



Greater Darwin Cycle Survey 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 in February 2011. The survey was undertaken as a follow up to two previous cycle path surveys undertaken in February 2009 and July 2010.

The survey consisted of a three hour survey at six selected survey sites on the Greater Darwin cycle path network. Five of the six sites were previously surveyed in 2009 and 2010. The surveys were conducted on working days from 7 - 23 February 2011. The 2009 survey was also undertaken in February during the wet season, while the 2010 survey was conducted in July during the dry season.

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

- A total of 517 cyclists were counted in the 2011 survey.
- The total cyclists recorded for the five comparable sites in 2011 was 435.
- 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.
- All five comparable sites recorded increases from 2009 baseline data.
- All five comparable sites recorded more off road cyclists than on road cyclists.
- There were no on road cyclists observed at Site 4 (Stuart Highway - Amy Johnson Avenue).
- Site 2 (Dick Ward Drive - Totem Road) recorded the most cyclists (139).
- Site 5 (McMillans Road - Vanderlin Drive) had the greatest growth (75%) in recorded cyclists between the 2009 and 2011 surveys.
- The average peak time over all six sites was at 7:45am. On average, high numbers were recorded from 7:15am to 8:15am. There was a distinct drop in numbers after 8:15am.

Contents

1	Introduction	1
	1.1 Background	1
	1.2 Weather Conditions	2
2	Methodology	3
	2.1 Site Selection	3
	2.2 Count Procedures	3
	2.3 Limitations of the Survey	4
3	Results	5
4	Discussion	9
5	Recommendations	10
6	Appendix 1 Directional Counts	11
7	Appendix 2 Sample Count Sheet	14

1 Introduction

The Greater Darwin Cycle Survey 2011 provides a snapshot of cycle path usage at six 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 six sites were the same as similar surveys conducted in 2009 and 2010. The sixth site was on the corner of Fitzler Drive and Bagot Road, which was not previously surveyed. This site was recommended in the 2010 survey report and replaces the Stuart Highway/Yarrowonga Road site, which was undergoing upgrades at the time of this survey.

This survey was conducted from 7 to 23 February 2011. The 2009 survey was conducted in a similar period during the wet season. The weather during this period was mostly cloudy with some rain.

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.

This survey will show the change in cycle path usage between the 2009 and 2011 wet seasons and between the 2010 dry season and 2011 wet season. 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 tropical climate wet season. The weather conditions of each day of the survey are described below in Table 1.

Table 1. Weather Conditions

Date	Site	Weather
Monday 7/02/11	1 (Bagot Road -Totem Road Intersection)	Rainy
Wednesday 9/02/11	2 (Dick Ward Drive -Totem Road Intersection)	Cloudy
Friday 11/02/11	3 (Bagot Road - Stuart Highway Intersection)	Cloudy
Monday 14/02/11	4 (Stuart Highway - Amy Johnson Avenue Intersection)	Rainy
Wednesday 17/02/11	<i>Tropical Low – Cyclone Carlos</i>	
Friday 19/02/11	<i>No Recordings Made</i>	
Monday 21/02/11	6 (Fitzer Drive - Bagot Road Intersection)	Clear and Sunny
Wednesday 23/02/11	5 (McMillans Road - Vanderlin Drive Intersection)	Cloudy

2 Methodology

The 2011 survey was conducted using the same methodology as the 2009 and 2010 surveys.

2.1 Site Selection

A total of six sites were selected (see figure 1 for locations). Five of these sites were the same as the 2009 and 2010 surveys. The sixth site was at Fitzler Drive and Bagot Road. This site replaces the Stuart Highway/Yarrowonga Road site which was undergoing upgrades at the time of this survey.



