



THE ROYAL AUTOMOBILE CLUB OF QUEENSLAND LIMITED

BICYCLE HELMET WEARING SURVEY

TRAFFIC AND SAFETY DEPARTMENT
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THE ROYAL AUTOMOBILE CLUB OF QUEENSLAND LIMITED

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Prepared by: Traffic and Safety Department
The Royal Automobile Club of Queensland Limited
179 Water Street
SPRING HILL QLD 4001

Abstract: This report presents results from the 2001 Bicycle Helmet Wearing Survey undertaken in ten regional areas throughout Queensland. The report discusses average helmet wearing rates according to the type and gender of the cyclists and compares how wearing rates have changed from previous surveys conducted in 1988, 1989, 1990, 1991 and 1997. Cyclists observed included primary and secondary school students, adults and children at other locations.

Acknowledgements: The RACQ Traffic and Safety Department wishes to thank the RACQ Regional Managers and branch staff, and Primary and Secondary Schools who participated in this survey.

EXECUTIVE SUMMARY

The 2001 RACQ bicycle helmet wearing survey was conducted between April and August at locations throughout Queensland such as primary schools, secondary schools, bikeways, parks, and urban streets.

5117 cyclists were observed of which 77 percent were wearing a helmet, up from 71 percent in 1997 and 52 percent in 1991. Of those cyclists surveyed 78 percent were male which is an increase from 75 percent in 1997.

Of all the regional areas surveyed Townsville/Thuringowa had the highest bicycle helmet wearing rate at 94 percent and Gold Coast had the lowest at 61 percent.

Of all the primary school cyclists observed throughout Queensland 88 percent were wearing a helmet, which is an increase from 84 percent in 1997. Males accounted for 73 percent of primary school cyclists observed.

Sixty-seven percent of all secondary school cyclists observed were wearing a helmet, up from 66 percent in 1997. Female secondary school cyclists continue to have the lowest helmet wearing rate with 61 percent which is the same as the 1997 survey result.

Of all the adult cyclists observed 91 percent were wearing a helmet, which is an increase from 72 percent in 1997 and 55 percent in 1991.

Child cyclists observed at locations other than near schools (e.g., along bikeways) had an 80 percent wearing rate, which was higher than the combined average wearing rate of 75 percent for child cyclists observed near schools.

Overall, nine percent of cyclists were observed carrying a helmet with female secondary school cyclists tending to carry their helmets the most at 25 percent.

A number of school students were observed wearing their helmets with chin straps not properly fastened or with a baseball-style cap worn underneath the helmet.

Ridership was lower in many of the schools selected in the previous surveys. However it is difficult to determine whether bicycle ridership has decreased in general.

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1.0 INTRODUCTION

The 2001 RACQ Bicycle Helmet Wearing Survey was a statewide survey conducted in April - August 2001. The survey was coordinated by the RACQ Traffic and Safety Department and involved the cooperation of RACQ regional managers, RACQ branch staff, school staff and school students. Previously the RACQ had conducted bicycle helmet wearing surveys in 1988, 1989, 1990, 1991 and 1997.

In 1997, the overall helmet-wearing rate of all cyclists observed was 71 percent. This was significantly higher than the 52 percent in 1991 and 11 percent in 1988. These noticeable improvements in the overall helmet-wearing rate were largely attributed to the introduction of the following:

- Legislation to make bicycle helmet wearing compulsory in 1991; and
- Enforcement measures including monetary penalties to be imposed on cyclists not wearing helmets in 1993.

At present, a \$30 fine is the penalty for breaching section 256 of the Transport Operations (Road Use Management - Road Rules) Regulation 1999. Section 256 (1) states:

"The rider of a bicycle must wear an approved bicycle helmet securely fitted and fastened on the rider's head."

1.1 Objectives

The objectives of this study and the 2001 Bicycle Helmet Wearing Survey were:

- To gather up-to-date data which gives an indication of bicycle helmet wearing rates in Queensland, particularly among school aged children;
- To compare results with those obtained in previous surveys conducted by the RACQ;
- To see if legislative changes and public education have continued to have any effect on current wearing rates; and
- To provide a benchmark for future surveys.

1.2 Scope

This report is based on information and results collated from Bicycle Helmet Wearing Surveys conducted by the RACQ between 1988 and 2001.

2.0 METHODOLOGY

The 2001 RACQ Bicycle Helmet Wearing Survey was conducted across ten regions in Queensland. The regions surveyed were Brisbane area, Bundaberg, Cairns, Gold Coast, Ipswich, Mackay, Rockhampton, Sunshine Coast/Wide Bay, Toowoomba, and Townsville/Thuringowa. This survey was the first time that sites from the Sunshine Coast/Wide Bay region were included.

2.1 Site Selection

Although the final sites chosen by RACQ Regional Managers and staff were left to their discretion, they were generally similar to those sites chosen for previous RACQ surveys. These included primary schools (public and private), secondary schools (public and private) and other locations.

2.1.1 School Locations

Overall, 104 different schools were surveyed for helmet wearing amongst students. Table 1 shows the number and type of schools that were surveyed in each region.

Table 1 - Number of Schools Surveyed.

Region	Primary Schools	Secondary Schools	Sub-Total
Brisbane	15	15	30
Bundaberg	4	4	8
Cairns	3	3	6
Gold Coast	7	9	16
Ipswich	5	3	8
Mackay	2	3	5
Rockhampton	3	4	7
Sunshine Coast/Wide Bay	3	7	10
Toowoomba	5	4	9
Townsville/Thuringowa	3	2	5
Overall Total	50	54	104

As mentioned above, the majority of schools chosen were also surveyed in previous surveys. Additional school sites were surveyed in 2001, partly because the ridership at previous locations was lower, but also to increase the spread of survey sites and overall sample size for each category of rider at the various locations surveyed in Queensland.

2.1.2 Other Locations

Other locations were generally chosen on the basis that a reasonable volume of cyclists could be expected (e.g., university campuses, shopping centres, bikeways, parks and busy intersections).

Where it was not possible to obtain a sufficient sample size of cyclists at set locations, it was suggested that surveyors conduct a roving-type survey by observing cyclists on roads or

along bikeways.

Due to the lack of cyclists observed during survey periods, it was not possible to include results in the other locations category for Ipswich, Toowoomba and Gold Coast regions.

2.2 Data Collection

Data was collected by RACQ, school staff and students between April and August 2001.

RACQ staff members carried out a majority of the surveys. In Brisbane and Ipswich, staff from the Traffic and Safety Department conducted the surveys. Regional Managers and branch staff conducted the surveys in regional centres.

For the first time since RACQ began conducting Bicycle Helmet Wearing Surveys, schools in Brisbane, Cairns, Gold Coast, Ipswich and Toowoomba were approached for assistance in conducting the surveys. Overall, out of the 104 schools surveyed, 22 of the schools carried out the surveys themselves.

2.2.1 Survey Form

The Survey Form was basically the same as that used in the RACQ's 1991 and 1997 Bicycle Helmet Wearing Surveys. A minor change included noting whether or not the school had a helmet wearing policy. An example of the survey form is shown in Appendix B.

Observed bicycle riders were split into three categories:

- 1) Wearing;
- 2) Non-wearing; and
- 3) Carrying.

Additional information about the cyclists' age (i.e., child or adult) and gender were then recorded under one of these category headings to allow for efficient identification of any trends in helmet wearing relating to these characteristics.

2.2.2 Data collected at schools

For school based data collection, the surveyor stood near access points to the school grounds with a good view of students either arriving in the morning or departing in the afternoon.

Prior to the survey, school administrators were advised that a survey would take place so that the presence of unknown adults at the school gates would not cause concern among parents and teachers. Accordingly, so as not to distort figures, the administrators were also asked not to draw the attention of the students to the need for helmet wearing because they were being surveyed.

