



Greater Darwin Cycle Survey July 2011



A snapshot of cycle path usage
in the Greater Darwin Region



At a glance

This cycle survey report summarises the results of a cycle path survey undertaken by the Department of Lands and Planning between June 29 and July 8 2011. The survey was undertaken as a follow up to three previous cycle path surveys undertaken in February 2009, July 2010 and February 2011.

The survey consisted of a three hour survey at eight selected survey sites on the Greater Darwin cycle path network. Five of the eight sites were previously surveyed in 2009, 2010 and 2011. The survey was conducted on working days from June 29 – July 8 2011. The 2010 survey was also undertaken during the dry season, while the 2009 and 2011 surveys were conducted during the wet season.

Comparisons between 2011, 2010 and 2009 data revealed the following:

- A total of 661 cyclists were counted in the 2011 dry season survey.
- The total cyclists recorded for the five comparable sites in this survey was 366. This was 14% greater than 2009 but 3% less than 2010 and 16% less than the peak in the 2011 wet season survey.
- All five comparable sites recorded more off road cyclists than on road cyclists.
- Site 8 (Rapid Creek Bridge) recorded the most cyclists (169).
- The average peak time over all six sites was at 7:15am. On average, high numbers were recorded from 6:45am to 7:45am.

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1 Introduction

The Greater Darwin Cycle Survey 2011 (Dry Season) provides a snapshot of cycle path usage at eight sites on the Greater Darwin arterial cycle path network. The purpose of the survey is to provide evidence of cycle path usage and assist in the ongoing planning and management of the cycle path network. Five of the eight sites were the same as similar surveys conducted in 2009, 2010 and 2011. The sixth site, on the corner of Fitzner Drive and Bagot Road, has only been surveyed in the 2011 wet season survey. Two new sites have been added to this survey as recommended in the 2011 (Wet Season) Survey Report. These are located at the Thorngate Road and Palmerston intersection of the Stuart Highway off road path (site 7) and the Rapid Creek Bridge (site 8).

This survey was conducted from 29 June to 8 July 2011. School holidays were in effect during the count period which may have an effect on count numbers at some sites. The 2010 survey was conducted in a similar period during the dry season. The weather during this period was fine and sunny on all count days.

1.1 Background

The Greater Darwin Region has an extensive arterial cycle path network and anecdotal evidence indicates that the paths are well used and that usage is increasing. However, very limited data is available on cycle path usage in the region.

During the wet season in February 2009, the Department of Lands and Planning (DLP) undertook a snapshot survey of six key routes on the network. The survey focussed mainly on the arterial cycle path network managed by DLP. However, it also included the Dick Ward Drive cycle path which is managed by the Darwin City Council as this path is a key commuter cyclist route with links to the arterial cycle path network.

In July 2010, the snapshot survey was repeated to indicate dry season cycle path usage. There was an overall increase of 11% in cyclist numbers between the February 2009 and July 2010 surveys.

The most recent survey was conducted during the wet season in February 2011. Overall, there was a 36% increase in cyclists from 2009 to 2011. This consisted of an 18% increase in 2010 and a 15% increase in 2011.

This survey will show the change in cycle path usage between the 2011 dry season and the 2009 wet season, 2010 dry season and 2011 wet season. The comparison between the 2011 and 2010 dry seasons will be of particular interest as this is the first time dry season data has been compared.

The results establish a basis for more extensive data collection and assist with planning, developing and managing the network.

1.2 Weather Conditions

Weather conditions in 2011 were representative of the typical Darwin dry season. The weather conditions of each day of the survey are described below in Table 1.

Table 1. Weather Conditions

Date	Site	Weather
Wednesday 29/06/11	1 (Bagot Road -Totem Road Intersection)	Fine and sunny
Thursday 30/06/11	2 (Dick Ward Drive -Totem Road Intersection)	Fine and sunny
Friday 01/07/11	3 (Bagot Road - Stuart Highway Intersection)	Fine and sunny
Monday 04/07/11	4 (Stuart Highway - Amy Johnson Avenue Intersection)	Fine and sunny
Tuesday 05/07/11	5 (McMillans Road - Vanderlin Drive Intersection)	Fine and sunny
Wednesday 06/07/11	6 (Fitzer Drive - Bagot Road Intersection)	Fine and sunny
Thursday 07/02/11	7 (Yarrowonga/Thorngate/Stuart Hwy Intersection)	Fine and sunny
Friday 08/07/11	8 (Rapid Creek bridge - University side)	Fine and sunny

2 Methodology

The 2011 dry season survey was conducted using the same methodology as the 2009, 2010 and 2011 wet season surveys.

