

Technical Report Safe and Secure Survey

prepared for

**Department of Communities
(on behalf of the Seniors Task Force)**

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Department of Communities Safe and Secure Survey 2005

Technical Report

1.0 Introduction

The Safe and Secure Survey 2005 was conducted on behalf of the Department of Communities by the Office of the Government Statistician (OGS) from the 21st September to the 4th October 2005.

The objective of the survey was to obtain information about public attitudes to crime and fear of crime in Queensland.

The methodology used for the survey is described in Section 2, Operational Results and interviewer feedback are reported in Section 3, Recommendations and Issues are discussed in Section 4 and Weighting, Output and Reliability of results in Sections 5, 6 and 7 respectively.

2.0 Survey Methodology

The survey was conducted by Computer Assisted Telephone Interviewing (CATI). A total of 25 part-time interviewers were used for the duration of the survey.

2.1 Scope of the survey

The inscope survey population was all people aged 16 years or over who were usually resident in private dwellings with telephones throughout Queensland.

2.2 Survey frame

The frame of telephone number ranges in Queensland was constructed using the February 2005 release of DTMS' Marketing Pro, an electronic version of the White Pages.

About 15 percent of households with telephones have silent numbers. In order to ensure that silent numbers were covered by the survey, phone numbers were randomly selected from ranges of numbers which included all connected telephone numbers. This method of sampling is called Random Digit Dialling (RDD). Such samples will unfortunately also contain unconnected numbers, business telephone numbers and other out-of-scope numbers.

Broadly, ranges were derived by finding the maximum and minimum telephone numbers in each four-digit prefix combination that included telephone numbers. Of the telephone numbers on the frame, about 45% were expected to be connected private dwelling numbers.

After screening for private dwelling households with one or more usual residents aged 16 years or over, one usual resident aged 16 years or over was asked for the initials of all people aged 16 years or over in the household. One person randomly selected from all people aged 16 years or over in the household, was then asked the remaining questions on the questionnaire.

2.3 Sample design and selection

A total sample of 15,413 telephone numbers was selected for the survey, to achieve 1,200 completed interviews throughout Queensland. Queensland was stratified into 10 regions.

The sample was designed to achieve 120 interviews in each of the following 10 QHS regions:

- Brisbane;
- North and West Moreton;
- South and East Moreton;
- Darling Downs Statistical Division (SD);
- Wide Bay-Burnett Statistical Division SD;
- Fitzroy SD;
- Mackay SD;
- Northern SD;
- Far North SD; and
- South West, Central West and North West SDs combined.

After selection, the sample was post-stratified to achieve

- 180 participants in age groups (16-24, 25-34, 35-49, 50-64); and
- 480 participants in the 65 plus age group.

The sample achieved in each of the age groups was:

Age Groups	Frequency
16-24	181
25-34	182
35-49	190
50-64	183
65 or more	486

3.0 Operational Results

Operational results reported in this section apply to the full sample.

3.1 Status of sample agencies at completion of survey

Although 15,413 sample units were allocated to the main sample, only 13,369 sample units needed to be attempted to achieve the main sample. From those that were attempted, 1,218 completed interviews were achieved¹. As the sample units were randomly ordered on the queue, no bias results from this action. The results of **all attempted** sample units in the survey appear below (Table 1). Definitions of some of the status codes are given at Appendix 1.

Table 1: Sample Units

Status	Number	%
No answer	1,191	8.9
Engaged	179	1.3
Answering machine	336	2.5
FAX machine	831	6.2
Unable survey – Away	110	0.8
Unable survey – Illness	93	0.7
Unable survey – Hearing	65	0.5
Unable survey – Other Disability	4	0.1
Unable survey – Speech	5	0.1
Unable survey – Intellectual	24	0.2
Language problems – Survey	42	0.3
Out of scope – Business	1,340	10.0
Out of scope – Household	2,912	21.8
Callback	19	0.1
Partially completed – give up	41	0.3
Partially complete	10	0.1
Completed	1,218	9.1
Refused survey – Phone Slam	259	1.9
Refused survey	711	5.3
Disconnected	3,969	29.7
Multiple	10	0.1
TOTAL	13,369	100.0

¹ Eight partially completed interviews were later classified as completed, as three or fewer questions were refused, and four previously completed surveys were classified as partially completed due to missing questions, resulting in a total of completed interviews of 1,222.

