



Northern
Territory
Government

DEPARTMENT OF TRANSPORT

Greater Darwin Cycle Survey (June - July 2012)

**A snapshot of cycle path usage
in the Greater Darwin Region**



At a glance

This cycle report provides a summary of the results of the Darwin Region cycle path survey conducted from 24 June – 6 July, 2012. This was a follow up to five previous surveys (February 2009, July 2012, February 2011, July 2011 and February 2012).

The survey consisted of three hour counts from 6:30am – 9:30am conducted at 12 selected sites. All sites were surveyed on a week day except for Site 12 (cnr Whitewood and Howard Springs Roads) which was surveyed on Sunday 24 June from 6.30am until 9.30am. Originally only five sites were surveyed in the February 2009 survey. Three additional sites were added in the July 2011 survey. Another four new sites were added in the February 2012 survey to allow for more in depth analysis into the usage of the Greater Darwin cycle path network.

A comparison of the cycle path data collected over the past surveys revealed the following:

- A total of 888 cyclists were counted in the 2012 June/July survey.
- A total of 320 cyclists were counted for the five comparable sites since the 2009 survey. There was no change to the number of cyclists from the 2009 survey, a 15% decrease since 2010 survey, a 26% decrease since the 2011 (Wet season) survey, a 13% decrease since the 2011 (Dry season) survey and a 14% decrease since the 2012 (Wet season) survey.
- All five comparable sites recorded more off road than on road cyclists.
- The total cyclists recorded for the 8 comparable sites in this survey was 589, this was 13.51% lower than the 2012 (Wet season) survey.
- Similar to the five comparable sites more off road than on road cyclists were recorded at all other sites.
- Site 10 (corner McMinns Street and Daly Street/Stuart Highway) recorded the highest number of cyclists (187).
- The average peak time over all twelve sites was 7:15 am which was similar to previous surveys.

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1. Introduction

This June - July 2012 (Dry season) Survey of the Greater Darwin Cycle Path network provides a snapshot of cycle path usage at twelve sites across the Greater Darwin arterial cycle path network. The main aim of the survey was to provide data to assist in the ongoing planning and management of the cycle path network by the Department of Transport. Five of the sites were the same as previous surveys conducted in 2009, 2010, 2011 and eight of the twelve sites were the same as in the 2011 Dry season count. Four new sites were added to the February 2012 survey following recommendations made in the 'Greater Darwin Cycle Survey' report of June 2011. These new sites were located on the recently constructed Yarrowonga to Howards Springs cycle path (a site, located at each end of the new path - at Tulagi Road and at Whitewood Road) and two sites on McMinn Street on the edge of the Darwin CBD (on the corner of the Stuart Highway and at Bennet Street).

This survey was conducted from 25 June – 6 July 2012.

1.1 Background

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

The (then) Department of Lands and Planning (DLP) first undertook a snapshot survey of six key routes on the cycle path network during the wet season in February 2009. This 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 City of Darwin (as this path is a key commuter cyclist route which links to other parts of 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. A follow up 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.

The 2011 dry season survey showed the change in cycle path usage between the dry season and the 2009 wet season, 2010 dry season and 2011 wet season. The comparison between the 2011 and 2010 dry seasons was of particular interest as this is the first time dry season data had been compared. The results of both dry seasons were very similar, with data showing a slight drop of overall riders from 377 in 2010 to 366 in 2011. The 2011 dry had a 16% drop in cycle numbers from

the 2011 wet survey. It would appear that weather conditions do not significantly influence cycle participation in Darwin.

This 2012 dry season survey, was undertaken during school holidays which may not give an accurate comparison to the February 2012 wet season count which was undertaken during the school term. The results showed that the data from the dry season June/July 2012 survey and the 2012 wet season were very similar with only a 2.66% increase in overall cycle numbers over the 12 comparable sites. 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 during the 2012 dry season survey were fine and sunny on all count days. The weather conditions of each day of the survey are described below in Table 1.

Table 1. Weather Conditions

Date	Site Number and Location	Weather	Temperature: Min-9am
Monday 2/7/12	9 (Tulagi Rd-new Howard Springs Path)	Fine/Overcast	16.3
Monday 2/7/12	7 (Yarrowonga, Thorngate Rd, Stuart Hwy)	Fine/Overcast	16.3
Tuesday 26/6/12	1 (Bagot Rd, Totem Rd)	Fine/Sunny	16.7
Friday 29/6/12	6 (Bagot Rd, Fitzer Rd)	Fine/Overcast	16.4
Thursday 25/6/12	3 (Bagot Rd, Stuart Hwy)	Fine/Sunny	14.7
Tuesday 26/6/12	2 (Dick Ward Dr, Totem Rd)	Fine/Overcast	16.7
Tuesday 3/7/12	8 (Rapid Creek Bridge)	Fine/Sunny	15.7
Thursday 28/6/12	5 (Mcmillans Rd, Vanderlin Dr)	Fine/Sunny	17.5
Wednesday 27/6/12	4 (Stuart Hwy, Amy Johnson Dr)	Fine/Sunny	17.3
Wednesday 4/7/12	10 (McMinn St, Stuart hwy)	Fine/Sunny	16.6
Thursday 5/7/12	11 (McMinn St, Bennett St)	Fine/Sunny	16.3
Sunday 24/6/12	12 (Whitewood Rd- new Howard Springs Path)	Fine/Sunny	14.7

2. Methodology

The 2012 dry season survey was conducted by two surveyor's counting at each site for a period of 3 hours. Count sheets were created to accurately document each cyclist's direction. Site Selection

A total of twelve sites were selected (refer to Figures 1 and 2 for locations). Five of these sites were the same as the 2009 and 2010 surveys., while eight of the sites (five previous sites included) were the same as the 2011 dry and wet season surveys. In 2012 wet season count 4 new sites were added and have remained in this 2012 dry season survey to compare results. Overall all 12 sites were the same as the 2012 wet season count. On the last count day a further one off count was undertaken at the intersection on Berrimah Road and Wishart Road (site 13). One cyclist was counted in the three hour period and the count data from this site was not included in the final survey results..