Figure 1. Location of survey sites

2.2 Count Procedures

Physical counts were conducted by two survey counters from 6:15am to 9:15am on Mondays, Wednesdays and Fridays from 7 to 23 February 2011. All counts were on weekdays during peak commuter hours. All counts were done during the school semester and there were no school or public holidays on any of the count days. The survey counters were sitting in a car while recording at most sites. Site 5 (McMillans Road - Vanderlin Drive) was a large intersection and required the survey counters to record outside the car as the whole intersection could not 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 2010 dry season survey had a very limited capacity for comparison with the 2009 wet season survey because of the different seasons. Varied weather conditions also limit comparisons between the 2011 and 2010 surveys. However, the 2011 survey was undertaken during the same seasonal conditions as the 2009 survey so a better comparison can be made between these two datasets.

As mentioned previously, Site 6 was at a different location in 2011. Therefore, it cannot be compared with previous data and comparisons can only be made between the first five sites.

3 Results

A total of 517 cyclists were counted in the 2011 survey (see table 2). All sites recorded increases from the 2009 baseline data. Site 2 (Dick Ward Drive - Totem Road) recorded the most cyclists (139) in 2011. Site 5 (McMillans Road - Vanderlin Drive) had the greatest growth in recorded cyclists between 2009 and 2011 surveys. This was a 25% increase from 2010 and 75% more than the baseline 2009 data.

The total cyclists recorded for the five comparable sites in 2011 was 435. This was 15% greater than 2010 and 36% greater than 2009.

All sites recorded more off road cyclists than on road cyclists. There were no on road cyclists observed at Site 4 (Stuart Highway - Amy Johnson Avenue).

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).

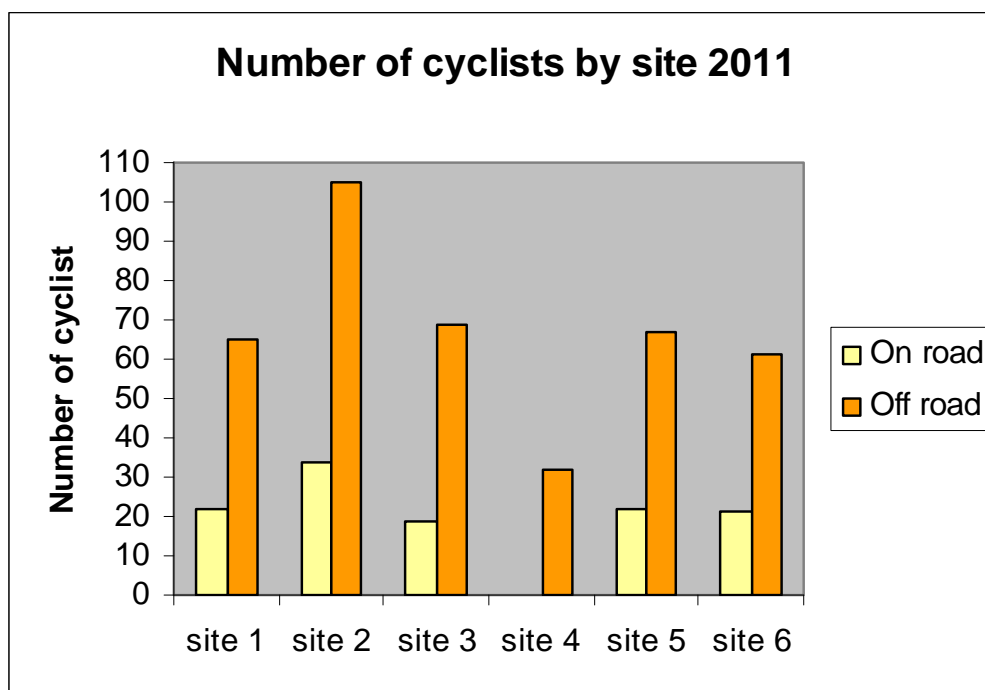


Figure 2. Number of cyclists by site 2011

Table 2. 2011 site data

Site	On road	Off road	Total
1 – Bagot Road - Totem Road	22	65	87
2 – Dick Ward Drive - Totem Road	34	105	139
3 – Bagot Road - Stuart Highway	19	69	88
4 – Stuart Highway - Amy Johnson Avenue	0	32	32
5 – McMillans Road - Vanderlin Drive	22	67	89
6 – Fitzner Drive - Bagot Road	21	61	82
Total	118	399	517

Sites 1 (Bagot Road - Totem Road), 2 (Dick Ward Drive - Totem Road) and 5 (McMillans Road - Amy Johnson Avenue) showed increases over all three surveys. Site 4 (Stuart Highway - Amy Johnson Avenue) showed a slight increase of 7% from 2009 baseline data and a significant drop of 29% from 2010 recordings.