2.1 Site Selection

A total of eight sites were selected (see figures 1 and 2 for locations). Five of these sites were the same as the 2009 and 2010 surveys. The sixth site was at Fitzer Drive and Bagot Road and was first recorded in the 2011 wet season survey. The two new sites were located at Rapid Creek Bridge (site 8 – see figure 1) and the Yarrowonga, Thorngate Road and Palmerston intersection of the Stuart Highway off road path (site 7 – see figure 2).



Figure 1. Location of Darwin survey sites

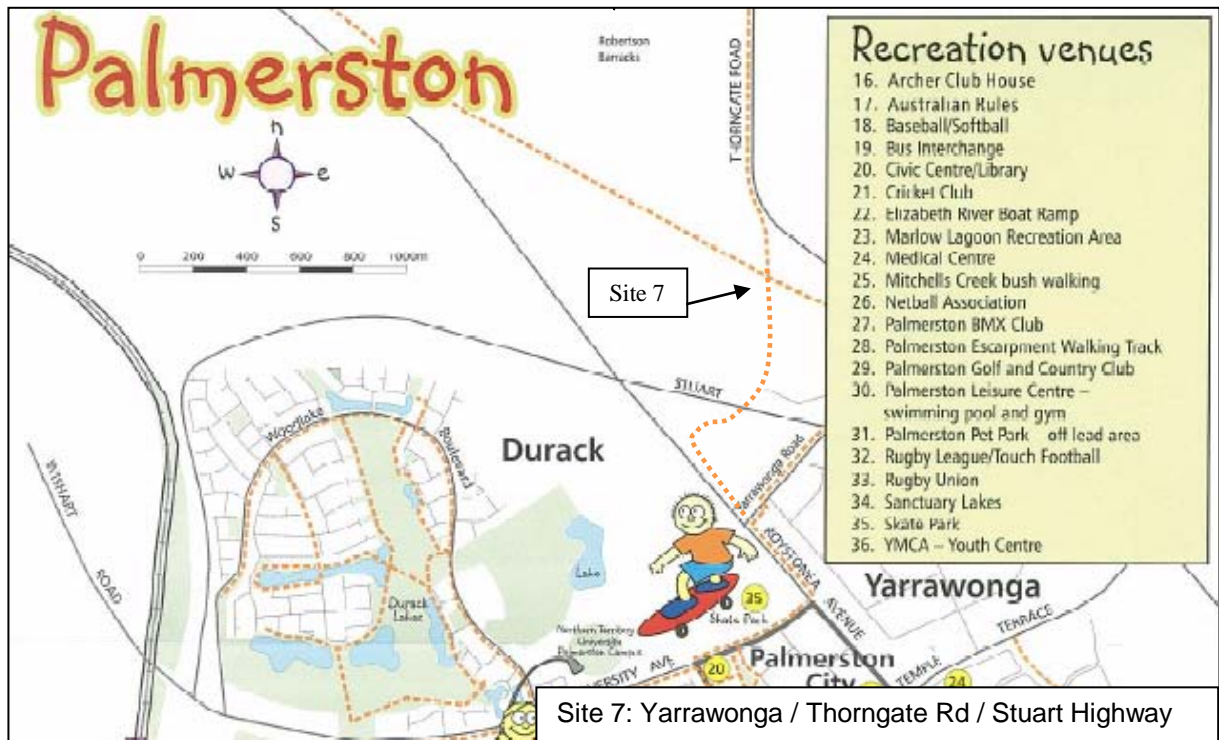


Figure 2. Location of Palmerston survey site

2.2 Count Procedures

Physical counts were conducted by two survey counters from 6:30am to 9:30am on each working day from 29th June to 8th of July 2011. All counts were on weekdays during peak commuter hours. All counts were done during the June/July school holiday period. The survey counters were sitting outside next to the highway while recording at most sites. Site 6 (Fitzer Dr, Bagot Rd Intersection) was a small intersection and did not require the survey counters to record outside the car as the whole intersection could be viewed from inside the vehicle. The two survey counters both counted and there were no breaks over the 3 hour period.