Sample units were classified (see Table 2) as:

- inscope responding, if the interview resulted in a completed survey or partially completed survey. An interview was classified as partially completed if there were three or less questions refused.
- inscope non-responding, if the survey was: partially completed and there were more than three refusals; the survey was partially completed and the respondent gave up; if the selected person was unable to be surveyed; if the selected person or household refused; or a call-back appointment was made but did not eventuate. If the number contacted: did not answer; was engaged; or was an answering machine, and the number appeared in the white pages, it was also classified as in scope non-responding.
- Out of scope, if the number contacted was an out of scope business, household or extra or the number contacted did not answer, was engaged, was an answering machine and did not appear in the white pages or Fax machine or was disconnected or if the number was a duplicate.

Table 2: Status by Scope – Sample Units

Status	Inscope Responding	Inscope Non-Responding	Out of Scope	Total
No answer		278	913	1,191
Engaged		32	147	179
Answering machine		189	147	336
FAX machine			831	831
Unable survey – Away		110		110
Unable survey – Illness		93		93
Unable survey – Hearing		65		65
Unable survey – Other Disability		4		4
Unable survey – Speech		5		5
Unable survey – Intellectual		24		24
Language problems – Survey		42		42
Out of scope – Business			1,340	1,340
Out of scope – Household			2,912	2,912
Callback		19		19
Partially completed – give up		41		41
Partially complete	8**	2		10
Completed	1,214	4*		1,218
Refused survey – Phone Slam		259		259
Refused survey		711		711
Disconnected			3,969	3,969
Multiple			10	10
TOTAL	1,222	1,878	10,269	13,369

3.2 Response rate

The response rate for the survey was calculated by the number of interviews that were able to be used in the analysis as a percentage of all possible interviews that could have been achieved had every in scope household in the sample responded. As noted above, only those ‘Partially Completed’ interviews with a high proportion of questions answered were used in the analysis.

By excluding the categories ‘Disconnected’, ‘Fax’, ‘Out-of-Scope – Business’, and ‘Out-of-Scope – Household’, and a proportion of sample units coded as ‘Answering Machine’, ‘No Answer’, ‘Refused Outright’, and ‘Engaged’ that should be considered as out-of-scope, from the combined

** Eight of the ten observations classified by the CATI system as partially completed had 3 or less unanswered questions and were re-classified as inscope responding.

* Although these observations were classified by the CATI system as completed four had more than 3 unanswered questions and one had the age group missing so they were reclassified as inscope non responding.

data in the previous section, the best estimate of the **overall response rate** for the survey is **39.4%**.

Response rate for each region are contained in Table 3 below:

Table 3: Response rate by region

Region	Response Rate
Brisbane SD	37.7%
North & West Moreton LFR	39.4%
South & East Moreton LFR	33.0%
Darling Downs SD	48.4%
Wide Bay Burnett SD	39.8%
Fitzroy SD	40.8%
Mackay SD	40.1%
Northern SD	46.8%
Far North SD	35.1%
South West, Central West, North West SDs	32.1%

3.3 Performance against the assumptions made in survey design

Assumption 1: The average total time for a completed interview would be 20 minutes.

The average time for a completed interview was **16.7 minutes**.

Assumption 2: The response rate would be 60.0%.

The response rate for the survey was 39.5%. This is considerably lower than expected and was due primarily to the large number of refusals. The interviewers reported that refusals generally occurred as soon as the interviewees were told that the survey was about crime.

Assumption 3: 1,200 interviews would be obtained throughout Queensland.

A total of 1,222 completed or useable partial interviews were obtained.

3.4 Monitoring of interviewers

Monitoring of the interviewers was conducted throughout the survey and it was found that the interviewers were conducting the surveys in a professional manner, in line with OGS recommended procedures.

3.5 Interviewer feedback

General

The interviewers were asked to provide feedback on respondent reaction to the survey.

