

National Ride to Work Day 2008

Follow-up survey report

National Ride to Work Day Registrants - 15th October 2008

Follow-up survey conducted 16th-22nd March 2009



Australian Government
Department of the Environment,
Water, Heritage and the Arts



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1. Glossary and Definitions

First timers - respondents who said they would be riding for the first time on (or in the lead up to) NRTWD 2008 and indicated that their frequency of riding at the time of registration (Oct 2008) was 'Never' for both the Oct-Mar and Apr-Sep periods (n = 931).

Frequent riders - first of three subsets of those who have ridden before. Those who ride to work 2.1 to 3.5 times on average during a typical 5-day week, according to their indicated frequency of riding in Oct 2008 for the Oct-Mar and Apr-Sep periods (n = 2,273).

Infrequent riders - second of three subsets of those who have ridden before. Those who ride to work 0 to 2 times on average during a typical 5-day week, according to their indicated frequency of riding in Oct 2008 for the Oct-Mar and Apr-Sep periods (n = 2,718).

Matched respondents - those who completed the follow-up survey for NRTWD 2008 and were successfully matched to their data as a registrant (n = 8,336).

Minor progress - defined in Section 2 and by Figure 6 in Section 5.5.

New riders - those who were riding for the first time at NRTWD 2008 and are now riding with some regularity - reported any level of maintenance behaviour (n = 385).

No progress - defined in Section 2 and by Figure 6 in Section 5.5.

Progress - defined in Section 2 and by Figure 6 in Section 5.5.

Registrants - those who completed registration for NRTWD 2008 (n = 35,232).

Regular rider - defined in Section 2 and by Figure 6 in Section 5.5.

Respondents - those who completed the follow-up survey for NRTWD 2008 (n = 8,430).

Ridden before - any respondent not classed as a first timer is someone who has ridden before (n = 7405).

Very frequent riders - third of three subsets of those who have ridden before. Those who ride to work 3.6 to 5 times on average during a typical 5-day week, according to their indicated frequency of riding in Oct 2008 for the Oct-Mar and Apr-Sep periods (n = 2414).

2. Executive Summary

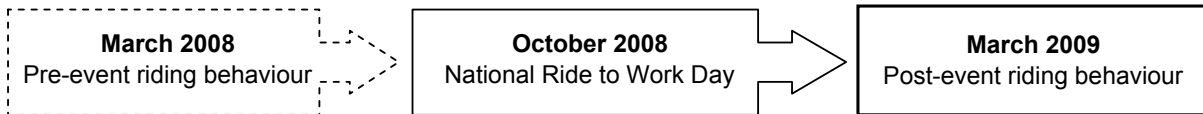


Figure 1. Stages of data collection

NOTE: March 2008 riding behaviour was evaluated in the follow-up survey in March 2009

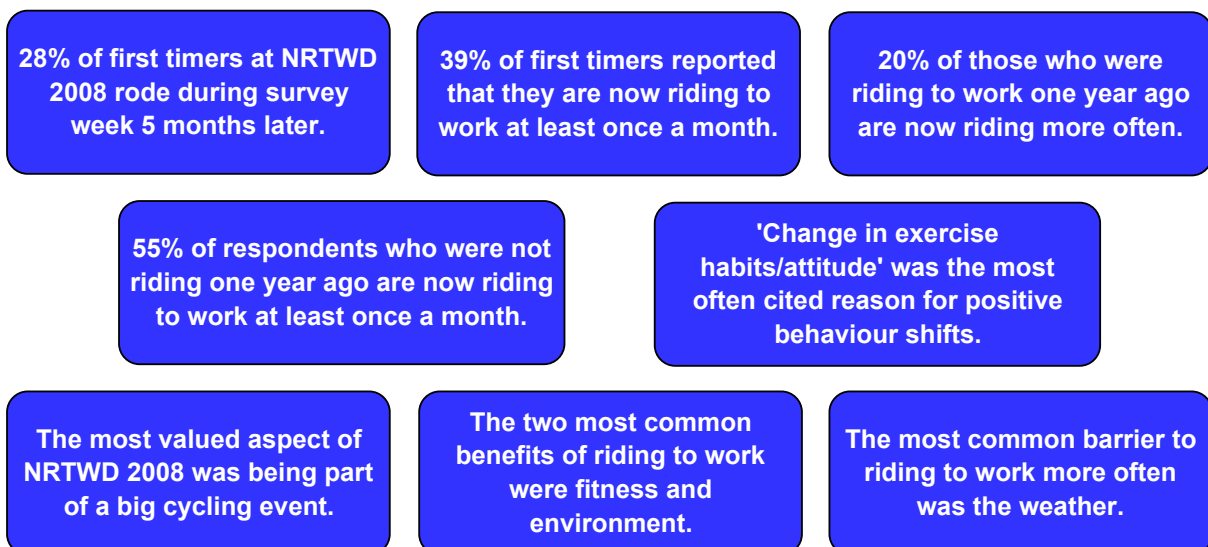
The aim of the National Ride to Work Day program is to get more people riding more often. The purpose of the follow-up survey is to gauge whether there have been medium-term changes in registrants' behaviour. Data from the 2008 registration form about riding frequency and normal mode of transport to work were included in the analyses.

The follow-up survey asks registrants about:

- a) How they commute
- b) How often they ride to work (now and one year ago)
- c) Their opinions about Ride to Work Day
- d) The barriers to and benefits of riding to work

The data provided by registrants for National Ride to Work Day 2008 were linked to the data from the follow-up survey using first e-mail address and then name. This combined dataset was then used to draw conclusions about the behaviour of National Ride to Work Day 2008 registrants.

Below are some of the findings in this report but it is important that these statements be read in context and not in isolation.



3. Behaviour Change Model

The model of behaviour change laid out below (see Prochaska & Di Clemente, 1992) is made up of five distinct stages: Pre-contemplation, Contemplation, Preparation, Action and Maintenance. The stages can be better understood by mapping them to the statements used in the follow-up questionnaire (see Figure 2).

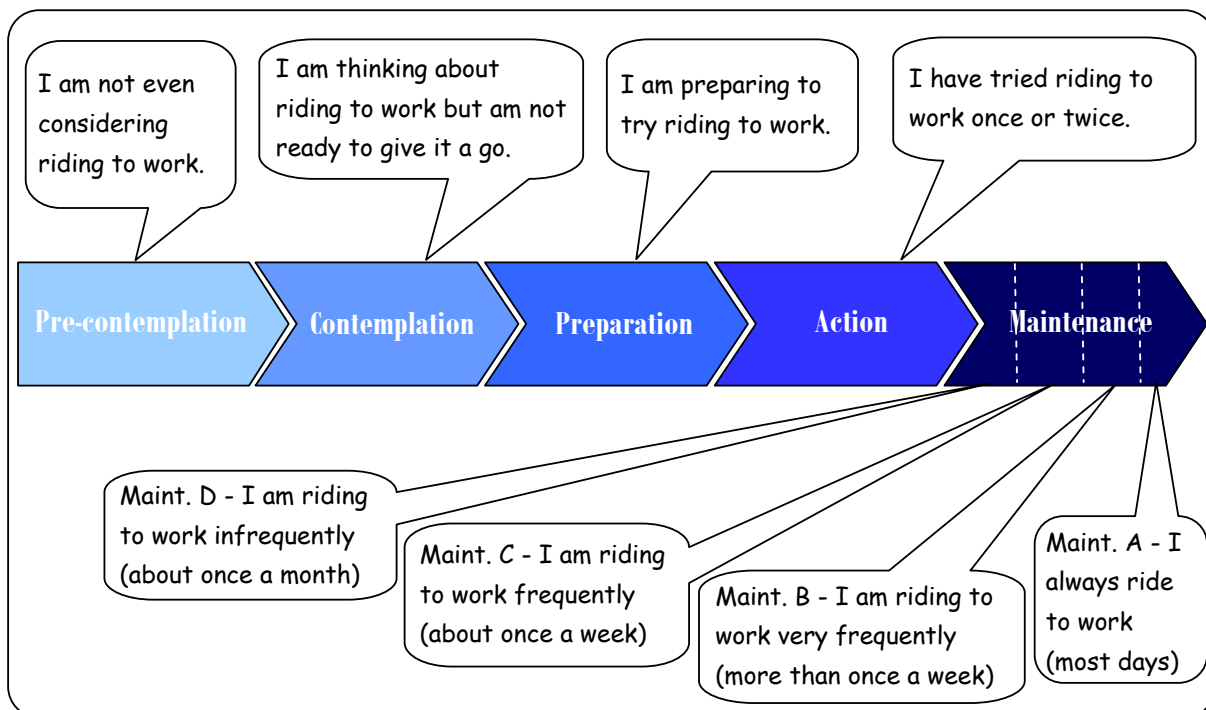


Figure 2. Five-stage model of behaviour change (see Prochaska & Di Clemente, 1992)

The maintenance stage is split into four categories: Maintenance D, Maintenance C, Maintenance B and Maintenance A. Each is defined by the corresponding statements shown in Figure 2 above. This reflects the fact that riding to work can be maintained as a behaviour without being practised daily. It is the division of the maintenance behaviour into the four sub-categories that allows us to monitor regular riders who have increased their frequency of riding to work.

The aim of National Ride to Work Day (NRTWD) is to change behaviour in the long-term. The follow-up survey was done five months after NRTWD 2008 in order to gauge the medium-term changes. Specifically, we aim to increase the number and frequency of people riding to work. The method of assessing this is outlined on the next page.

Based on changes in riding behaviour between March 2008 and March 2009, respondents were assigned one of four categories: Progress, Minor progress, Regular rider and No progress.

