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Research Report Prepared for
Auckland Transport

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2014 Auckland Region Manual Cycle Monitor

- Albany Ward -

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1.1 Introduction

The Need For Reliable Cycle Trip Data

Monitoring cycle movements and cycle traffic is important to Auckland Transport, to identify where investment may be needed to improve infrastructure for cycling. Cycle traffic data will also help Auckland Transport prioritise future funding through the Auckland Land Transport Programme[1].

This cycle monitoring gives precise cycle traffic information for a number of locations across the region, which can guide investment in infrastructure and other programmes. It also allows Auckland Transport to track progress against a quality baseline over the coming decade.

Manual Cycle Monitoring

Historically, manual cycle monitoring had been carried out in four of the seven Auckland region Territorial Authorities (TAs). However, each monitor had been undertaken using a different methodology[2]. This variability prevented the possibility of comparing the relative popularity of different sites across TA boundaries. In addition, each monitor programme took place at different times of the year, preventing comparability from location to location since factors such as weather, school/tertiary education holidays, seasonal variations and daylight savings each have an impact on the numbers of cyclists. Even within TAs, inconsistencies as to when counts took place from year to year prevented robust comparability over time.

Through the Regional Cycle Monitoring Plan, it was proposed that these manual counts be regionally aligned to ensure better regional consistency. Ideally, cycle count monitoring would be carried out at the same time each year across the region, applying a standard methodology.

[1] Auckland Regional Transport Authority (2006) *Regional Cycle Monitoring Plan (Provisional Guidelines)*

[2] For example, Manukau and North Shore cities' monitors took place at the same morning and evening peak times, while Auckland city's differs by one hour for the evening peak, and Waitakere's differs for both peaks.

As outlined in the Regional Cycle Monitoring Plan, a consistent methodology would ensure that:

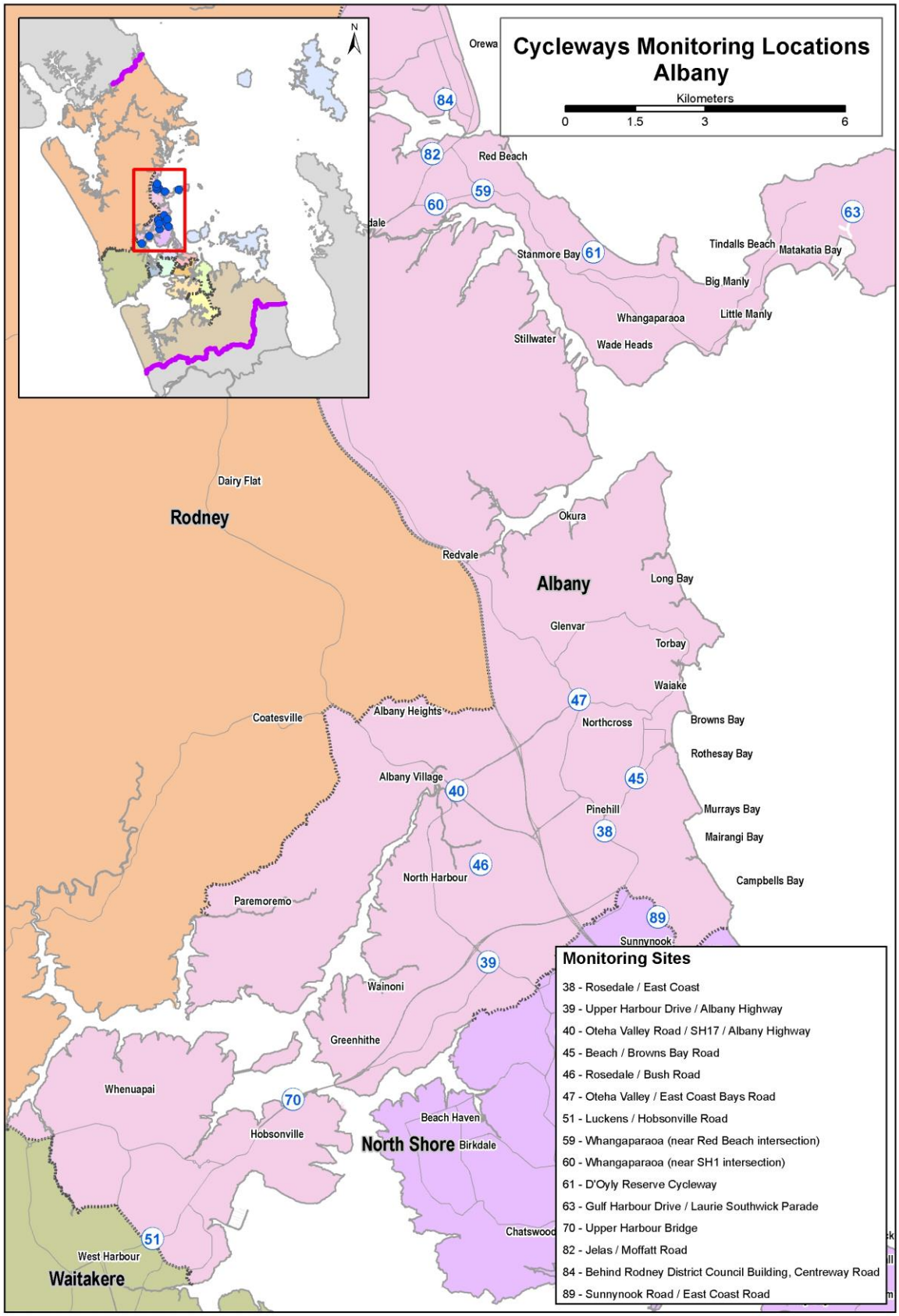
- standard monitoring days are used – that is, school and tertiary holidays, and statutory holidays are excluded and that monitoring preferably takes place at the same time each year to enable reliable year-on-year comparisons to be made. Decisions about whether cycle counts take place on weekdays and weekends would be made at the outset;
- a consistent set of times are used for monitoring, for the morning, evening and inter-peak periods; and
- a consistent method is used for monitoring direction and location of cyclists, including monitoring how many are on the footpath.

This report presents results from manual cycle counts conducted at 15 sites in the Albany ward following a standardised methodology. Results are presented site-by-site, as well as being aggregated to a ward and region level. For sites also monitored in previous years, comparative results are provided.

Important Note: This report provides the results of manual cycle monitoring conducted at 15 pre-determined sites in the Albany ward only. Site-by-site results and ward summaries for all other Auckland region wards have been provided in separate documents. It is strongly recommended that this report be read in conjunction with the Regional Summary document, which provides aggregated data for the region, as well as a regional comparison of results.

Figure 1.1 shows the locations of the monitoring sites in the Albany ward. Note that two sites (Sunnynook/East Coast Road in Sunnynook (Site 89) and Luckens/Hobsonville Road in West Harbour (Site 51)) lie on the border with other wards (North Shore and Waitakere ward respectively) and consequently has been included in both ward reports.

Figure 1.1: 2014 Cycle Monitoring Locations in Albany Ward



1.2 Methodology

Manual cycle counts have been conducted using a standardised methodology across all sites. This methodology is outlined below.

Choice of Sites

Decisions as to which sites were chosen for cycle counts were guided by the planned developments for the Regional Cycle Network.

Manual counts were undertaken at 85 different sites throughout the region. Sites were distributed by ward as follows:

- Albany 15 sites
- Albert-Eden–Roskill 11 sites
- Franklin 2 sites
- Howick 5 sites
- Manukau 10 sites
- Manurewa-Papakura 4 sites
- Maungakiekie-Tamaki 7 sites
- North Shore 8 sites
- Orakei 3 sites
- Waitakere 13 sites
- Waitemata and Gulf 10 sites
- Whau 4 sites

(Note: Seven sites lie on the border of two wards. These sites have been included in both ward reports).

Monitoring Times

Time Of Day

Manual counts in the morning peak were conducted between 6:30 and 9:00 am, with manual counts in the evening peak conducted between 4:00pm and 7:00pm.

Day Of Week

Previous experience conducting cycle and other traffic manual counts has found that these counts are best undertaken on either a Tuesday, Wednesday or Thursday as travel patterns on Mondays and Fridays tend to be more variable.

Time Of Year

To ensure consistency throughout the region, standard monitoring days were selected and agreed upon by Auckland Transport. In selecting the days, consideration was given to:

- the timing of school and tertiary holidays/the commencement of term time for tertiary institutions;
- the timing of statutory holidays (particularly Easter);
- the timing of Bikewise Month; and
- daylight saving times.

It was agreed that manual counts would commence on Tuesday the 4th of March and be conducted on the first three fine days of the 4th, 5th, 6th, 7th, 12thor 13th of March.

Counts were conducted on the following days:

- Tuesday 4th March — Albany, North Shore, Waitakere
- Wednesday 5th March — Howick, Franklin, Manukau, Waitemata & Gulf
- Thursday 6th March — Whau, Albert-Eden-Roskill, Orakei, Manurewa-Papakura, Maungakiekie-Tamaki

Note: Counts in the morning and evening peaks took place on the same day for each site.

Weather and Daylight Conditions

To reduce the impact of weather conditions on cycle numbers, manual counts were conducted on predominantly fine days. In addition, if it rained during the morning peak, monitoring in the evening peak on that same day was also postponed, irrespective of the weather (as it can be assumed that cyclists' travel behaviour in the evening peak will have been influenced by decisions they made earlier in the day – for example, the decision to leave their bike at home and use public transport instead). Care was taken to ensure that all manual counts were conducted prior to the conclusion of daylight saving.

The weather on the three count days in 2014 was as follows:

Tuesday 4th March

- Sunrise: 7:09am; Sunset: 7:56pm.
- Highest temperature: 20.0 degrees Celsius.
- Mostly fine weather with the majority of sites experiencing drizzle in the morning and cloud in the evening.

Wednesday 5th March

- Sunrise: 7:10am; Sunset: 7:55pm.
- Highest temperature: 20.0 degrees Celsius.
- Cloudy and windy with occasional light drizzle for some sites during the morning shift. Mostly fine weather with clear sky in the evening with light winds for some sites.

Thursday 6th March

- Sunrise: 7:11am; Sunset: 7:54pm.
- Highest temperature: 22.0 degrees Celsius.
- Mostly fine weather in the morning and evening shifts.

Conducting The Manual Counts

Scoping Visit

Gravitas visited each of the sites prior to the first monitoring shift. This scoping visit was used to map the roading network and to identify and map the range of directions that cyclists could travel through the site. This visit was also used to identify any particular features (such as designated cycle ways) or potential hazards that surveyors needed to be aware of when monitoring at the site. As part of the scoping visit, a recommended observation point was identified and mapped (this point chosen on the basis of offering the best trade-off between visibility and safety). The maps prepared for each site have been included in this report – just prior to the count results for each site.

As part of the scoping visit, a small number of sites were identified as requiring two or more surveyors to accurately capture all cycle movements (due predominantly to the complexity of the roading/cycleway network at the site or poor visibility at the intersection). Two surveyors were used at:

- Great South Road/Campbell Road/Main Highway, Greenlane (Site 21; Maungakiekie-Tamaki/Albert-Eden-Roskill wards).
- Beach Road/Browns Bay Road, Mairangi Bay (Site 45; Albany ward).
- Onehunga Harbour Road (Site 17, Maungakiekie-Tamaki ward).

Three surveyors were used at the ferry terminal site (Site 22; Waitemata and Gulf ward).

Briefing Session

Prior to their monitoring shift, all surveyors participated in a briefing session. The session covered:

- the overall aims of the Regional Cycle Monitoring Plan and how the manual monitoring fits with this Plan;
- the aims and purpose of the cycle monitoring and the process to be used;
- review of all materials supplied – how to interpret and use the maps, how to accurately record data on count sheets etc;
- health and safety issues; and
- general administration – shift times, collection and return of materials etc.

