12. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for Washington State, by selected characteristics: 2008 (Continued)

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent White | | | | | 6.32 | 0.0330 |
| Low: < 79.4 | 45.6 | 44.6 | -1.0 | -0.02 | | |
| Medium: 79.4 to 87.5 | 29.2 | 29.6 | 0.4 | 0.01 | | |
| High: > 87.5 | 25.3 | 25.8 | 0.5 | 0.02 | | |
| Percent Black | | | | | 1.56 | 0.4521 |
| Low: < 0.7 | 22.3 | 22.7 | 0.4 | 0.02 | | |
| Medium: 0.7 to 1.8 | 35.3 | 35.1 | -0.2 | -0.01 | | |
| High: > 1.8 | 42.5 | 42.2 | -0.3 | -0.01 | | |
| Percent Hispanic | | | | | 1.24 | 0.5300 |
| Low: < 4 | 22.8 | 22.7 | -0.1 | 0.00 | | |
| Medium: 4 to 6.6 | 39.9 | 40.3 | 0.4 | 0.01 | | |
| High: > 6.6 | 37.3 | 36.9 | -0.4 | -0.01 | | |
| Percent Asian | | | | | 2.43 | 0.2473 |
| Low: < 1.6 | 21.8 | 22.2 | 0.4 | 0.02 | | |
| Medium: 1.6 to 4.8 | 33.8 | 34.1 | 0.3 | 0.01 | | |
| High: > 4.8 | 44.3 | 43.7 | -0.6 | -0.01 | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-13. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for North Puget region, by selected characteristics: 2008

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | 1.26 | 0.2619 |
| Yes | 62.2 | 62.5 | 0.3 | 0.00 | | |
| No | 37.8 | 37.5 | -0.3 | 0.00 | | |
| Median home-value | | | | | 0.38 | 0.5353 |
| Low: < \$162,105 | † | † | † | † | | |
| Medium: \$162,105 to \$213,734 | 16.5 | 17.3 | 0.8 | 0.01 | | |
| High: > \$213,734 | 83.5 | 82.7 | -0.8 | -0.01 | | |
| Metro status | | | | | 0.20 | 0.6573 |
| In MSA | 73.2 | 72.7 | -0.5 | -0.01 | | |
| Outside MSA | 26.8 | 27.3 | 0.5 | 0.01 | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | 0.64 | 0.6943 |
| Low: < 23.2 | 57.9 | 57.0 | -0.9 | -0.01 | | |
| Medium: 23.2 to 26.1 | 28.5 | 28.7 | 0.2 | 0.00 | | |
| High: > 26.1 | 13.6 | 14.4 | 0.8 | 0.01 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | 0.95 | 0.5360 |
| Low: < 9.0 | 28.9 | 29.6 | 0.7 | 0.01 | | |
| Medium: 9.0 to 9.8 | 11.8 | 10.7 | -1.1 | -0.02 | | |
| High: > 9.8 | 59.3 | 59.6 | 0.3 | 0.00 | | |
| Percent of population 65-years-old and up | | | | | 0.38 | 0.7936 |
| Low: < 10.4 | 3.3 | 3.6 | 0.3 | 0.00 | | |
| Medium: 10.4 to 13.1 | 52.6 | 53.3 | 0.7 | 0.01 | | |
| High: > 13.1 | 44.1 | 43.1 | -1.0 | -0.02 | | |
| Percent college graduates | | | | | 1.21 | 0.5377 |
| Low: < 22.9 | 28.3 | 28.3 | 0.0 | 0.00 | | |
| Medium: 22.9 to 31.9 | 35.0 | 36.1 | 1.1 | 0.02 | | |
| High: > 31.9 | 36.7 | 35.5 | -1.2 | -0.02 | | |
| Percent renters | | | | | 0.04 | 0.9738 |
| Low: < 26.9 | 45.8 | 46.1 | 0.3 | 0.00 | | |
| Medium: 26.9 to 36.2 | 20.1 | 19.9 | -0.2 | 0.00 | | |
| High: ≥ 36.2 | 34.1 | 34.0 | -0.1 | 0.00 | | |
| Percent with income \$100K and up | | | | | 1.82 | 0.3868 |
| Low: < 11.8 | 12.1 | 12.8 | 0.7 | 0.01 | | |
| Medium: 11.8 to 18.2 | 76.8 | 77.4 | 0.6 | 0.01 | | |
| High: > 18.2 | 11.1 | 9.9 | -1.2 | -0.02 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | 2.57 | 0.2549 |
| Low: < 5 | 25.5 | 25.9 | 0.4 | 0.01 | | |
| Medium: 5 to 7.9 | 45.4 | 47.2 | 1.8 | 0.03 | | |
| High: > 7.9 | 29.1 | 26.9 | -2.2 | -0.04 | | |
| Percent White | | | | | 1.27 | 0.5004 |
| Low: < 79.4 | 20.4 | 19.9 | -0.5 | -0.01 | | |
| Medium: 79.4 to 87.5 | 44.3 | 45.9 | 1.6 | 0.03 | | |
| High: > 87.5 | 35.3 | 34.2 | -1.1 | -0.02 | | |

Table B-13. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for North Puget region, by selected characteristics: 2008 (Continued)

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Black | | | | | 2.33 | 0.2973 |
| Low: < 0.7 | 46.1 | 47.4 | 1.3 | 0.02 | | |
| Medium: 0.7 to 1.8 | 46.8 | 44.4 | -2.4 | -0.04 | | |
| High: > 1.8 | 7.2 | 8.2 | 1.0 | 0.02 | | |
| Percent Hispanic | | | | | 0.73 | 0.6055 |
| Low: < 4 | 29.3 | 29.4 | 0.1 | 0.00 | | |
| Medium: 4 to 6.6 | 42.8 | 41.5 | -1.3 | -0.02 | | |
| High: > 6.6 | 27.9 | 29.1 | 1.2 | 0.02 | | |
| Percent Asian | | | | | 1.26 | 0.4577 |
| Low: < 1.6 | 33.4 | 33.2 | -0.2 | 0.00 | | |
| Medium: 1.6 to 4.8 | 59.4 | 58.6 | -0.8 | -0.01 | | |
| High: > 4.8 | 7.2 | 8.2 | 1.0 | 0.02 | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-14. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for West Balance region, by selected characteristics: 2008