Table 3. Total counts 2009-2011

Site	2009 data			2010 data			2011 data		
	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
Site 2	19	74	93	21	80	101	34	105	139
Site 3	15	63	78	29	61	90	19	69	88
Site 4	0	30	30	4	41	45	0	32	32
Site 5	7	44	51	9	62	71	22	67	89
Average	12.8	51.2	64	16.8	58.6	75.4	19.4	67.6	87
Total	64	256	320	84	293	377	97	338	435

Table 4. Percentage change 2009-2011

Site	% Change 2009-2010			% Change 2009-2011			% Change 2010-2011		
	On road	Off road	Total	On road	Off road	Total	On road	Off road	Total
Site 1	-9%	9%	3%	-4%	44%	28%	5%	33%	24%
Site 2	11%	8%	9%	79%	42%	49%	62%	31%	38%
Site 3	93%	-3%	15%	27%	10%	13%	-34%	13%	-2%
Site 4	400%	37%	50%	0%	7%	7%	-100%	-22%	-29%
Site 5	29%	41%	39%	214%	52%	75%	144%	8%	25%
Average	105%	18%	23%	63%	31%	34%	15%	13%	11%
Total	31%	14%	18%	52%	32%	36%	15%	15%	15%

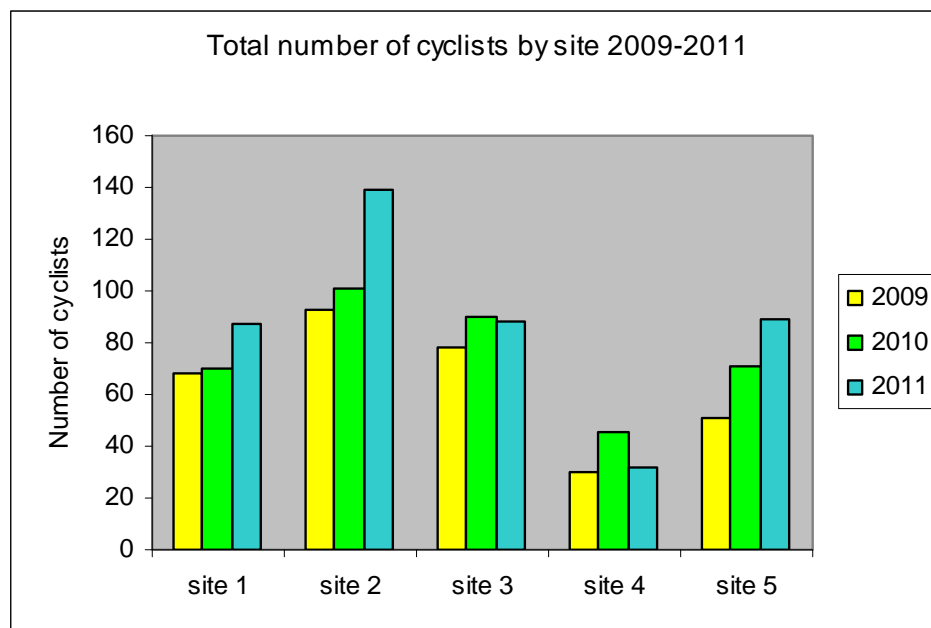


Figure 3. Total number of cyclists by site 2009-2011

The number of on road cyclists increased over all three surveys for Sites 2 (Dick Ward Drive - Totem Road) and 5 (McMillans Road - Vanderlin Drive). Sites 1 (Bagot Road - Totem Road) and 4 (Stuart Highway - Amy Johnson Avenue) showed similar results to past surveys. Site 3 (Bagot Road - Stuart Highway) had a significant increase from 15 to 29 cyclists in 2010. However, this dropped back to 19 in 2011.