This session was interactive, with surveyors being encouraged to ask questions and seek further explanation on issues they were unsure about. Surveyors were also provided with a copy of the briefing notes for reference during their shifts. During the briefing session, all surveyors were also required to conduct a "practice count" for 20 minutes at the Ponsonby Road/Karangahape Road site.

Conducting The Manual Counts

Each site was assigned to a surveyor, who was issued with a map that showed the range of movements a cyclist could make through that site. In addition to the map, surveyors were issued with a clipboard, a safety vest and a letter identifying them as a member of a Gravitas research team[3].

During their shift the surveyor collected data on:

- The total number of cyclists[4] passing through the intersection;
- The direction in which cyclists are travelling (using the numbers on the map provided);
- The time at which cyclists pass through the intersection (to the nearest minute);
- Whether cyclists are school children or adults (determined by whether they are wearing a school uniform or clearly of school age);
- Whether cyclists are wearing a helmet;
- Gender of the cyclist *(collected for the first time in 2011)*; and
- Whether cyclists are riding on the road, footpath or designated off- road cycleway[5].

[3] This letter also contained contact details for Auckland Transport and Gravitas Research and Strategy for any member of the public or local business owners who had queries about the work being undertaken.

[4] To ensure consistency across all surveyors, a "cycle" was defined as being non-motorised, with one or two wheels and requiring pedalling to make it move. Note that this definition did not include scooters.

[5] Note: For the purpose of this project, an off-road cycleway is defined as designated off-road path for cycles. This includes exclusive cycle paths, separated paths (such as the footpath on Tamaki Drive) and shared-use paths (available to cyclists and pedestrians). It excludes on-road cycle lanes (that is, designated lanes marked on the road).

Since 2009, surveyors have been required to indicate those cyclists riding together in groups of three or more. To be consistent with previous years, each member of these 'pelotons' has been included in the site-level analysis as a separate cyclist movement. However, where pelotons were observed, the number of cyclists and the time they passed through the site has been given in the report, along with a percentage figure indicating what share of all cyclists at the site were riding as groups.

In addition, where cyclists were recognisable, surveyors were instructed to record each cyclist no more than three times during a single shift, irrespective of how many movements they actually made through the site. Surveyors noted where and when this occurred.

Data was collected on the weather and daylight conditions at the site. Surveyors were also encouraged to record any information that may have affected cycle numbers or cycle movements at the site – for example, construction or maintenance works being conducted on the cycle way or road works at the intersection.

A team of supervisors checked that surveyors were in the correct position and recording data accurately.

Data Analysis

Upon their return to Gravitas, all count sheets were checked for completeness. The raw data was then entered into Excel for logic checking, analysis and graphing.

Annual Average Daily Traffic (AADT) Analysis

It is acknowledged that the number of cyclists using a site varies by time of day, day of the week and week of the year, and therefore it is not valid to simply multiply manual count data collected over a certain (relatively brief) period out to represent a full day, week or year. However, according to Land Transport New Zealand[6], Annual Average Daily Traffic (AADT) analysis can be used to estimate the average annual daily flow of cyclists from manual and automated cycle counts conducted at one point in time. The procedure involves deriving scale factors, which account for the time of day, day of the week, and week of the year (which varies with school holidays and season) as well as weather conditions on the count day. These scale factors are then applied to the count data collected to give an AADT estimate.

[6] http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/cycle-network/appendix2.html

Using the manual count figures for each site, it has been possible to provide the average annual daily traffic flow of cyclists (cycling AADT) estimate for each site. AADT scale factors (morning and afternoon) were provided by ViaStrada[7].

By applying the scale factor to the manual count data for each morning and afternoon peak, and averaging the two figures, an average annual daily cyclist flow figure has been obtained for each site. *A more comprehensive overview of the methodology used for this analysis is provided in Appendix One.*

Note: ViaStrada acknowledge that, as cycling volumes fluctuate from day to day depending on the weather, this method should be used with caution. They note that ideally an estimate should be achieved based on the average of the results of several counts, rather than counts from a single day, as in this study[8].

School Bike Shed Counts

As stated above, manual cycle counts were undertaken during the morning (6:30am to 9:00am) and evening (4:00pm to 7:00pm) peaks. However, it was noted in the design phase of the project that the timing of the evening peak monitoring would mean that the greatest share of students cycling home from school will be excluded from the counts. This was identified as a potential weakness of the monitoring proposed.

Therefore, it was suggested that information on numbers of students cycling to and from intermediate and secondary schools across the region could be collected by counting the number of bikes in school bike sheds on a pre-determined day. Rates of cycling among students could also be assessed by calculating the number of bikes counted as a share of the school's total roll (or share of the school's roll eligible to cycle).

Initially it was decided that school bike shed monitoring would focus only on intermediate and secondary schools (and composite schools which included children of intermediate and secondary school age), since children travelling to primary schools are considered by many parents (and schools) as too young to cycle to school. Note however that, to ensure all children of intermediate school age cycling to school were captured, full primary schools (those catering for Years 1 to 8) were included in the school bike shed count from 2011.

Based on feedback from some schools in 2013, in 2014 a count of the number of students who use (non-motorised) scooters to get to and from school was also included in the school bike shed count.

[7] ViaStrada is a traffic engineering and transport planning consultancy based in Christchurch, New Zealand.
[8] Appendix 2 of the Cycle Network and Route Planning Guide (CNRPG) (Land Transport New Zealand, 2004)

Methodology

The following process was used to collect the school bike shed count data.

1. Gravitas designed an information sheet that was distributed to most full primary, intermediate, secondary and composite (Years 1 to 13) schools in the Auckland region via email (note a small number of schools were omitted due to the special nature of the students e.g. boarding schools, special needs schools). This sheet was designed in consultation with Auckland Transport to ensure all necessary information was collected.

2. This email was then sent to all eligible schools in Auckland region (n=306) to notify them of the bike shed count and to let them know what they would be required to do. Included in this email was a link to an online count form.

3. To enhance the comparability of the school bike shed data with that of the regional cycle monitor, Tuesday 4th March was designated as the bike shed count day. (Most schools reported that they undertook the count on this day).

4. Once the school bike shed count had been completed, schools completed the online count form and submitted it electronically to Gravitas. Gravitas contacted all participating schools who had not returned their sheets after five working days, first by email (two rounds) and then by telephone. All count forms were checked for completeness before being data-entered into Excel. In 2014, 264 responses were received, a response rate of 88 per cent. (This compares with 92 per cent in 2013).

Reporting

The data from the manual counts has been presented at a site-by-site, TA and regional level.

Manual Counts - Site Level Reporting

The following results have been reported for each site:

- Total number of movements through the intersection during each peak;
- Total number of movements through the intersection during each ten-minute interval during each peak;
- Number of cyclists making each directional movement through the intersection during each peak; and
- Share of cyclists through the intersection during each peak who are:
  - adults/school children
  - wearing a helmet/not wearing a helmet
  - male/female
  - riding on the road/riding on the footpath/riding on an off-road path

Manual Counts - Aggregated Reporting

Results have also been reported at an aggregate level (that is, summing up all sites) – by ward and across the region – to show the total number of cycle movements recorded (both overall and by ten-minute intervals) and the characteristics of the cyclists.

Bike Shed Counts

Results have been provided by school (along with notes explaining why counts for some schools may not be representative), as well as at a ward and regional level. Raw cycle numbers and a "cyclists as a share of total school roll" figure have both been provided.

1.3 Summary of Results

This summary contains the aggregated results of the 15 sites surveyed in the Albany ward. It is split into four sections – a summary of results for the morning peak period (6:30am to 9:00am), a summary for the evening peak period (4:00pm to 7:00pm), a summary of aggregated results (morning and evening combined) and a summary of the results from the school bike shed counts.

While the summaries in this section are useful in giving an overall picture of cycling behaviour in the Albany ward, they hide much of the specific details of cycling behaviour at individual sites. The site-specific data varies significantly from site to site, and can be found in Sections Two to Sixteen of this report.

Note: Surveying in the Albany ward was undertaken on Tuesday 4th of March, 2014. Sunrise was at 7:09am and sunset was at 7:56pm. The highest temperature was 20.0 degrees Celsius.

1.4 Morning Peak

Environmental Conditions

- The weather was mostly fine across the Albany ward, with short periods of light rain for some sites, particularly between 6:30am to 7:00am.
- There were no road works or accidents that may affect cycle counts.

Key Points

- A total of 380 cyclist movements were recorded across the monitoring sites in the Albany ward during the morning peak period (between 6:30am and 9:00am) in 2014. This represents a 40 per cent decrease from last year (637 movements).
- One per cent of all cycle movements in the morning peak (n=4) were made by those riding as groups. This compares with 8 per cent (n=52) in 2013.
- The average volume of morning cyclist movements across all 15 monitoring sites in the Albany ward was 25 cycle movements, compared with 42 last year.
- The busiest site during the morning peak was the Oteha Valley/East Coast Road intersection (56 movements), while the quietest site was at Whangaparaoa Road near Hibiscus Coast Highway intersection, with 6 movements across the entire morning monitoring period.
- All sites recorded decreases in cycle numbers compared with 12 months ago. The five most notable decreases occurred at:
  - Luckens/Hobsonville Road – down 61 per cent;
  - Squadron Drive/Buckley Avenue– down 59 per cent;
  - Whangaparaoa Road, near Red Beach intersection – down 53 per cent;
  - Sunnynook Road/East Coast Road – down 53 per cent; and
  - Upper Harbour Drive/Albany Highway – down 51 per cent.

Table 1.1: Summary of Morning Cyclist Movements

2007 – 2014 (n)

Site No.	*Locations*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14	Change 07-14
47	Oteha Valley/East Coast Road	42	40	69	87	53	68	60	**56**	**-7%**	**33%**
38	Rosedale/East Coast Road	54	52	105	93	73	67	65	**37**	**-43%**	**-31%**
45	Beach/Browns Bay Road	11	26	29	50	47	28	43	**27**	**-37%**	**145%**
39	Upper Harbour Drive/Albany Highway	14	54	63	65	57	51	55	**27**	**-51%**	**93%**
46	Rosedale/Bush Road	15	36	26	48	29	22	43	**22**	**-49%**	**47%**
40	Oteha Valley/SH17/Albany Highway	4	20	25	29	26	40	29	**19**	**-34%**	**375%**
51	Luckens/Hobsonville Road	20	25	26	41	14	42	44	**17**	**-61%**	**-15%**
63	Gulf Harbour Drive/Laurie Southwick Parade	17	14	5	14	12	13	24	**14**	**-42%**	**-18%**
61	D'Oyly Reserve cycleway	14	19	5	31	13	14	13	**10**	**-23%**	**-29%**
59	Whangaparaoa Road, near Red Beach intersection	13	15	15	21	11	15	15	**7**	**-53%**	**-46%**
60	Whangaparaoa Road, near Hibiscus Coast Highway intersection	11	9	6	13	7	10	10	**6**	**-40%**	**-45%**
	Average per site (11 sites since 2007)	**20**	**28**	**34**	**45**	**31**	**34**	**36**	**22**	**-39%**	**10%**
	Total (11 sites since 2007)	**215**	**310**	**374**	**492**	**342**	**370**	**401**	**242**	**-40%**	**13%**
84	Behind Auckland Council Building, Orewa	-	-	75	73	72	61	66	**59**	**-11%**	**-**
70	Squadron Drive/Buckley Avenue*	-	17	23	37	34	28	46	**19**	**-59%**	**-**
82	Hibiscus Coast Highway/Jelas Road	-	-	15	24	19	20	28	**15**	**-46%**	**-**
	Average per site (12 sites in 2008, 14 sites in 2009 and 2010)	**-**	**27**	**35**	**45**	**33**	**34**	**39**	**24**	**-38%**	**-**
	Total (12 sites in 2008, 14 sites in 2009 and 2010)	**-**	**327**	**487**	**626**	**467**	**479**	**541**	**335**	**-38%**	**-**
89	Sunnynook Road/East Coast Road	-	-	-	**-**	81	95	96	**45**	**-53%**	**-**
	Average per site (15 sites since 2011)	**-**	**27**	**35**	**45**	**37**	**38**	**42**	**25**	**-40%**	**-**
	Total (15 sites since 2011)	**-**	**327**	**487**	**626**	**548**	**574**	**637**	**380**	**-40%**	**-**

** Note: The original Upper Harbour Bridge observation site was relocated to Upper Harbour Drive/Buckley Avenue in 2010, due to road construction. In 2012, due to a change in road layout, this site was re-located. Consequently results from previous years are not directly comparable.*

- Morning cyclist characteristics are shown in Table 1.2 below. Overall, 70 per cent of cyclists were adults (down from 78 per cent in 2013).
- The majority of the cyclists were wearing a helmet (93 per cent, down slightly from 97 per cent in 2013).
- Four in five cyclists were male (81 per cent, down slightly from 86 per cent last year).
- There has been a seven percentage point increase in the share of cyclists riding on the off-road cycleway (23 per cent, compared with 16 per cent in 2013). In contrast, the share of cyclists on the road has decreased by 16 percentage points (from 71 per cent last year to 55 per cent).

