

**Evaluation of the
Department of Planning and Infrastructure's
Bikewest: 'Bike to Work Breakfast' 2004**

Prepared by the

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EVALUATION OF THE DEPARTMENT OF PLANNING AND INFRASTRUCTURE'S BIKEWEST:

'BIKE TO WORK BREAKFAST' 2004

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EXECUTIVE SUMMARY

The Metropolitan Transport Strategy (1995) proposed moving from a transport system which was dominated by low occupancy car use, to a more balanced transport system of public transport and non-motorised transport options. Creating this change requires initiatives that create critical mass awareness, in work organisations and the community. The 'Bike to Work Breakfast' is an example of such an initiative. This year it was held on Friday 12 March, 2004 and aimed to increase awareness of, and promote cycling as an alternative mode of transport to and from work. A free healthy breakfast was provided to everyone who cycled on the day.

A total of 1657 participants who attended the 2004 'Bike to Work Breakfast' completed questionnaires. The majority of respondents were male (73%, n=1187). The age of respondents varied, with the most common age group being 31-40 years (28%, n=459) followed by 51 years and over (26%, n=432). Respondents cited a number of different reasons for cycling. The majority indicated improved fitness (88%, n=1460) and enjoyment (71%, n=759) as the main reasons for cycling. Almost half of respondents (44%, n=713) cycled on a daily basis whilst a further 704 (n=43%) participants reported cycling 2-3 times per week. Thirty one percent of respondents (n=509) cycled between 51-100 kilometres per week and 29% (n=480) cycled between one and 50 kilometres per week. The majority of respondents (87%, n=1403) would wear a bicycle helmet when cycling even if they were not compulsory, and ninety five percent (n=1484/1566) of participants who responded supported the use of advance stop lines at key intersections. Over half of respondents (64%, n=1028) reported they would use end of trip cycling facilities if provided in public car parks. Fifty three percent (n= 874) stating they would use secure bike parking, thirty four percent (n=569) would use showers and thirty one percent (n=514) would use lockers if provided. Of the 1657 participants who completed questionnaires, sixty three percent (n=1030) had attended the 'Bike to Work Breakfast' previously.

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1.0 INTRODUCTION

Agencies such as Bikewest have promoted cycling as a viable alternative to motorised transport in Perth. In addition to many health benefits, active transport such as cycling provides reductions in private vehicle use, road congestion, environmental pollution, and demands made on public transport systems and inner city parking. Uptake of active transport also has the potential to reduce current trends of physical inactivity in our community.

To successfully encourage the adoption of cycling as a viable form of transport, research has identified key determinants that must be considered to achieve such change. These determinants surround: the existence of a social milieu that accepts active transport as a normal and safe part of life; the development and sustainability of urban planning and the provision of facilities to support active transport; and the need for an intersectoral approach that encourages active transport. Interventions that seek to increase cycling as a viable mode of transport should consider the demographic characteristics, attitudes, knowledge, skills, physical environment, and the policy environment associated with the target population.

The Department for Planning and Infrastructure's 'Bike to Work Breakfast' is an example of an initiative that provides information on the determinants and domains influencing the behaviours and future intentions surrounding active transport in Perth, Western Australia. This year the breakfast was held on the 12 March, 2004 and aimed to increase awareness of, and promote cycling as an alternative mode of transport to and from work by encouraging all Western Australians to consider the transport, health, environmental, social and economic benefits of cycling.

2.0 LIMITATIONS

It is not known how many questionnaires were distributed, therefore the response rate cannot be calculated. The representativeness of this sample to cyclists who regularly bike to work is unknown, therefore, results from this research should be interpreted with caution and should not be generalised to the Western Australian cycling population. This sample is likely to contain cyclists who are committed to cycling and are already aware of initiatives such as the promotion of cycling as an alternate means of transport.

3.0 METHODS

3.1 Sample

'Bike to Work Breakfast' participants who were present in Forrest Place, Perth, on the morning of 12 March, 2004 were presented with a brief survey to complete. The total number of people who attended the Breakfast is not known.