2.3 Definitions

Definitions of the terms used on the survey form to describe cyclists are as follows:

- **Wearing** - a person observed using a safety helmet on their head whilst riding a bicycle (Note: Due to the large volume of cyclists leaving school grounds, it was not possible to determine and record if their helmets were properly fastened);
- **Non-wearing** - a person observed not in the possession of a safety helmet whilst riding a bicycle;
- **Carrying** - a person observed in possession of a safety helmet but **not** wearing it on their head whilst riding a bicycle;
- **Child** - a person observed riding a bicycle perceived to be 18 years or under;
- **Adult** - a person observed riding a bicycle perceived to be over the age of 18 years;
- **Primary School Student** - a person observed riding a bicycle perceived to be between the ages of 5 and 12 years at a location near a primary school; and
- **Secondary School Student** - a person observed riding a bicycle perceived to be between the ages of 13 and 18 years at a location near a secondary school.

3.0 SURVEY RESULTS

3.1 All Cyclists

An overall total of 5117 cyclists were observed in the survey of which nearly 78 percent were male. This represents an increase in the proportion of male cyclists since the previous survey in 1997 in which 75 percent were male.

Table 2 shows that 77 percent of all cyclists (i.e., primary and secondary students as well as adults) were wearing a helmet, which is up from a wearing rate of 71 percent in 1997.

Table 2 - Helmet Wearing Trends for All Cyclists (%)

Region	1988	1989	1990	1991	1997	2001	Ranking [◇]
Brisbane Area	8	9	13	47	62	76	6
Bundaberg	8	11	16	47	80	80	4
Cairns	2	29	31	33	77	91	2
Gold Coast	5	17	18	51	68	61	10
Ipswich	16	12	27	65	78	68	8
Mackay	3	13	21	66	77	79	5
Rockhampton	24	27	7	49	84	90	3
Sunshine Coast/Wide Bay	-	-	-	-	-	61	9
Toowoomba	15	15	27	50	77	74	7
Townsville/Thuringowa	9	5	11	63	78	94	1
All Cyclists	11	12	16	52	71	77	-

◇ - Compared with other regions surveyed in 2001.

Table 2 also shows that overall wearing rates for cyclists have increased in most regions since the previous survey (also illustrated by Figure A1 in Appendix A). More importantly, these results further consolidate the marked improvements in helmet-wearing rates since compulsory helmet-wearing legislation was introduced in Queensland in 1991, as illustrated in Figure 1 below.

Figure 1 - Overall Helmet Wearing Trend for Cyclists in Queensland (%)

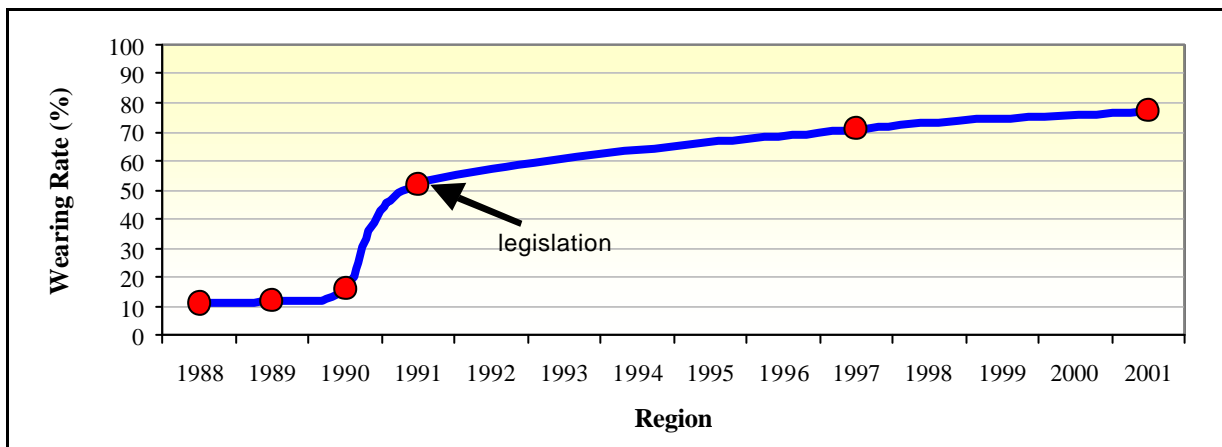
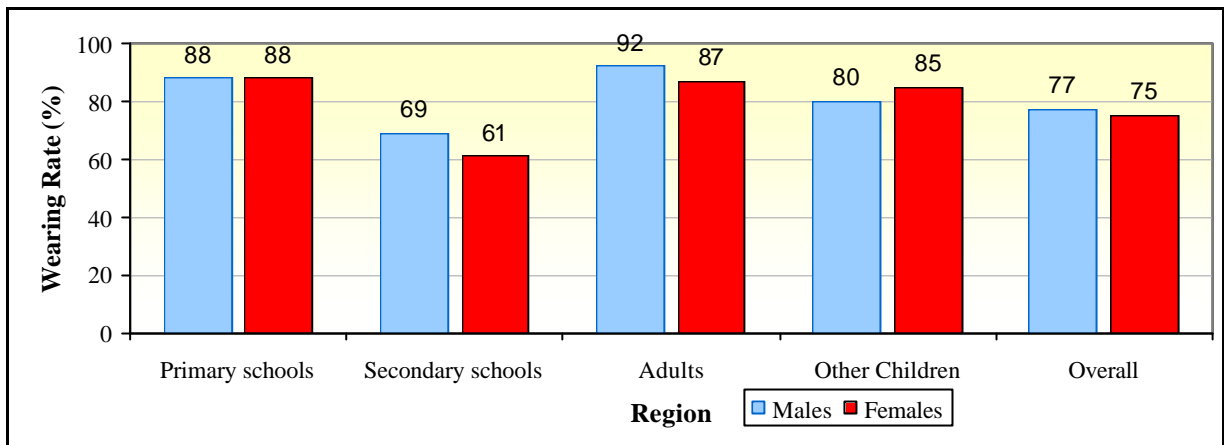


Figure 2 shows that overall, male cyclists had higher helmet wearing rates than female cyclists. The exception being children at other locations where the female cyclists with 85 percent had a higher helmet-wearing rate than the male cyclists with 80 percent.

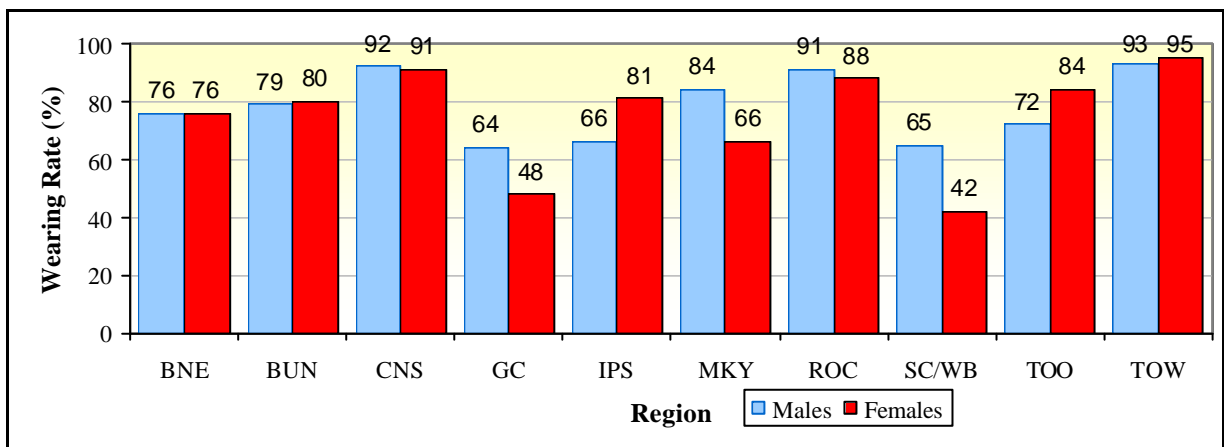
Figure 2 - Overall Wearing Rates by Gender, 2001.



Overall, female secondary school students had the lowest wearing rate with 61 percent, while male adult cyclists had the highest wearing rate with 92 percent.

Figure 3 shows that the region with the highest wearing rate for both males and females was Townsville/Thuringowa, with 93 percent and 95 percent respectively. The Gold Coast had the lowest wearing rates for males with 64 percent, while Sunshine Coast/Wide Bay had the lowest wearing rate for females with 42 percent. Sunshine Coast/Wide Bay also had the biggest difference in wearing rates between genders with a 23 percent difference.

Figure 3 - Regional Wearing Rates for All Cyclists by Gender, 2001.