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | 5.66 | 0.0174 |
| Yes | 71.5 | 71.2 | -0.3 | 0.00 | | |
| No | 28.5 | 28.8 | 0.3 | 0.01 | | |
| Median home-value | | | | | 0.09 | 0.9288 |
| Low: < \$162,105 | 42.0 | 42.0 | 0.0 | 0.00 | | |
| Medium: \$162,105 to \$213,734 | 45.1 | 45.4 | 0.3 | 0.01 | | |
| High:> \$213,734 | 12.9 | 12.6 | -0.3 | -0.02 | | |
| Metro status | | | | | 0.35 | 0.5552 |
| In MSA | 22.7 | 23.3 | 0.6 | 0.03 | | |
| Outside MSA | 77.3 | 76.7 | -0.6 | -0.01 | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | 0.45 | 0.7685 |
| Low: < 23.2 | 63.9 | 64.1 | 0.2 | 0.00 | | |
| Medium: 23.2 to 26.1 | 35.8 | 35.6 | -0.2 | -0.01 | | |
| High: > 26.1 | 0.3 | 0.2 | -0.1 | -0.33 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | 4.22 | 0.1049 |
| Low: < 9.0 | 29.3 | 28.4 | -0.9 | -0.03 | | |
| Medium: 9.0 to 9.8 | 60.8 | 59.8 | -1.0 | -0.02 | | |
| High: > 9.8 | 9.9 | 11.8 | 1.9 | 0.19 | | |
| Percent of population 65-years-old and up | | | | | 0.56 | 0.7492 |
| Low: < 10.4 | 1.7 | 2.0 | 0.3 | 0.18 | | |
| Medium: 10.4 to 13.1 | 5.8 | 5.8 | 0.0 | 0.00 | | |
| High: > 13.1 | 92.5 | 92.2 | -0.3 | 0.00 | | |
| Percent college graduates | | | | | 0.92 | 0.5026 |
| Low: < 22.9 | 79.5 | 80.7 | 1.2 | 0.02 | | |
| Medium: 22.9 to 31.9 | 14.5 | 13.8 | -0.7 | -0.05 | | |
| High: > 31.9 | 6.0 | 5.5 | -0.5 | -0.08 | | |
| Percent renters | | | | | 0.89 | 0.6368 |
| Low: < 26.9 | 46.4 | 47.3 | 0.9 | 0.02 | | |
| Medium: 26.9 to 36.2 | 47.4 | 46.1 | -1.3 | -0.03 | | |
| High: ≥ 36.2 | 6.3 | 6.6 | 0.3 | 0.05 | | |
| Percent with income \$100K and up | | | | | 2.85 | 0.2400 |
| Low: < 11.8 | 71.4 | 71.5 | 0.1 | 0.00 | | |
| Medium: 11.8 to 18.2 | 28.0 | 28.1 | 0.1 | 0.00 | | |
| High: > 18.2 | 0.7 | 0.4 | -0.3 | -0.43 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | 1.76 | 0.4067 |
| Low: < 5 | 2.9 | 2.4 | -0.5 | -0.17 | | |
| Medium: 5 to 7.9 | 23.2 | 24.0 | 0.8 | 0.03 | | |
| High: > 7.9 | 73.9 | 73.6 | -0.3 | 0.00 | | |
| Percent White | | | | | 2.16 | 0.3238 |
| Low: < 79.4 | 2.6 | 2.9 | 0.3 | 0.12 | | |
| Medium: 79.4 to 87.5 | 36.7 | 34.6 | -2.1 | -0.06 | | |
| High: > 87.5 | 60.7 | 62.5 | 1.8 | 0.03 | | |

Table B-14. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for West Balance region, by selected characteristics: 2008 (Continued)

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Black | | | | | 0.34 | 0.8353 |
| Low: < 0.7 | 65.6 | 65.1 | -0.5 | -0.01 | | |
| Medium: 0.7 to 1.8 | 33.1 | 33.4 | 0.3 | 0.01 | | |
| High: > 1.8 | 1.3 | 1.5 | 0.2 | 0.15 | | |
| Percent Hispanic | | | | | 3.26 | 0.1698 |
| Low: < 4 | 41.3 | 39.7 | -1.6 | -0.04 | | |
| Medium: 4 to 6.6 | 25.3 | 27.3 | 2.0 | 0.08 | | |
| High: > 6.6 | 33.4 | 32.9 | -0.5 | -0.01 | | |
| Percent Asian | | | | | 0.00 | 0.9897 |
| Low: < 1.6 | 66.2 | 66.2 | 0.0 | 0.00 | | |
| Medium: 1.6 to 4.8 | 33.8 | 33.8 | 0.0 | 0.00 | | |
| High: > 4.8 | † | † | † | † | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-15. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for King region, by selected characteristics: 2008

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | 0.31 | 0.5784 |
| Yes | 67.7 | 67.8 | 0.1 | 0.00 | | |
| No | 32.3 | 32.2 | -0.1 | 0.00 | | |
| Median home-value | | | | | 0.66 | 0.4153 |
| Low: < \$162,105 | † | † | † | † | | |
| Medium: \$162,105 to \$213,734 | 0.0 | 0.1 | 0.1 | # | | |
| High: > \$213,734 | 100.0 | 99.9 | -0.1 | 0.00 | | |
| Metro status | | | | | # | # |
| In MSA | 100.0 | 100.0 | 0.0 | 0.00 | | |
| Outside MSA | † | † | † | † | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | 0.58 | 0.7470 |
| Low: < 23.2 | 63.2 | 63.4 | 0.2 | 0.00 | | |
| Medium: 23.2 to 26.1 | 15.1 | 14.7 | -0.4 | -0.03 | | |
| High: > 26.1 | 21.7 | 21.9 | 0.2 | 0.01 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | 3.69 | 0.1550 |
| Low: < 9.0 | 68.6 | 67.4 | -1.2 | -0.02 | | |
| Medium: 9.0 to 9.8 | 23.9 | 24.0 | 0.1 | 0.00 | | |
| High: > 9.8 | 7.5 | 8.6 | 1.1 | 0.15 | | |
| Percent of population 65-years-old and up | | | | | 0.94 | 0.6155 |
| Low: < 10.4 | 45.9 | 46.7 | 0.8 | 0.02 | | |
| Medium: 10.4 to 13.1 | 35.6 | 35.0 | -0.6 | -0.02 | | |
| High: > 13.1 | 18.4 | 18.3 | -0.1 | -0.01 | | |
| Percent college graduates | | | | | 0.07 | 0.9446 |
| Low: < 22.9 | 4.9 | 4.9 | 0.0 | 0.00 | | |
| Medium: 22.9 to 31.9 | 23.9 | 24.2 | 0.3 | 0.01 | | |
| High: > 31.9 | 71.1 | 70.9 | -0.2 | 0.00 | | |
| Percent renters | | | | | 3.11 | 0.2065 |
| Low: < 26.9 | 20.5 | 21.0 | 0.5 | 0.02 | | |
| Medium: 26.9 to 36.2 | 21.1 | 19.9 | -1.2 | -0.06 | | |
| High: ≥ 36.2 | 58.3 | 59.1 | 0.8 | 0.01 | | |
| Percent with income \$100K and up | | | | | 0.25 | 0.8445 |
| Low: < 11.8 | 2.0 | 1.8 | -0.2 | -0.10 | | |
| Medium: 11.8 to 18.2 | 28.0 | 27.9 | -0.1 | 0.00 | | |
| High: > 18.2 | 70.0 | 70.3 | 0.3 | 0.00 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | 1.59 | 0.4449 |
| Low: < 5 | 46.9 | 46.0 | -0.9 | -0.02 | | |
| Medium: 5 to 7.9 | 40.7 | 41.9 | 1.2 | 0.03 | | |
| High: > 7.9 | 12.4 | 12.2 | -0.2 | -0.02 | | |
| Percent White | | | | | 4.70 | 0.0917 |
| Low: < 79.4 | 71.2 | 69.6 | -1.6 | -0.02 | | |
| Medium: 79.4 to 87.5 | 21.1 | 21.7 | 0.6 | 0.03 | | |
| High: > 87.5 | 7.6 | 8.7 | 1.1 | 0.14 | | |

Table B-15. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for King region, by selected characteristics: 2008 (Continued)

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Black | | | | | 5.48 | 0.0636 |
| Low: < 0.7 | 4.6 | 5.4 | 0.8 | 0.17 | | |
| Medium: 0.7 to 1.8 | 28.7 | 27.2 | -1.5 | -0.05 | | |
| High: > 1.8 | 66.7 | 67.4 | 0.7 | 0.01 | | |
| Percent Hispanic | | | | | 0.24 | 0.8462 |
| Low: < 4 | 12.2 | 12.3 | 0.1 | 0.01 | | |
| Medium: 4 to 6.6 | 44.3 | 44.7 | 0.4 | 0.01 | | |
| High: > 6.6 | 43.5 | 43.0 | -0.5 | -0.01 | | |
| Percent Asian | | | | | 2.27 | 0.3201 |
| Low: < 1.6 | 1.8 | 2.0 | 0.2 | 0.11 | | |
| Medium: 1.6 to 4.8 | 10.5 | 11.4 | 0.9 | 0.09 | | |
| High: > 4.8 | 87.7 | 86.7 | -1.0 | -0.01 | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-16. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for Other Puget Metro region, by selected characteristics: 2008