Table 1.2: Summary of Morning Cyclist Characteristics

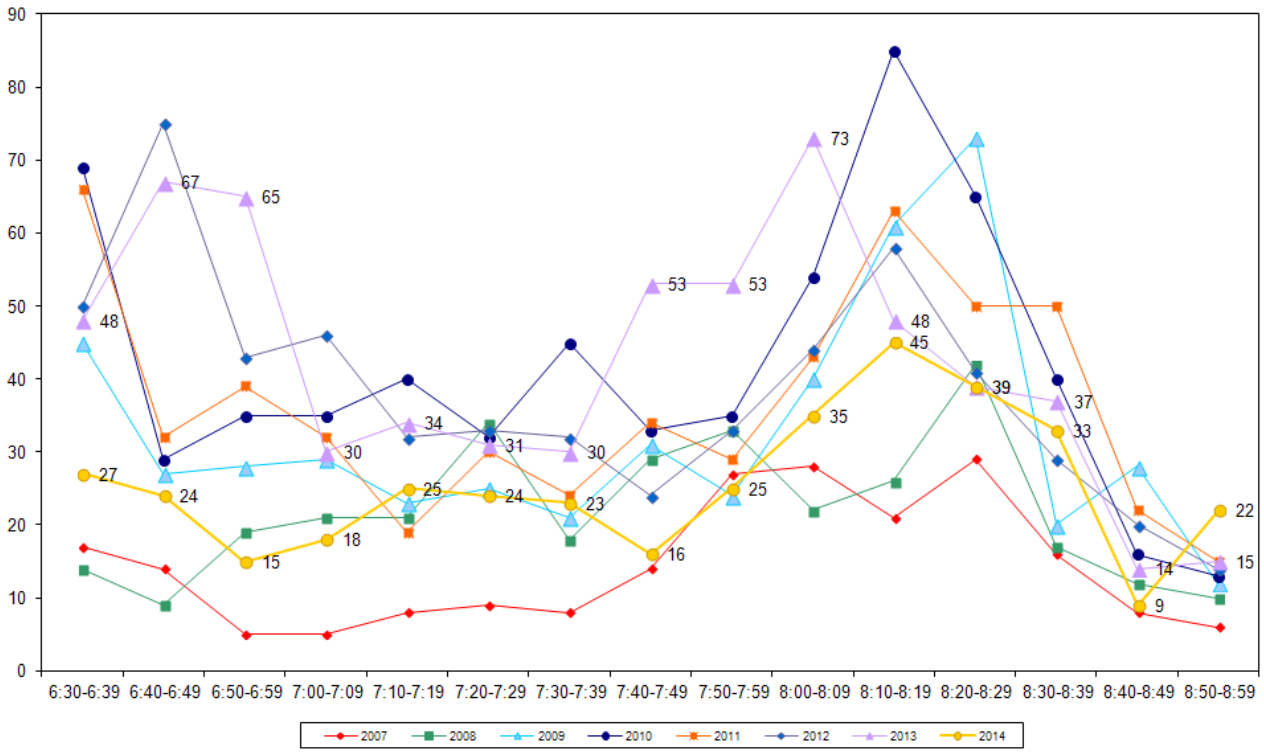
2007 – 2014 (%)

	2007	***2008***	***2009***	***2010***	***2011***	***2012***	***2013***	***2014***	**Change 13-14**
Cyclist Type									
Adult	56	69	60	60	72	71	78	**70**	**-8**
School child	44	31	40	40	28	29	22	**30**	**8**
Helmet Wearing									
Helmet on head	91	91	91	92	93	96	97	**93**	**-4**
No helmet	9	9	9	8	7	4	3	**7**	**4**
Gender									
Male	-	-	-	-	83	82	86	**81**	**-5**
Female	-	-	-	-	14	16	13	**18**	**5**
Can't tell	-	-	-	-	3	2	1	**1**	**0**
Where Riding									
Road	47	67	56	56	66	69	71	**55**	**-16**
Footpath	46	26	25	20	14	13	13	**22**	**9**
Off-road cycleway	7	7	19	24	20	18	16	**23**	**7**
Base:	***215***	***327***	***487***	***626***	***548***	***574***	***637***	***380***	

- Figure 1.2 illustrates the total number of cyclists in the morning peak by time of movement for all 15 sites monitored in 2014. The volume of morning cycle movements peaked between 8:10 am and 8:19am with 45 cyclists counted during this period. The overall trend was generally consistent with previous years, although there was no notable peak at the beginning of the monitoring period.

Figure 1.2: Total Cyclist Frequency

Morning Peak 2007 – 2014



1.5 Evening Peak

Environmental Conditions

- The sites monitored in Albany ward had generally sunny weather with strong wind in the evening.
- There were no road works or accidents that may affect cycle counts.

Key Points

- A total of 479 cyclist movements were recorded across the 15 sites monitored during the evening peak period (between 4:00pm and 7:00pm) in 2014. This is a 15 per cent decrease from 562 movements in 2013.
- Four per cent of all evening cycle movements (n=18) were made by cyclists riding as groups. This compares with 5 per cent (n=30) in 2013.
- The average volume of evening cyclist movements across all 15 monitoring sites in the Albany ward was 32 movements, down from 37 movements in 2013.
- The busiest site in the evening peak was the Rosedale/Bush Road intersection (58 movements), while the quietest site was at the Hibiscus Coast Highway/Jelas Road intersection with seven movements across the entire evening monitoring period.
- Of the 15 sites in this ward, five sites have recorded increases in cycle volume this year, most notable at the Beach Road/Browns Bay Road intersection (from 17 movements to 43 movements, equating to an increase of 153 per cent).
- Eight sites have recorded decreases this year. The most noticeable decreases occurred at:
  - Luckens/Hobsonville Road – down 60 per cent;
  - Hibiscus Coast Highway/Jelas Road – down 53 per cent; and
  - Upper Harbour Drive/Albany Highway – down 39 per cent.
- Two sites have experienced no change in cycle volumes this year. They were at Whangaparaoa Road, near Hibiscus Coast Highway intersection, and D'Oyly Reserve cycleway.

Table 1.3: Summary Of Evening Cyclist Movements

2007 – 2014 (n)

Site No.	*Locations*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14	Change 07-14
46	Rosedale/Bush Road	16	37	46	61	56	41	57	**58**	**2%**	**263%**
38	Rosedale/East Coast Road	22	46	54	59	70	51	47	**48**	**2%**	**118%**
39	Upper Harbour Drive/Albany Highway	11	44	75	93	91	136	79	**48**	**-39%**	**336%**
47	Oteha Valley/East Coast Road	17	74	69	81	76	69	46	**47**	**2%**	**176%**
45	Beach/Browns Bay Road	8	19	30	27	28	33	17	**43**	**153%**	**438%**
40	Oteha Valley/SH17/Albany Highway	15	28	47	62	56	88	56	**41**	**-27%**	**173%**
51	Luckens/Hobsonville Road	12	16	51	54	38	70	60	**24**	**-60%**	**100%**
63	Gulf Harbour Drive/Laurie Southwick Parade	39	30	17	23	27	20	16	**15**	**-6%**	**-62%**
61	D'Oyly Reserve cycleway	10	84	4	13	45	21	14	**14**	**0%**	**40%**
59	Whangaparaoa Road, near Red Beach intersection	16	16	11	8	15	13	10	**11**	**10%**	**-31%**
60	Whangaparaoa Road, near Hibiscus Coast Highway intersection	17	11	6	10	15	10	9	**9**	**0%**	**-47%**
	Average per site (11 sites since 2007)	**17**	**37**	**37**	**45**	**47**	**50**	**37**	**33**	**-11%**	**94%**
	Total (11 sites since 2007)	**183**	**405**	**410**	**491**	**517**	**552**	**411**	**358**	**-13%**	**96%**
70	Squadron Drive/Buckley Avenue*	-	18	45	57	49	82	60	**46**	**-23%**	**-**
84	Behind Auckland Council Building, Orewa	-	-	11	22	66	28	23	**16**	**-30%**	**-**
82	Hibiscus Coast Highway/Jelas Road	-	-	23	15	11	14	15	**7**	**-53%**	**-**
	Average per site (12 sites in 2008, 14 sites in 2009 and 2010)	**-**	**35**	**35**	**42**	**46**	**48**	**36**	**31**	**-14%**	**-**
	Total (12 sites in 2008, 14 sites in 2009 and 2010)	**-**	**423**	**489**	**585**	**643**	**676**	**509**	**427**	**-16%**	**-**
89	Sunnynook Road/East Coast Road	-	-	-	-	93	60	53	**52**	**-2%**	**-**
	Average per site (12 sites in 2008, 14 sites in 2009 and 2010, 15 sites since 2011)	**-**	**35**	**35**	**42**	**49**	**49**	**37**	**32**	**-14%**	**-**
	Total (12 sites in 2008, 14 sites in 2009 and 2010, 15 sites since 2011)	**-**	**423**	**489**	**585**	**736**	**736**	**562**	**479**	**-15%**	**-**

** Note: The original Upper Harbour Bridge observation site was relocated to Upper Harbour Drive/Buckley Avenue in 2010, due to road construction. In 2012, due to a change in road layout, this site was re-located. Consequently results from previous years are not directly comparable.*

- Most evening cyclists were adults (86 per cent, stable from last year).
- Nearly all cyclists wore a helmet (93 per cent, consistent from last year).
- Four in five cyclists were male (80 per cent, down slightly from 86 per cent last year).
- Sixty-nine per cent of all evening cyclists were riding on the road (down from 74 per cent in 2013). The remainder rode on the off-road cycleway (10 per cent, stable from last year) or the footpath (21 per cent, up 6 percentage points from 2013).