In most regions, male cyclists had higher or similar wearing rates compared to female cyclists. Only in Ipswich and Toowoomba were the female helmet wearing rates noticeably higher than their male counterparts.

3.1 Primary Schools

A total of 1556 primary school cyclists were observed in the survey of which 73 percent were male. This represents an increase in the proportion of male cyclists compared to 1997 in which 70 percent were male.

Table 3 shows that 88 percent of all primary school cyclists were wearing a helmet, which is an increase from 84 percent achieved in the 1997 survey and 27 percent in 1988. A comparison of the trends in the wearing rates of primary school cyclists indicated that a

majority of regions have consolidated on improvements shown in previous surveys with similar or increased wearing rates (illustrated by Figure A2 in Appendix A).

Table 3 - Helmet Wearing Trends for Primary School Cyclists (%).

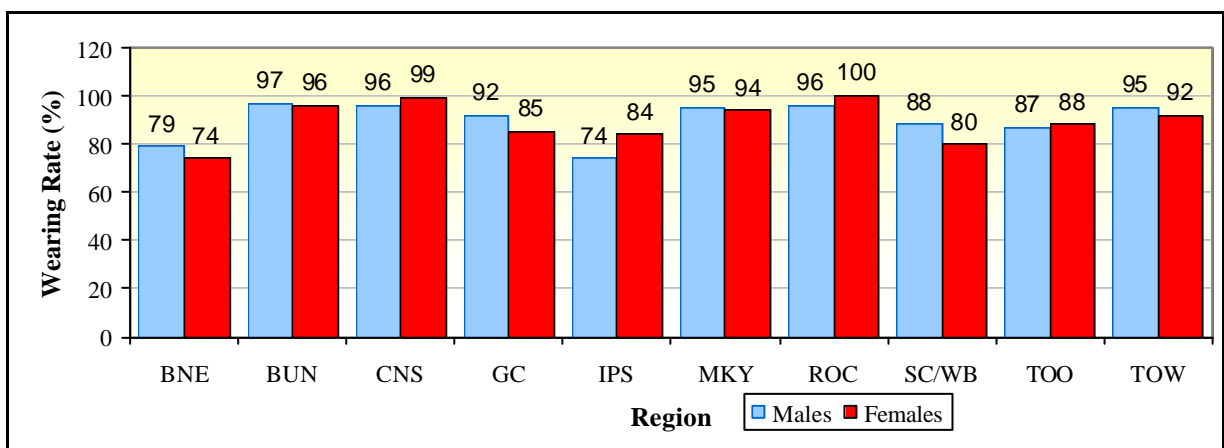
Region	1988	1989	1990	1991	1997	2001	Ranking [◇]
Brisbane Area	18	27	37	79	82	78	9
Bundaberg	51	85	67	80	99	97	2
Cairns	2	51	33	59	77	97	1
Gold Coast	20	29	25	80	84	90	6
Ipswich	26	18	33	90	82	75	10
Mackay	-	43	58	92	82	95	4
Rockhampton	56	66	63	86	92	97	3
Sunshine Coast/Wide Bay	-	-	-	-	-	87	8
Toowoomba	33	30	41	89	88	87	7
Townsville/Thuringowa	23	24	41	90	84	94	5
Overall	27	37	43	84	84	88	-

◇ - Compared with other regions surveyed in 2001.

The wearing rate for primary school cyclists in most regions was above 85 percent, with the exception of the Brisbane area with 78 percent and Ipswich with 75 percent. Bundaberg, Cairns and Rockhampton shared the top rankings with wearing rates of approximately 97 percent.

Figure 4 shows that the region with the highest wearing rate for male primary school cyclists was Bundaberg with 97 percent, while Rockhampton had the highest wearing rate for female primary school cyclists with 100 percent. Ipswich had the lowest helmet-wearing rate for male primary school cyclists with 74 percent, while Brisbane had the lowest rate for female primary school cyclists also with 74 percent. Ipswich had the biggest difference in wearing rates between genders with a margin of ten percent. Otherwise the helmet wearing rates between genders for the rest of the regions were similar.

Figure 4 - Wearing Rates for Primary School Cyclists by Gender, 2001.



3.2 Secondary Schools

A total of 2761 secondary school cyclists were observed in the 2001 survey of which 69 percent were male. This represents a decrease in the proportion of male cyclists compared to 1997 in which more than 75 percent were male.

Table 4 shows that 67 percent of all secondary school cyclists were wearing a helmet, up from 66 percent in 1997 and 5 percent in 1988. A comparison of trends shows that wearing rates amongst secondary school cyclists have declined in a majority of regions since the last survey undertaken in 1997. However, this decline has been countered by strong increases in the remaining regions. As highlighted in the previous sections, these results have consolidated the improvements in wearing rates (illustrated by Figure A3 in Appendix A).

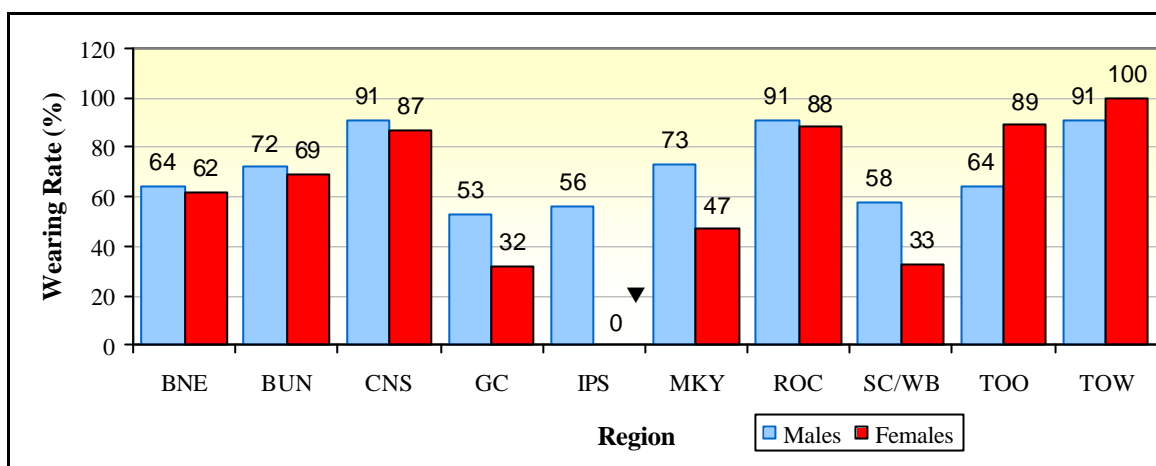
Table 4 - Helmet Wearing Trends for Secondary School Cyclists (%).

Region	1988	1989	1990	1991	1997	2001	Ranking [◇]
Brisbane Area	7	3	7	26	56	64	7
Bundaberg	4	5	10	38	75	71	4
Cairns	2	16	41	22	79	89	3
Gold Coast	2	0	6	45	63	49	10
Ipswich	3	11	23	52	74	55	8
Mackay	3	10	21	50	69	65	6
Rockhampton	12	16	18	42	78	91	2
Sunshine Coast/Wide Bay	-	-	-	-	-	53	9
Toowoomba	12	11	14	37	69	68	5
Townsville/Thuringowa	1	1	5	57	81	93	1
Overall	5	6	10	38	66	67	-

◇ - Compared with other regions surveyed in 2001.

Unlike the primary schools, a majority of secondary schools wearing rates were below 85 percent with only Townsville/Thuringowa, Rockhampton and Cairns having higher wearing rates. Of these regions, Townsville/Thuringowa had the highest regional wearing rate for secondary school cyclists with 93 percent, closely followed by Rockhampton with 91 percent and Cairns with 89 percent. The regions with the lowest wearing rates for secondary school cyclists were the Gold Coast and Sunshine Coast/Wide Bay with 49 percent and 53 percent respectively. The average helmet-wearing rate at secondary schools of 67 percent was lower than that at primary schools with 88 percent.

Figure 5 shows that Rockhampton, Cairns and Townsville/Thuringowa shared the highest wearing rates for male secondary school students with 91 percent, while Townsville/Thuringowa had the highest wearing rate for female secondary students with 100 percent. The Gold Coast had the lowest wearing rates for male and female secondary school cyclists with 53 percent and 32 percent respectively. Mackay had the biggest difference in secondary school wearing rates between genders with a margin of 26 percent.