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | 0.04 | 0.8329 |
| Yes | 70.9 | 70.9 | 0.0 | 0.00 | | |
| No | 29.1 | 29.1 | 0.0 | 0.00 | | |
| Median home-value | | | | | 0.21 | 0.6446 |
| Low and Medium: ≤ \$213,734* | 47.9 | 48.4 | 0.5 | 0.01 | | |
| High: > \$213,734 | 52.1 | 51.6 | -0.5 | -0.01 | | |
| Metro status | | | | | # | # |
| In MSA | 100.0 | 100.0 | 0.0 | 0.00 | | |
| Outside MSA | † | † | † | † | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | 0.42 | 0.7102 |
| Low: < 23.2 | 37.3 | 37.4 | 0.1 | 0.00 | | |
| Medium: 23.2 to 26.1 | 62.4 | 62.2 | -0.2 | 0.00 | | |
| High: > 26.1 | 0.3 | 0.4 | 0.1 | 0.33 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | 0.31 | 0.8273 |
| Low: < 9.0 | 17.2 | 17.2 | 0.0 | 0.00 | | |
| Medium: 9.0 to 9.8 | 47.0 | 47.8 | 0.8 | 0.02 | | |
| High: > 9.8 | 35.8 | 35.0 | -0.8 | -0.02 | | |
| Percent of population 65- years-old and up | | | | | 0.11 | 0.9280 |
| Low: < 10.4 | 4.8 | 5.1 | 0.3 | 0.06 | | |
| Medium: 10.4 to 13.1 | 73.5 | 73.6 | 0.1 | 0.00 | | |
| High: > 13.1 | 21.6 | 21.3 | -0.3 | -0.01 | | |
| Percent college graduates | | | | | 2.07 | 0.3347 |
| Low: < 22.9 | 22.0 | 23.1 | 1.1 | 0.05 | | |
| Medium: 22.9 to 31.9 | 43.5 | 44.0 | 0.5 | 0.01 | | |
| High: > 31.9 | 34.5 | 32.9 | -1.6 | -0.05 | | |
| Percent renters | | | | | 3.30 | 0.1910 |
| Low: < 26.9 | 30.0 | 32.4 | 2.4 | 0.08 | | |
| Medium: 26.9 to 36.2 | 37.3 | 36.6 | -0.7 | -0.02 | | |
| High: ≥ 36.2 | 32.7 | 31.0 | -1.7 | -0.05 | | |
| Percent with income \$100K and up | | | | | 0.32 | 0.8400 |
| Low: < 11.8 | 16.0 | 16.2 | 0.2 | 0.01 | | |
| Medium: 11.8 to 18.2 | 51.8 | 50.9 | -0.9 | -0.02 | | |
| High: > 18.2 | 32.2 | 32.8 | 0.6 | 0.02 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | 1.47 | 0.4342 |
| Low: < 5 | 43.1 | 44.0 | 0.9 | 0.02 | | |
| Medium: 5 to 7.9 | 46.6 | 46.7 | 0.1 | 0.00 | | |
| High: > 7.9 | 10.2 | 9.3 | -0.9 | -0.09 | | |
| Percent White | | | | | 0.76 | 0.6714 |
| Low: < 79.4 | 40.2 | 39.2 | -1.0 | -0.02 | | |
| Medium: 79.4 to 87.5 | 44.7 | 45.0 | 0.3 | 0.01 | | |
| High: > 87.5 | 15.1 | 15.8 | 0.7 | 0.05 | | |

Table B-16. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for Other Puget Metro region, by selected characteristics: 2008 (Continued)

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Black | | | | | 1.63 | 0.4337 |
| Low: < 0.7 | 11.6 | 12.7 | 1.1 | 0.09 | | |
| Medium: 0.7 to 1.8 | 44.7 | 44.6 | -0.1 | 0.00 | | |
| High: > 1.8 | 43.7 | 42.8 | -0.9 | -0.02 | | |
| Percent Hispanic | | | | | 1.17 | 0.5462 |
| Low: < 4 | 17.4 | 17.8 | 0.4 | 0.02 | | |
| Medium: 4 to 6.6 | 78.6 | 78.9 | 0.3 | 0.00 | | |
| High: > 6.6 | 4.0 | 3.4 | -0.6 | -0.15 | | |
| Percent Asian | | | | | 0.49 | 0.7509 |
| Low: < 1.6 | 6.0 | 5.8 | -0.2 | -0.03 | | |
| Medium: 1.6 to 4.8 | 53.7 | 54.8 | 1.1 | 0.02 | | |
| High: > 4.8 | 40.3 | 39.4 | -0.9 | -0.02 | | |

Computation not applicable

† No respondents

* The low and medium categories were collapsed, because there were no participants in the high category.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-17. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for Clark region, by selected characteristics: 2008

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | 5.17 | 0.0229 |
| Yes | 70.0 | 70.8 | 0.8 | 0.01 | | |
| No | 30.0 | 29.2 | -0.8 | -0.03 | | |
| Median home-value | | | | | 5.17 | 0.0230 |
| Low: < \$162,105 | † | † | † | † | | |
| Medium: \$162,105 to \$213,734 | 25.7 | 23.4 | -2.3 | -0.09 | | |
| High:> \$213,734 | 74.3 | 76.6 | 2.3 | 0.03 | | |
| Metro status | | | | | # | # |
| In MSA | 100.0 | 100.0 | 0.0 | 0.00 | | |
| Outside MSA | † | † | † | † | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | 1.55 | 0.4466 |
| Low: < 23.2 | 2.7 | 2.2 | -0.5 | -0.19 | | |
| Medium: 23.2 to 26.1 | 51.9 | 50.8 | -1.1 | -0.02 | | |
| High: > 26.1 | 45.5 | 47.0 | 1.5 | 0.03 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | 2.09 | 0.3294 |
| Low: < 9.0 | 19.9 | 18.5 | -1.4 | -0.07 | | |
| Medium: 9.0 to 9.8 | 65.1 | 66.5 | 1.4 | 0.02 | | |
| High: > 9.8 | 15.0 | 14.9 | -0.1 | -0.01 | | |
| Percent of population 65-years-old and up | | | | | 5.73 | 0.0166 |
| Low: < 10.4 | 58.8 | 61.7 | 2.9 | 0.05 | | |
| Medium and high: ≥ 10.4* | 41.2 | 38.3 | -2.9 | -0.07 | | |
| Percent college graduates | | | | | 0.40 | 0.7724 |
| Low: < 22.9 | 20.7 | 20.0 | -0.7 | -0.03 | | |
| Medium: 22.9 to 31.9 | 77.7 | 78.4 | 0.7 | 0.01 | | |
| High: > 31.9 | 1.5 | 1.6 | 0.1 | 0.07 | | |
| Percent renters | | | | | 6.58 | 0.0372 |
| Low: < 26.9 | 41.6 | 43.8 | 2.2 | 0.05 | | |
| Medium: 26.9 to 36.2 | 32.6 | 32.8 | 0.2 | 0.01 | | |
| High: ≥ 36.2 | 25.8 | 23.4 | -2.4 | -0.09 | | |
| Percent with income \$100K and up | | | | | 9.36 | 0.0075 |
| Low: < 11.8 | 18.6 | 15.9 | -2.7 | -0.15 | | |
| Medium: 11.8 to 18.2 | 44.8 | 45.0 | 0.2 | 0.00 | | |
| High: > 18.2 | 36.7 | 39.1 | 2.4 | 0.07 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | 5.84 | 0.0411 |
| Low: < 5 | 71.2 | 73.8 | 2.6 | 0.04 | | |
| Medium: 5 to 7.9 | 10.0 | 9.9 | -0.1 | -0.01 | | |
| High: > 7.9 | 18.7 | 16.3 | -2.4 | -0.13 | | |
| Percent White | | | | | 7.44 | 0.0236 |
| Low: < 79.4 | 20.7 | 18.3 | -2.4 | -0.12 | | |
| Medium: 79.4 to 87.5 | 55.1 | 56.4 | 1.3 | 0.02 | | |
| High: > 87.5 | 24.2 | 25.3 | 1.1 | 0.05 | | |