Table 1.4: Summary of Evening Cyclist Characteristics

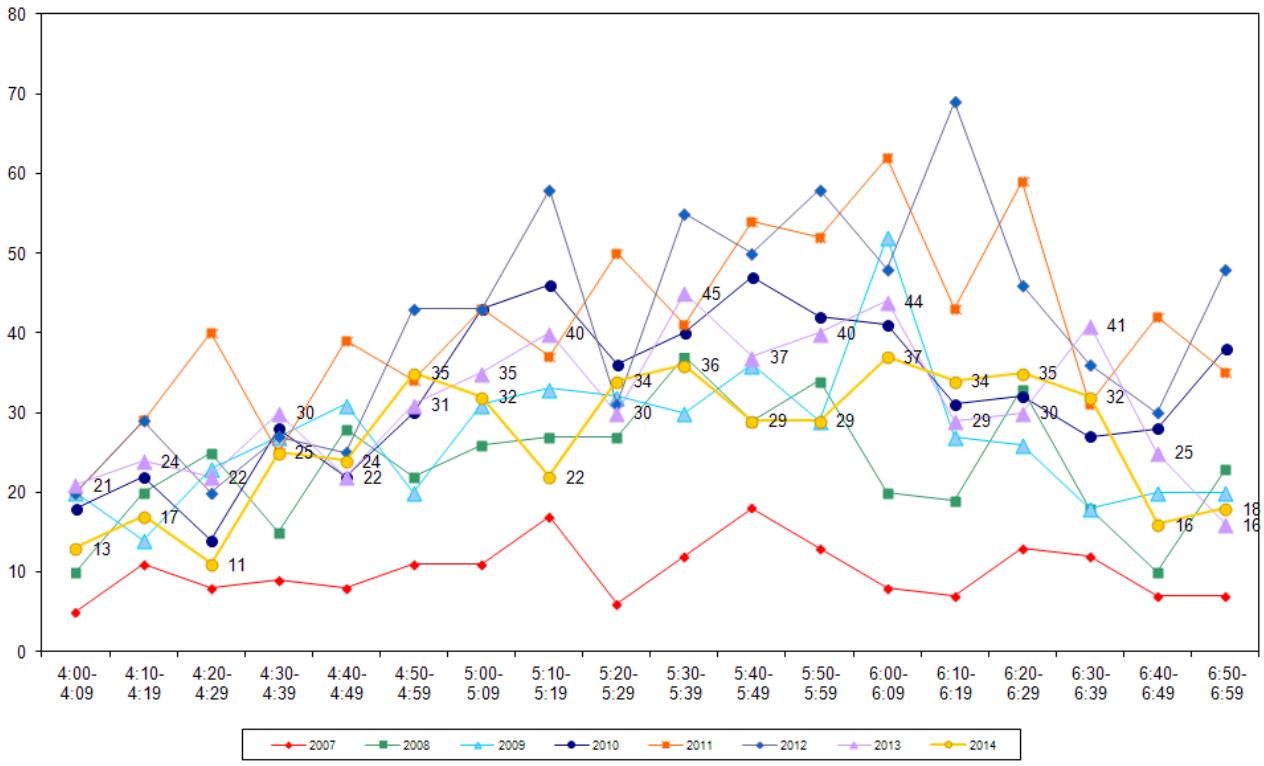
2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	78	67	80	85	79	81	87	**86**	**-1**
School child	22	33	20	15	21	19	13	**14**	**1**
Helmet Wearing									
Helmet on head	88	79	93	90	91	92	93	**93**	**0**
No helmet	12	21	7	10	9	8	6	**7**	**1**
Can't tell	-	-	-	-	-	-	1	**0**	**-1**
Gender									
Male	-	-	-	-	82	82	86	**80**	**-6**
Female	-	-	-	-	17	15	14	**19**	**5**
Can't tell	-	-	-	-	1	3	0	**1**	**1**
Where Riding									
Road	60	59	70	69	66	80	74	**69**	**-5**
Footpath	35	20	21	17	15	11	15	**21**	**6**
Off-road cycleway	5	21	9	14	19	9	11	**10**	**-1**
Base:	***183***	***423***	***489***	***585***	***736***	***736***	***562***	***479***	

- Figure 1.3 illustrates the overall pattern of cyclist volumes by time of movement in the evening for all 15 sites monitored this year. Cycle volumes varied throughout the evening peak with no noticeable peaks evident. The highest number of cyclists recorded over the evening monitoring period was between 6:00pm and 6:09pm with 37 cyclists observed.

Figure 1.2: Total Cyclist Frequency

Evening Peak 2007 – 2014 (n)



1.6 Aggregated Total

- A total of 859 cyclist movements were recorded across the 15 sites monitored during the morning and evening peak periods in 2014. This represents a 28 per cent decrease from 2013 (1199 movements).
- Three per cent (n=22) of the cycle movements were made by pelotons. This compares with seven per cent (n=82) in 2013.
- The average volume of evening cyclist movements across all 15 monitoring sites in the Albany ward was 57 movements. This compares with 80 movements last year.
- The busiest site in 2014 was the Oteha Valley/East Coast Road intersection (103 movements), whereas the least number of cycle movements were observed at Whangaparaoa Road near Hibiscus Coast Highway intersection (15 movements).
- Only one of the 15 sites in this ward has experienced an increase in cycle volume over the past 12 months. It was the Beach Road/Browns Bay Road intersection (a 17 per cent increase from 60 movements to 70 movements)
- The remaining 14 sites experienced decreases in cycle volume this year, most noticeable at:
  - Luckens/Hobsonville Road – down 61 per cent;
  - Hibiscus Coast Highway/Jelas Road – down 49 per cent; and
  - Upper Harbour Drive/Albany Highway – down 44 per cent.

Table 1.5: Summary Of Total Cyclist Movements

2007 – 2014 (n)

Site No.	*Locations*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14	Change 07-14
47	Oteha Valley/East Coast Road	59	114	138	168	129	137	106	**103**	**-3%**	**75%**
38	Rosedale/East Coast Road	76	98	159	152	143	118	112	**85**	**-24%**	**12%**
46	Rosedale/Bush Road	31	73	72	109	85	63	100	**80**	**-20%**	**158%**
39	Upper Harbour Drive/Albany Highway	25	98	138	158	148	187	134	**75**	**-44%**	**200%**
45	Beach/Browns Bay Road	19	45	59	77	75	61	60	**70**	**17%**	**268%**
40	Oteha Valley/SH17/Albany Highway	19	48	72	91	82	128	85	**60**	**-29%**	**216%**
51	Luckens/Hobsonville Road	32	41	77	95	52	112	104	**41**	**-61%**	**28%**
63	Gulf Harbour Drive/Laurie Southwick Parade	56	44	22	37	39	33	40	**29**	**-28%**	**-48%**
61	D'Oyly Reserve cycleway	24	103	9	44	58	35	27	**24**	**-11%**	**0%**
59	Whangaparaoa Road, near Red Beach intersection	29	31	26	29	26	28	25	**18**	**-28%**	**-38%**
60	Whangaparaoa Road, near Hibiscus Coast Highway intersection	28	20	12	23	22	20	19	**15**	**-21%**	**-46%**
	Average per site (11 sites since 2007)	**36**	**65**	**71**	**89**	**78**	**84**	**74**	**55**	**-26%**	**53%**
	Total (11 sites since 2007)	**398**	**715**	**784**	**983**	**859**	**922**	**812**	**600**	**-26%**	**51%**
84	Behind Auckland Council Building, Orewa	-	-	86	95	138	89	89	**75**	**-16%**	-
70	Squadron Drive/Buckley Avenue*	-	35	68	94	83	110	106	**65**	**-39%**	-
82	Hibiscus Coast Highway/Jelas Road	-	-	38	39	30	34	43	**22**	**-49%**	-
	Average per site (12 sites in 2008, 14 sites in 2009 and 2010)	**-**	**63**	**70**	**87**	**79**	**83**	**75**	**54**	**-28%**	-
	Total (12 sites in 2008, 14 sites in 2009 and 2010)	**-**	**750**	**976**	**1211**	**1110**	**1155**	**1050**	**762**	**-27%**	-
89	Sunnynook Road/East Coast Road	-	-	-	-	174	155	149	**97**	**-35%**	-
	Average per site (12 sites in 2008, 14 sites in 2009 and 2010, 15 sites since 2011)	**-**	**63**	**70**	**87**	**86**	**87**	**80**	**57**	**-29%**	-
	Total (12 sites in 2008, 14 sites in 2009 and 2010, 15 sites since 2011)	**-**	**750**	**976**	**1211**	**1284**	**1310**	**1199**	**859**	**-28%**	-

∞Note that the evening count for D'Oyly Reserve cycleway (site 61) in 2008 is considered as an outlier, so the average and total figures exclude this outlier for more accurate comparison.

** Note: The original Upper Harbour Bridge observation site was relocated to Upper Harbour Drive/Buckley Avenue in 2010, due to road construction. In 2012, due to a change in road layout, this site was re-located. Consequently results from previous years are not directly comparable.*

- Overall cyclist characteristics are illustrated in Table 1.6. In total, 79 per cent of cyclists were adults (comparing with 82 per cent in 2013).
- Nearly all cyclists wore a helmet (93 per cent, stable from 95 per cent in 2013).
- Four in five cyclists were male (80 per cent, slightly down from 86 per cent last year).
- About two-thirds of the cyclists were riding on the road (63 per cent, down from 73 per cent in 2013). The remainder rode on the footpath (22 per cent) or the off-road cycleway (15 per cent).

Table 1.6: Summary of Total Cyclist Characteristics

2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	66	68	70	72	76	77	82	**79**	**-3**
School child	34	32	30	28	24	23	18	**21**	**3**
Helmet Wearing									
Helmet on head	89	84	92	91	92	94	95	**93**	**-2**
No helmet	11	16	8	9	8	6	5	**7**	**2**
Gender									
Male	-	-	-	-	83	82	86	**80**	**-6**
Female	-	-	-	-	16	15	13	**19**	**6**
Can't tell	-	-	-	-	1	3	1	**1**	**0**
Where Riding									
Road	53	63	62	63	66	75	73	**63**	**-10**
Footpath	41	23	23	19	15	12	14	**22**	**8**
Off-road cycleway	6	14	15	18	19	13	13	**15**	**2**
Base:	***398***	***750***	***976***	***1211***	***1284***	***1310***	***1199***	***859***	

1.7 Average Annual Daily Traffic (AADT) Estimate

Note: A discussion of Average Annual Daily Traffic Estimates is provided in Section 1.2. A full description of the tool, the calculation used, and the limitations of the estimates are provided in Appendix One. Readers are encouraged to review these sections in conjunction with the data presented here.

Table 1.7 provides the comparative AADT estimates for each site, based on the average of morning and evening peak AADT calculations.

- The highest AADT was at the Oteha Valley/East Coast Road intersection (150 daily movements) and the lowest was at Whangaparaoa Road near Hibiscus Coast Highway intersection (22 daily movements).
- Out of the 15 sites in this ward, only one site has registered an increase in cycle volume compared to last year. It occurred at the Beach Road/Browns Bay Road intersection (up 13 per cent).
- The remaining 14 sites have recorded decreases in cycle volume since last year. The greatest decreases were at:
  - Luckens/Hobsonville Road – down 61 per cent;
  - Hibiscus Coast Highway/Jelas Road – down 48 per cent;
  - Upper Harbour Drive/Albany Highway - down 45 per cent; and
  - Squadron Drive/Buckley Avenue – down 40 per cent.

Table 1.7: Dry Weather Factor AADT Estimates Based on Morning and Evening Cyclist Movements 2007 – 2014 (n)

Site No.	*Locations*	*2007 AADT*	*2008 AADT*	*2009 AADT*	*2010 AADT*	*2011 AADT*	*2012 AADT*	*2013 AADT*	*2014 AADT*	Change 13-14	Change 07-14
47	Oteha Valley/East Coast Road	137	163	201	245	186	199	155	**150**	**-3%**	**9%**
89	Sunnynook Road/East Coast Road	-	-	-	-	252	228	220	**140**	**-36%**	**-**
38	Rosedale/East Coast Road	176	143	235	224	208	173	164	**123**	**-25%**	**30%**
46	Rosedale/Bush Road	70	106	103	157	121	90	144	**114**	**-21%**	**106%**
84	Behind Auckland Council Building, Orewa	-	-	130	142	201	132	133	**112**	**-16%**	**-**
39	Upper Harbour Drive/Albany Highway	57	143	200	228	213	265	193	**107**	**-45%**	**88%**
45	Beach/Browns Bay Road	44	66	86	114	107	88	89	**101**	**13%**	**130%**
70	Squadron Drive/Buckley Avenue*	-	51	97	135	120	156	153	**92**	**-40%**	**-**
40	Oteha Valley/SH17/Albany Highway	42	69	103	130	117	182	121	**86**	**-29%**	**105%**
51	Luckens/Hobsonville Road	47	60	110	137	74	161	150	**59**	**-61%**	**26%**
63	Gulf Harbour Drive/Laurie Southwick Parade	80	63	31	53	56	47	59	**42**	**-29%**	**-48%**
61	D'Oyly Reserve cycleway	35	145	13	65	82	50	39	**35**	**-10%**	**0%**
82	Hibiscus Coast Highway/Jelas Road	-	-	55	57	44	50	64	**33**	**-48%**	**-**
59	Whangaparaoa Road, near Red Beach intersection	42	45	38	43	37	41	37	**26**	**-30%**	**-38%**
60	Whangaparaoa Road, near Hibiscus Coast Highway intersection	40	29	17	34	31	29	28	**22**	**-21%**	**-45%**

** Note: The original Upper Harbour Bridge observation site was relocated to Upper Harbour Drive/Buckley Avenue in 2010, due to road construction. In 2012, due to a change in road layout, this site was re-located. Consequently results from previous years are not directly comparable.*

1.8 Ferry Wharf Bike Count Summary

Key Points

- There were no bikes observed at the ferry wharves in the morning or in the evening peak.