3.2 Instrumentation

The questionnaire contained eleven items comprising issues related to the participant's experience of the 'Bike to Work Breakfast'; how the participants heard about the Breakfast; the main reasons for, and frequency of cycling; whether bicycle helmets would be worn if these were not compulsory; and also questions relating to the use of end of trip cycling facilities in public car parks. An additional section of the questionnaire this year investigated participants' support for the use of advance stop lines at key intersections and any other cyclist friendly facilities that should be developed within the Perth Central Business District (CBD).

3.3 Analysis

All statistical analyses were completed using the Statistical Package for Social Sciences (SPSS), Version 10 (SPSS Inc, 2001).

4.0 RESULTS

A total of 1657 questionnaires were completed by participants at the 'Bike to Work Breakfast' on the morning of 12 March, 2004

4.1 Demographics

Table 1 outlines the demographic characteristics of the survey respondents. The majority of respondents were male (72%, n=1187). Respondents aged under thirty years were underrepresented compared to other age groups (19%, n=313).

Table 1. Demographic characteristics of survey respondents

| | | Number of Participants | % of Participants |
|------------------|----------------|------------------------|-------------------|
| Gender | Male | 1187 | 72% |
| | Female | 432 | 26% |
| Total a | | 1619 | 98% |
| Age Group | Under 30 years | 313 | 19% |
| | 31-40 years | 459 | 28% |
| | 41-50 years | 421 | 25% |
| | Over 50 years | 432 | 26% |
| Total b | | 1625 | 98% |

a Thirty eight people did not complete this question

b Thirty two people did not complete this question

4.2 Awareness of the 'Bike to Work Breakfast'

Sixty three percent of respondents (n=1030) had previously attended a 'Bike to Work Breakfast'. Most participants found out about the 2004 'Bike to Work Breakfast' from signage on a bike path, (30%, n=503) from a friend (22%, n=360) or received an invitation in the mail (13%, n=211). Other ways participants found out about the 'Bike to Work Breakfast' were from a flier; (10%, n=171) a radio advertisement; (6%, n=104) advertisements in the paper; (5%, n=90) and a news story (1%, n=18). Ten percent chose 'other', which included responses such as through bike clubs and cycling groups, and via the Bikewest website.

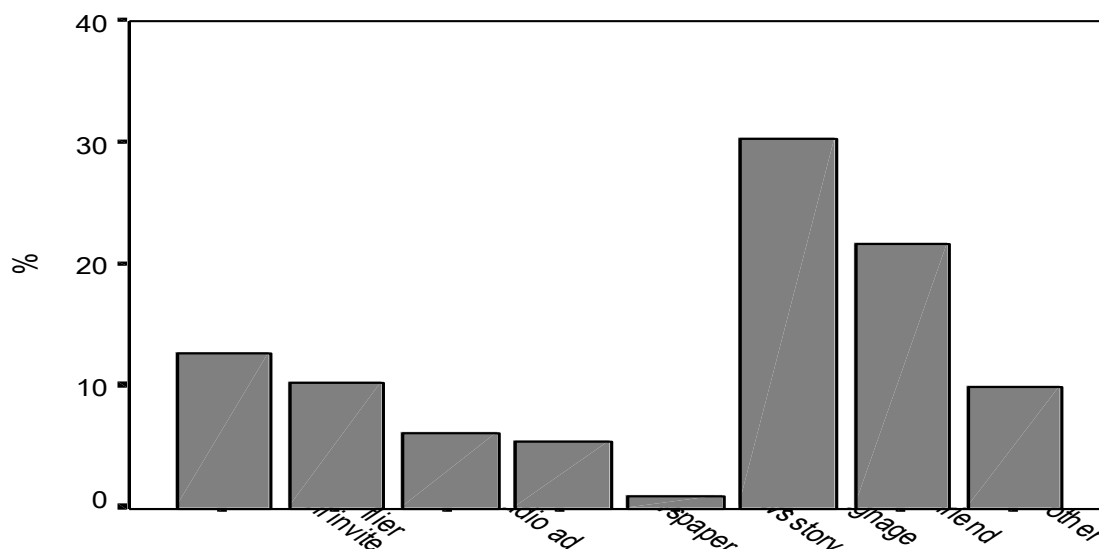


Figure 1: How respondents found out about the 'Bike to Work Breakfast'

4.3 Reasons for, and frequency of cycling

The majority of respondents (88%, n=1460) cited improved fitness as one of the main reasons they chose to cycle. A further seventy percent (n=1172) reported cycling for enjoyment, forty six percent (n=759) cycled as a means of transport and forty five percent (n=742) cycled because it is more cost effective than driving. Forty four percent (n=737) of respondents reported cycling to reduce stress and tension, thirty nine percent (n=649) cycled out of concern for the environment and thirty six percent (n=603) reported cycling to avoid traffic congestion (see Table 2).