Progress : Any respondent who was not at a maintenance stage (Maint. A, Maint. B, etc.) in March 2008 but is in March 2009 is deemed to have made progress. Those who were already at a maintenance stage in March 2008 and have increased their frequency of riding to work also fall into the progress category.

Minor progress : Respondents who were not at a maintenance stage in March 2008 and have shown positive change but are still not at a maintenance stage in March 2009 (e.g. from Contemplation to Action) have made minor progress.

Regular riders : Those at maintenance stages in both March 2008 and March 2009 but who have not increased their frequency are considered regular riders.

No progress : Respondents that do not fall into any of the three categories above are deemed to have made no progress.

These categories are assigned based on the riding frequency statements from the March 2009 follow-up survey. They are used for calculations in Section 5.5.

4. Data Collection

4.1 Aims

To gauge cycling behaviour changes in the medium-term, gain feedback on the NRTWD 2008 event and identify the main benefits and barriers of riding to work.

4.2 Methodology

Responses to the follow-up survey were collected between the 20th of March and the 31st of March 2009 via the internet (a copy of the online survey is in Appendix A). The link to the online survey was sent via e-mail (see Appendix D) on the 20th of March to all NRTWD 2008 registrants. As an incentive, all registrants who completed the survey before 31st of March were entered into a draw to win a \$150 dinner voucher. The registrants were made aware of this incentive both in the e-mail and on the first page of the survey. The registrants had no prior knowledge of when the survey would be sent out, this allowed us to sample a typical week and did not give the registrants an opportunity to adjust their current behaviour.

4.3 Data

The data collected with the follow-up survey were responses to twelve questions with the following content (those marked with a circle (°) are optional):

- Main modes of transport used when travelling to work on each day between Monday the 16th and Sunday the 22nd of March 2009 (inclusive).
- Any secondary modes of transport used when travelling to work on each day between the 16th and 22nd of March 2009 (inclusive).°
- Behaviour (e.g. - Contemplation, Maintenance B, etc.) as it was one year ago and currently. Reasons for any change in behaviour (as many as apply).
- The impact of NRTWD 2008 on cycling habits.
- Most valued aspects of NRTWD 2008 (at least 1 and up to 3 responses).
- The benefits of (at least 1 and up to 3 responses) and barriers to (at least 1 and up to 3 responses) riding to work more often.
- First name, surname, e-mail address and comments on how to improve the NRTWD effort.

The above information was then linked - using name and e-mail address - to the responses given during registration for NRTWD 2008. Data collected during registration are shown below.

Data collected at registration (° = optional):

- First name, surname, year of birth, e-mail address, organisation, address, suburb, postcode, state, gender° and contact number°.
- Planned method of transport in October 2008 (if more than one, the one used for the longest part of the journey on most days).
- Whether bicycle transport was regularly combined with another mode of transport for commuting.
- Whether the registrant was riding to work for the first time on (or in the lead up to) Ride to Work Day.
- Frequency of riding to work from October to March and from April to September.
- Distance to work.

4.4 Response rates and samples

- There was a 21% increase in the number of registrants for NRTWD 2008 (n = 35,232) compared to NRTWD 2007 (n = 29,068).
- The response rate for the 2008 follow-up survey was 24% (n = 8,430).
- The follow-up survey respondents were matched to the information they provided when they registered for NRTWD 2008 using e-mail addresses. Where that failed, they were matched using full name. Where there was more than one match to the full name, respondents were matched to their registration data by checking the e-mail addresses for typographical errors.
- The respondent sample was compared to the registrant sample on three major factors (age, gender and riding habits) in order to test the representativeness of the respondent sample. The results show that frequent and very frequent riders are significantly more likely to respond to the follow-up survey than infrequent riders and first timers. Age also had a significant effect on response rate, those over 40 (particularly those between 51 and 60 years of age) were more likely to respond to the follow-up survey than those under 40. The gender ratios between the two samples did not differ significantly.

Males made up 64% of all matched respondents. This trend was similar across all states and territories except for the Northern Territory, where females made up 61% of respondents (see Table 1 below). Victoria accounted for the largest number of respondents with 47%, the next largest was New South Wales with 16%, the other states and territories each contributed under 10% each to the total.

Table 1a. Gender by state/territory (all matched respondents)

State or Territory	Females %	Males %	Total Number of Riders
ACT	40%	60%	572
NSW	32%	68%	1311
NT	61%	39%	110
QLD	30%	70%	633
SA	36%	64%	766
TAS	30%	70%	288
VIC	38%	62%	3917
WA	33%	67%	671
Others	30%	70%	47
Overall	36%	64%	8315

NOTE: Total respondents completing the survey was 8430, 94 could not be matched to a NRTWD 2008 registrant, which leaves 8336. A further 19 did not provide state and/or gender details: 8336 - 19 = 8315.

The broad definition of Infrequent riders (see Section 1) means that a third of all respondents fell into this category. However, the frequent and very frequent groups were similar in size to the infrequent group, 27% and 29%, respectively. Only the first timers group was significantly smaller than the others (11%). The size of the groups varied with state: Very frequent riders were the largest group in the ACT, Queensland and South Australia while frequent riders were the largest group in Western Australia (see Table 1b below).

Table 1b. Riding status by state/territory (all matched respondents)

State or Territory	First timers	Infrequent	Frequent	Very Frequent
ACT	8%	29%	30%	33%
NSW	15%	35%	26%	23%
NT	12%	31%	26%	31%
QLD	12%	28%	30%	31%
SA	12%	28%	26%	34%
TAS	8%	36%	30%	26%
VIC	10%	34%	26%	30%
WA	10%	30%	34%	27%
Overall	11%	33%	27%	29%

NOTE: 'Others' - i.e. respondents from outside Australia - are excluded from Table 1b due to insufficient sample size.

5. Follow-up survey results

5.1 General analyses

Of the total number of matched respondents (n = 8336), 89% had ridden to work before NRTWD 2008 and 11% had not. Of the 11% who were riding to work for the first time on NRTWD 2008 (first timers), 28% rode to work at least once during survey week, more than five months after NRTWD 2008 (see Figure 3 below).

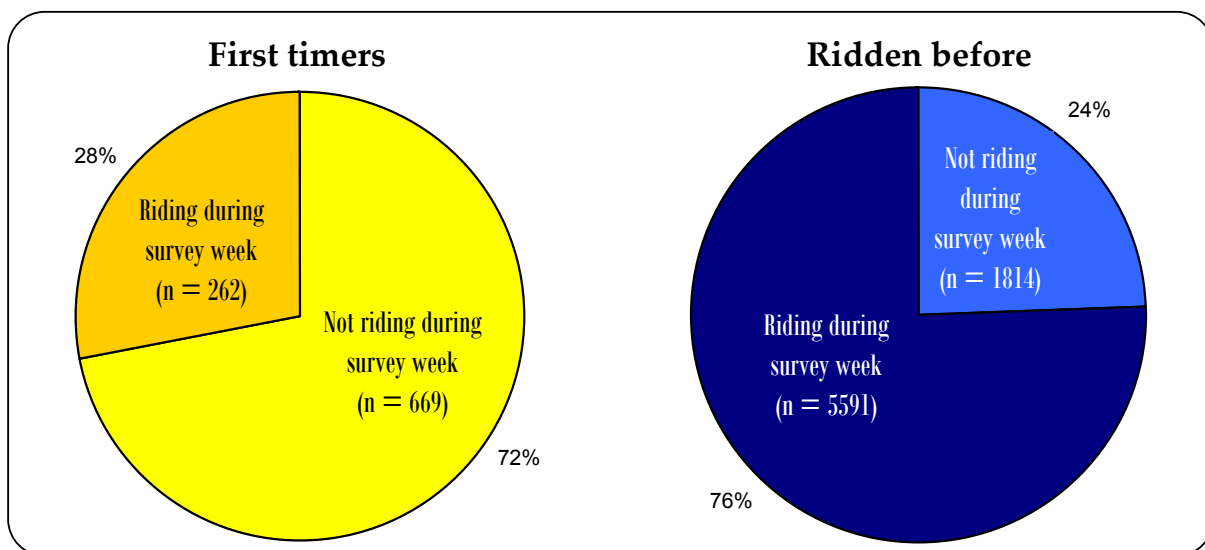


Figure 3. Status prior and subsequent to NRTWD 2008 (all matched respondents)

First timers are people who had never ridden to work before. The group is made up of those who were riding for the first time on, *and* in the lead up to, NRTWD 2008. The 'ridden before' group (89% majority above) includes people who ride rarely and those who used to ride but no longer do so.

The results in Figure 3 are based on riding behaviour during the survey week. However, respondents were also asked to estimate the current frequency of their riding to work using the statements outlined in Section 3. The data from the survey week were then used to corroborate these riding frequency statements (Maintenance A, Action, etc.). In general, the results show that the two measures agree (see Table 2 on the next page).

Table 2. Self-reported frequency and survey week behaviour (all matched respondents)

<i>Riding beh. - survey week</i>	March 2009 Riding Frequency Statement				
	Not riding to work regularly	Riding once a month	Riding once a week	Riding more than once a week	Riding most days
<i>0 days</i>	91%	71%	25%	8%	3%
<i>0.1 - 1 days</i>	4%	16%	31%	6%	1%
<i>1 - 2 days</i>	3%	9%	28%	28%	2%
<i>2 - 4 days</i>	0%	2%	13%	50%	36%
<i>4 - 5 days</i>	0%	1%	1%	7%	57%
<i>DNW*</i>	2%	1%	2%	1%	1%
<i>TOTAL</i>	100%	100%	100%	100%	100%

* - Did not work at all during survey week

NOTE: The 'Riding beh. - survey week' column in Table 2 is based on a 5-day working week and is adjusted for those working a different number of days (e.g. - someone working 3 days of survey week and riding to work on 2 of them, would fall into the 2-4 days category while a person working 6 days and riding on 2 of them would fall into the 1-2 days category).