1.9 School Bike Shed Count Summary

Cycle Counts

- Among the surveyed schools, of those eligible to cycle to school, on average, two per cent of students are cycling to their schools. This is unchanged from 2013.
- Hobsonville Point Primary School and Silverdale Primary School reported the highest share of cyclists – each with 24 per cent of all eligible students currently cycling to school.
- In total, n=270 students from the responding schools were reported to be cycling to school.
- Of the 17 schools that responded, four (24 per cent) had no students cycling to school.
- Of the 14 schools that participated in the count in both 2013 and 2014, six (43 per cent) reported an increase in the share of students cycling.
- Of the 14 schools that participated in the count in both 2013 and 2014, 2 (14 per cent) reported a decrease in the share of students cycling.

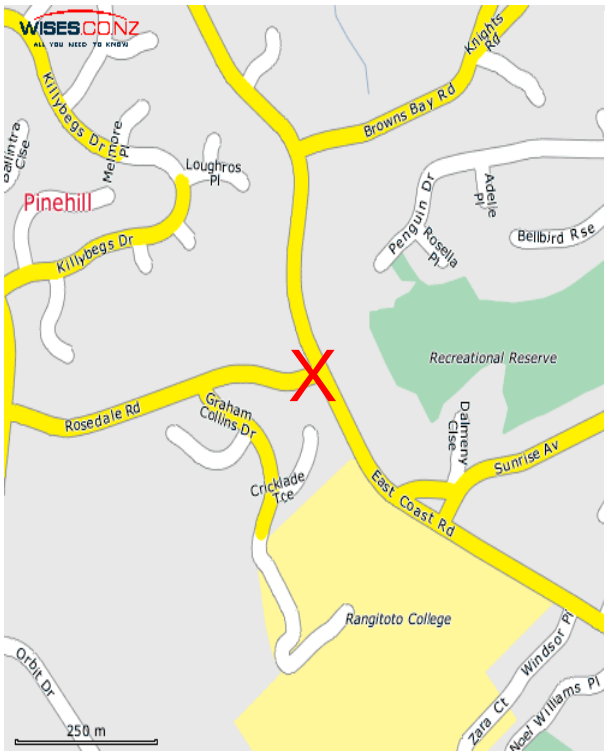
Scooter Counts

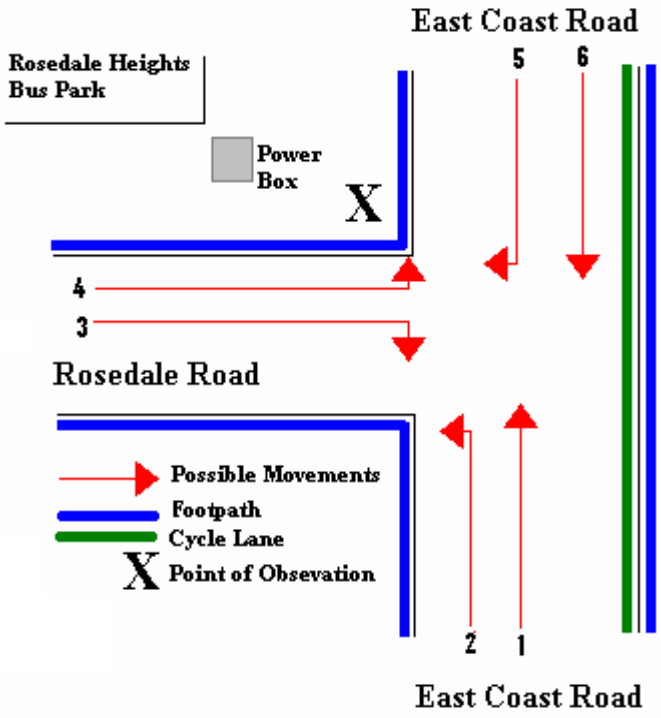
- Among the surveyed schools, of those eligible to scooter, on average, two per cent of students are scootering to their schools.
- Timatanga Community School reported the highest share of scooters – 21 per cent of all eligible students currently scootering.
- In total, n=86 students from the responding schools were reported to be scootering to school.
- Of the 17 schools that responded, 9 (53 per cent) had no students scootering to school.

2. ROSEDALE ROAD/EAST COAST ROAD, MAIRANGI BAY (SITE 38)

Figure 2.1 shows the possible cyclist movements at this intersection.

Figure 2.1: Cycle Movements: Rosedale/East Coast Road





2.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	54	22	76	176
2008	52	46	98	143
2009	105	54	159	235
2010	93	59	152	224
2011	73	70	143	208
2012	67	51	118	173
2013	65	47	112	164
2014	**37**	**48**	**85**	**123**

2.2 Morning Peak

Environmental Conditions

- There was rain at the beginning of the shift which lasted until 6:50am. It remained dry for the remainder of the morning monitoring period.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Compared with last year, cyclist movements at the intersection of Rosedale and East Coast Road have decreased (37 movements, down from 65 movements in 2013).
- The key movement in the morning was straight along East Coast Road in a southerly direction (Movement 6 = 21 cyclists).
- The most noticeable decrease was at Movement 6 (down 22 movements).

Table 2.1: Morning Cyclist Movements

Rosedale/East Coast Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	7	5	12	14	5	8	6	**7**	**1**
2	1	2	5	8	4	4	8	**6**	**-2**
3	3	4	3	5	6	0	4	**0**	**-4**
4	0	0	1	0	0	1	1	**0**	**-1**
5	2	2	6	3	3	2	3	**3**	**0**
6	41	39	78	63	55	52	43	**21**	**-22**
Total	**54**	**52**	**105**	**93**	**73**	**67**	**65**	**37**	**-28**

- The proportion of adult cyclists in the morning has decreased (86 per cent, down from 94 per cent the previous year).
- All cyclists were wearing a helmet (100 per cent, stable from 2013).
- The majority of cyclists were male (89 per cent).
- There has been a decrease in the share of cyclists riding on the road (81 per cent, down 10 percentage points from 2013).

Table 2.2: Morning Cyclist Characteristics

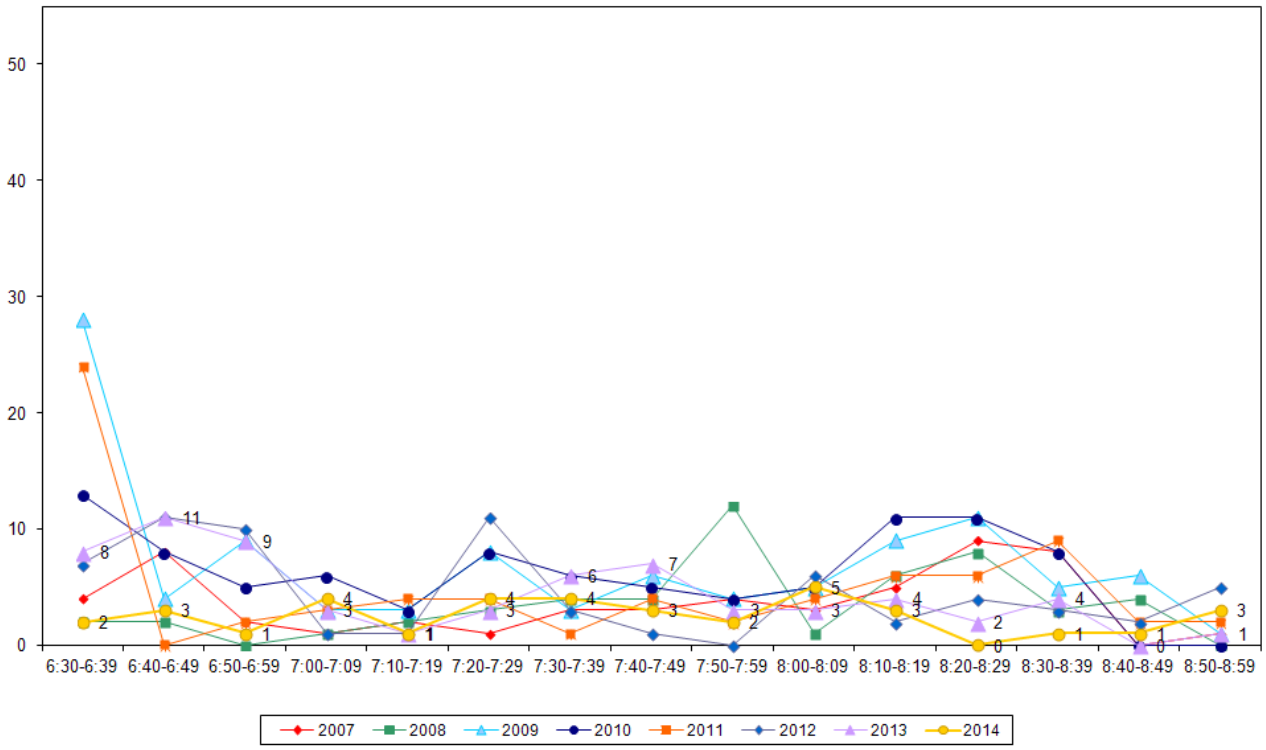
Rosedale/East Coast Road 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	57	63	71	65	73	83	94	**86**	**-8**
School child	43	37	29	35	27	17	6	**14**	**8**
Helmet Wearing									
Helmet on head	85	94	93	91	97	98	98	**100**	**2**
No helmet	15	6	7	9	3	2	2	**0**	**-2**
Gender									
Male	-	-	-	-	75	82	89	**89**	**0**
Female	-	-	-	-	18	16	11	**11**	**0**
Can't tell	-	-	-	-	7	1	0	**0**	**0**
Where Riding									
Road	46	69	68	62	78	80	91	**81**	**-10**
Footpath	54	31	32	38	22	20	9	**19**	**10**
Base:	***54***	***52***	***105***	***93***	***73***	***67***	***65***	***37***	

- Morning cyclist movement volumes at the Rosedale/East Coast Road intersection remained low throughout the morning monitoring period. There was no more than 5 cycle movements observed during any ten minute interval throughout the monitoring period.

Figure 2.2: Morning Peak Cyclist Frequency

Rosedale/East Coast Road 2007 – 2014 (n)



2.3 Evening Peak

Environmental Conditions

- The weather was fine throughout the evening shift.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The volume of evening cyclists has remained stable over the last 12 months, from 47 movements last year to 48 movements this year.
- The most common movement in the evening was straight along East Coast Road heading north (Movement 1 = 23 cyclists, down from 29 movements in 2013).
- The largest increases were at Movement 4 and Movement 5, which each had an increase of 3 cycle movements over the past 12 months.

Table 2.3: Evening Cyclist Movements

Rosedale/East Coast Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	6	25	33	35	32	26	29	**23**	**-6**
2	1	1	1	2	3	4	2	**2**	**0**
3	0	3	6	3	4	7	4	**3**	**-1**
4	2	4	4	5	5	2	5	**8**	**3**
5	0	2	1	1	7	2	0	**3**	**3**
6	13	11	9	13	19	10	7	**9**	**2**
Total	**22**	**46**	**54**	**59**	**70**	**51**	**47**	**48**	**1**

- Over the evening shift, most cyclists using this intersection were adults (88 per cent, a decrease of 10 percentage points on the previous year).
- Most cyclists were wearing a helmet (98 per cent, stable from 96 per cent in 2013).
- The majority of cyclists were male (92 per cent, up from 83 per cent in 2013).
- Twenty-nine per cent of cyclists were riding on the footpath (up from 17 per cent last year).