Figure 5 - Wearing Rates for Secondary School Cyclists by Gender, 2001.

▼ - Low sample size - under 10 cyclists observed.

For a majority of regions, male secondary school cyclists had higher wearing rates when compared to female secondary school cyclists. Townsville/Thuringowa and Toowoomba were the exceptions with female cyclists having higher wearing rates than male cyclists.

3.3 Adults

An overall total of 575 adult cyclists were observed in the 2001 survey of which nearly 76 percent were male. This represents an increase in the proportion of male cyclists compared to 1997 in which 66 percent were male.

Table 5 shows that 91 percent of all adult cyclists were wearing a helmet, which represent increases from 72 percent in 1997 and 55 percent in 1991. Comparisons of the regional trends indicate that wearing rates for adult cyclists have increased in most of the regions surveyed in Queensland, particularly in the Brisbane area. The increase in Brisbane's helmet wearing rate may have been largely due to selected survey sites being at locations used by a high number of commuting cyclists rather than recreational users.

Table 5 - Helmet Wearing Trends for Adult Cyclists (%).

Region	1991	1997	2001	Ranking [◇]
Brisbane Area	61	63	97	1
Bundaberg	66	100	93	3
Cairns	26	71	81	7
Gold Coast	76	79	88	5
Ipswich	-	-	64	10
Mackay	36	100	75 [▼]	8
Rockhampton	44	96	89	4
Sunshine Coast/Wide Bay	-	-	70	9
Toowoomba	78	85	85	6
Townsville/Thuringowa	50	67	96	2
Overall	55	72	91	-

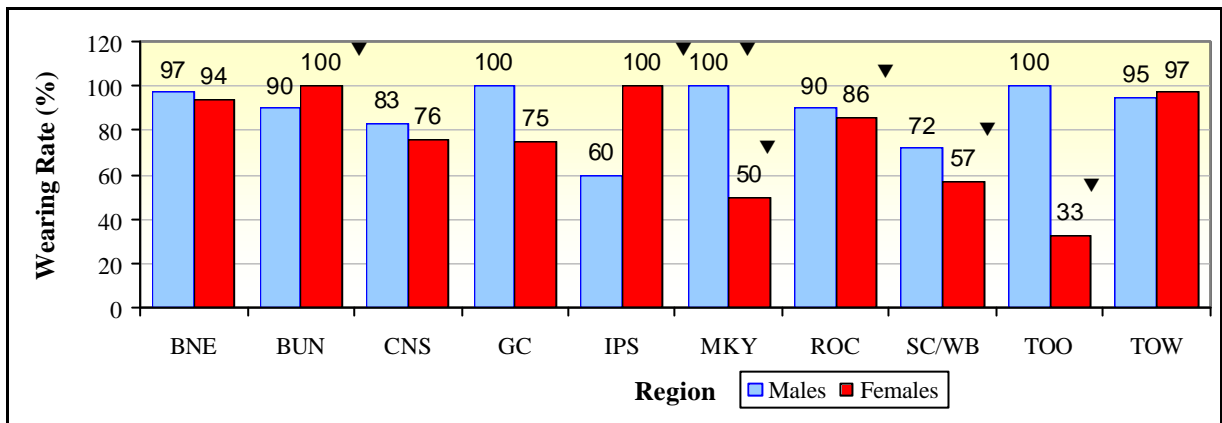
◇ - Compared with other regions surveyed in 2001.

▼ - Low sample size - under 10 cyclists observed.

Generally, adult helmet wearing rates of 81 percent or more were achieved in most regions. Brisbane had the highest wearing rate for adult cyclists with 97 percent, closely followed by Townsville/Thuringowa with 96 percent and Bundaberg with 93 percent. Ipswich had the lowest wearing rate for adult cyclists with 64 percent.

Figure 6 shows that the Gold Coast, Mackay and Toowoomba had the highest helmet-wearing rates for male adult cyclists with 100 percent. Bundaberg and Ipswich had the highest wearing rates for female adult cyclists with 100 percent, followed by Townsville/Thuringowa with 97 percent and Brisbane with 94 percent. Ipswich had the lowest wearing rates for males with 60 percent, while Toowoomba had the lowest wearing rate for females with 33 percent.

Figure 6 - Wearing Rates for Adult Cyclists by Gender, 2001.



▼ - Low sample size - under 10 cyclists observed.

For a majority of regions, male adult cyclists had higher or similar wearing rates when compared to female adult cyclists. Bundaberg, Ipswich and Townsville/Thuringowa were the exceptions with female cyclists having higher wearing rates than male cyclists.

3.4 Children Surveyed at Other Locations

A total of 225 children were observed at locations other than near schools, e.g., such as shopping centres, parks and bikeways. Any cyclist perceived to be 18 years of age or less was classified as a child at these locations. Again, the majority of cyclists recorded were male (85 percent).

Table 6 - Helmet Wearing Trends for Children at Other Locations (%).

Region	1991	1997	2001	Ranking [◇]
Brisbane Area	35	49	77	5
Bundaberg	67 [▼]	95	81	2
Cairns	-	-	83	3
Gold Coast	-	76	67 [▼]	6
Ipswich	-	-	0 [▼]	9
Mackay	35	-	100	1
Rockhampton	-	100	79	4
Sunshine Coast/Wide Bay	-	-	36	7
Toowoomba	-	87	33	8
Townsville/Thuringowa	-	-	-	-
Overall	36	70	80	-

◇ - Compared with other regions surveyed in 2001.

▼ - Low sample size - under 10 cyclists observed.

Results for 2001 show that these child cyclists had a wearing rate of 80 percent, up from a wearing rate of 70 percent in 1997. This wearing rate is higher than the total result for children observed near schools (combining primary and secondary school results) which shows that nearly 75 percent of school-aged cyclists surveyed were wearing a helmet.

Table 7 - Wearing Rates for Children at Other Locations (%).

Region	Male	Female	All
Brisbane	74	85	77
Bundaberg	75	100 [▼]	81 [▼]
Cairns	83	-	83
Gold Coast	67 [▼]	-	67 [▼]
Ipswich	0 [▼]	-	0 [▼]
Mackay	100	100	100
Rockhampton	84	0	79
Sunshine Coast/Wide Bay	36	-	36
Toowoomba	33	-	33
Townsville/Thuringowa	-	-	-
Total	80	85	80

▼ - Low sample size - under 10 cyclists observed.

There were large regional differences in the wearing rates for the males, from 33 percent to 100 percent.

3.5 Carrying

The survey also recorded the number of cyclists observed with a helmet but not wearing it on their heads (e.g., carrying it on the handlebars). Table 8 shows that, in general, carrying rates have decreased since 1997 for all types of cyclists.

Table 8 - Helmet Carrying Trends for Cyclists (%).

Type	1991	1997	2001
Primary School Students	2	5	4
Secondary School Students	10	14	13
Adults	6	8	3
Children at Other Locations	1	4	4
Overall	9	11	9

Secondary school cyclists have consistently had the highest carrying rate in the last three surveys conducted. It is also interesting to note that the carrying rate for adult cyclists has decreased from eight percent to three percent. This may have been due to the perceived risk of detection by increased enforcement or general safety awareness.

Table 9 shows that, in all categories, female cyclists have consistently had higher carrying rates than male cyclists over the past three surveys. This is particularly noticeable for secondary school cyclists, where the carrying rates for female secondary school cyclists have been at least double the carrying rates for male secondary school cyclists for each of the past surveys.

Table 9 - Helmet Carrying Trends for Cyclists by Gender (%).

Type	1991		1997		2001	
	Male	Female	Male	Female	Male	Female
Primary School Students	2	2	4	5	3	5
Secondary School Students	8	16	11	24	10	25
Adults	0	2	8	8	2	6
Children at Other Locations	1	3	2	9	4	-
Overall	5	10	9	19	7	15

3.6 Helmet Wearing Policy

Results were inconclusive as to whether schools with a helmet wearing policy had higher helmet-wearing rates than schools without such a policy, as shown in Table 10 below.

Table 10 - Helmet Wearing Rates for Schools by Policy (%), 2001.