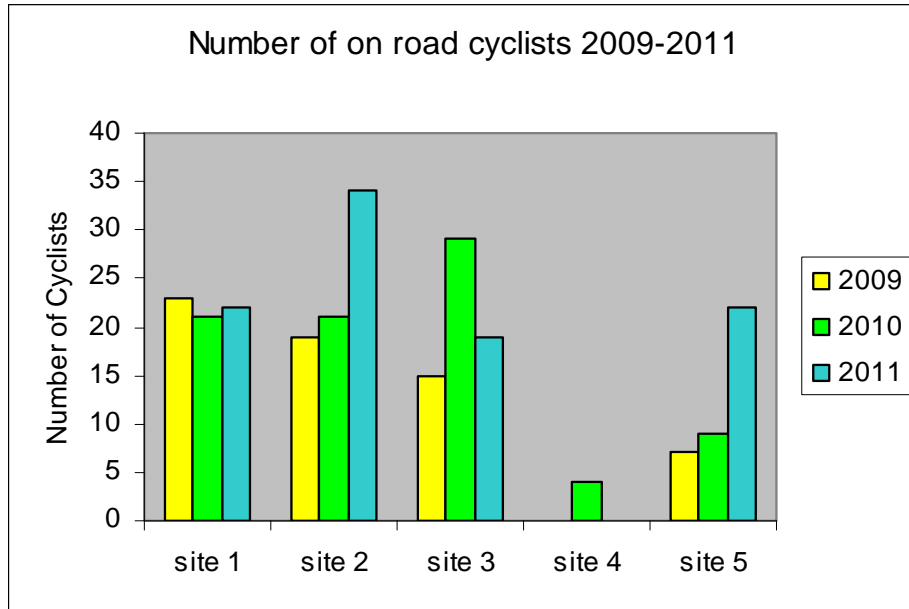


Figure 4. Number of on road cyclists 2009-2011

The number of off road cyclists had varied increases across Sites 1 (Bagot Road - Totem Rd), 2 (Dick Ward Drive - Totem Road), 3 (Bagot Road - Stuart Highway) and 5 (McMillans Road - Vanderlin Drive). Sites 1 (Bagot Road - Totem Road), 2 (Dick Ward Drive - Totem Road) and 5 (McMillans Road - Vanderlin Drive) had the greatest increases of 44%, 42% and 52% respectively between 2009 and 2011.