Table 2. Main reasons for cycling

| Main Reason for Cycling | Number of Participants | Percentage of Participants |
|---------------------------|------------------------|----------------------------|
| Improve fitness | 1460 | 88% |
| Enjoyment | 1172 | 70% |
| Means of transport | 759 | 46% |
| Cheaper than driving | 742 | 45% |
| Reduce stress and tension | 737 | 44% |
| Environmental concerns | 649 | 39% |
| Avoid traffic congestion | 603 | 36% |
| Other | 139 | 8% |

a Total exceeds 100% as respondents could choose more than one response

Respondents were asked their opinion of the change in the number of people cycling in this year's Bike to Work Breakfast as opposed to previous years. As shown in Table 3, seventy five percent (n=1245) of respondents thought the number of cyclists this year had increased on previous years.

Table 3. Respondents' opinion of the number of people cycling in 2004 compared to other years.

| Number of people cycling | Number of Participants | Percentage of Participants |
|--------------------------|------------------------|----------------------------|
| On the increase | 1245 | 75% |
| Stable | 336 | 20% |
| On the decrease | 10 | 1% |
| Total | 1591 | 96% |

a Sixty six people did not complete this question

Figure 2 illustrates the frequency of cycling among participants. Almost half (43%, n=713) of respondents reported cycling on a daily basis whilst a further forty two percent (n=704) cycle two to three times per week. Eight percent (n=127) cycled once a week and only six percent (n=88) reported cycling less than once a week.

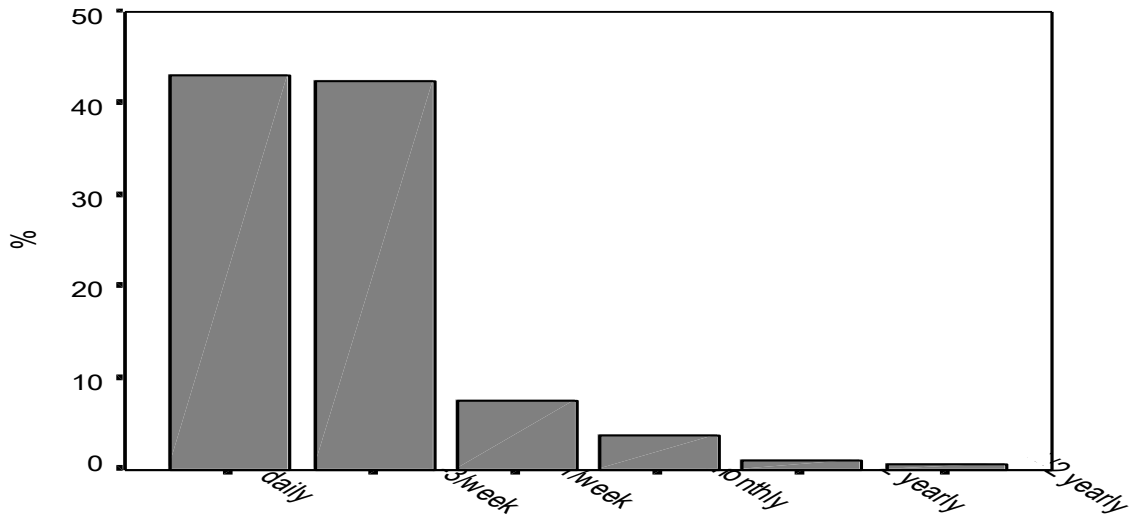


Figure 2. Frequency of cycling

Figure 3 outlines the number of kilometres respondents' reported cycling in any given week. Thirty one percent (n=509) cycled 51-100 kilometres in any given week. Twenty one percent (n=344) cycled between 101-150 kilometres weekly and eighteen percent (n=298) of respondents cycled over 150 kilometres in any given week.