NOTE: 2-3 days and 3-4 days have been combined into one category in Table 2 to be comparable to the frequency statements.

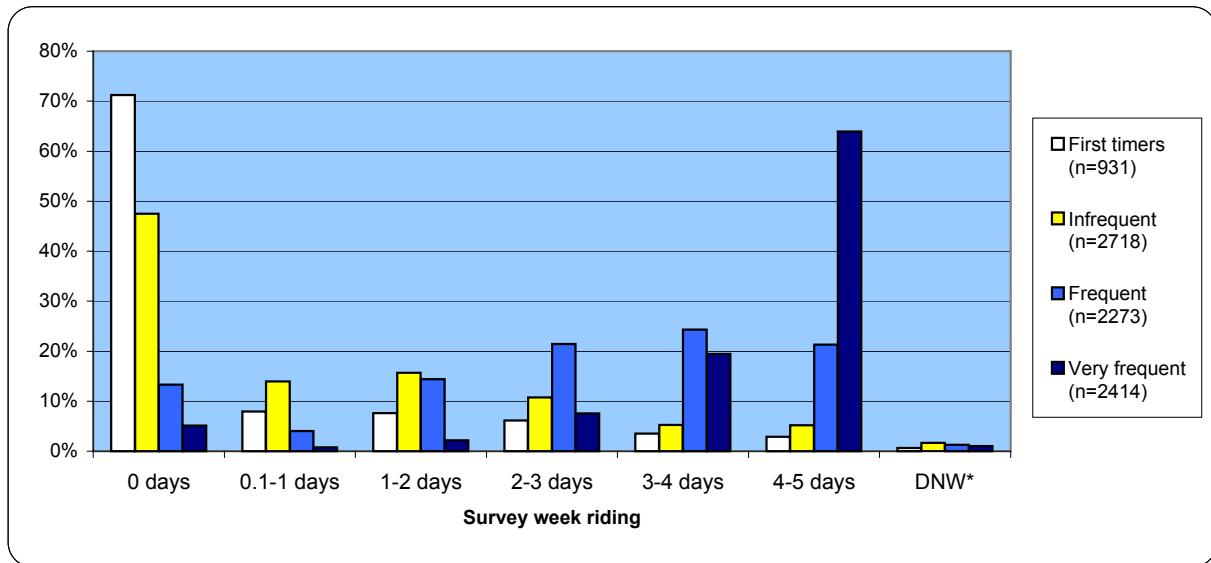
Table 2 above shows that, although there are some small inconsistencies between riding frequency and behaviour during survey week, the two measures were generally in agreement. It is important to bear in mind that the survey was done over a single week and there are myriad reasons why, on that particular week, respondents may not have been acting in accordance with their stated frequency. For the analyses in Sections 5.5 and 6, the frequency statements are assumed to be accurate.

In the following sections, those who have ridden to work before are divided into 'infrequent riders', 'frequent riders' and 'very frequent' riders. This variable is assigned by combining two data from the initial registration process (October 2008) to give a yearly total. These data describe frequency of riding to work in the April to September and October to March periods. In a typical 5-day week then, based on this yearly total, infrequent riders ride to work less than twice a week on average, frequent riders average between 2 and 3.5 times a week and very frequent riders ride more than 3.5 times a week on average (see Appendix C for calculations).

5.2 Riding during survey week

The number of first timers who were riding on one or more days during survey week was 262. The number of people who had ridden to work before and were riding at least one day during survey week was 5,591. The number of people riding to work during survey week peaked on Wednesday (4,217) and the working week low was on Friday (3,804).

The majority of first timers who rode during survey week rode on just one day (8%) but 13% of first timers rode on two or more days. The majority (64%) of very frequent riders rode every day of survey week (see Figure 4 below). This indicates a large gap between those who ride every day and all others (possibly explained by the very frequent riders' personal commitment to cycling).



* - Did not work at all during survey week

Figure 4. Days riding to work by riding habits (all matched respondents riding)

It is important to stress that the riding frequency groups (first timer, infrequent, etc.) were assigned based on data gathered in October 2008. Number of days riding was calculated from data collected in March 2009. This arrangement means that Figure 4 above gives us some information about how riding frequencies have shifted between October 2008 and March 2009. For example, in October 2008 all of the first timers would have been confined to the '0 days' column on the far left. Five months after NRTWD 2008, 8% of first timers rode 0-1 days during survey week, 8% rode 1-2 days, 6% rode 2-3 days, 4% rode 3-4 days and 3% rode 4-5 days.

It is also clear that for the other three groups, riding frequency does not appear to have changed significantly since October 2008. Because this was a single week of testing however, the data naturally contain more variation. As a result, they are more 'spread out' than a similar chart using a weekly average would be. With this in mind, first timers and infrequent riders both rode an average of 2 days, frequent riders rode an average of 3 days and very frequent riders averaged 4 days. These averages include only the riders who rode to work on at least one day of survey week.

5.3 Distance to work

For respondents now riding to work at least once a month, the average distance (one-way) to work was 11.2 km. For very frequent riders, the average was 9.4 km, frequent riders averaged 11.3 km, infrequent riders averaged 13 km and for new riders the average was 13.2 km. Across all groups, the most common distance to work was five to ten kilometres. For first timers and infrequent riders living more than 10 km from work, distance may be an important barrier to riding to work more often (see Section 5.7 on barriers).

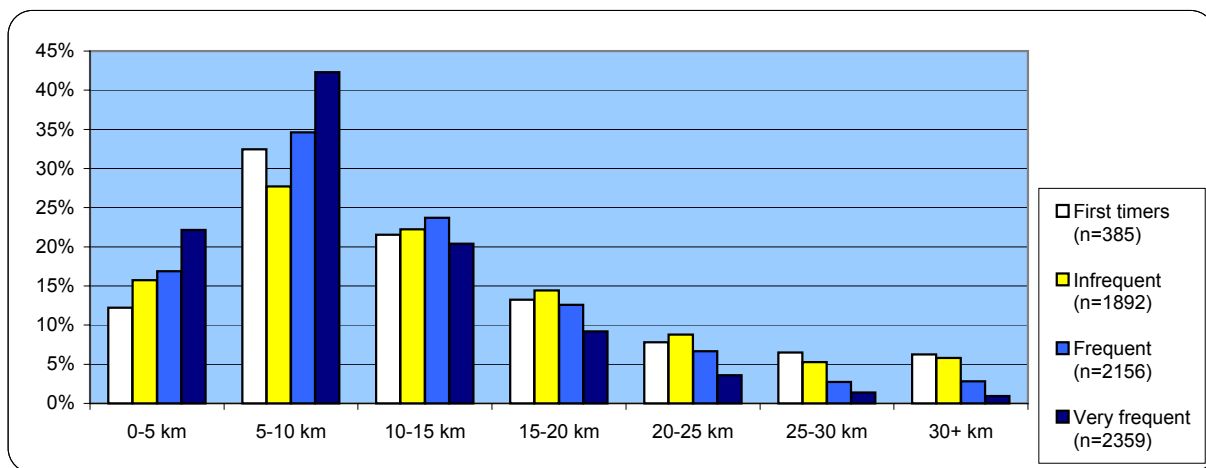


Figure 5. Distance to work by riding habits (all matched respondents riding in March 2009)

Respondents from Western Australia travelled the greatest distance to work on average (12.2 km) and those from the Northern Territory travelled the shortest distance on average (8 km). The remaining states/territories rank as follows: New South Wales (11.6 km), Victoria (11.1 km), ACT (11 km), Queensland (10.9 km), South Australia (10 km) and Tasmania (9.6 km). This order is the same as for March 2007 except that South Australia and ACT have swapped positions.

5.4 Multimodal commutes

The most common form of transport among respondents during the survey week was bicycle only (47% of journeys). This was followed by car (alone) which accounted for 22% of the journeys. These figures are comparable to the percentages from the NRTWD 2008 registrants sample, in which 51% normally rode a bike to work and 23% normally travelled by car (alone) in October 2008.

87% of journeys during survey week were completed using a single form of transport for the entire journey. When cycling was combined with another form of transport, it was most often a train (see Table 3a on the next page).

Table 3a. Main mode of transport by secondary mode (number of journeys - all matched respondents)

<i>Secondary mode</i>	Bicycle	Car (alone)	Train	Car (with others)	MC*	Bus	Walk	Other
<i>None</i>	20,292	9,262	1,419	2,548	616	1,048	1,805	695
<i>Bicycle</i>	-	165	366	75	3	57	21	9
<i>Car (alone)</i>	299	-	350	25	1	33	30	18
<i>Train</i>	295	31	-	35	1	45	26	7
<i>Car (with others)</i>	160	36	151	-	0	64	26	25
<i>Motorcycle*</i>	11	0	3	1	-	0	0	1
<i>Bus</i>	72	19	284	35	0	-	32	17
<i>Walk</i>	120	381	945	234	15	341	-	137
<i>Other</i>	51	15	131	25	3	17	46	80

* - Motorcycle/scooter

Table 3b. Main mode of transport by secondary mode (% of journeys - all matched respondents)

<i>Secondary mode</i>	Bicycle	Car (alone)	Train	Car (with others)	MC*	Bus	Walk	Other
<i>None</i>	47%	22%	3%	6%	1%	2%	4%	2%
<i>Bicycle</i>	-	neg.	neg.	neg.	neg.	neg.	neg.	neg.
<i>Car (alone)</i>	neg.	-	neg.	neg.	neg.	neg.	neg.	neg.
<i>Train</i>	neg.	neg.	-	neg.	neg.	neg.	neg.	neg.
<i>Car (with others)</i>	neg.	neg.	neg.	-	neg.	neg.	neg.	neg.
<i>Motorcycle*</i>	neg.	neg.	neg.	neg.	-	neg.	neg.	neg.
<i>Bus</i>	neg.	neg.	neg.	neg.	neg.	-	neg.	neg.
<i>Walk</i>	neg.	neg.	2%	neg.	neg.	neg.	-	neg.
<i>Other</i>	neg.	neg.	neg.	neg.	neg.	neg.	neg.	neg.