2.3 Limitations of the Survey

The purpose of this survey was to provide a snapshot of cycle path usage at selected points on the network. The snapshot consisted of only one 3 hour period of recording on one day per site. This significantly limits the amount of data recorded, the ability of the data to accurately represent trends and the conclusions that can be made.

The most recent survey, conducted in February 2011, was able to provide a comparison between similar time and weather conditions in the 2009 survey. The 2010 dry season survey had a limited capacity for comparison with previous wet season surveys because of the different season and conditions. This survey will allow for a comparison between 2010 and 2011 dry season data.

Site 6 was a new site in the 2011 wet season survey. This site has been recorded again in this survey. While a comparison can be made for this site, it must be noted that this survey was conducted during school holidays in a different season.

No data exists for comparing sites 7 and 8 as these sites have been newly added to this survey.

3 Results

A total of 661 cyclists were counted in the 2011 dry season survey (see table 2). Site 8 (Rapid Creek Bridge) recorded the most cyclists (169).

The total number of cyclists recorded in the 2011 dry season survey for the five sites comparable across all four surveys was 366. This was 14% greater than 2009 but 3% less than 2010 and 16% less than the peak in the 2011 wet season survey (see table 4).

All sites recorded more off road cyclists than on road cyclists.

The direction of travel of cyclists was recorded at each site. This data revealed the most common directions cyclists were travelling when moving through each site. Diagrams representing the most common directions have been created (see appendix 1).

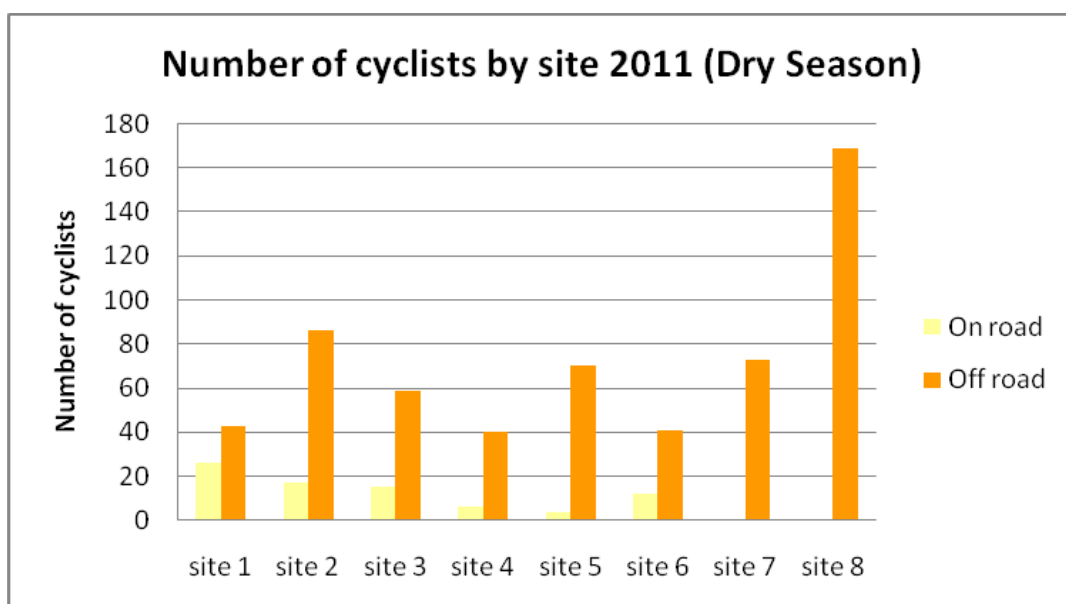


Figure 3. Number of cyclists by site 2011 (dry season)

Table 2. 2011 (dry season) site data

Site	On road	Off road	Total
1 – Bagot Road - Totem Road	27	43	70
2 – Dick Ward Drive - Totem Road	17	86	103
3 – Bagot Road - Stuart Highway	15	59	74
4 – Stuart Highway - Amy Johnson Avenue	6	40	46
5 – McMillans Road - Vanderlin Drive	4	70	74
6 – Fitzer Drive - Bagot Road	12	41	53
7 – Yarrowonga/Thorngate/Stuart Hwy	0	73	73
8 – Rapid Creek Bridge (University side)	0	169	169
Total	80	581	661