Table B-17. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for Clark region, by selected characteristics: 2008 (Continued)

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Black | | | | | 4.53 | 0.0960 |
| Low: < 0.7 | 10.2 | 9.7 | -0.5 | -0.05 | | |
| Medium: 0.7 to 1.8 | 31.5 | 34.2 | 2.7 | 0.09 | | |
| High: > 1.8 | 58.3 | 56.2 | -2.1 | -0.04 | | |
| Percent Hispanic | | | | | 5.54 | 0.0579 |
| Low: < 4 | 25.2 | 25.9 | 0.7 | 0.03 | | |
| Medium: 4 to 6.6 | 49.2 | 50.7 | 1.5 | 0.03 | | |
| High: > 6.6 | 25.6 | 23.4 | -2.2 | -0.09 | | |
| Percent Asian | | | | | 1.33 | 0.4990 |
| Low: < 1.6 | 18.6 | 17.8 | -0.8 | -0.04 | | |
| Medium: 1.6 to 4.8 | 41.0 | 42.0 | 1.0 | 0.02 | | |
| High: > 4.8 | 40.4 | 40.2 | -0.2 | 0.00 | | |

Computation not applicable

† No respondents

* The medium and high categories were collapsed, because there were no participants in the high category.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-18. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for East Balance region, by selected characteristics: 2008

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | 0.35 | 0.5562 |
| Yes | 72.5 | 72.7 | 0.2 | 0.00 | | |
| No | 27.5 | 27.3 | -0.2 | -0.01 | | |
| Median home-value | | | | | 0.97 | 0.6042 |
| Low: < \$162,105 | 49.4 | 49.6 | 0.2 | 0.00 | | |
| Medium: \$162,105 to \$213,734 | 43.6 | 44.1 | 0.5 | 0.01 | | |
| High:> \$213,734 | 7.1 | 6.3 | -0.8 | -0.11 | | |
| Metro status | | | | | 0.24 | 0.6225 |
| In MSA | 26.4 | 27.1 | 0.7 | 0.03 | | |
| Outside MSA | 73.6 | 72.9 | -0.7 | -0.01 | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | 0.08 | 0.9536 |
| Low: < 23.2 | 51.4 | 51.1 | -0.3 | -0.01 | | |
| Medium: 23.2 to 26.1 | 25.6 | 25.6 | 0.0 | 0.00 | | |
| High: > 26.1 | 23.0 | 23.3 | 0.3 | 0.01 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | 1.80 | 0.3559 |
| Low: < 9.0 | 10.5 | 11.5 | 1.0 | 0.10 | | |
| Medium: 9.0 to 9.8 | 18.9 | 19.8 | 0.9 | 0.05 | | |
| High: > 9.8 | 70.6 | 68.7 | -1.9 | -0.03 | | |
| Percent of population 65-years-old and up | | | | | 2.63 | 0.2552 |
| Low: < 10.4 | 10.5 | 9.3 | -1.2 | -0.11 | | |
| Medium: 10.4 to 13.1 | 15.7 | 16.7 | 1.0 | 0.06 | | |
| High: > 13.1 | 73.8 | 74.0 | 0.2 | 0.00 | | |
| Percent college graduates | | | | | 0.03 | 0.9752 |
| Low: < 22.9 | 66.1 | 66.4 | 0.3 | 0.00 | | |
| Medium: 22.9 to 31.9 | 30.3 | 30.2 | -0.1 | 0.00 | | |
| High: > 31.9 | 3.6 | 3.5 | -0.1 | -0.03 | | |
| Percent renters | | | | | 2.37 | 0.3007 |
| Low: < 26.9 | 22.1 | 23.2 | 1.1 | 0.05 | | |
| Medium: 26.9 to 36.2 | 59.8 | 57.5 | -2.3 | -0.04 | | |
| High: ≥ 36.2 | 18.0 | 19.3 | 1.3 | 0.07 | | |
| Percent with income \$100K and up | | | | | 0.65 | 0.6838 |
| Low: < 11.8 | 66.2 | 65.1 | -1.1 | -0.02 | | |
| Medium: 11.8 to 18.2 | 31.0 | 32.2 | 1.2 | 0.04 | | |
| High: > 18.2 | 2.8 | 2.6 | -0.2 | -0.07 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | 5.66 | 0.0572 |
| Low: < 5 | 1.6 | 2.6 | 1.0 | 0.63 | | |
| Medium: 5 to 7.9 | 32.1 | 31.3 | -0.8 | -0.02 | | |
| High: > 7.9 | 66.2 | 66.1 | -0.1 | 0.00 | | |
| Percent White | | | | | 0.04 | 0.9810 |
| Low: < 79.4 | 49.0 | 48.9 | -0.1 | 0.00 | | |
| Medium: 79.4 to 87.5 | 17.3 | 17.5 | 0.2 | 0.01 | | |
| High: > 87.5 | 33.7 | 33.6 | -0.1 | 0.00 | | |

Table B-18. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for East Balance region, by selected characteristics: 2008 (Continued)

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Black | | | | | 1.19 | 0.5235 |
| Low: < 0.7 | 74.8 | 75.1 | 0.3 | 0.00 | | |
| Medium: 0.7 to 1.8 | 21.4 | 21.6 | 0.2 | 0.01 | | |
| High: > 1.8 | 3.8 | 3.3 | -0.5 | -0.13 | | |
| Percent Hispanic | | | | | 0.43 | 0.7114 |
| Low: < 4 | 31.8 | 31.5 | -0.3 | -0.01 | | |
| Medium: 4 to 6.6 | 9.8 | 10.4 | 0.6 | 0.06 | | |
| High: > 6.6 | 58.4 | 58.1 | -0.3 | -0.01 | | |
| Percent Asian | | | | | 0.10 | 0.9473 |
| Low: < 1.6 | 85.1 | 84.7 | -0.4 | 0.00 | | |
| Medium: 1.6 to 4.8 | 11.6 | 11.8 | 0.2 | 0.02 | | |
| High: > 4.8 | 3.4 | 3.4 | 0.0 | 0.00 | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-19. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for Spokane region, by selected characteristics: 2008