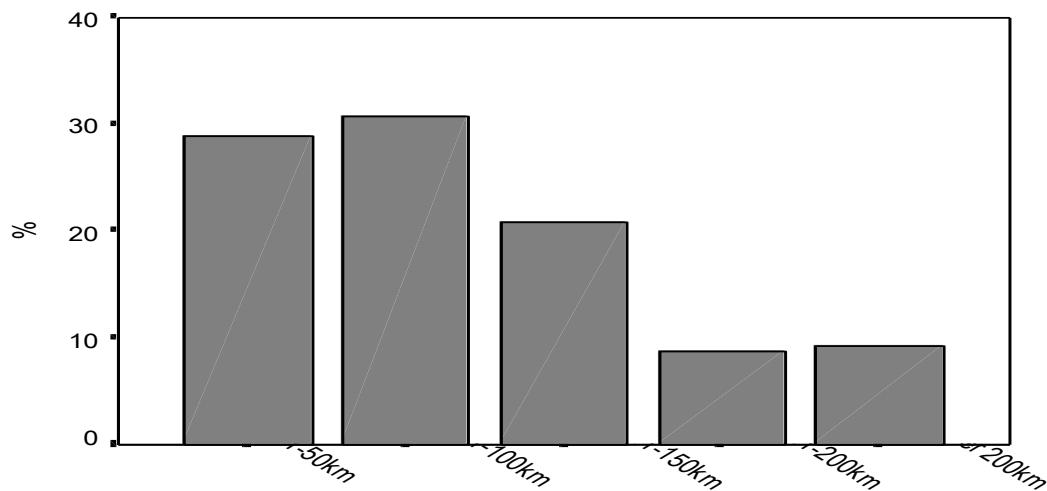


Figure 3. Number of kilometres cycled in any given week

4.4 Predictors of frequency and distance of cycling

The impact of age on frequency of cycling and number of kilometres cycled was explored. Table 4 compares each age group and their frequency of cycling. Results demonstrate similarity across age groups relating to the frequency of cycling undertaken by respondents. The majority of participants across all age groups were more likely to cycle more than once a week.

Table 4. Age and frequency of cycling (n=1620)

| Frequency of cycling | Age of respondents (%) | | | | Total |
|--------------------------|------------------------|------------|------------|------------|------------|
| | < 30 years | 31-40 | 41-50 | >50 years | |
| Daily | 153 (49%) | 197 (43%) | 200 (48%) | 157 (36%) | 707 (44%) |
| 2-3 times per week | 113 (36%) | 190 (41%) | 182 (43%) | 215 (50%) | 700 (43%) |
| Once a week | 22 (7%) | 41 (9%) | 21 (5%) | 43 (10%) | 127 (8%) |
| Occasionally each month | 17 (5%) | 22 (5%) | 11 (3%) | 12 (3%) | 62 (4%) |
| Occasionally in 6 months | 5 (2%) | 4 (1%) | 5 (1%) | 2 (1%) | 16 (1%) |
| < once in 6 months | 2 (1%) | 4 (1%) | 1 (<1%) | 1 (<1%) | 8 (<1%) |
| Total | 312 (100%) | 458 (100%) | 420 (100%) | 430 (100%) | 1620 (100) |

a Total number does not equal 1657 as not all participants answered these questions

Table 5 compares each age group with the kilometres cycled in any given week. Across all age groups, results show the majority of participants (60%, n=979) cycled less than one hundred kilometres in any given week. Participants aged less than thirty years (39%) were more likely to cycle less than fifty kilometres in any given week compared to those aged over thirty (23%-29%). Around 30% of all respondents cycled between 51 and 100 kilometers per week on average.