* - Motorcycle/scooter

Because the respondents were a subset of registrants for NRTWD 2008 (and not a sample representative of the population), there is a bias towards the number of people who commute by bicycle. The Australian Bureau of Statistics reported 80% of commuters travelling by car and 6% cycling or walking in March 2006.

Just 13% of journeys during survey week were completed using multimodal transport, for which there are many combinations. 'Neg.' stands for negligible in Table 3b and each entry accounts for no more than 1% of the total number of journeys during the survey week.

5.5 Behaviour change

To gauge behaviour change, a category of progress was assigned to each respondent. The four categories of progress are no progress, minor progress, progress and regular rider. They are defined in Figure 6 below (see also Section 2).

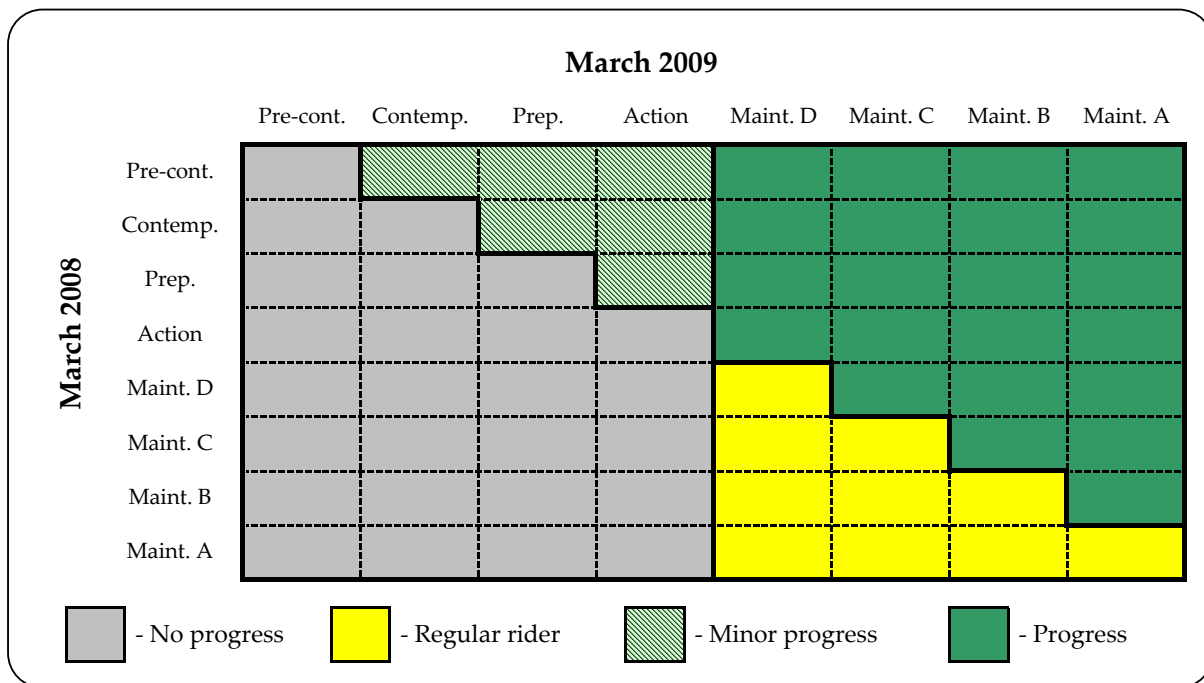


Figure 6. Evaluation of progress between March 2008 and March 2009

Among all matched respondents, those deemed to have made minor progress were the smallest group with 6%, the next largest was those who made no progress (12%), second largest was those who made progress (31%) and the largest was those considered to be regular riders (50%). These proportions vary widely however depending on gender and riding history (see Figure 7 on the next page).

Of those not riding one year ago, 55% made progress over the course of the year from March 2008 to March 2009 (i.e. - they are now riding to work with some degree of regularity), 21% made minor progress and 24% made no progress. Of those who were riding one year ago, the majority (72%) are still riding regularly in March 2009 and a further 20% are now riding more often (progress).

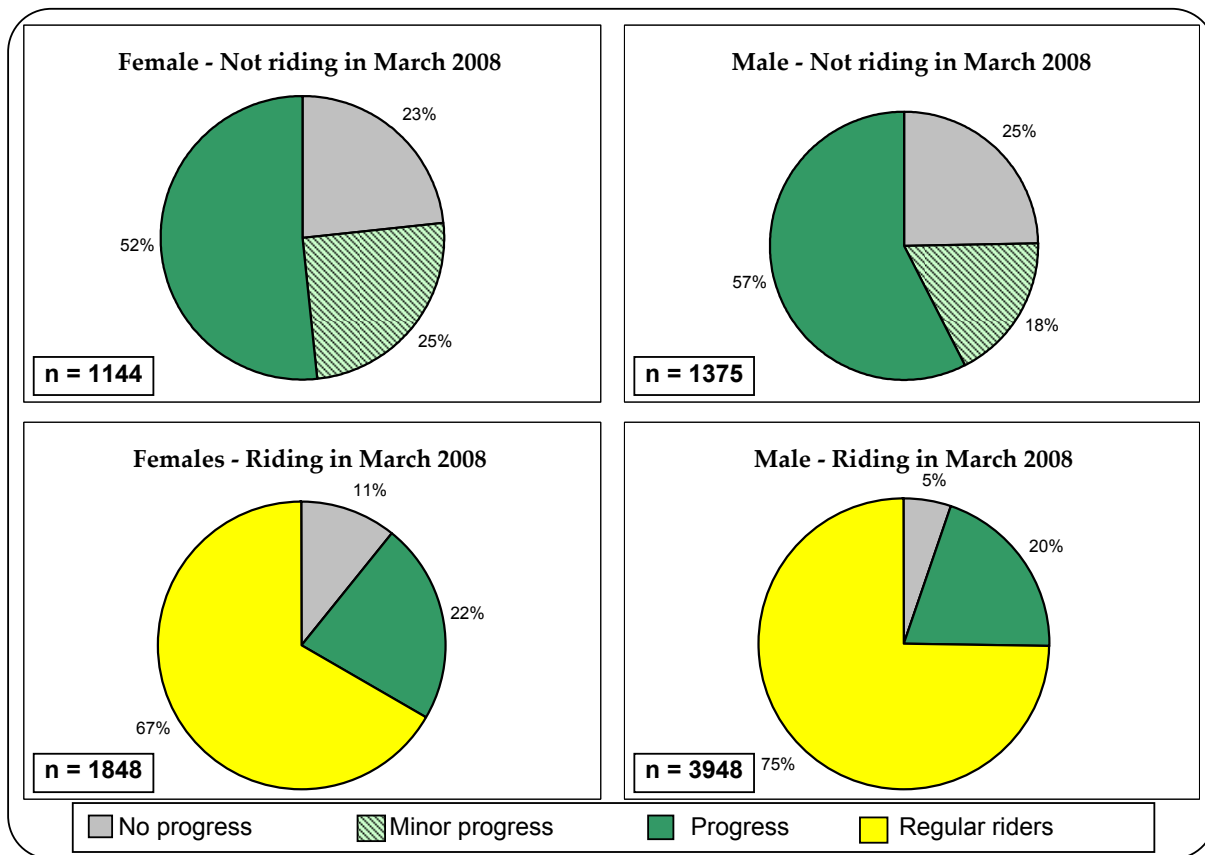


Figure 7. Type of progress by gender and riding status (all matched respondents)

Figure 7 above indicates that NRTWD 2008 had a positive effect on riding behaviour among non-riders and regular riders alike. The majority (22%) of respondents cited a 'change in exercise habits/attitude' as the reason for their positive behaviour changes, the most common reason for not progressing was 'injury/illness/pregnancy' (see Appendix B).

A greater proportion of males not riding in March 2008 showed progress compared to females, 57% versus 52%. This is in contrast to 2007 when a greater proportion of females progressed.

Of those not riding in March 2008 (the top two pie charts in Figure 7), 65% had ridden before NRTWD in October 2008. 63% of these made progress between March 2008 and March 2009 and the percentage making progress diminished monotonically with age from 77% for those under 21 to 47% for those over 60. Among first timers, the pattern of progress with respect to age was less simple (see Section 6).

5.6 Impact of the event

The majority (60%) of respondents indicated that NRTWD 2008 had a positive effect on their attitude to riding. The remainder is made up of 32% who responded that the event did not have a significant impact on their attitudes and 8% who responded 'none of the above'. Among first timers, the most popular response was that it 'influenced their decision to ride' and among infrequent riders the majority responded that it 'motivated them to continue riding' (see Figure 8 below). Also, the frequent and very frequent riders displayed a similar pattern of responses, indicating that their perceived personal impacts of the NRTWD 2008 event were comparable.