Region	Existing Policy	No Policy	Not Known	Overall
Brisbane	73	71	69	71
Bundaberg	66	65	-	66
Cairns	95	85	-	93
Gold Coast	79	-	47	60
Ipswich	80	-	71	73
Mackay	75	-	-	75
Rockhampton	94	90	93	92
Sunshine Coast/Wide Bay	61	-	-	61
Toowoomba	76	83	61	74
Townsville/Thuringowa	-	94	91	93
Overall	75	79	63	73

For instance, the non-policy schools in the Townsville/Thuringowa region (94 percent) had a higher wearing rate than Sunshine Coast/Wide Bay (61 percent), where all the schools observed had a helmet wearing policy in place. Non-policy schools had a helmet wearing rate of 79 percent compared to 75 percent for schools that had a helmet-wearing policy.

It is more likely that active encouragement by schools supported by appropriate road safety education is more effective than the presence of a helmet wearing policy alone.

3.7 Other Comments

Other interesting observations made by surveyors included:

- cyclists, mainly school students, wore helmets incorrectly, i.e., chin straps not being properly fastened or a baseball-style cap worn underneath the helmet; and
- ridership was lower in many of the schools selected in the previous survey. However, it is difficult to determine if bicycle ridership has decreased in general.

3.8 Enforcement

Table 11 shows that the Queensland Police Service has been active in issuing infringement notices to cyclists for riding without wearing a helmet.

Table 11 - Infringement Notices issued by Police for Not Wearing a Helmet.

Region	Bicycle Rider Fail to Wear Helmet	Bicycle Rider Carry Passenger Not Wearing Helmet	Total
Brisbane Area	4,223	43	4,266
Bundaberg	426	1	427
Cairns	1,512	9	1,521
Gold Coast	1,102	5	1,107
Ipswich	401	22	423
Mackay	623	3	626
Rockhampton	590	5	595
Sunshine Coast/Wide Bay	1,956	21	1,977
Toowoomba	329	1	330
Townsville/Thuringowa	2,141	27	2,168
Other	1,334	17	1,351
Unknown	139	4	143
Overall	14,776	158	14,934

Source: State Traffic Support Branch, Queensland Police Service, 2000.

Of interest, Townsville/Thuringowa had the second highest number of infringements, even though it had the highest overall wearing rate with 94 percent. This may be due to a number of reasons, including enforcement activity and high ridership levels.

These results show that there is room for improvement in all regions, irrespective of whether or not they had good helmet-wearing rates.

4.0 REGIONAL CHARACTERISTICS

4.1 Brisbane Area

A total of 1196 cyclists were observed in the Brisbane area of which nearly 82 percent were male. The helmet wearing rate for male and female cyclists, was the same (76 percent).

Table 12 shows that when comparing helmet wearing rates within Brisbane, the adult category was the highest with 97 percent, while the secondary schools category was the lowest with 64 percent.

Table 12 - Wearing Rates for Brisbane Area by Gender, 2001.

Category	Male	Female	Overall	Ranking [◇]
Primary Schools	79	74	78	9
Secondary Schools	64	62	64	7
Adults	97	94	97	1
Children at Other Locations	74	85	77	5
All Cyclists	76	76	76	6

◇ - Compared with other regions surveyed.

In comparison with other regions, the Brisbane area had sixth highest overall helmet wearing rate. This ranking would have been lower if Brisbane did not have the highest helmet wearing rate for adult cyclists, particularly with lower rankings and wearing rates for primary (ninth) and secondary (seventh) school cyclists.

4.2 Bundaberg

A total of 671 cyclists were observed in Bundaberg of which nearly 75 percent were male. The helmet wearing rate for males was 79 percent and females was 80 percent.

Table 13 shows that when comparing helmet wearing rates within Bundaberg, the primary schools category was the highest with 97 percent, while the secondary schools category had the lowest wearing rate with 71 percent.

Table 13 - Wearing Rates for Bundaberg by Gender, 2001.

Category	Male	Female	Overall	Ranking [◇]
Primary Schools	97	96	97	2
Secondary Schools	72	69	71	4
Adults	90	100 [▼]	93	3
Children at Other Locations	75	100 [▼]	81	2
All Cyclists	79	80	80	4

◇ - Compared with other regions surveyed.

▼ - Low sample size - under 10 cyclists observed.

In comparison with other regions, Bundaberg's overall helmet wearing rate was the fourth highest. Bundaberg had the second highest wearing rate for primary school cyclists, fourth highest wearing rate for secondary school cyclists; and the third highest for adult cyclists.

4.3 Cairns

A total of 455 cyclists were observed in Cairns of which nearly 68 percent were male. The helmet wearing rate for male and female cyclists were 92 percent and 91 percent respectively.

Table 14 shows that when comparing helmet wearing rates within Cairns, the primary schools category was the highest with 97 percent, while the adults category was the lowest with 81 percent.

Table 14 - Wearing Rates for Cairns by Gender, 2001.

Category	Male	Female	Overall	Ranking [◇]
Primary Schools	96	99	97	1
Secondary Schools	91	87	89	3
Adults	83	76	81	7
Children at Other Locations	83	-	83	3
All Cyclists	92	91	91	2

◇ - Compared with other regions surveyed.

In comparison with other regions, Cairns had the second highest overall helmet-wearing rate. Cairns also had the highest wearing rate for primary school cyclists and the third highest for secondary school cyclists and children at other locations.

4.4 Gold Coast

A total of 735 cyclists were observed on the Gold Coast of which nearly 81 percent were male. The helmet wearing rate for male cyclists was 64 percent and 48 percent for female cyclists.

Table 15 shows that when comparing helmet wearing rates within the Gold Coast, the primary schools category was the highest with 90 percent, while the secondary schools category was the lowest with 49 percent.

Table 15 - Wearing Rates for Gold Coast by Gender, 2001.

Category	Male	Female	Overall	Ranking [◇]
Primary Schools	92	85	90	6
Secondary Schools	53	32	49	10
Adults	100	75	88	5
Children at Other Locations	67 [▼]	-	67 [▼]	6
All Cyclists	64	48	61	10

◇ - Compared with other regions surveyed.

▼ - Low sample size - under 10 cyclists observed.

In comparison with other regions, the Gold Coast had the lowest overall helmet-wearing rate. This was mainly due to having the lowest wearing rate for secondary school cyclists.

4.5 Ipswich

A total of 154 cyclists were observed in Ipswich of which approximately 86 percent were male. The helmet-wearing rate for female cyclists was 81 percent and for males was 66 percent.

Table 16 shows that when comparing helmet wearing rates within Ipswich, the primary schools category was the highest with 75 percent, while the secondary schools category was the lowest with 55 percent.

Table 16 - Wearing Rates for Ipswich by Gender, 2001.

Category	Male	Female	Overall	Ranking [◇]
Primary Schools	74	84	75	10
Secondary Schools	56	0 [▼]	55	8
Adults	60	100 [▼]	64	10
Children at Other Locations	0 [▼]	-	0 [▼]	9
All Cyclists	66	81	68	8

◇ - Compared with other regions surveyed.

▼ - Low sample size - under 10 cyclists observed.

In comparison with all other regions, Ipswich had the third lowest overall wearing rate. Ipswich had the lowest wearing rates for primary school and adult cyclists and the third lowest for secondary school cyclists.

4.6 Mackay

A total of 412 cyclists were observed in Mackay of which just over 71 percent were male. The helmet-wearing rate for female cyclists was 66 percent and 84 percent for males.

Table 17 shows that when comparing helmet wearing rates within Mackay, the children at other locations category was the highest with 100 percent, while the secondary schools category was the lowest with 65 percent.

Table 17 - Wearing Rates for Mackay by Gender, 2001.

Category	Male	Female	Overall	Ranking [◇]
Primary Schools	95	94	95	4
Secondary Schools	73	47	65	6
Adults	100 [▼]	50 [▼]	75 [▼]	8
Children at Other Locations	100	100	100	1
All Cyclists	84	66	79	5

◇ - Compared with other regions surveyed.

▼ - Low sample size - under 10 cyclists observed.

In comparison with all other regions, Mackay had the fifth highest overall wearing rate. Mackay had the highest wearing rate for children at other locations, fourth highest wearing rate for primary school cyclists and sixth highest wearing rate for secondary school cyclists.