Table 5. Age and intensity of cycling (n=1619)

| Intensity of cycling (km/week) | Age of respondents (%) | | | | Total |
|--------------------------------|------------------------|------------|------------|------------|------------|
| | < 30 years | 31-40 | 41-50 | >50 years | |
| 1-50km | 123 (39%) | 129 (28%) | 97 (23%) | 125 (29%) | 474 (29%) |
| 51-100km | 104 (33%) | 137 (30%) | 130 (31%) | 134 (31%) | 505 (31%) |
| 101-150km | 37 (12%) | 110 (24%) | 108 (26%) | 88 (21%) | 343 (21%) |
| 151-200km | 14 (5%) | 38 (8%) | 48 (11%) | 46 (11%) | 146 (9%) |
| > 200km | 34 (11%) | 44 (10%) | 37 (9%) | 36 (8%) | 151 (9%) |
| Total | 312 (100%) | 458 (100%) | 420 (100%) | 429 (100%) | 1619 (100) |

a Total number does not equal 1657 as not all participants answered these questions

4.5 Use of bicycle helmets and advance stop lines at key intersections

Eighty five percent of respondents (n=1403) reported they would wear a bicycle helmet even if not compulsory. Thirteen percent (n=211) stated they would not wear a helmet if it was voluntary and three percent (n=42) did not respond.

Of those 1403 (85%) respondents who reported they would wear a bicycle helmet even if they were not compulsory:

- twenty eight percent (n=386) cycled 1-50km;
- thirty one percent (n=435) cycled 51-100km;
- twenty two percent (n=307) cycled 101-150km;
- ten percent (n= 138) cycled 151-200km and
- nine percent (n=133) cycled over 200km in any given week.

a Total responses does not equal 1403 as four people did not compete kilometres cycled in any given week

Table 6 compares the age and gender of respondents and whether they would wear a bicycle helmet if they were not compulsory. At least eighty percent of both males and females across all age groups would continue to wear a bicycle helmet even if not compulsory.

Table 6. Age (n=1609) and gender (n=1603) of respondents and whether they would wear a bicycle helmet

| Age range | Would you wear a bicycle helmet when cycling if these were not compulsory? | | | | |
|--------------|--|-------|------|------|---------|
| | # Yes | % Yes | # No | % No | # Total |
| < 30 years | 278 | 90% | 30 | 10% | 308 |
| 31-40 years | 378 | 83% | 76 | 17% | 454 |
| 41-50 years | 374 | 90% | 43 | 10% | 417 |
| > 50 years | 368 | 86% | 62 | 14% | 430 |
| Total | 1398 | 87% | 211 | 13% | 1609 |
| Gender | | | | | |
| Male | 1033 | 88% | 144 | 12% | 1177 |
| Female | 359 | 84% | 67 | 16% | 426 |
| Total | 1392 | 87% | 211 | 13% | 1603 |

a Total responses for age and gender differ due to the number of people completing each question

Respondents were also asked if they supported the use of advance stop lines at key intersections. Between ninety two and ninety six percent of respondents across all age groups reported they support the use of advance stop lines at key intersections. (see Figure 4)

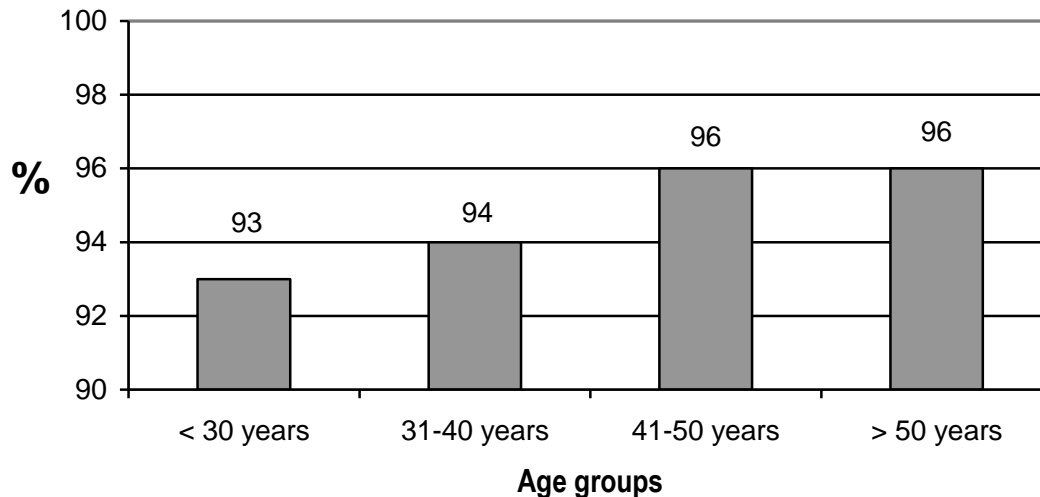


Figure 4. Respondents' support for the use of advance stop lines at key intersections