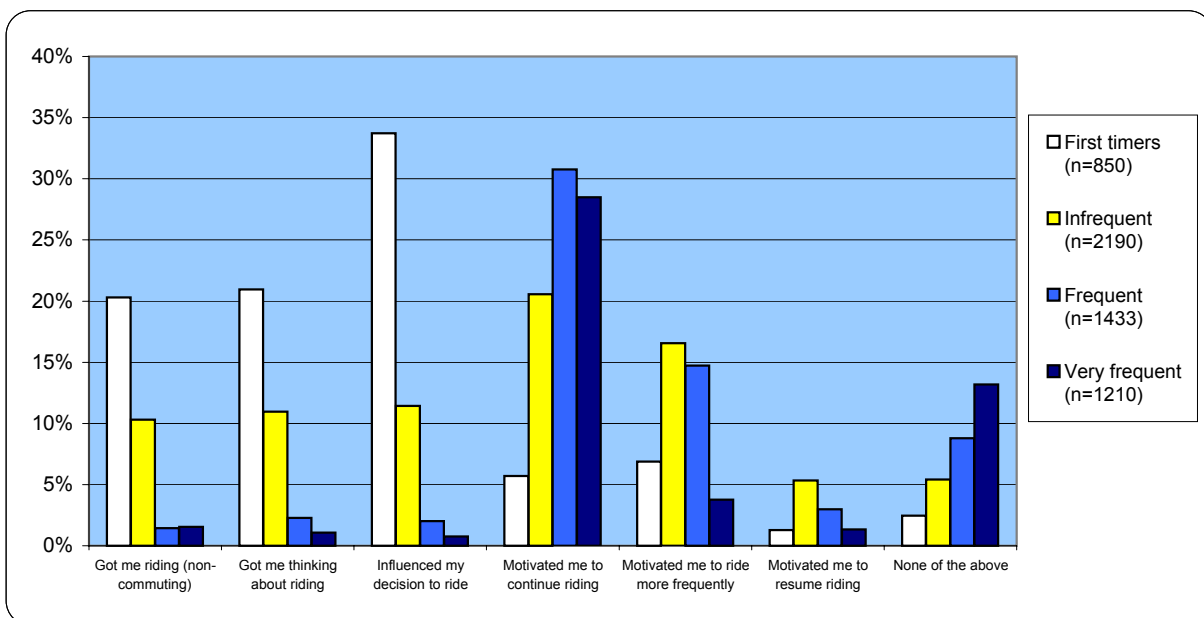


Figure 8. Self-reported impact of the event by riding habits (matched respondents impacted by event)

The statements above are intended to gauge the impact of the event on the attitude (as distinct from the behaviour) of the registrants. These attitude statements roughly correspond to the stages of the behaviour change model in Figure 2. Reading from left to right, there is progression from pre-contemplation to maintenance. There is also a statement to cover lapsed maintenance behaviour ('motivated me to resume riding').

The NRTWD 2008 event clearly had an impact on those riding for the first time with 89% of first timers saying the event had a positive effect on their attitude to riding. However, the NRTWD 2008 event was also able to provide motivation to those who have ridden before - 75% of infrequent riders, 54% of frequent riders and 37% of very frequent riders reported that NRTWD 2008 had a positive impact on their attitude. The next step is to understand which aspects of the event were most valued by its registrants.

Overall, the most valued aspect of the event was 'being part of a big cycling event' followed closely by 'seeing lots of people riding to work'. The 'publicity the event generates' and 'encouragement of new riders' were more important to frequent and very frequent riders while 'the achievement of riding to work' was important to first timers and infrequent riders (see Figure 9 below, only the top eight overall responses are shown). These results are very similar to the results from the same question last year. It is worth noting that by combining the scores for public and private breakfasts, 'all breakfasts' would then be in fourth place.

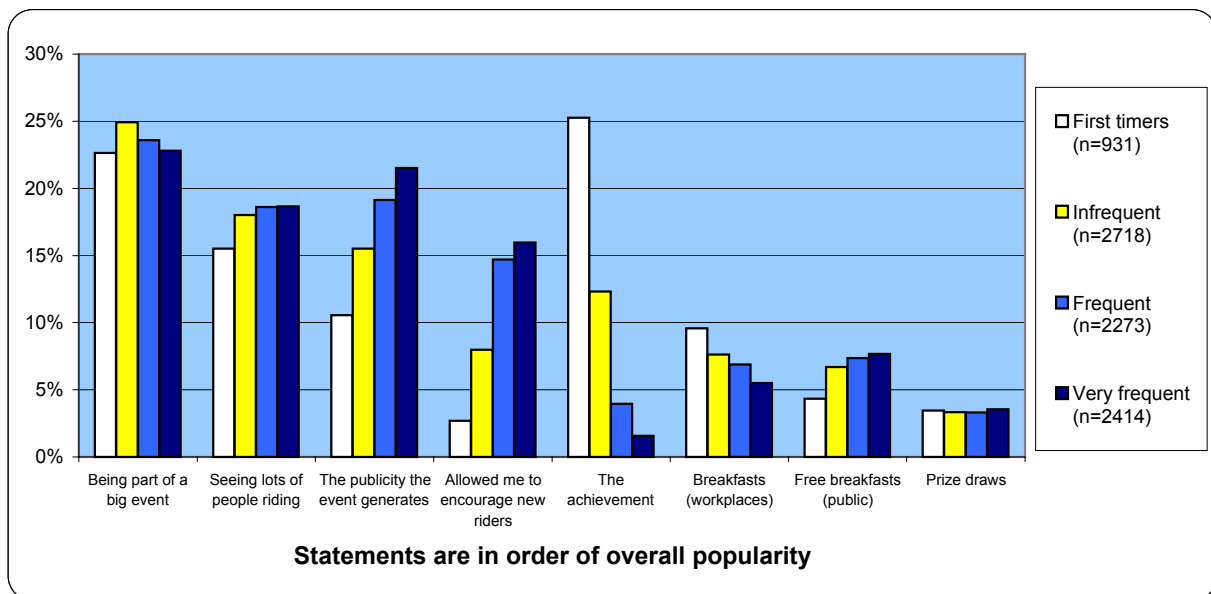


Figure 9. Valued aspects of the event by riding habits (% of responses - all matched respondents)

The above graph indicates that the follow-up survey respondents got more out of the fact that this was a national event than they did from the incentives and entertainment on offer. By concentrating on these areas of greatest value (e.g. - by producing mementoes of the day, organising experienced-rider guides and showing recognition of participation), the NRTWD organisers can encourage even greater numbers of registrants at (and greater satisfaction with) NRTWD 2009.

5.7 Benefits and barriers

The NRTWD methods of driving sustainable behaviour are rooted in the processes of Community Based Social Marketing (CBSM). The first step of CBSM is to define which *person-specific* behaviour is desired. For NRTWD, the fundamental behaviour is 'riding to work more often'. The next step is to explore the benefits of and the barriers to that behaviour. Once these are known, the appropriate tools to address these benefits and barriers (e.g. establishing norms, incentives, infrastructure changes, etc.) can be selected.

5.7.1 Benefits of riding to work

This list of possible benefits of riding to work was partially exploratory (responses created for this survey) and partially based on similar NRTWD research from 2005. The list included an 'Other' option and textbox. For all groups, the most popular benefit of riding to work was 'fitness'. This was followed by 'environment' among the frequent and very frequent riders but by 'physical activity' among the first timers and infrequent riders. 'Costs' and 'health' were the fourth and fifth most popular responses overall but as riding frequency increased, costs became more prominent as a benefit and health less prominent (see Figure 10 below, only the top eight overall responses are shown).

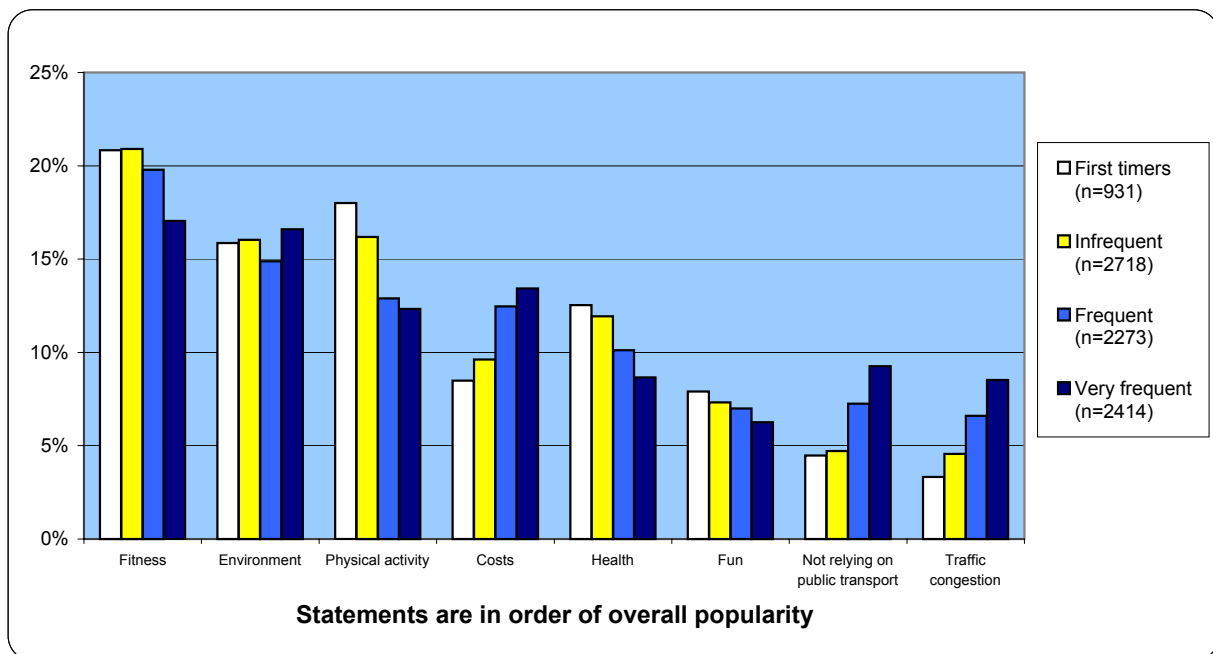


Figure 10. Benefits of riding to work by riding habits (% of responses - all matched respondents)

In general, cyclists see similar benefits to riding to work regardless of their frequency of riding. This indicates that a single campaign can be used to encourage participation in NRTWD 2009 and that messages highlighting these benefits need not be tailored to the different levels of riding frequency. The top five benefits for first timers, infrequent and frequent riders are the same (with some small changes to the order): fitness, environment, physical activity, costs and health. For very frequent riders, four out of these five are the same, the only difference is that 'not relying on public transport' takes the place of 'health'.