4.7 Rockhampton

A total of 470 cyclists were observed in Rockhampton of which nearly 80 percent were male. The helmet-wearing rate for female cyclists was 88 percent and 91 percent for males.

Table 18 shows that when comparing helmet wearing rates within Rockhampton, the primary schools category was the highest with 97 percent, while the children at other locations category was the lowest with 79 percent.

Table 18 - Wearing Rates for Rockhampton by Gender, 2001.

Category	Male	Female	Overall	Ranking [◇]
Primary Schools	96	100	97	3
Secondary Schools	91	88	91	2
Adults	90	86 [▼]	89	4
Children at Other Locations	84	0 [▼]	79	4
All Cyclists	91	88	90	3

◇ - Compared with other regions surveyed.

▼ - Low sample size - under 10 cyclists observed.

In comparison with other regions, Rockhampton had the third highest overall helmet-wearing rate. Rockhampton also had the third highest wearing rate for primary school cyclists, second highest for secondary school cyclists and the fourth highest adult cyclists wearing rate.

4.8 Sunshine Coast/Wide Bay

A total of 452 cyclists were observed on the Sunshine Coast/Wide Bay of which nearly 84 percent were male. The helmet-wearing rate for male cyclists was 65 percent and 42 percent for female cyclists.

Table 19 shows that when comparing helmet wearing rates within Sunshine Coast/Wide Bay, the primary schools category was the highest with 87 percent, while the children at other locations category was the lowest with 36 percent.

Table 19 - Wearing Rates for Sunshine Coast/Wide Bay by Gender, 2001.

Category	Male	Female	Overall	Ranking [◇]
Primary Schools	88	80	87	8
Secondary Schools	58	33	53	9
Adults	72	57 [▼]	70	9
Children at Other Locations	36	-	36	7
All Cyclists	65	42	61	9

◇ - Compared with other regions surveyed.

▼ - Low sample size - under 10 cyclists observed.

In comparison with other regions, Sunshine Coast/Wide Bay had the second lowest overall helmet-wearing rate. Sunshine Coast/Wide Bay also had the second lowest helmet-wearing rates for secondary school and adult cyclists, while having the third lowest rate for primary school cyclists.

4.9 Toowoomba

A total of 190 cyclists were observed in Toowoomba of which nearly 80 percent were male. The helmet-wearing rate for female cyclists was 84 percent and 72 percent for males.

Table 20 shows that when comparing helmet wearing rates within Toowoomba, the primary schools category was the highest with 87 percent, while the children at other locations category was the lowest with 33 percent.

Table 20 - Wearing Rates for Toowoomba by Gender, 2001.

Category	Male	Female	Overall	Ranking [◇]
Primary Schools	87	88	87	7
Secondary Schools	64	89	68	5
Adults	100	33 [▼]	85	6
Children at Other Locations	33 [▼]	-	33 [▼]	8
All Cyclists	72	84	74	7

◇ - Compared with other regions surveyed.

▼ - Low sample size - under 10 cyclists observed.

In comparison with other regions, Toowoomba had the fourth lowest overall helmet-wearing rate.

4.10 Townsville/Thuringowa

A total of 382 cyclists were observed in Townsville/Thuringowa of which 70 percent were male. The helmet-wearing rate for female cyclists was 95 percent and 93 percent for males.

Table 21 shows that when comparing helmet wearing rates within Townsville/Thuringowa, the adult category was the highest with 96 percent, while the secondary schools category was the lowest with 93 percent.

Table 21 - Wearing Rates for Townsville/Thuringowa by Gender, 2001.

Category	Male	Female	Overall	Ranking [◇]
Primary Schools	95	92	94	5
Secondary Schools	91	100	93	1
Adults	95	97	96	2
All Cyclists	93	95	94	1

◇ - Compared with other regions surveyed.

In comparison with other regions, Townsville/Thuringowa had the highest overall helmet-wearing rate. Townsville/Thuringowa also had the highest wearing rate for secondary school cyclists and the second highest for adult cyclists.

6.0 CONCLUSION

From an analysis of the results, the main findings were as follows:

- The majority of cyclists observed were male. Average ratio of males to females was 7:2.
- Male cyclists had higher or similar wearing rates when compared to the wearing rates of female cyclists.
- Overall and in a majority of regions, secondary school cyclists consistently had the lowest wearing rates, particularly female secondary school cyclists.
- The average helmet-wearing rate for secondary school cyclists of 67 percent was lower than the wearing rate for primary school cyclists with 88 percent.
- Female cyclists consistently had higher carrying rates than male cyclists over the past three surveys.
- Results were inconclusive as to whether schools with a helmet wearing policy had higher wearing rates amongst cyclists than from schools without such a policy.

Overall, it can be concluded that the latest results have consolidated the improvements in wearing rates since compulsory helmet-wearing legislation was introduced in Queensland in 1991. However, as highlighted by the enforcement results, there is room for improvement in all regions, irrespective of whether or not they had good helmet-wearing rates.

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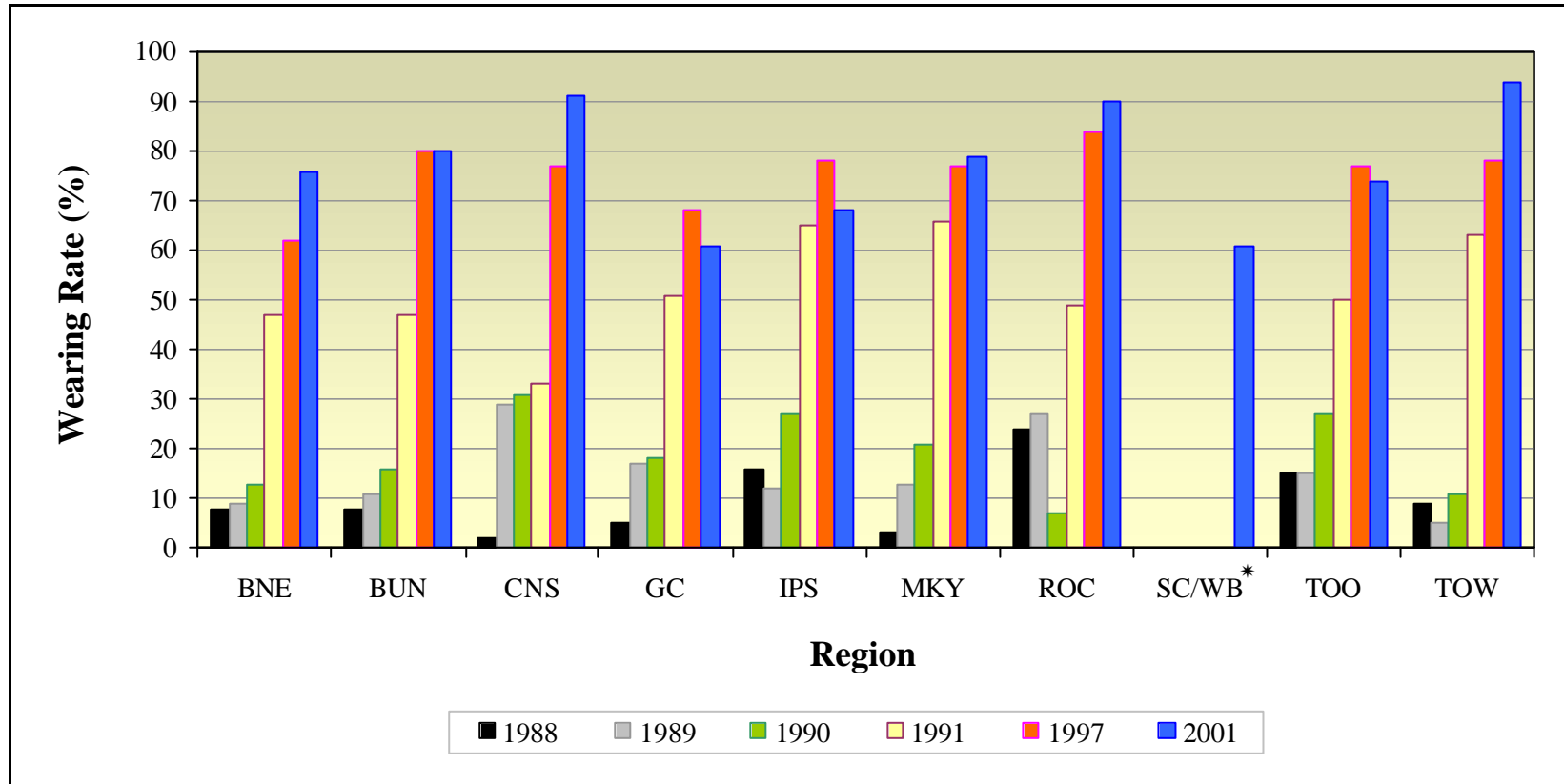
APPENDICES

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Appendix A: Helmet Wearing Trends, 1988 to 2001.