Participants were also given the opportunity to report other cycle friendly improvements they would like to see within the Perth CBD. The most common responses were the development of more designated cycle lanes and cycle paths (n=82), and to improve the structure of cycle paths and facilities within the Perth CBD area (n=44). Suggestions included improving the quality of cycle paths on Milligan St, permitting cycling in Forrest Place and Murray and Hay St malls and increasing the number of bicycle racks/stands within the Perth CBD. In addition, 29 respondents reported they would like to see the development of a cycle friendly road infrastructure. For example, cycle friendly lighting on cycle paths, appropriate traffic signals and road crossings, underpasses for cyclists at major intersections, sloping kerbs on roads, regular path maintenance, and driver awareness training (including Transperth bus drivers).

4.6 Use of facilities in the Perth Central Area

Respondents were asked if they would use end of trip cycling facilities if provided in public car parks within the Perth CBD. Of the 1612 respondents who answered this question, 53% indicated they would use secure bike parking, 34% would utilise showers and 31% would use lockers if provided. (see Table 7)

Table 7. Respondents who would use facilities in the Perth Central Area (n=1612)

| Facility | Yes | % Yes | Total |
|---------------------|-----|-------|-------|
| Secure bike parking | 874 | 54% | 1612 |
| Showers | 569 | 35% | 1612 |
| Lockers | 514 | 32% | 1612 |

a Total exceeds 100% as respondents could choose more than one response

5.0 'BIKE TO WORK BREAKFAST' TRENDS: 2000-2004

Data from the 2000-2004 Bike to Work Breakfast were compared to assess recent trends in cycling behaviours in the 'Bike to Work Breakfast' within the Perth CBD. The representativeness of these trends to cyclists who regularly bike to work is unknown, therefore results should be interpreted with caution and should not be generalised to the Western Australian cycling population.

Over the past five years, there has been a considerable increase in the number of participants who have attended the Bike to Work Breakfast. (see Figure 5) Such results may indicate an increase in the number of Western Australians regularly cycling to work, an increased awareness of, and participation in the 'Bike to Work Breakfast', and/or greater response rates of participants at the event.

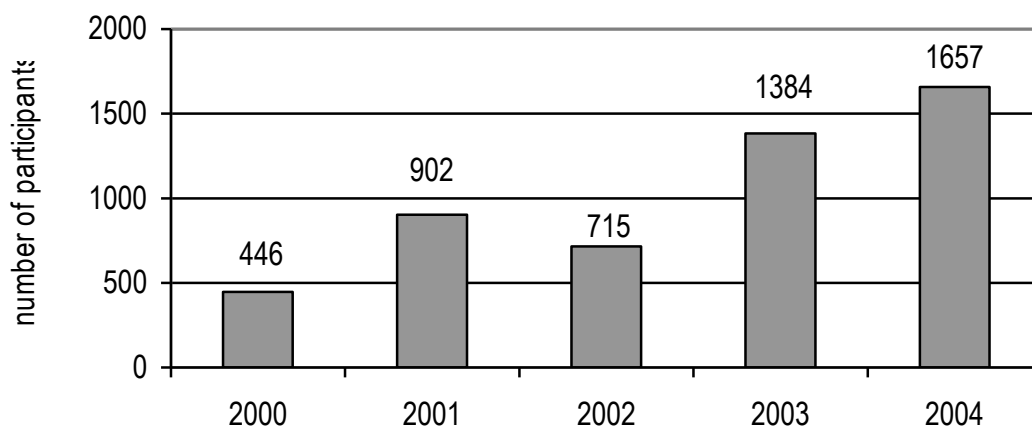


Figure 5 Participation in the 'Bike to Work Breakfast': 2000-2004

Since 2000, trends indicate consistency in the reasons why participants attending the 'Bike to Work Breakfast' choose to cycle. As shown in Table 8, respondent's reporting improve fitness as the main reason for cycling has exceeded 80% over the past five years. Enjoyment was reported as the second most common reason for cycling each year. Other commonly reported reasons include the cost benefits of cycling as opposed to driving, cycling as an alternative form of transport, and cycling to reduce stress and tension. Environmental concerns were also cited as a main reason for cycling, however trends indicate the proportion of respondents who stated they cycled due environment concerns has decreased over time.