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | 2.29 | 0.1303 |
| Yes | 71.7 | 72.1 | 0.4 | 0.01 | | |
| No | 28.3 | 27.9 | -0.4 | -0.01 | | |
| Median home-value | | | | | 3.95 | 0.1166 |
| Low: < \$162,105 | 34.6 | 33.0 | -1.6 | -0.05 | | |
| Medium: \$162,105 to \$213,734 | 56.8 | 59.4 | 2.6 | 0.05 | | |
| High: > \$213,734 | 8.7 | 7.6 | -1.1 | -0.13 | | |
| Metro status | | | | | # | # |
| In MSA | 100.0 | 100.0 | 0.0 | 0.00 | | |
| Outside MSA | † | † | † | † | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | 3.61 | 0.1272 |
| Low: < 23.2 | 23.1 | 25.5 | 2.4 | 0.10 | | |
| Medium: 23.2 to 26.1 | 75.2 | 73.2 | -2.0 | -0.03 | | |
| High: > 26.1 | 1.7 | 1.3 | -0.4 | -0.24 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | 1.53 | 0.4614 |
| Low: < 9.0 | 1.8 | 1.3 | -0.5 | -0.28 | | |
| Medium: 9.0 to 9.8 | 57.2 | 58.0 | 0.8 | 0.01 | | |
| High: > 9.8 | 41.0 | 40.7 | -0.3 | -0.01 | | |
| Percent of population 65-years-old and up | | | | | 0.79 | 0.6620 |
| Low: < 10.4 | 8.4 | 9.2 | 0.8 | 0.10 | | |
| Medium: 10.4 to 13.1 | 58.7 | 58.7 | 0.0 | 0.00 | | |
| High: > 13.1 | 32.8 | 32.1 | -0.7 | -0.02 | | |
| Percent college graduates | | | | | 0.15 | 0.8040 |
| Low: < 22.9 | 11.8 | 11.8 | 0.0 | 0.00 | | |
| Medium: 22.9 to 31.9 | 56.9 | 57.4 | 0.5 | 0.01 | | |
| High: > 31.9 | 31.3 | 30.9 | -0.4 | -0.01 | | |
| Percent renters | | | | | 0.03 | 0.9849 |
| Low: < 26.9 | 29.2 | 29.2 | 0.0 | 0.00 | | |
| Medium: 26.9 to 36.2 | 38.0 | 37.8 | -0.2 | -0.01 | | |
| High: ≥ 36.2 | 32.8 | 33.0 | 0.2 | 0.01 | | |
| Percent with income \$100K and up | | | | | 1.19 | 0.4664 |
| Low: < 11.8 | 46.9 | 46.5 | -0.4 | -0.01 | | |
| Medium: 11.8 to 18.2 | 33.7 | 34.8 | 1.1 | 0.03 | | |
| High: > 18.2 | 19.4 | 18.6 | -0.8 | -0.04 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | 0.18 | 0.8978 |
| Low: < 5 | 19.0 | 19.3 | 0.3 | 0.02 | | |
| Medium: 5 to 7.9 | 35.1 | 35.4 | 0.3 | 0.01 | | |
| High: > 7.9 | 45.9 | 45.3 | -0.6 | -0.01 | | |
| Percent White | | | | | 1.58 | 0.3899 |
| Low: < 79.4 | 1.5 | 2.0 | 0.5 | 0.33 | | |
| Medium: 79.4 to 87.5 | 20.9 | 19.8 | -1.1 | -0.05 | | |
| High: > 87.5 | 77.6 | 78.2 | 0.6 | 0.01 | | |

Table B-19. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for Spokane region, by selected characteristics: 2008 (Continued)

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Black | | | | | 0.49 | 0.7266 |
| Low: < 0.7 | 9.2 | 9.4 | 0.2 | 0.02 | | |
| Medium: 0.7 to 1.8 | 69.0 | 69.8 | 0.8 | 0.01 | | |
| High: > 1.8 | 21.7 | 20.9 | -0.8 | -0.04 | | |
| Percent Hispanic | | | | | 1.22 | 0.5250 |
| Low: < 4 | 86.7 | 85.6 | -1.1 | -0.01 | | |
| Medium: 4 to 6.6 | 11.8 | 12.5 | 0.7 | 0.06 | | |
| High: > 6.6 | 1.6 | 2.0 | 0.4 | 0.25 | | |
| Percent Asian | | | | | 0.03 | 0.8720 |
| Low: < 1.6 | 11.4 | 11.6 | 0.2 | 0.02 | | |
| Medium: 1.6 to 4.8 | 88.6 | 88.4 | -0.2 | 0.00 | | |
| High: > 4.8 | † | † | † | † | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-20. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for Yakima region, by selected characteristics: 2008

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | 0.03 | 0.8565 |
| Yes | 69.6 | 69.6 | 0.0 | 0.00 | | |
| No | 30.4 | 30.4 | 0.0 | 0.00 | | |
| Median home-value | | | | | 1.12 | 0.2901 |
| Low: < \$162,105 | 82.6 | 81.4 | -1.2 | -0.01 | | |
| Medium: \$162,105 to \$213,734 | 17.4 | 18.6 | 1.2 | 0.07 | | |
| High: > \$213,734 | † | † | † | † | | |
| Metro status | | | | | # | # |
| In MSA | 100.0 | 100.0 | 0.0 | 0.00 | | |
| Outside MSA | † | † | † | † | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | 0.22 | 0.8944 |
| Low: < 23.2 | 1.3 | 1.2 | -0.1 | -0.08 | | |
| Medium: 23.2 to 26.1 | 31.1 | 30.6 | -0.5 | -0.02 | | |
| High: > 26.1 | 67.6 | 68.2 | 0.6 | 0.01 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | 2.28 | 0.2998 |
| Low: < 9.0 | 5.8 | 5.1 | -0.7 | -0.12 | | |
| Medium: 9.0 to 9.8 | 17.0 | 18.5 | 1.5 | 0.09 | | |
| High: > 9.8 | 77.2 | 76.4 | -0.8 | -0.01 | | |
| Percent of population 65-years-old and up | | | | | 0.41 | 0.7884 |
| Low: < 10.4 | 40.1 | 41.0 | 0.9 | 0.02 | | |
| Medium: 10.4 to 13.1 | 41.8 | 41.4 | -0.4 | -0.01 | | |
| High: > 13.1 | 18.1 | 17.6 | -0.5 | -0.03 | | |
| Percent college graduates | | | | | 0.73 | 0.6757 |
| Low: < 22.9 | 60.6 | 60.4 | -0.2 | 0.00 | | |
| Medium: 22.9 to 31.9 | 21.0 | 20.2 | -0.8 | -0.04 | | |
| High: > 31.9 | 18.4 | 19.3 | 0.9 | 0.05 | | |
| Percent renters | | | | | 4.44 | 0.0891 |
| Low: < 26.9 | 23.8 | 25.5 | 1.7 | 0.07 | | |
| Medium: 26.9 to 36.2 | 44.7 | 45.5 | 0.8 | 0.02 | | |
| High: ≥ 36.2 | 31.5 | 29.0 | -2.5 | -0.08 | | |
| Percent with income \$100K and up | | | | | 2.09 | 0.3351 |
| Low: < 11.8 | 33.8 | 34.9 | 1.1 | 0.03 | | |
| Medium: 11.8 to 18.2 | 49.6 | 47.7 | -1.9 | -0.04 | | |
| High: > 18.2 | 16.6 | 17.5 | 0.9 | 0.05 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | 0.85 | 0.5893 |
| Low: < 5 | 16.4 | 17.5 | 1.1 | 0.07 | | |
| Medium: 5 to 7.9 | 42.5 | 42.3 | -0.2 | 0.00 | | |
| High: > 7.9 | 41.0 | 40.3 | -0.7 | -0.02 | | |
| Percent White | | | | | 2.56 | 0.2498 |
| Low: < 79.4 | 61.0 | 61.0 | 0.0 | 0.00 | | |
| Medium: 79.4 to 87.5 | 36.7 | 36.0 | -0.7 | -0.02 | | |
| High: > 87.5 | 2.3 | 3.0 | 0.7 | 0.30 | | |

Table B-20. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for Yakima region, by selected characteristics: 2008 (Continued)

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Black | | | | | 0.28 | 0.7966 |
| Low: < 0.7 | 25.3 | 24.5 | -0.8 | -0.03 | | |
| Medium: 0.7 to 1.8 | 73.1 | 73.9 | 0.8 | 0.01 | | |
| High: > 1.8 | 1.6 | 1.6 | 0.0 | 0.00 | | |
| Percent Hispanic | | | | | 0.36 | 0.5506 |
| Low: < 4 | † | † | † | † | | |
| Medium: 4 to 6.6 | 15.7 | 16.4 | 0.7 | 0.04 | | |
| High: > 6.6 | 84.3 | 83.6 | -0.7 | -0.01 | | |
| Percent Asian | | | | | 2.43 | 0.2956 |
| Low: < 1.6 | 49.8 | 52.3 | 2.5 | 0.05 | | |
| Medium: 1.6 to 4.8 | 48.9 | 46.5 | -2.4 | -0.05 | | |
| High: > 4.8 | 1.3 | 1.2 | -0.1 | -0.08 | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-21. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for Snohomish region, by selected characteristics: 2008