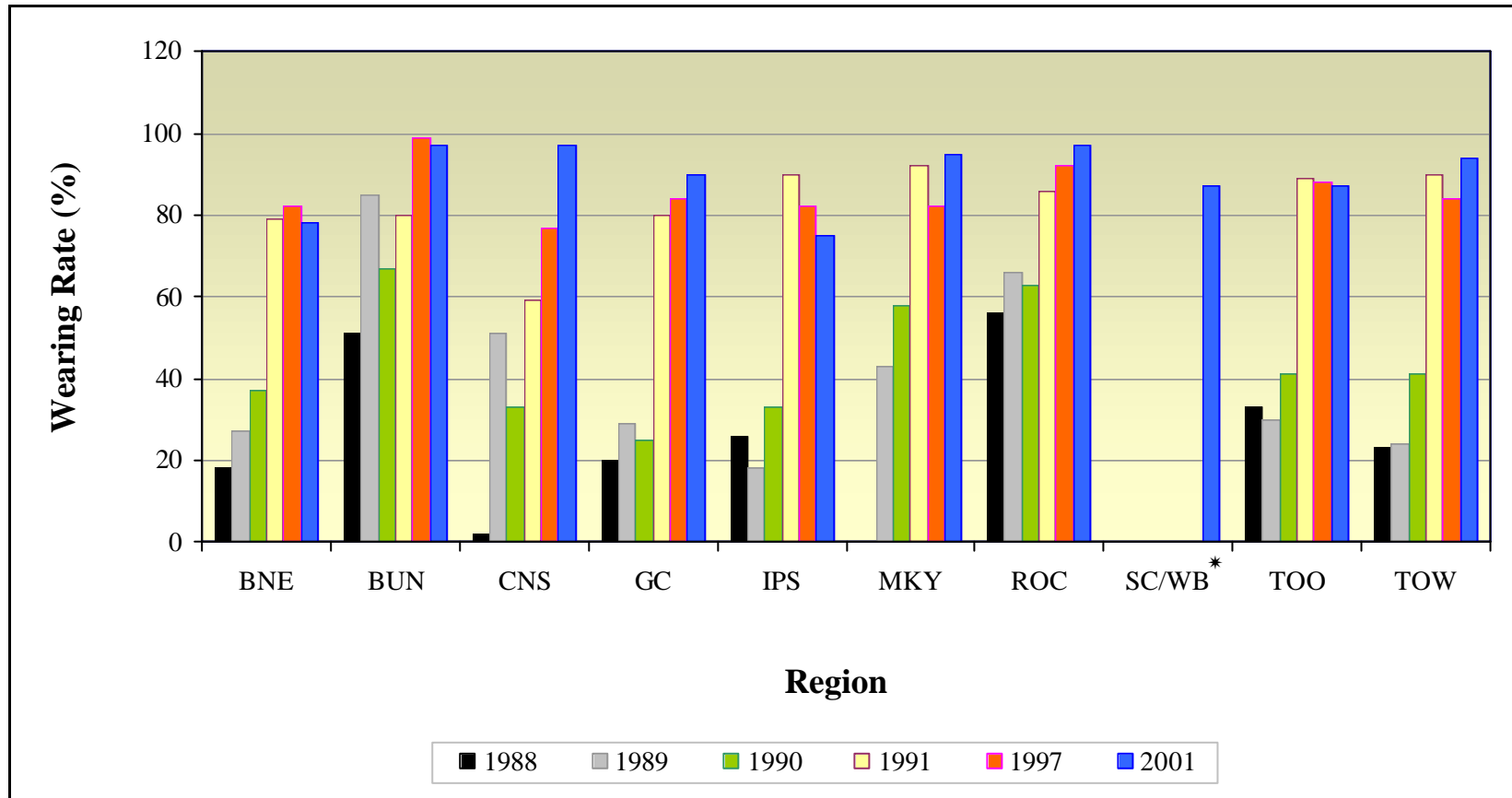
Figure A1 - Helmet Wearing Trends for All Cyclists by Region, 1988 - 2001.



* - Sunshine Coast/Wide Bay was not included in surveys prior to 2001.

Appendix A: Helmet Wearing Trends, 1988 to 2001.

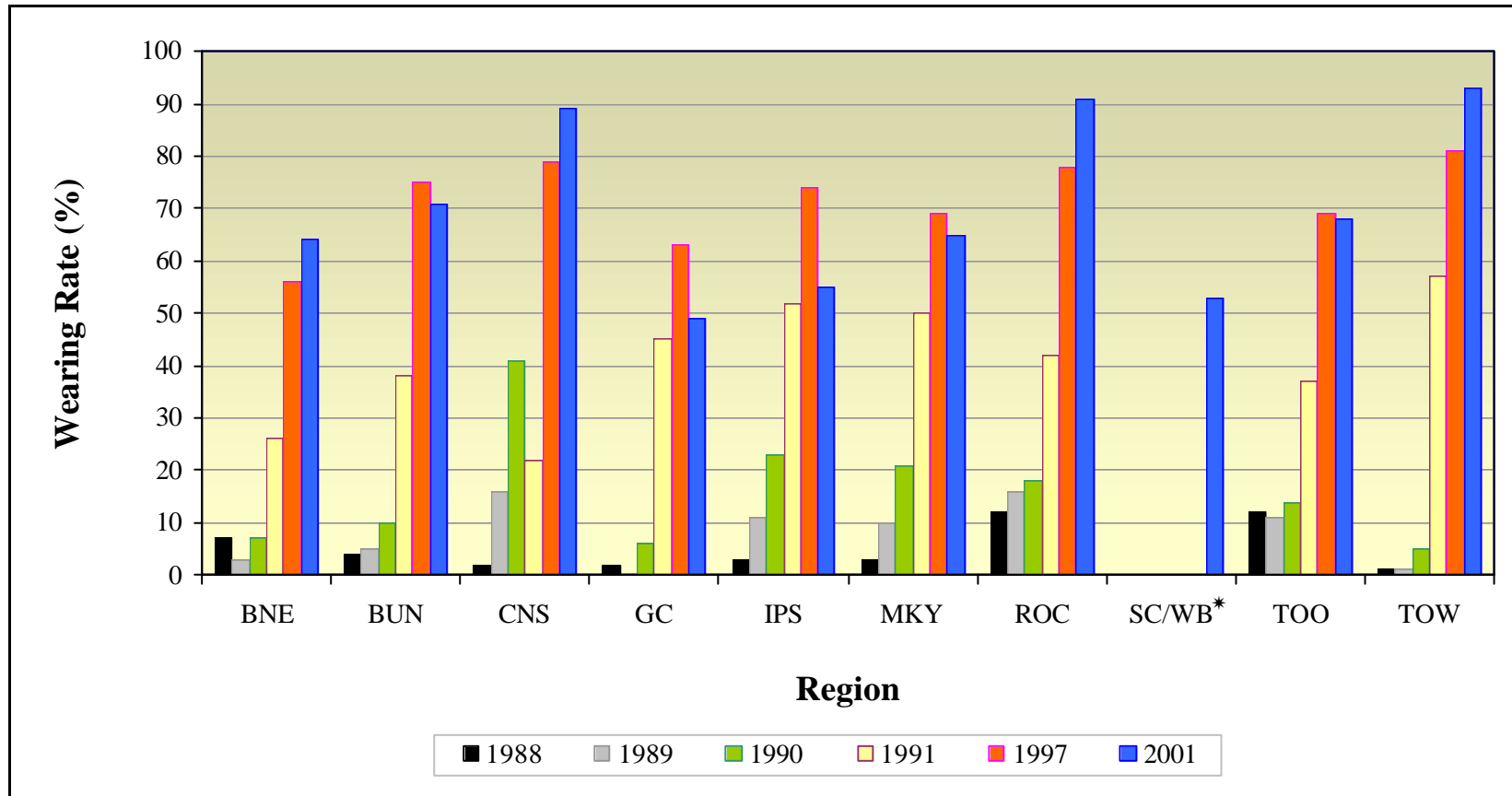
Figure A2 - Helmet Wearing Trends for Primary School Cyclists by Region, 1988 - 2001.