Table 2.4: Evening Cyclist Characteristics

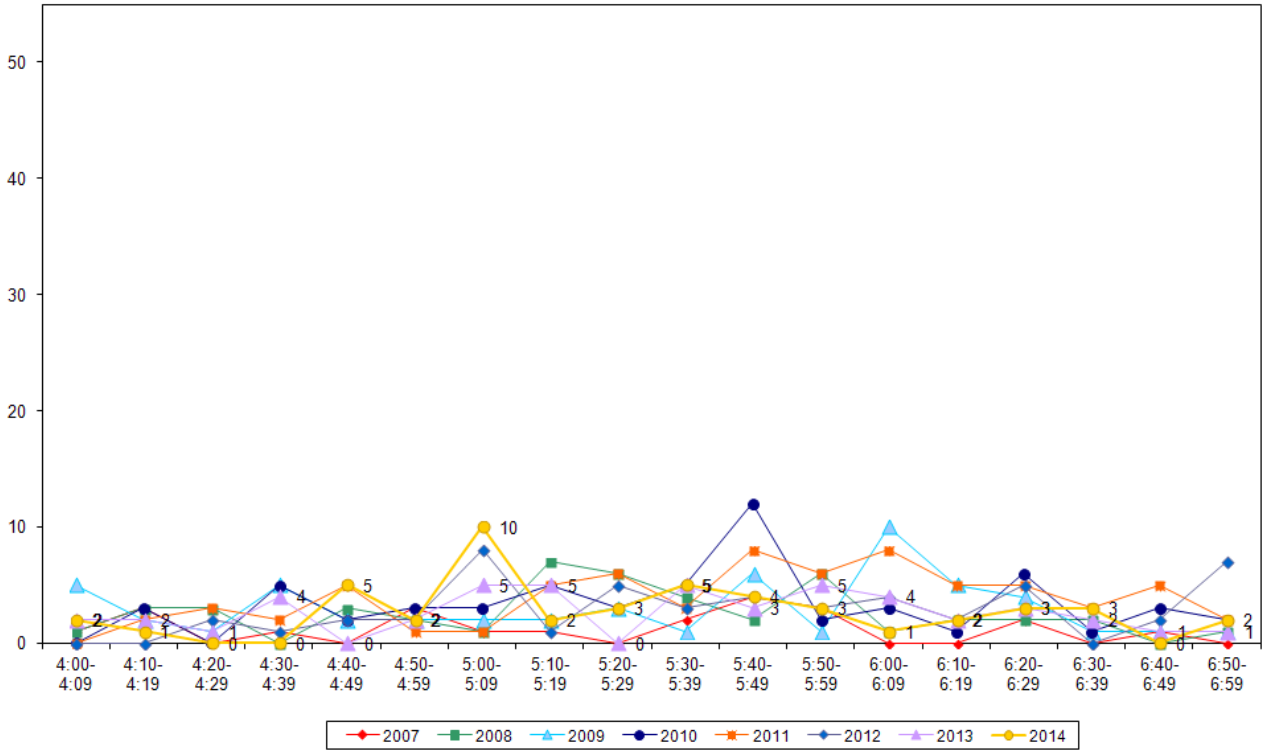
Rosedale/East Coast Road 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	73	74	91	86	81	82	98	**88**	**-10**
School child	27	26	9	14	19	18	2	**12**	**-10**
Helmet Wearing									
Helmet on head	95	89	96	97	100	92	96	**98**	**2**
No helmet	5	11	4	3	0	8	4	**2**	**-2**
Gender									
Male	-	-	-	-	89	86	83	**92**	**9**
Female	-	-	-	-	10	14	17	**8**	**-9**
Can't tell	-	-	-	-	1	0	0	**0**	
Where Riding									
Road	64	72	85	80	83	86	83	**71**	**-12**
Footpath	36	28	15	20	17	14	17	**29**	**12**
Base:	***22***	***46***	***54***	***59***	***70***	***51***	***47***	***48***	

- Evening cyclist movement volumes were low over the monitoring period, with no more than five movements per ten-minute interval. The exception to this was at 5:00pm – 5:19pm, when 10 cyclists were recording travelling through the intersection.

Figure 2.3: Evening Peak Cyclist Frequency

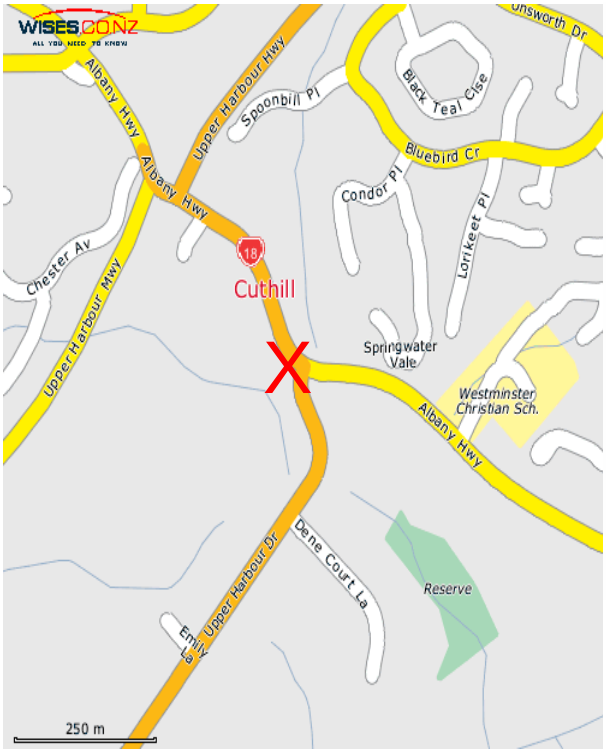
Rosedale/East Coast Road 2007 – 2014 (n)

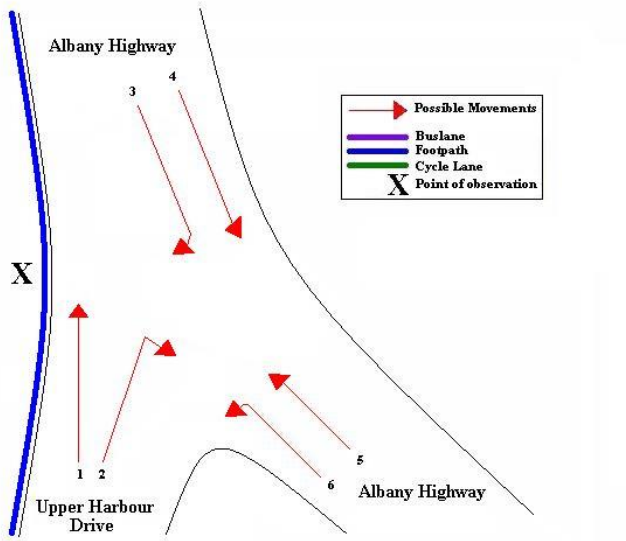


3. UPPER HARBOUR DRIVE/ALBANY HIGHWAY, GREENHITE (SITE 39)

Figure 3.1 shows the possible cyclist movements at this intersection.

Figure 3.1: Cycle Movements: Upper Harbour Drive/Albany Highway





3.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	14	11	25	57
2008	54	44	98	143
2009	63	75	138	200
2010	65	93	158	228
2011	57	91	148	213
2012	51	136	187	265
2013	55	79	134	193
2014	**27**	**48**	**75**	**107**

3.2 Morning Peak

Environmental Conditions

- Drizzle was recorded periodically between 6:20am and 7:00am, with the weather turning fine towards the end of the shift.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The volume of morning cyclists at the Upper Harbour Drive/Albany Highway intersection has decreased in 2014 (27 movements, down from 55 in 2013).
- The most common movement in the morning was travelling straight along Albany Highway heading north (Movement 5 = 8 cyclists).
- The largest change in cyclist movement counts during the morning shift was observed at Movement 6, which had a decrease of 11 cyclists this year.

Table 3.1: Morning Cyclist Movements

Upper Harbour Drive/Albany Highway 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	7	1	10	12	9	7	9	**6**	**-3**
2	1	0	11	10	15	8	9	**5**	**-4**
3	0	26	6	7	1	3	5	**1**	**-4**
4	0	6	5	2	4	5	4	**3**	**-1**
5	6	10	22	14	13	12	13	**8**	**-5**
6	0	11	9	20	15	16	15	**4**	**-11**
Total	**14**	**54**	**63**	**65**	**57**	**51**	**55**	**27**	**-28**

- Over the morning peak, 96 per cent of cyclists at this intersection were identified as adults (stable from the previous year).
- Ninety-six per cent of cyclists were wearing a helmet (stable from 98 per cent in 2013).
- The majority of cyclists were male (67 per cent), although the share of female cyclists increased by 15 percentage points.
- Nearly all cyclists were riding on the road (89 per cent, down from 96 per cent in 2013).

Table 3.2: Morning Cyclist Characteristics

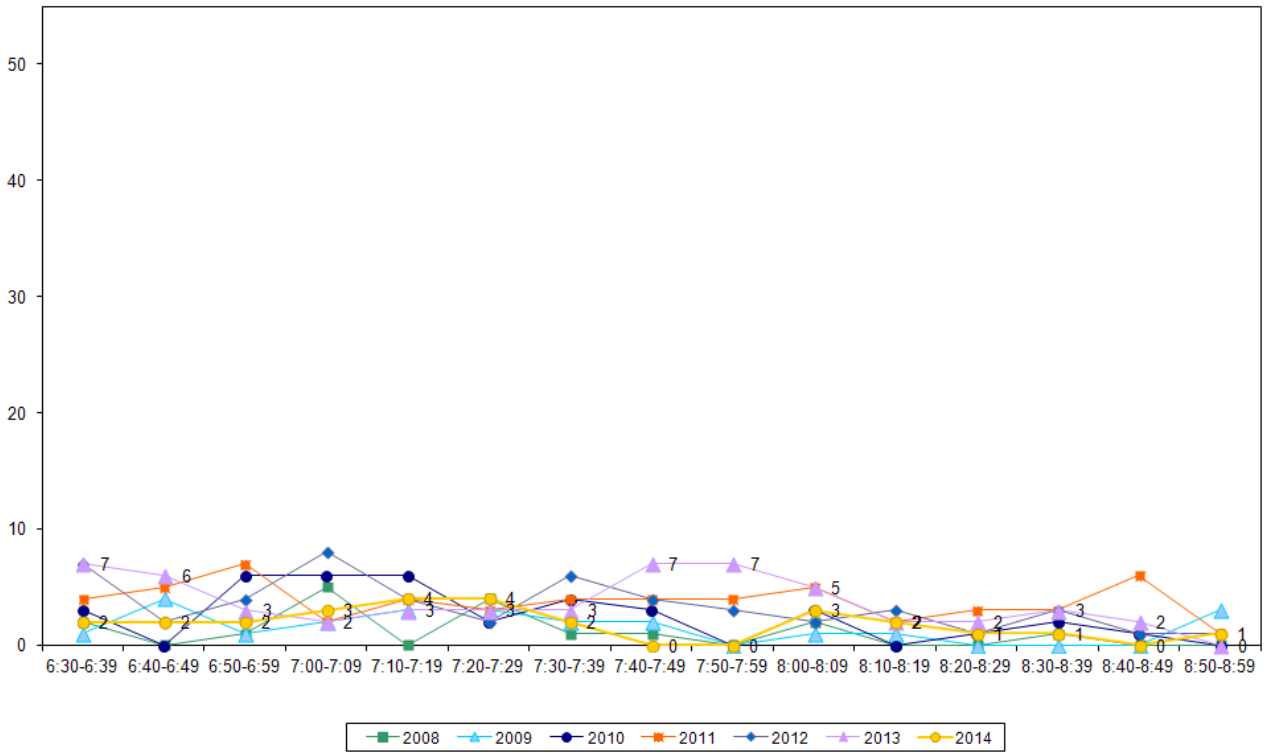
Upper Harbour Drive/Albany Highway 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	100	89	94	95	98	49	96	**96**	**0**
School child	0	11	6	5	2	51	4	**4**	**0**
Helmet Wearing									
Helmet on head	100	98	92	97	81	100	98	**96**	**-2**
No helmet	0	2	8	3	19	0	2	**4**	**2**
Gender									
Male	-	-	-	-	81	82	93	**67**	**-26**
Female	-	-	-	-	16	8	7	**22**	**15**
Can't tell	-	-	-	-	3	10	0	**11**	**11**
Where Riding									
Road	86	94	92	98	100	98	96	**89**	**-7**
Footpath	14	6	8	2	0	2	4	**11**	**7**
Base:	***14***	***54***	***63***	***65***	***98***	***51***	***55***	***27***	

- The volume of morning cyclist movements was low throughout the morning shift. There were no notable peaks as cycle volumes reached no higher than 4 at any ten minute interval.