Table 3. Total counts for comparable sites 2009-2011

Site	2009 (wet)			2010 (dry)			2011 (wet)			2011 (dry)		
	On road	Off road	Total	On road	Off road	Total	On road	Off road	Total	On road	Off road	Total
Site 1	23	45	68	21	49	70	22	65	87	26	43	69
Site 2	19	74	93	21	80	101	34	105	139	17	86	103
Site 3	15	63	78	29	61	90	19	69	88	15	59	74
Site 4	0	30	30	4	41	45	0	32	32	6	40	46
Site 5	7	44	51	9	62	71	22	67	89	4	70	74
Average	12.8	51.2	64	16.8	58.6	75.4	19.4	67.6	87	13.6	59.6	73.2
Total	64	256	320	84	293	377	97	338	435	68	298	366

Table 4. Percentage change for comparable sites 2009-2011(dry)

Site	% Change 2009(w)-2011(d)			% Change 2011(w)-2011(d)			% Change 2010(d)-2011(d)		
	On road	Off road	Total	On road	Off road	Total	On road	Off road	Total
Site 1	13%	-4%	1%	18%	-34%	-21%	24%	-12%	-1%
Site 2	-11%	16%	11%	-50%	-18%	-26%	-19%	8%	2%
Site 3	0%	-6%	-5%	-21%	-14%	-16%	-48%	-3%	-18%
Site 4	600%	33%	53%	600%	25%	44%	50%	-2%	2%
Site 5	-43%	59%	45%	-82%	4%	-17%	-56%	13%	4%
Total	6%	16%	14%	-30%	-12%	-16%	-19%	2%	-3%

The number of cyclists at sites 1, 2, 3, 5 and 6 were down from previous counts (see figure 4). Sites 1, 2, 5 and 6 had higher counts in the 2011 wet season survey.