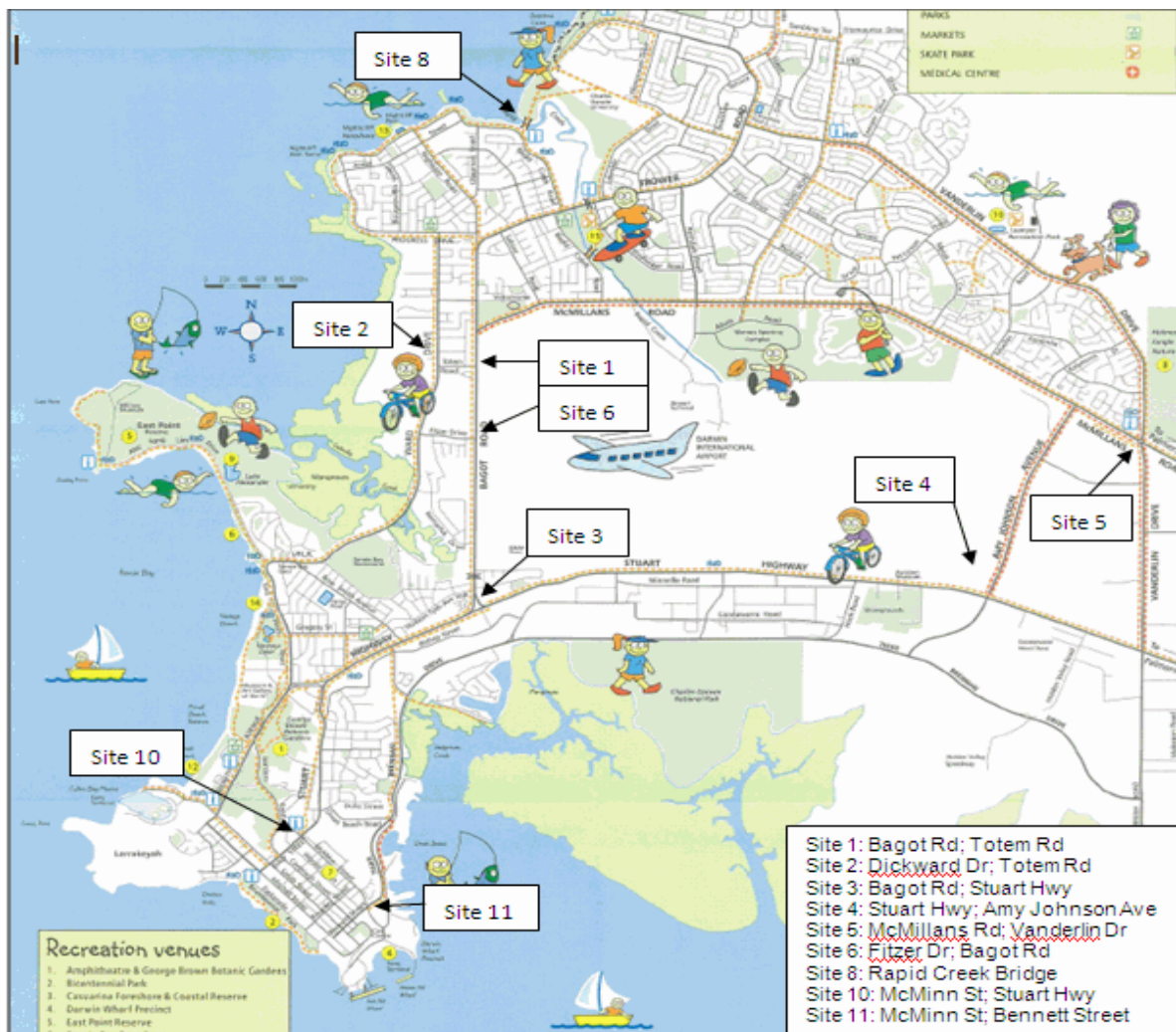


Figure 1. Location of Darwin survey sites



Figure 2. Location of Palmerston survey sites

2.2 Count Procedures

Physical counts were conducted by two surveyors from 6:30am to 9:30am on working days from 24 June to 5 July 2012. All counts were on weekdays with the exception of the first count conducted on Sunday 24 June at Whitewood Road/Howard Springs Road cycle path. All weekday counts were conducted during peak commuter hours and all counts were conducted outside of the school term. The surveyors were situated next to the site locations each morning in order to ensure an accurate count. Each surveyor was designated directions to monitor, this increased the accuracy of the recording. There were no breaks over the 3 hour period.

On the 3rd count day (26 June) two sites were counted, one surveyor being at Bagot Road/Totem Road intersection and the other surveyor counting at Dick Ward Drive/Totem Road intersection. This procedure was repeated on the 7th count day at Sites 7 and 9.

2.3 Limitations of the Survey

The purpose of this survey is to provide a snapshot of cycle path usage at selected points on the network. As these counts occurred outside of the school term there is a possibility that the results could show a lower number of cycle commuters in some localities.

During the two week period of counting the weather remained fine and sunny with an average morning temperature of 16.2°C.

In the previous 2012 (wet season) survey no data existed for comparing Sites 9, 10, 11 and 12 as these sites had been newly added to the survey.

Site 3 Bagot Road/Stuart Highway and Site 5 Mcmillans Road/Vanderlin Drive had poor visibility for counting. Site 5 is a large intersection which, even with 2 people split up, had difficult visibility making the determination of entry/exit points of cyclists difficult to determine.

3. Results

A total of 589 cyclist were recorded in the 'Greater Darwin Cycle Survey' 2012 June – July. The highest number of cyclist (187) was recorded at Site 10 (McMinn Street – Stuart Highway) . This was greater than that of Site 8 (the Rapid Creek footbridge) which in the 2012 February survey recorded a maximum of total of 168 cyclists.

The total number of cyclists recorded in the 2012 June – July survey for the comparable first five sites was 320. This is a 14% decrease from 2012 wet season. However there is no significant change from the original count conducted across these five sites in the 2009 survey.

Across the six comparable sites from the 2011 February – 2012 June-July, the results showed a small decline in the number of the cyclists. This pattern was also evident when data across the 8 comparable sites from the 2011 June – 2012 June-July was analysed.

All the data recorded regardless of site number, weather conditions and location recorded more off road cyclist in comparison to on road cyclist.

The direction of travel of each cyclist was recorded at each site. This was used in determining the most common directions used by the bicycle commuters.

Diagrams representing the directions created and the number cyclists recorded in each direction are available in this survey report (see Appendix 1).