Figure 3.2: Morning Peak Cyclist Frequency

Upper Harbour Drive/Albany Highway 2008 – 2014 (n)



Note: No cyclists were observed riding together in 2014. This compares with 5 per cent (n=3) in 2013 and 12 per cent (n=6) in 2012.

3.3 Evening Peak

Environmental Conditions

- The weather was fine and windy throughout the evening shift.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Evening cyclist volumes at the Upper Harbour Drive/Albany Highway intersection have decreased in 2014 (48 movements, down from 79 movements last year).
- The most common movements in the evening were travelling straight into Albany Highway from Upper Harbour Drive (Movement 1 = 11 movements) and travelling south from Albany Highway onto Upper Harbour Drive (Movement 3 = 11 movements).
- The most noticeable change was at Movement 6 (down 12 movements).

Table 3.3: Evening Cyclist Movements

Upper Harbour Drive/Albany Highway 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	1	20	19	25	20	29	20	**11**	**-9**
2	2	9	5	11	12	31	10	**5**	**-5**
3	3	4	13	10	5	16	18	**11**	**-7**
4	4	6	15	17	28	16	9	**10**	**1**
5	1	2	9	15	11	19	6	**7**	**1**
6	0	3	14	15	15	25	16	**4**	**-12**
Total	**11**	**44**	**75**	**93**	**91**	**136**	**79**	**48**	**-31**

- Over the evening peak, the majority of cyclists using this intersection were adults (90 per cent, up from 82 per cent in 2013).
- Almost all cyclists were wearing a helmet (98 per cent).
- The majority of cyclists were male (90 per cent, unchanged from 2013).
- Nearly all cyclists were riding on the road (94 per cent, down slightly from 99 per cent in 2013).

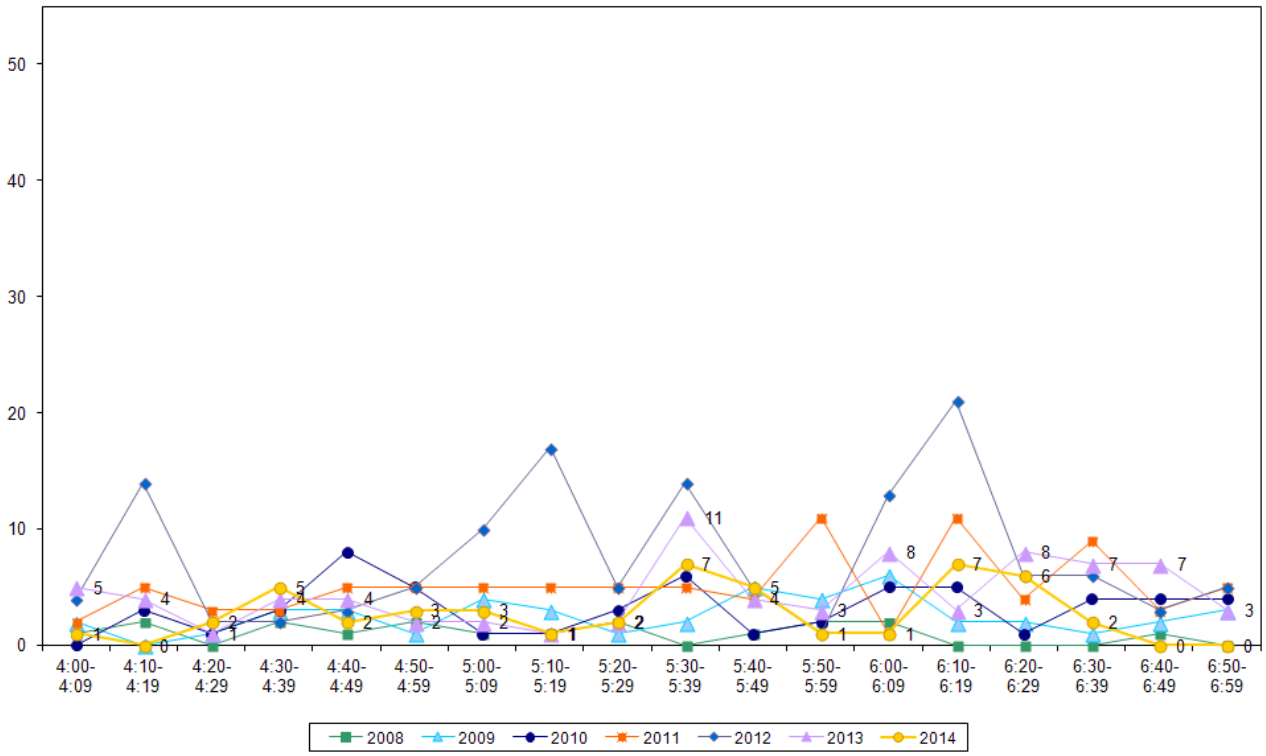
Table 3.4: Evening Cyclist Characteristics

Upper Harbour Drive/Albany Highway 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	100	89	92	94	97	79	82	**90**	**8**
School child	0	11	8	6	3	21	18	**10**	**-8**
Helmet Wearing									
Helmet on head	100	100	99	97	100	100	98	**98**	**0**
No helmet	0	0	1	3	0	0	2	**2**	**0**
Gender									
Male	-	-	-	-	79	68	90	**90**	**0**
Female	-	-	-	-	19	14	9	**10**	**1**
Can't tell	-	-	-	-	2	18	1	**0**	**-1**
Where Riding									
Road	91	84	92	97	97	98	99	**94**	**-5**
Footpath	9	16	8	3	3	2	1	**6**	**5**
Base:	***11***	***44***	***75***	***93***	***91***	***136***	***79***	***48***	

- Cycle movement volumes were varied but remained low throughout the evening monitoring period. Two high traffic periods were recorded - at 5:30pm to 5:39pm and 6:10pm to 6:19pm, each recording 7 cycle movements.

Figure 3.3: Evening Peak Cyclist Frequency
Upper Harbour Drive/Albany Highway 2008 – 2014 (n)

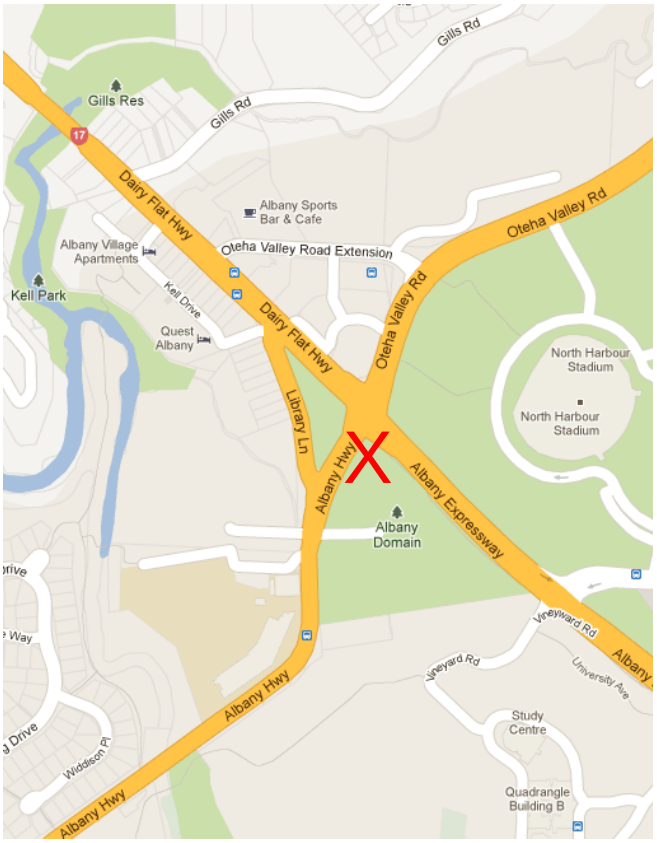


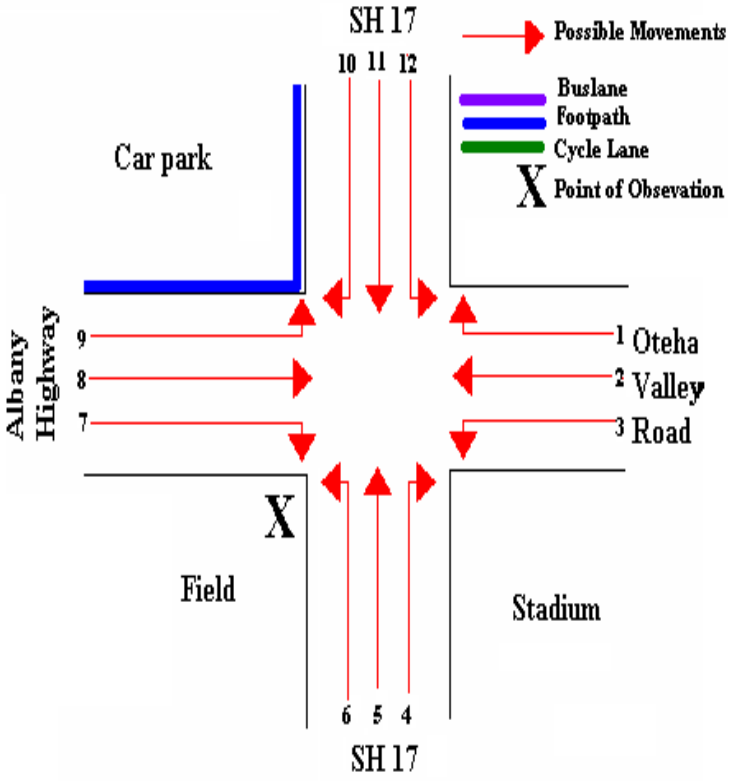
Note: No cyclists were observed riding together at this site in 2014. This compares with 13 per cent (n=10) in 2013.

4. OTEHA VALLEY ROAD/SH17/ALBANY HIGHWAY, ALBANY (SITE 40)

Figure 4.1 shows the possible cyclist movements at this intersection.

Figure 4.1: Cycle Movements: Oteha Valley Road/SH17/Albany Highway





4.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	4	15	19	42
2008	20	28	48	69
2009	25	47	72	103
2010	29	62	91	130
2011	26	56	82	117
2012	40	88	128	182
2013	29	56	85	121
2014	**19**	**41**	**60**	**86**

4.2 Morning Peak

Environmental Conditions

- The weather was mostly fine throughout the morning shift. There was some light rain for approximately 20 minutes between 7:20am and 7:40am.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The volume of cycle movements at the Oteha Valley Road/SH17/Albany Highway intersection has decreased in 2014 (19 cycle movements, compared with 29 movements in 2013).
- The two key movements in the morning were riding west from State Highway 17 onto Albany Highway (Movements 6 = 5 movements) and straight along State Highway 17 heading south-east (Movement 11 = 4 movements).
- Of the 12 movements possible at this site, the most noticeable decrease was at Movement 2 (down 7 movements from 2013).