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | 0.01 | 0.9037 |
| Yes | 60.4 | 60.4 | 0.0 | 0.00 | | |
| No | 39.6 | 39.6 | 0.0 | 0.00 | | |
| Median home-value | | | | | 0.90 | 0.3431 |
| Low: < \$162,105 | † | † | † | † | | |
| Medium: \$162,105 to \$213,734 | 1.1 | 0.8 | -0.3 | -0.27 | | |
| High:> \$213,734 | 98.9 | 99.2 | 0.3 | 0.00 | | |
| Metro status | | | | | # | # |
| In MSA | 100.0 | 100.0 | 0.0 | 0.00 | | |
| Outside MSA | † | † | † | † | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | 2.07 | 0.3424 |
| Low: < 23.2 | 20.2 | 21.8 | 1.6 | 0.08 | | |
| Medium: 23.2 to 26.1 | 55.9 | 53.6 | -2.3 | -0.04 | | |
| High: > 26.1 | 23.9 | 24.5 | 0.6 | 0.03 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | 0.74 | 0.6491 |
| Low: < 9.0 | 24.7 | 25.8 | 1.1 | 0.04 | | |
| Medium: 9.0 to 9.8 | 67.3 | 66.6 | -0.7 | -0.01 | | |
| High: > 9.8 | 7.9 | 7.6 | -0.3 | -0.04 | | |
| Percent of population 65-years-old and up | | | | | 0.08 | 0.9605 |
| Low: < 10.4 | 71.0 | 70.6 | -0.4 | -0.01 | | |
| Medium: 10.4 to 13.1 | 19.9 | 20.3 | 0.4 | 0.02 | | |
| High: > 13.1 | 9.1 | 9.1 | 0.0 | 0.00 | | |
| Percent college graduates | | | | | 0.25 | 0.8731 |
| Low: < 22.9 | 28.8 | 28.6 | -0.2 | -0.01 | | |
| Medium: 22.9 to 31.9 | 39.1 | 39.9 | 0.8 | 0.02 | | |
| High: > 31.9 | 32.1 | 31.5 | -0.6 | -0.02 | | |
| Percent renters | | | | | 2.53 | 0.2222 |
| Low: < 26.9 | 56.3 | 55.5 | -0.8 | -0.01 | | |
| Medium: 26.9 to 36.2 | 15.9 | 18.1 | 2.2 | 0.14 | | |
| High: ≥ 36.2 | 27.8 | 26.4 | -1.4 | -0.05 | | |
| Percent with Income \$100K and up | | | | | 0.28 | 0.8625 |
| Low: < 11.8 | 7.1 | 6.9 | -0.2 | -0.03 | | |
| Medium: 11.8 to 18.2 | 38.6 | 38.0 | -0.6 | -0.02 | | |
| High: > 18.2 | 54.3 | 55.1 | 0.8 | 0.01 | | |
| Percent with Income between \$1K-10K (inclusive) | | | | | 2.84 | 0.2365 |
| Low: < 5 | 73.1 | 74.9 | 1.8 | 0.02 | | |
| Medium: 5 to 7.9 | 20.3 | 18.3 | -2.0 | -0.10 | | |
| High: > 7.9 | 6.6 | 6.8 | 0.2 | 0.03 | | |
| Percent White | | | | | 2.46 | 0.2805 |
| Low: < 79.4 | 49.6 | 47.8 | -1.8 | -0.04 | | |
| Medium: 79.4 to 87.5 | 27.6 | 29.7 | 2.1 | 0.08 | | |
| High: > 87.5 | 22.8 | 22.5 | -0.3 | -0.01 | | |

Table B-21. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for Snohomish region, by selected characteristics: 2008 (Continued)

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Black | | | | | 4.52 | 0.0881 |
| Low: < 0.7 | 21.6 | 20.4 | -1.2 | -0.06 | | |
| Medium: 0.7 to 1.8 | 27.3 | 30.2 | 2.9 | 0.11 | | |
| High: > 1.8 | 51.0 | 49.3 | -1.7 | -0.03 | | |
| Percent Hispanic | | | | | 4.78 | 0.0871 |
| Low: < 4 | 8.1 | 6.4 | -1.7 | -0.21 | | |
| Medium: 4 to 6.6 | 52.2 | 53.0 | 0.8 | 0.02 | | |
| High: > 6.6 | 39.7 | 40.6 | 0.9 | 0.02 | | |
| Percent Asian | | | | | 0.26 | 0.8663 |
| Low: < 1.6 | 9.2 | 9.5 | 0.3 | 0.03 | | |
| Medium: 1.6 to 4.8 | 28.2 | 28.7 | 0.5 | 0.02 | | |
| High: > 4.8 | 62.5 | 61.8 | -0.7 | -0.01 | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Table B-22. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for Pierce region, by selected characteristics: 2008

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-----------------------------------------------------------------------|----------------------|-------------------------|------|---------------|------------|---------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Mailing address available | | | | | 0.00 | 0.9750 |
| Yes | 67.9 | 67.9 | 0.0 | 0.00 | | |
| No | 32.1 | 32.1 | 0.0 | 0.00 | | |
| Median home-value | | | | | 4.15 | 0.1032 |
| Low: < \$162,105 | 4.9 | 6.0 | 1.1 | 0.22 | | |
| Medium: \$162,105 to \$213,734 | 32.5 | 29.9 | -2.6 | -0.08 | | |
| High:> \$213,734 | 62.6 | 64.0 | 1.4 | 0.02 | | |
| Metro status | | | | | # | # |
| In MSA | 100.0 | 100.0 | 0.0 | 0.00 | | |
| Outside MSA | † | † | † | † | | |
| Percent of population between 0- and 17-years-old (inclusive) | | | | | 0.57 | 0.7261 |
| Low: < 23.2 | 26.8 | 26.1 | -0.7 | -0.03 | | |
| Medium: 23.2 to 26.1 | 46.3 | 47.5 | 1.2 | 0.03 | | |
| High: > 26.1 | 26.9 | 26.4 | -0.5 | -0.02 | | |
| Percent of population between 18- and 24-years-old (inclusive) | | | | | 2.79 | 0.2454 |
| Low: < 9.0 | 3.8 | 4.1 | 0.3 | 0.08 | | |
| Medium: 9.0 to 9.8 | 60.1 | 62.1 | 2.0 | 0.03 | | |
| High: > 9.8 | 36.2 | 33.8 | -2.4 | -0.07 | | |
| Percent of population 65-years-old and up | | | | | 0.05 | 0.9671 |
| Low: < 10.4 | 47.6 | 47.3 | -0.3 | -0.01 | | |
| Medium: 10.4 to 13.1 | 27.6 | 27.8 | 0.2 | 0.01 | | |
| High: > 13.1 | 24.7 | 24.9 | 0.2 | 0.01 | | |
| Percent college graduates | | | | | 1.60 | 0.4015 |
| Low: < 22.9 | 53.1 | 51.3 | -1.8 | -0.03 | | |
| Medium: 22.9 to 31.9 | 32.3 | 32.9 | 0.6 | 0.02 | | |
| High: > 31.9 | 14.6 | 15.8 | 1.2 | 0.08 | | |
| Percent renters | | | | | 0.24 | 0.8683 |
| Low: < 26.9 | 35.8 | 35.5 | -0.3 | -0.01 | | |
| Medium: 26.9 to 36.2 | 24.5 | 25.2 | 0.7 | 0.03 | | |
| High: ≥ 36.2 | 39.6 | 39.2 | -0.4 | -0.01 | | |
| Percent with income \$100K and up | | | | | 4.53 | 0.0927 |
| Low: < 11.8 | 17.9 | 19.5 | 1.6 | 0.09 | | |
| Medium: 11.8 to 18.2 | 30.0 | 27.1 | -2.9 | -0.10 | | |
| High: > 18.2 | 52.1 | 53.4 | 1.3 | 0.02 | | |
| Percent with income between \$1K-10K (inclusive) | | | | | 2.45 | 0.2738 |
| Low: < 5 | 47.9 | 48.7 | 0.8 | 0.02 | | |
| Medium: 5 to 7.9 | 32.1 | 30.0 | -2.1 | -0.07 | | |
| High: > 7.9 | 20.0 | 21.3 | 1.3 | 0.07 | | |
| Percent White | | | | | 0.63 | 0.7249 |
| Low: < 79.4 | 54.6 | 53.7 | -0.9 | -0.02 | | |
| Medium: 79.4 to 87.5 | 21.2 | 22.2 | 1.0 | 0.05 | | |
| High: > 87.5 | 24.2 | 24.1 | -0.1 | 0.00 | | |