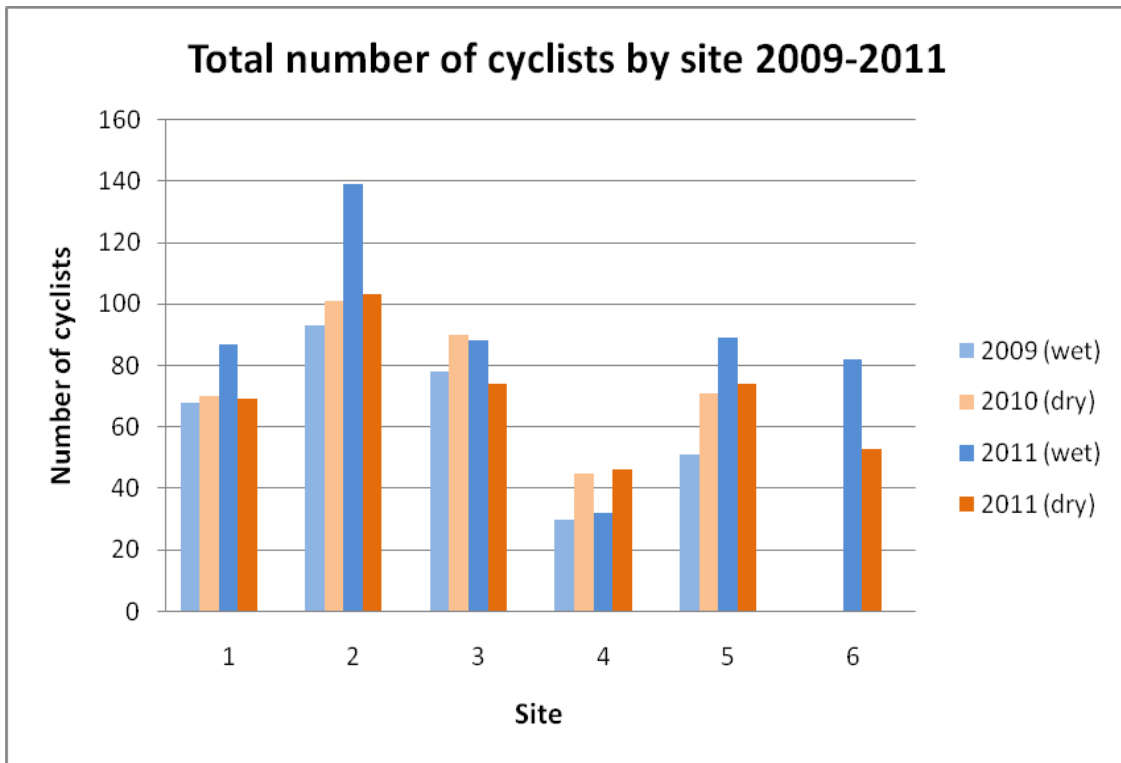


Figure 4. Total number of cyclists by site 2009-2011

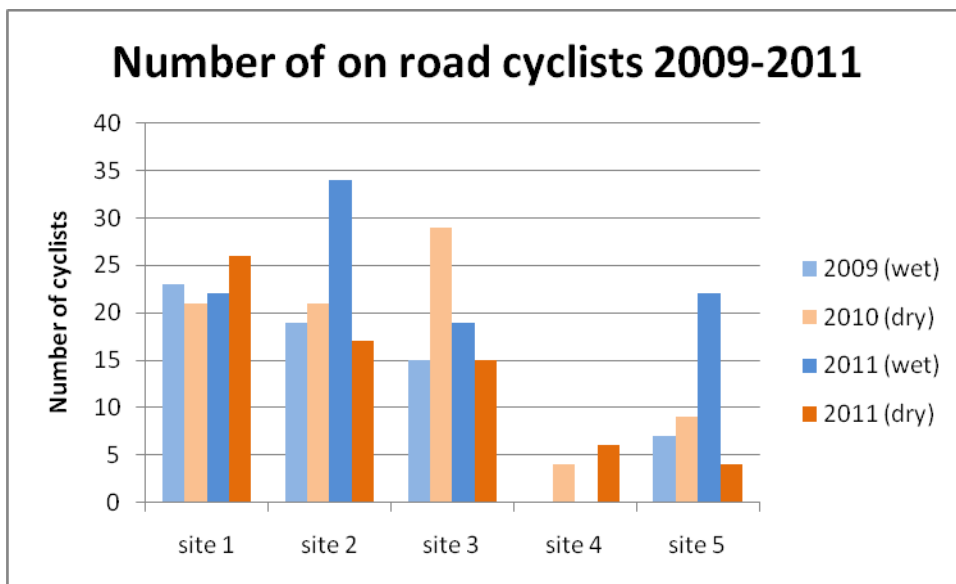


Figure 5. Number of on road cyclists 2009-2011

Number of off road cyclists 2009-2011

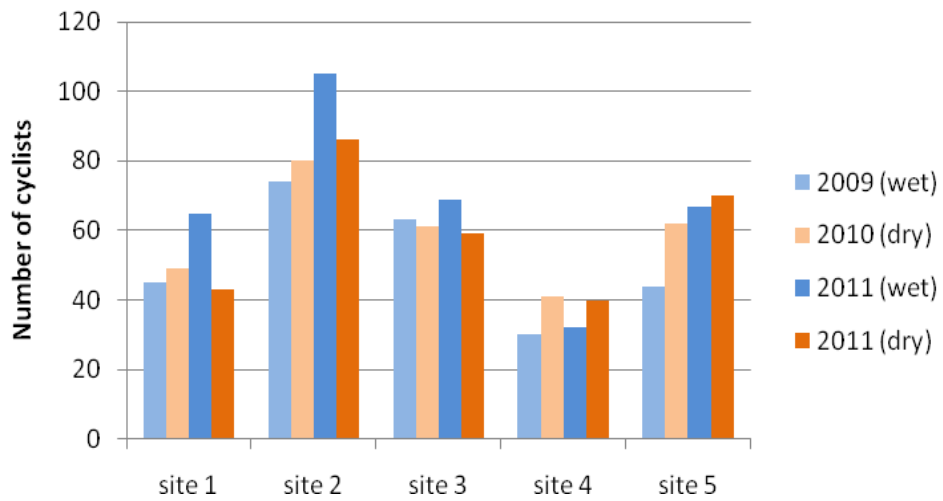


Figure 6. Number of off road cyclists 2009-2011

The average peak time over all six sites was at 7:15am (see figure 7). On average, high numbers were from 6:45am to 7:45am.