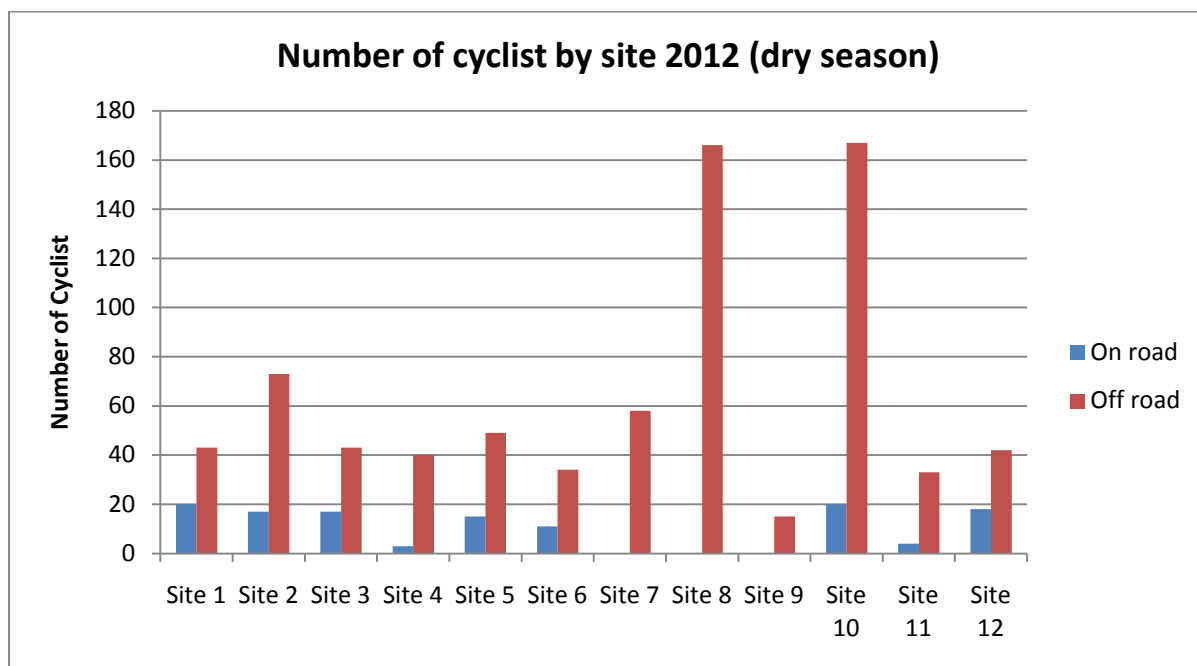


Figure 3. Number of cyclist by site 2012 June-July

Table 2. June-July 2012 Site Data

Site	On road	Off road	Total
1 – Bagot Road - Totem Road	20	43	63
2 – Dick Ward Drive - Totem Road	17	73	90
3 – Bagot Road - Stuart Highway	17	43	60
4 – Stuart Highway - Amy Johnson Avenue	3	40	43
5 – McMillans Road - Vanderlin Drive	15	49	64
6 – Fitzer Drive - Bagot Road	11	34	45
7 – Yarrawonga/Thorngate - Stuart Highway	0	58	58
8 – Rapid Creek Bridge (University side)	0	166	166
9 – Tulagi Road, Howard Springs Path	0	15	15
10- McMinn Street – Stuart Highway	20	167	187
11- McMinn Street – Bennett St	4	33	37
12- Whitewood Road – Howard Springs Path	18	42	60
Total	125	763	880

Table 3. Total counts for five comparable sites 2009 – 2012 (Dry season)

Site	2009 data			2010 data			2011 (w) data			2011 (d) data			2012 (w) data			2012 (d) data		
	On road	Off road	Total	On road	Off road	Total	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	21	41	62	20	43	63
site 2	19	74	93	21	80	101	34	105	139	17	86	103	18	84	102	17	73	90
site 3	15	63	78	29	61	90	19	69	88	15	59	74	15	66	81	17	43	60
site 4	0	30	30	4	41	45	0	32	32	6	40	46	3	60	63	3	40	43
site 5	7	44	51	9	62	71	22	67	89	4	70	74	10	56	66	15	49	64
Average	12.8	51.2	64	16.8	58.6	75.4	19.4	67.6	87	13.6	59.6	73.2	13.4	61.4	74.8	14.4	49.6	64
Total	64	256	320	84	293	377	97	338	435	68	298	366	67	307	374	72	248	320

Table 4. Total counts for six comparable sites 2011(w) – 2012 (d)

Site	2011 (w)			2011 (d)			2012 (w)			2012 (d)		
	On road	Off road	Total	On road	Off road	Total	On road	Off road	Total	On road	Off road	Total
Site 1	22	65	87	26	43	69	21	41	62	20	43	63
Site 2	34	105	139	17	86	103	18	84	102	17	73	90
Site 3	19	69	88	15	59	74	15	66	81	17	43	60
Site 4	0	32	32	6	40	46	3	60	63	3	40	43
Site 5	22	67	89	4	70	74	10	56	66	15	49	64
Site 6	21	61	82	12	41	53	20	42	62	11	34	45
Average	19.6666667	66.5	86.166667	13.333333	56.5	69.833333	14.5	58.16667	72.666667	13.833333	47	60.83333
Total	118	399	517	80	339	419	87	349	436	83	282	365

Table 5. Total Counts for 8 Comparable Sites 2011(Dry season) – 2012(Dry season)

Site	2011 (d)			2012 (w)			2012 (d)		
	On road	Off road	Total	On road	Off road	Total	On road	Off road	Total
Site 1	26	43	69	21	41	62	20	43	63
Site 2	17	86	103	18	84	102	17	73	90
Site 3	15	59	74	15	66	81	17	43	60
Site 4	6	40	46	3	60	63	3	40	43
Site 5	4	70	74	10	56	66	15	49	64
Site 6	12	41	53	20	42	62	11	34	45
Site 7	0	73	73	0	77	77	0	58	58
Site 8	0	168	168	0	168	168	0	166	166
Average	10	72.5	82.5	10.875	74.25	85.125	10.375	63.25	73.625
Total	80	580	660	87	594	681	83	506	589

Table 6. Total Counts for 12 Comparable Sites 2012(Wet Season) – 2012(Dry Season)

Site	2012 (w)			2012 (d)		
	On road	Off road	Total	On road	Off road	Total
Site 1	21	41	62	20	43	63
Site 2	18	84	102	17	73	90
Site 3	15	66	81	17	43	60
Site 4	3	60	63	3	40	43
Site 5	10	56	66	15	49	64
Site 6	20	42	62	11	34	45
Site 7	0	77	77	0	58	58
Site 8	0	168	168	0	166	166
Site 9	4	6	10	0	15	15
Site 10	25	109	134	20	167	187
Site 11	7	25	32	4	33	37
Site 12	1	7	8	18	42	60
Average	10.33333333	61.75	72.08333	10.41667	63.58333	74
Total	124	741	865	125	763	888

Table7. Percentage Change for Five Comparable Sites 2009 – 2012 (Dry Season)