Table 8. Reasons for cycling: 2000-2004 (% of participants who gave reasons listed)

| Reason for cycling | Year | | | | |
|-------------------------|-----------|-----------|-----------|------------|------------|
| | 2000 | 2001 | 2002 | 2003 | 2004 |
| Fitness | 90 | 87 | 86 | 84 | 88 |
| Enjoyment | 74 | 72 | 72 | 65 | 71 |
| Environment | 54 | 53 | 42 | 33 | 39 |
| Cost Effective | 47 | 47 | 44 | 38 | 45 |
| Means of transport | N/A | N/A | 47 | 47 | 46 |
| Reduce stress & tension | 44 | 45 | 47 | 31 | 44 |
| Total participants (n) | 100 (446) | 100 (902) | 100 (715) | 100 (1384) | 100 (1657) |

Trends in respondents' reported frequency (how often) and intensity (number of kilometres) of cycling over the past five years were also explored. As Table 9 and 10 illustrate, the number of kilometres cycled in any given week and the number of times respondents cycled in any given week remained relatively stable between 2000-2004.

Table 9. Number of kilometres cycled in any given week: 2000-2004

| Km / week | Year | | | | |
|------------------------|----------|----------|----------|------------|-----------|
| | 2000 (%) | 2001 (%) | 2002 (%) | 2003 (%) | 2004 (%) |
| 1-50km | 111 (25) | 262 (29) | 222 (31) | 387 (28) | 480 (29) |
| 51-100km | 134 (30) | 280 (31) | 214 (30) | 443 (32) | 514 (31) |
| 101-150km | 98 (22) | 153 (17) | 121 (17) | 249 (18) | 348 (21) |
| 151-200km | 49 (11) | 108 (12) | 71 (10) | 152 (11) | 149 (9) |
| >200km | 45 (10) | 81 (9) | 78 (11) | 152 (11) | 149 (9) |
| Total participants (%) | 446 (98) | 902 (98) | 715 (99) | 1384 (100) | 1657 (99) |

Table 10. Frequency of cycling: 2000-2004 (% of participants)

| Frequency/ week | Year | | | | |
|-----------------------------|-----------|-----------|-----------|------------|------------|
| | 2000 (%) | 2001 (%) | 2002 (%) | 2003 (%) | 2004 (%) |
| Daily | 210 (47) | 421 (47) | 307 (43) | 588 (43) | 713 (43) |
| 2-3/week | 183 (41) | 355 (39) | 291 (41) | 582 (42) | 704 (42) |
| 1/week | 27 (6) | 58 (6) | 63 (9) | 117 (9) | 127 (8) |
| Occasionally each month | 13 (3) | 46 (5) | 33 (5) | 55 (4) | 62 (4) |
| Occasionally in 6 months | 9 (2) | 5 (1) | 6 (1) | 14 (1) | 17 (1) |
| < once in 6 months | 4(1) | 3 (<1) | 8 (1) | 14 (1) | 9 (<1) |
| Total participants | 446 (100) | 902 (100) | 715 (100) | 1384 (100) | 1657 (100) |

Finally, trends in respondents' opinions of whether they would wear bicycle helmets, even if not compulsory were examined. As demonstrated in Figure 6, since 2000, over 75% of 'Bike to Work Breakfast' participants each year have reported they would continue to wear bicycle helmets even if not compulsory.