A distinction must be drawn between the benefits of fitness, health and physical activity. Health benefits include longer life and fewer medical issues. Fitness and physical activity are closely related but fitness is probably more goal-oriented and consistent than physical activity, which is intermittent and done for its own sake.

5.7.2 Barriers to riding to work

The most commonly cited barrier to riding to work more often was 'weather'. This was true for the frequent riders group in particular but infrequent riders and first timers chose 'commitments' as the greatest barrier. 'Lack of safe on-road routes' and 'car driver behaviour' were also important barriers (see Figure 11 below, only the top nine overall responses are shown). The top two have not changed since last year.

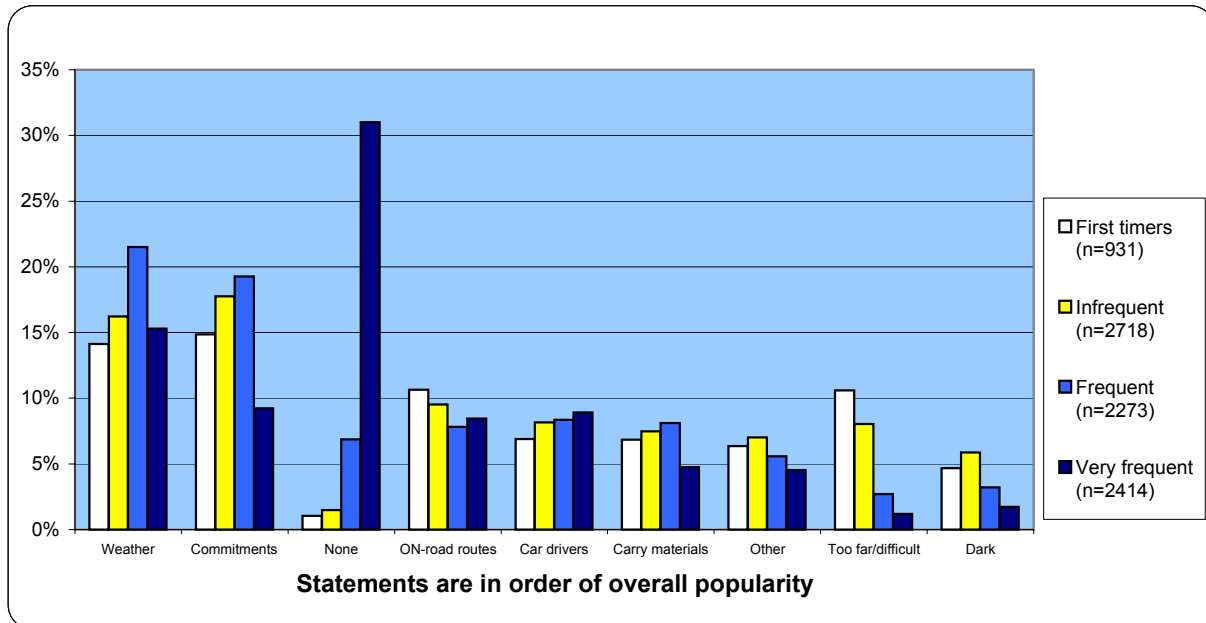


Figure 11. Barriers to riding to work by riding habits (% of responses - all matched respondents)

One should bear in mind when looking at Figure 11 above that these are barriers to riding to work *more often* and that will mean different things for each of the different groups. For first timers, riding more often could mean anything from riding once or twice a year to riding every day. For very frequent riders however, riding more often almost certainly means riding every day.

The barrier most often chosen by very frequent riders was 'none' - 31% of the responses from very frequent riders were that they do not see any barriers to riding to work more often. This is in stark contrast to 1%, 2% and 7% of responses from first timers, infrequent and frequent riders, respectively, being 'none' - clearly differentiating the very frequent riders from all others in their perceptions. The response chosen least often among every group was 'I have no desire to ride to work' (less than 1% of responses). The sixth most common response was 'other'. Here, respondents typically described very specific situations or variations on the time, convenience and safety issues.

6. New riders profile

Registrants riding for the first time at NRTWD 2008 and who are now riding to work with some regularity (at least once a month) are considered 'new riders'. 39% of first timers are now new riders. Figure 12 below, shows the number of new riders as a percentage of first timer respondents in each of the twelve age-by-gender groups. For each column, 100% is the total number of first timer respondents in that age-by-gender group. Figure 12 shows evidence that female first timers under 40 are more likely to take up regular riding than female first timers over 40.

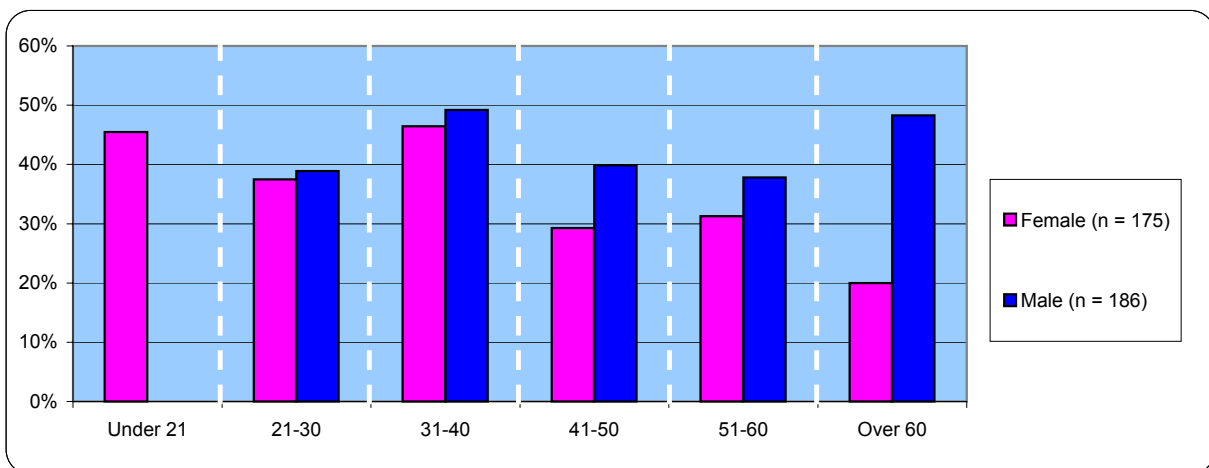


Figure 12. New riders by age and gender (all matched first timer respondents - new riders)

The majority (43%) of new riders used to regularly drive a car (alone) to work and 42% used to take public transport (see Figure 13 below). A small group of first timers said they usually rode a bike to work, since this was at odds with other information from the registration form, these respondents are omitted from Figure 13 below.

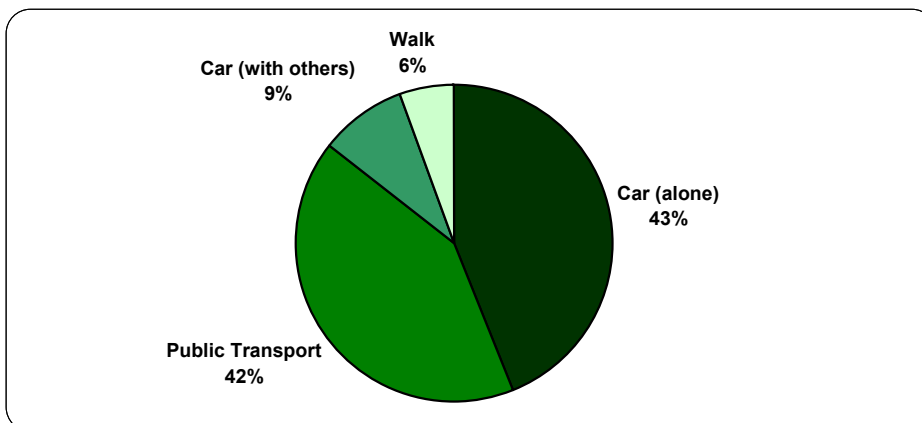


Figure 13. Former transport modes of new riders (all matched new riders)

7. Greenhouse Gas Emissions

On NRTWD 2008, 73 tonnes of CO₂ equivalent were prevented from entering the air and water. The estimated ongoing saving between October 2008 and October 2009 is 2,206 tonnes of CO₂ equivalent.