Site	% Change 2009 - 2012 (d)			%Change 2010 - 2012 (d)			%Change 2011 (w) - 2012 (d)			%Change 2011 (d) - 2012 (d)			%Change 2012 (w) - 2012 (d)		
	On road	Off road	Total	On road	Off road	Total	On road	Off road	Total	On road	Off road	Total	On Road	Off Road	Total
Site 1	-13%	-4%	-7%	-5%	-12%	-10%	-9%	-34%	-28%	-23%	0%	-9%	-5%	5%	2%
Site 2	-11%	-1%	-3%	-19%	-9%	-11%	-50%	-30%	-35%	0%	-15%	-13%	-6%	-13%	-12%
Site 3	13%	-32%	-23%	-41%	-30%	-33%	-11%	-38%	-32%	13%	-27%	-19%	13%	-35%	-26%
Site 4	-3%	33%	43%	-25%	-2%	-4%	3%	25%	34%	-50%	0%	-7%	0%	-33%	-32%
Site 5	114%	11%	25%	67%	-21%	-10%	-32%	-27%	-28%	275%	-30%	-14%	50%	-13%	-3%
Total	13%	-3%	0%	-14%	-15%	-15%	-26%	-27%	-26%	6%	-17%	-13%	7%	-19%	-14%

Table 8. Percentage Change for Six Comparable Sites 2011 (Wet Season) – 2012(Dry Season)

Site	% Change 2011 (w) - 2012 (d)			% Change 2011 (d) - 2012 (d)			% Change 2012 (w) - 2012 (d)		
	On road	Off road	Total	On road	Off road	Total	On road	Off road	Total
Site 1	-9%	-34%	-28%	-23%	0%	-9%	-5%	5%	2%
Site 2	-50%	-30%	-35%	0%	-15%	-13%	-6%	-13%	-12%
Site 3	-11%	-38%	-32%	13%	-27%	-19%	13%	-35%	-26%
Site 4	3%	25%	34%	-50%	0%	-7%	0%	-33%	-32%
Site 5	-32%	-27%	-28%	275%	-30%	-14%	50%	-13%	-3%
Site 6	-48%	-44%	-45%	-8%	-17%	-15%	-45%	-19%	-27%
Total	-30%	-29%	-29%	4%	-17%	-13%	-5%	-19%	-16%

Table 9. Percentage Change for 8 Comparable Sites 2011(Dry Season) – 2012(Dry Season)

Site	% Change 2011 (d) - 2012 (d)			% Change 2012 (w) - 2012 (d)		
	On road	Off road	Total	On road	Off road	Total
Site 1	-23.08%	0.00%	-8.70%	-4.76%	4.88%	1.61%
Site 2	0.00%	-15.12%	-12.62%	-5.56%	-13.10%	-11.76%
Site 3	13.33%	-27.12%	-18.92%	13.33%	-34.85%	-25.93%
Site 4	-50.00%	0.00%	-6.52%	0.00%	-33.33%	-31.75%
Site 5	275.00%	-30.00%	-13.51%	50.00%	-12.50%	-3.03%
Site 6	-8.33%	-17.07%	-15.09%	-45.00%	-19.05%	-27.42%
Site 7	0.00%	-20.55%	-20.55%	0.00%	-24.68%	-24.68%
Site 8	0.00%	-1.19%	-1.19%	0.00%	-1.19%	-1.19%
Total	3.75%	-12.76%	-10.76%	-4.60%	-14.81%	-13.51%

Table 10. Percentage Change for 12 Comparable Sites 2012(Wet Season)- 2012(Dry Season)

Site	%Change 2012 (w) - 2012 (d)		
	On road	Off road	Total
Site 1	-4.76%	4.88%	1.61%
Site 2	-5.56%	-13.10%	-11.76%
Site 3	13.33%	-34.85%	-25.93%
Site 4	0.00%	-33.33%	-31.75%
Site 5	50.00%	-12.50%	-3.03%
Site 6	-45.00%	-19.05%	-27.42%
Site 7	0.00%	-24.68%	-24.68%
Site 8	0.00%	-1.19%	-1.19%
Site 9	-100.00%	150.00%	50.00%
Site 10	-20.00%	53.21%	39.55%
Site 11	-42.86%	32.00%	15.63%
Site 12	1700.00%	500.00%	650.00%
Total	0.81%	2.97%	2.66%

Figure 4. Total number of cyclist by site 2009 – 2012 (Dry Season)