* - Sunshine Coast/Wide Bay was not included in surveys prior to 2001.

Appendix A: Helmet Wearing Trends, 1988 to 2001.


Figure A3 - Helmet Wearing Trends for Secondary School Cyclists by Region, 1988 – 2001.



* - Sunshine Coast/Wide Bay was not included in surveys prior to 2001.

Appendix B: 2001 Bicycle Survey Form

Figure B1 - 2001 Bicycle Helmet Wearing Survey Form.



Traffic and Safety Department

2001 BICYCLE HELMET WEARING SURVEY FORM

Location: _____

Date: _____ Weather: _____

Start Time: _____ Finish Time: _____

State Primary School
 Private Primary School
 Tertiary
 State Secondary School
 Private Secondary School
 Other

	WEARING				NON-WEARING				CARRYING				
	Child		Adult		Child		Adult		Child		Adult		
	M	F	M	F	M	F	M	F	M	F	M	F	
Total													

Comments: _____

Surveyor's Name: _____ Town/City: _____

School has Bicycle Helmet Wearing Policy: Yes No

Year introduced: _____

Appendix C: Number of Cyclists Observed.

Table C1 - All Cyclists.

Region	Wearing		Non-Wearing		Carrying		All		Total
	M	F	M	F	M	F	M	F	
Brisbane	744	166	173	30	61	22	978	218	1196
Bundaberg	400	134	51	8	53	25	504	167	671
Cairns	284	132	11	5	15	8	310	145	455
Gold Coast	379	68	159	26	56	47	594	141	735
Ipswich	88	17	38	3	7	1	133	21	154
Mackay	246	78	15	7	33	33	294	118	412
Rockhampton	341	84	24	8	9	4	374	96	470
Sunshine Coast/Wide Bay	245	31	108	24	25	19	378	74	452
Toowoomba	109	32	29	2	14	4	152	38	190
Townsville/Thuringowa	251	107	12	4	6	2	269	113	382
Total	3087	849	620	117	279	165	3986	1131	5117

Table C2 - Primary School Cyclists.

Region	Wearing		Non-Wearing		Carrying		All		Total
	M	F	M	F	M	F	M	F	
Brisbane	244	74	44	14	21	12	309	100	409
Bundaberg	125	49	2	1	2	1	129	51	180
Cairns	110	66	3	1	1	0	114	67	181
Gold Coast	140	29	13	2	0	3	153	34	187
Ipswich	64	16	21	2	2	1	87	19	106
Mackay	77	34	3	1	1	1	81	36	117
Rockhampton	67	18	3	0	0	0	70	18	88
Sunshine Coast/Wide Bay	71	8	7	2	3	0	81	10	91
Toowoomba	33	15	2	0	3	2	38	17	55
Townsville/Thuringowa	76	57	4	3	0	2	80	62	142
Total	1007	366	102	26	33	22	1142	414	1556

Appendix C: Number of Cyclists Observed.

Table C3 - Secondary School Cyclists.

Region	Wearing		Non-Wearing		Carrying		All		Total
	M	F	M	F	M	F	M	F	
Brisbane	281	34	115	13	40	8	436	55	491
Bundaberg	236	68	43	7	48	24	327	99	426
Cairns	134	53	6	2	8	6	148	61	209
Gold Coast	223	30	145	23	56	42	424	95	519
Ipswich	18	0	10	1	4	0	32	1	33
Mackay	117	33	12	6	32	31	161	70	231
Rockhampton	192	60	11	4	7	4	210	68	278
Sunshine Coast/Wide Bay	144	19	87	20	19	18	250	57	307
Toowoomba	65	16	25	0	11	2	101	18	119
Townsville/Thuringowa	118	19	7	0	4	0	129	19	148
Total	1528	332	461	76	229	135	2218	543	2761

Table C4 - Adult Cyclists.

Region	Wearing		Non-Wearing		Carrying		All		Total
	M	F	M	F	M	F	M	F	
Brisbane	193	47	5	1	0	2	198	50	248
Bundaberg	18	9	1	0	1	0	20	9	29
Cairns	30	13	1	2	5	2	36	17	53
Gold Coast	14	9	0	1	0	2	14	12	26
Ipswich	6	1	3	0	1	0	10	1	11
Mackay	2	1	0	0	0	1	2	2	4
Rockhampton	44	6	5	1	0	0	49	7	56
Sunshine Coast/Wide Bay	26	4	9	2	1	1	36	7	43
Toowoomba	10	1	0	2	0	0	10	3	13
Townsville/Thuringowa	57	31	1	1	2	0	60	32	92
Total	400	122	25	10	10	8	435	140	575

Appendix C: Number of Cyclists Observed.

Table C5 - Children at Other Locations.

Region	Wearing		Non-Wearing		Carrying		All		Total
	M	F	M	F	M	F	M	F	
Brisbane	26	11	9	2	0	0	35	13	48
Bundaberg	21	8	5	0	2	0	28	8	36
Cairns	10	0	1	0	1	0	12	0	12
Gold Coast	2	0	1	0	0	0	3	0	3
Ipswich	0	0	4	0	0	0	4	0	4
Mackay	50	10	0	0	0	0	50	10	60
Rockhampton	38	0	5	3	2	0	45	3	48
Sunshine Coast/Wide Bay	4	0	5	0	2	0	11	0	11
Toowoomba	1	0	2	0	0	0	3	0	3
Townsville/Thuringowa	0	0	0	0	0	0	0	0	0
Total	152	29	32	5	7	0	191	34	225

Appendix D: Abbreviations and Symbols Used.

A full list of the abbreviations used in the report and their full forms is provided in the table below:

Table D1 - List of Abbreviations.

Abbreviation	Full Form
BNE	Brisbane Area
BUN	Bundaberg
CNS	Cairns
GC	Gold Coast
IPS	Ipswich
MKY	Mackay
ROC	Rockhampton
SC/WB	Sunshine Coast/Wide Bay
TOO	Toowoomba
TOW	Townsville/Thuringowa

A full list of the symbols used in the report and their meanings is provided in the table below:

Table D2 - List of Symbols.

Symbol	Full Form
◇	Compared with other regions surveyed in 2001.
◈	Compared with other regions surveyed.
▼	Low sample size - under 10 cyclists observed.

Appendix E: Survey Locations.

Brisbane area:	Albany Creek, Algester, Auchenflower, Beaudesert, Bracken Ridge, Browns Plains, Capalaba, Cooparoo, Everton Park, Ferny Grove, Forest Lake, Kedron, Kenmore, Kimberley Park, MacGregor, Mansfield, Rochedale, St. Lucia, Sandgate, Shailer Park, Springwood, The Gap, Victoria Point, Wellington Point, Wilston and Wynnum.
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Bundaberg:	Bundaberg, Kepnock, Norville and Walkervale.
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Cairns:	Cairns, Parramatta Park, Smithfield, Trinity Beach and Woree.
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Gold Coast:	Arundel, Benowa, Biggera Waters, Burleigh Heads, Coomera, Elanora, Helensvale, Merrimac, Miami, Palm Beach, Robina, Southport and Surfers Paradise.
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Ipswich:	Brassall, Bundamba, Ipswich, Leichhardt, Redbank Plains and Silkstone.
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Mackay:	All surveys were conducted in Mackay.
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Rockhampton:	All surveys were conducted in Rockhampton.
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Sunshine Coast/ Wide Bay:	Alexandra Headlands, Caloundra, Hervey Bay, Gympie, Maroochydore, Maryborough, Nambour and Noosa.
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Toowoomba:	All surveys were conducted in Toowoomba.
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Townsville/ Thuringowa:	Condon, Cranbrook, Rasmussen and Townsville.
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Bicycle Helmet Wearing Survey

December 2001