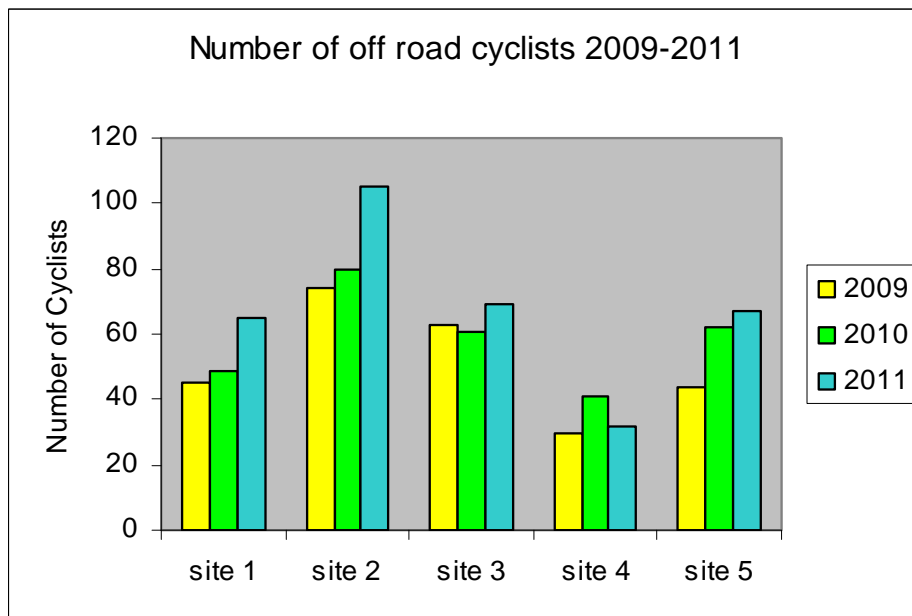


Figure 5. Number of off road cyclists 2009-2011

The average peak time over all six sites was at 7:45am. On average, high numbers were from 7:15am to 8:15am. There was a distinct drop in cyclist numbers after 8:15am.

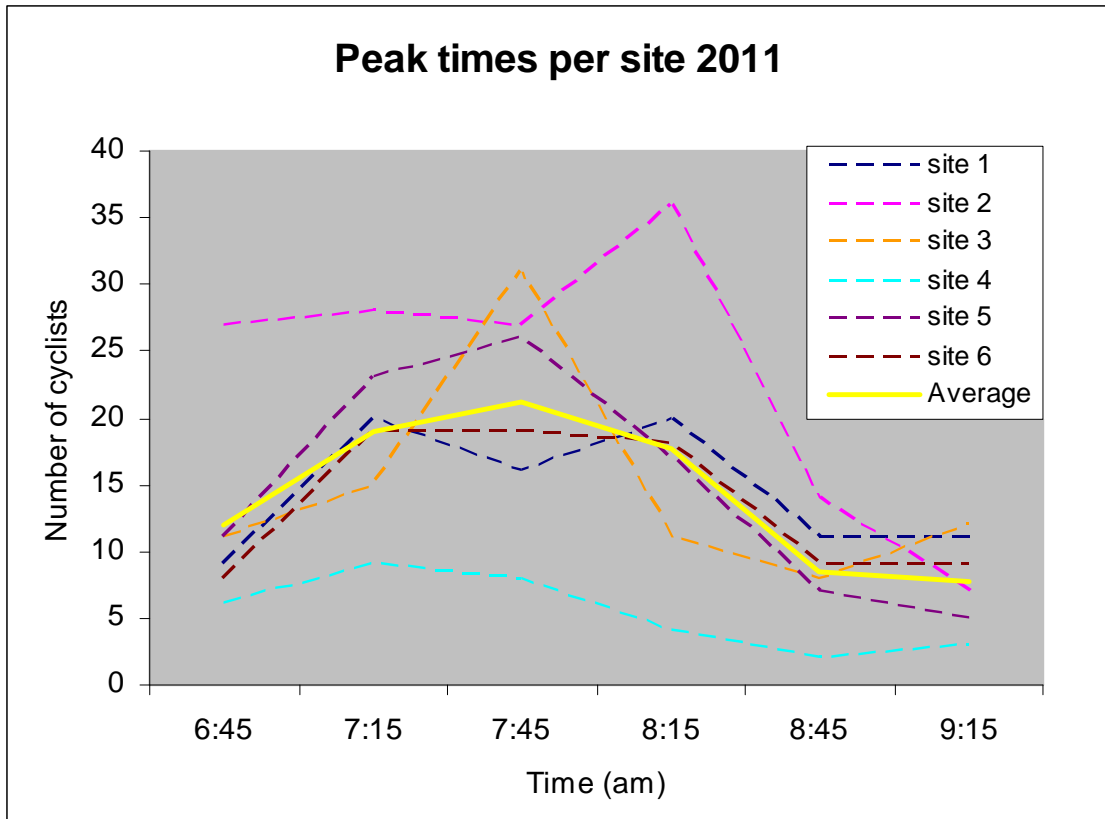


Figure 6. Peak times per site 2011

4 Discussion

Site 2 (Dick Ward Drive - Totem Road) was the only site that had a high number of cyclists in the early morning (6:15am-7:15am). This site also had the highest number of cyclists overall. Anecdotal evidence suggests that riders may be using the path for fitness, recreation and commuting. This cannot be confirmed by the survey, as the survey did not record the type of cyclist.