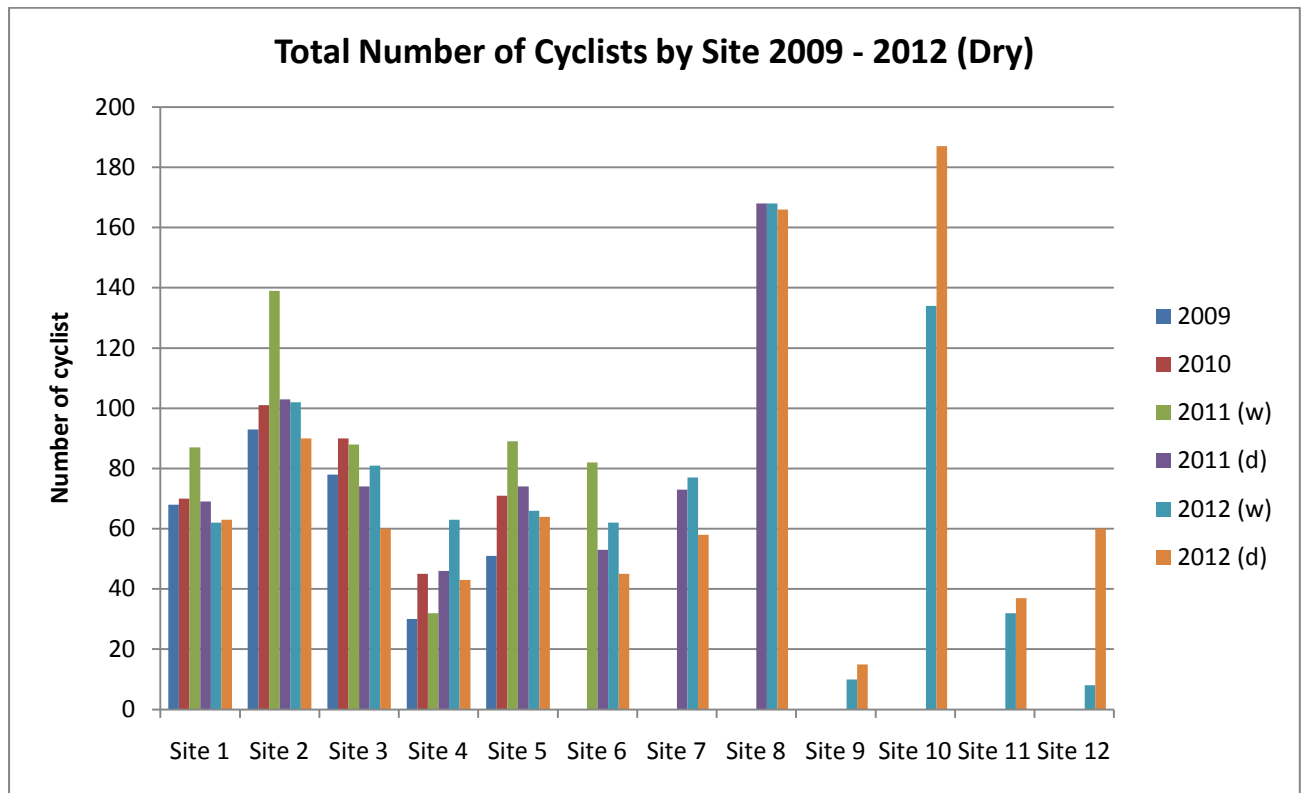
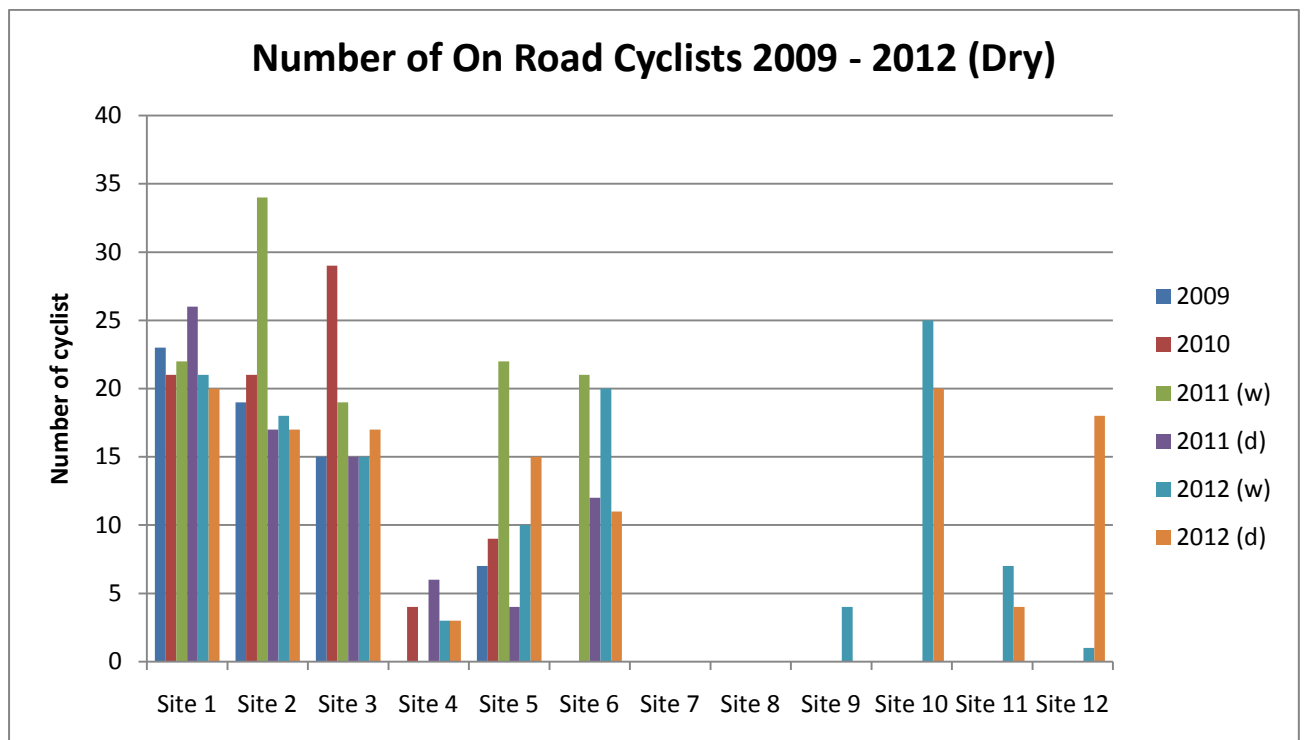
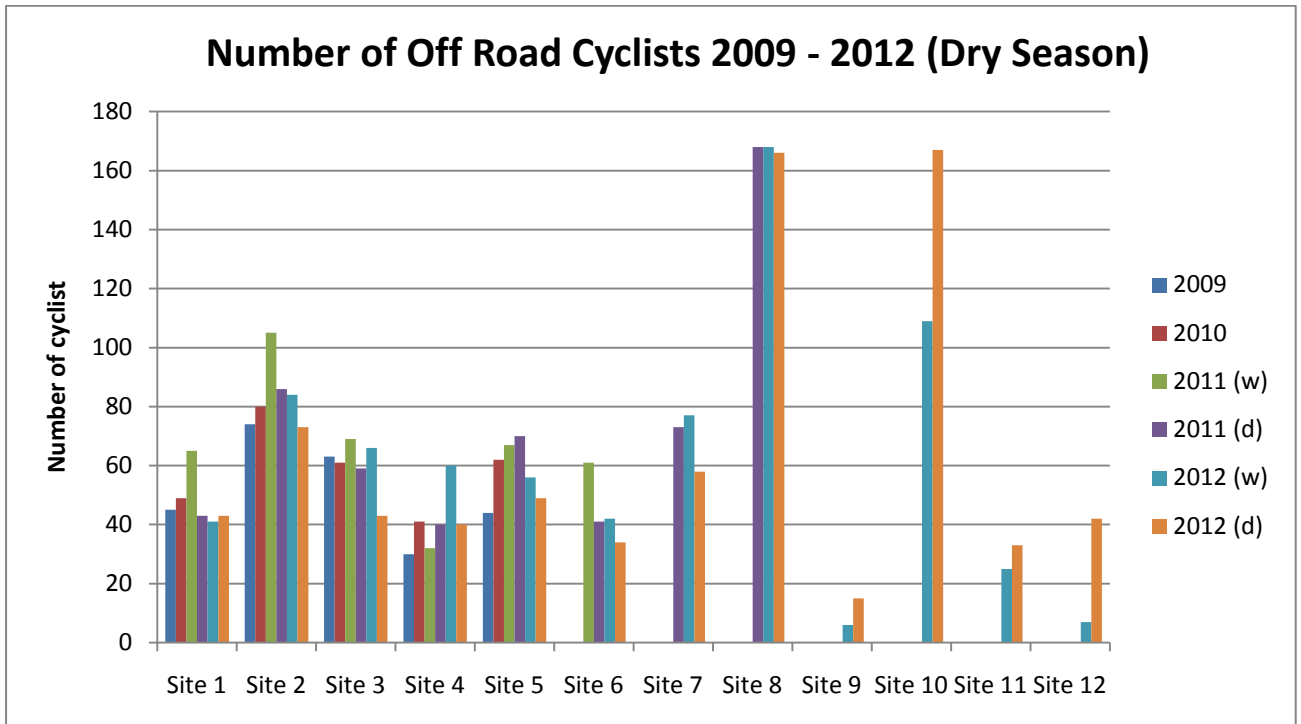