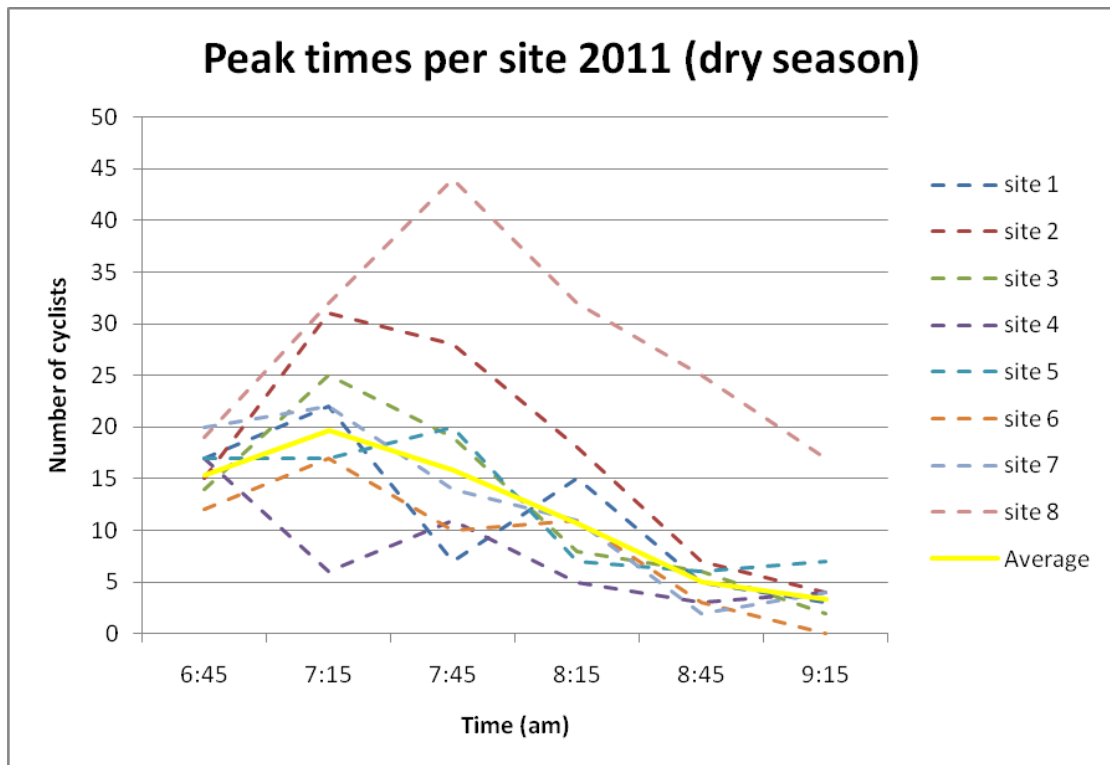


Figure 7. Peak times per site 2011

4 Discussion

Overall, the 2011 dry season was very comparable to the 2010 dry season count with only a 3% drop in numbers. Numbers were similar across all five comparable sites. However, numbers were down 16% from the 2011 wet season count. This may be a result of the school holiday period that this survey was conducted in. The significant drop in numbers suggests that better dry season weather may not have a significant impact on a cyclist's decision to ride in the morning.

Survey methods have remained constant throughout all four surveys. However, each survey had different survey counters. This may have an effect on count accuracy as a result of slightly varied setups at sites and methods of recording.

The average peak time shifted slightly from 7:45am in the 2011 wet season survey to 7:15am in this survey. This may be a result of school holidays. Workers may be commuting to start work earlier than school children would start school.

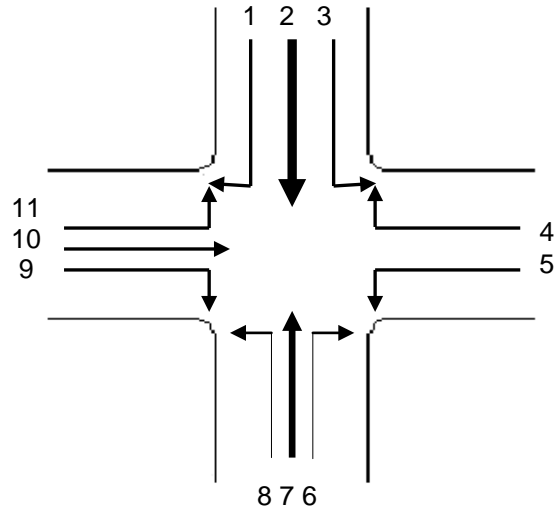
5 Recommendations

The eight sites in this survey and an additional site on the new Howard Springs path should be used in the next survey.

The current survey method should continue to be used so that data can be accurately compared across all previous surveys. However, this method is only a snapshot and options for developing a formal cycle path usage data collection program should continue to be explored. Increasing the frequency of counts increases the accuracy of data and allows for comparison between months, seasons and weather conditions.