The average peak in riders on the network was at 7:45am with high numbers from 7:15am to 8:15am. The peak shows that most cyclists using the network at this time are likely to be commuting to school or work.

Sites 3 (Bagot Road - Stuart Highway) and 4 (Stuart Highway - Amy Johnson Avenue) had significant increases between 2009 and 2010. However, they both decreased to slightly above 2009 numbers in 2011. The drop in numbers between 2010 and 2011 may be explained by changing weather conditions between the dry and wet seasons. Cyclists may have chosen an alternative mode of transport in the wet season due to less favourable riding conditions.

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 15% increase between 2010 and 2011 occurred despite the change from dry to wet season. Sites 1 (Bagot Road - Totem Road), 2 (Dick Ward Drive - Totem Road) and 5 (McMillans Road - Vanderlin Drive) showed significant increases in this period despite weather conditions being cloudy with rain. This suggests that weather conditions may not have a significant impact on riding numbers.

5 Recommendations

Developing a formal cycle path usage data collection program will assist in providing a better understanding of the usage of the network. Increasing the frequency of counts increases the accuracy of data and allows for comparison between months, seasons and weather conditions.

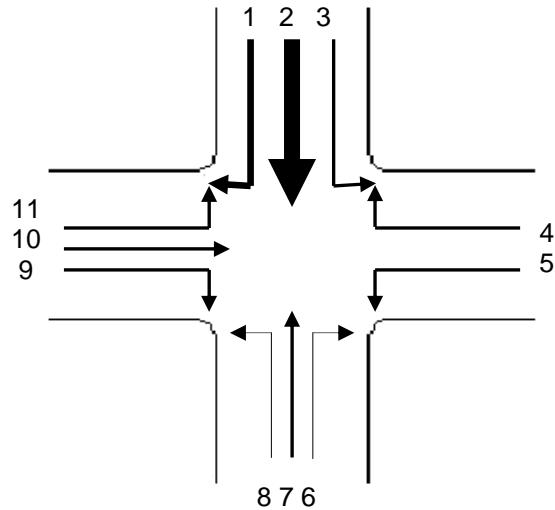
Additional sites could be included in future surveys if resources are available. Possible new sites include the pedestrian/cycle overpass over the Stuart Highway at Yarrowonga, the Palmerston to Howard Springs cycle path (when completed) and the cycle path access to the Royal Darwin Hospital.

In future surveys, the efficiency of count procedures could be changed to allow for recording on every day of the week rather than the current method of every second day.

Electronic counters could be considered for future surveys. A variety of electronic counters are available. Electronic counting has the potential to significantly increase the quantity of counts and quality of data. This would provide an improved understanding of cycle path usage and assist in planning and managing the cycle path network.

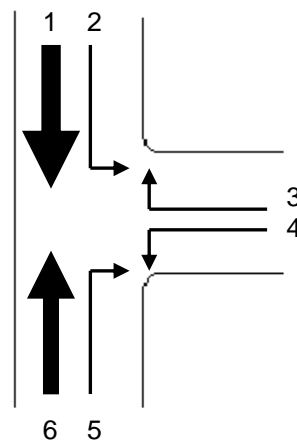
6 Appendix 1 Count Directions

Site 1. Bagot Road – Totem Road



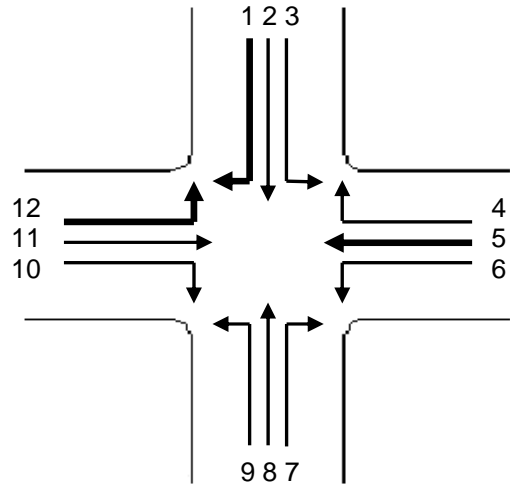
Date of Survey	1	2	3	4	5	6	7	8	9	10	11	Total
Mon 07/02/2011	20	48	2	1	3	0	7	0	3	1	2	87
2010	3	38	0	0	4	1	16	1	2	1	3	69
2009	12	30	0	0	4	3	12	1	3	1	1	67