Figure 5. Number of on Cyclists 2009 – 2012 (Dry Season)



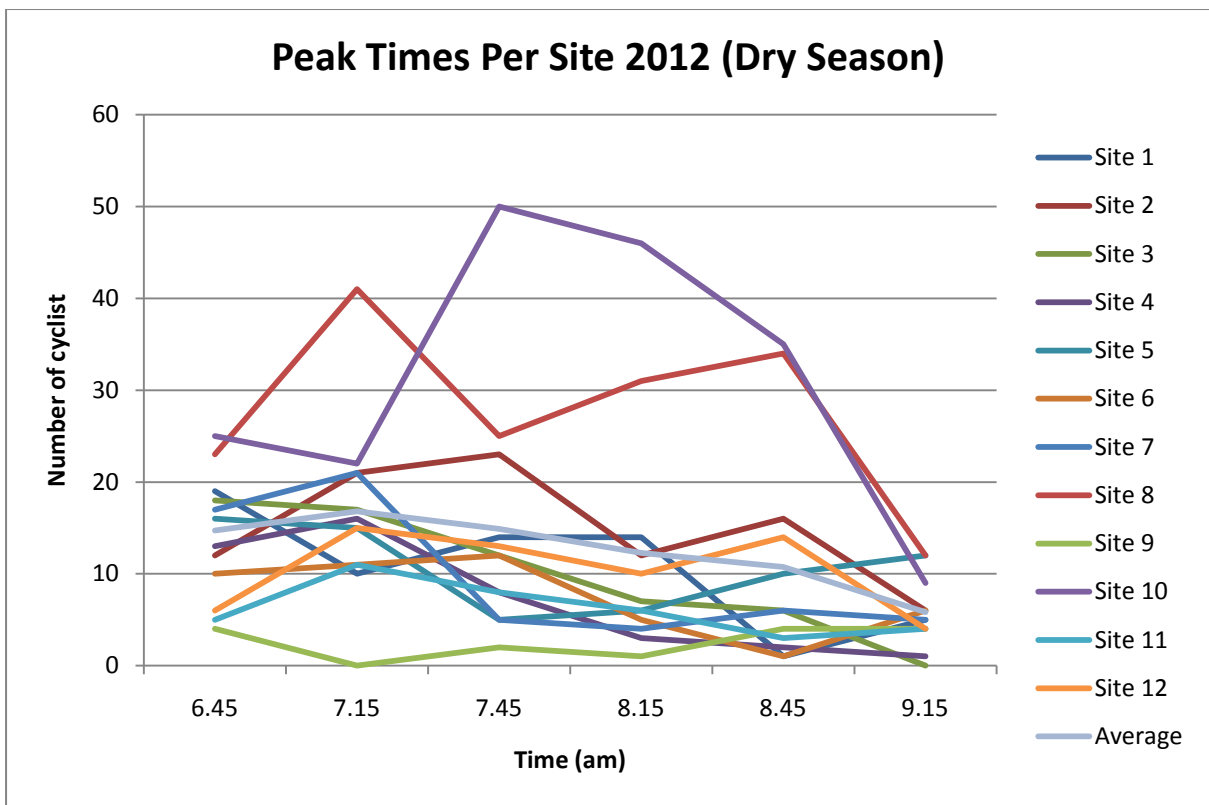
*Sites 7 and 8 are located at off road paths thus contained no on road cyclist.

Figure 6. Number of Off Cyclists 2009 – 2012(d)



The average peak time varied with each site, however, the average peak time across all twelve sites was found to be at 7:15am (see Figure 7). This was very similar to that of previous surveys.

Figure 7. Peak times per site 2012 (d)



4. Discussion

When compared with the data collected from the previous February 2012 survey season count, the results showed a slight increase of 2.66% in the total number of cyclists. However, when the data was compared to the five comparable sites in the June-July 2009 – 2012 survey a small decline in the total number of cyclists was evident. In the June-July 2012 cycle count data Site 10 located at the intersection of McMinn Street – Stuart Highway on the edge of the Darwin CBD recorded the highest number of cyclists (187). This exceeded the previous highest recorded number of cyclists at Site 8 located at the Rapid Creek Foot Bridge which recorded a total of 168 cyclists.

The peak in cyclist numbers at Site 10 is possibly due to the temporary closure of the Daly Street – Harvey Street cycle path due to infrastructure works which caused all cycle commuters in the area to pass the count site (See Figure 8).



Figure 8. Map of Daly Street – Harvey Street cycle path along with Site 10.

Analysis of the data of peak times at which the maximum number of bicycle commuters use the cycle path network has shown results very similar to that of previous counts. Site peak times varied, however the average peak time across all 12 sites was shown to be at 7:15am which hasn't changed from previous counts.

Site 12 (Whitewood Road – Howards Springs Cycle path) was counted in the previous survey (January - February 2012) on a weekday and produced a low count (8 cyclists). During this survey this site was counted on a weekend as the path is largely used by recreational cyclists. 60 cyclists were counted - a significant increase in cyclists from the 2012 February survey results and indicating the predominant weekend and recreational use of this path.

A further one off count site (Site 13) was added into the June-July 2012 survey. This count site was located at the intersection of Berrimah Road – Wishart Road at Wishart. This site was not previously counted by either the DLP or ‘Super Tuesday’ counts but is on the route to the Darwin Port and industrial area where a high number of people work. . However, after 3 hours of counting there was only one cyclist recorded. As this site data was insignificant and could not be compared with previous site counts, this site was not included in the survey analysis.

5. Recommendations

No new sites have been proposed for the next follow up survey. It is recommended the current twelve (12) sites continue to be counted to allow for site comparisons.