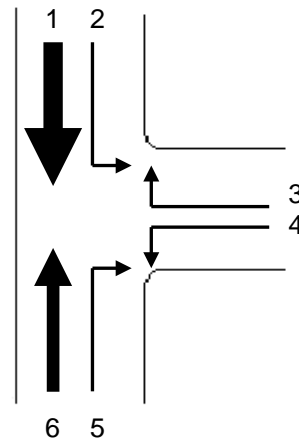
6 Appendix 1 Count Directions

Site 1. Bagot Road – Totem Road



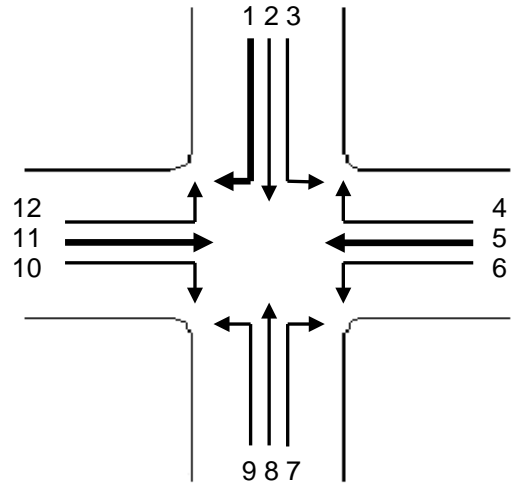
Date of Survey	1	2	3	4	5	6	7	8	9	10	11	Total
Wed 29/06/2011	6	28	0	0	10	1	18	1	1	0	4	69
Mon 07/02/2011	20	48	2	1	3	0	7	0	3	1	2	87
2010	3	38	0	0	4	1	16	1	2	1	3	69
2009	12	30	0	0	4	3	12	1	3	1	1	67

Site 2. Dick Ward Drive – Totem Road



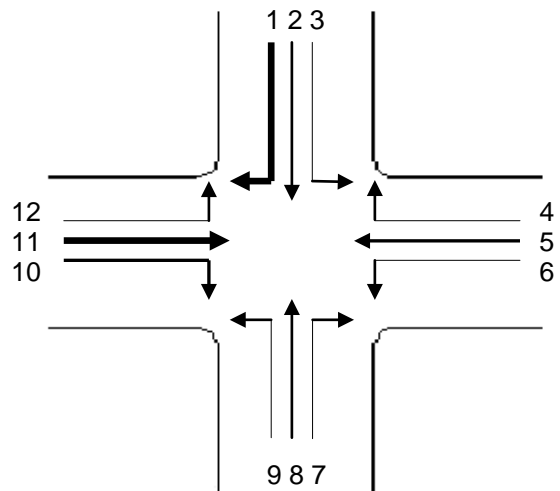
Date of Survey	1	2	3	4	5	6	Total
Thur 30/06/2011	59	2	2	5	2	33	103
Wed 09/02/2011	77	8	4	5	3	42	139
2010	55	12	1	9	2	22	101
2009	56	3	4	10	4	16	93

Site 3. Bagot Road – Stuart Highway



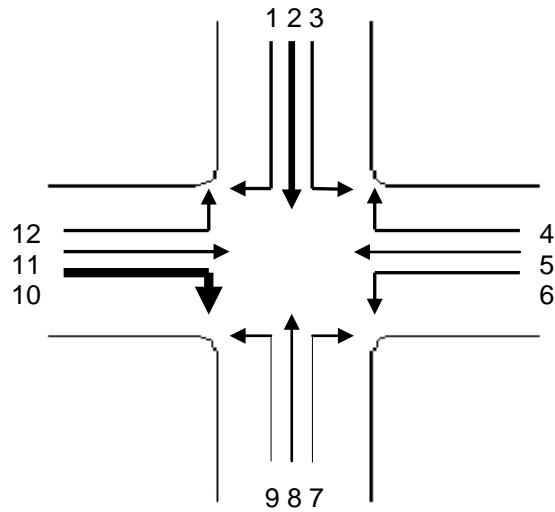
Date of Survey	1	2	3	4	5	6	7	8	9	10	11	12	Total
Fri 1/07/11	20	4	7	0	16	2	2	1	0	2	14	6	74
Fr 11/02/2011	15	7	6	1	16	4	3	3	3	8	10	12	88
2010	11	6	0	1	18	4	2	5	2	11	19	11	90
2009	23	5	5	1	6	1	3	0	1	2	16	15	61