Table B-22. Percentage distribution of eligible households (using base weights) and participating households (using non-response adjusted weights) for Pierce region, by selected characteristics: 2008 (Continued)

| Characteristic | Sample of households | | Bias | Relative bias | Chi-square | |
|-------------------------|----------------------|-------------------------|------|---------------|-------------|---------------|
| | Eligibles (percent) | Participating (percent) | | | Statistic | p-value |
| Percent Black | | | | | 1.63 | 0.4261 |
| Low: < 0.7 | 9.2 | 10.2 | 1.0 | 0.11 | | |
| Medium: 0.7 to 1.8 | 15.9 | 14.9 | -1.0 | -0.06 | | |
| High: > 1.8 | 74.9 | 74.9 | 0.0 | 0.00 | | |
| Percent Hispanic | | | | | 1.97 | 0.3536 |
| Low: < 4 | 15.6 | 17.1 | 1.5 | 0.10 | | |
| Medium: 4 to 6.6 | 45.9 | 45.5 | -0.4 | -0.01 | | |
| High: > 6.6 | 38.5 | 37.4 | -1.1 | -0.03 | | |
| Percent Asian | | | | | 0.53 | 0.7570 |
| Low: < 1.6 | 8.0 | 8.7 | 0.7 | 0.09 | | |
| Medium: 1.6 to 4.8 | 37.3 | 37.2 | -0.1 | 0.00 | | |
| High: > 4.8 | 54.7 | 54.1 | -0.6 | -0.01 | | |

Computation not applicable

† No respondents

NOTE: Detail may not sum to totals because of rounding.

SOURCE: Office of Financial Management, Washington State Population Survey (WSPS) 2008.

Appendix C

Multivariate Analysis Tables

Table C-1. Results of logistic regression on response status, by characteristic

| Parameter | Parameter estimate | Standard error of estimate | p-value |
|--------------------------------------------------------------------------|--------------------|----------------------------|---------|
| Intercept | -1.402 | 0.2943 | <0.0001 |
| Mailing address available | 0.591 | 0.0348 | <0.0001 |
| Median home value | -0.035 | 0.0429 | 0.4190 |
| Metro status flag | 0.036 | 0.0719 | 0.6222 |
| Percentage in exchange that are between 0- and 17-years-old (inclusive) | -0.07 | 0.0292 | 0.0198 |
| Percentage in exchange that are between 18- and 24-years-old (inclusive) | 0.033 | 0.0273 | 0.2344 |
| Percentage in exchange that are 65-years-old and up | 0.019 | 0.0284 | 0.5143 |
| Percentage in exchange that are college graduates | 0.066 | 0.0333 | 0.0523 |
| Percentage renters | 0.002 | 0.0348 | 0.9472 |
| Percentage income 100K and up | -0.017 | 0.0381 | 0.6518 |
| Percentage income between 1K and 10K (inclusive) | -0.027 | 0.0343 | 0.4427 |
| Percentage White | 0.089 | 0.0322 | 0.0074 |
| Percentage Black | -0.015 | 0.0478 | 0.7609 |
| Percentage Hispanic | 0.033 | 0.0382 | 0.3885 |
| Percentage Asian | 0.039 | 0.0409 | 0.3411 |
| Region | | | |
| North Puget | 0.145 | 0.0766 | 0.0635 |
| West Balance | 0.244 | 0.0995 | 0.0169 |
| King | -0.024 | 0.0825 | 0.7749 |
| Other Puget Metro | 0.157 | 0.0675 | 0.0236 |
| Clark | 0.210 | 0.0787 | 0.0098 |
| East Balance | 0.369 | 0.1043 | 0.0008 |
| Spokane | 0.198 | 0.0858 | 0.0242 |
| Yakima | 0.285 | 0.0984 | 0.0052 |
| Snohomish | 0.003 | 0.0731 | 0.9711 |

| | | | | | | | | | |
|---------------------------------------------------------------------|-------------------------|----------|----------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--|----------|--|--|
| V = 1 | | | | | | | | | |
| Respondents (weighted) = 440101 Response rate (weighted) = 39.22 | REGN in (6,7,2,1,4,8,5) | gr = 3 | Cell 007 | Respondents (weighted) = 49030 Response rate (weighted) = 45.70 | | | | | |
| | REGN in (9,0,3) | Cell 005 | a0 = 1 | Cell 008 | | | | | |
| | | | in100 in (1,2) | Cell 020 | Respondents (weighted) = 29272 Response rate (weighted) = 35.45 | | | | |
| | | | in100 = 3 | Cell 021 | | | | | |
| | | | a18 in (1,2) | Cell 028 | | | | | |
| | | | in10 in (1,2) | Cell 034 | Respondents (weighted) = 13068 Response rate (weighted) = 37.78 | | Cell 042 | | |
| | | | a65 = 1 | | | | | | |
| | | | a65 in (2,3) | Cell 043 | Respondents (weighted) = 47594 Response rate (weighted) = 40.49 | | | | |
| | | | in10 = 3 | Cell 035 | Respondents (weighted) = 6042 Response rate (weighted) = 34.61 | | | | |
| | | | a18 = 3 | Cell 029 | Respondents (weighted) = 5792 Response rate (weighted) = 47.05 | | | | |

Figure C-1. Results of search analysis on response status (Continued)