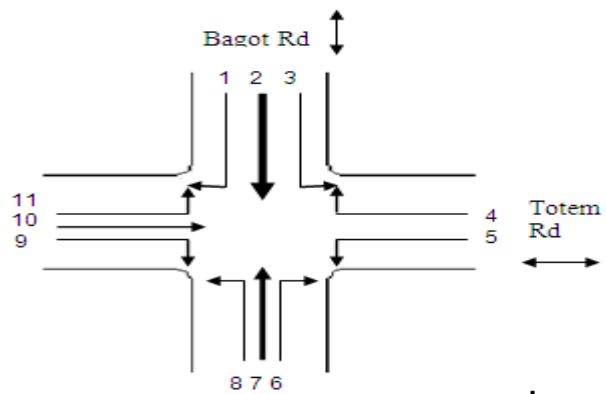
Site 12 proved to be significantly used by recreational cyclists. It is recommended that follow up counts at this site be conducted on a weekend.

It is recommended that Site 13 not be counted again in the survey due to low cyclist numbers.

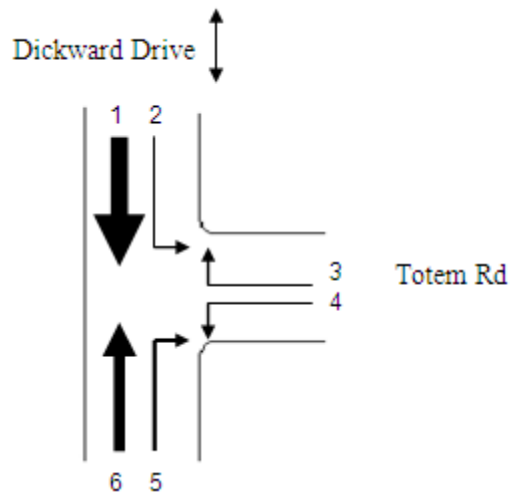
6. Appendices

6.1 Appendix 1: Count Directions

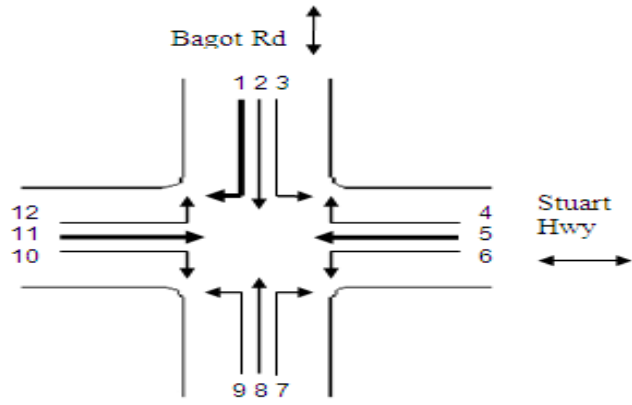
Site 1. Bagot Road – Trower Road



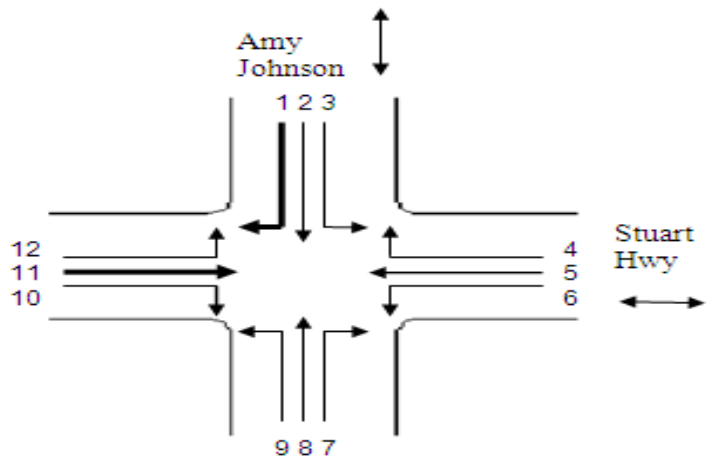
Site 2. Dick Ward Drive – Totem Road



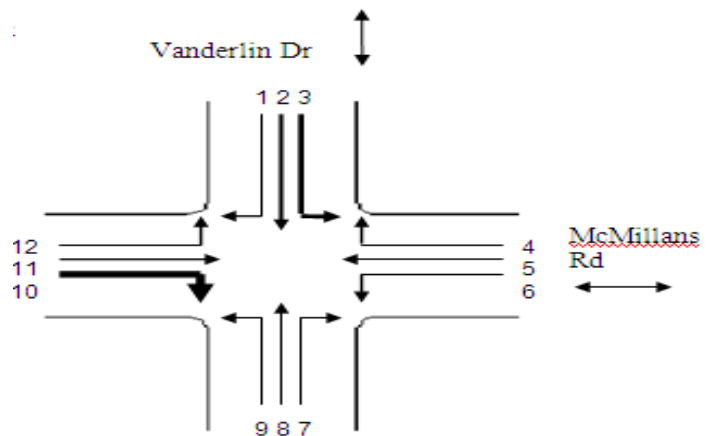
Site 3. Bagot Road – Stuart Highway



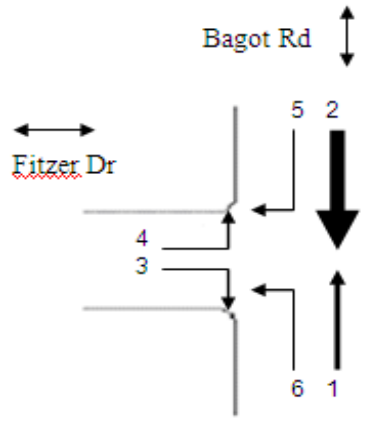
Site 4. Stuart Highway - Amy Johnson Avenue



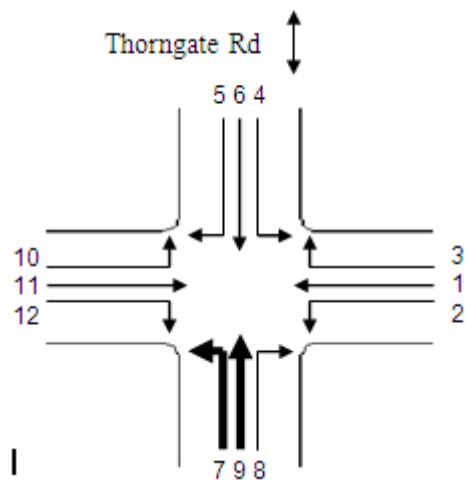
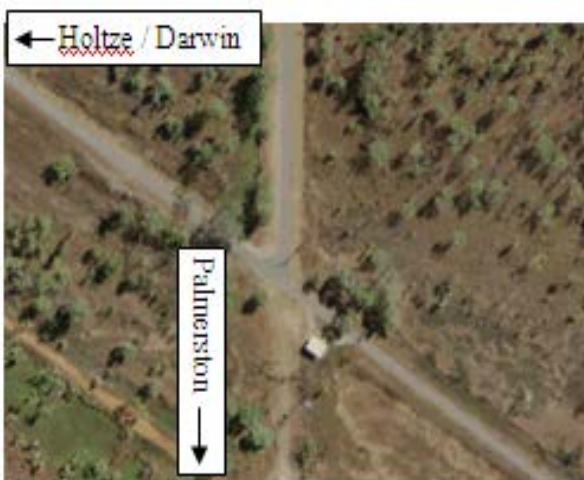
Site 5. McMillans Road – Vanderlin Drive