The following comments were received:

- Generally positive response even to serious crime questions (although still awful to ask);
- Some of the elderly were not comfortable in giving out how many in the household or how many in age group;
- Only a few people had any real objections to the content matter of the questions;
- I really enjoyed doing the survey;
- Good - better than expected;
- There was a reasonable reaction to the survey although some people said 'get to the point' in the introduction, suggesting it was too long;
- Older people were annoyed at the length of the introduction and it gave them too much opportunity to hang up;
- Most respondents are happy enough to do survey;
- Some elderly people were hesitant when called in the evenings to answer questions on crime;
- A very good length of survey which helped with the interest level;
- Generally very positive, very few refusals and very little hostility, compared to other surveys. However towards the end this changed and refusals seemed to increase as we were concentrating on the 65 and over age group;
- A number of respondents asked why we didn't ask about being afraid for children's safety or being abducted;
- I was a bit uncomfortable asking about the rape and murder questions;
- Letters should have been sent out. Most people wanted the 1800 number to confirm the legitimacy;
- Q8 - would have been easier to ask if they were one question, not two;
- Q8 - some elderly people had trouble grasping the 1 - 10 rating scale;
- Q8 - there is not much distinction between 'afraid' and 'worry';
- Q8, Q19 - need a category of 'not applicable' for those that do not own cars;
- Q10 - A 'not applicable' category could be added for those elderly respondents who do not go out at night;
- Q12 - could be reworded, so there is no '... that is ...';
- Q15, Q16 - should specify whether day or night';
- Q19 - some elderly respondents were getting confused with the likelihood categories;
- Q19 - this question upset some of the elderly respondents;
- Q19 - change wording from 'that you will' to 'that you may';
- Q19 - many respondents said this was a highly hypothetical question and how could they answer it;
- Q24 - some respondents don't know as they are house bound;
- Q32 - some people who answered were renters and said their landlord put the security on the premises;
- Q32 - some respondents were curious as to what these questions have to do with crime; and

- Q39 - the use of the words 'Anglo-Australian' caused confusion amongst people and some people took offence with it. Respondents answered that they were 'white Australian' or 'Australian' and a couple of people said they were 'Catholic'.

3.6 Respondent queries

More queries than for a normal telephone survey were received on the freecall 1800 number, mainly to ascertain if the survey was a legitimate government survey. It is assumed that the reason for this was the topic (i.e., fear of crime). Feedback obtained from the interviewers was that the 1800 number was provided on nearly half of their calls in some instances, so it is assumed that from the volume of calls received on the 1800 number, that information provided by the interviewers was sufficient to allay most concerns that the respondents may have had regarding the legitimacy of the survey, and so the need to ring the 1800 number was decreased.

3.7 Editing

Editing was performed by OGS throughout the duration of the survey. No major problems occurred with the questionnaire.

4.0 OGS Recommendations/Issues to Consider

If the survey is to be repeated in the future, the following recommendations made by OGS should be considered:

- Q8 - a category of 'not applicable' should be added;
- Q10 - a category of 'not applicable' should be added;
- Q12 - reword question to 'is there any area within one kilometre of where you live, where you would be afraid to walk alone at night';
- Q15 - should specify day or night in the question;
- Q16 - should specify day or night in the question;
- Q19 - a category of 'not applicable' should be added;
- Q39 - reword question to standard OESR cultural or ethnicity question.

5.0 Weighting Procedure

The steps involved in calculating person weights, w_{2p} , were as follows:

Initial household weights w_{1h} were calculated at the stratum level allowing for non-response and out-of-scopes. When pre-approach letter are sent calculations are performed taking this into account to ensure the higher response rates obtained from pre-approach letters were taken into account. However, as pre-approach letters were not sent all calculations were performed assuming respondents had not been sent a pre-approach letter. Decisions were made on how to classify the result obtained for each telephone number in the sample. There were 3 categories – out-of-scope, inscope responding, and inscope non-responding. The weight for each out-of-scope was N_S / n_S and the weight assigned to each inscope responding telephone number was

$$w_{1h} = N_S / n_S * (n_{RS} + n_{US}) / n_{RS} \text{ where}$$

n_{RS} = number inscope responding useable units in each stratum

n_{US} = number inscope non responding or responding but unusable units in each stratum

n_S = total stratum sample size (telephone numbers sampled from RDD frame)

N_S = total stratum population size as per RDD frame

2. For each selected person, a weight was calculated to reflect the probability of their selection.

$$w_{1p1} = (w_{1h} \cdot q_h)$$

q_h = total number of people aged 16+ in household h.