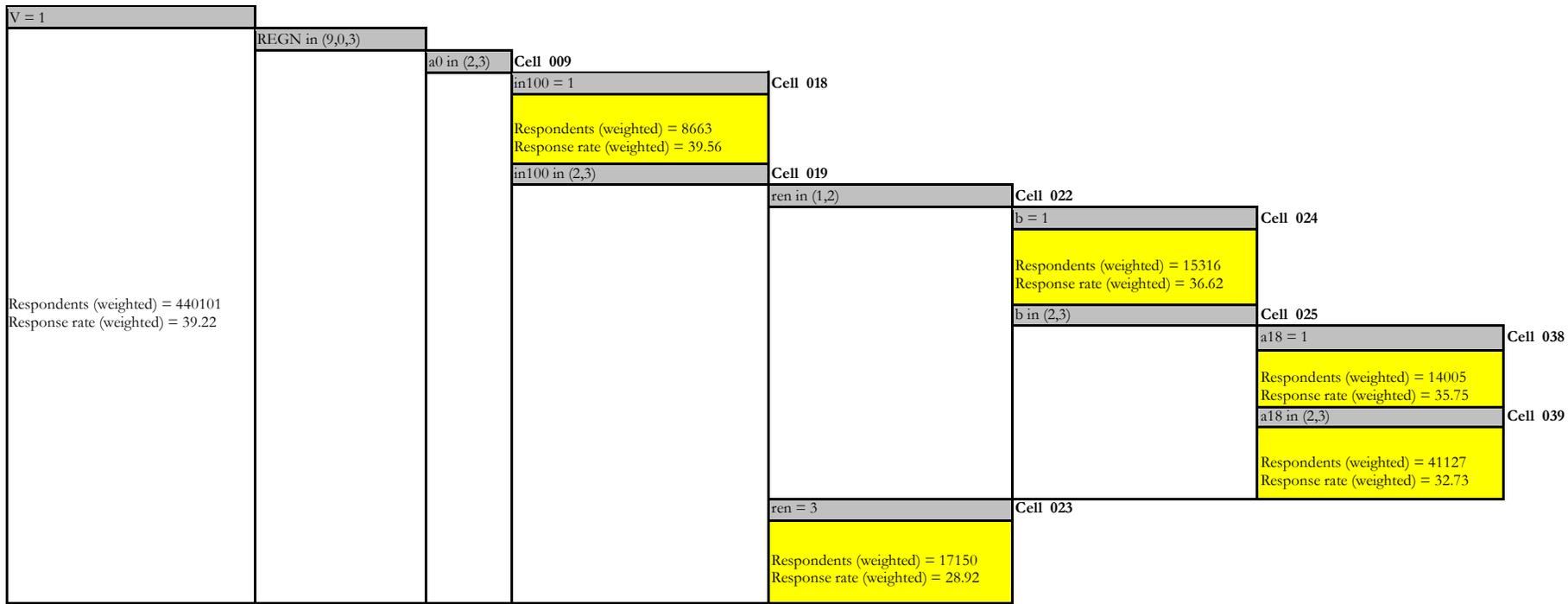


Figure C-1. Results of search analysis on response status (Continued)

*The variables in the figure are explained below. For detailed information about the values of each variable, please refer to Appendix B.

- a: Percentage Asian;
- a0: Percentage in exchanges that are between 0- and 17-years-old (inclusive);
- a18: Percentage in exchanges that are between 18- and 24-years-old (inclusive);
- a65: Percentage in exchanges that are 65-years-old and up;
- b: Percentage Black;
- gr: Percentage in exchange that are College Graduates;
- hv: Median Home Value in Exchange;
- in10: Percentage Income between 1K and 10K;
- in100: Percentage Income 100K and up;
- regn: Region, 1 = North Puget, 2 = West Balance, 3 = King, 4 = Other Puget metro, 5 = Clark, 6 = East Balance, 7 = Spokane, 8 = Yakima, 9 = Snohomish, 0 = Pierce;
- ren: Percentage Renters;
- v: Mailing address availability;
- w: Percentage White.

Appendix D

Comparisons to External Sources

Table D-1. Population estimates from the Current Population Survey: 2008 and American Community Survey: 2006

| Characteristic | Population control | | | | | |
|--------------------------------------|--------------------|--------|------|------------|--------|------|
| | CPS (2008) | | | ACS (2006) | | |
| | Estimate | 95% CI | | Estimate | 95% CI | |
| | | LB | UB | | LB | UB |
| Overall | 6,438,254 | † | † | 6,395,798 | † | † |
| Region | | | | | | |
| North Sound | † | † | † | † | † | † |
| West Balance | † | † | † | † | † | † |
| King | 23.4 | 21.5 | 25.3 | 28.6 | * | * |
| Other Puget Sound Metro | † | † | † | † | † | † |
| Clark | † | † | † | 6.5 | * | * |
| East Balance | † | † | † | † | † | † |
| Spokane | 5.5 | 4.5 | 6.5 | 7 | * | * |
| Yakima-Tricities | † | † | † | 7.2 | * | * |
| Snohomish | † | † | † | 10.5 | * | * |
| Pierce | † | † | † | 12.0 | * | * |
| Metro Status | | | | | | |
| Metro | 91.1 | 89.5 | 92.7 | † | † | † |
| Non Metro | 8.9 | 3.9 | 13.9 | † | † | † |
| Age | | | | | | |
| ≤ 18 | 25.6 | 23.3 | 27.9 | 25.5 | 25.1 | 25.9 |
| 19-34 | 21.4 | 19.9 | 22.9 | 22.1 | 21.7 | 22.5 |
| 35-64 | 42.3 | 40.5 | 44.1 | 40.9 | 40.4 | 41.4 |
| ≥ 65 | 10.7 | 10.7 | 10.7 | 11.5 | 11.2 | 11.8 |
| Sex | | | | | | |
| Male | 49.5 | 47.2 | 51.8 | 49.8 | 49.1 | 50.5 |
| Female | 50.5 | 48.3 | 52.7 | 50.2 | 49.5 | 50.9 |
| Highest education¹ | | | | | | |
| Less than high school | 8 | 7.0 | 9.0 | 11.1 | 10.7 | 11.5 |
| High school | 25.6 | 24.1 | 27.1 | 25.8 | 25.2 | 26.4 |
| Some college | 34.8 | 33.1 | 36.5 | 32.8 | 32.1 | 33.5 |
| College graduate | 31.6 | 30.0 | 33.2 | 30.3 | 29.6 | 31.0 |
| Race/ethnicity | | | | | | |
| Hispanic | 8.1 | 6.8 | 9.4 | 9.2 | 8.6 | 9.7 |
| White | 76.5 | 74.6 | 78.4 | 76.1 | 74.9 | 77.2 |
| Black | 3.5 | 2.6 | 4.3 | 3.2 | 2.9 | 3.5 |
| American Indian/Alaskan Native | 0.8 | 0.4 | 1.2 | 1.3 | 1.1 | 1.5 |
| Native Hawaiian/Other PI | 0.6 | 0.3 | 1.0 | 0.4 | 0.3 | 0.6 |
| Asian | 6.3 | 5.2 | 7.4 | 6.7 | 6.3 | 7.1 |
| Others | 4.2 | 3.3 | 5.1 | 3.1 | 2.8 | 3.4 |
| Marital status² | | | | | | |
| Married | 54.4 | 52.0 | 56.8 | 51.2 | 50.6 | 51.8 |
| Never Married | 28.1 | 26.0 | 30.2 | 29.4 | 28.9 | 29.9 |
| Other | 17.5 | 15.7 | 19.3 | 19.4 | 19.0 | 19.8 |
| Total household income | | | | | | |
| ≤ 24,999 | 17.0 | 15.3 | 18.8 | 22.1 | 21.2 | 22.9 |
| 25,000 to 99,999 | 65.4 | 63.2 | 67.7 | 58.9 | 57.9 | 59.8 |
| ≥ 100,000 | 17.6 | 15.8 | 19.3 | 19.1 | 18.3 | 19.9 |

Table D-1. Population estimates from the Current Population Survey: 2008 and American Community Survey: 2006 (Continued)

| Characteristic | Population control | | | | | |
|----------------|--------------------|--------|----|------------|--------|------|
| | CPS (2008) | | | ACS (2006) | | |
| | Estimate | 95% CI | | Estimate | 95% CI | |
| | | LB | UB | | LB | UB |
| Own/rent | | | | | | |
| Rent | † | † | † | 34.5 | 33.5 | 35.5 |
| Own | † | † | † | 65.5 | 64.5 | 66.5 |

† Not applicable.

* An '*' entry in the confidence interval column indicates that the estimate is controlled.

¹ Estimation of Highest education for WSPS, ACS and CPS is based on population 25-years and over.

² Estimation of Marital Status for WSPS, ACS and CPS is based on population 15-years and over.

NOTE: Detail may not sum to totals because of rounding.

The population control is from Current Population Survey (CPS): April 2008 and American Community Survey (ACS): 2006.

All adults of Hispanic origin are classified as Hispanic regardless of race. Those classified as White are non-Hispanic White only. Those classified as Black are non-Hispanic Black only. Those classified as American Indian/Alaskan Native are non-Hispanic American Indian/Alaskan Native only. Those classified as Native Hawaiian/Other PI are non-Hispanic Native Hawaiian/Other PI only. Those classified as Asian are non-Hispanic Asian only. Those classified as Other include non-Hispanics of all other races.