On NRTWD 2008, registrants who normally drive to work (either alone or with others) prevented 73 tonnes of CO₂ equivalent from entering the air and water by cycling to work. This is an 18% drop from the 2007 total of 89 tonnes. The reduction is mainly due to two factors: An 8% decrease in the number of registrants stating car (alone) as their usual mode of transport and a 10% decrease in the kms-to-kgs (CO₂ equivalent) conversion factors (the fact that these two numbers sum to 18% is coincidental).¹ The latter is presumably due to an overall improvement in the average efficiency of cars on the road, while the former may indicate that there are actually fewer people driving to work alone.

From the follow-up survey responses, it is possible to estimate the amount of the CO₂ equivalent saved over a full year by NRTWD 2008 registrants. The calculation is based on the following data: a) distance covered on return journeys to work, b) average number of days riding to work per week, c) percentage of registrants riding more frequently (including new riders) and d) the kms-to-kgs (CO₂ equivalent) conversion factors. The result is that an estimated 2,206 tonnes of CO₂ equivalent will be saved between October 2008 and October 2009 thanks to changes in registrants' behaviour. This total is comparable to the estimate from 2007 of 2,245.

NOTE: See Appendix E for the methods of calculation of the CO₂ equivalent figures.

¹ Figures are as reported by the Department of the Environment, Water, Heritage and the Arts - 0.3 kg/km for people driving alone and 0.15 kg/km for people driving with others. The 2007 figures from the Australian Greenhouse Organisation were higher.

8. Interpretation and conclusions

The aim of the NRTWD program is to get 'more people riding more often'. According to the respondents from the March 2009 follow-up survey, 55% of people who were not routinely riding to work one year ago are now doing so. In addition, a fifth of those who were riding a year ago have increased their riding frequency and a further 72% have maintained their regular riding. 28% of those riding for the first time at National Ride to Work Day 2008 rode to work at least one day during survey week and 39% now ride to work at least once a month.

By each of these measures, it is clear that there are now more people riding more often compared to this time last year and that the NRTWD program has achieved its goal this year. NRTWD 2009 however will bring greater numbers of registrants and a push on getting first timers to register. The focus will then be to encourage commuters (primarily car users) to ride to work not as a novelty but as a habit.

The most popular benefit of riding to work was fitness and the primary reason for positive change in riding behaviour was a change in exercise habits/attitudes. It is clear that the primary motivation to ride to work, across all levels of riders, is exercise. Improved environment, physical activity, lower costs and better health were other important benefits. Although fitness, health and physical activity are related they can be understood to be distinct (see end of Section 5.7.1).

The most prominent barriers to riding more often include weather, commitments, lack of on-road routes and car drivers' behaviour. Lack of on-road routes could be addressed at the level of local government. Dealing with the two most important barriers however (weather and commitments) is best done at the level of the individual rider through preparation and organisation.

9. References

Australian Bureau of Statistics. (2008, February 7th). *1301.0 Year Book Australia, 2008*. Retrieved 27th of April, 2009 from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/bb8db737e2af84b8ca2571780015701e/92D5907EC8B13B8ACA2573D2001062CB?opendocument>

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10. Appendix A - the online follow-up survey

National Ride to Work Day 2008 follow-up survey

Welcome to the National Ride to Work Day 2008 follow-up survey.

Your answers make it possible for us to evaluate the impact of the event and plan for National Ride to Work Day in October 2009.

Survey length: 12 questions
Time to complete: 4 minutes

Simply complete the survey and answer the question 'What do you like most about National Ride to Work Day?' by Tuesday the 31st of March 2009 and you will go into the draw to **win a gift voucher valued at \$150 at the restaurant of your choice.**

All registered participants are eligible to enter.

The winner will be contacted by email and published on the ride to work website on Friday the 24th of April 2009.

Protecting your privacy
We collect, use, disclose and otherwise handle your personal information in accordance with the terms of Bicycle Victoria's Privacy Policy Statement. See www.bv.com.au (Search: privacy) for full details. All information remains the property of Bicycle Victoria. We do not collect personally identifiable information about you except when you specifically provide this information on a voluntary basis. We will make every effort to ensure that whatever information you provide will be maintained in a secure environment.

The results of **this survey** and reports on previous surveys are available on www.ridetowork.com.au (See: Why registering is important).

10. Appendix A - the online follow-up survey (cont.)

Your journey to work for the week beginning 16 March 2009

*=question requires a response

*** 1. Please select the mode of transport that you used for the MAJORITY (greatest distance) of your journey to work.**

	Main mode TO work
Mon 16th Mar	<input type="text"/>
Tue 17th Mar	<input type="text"/>
Wed 18th Mar	<input type="text"/>
Thu 19th Mar	<input type="text"/>
Fri 20th Mar	<input type="text"/>
Sat 21st Mar	<input type="text"/>
Sun 22nd Mar	<input type="text"/>

Bicycle

Walk/Run

Bicycle

Car (alone)

Train

Car (with others)

Motorbike/scooter

Did not work today

Bus

Other

*** 2. Did you use another mode of transport for a minor portion of your journey to work on any of the days listed above?**

Yes (please answer question 3)

No (please skip question 3 and advance to the next page)

3. IF you used another form of transport during your journey to work, please select it below.

	Secondary mode TO work
Mon 16th Mar	<input type="text"/>
Tue 17th Mar	<input type="text"/>
Wed 18th Mar	<input type="text"/>
Thu 19th Mar	<input type="text"/>
Fri 20th Mar	<input type="text"/>
Sat 21st Mar	<input type="text"/>
Sun 22nd Mar	<input type="text"/>

Other modes (30 characters)

10. Appendix A - the online follow-up survey (cont.)

Your experience of riding to work

*** 4. Choose one statement from each of the drop-down lists that best describes your behaviour both ONE YEAR AGO (March 2008) and CURRENTLY (March 2009)?**

Behaviour ONE YEAR AGO - Mar 2008 CURRENT behaviour - Mar 2009

Riding to work:

*** 5. If you have indicated a shift in your behaviour between March 2008 and March 2009 above, please tick any changes that have affected you (you may select UP TO THREE answers).**

- NO CHANGE in behaviour from Mar 2008 to Mar 2009
- Injury/illness/pregnancy
- Change in exercise habits/attitude
- Change in place of residence
- Change in place of work (including retirement)
- Change in family commitments
- Change in financial circumstances
- Other (please specify - 50 characters)

*** 6. Did National Ride to Work Day in October 2008 have an impact on you and/or your cycling habits?**

Please choose the single most appropriate answer

Ride to Work day 2008:

*** 7. Which aspect(s) of the National Ride to Work Day 2008 event did you value the most? (You may select UP TO THREE answers)**

- Prize draws
- Allowed me as a regular rider to encourage new riders to participate
- Being part of a big event that promotes cycling
- Entertainment
- Free breakfasts (public)
- Seeing lots of people riding to work
- The achievement of having ridden to work
- Breakfasts (arranged in individual workplaces)
- The publicity the event generates about riding to work
- Other (please specify - 50 characters)

I am not even considering riding to work
 I am thinking about riding to work but am not ready to give it a go
 I am preparing to try riding to work
 I have tried riding to work once or twice
 I am riding to work infrequently (about once a month)
 I am riding to work frequently (about once a week)
 I am riding to work very frequently (more than once a week)
 I always ride to work (most days)

No but I was aware of the event.
 Yes, it motivated me to ride but not for commuting.
 Yes, it got me thinking about riding to work.
 Yes, it influenced my decision to have a go at riding to work (either on the day of the event or soon after).
 Yes, it motivated me to continue riding to work.
 Yes, it motivated me to ride to work more frequently.
 Yes, it motivated me to resume riding to work.
 None of the above.

10. Appendix A - the online follow-up survey (cont.)

The ups and downs of riding to work

Feel free to tick more than one answer for each of the questions below but please tick no more than three.

*** 8. What are MAIN benefits to you of riding to work? (Please select NO MORE THAN THREE answers)**

- Reduced costs
- Better for the environment
- Fitness
- Physical activity
- Health
- Not relying on public transport
- Less affected by traffic congestion
- Fresh air
- Time for myself
- Fun/enjoyment
- Other (please specify - 50 characters)

*** 9. What are the MAIN things that prevent you from riding to work more often? (Please select NO MORE THAN THREE answers)**

- None
- I have no desire to ride to work
- I don't like riding in the dark
- I don't feel confident about my cycling skills
- It's too far/difficult to ride regularly
- Commitments (family/personal) before or after work
- Illness/injury/pregnancy
- Fear of punctures/mechanical failures
- The lack of safe ON-road routes to work
- The lack of safe OFF-road routes to work
- Car drivers' attitudes and behaviour
- Weather (heat/cold/rain/wind)
- Inadequate locker/shower facilities at work
- Inadequate bike parking at work
- I need my car during work
- I need to carry materials for work
- Other (please specify - 50 characters)

10. Appendix A - the online follow-up survey (cont.)

About yourself

Please enter the following details correctly to go into the prize draw.

*** 10. What is your name?**

If there is more than one version of your first name, please type your name as it appeared in the e-mail you received about this survey. This information is needed to verify your eligibility to participate in the survey and the prize draw.

First name

Surname

*** 11. Please confirm your e-mail address.**

Please type the address to which we sent the link for this survey. This information is needed to verify your eligibility to participate in the survey and the prize draw.

*** 12. Do you have any comments to make about how we could improve the Ride to Work effort?**

No thanks.

Yes, please contact me by e-mail.

Yes, I'll comment now. (max - 250 characters)

10. Appendix A - the online follow-up survey (cont.)

Finished!

Thank you very much for taking the time to complete the National Ride to Work Day 2008 survey created by Bicycle Victoria.