Site 2. Dick Ward Drive – Totem Road



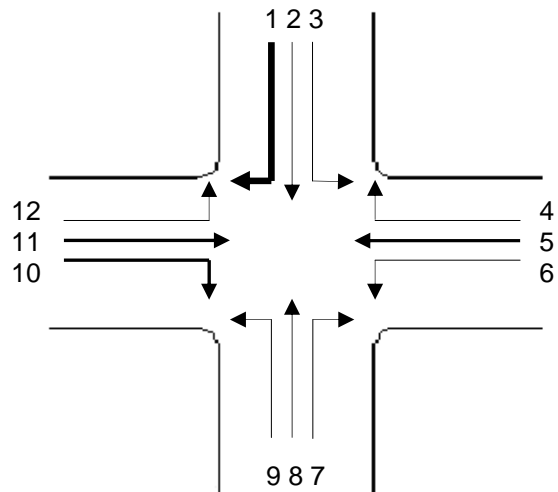
Date of Survey	1	2	3	4	5	6	Total
Wed 09/02/2011	77	8	4	5	3	42	139
2010	55	12	1	9	2	22	101
2009	56	3	4	10	4	16	93

Site 3. Bagot Road – Stuart Highway



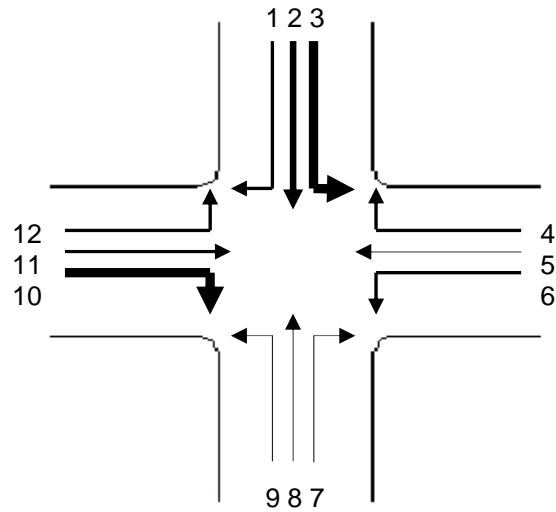
Date of Survey	1	2	3	4	5	6	7	8	9	10	11	12	Total
Fr 11/02/2011	15	7	6	1	16	4	3	3	3	8	10	12	88
2010	11	6	0	1	18	4	2	5	2	11	19	11	90
2009	23	5	5	1	6	1	3	0	1	2	16	15	61

Site 4. Stuart Highway – Amy Johnson Avenue



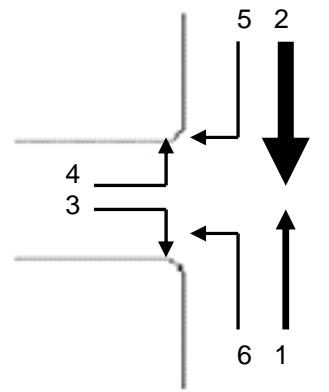
Date of Survey	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon 14/02/2011	12	0	0	0	10	0	0	0	0	5	5	0	32
2010	17	0	4	1	9	0	0	3	2	0	4	5	45
2009	7	1	6	0	2	0	0	0	0	0	13	1	30

Site 5. McMillans Road – Vanderlin Drive



Date of Survey	1	2	3	4	5	6	7	8	9	10	11	12	Total
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
Mon 21/02/2011	19	45	3	5	6	4	82

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												