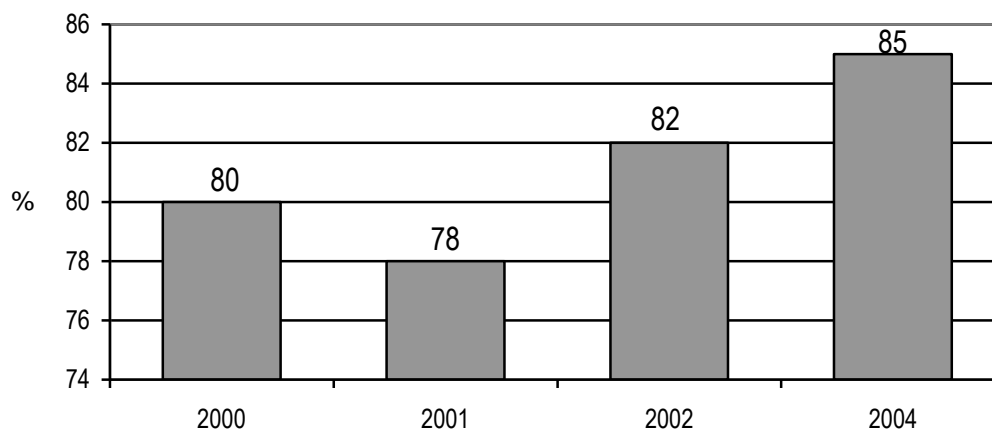


Figure 6. Respondents' opinion of whether they would wear a bicycle helmet if not compulsory (% of participants) (There are no results recorded for 2003 as this item was excluded from the survey).

6.0 RECOMMENDATIONS

The following recommendations have been made from this report:

FUTURE STRATEGIES

Recommendation One: New cycling facilities and initiatives should be based upon the needs of the Western Australian cycling population

It is recommended that an audit be conducted to assess the current cycling infrastructure, particularly within the Perth CBD, and its relevance to the needs of regular cyclists based upon the findings of this report. Common themes in participant responses relating to the creation of a cycling friendly environment should be used to guide future action that will encourage and support cycling as a safe, alternative mode of transport for Perth commuters.

Recommendation Two: New message strategies should reflect the issues raised in this report

Findings from this report may be useful in developing future messages to increase the number of people who cycle regularly. These findings provide practitioners with an indication of the characteristics of people who cycle regularly in Perth, factors that motivate them to cycle and differences in cycling behaviour by age and gender. Although further research is required to confirm these findings, it would appear that as the reasons for cycling differs between sub groups, several campaign messages would be required to reach the diverse target population.

FUTURE BIKE TO WORK BREAKFAST EVALUATIONS

Recommendation Three: Involve evaluators in the development of the Bike to Work instrument

It is recommended that the survey instrument used at the breakfast should be reviewed by the agency conducting the evaluation prior to administration. This process would ensure that the items in the questionnaire address the project objectives and provide relevant information that will allow appropriate analysis to inform future message strategies.

Recommendation Four: Supplement findings from Bike to Work Breakfast evaluation with further qualitative data

While data collected from this survey provides insights into the participants' cycling attitudes and behaviours, greater understanding of the barriers and enablers for cycling could be obtained by qualitative methods. For example, follow up interviews or focus groups could be conducted, particularly with those people who cycle less frequently.

7.0 CONCLUSION

The annual 'Bike to Work Breakfast' held by the Department for Planning and Infrastructure's BikeWest, aims to increase awareness of, and promote cycling as an alternative mode of transport to and from work. Cyclists attending the event were provided with a free, healthy breakfast and asked to complete a brief survey regarding their cycling attitudes and behaviours. The total number of people attending the breakfast in 2004 was not known, however a total of 1657 people completed a survey.

From this sample, completed surveys have: provided an insight into the demographic characteristics of those who cycle to work in the Perth CBD; indicates the frequency and intensity of cycling undertaken by this group; and identifies the main reasons why people may choose to cycle. Furthermore, these results provide information on the attitudes held by respondents regarding bicycle helmets, support for the use of advance stop lines at key intersections, and use of end of trip facilities in the Perth CBD if they were provided. Strategies to increase cycling among the Western Australian population should take the findings of this report into consideration when developing interventions or strategies that seek to encourage more people to cycle to work within the Perth CBD and surrounding districts. Consideration should also be given to addressing the enablers and barriers to cycling of various sub groups within the target population.

8.0 APPENDIX A – FREQUENCIES

APPENDIX B – CROSS TABUALTIONS