Please click "Done" to complete and close the survey. If you would like to go into the draw to win a \$150 at the restaurant of your choice please complete the question at the end of this page.

The winner will be contacted by email on Friday the 24th of April 2009 and published on www.ridetowork.com.au.

Protecting your privacy
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We do not collect personally identifiable information about you except when you specifically provide this information on a voluntary basis. We will make every effort to ensure that whatever information you provide will be maintained in a secure environment.

If you have any questions about your involvement in this survey, please feel free to contact Bicycle Victoria:

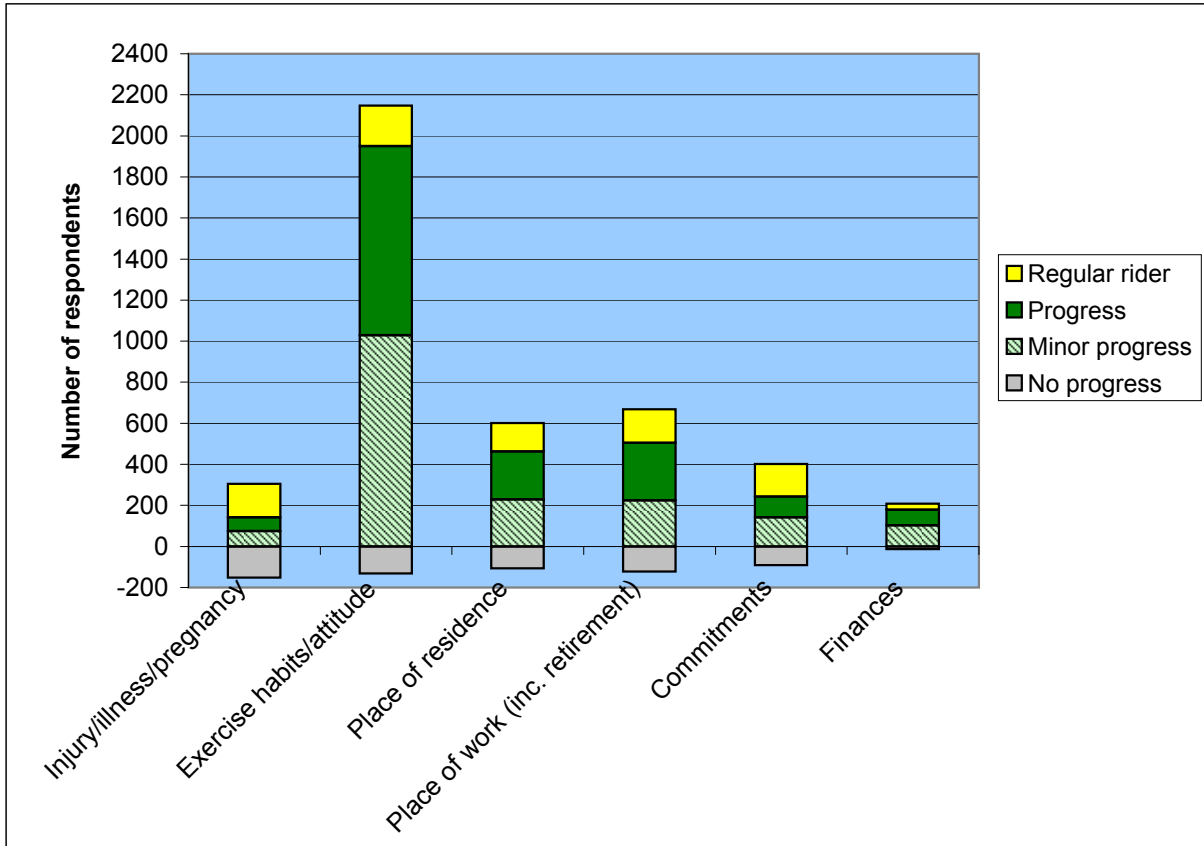
Ph 8636 8888 Fax 8636 8800

Level 10, 446 Collins Street, Melbourne Vic 3000
(near corner of William Street, Melway Ref 1A F7)
PO Box 426, Collins Street West VIC 8007

The National Ride to Work Day Team.

13. To go into the draw to win a gift voucher valued at \$150 at the restaurant of your choice please tell us in 25 words or less what you like most about National Ride to Work Day.

11. Appendix B - analysis of reasons behind behaviour change



Reasons for behaviour changes between March 2008 and March 2009

12. Appendix C - riding frequency calculations

Oct - Mar	Apr - Sep	Average estimate	Bracket	Evaluation
Every day	Every day	4.5	3.5 - 5	Very frequent
Every day	More than twice a week	3.75	3.5 - 5	Very frequent
Every day	Once or twice a week	3	2 - 3.5	Frequent
Every day	Once or twice a month	2.4375	2 - 3.5	Frequent
Every day	Never	2.25	2 - 3.5	Frequent
More than twice a week	Every day	3.75	3.5 - 5	Very frequent
More than twice a week	More than twice a week	3	2 - 3.5	Frequent
More than twice a week	Once or twice a week	2.25	2 - 3.5	Frequent
More than twice a week	Once or twice a month	1.6875	0 - 2	Infrequent
More than twice a week	Never	1.5	0 - 2	Infrequent
Once or twice a week	Every day	3	2 - 3.5	Frequent
Once or twice a week	More than twice a week	2.25	2 - 3.5	Frequent
Once or twice a week	Once or twice a week	1.5	0 - 2	Infrequent
Once or twice a week	Once or twice a month	0.9375	0 - 2	Infrequent
Once or twice a week	Never	0.75	0 - 2	Infrequent
Once or twice a month	Every day	2.4375	2 - 3.5	Frequent
Once or twice a month	More than twice a week	1.6875	0 - 2	Infrequent
Once or twice a month	Once or twice a week	0.9375	0 - 2	Infrequent
Once or twice a month	Once or twice a month	0.375	0 - 2	Infrequent
Once or twice a month	Never	0.1875	0 - 2	Infrequent
Never	Every day	2.25	2 - 3.5	Frequent
Never	More than twice a week	1.5	0 - 2	Infrequent
Never	Once or twice a week	0.75	0 - 2	Infrequent
Never	Once or twice a month	0.1875	0 - 2	Infrequent
Never	Never	0	0 - 2	Infrequent

DERIVED WEEKLY ESTIMATES

Never	0 days
Once or twice a month	0.375 days
Once or twice a week	1.5 days
More than twice a week	3 days
Every day	4.5 days

Note: Estimates are based on registrants' responses to the two frequency questions in October 2008. The frequency evaluations above are largely arbitrary.

13. Appendix D - e-mail sent to all registrants with survey link

National Ride to Work Follow Up Survey

Hello ,

Thank you for registering for National Ride to Work Day 2008.

Your involvement in the event was invaluable. We would like to ask a few minutes of your time to provide us with feedback to assist in evaluating the event and plan for National Ride to Work Day 2009 (14 October).

Simply complete the survey by Tuesday 31 March 2009, tell us what you like most about National Ride to Work Day and you will go in the draw to win a voucher valued at \$150 at the restaurant of your choice. All registered participants are eligible to enter.

We encourage you to complete this four minute survey regardless of the frequency of your riding.

The winner will be notified by email and published on the [Ride to Work website](#) on Friday 24 April 2009.

Your contribution will help us build the event for 2009 and beyond.

Thank you for your support.

Happy riding,

The National Ride to Work Team



Phone: (03) 8636 8888
Website: www.ridetowork.com.au

Fax: (03) 8636 8800
Email: [National Ride to Work Day Team](#)

You are receiving this email as you registered as a participant in 2008 National Ride to Work Day

This email is intended solely for the named addressee. If you receive this email in error, please delete it from your system and advise the sender. This message has been scanned for viruses prior to leaving the originator's network. If you do not want to receive any future National Ride to Work Day emails please email us with 'unsubscribe' at the front of the subject line. If you do not want to receive ANY future Bicycle Victoria emails AT ALL, please email us with 'unsubscribe ALL' at the front of the subject line.

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14. Appendix E - CO₂ equivalent terms and equations

Terms

KM_A	Average number of kilometres covered on one return journey to work by respondents driving a car to work alone.	DAY_A	Average number of days (in a 5-day week) spent riding to work by respondents who normally drove to work alone in October 2008.
KM_O	Average number of kilometres covered on one return journey to work by respondents driving a car to work with others.	DAY_O	Average number of days (in a 5-day week) spent riding to work by respondents who normally drove with others in October 2008.
N_A	Total number of registrants normally driving to work alone.	INC%	Percentage of registrants who have increased their frequency of riding (including those who have begun riding) from October 2008 to March 2009.
N_O	Total number of registrants normally driving to work with others.	TON_A	Estimated number of tonnes of CO ₂ equivalent produced by travelling one kilometre in a car alone. This value is constant at 0.0003.
WKS	Number of weeks in a year. Constant at 52.	TON_O	Estimated number of tonnes of CO ₂ equivalent produced by travelling one kilometre in a car with others. This value is constant at 0.00015.

Equations

CO₂ equivalent saved on the day:

$$(KM_A \times N_A \times TON_A) + (KM_O \times N_O \times TON_O) = \text{Total CO}_2 \text{ equivalent on the day}$$

CO₂ equivalent estimated ongoing savings over 12 months:

$$(N_A \times KM_A \times DAY_A \times WKS \times INC\% \times TON_A) + (N_O \times KM_O \times DAY_O \times WKS \times INC\% \times TON_O) = \text{Estimated CO}_2 \text{ over 12 months}$$

NOTE: The equation above was done for each of the frequency categories (first timers, frequent riders, etc.) and the results added together. This is because several of the factors varied considerably between the categories.

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