Site 4. Stuart Highway – Amy Johnson Avenue



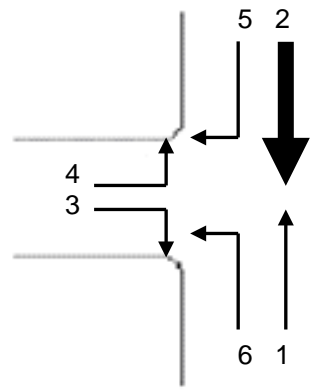
Date of Survey	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon 4/07/11	13	0	0	0	4	6	0	0	4	0	13	0	40
Mon 14/02/2011	12	0	0	0	10	0	0	0	0	5	5	0	32
2010	17	0	4	1	9	0	0	3	2	0	4	5	45
2009	7	1	6	0	2	0	0	0	0	0	13	1	30

Site 5. McMillans Road – Vanderlin Drive



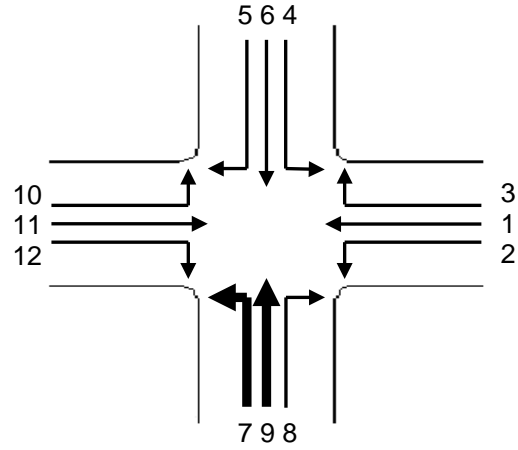
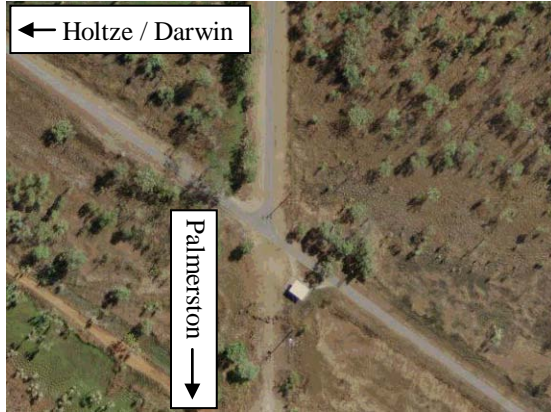
Date of Survey	1	2	3	4	5	6	7	8	9	10	11	12	Total
Tue 5/07/11	3	16	9	5	3	2	0	0	8	26	1	1	74
Wed 23/02/2011	7	16	23	6	0	1	0	0	0	30	4	2	89
2010	6	12	8	6	1	4	0	1	0	20	6	7	71
2009	1	8	19	2	0	0	0	1	1	10	7	2	51

Site 6. Fitzer Drive – Bagot Road



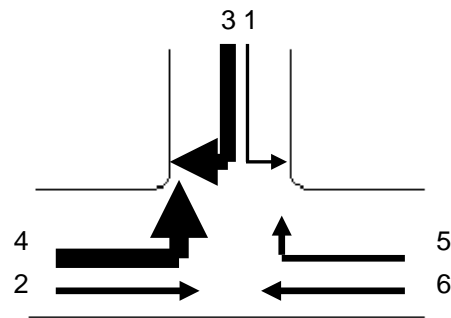
Date of Survey	1	2	3	4	5	6	Total
Wed 6/7/11	10	41	1	0	1	0	53
Mon 21/02/2011	19	45	3	5	6	4	82

Site 7. Yarrowonga – Thorngate Road – Stuart Highway



Date of Survey	1	2	3	4	5	6	7	8	9	10	11	12	Total
Thur 7/07/11	3	7	5	0	0	1	22	0	25	1	5	4	73

Site 8. Rapid Creek Bridge



Date of Survey	1	2	3	4	5	6	Total
Fri 8/07/11	7	14	43	67	20	17	168

7 Appendix 2 Sample Count Sheet

Date					Time/ Date							
Location					Weather							
Directions	1	2	3	4	5	6	7	8	9	10	11	12
On Road												
Off Road												
Total												