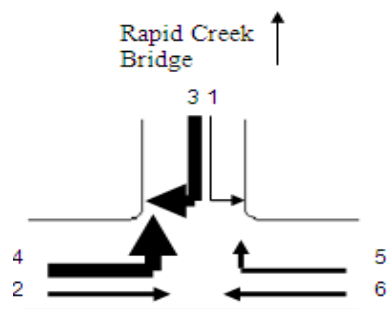
Site 6. Fitzzer Drive – Bagot Road



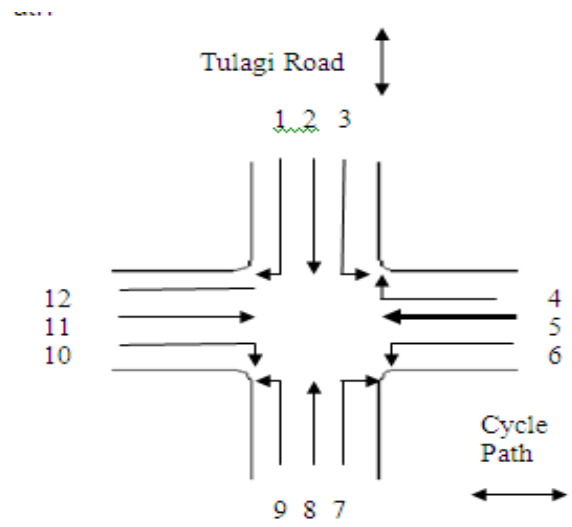
Site 7. Yarrawonga Road – Thorngate Road – Stuart Highway



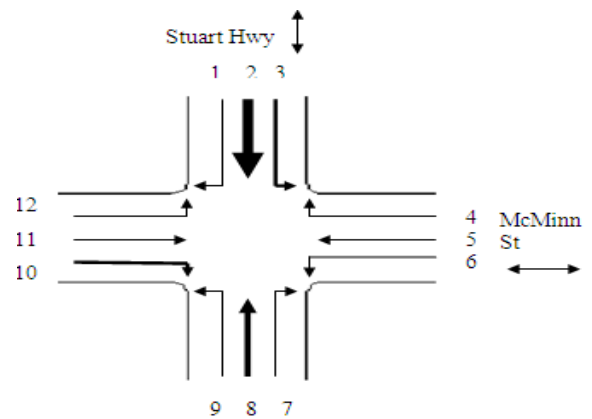
Site 8. Rapid Creek Foot Bridge



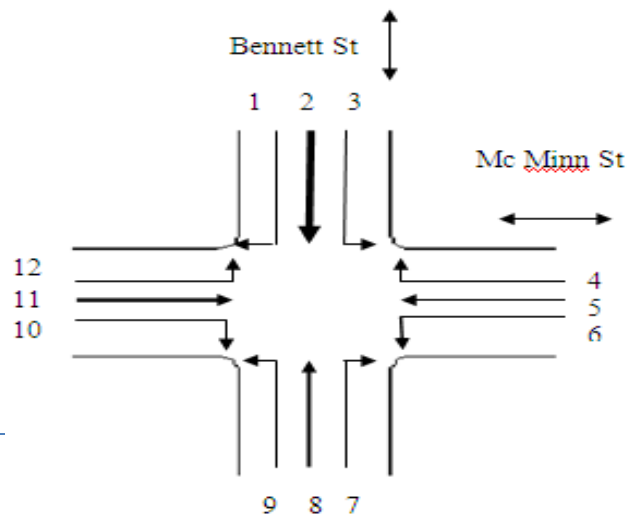
Site 9. Tulagi Road – Howards Springs Cycle Path



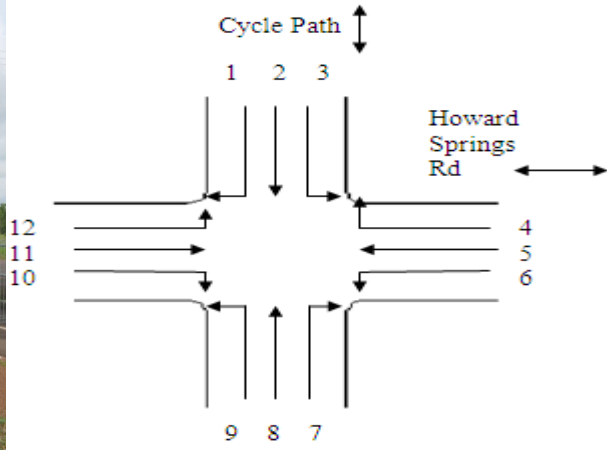
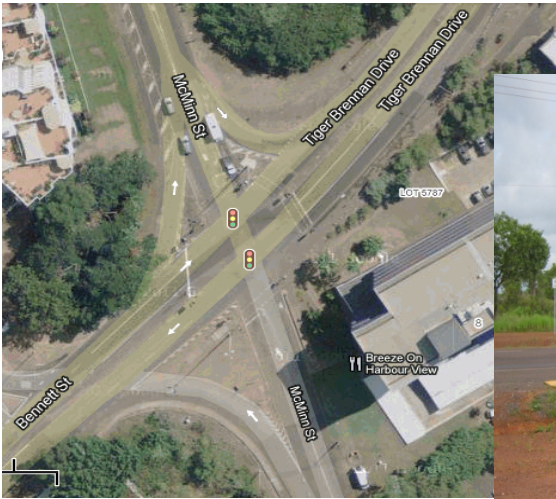
Site 10. McMinn Street – Stuart Highway



Site 11. McMinn Street – Bennet Street



Site 12. Whitewood Rd – Howards Springs Cycle path



6.2 Appendix 2: Count Sheet

Date								Time					
Location								Weather					
		Directions											
	Time (am)	1	2	3	4	5	6	7	8	9	10	11	12
On Road	6.30 – 7.00												
	7.00 - 7.30												
	7.30 – 8.00												
	8.00 – 8.30												
	8.30 – 9.00												
	9.00 – 9.30												
Off Road	6.30 - 7.00												
	7.00 – 7.30												
	7.30 – 8.00												
	8.00 – 8.30												
	8.30 – 9.00												
	9.00 – 9.30												
Total													