3. These weights were then adjusted by a factor of the reciprocal of the response rate for persons grouped into one of two groups depending on whether they were sent a pre-approach letter. The two specific pre-approach letter groups were; whether their household was sent a pre-approach letter; whether their household was unable to be sent a pre-approach letter since their phone number was not on the electronic white pages; and the remainder of persons. As stated above all households were treated as not having received a pre-approach letter.

$$w_{1p2} = w_{1p1} / rr \text{ where}$$

rr = pre-approach letter status response rate

4. Now using these weights, Generalised Regression Weighting was used to adjust the weights so that the estimated number of people aged 16 or over in the following categories agreed with corresponding estimates of the civilian population aged 16 and over in each category provided by the Australian Bureau of Statistics (or derived from ABS data), adjusted for the proportion in private dwellings:
 - age by sex by (metropolitan vs ex-metropolitan)
 - households by QHS region

The weight was also adjusted so that the estimated number of households by QHS region agreed with corresponding estimates of occupied private dwellings provided by the Department of Local Government and Planning.

The final household weights (w_{2h}) were calculated as the ratio of the estimated total number of occupied dwellings provided by the Department of Local Government and Planning by the number of inscope responding households for each region.

6.0 Output

6.1 Categories used for the demographic variables

Demographic	Code	Category
Age	1	18-34
	2	35-64
	3	65 +
Gender	1	Male
	2	Female

6.2 Other output

Listing of content of “Other (please specify) categories of relevant questions are provided in a separate document.

7.0 Reliability of Estimates

Estimates based on a sample survey are subject to two types of error:

Sampling error. Estimates based on information obtained from a sample of households may differ from figures that would have been produced if all households had been included in the survey.

Non sampling error. Errors may also occur due to non-response to the survey, inadequacies of the sampling frame, inaccuracies in reporting by respondents and processing errors.

One measure of the sampling error is the *standard error (SE)*. It measures the extent to which an estimate may vary by chance because only a sample of households were included in the survey.

Given a large enough sample size, there are about two chances in three that an estimate will differ by less than one standard error from the figure that would have been obtained if all households had been included, and about 19 chances in 20 that the difference will be less than two standard errors.

An alternative measure of the sampling error is the *relative standard error (RSE)*, which expresses the standard error as a percentage of the estimate. The RSE of an estimate is given by the following expression:

$$RSE = (SE/Estimate) \times 100$$

where SE stands for the standard error of the estimate.

Confidence intervals can be obtained from RSEs by first inverting the above formula to obtain:

$$SE = Estimate \times (RSE/100).$$

Then the general formula for a confidence interval is:

$$CI = Estimate \pm Z \times SE$$

where Z is the appropriate value from the standard normal table. For example, for a 95% confidence interval, $Z = 1.96$ (often rounded to 2).

7.1 Calculation of standard errors of numbers of persons

The standard errors for each estimate were calculated using a jackknife standard error estimation technique with 30 replicates.

7.2 Variability of estimates

95% confidence intervals for the percentages are provided in the tables. These intervals represent the range within which there is a 19/20 chance that the population value falls. For example, an estimate of 65% might have an associated confidence interval of (59.5%, 70.5%). Thus, the probability that the actual population value of that proportion is between 59.5% and 70.5% is 0.95.

Appendix A: Status Codes

Unable Survey - Away - When the selected person could not be contacted within the call period because they were on holidays or were not available.

Unable Survey - Illness - When the selected person could not be contacted within the call period because they were ill.

Unable Survey - Hearing - When the selected person could not undertake the survey due to hearing difficulties.

Unable Survey - Other Disability - When the selected person could not undertake the survey due to an unspecified disability.

Unable Survey - Speech - When the selected person could not undertake the survey due to an inability to speak.

Unable Survey - Intellectual - When the selected person could not undertake the survey due to intellectual difficulties.

Language Problems - Survey - When the selected person could not undertake the survey due to language problems.

Out of Scope Business - When the person who answers the phone advises that we have called a business.

Out of Scope Household - When the person who answers the phone indicates that no one lives in the household aged 16 or more or that there are no usual residents living in the household.

Partially Completed - Give Up - when the respondent has failed to complete the survey.

Partially Completed - when the respondent completed the survey but refused to answer one or more questions.

Refused Survey - Phone Slam - when the person who answers the phone hangs up in the introduction and the interviewer can not determine if they have called a household.

Refused Survey - when the selected person refuses to undertake the survey or has indicated that they live in a household but do not want to undertake the survey.

Callback – A callback was arranged to contact the selected person to interview but the appointment was unable to be completed by the time the interviewing period closed.

Disconnected – The number was disconnected and Telstra was called to determine if a new number could be found. This was unsuccessful.

Multiple – When the household has advised that they have two separate telephone lines and they had already completed the survey on the other line.