Table 4.1: Morning Cyclist Movements

Oteha Valley Road/SH17/Albany Highway 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	0	1	0	0	0	0	0	**0**	**0**
2	1	2	7	9	9	9	10	**3**	**-7**
3	1	0	0	2	1	0	2	**1**	**-1**
4	0	1	0	0	0	0	0	**1**	**1**
5	0	0	0	0	1	1	1	**1**	**0**
6	0	6	0	4	3	3	0	**5**	**5**
7	0	0	1	0	1	3	0	**1**	**1**
8	0	4	7	5	4	5	8	**3**	**-5**
9	0	1	0	0	0	10	0	**0**	**0**
10	0	1	4	1	0	6	0	**0**	**0**
11	2	3	6	6	6	3	8	**4**	**-4**
12	0	1	0	2	1	0	0	**0**	**0**
Total	**4**	**20**	**25**	**29**	**26**	**40**	**29**	**19**	**-10**

- Over the morning peak, most cyclists riding through this intersection were adults (95 per cent, stable from 97 per cent in 2013).
- Almost all cyclists were wearing a helmet (95 per cent, down slightly from last year).
- Forty-seven per cent of cyclists were female, a notable increase from 21 per cent the previous year.
- The share of road riders at this site has decreased over the last 12 months – down 28 percentage points to 58 per cent.

Table 4.2: Morning Cyclist Characteristics

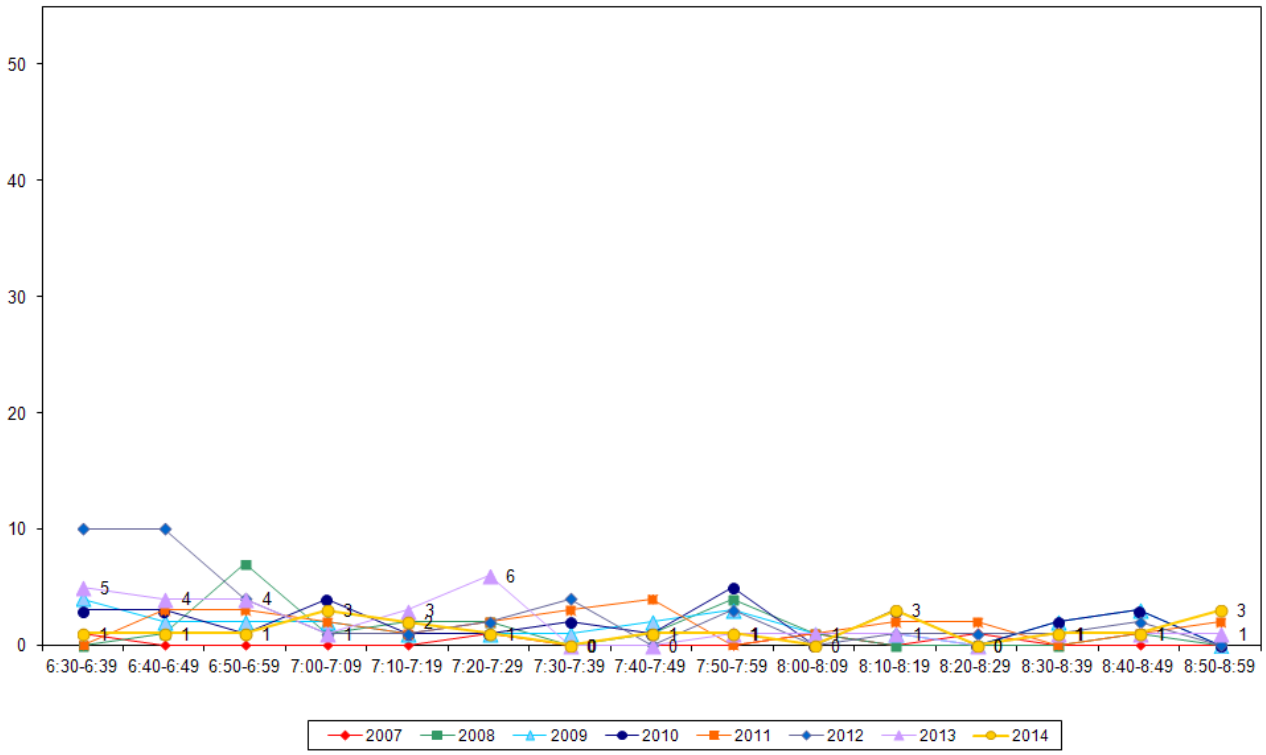
Oteha Valley Road/SH17/Albany Highway 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	100	80	92	83	81	95	97	**95**	**-2**
School child	0	20	8	17	19	5	3	**5**	**2**
Helmet Wearing									
Helmet on head	100	100	88	100	96	100	100	**95**	**-5**
No helmet	0	0	12	0	4	0	0	**5**	**5**
Gender									
Male	-	-	-	-	65	70	79	**48**	**-31**
Female	-	-	-	-	35	30	21	**47**	**26**
Can't tell	-	-	-	-	0	0	0	**5**	**5**
Where Riding									
Road	50	100	92	76	62	90	86	**58**	**-28**
Footpath	50	0	8	24	38	10	14	**42**	**28**
Base:	***4***	***20***	***25***	***29***	***26***	***40***	***29***	***19***	

- Similar to previous years, morning cyclist movement volumes were low over the entire monitoring period with no more than three cycle movements were observed during any ten minute period.

Figure 4.2: Morning Peak Cyclist Frequency

Oteha Valley Road/SH17/Albany Highway 2007 – 2014 (n)



4.3 Evening Peak

Environmental Conditions

- The weather was fine and windy at the start of the shift and gradually became overcast around 5:15pm. It remained overcast for the remainder of the monitoring period
- There were no road works or accidents that may affect cycle counts.

Key Points

- Evening cyclist movements at the Oteha Valley Road/SH17/Albany Highway intersection have recorded a decrease in 2014 (41 movements, down from 56 movements in 2013).
- The most common movement in the evening was riding straight along Albany Highway into Oteha Valley Road (Movement 8 = 16 movements).
- The most noticeable changes in evening cyclist movement volumes occurred at Movement 8 and Movement 3 (each down 9 movements).

Table4.3: Evening Cyclist Movements

Oteha Valley Road/SH17/Albany Highway 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	0	2	2	0	0	0	1	**0**	**-1**
2	1	5	3	6	5	13	6	**5**	**-1**
3	0	0	1	4	2	9	10	**1**	**-9**
4	1	1	1	3	0	2	1	**1**	**0**
5	4	5	5	4	3	3	3	**4**	**1**
6	1	1	3	1	2	4	1	**5**	**4**
7	1	3	10	9	5	7	0	**1**	**1**
8	1	4	12	25	27	36	25	**16**	**-9**
9	0	1	1	1	0	0	0	**2**	**2**
10	3	3	4	6	3	3	3	**3**	**0**
11	3	3	5	1	7	8	3	**2**	**-1**
12	0	0	0	2	2	3	3	**1**	**-2**
Total	**15**	**28**	**47**	**62**	**56**	**88**	**56**	**41**	**-15**

- Most cyclists using this site were adults (98 per cent, unchanged from 2013).
- All cyclists were wearing a helmet (100 per cent, up slightly from 96 per cent in 2013).
- The majority of cyclists were male (68 per cent, down from 86 per cent in the previous year).
- Consistent with the morning peak, the share of road riders has decreased slightly (from 89 per cent to 85 per cent this year).

Table 4.4: Evening Cyclist Characteristics

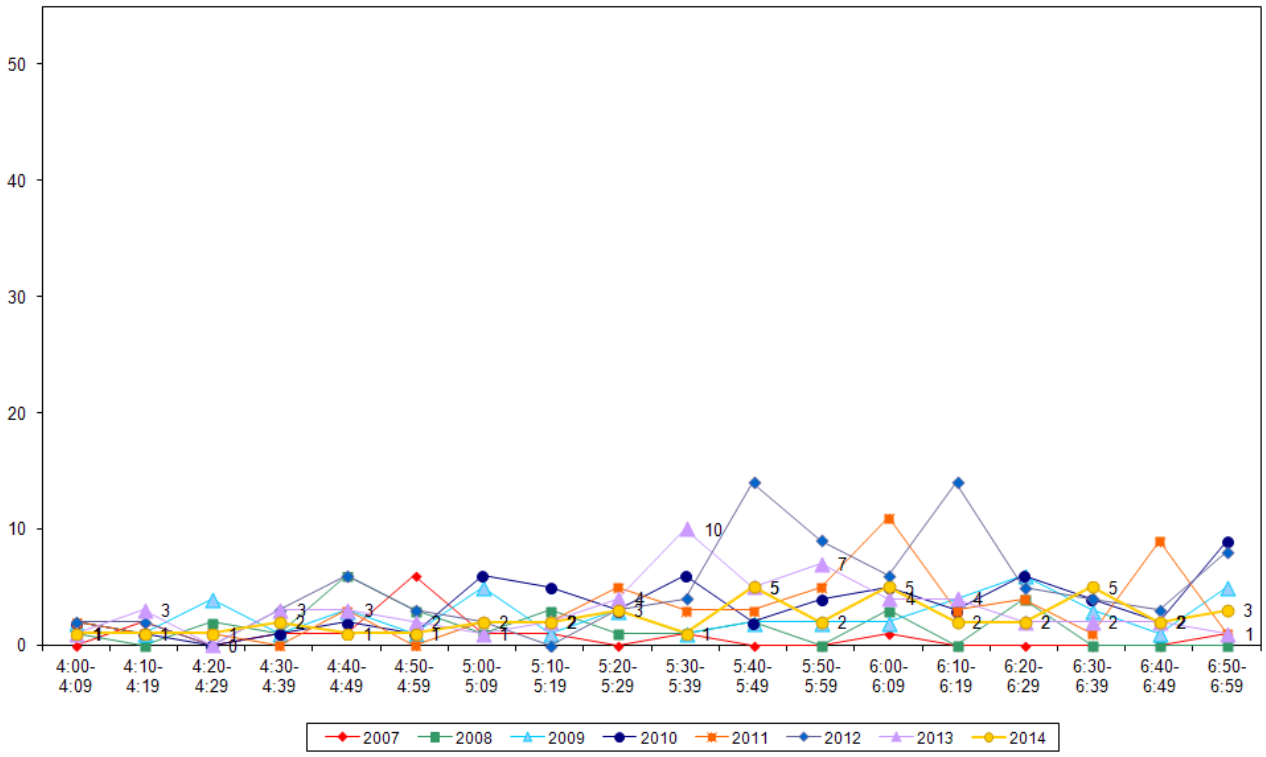
Oteha Valley Road/SH17/Albany Highway 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	100	82	94	94	93	95	98	**98**	**0**
School child	0	18	6	6	7	5	2	**2**	**0**
Helmet Wearing									
Helmet on head	93	89	94	100	98	92	96	**100**	**4**
No helmet	7	11	6	0	2	8	4	**0**	**-4**
Gender									
Male	-	-	-	-	80	83	86	**68**	**-18**
Female	-	-	-	-	20	17	14	**29**	**15**
Can't tell	-	-	-	-	0	0	0	**2**	**3**
Where Riding									
Road	87	100	81	90	84	89	89	**85**	**-4**
Footpath	13	0	19	10	16	11	11	**15**	**4**
Base:	***15***	***28***	***47***	***62***	***56***	***88***	***56***	***41***	

- The volume of evening cyclist movements started low. Small peaks were evident in the second half of the monitoring period at - 5:40pm to 5:49pm, 6:00pm to 6:19pm and 6:30pm to 6:39pm with 5 cyclists recorded in each interval.

Figure 4.3: Evening Peak Cyclist Frequency

Oteha Valley Road/SH17/Albany Highway 2007 – 2014 (n)



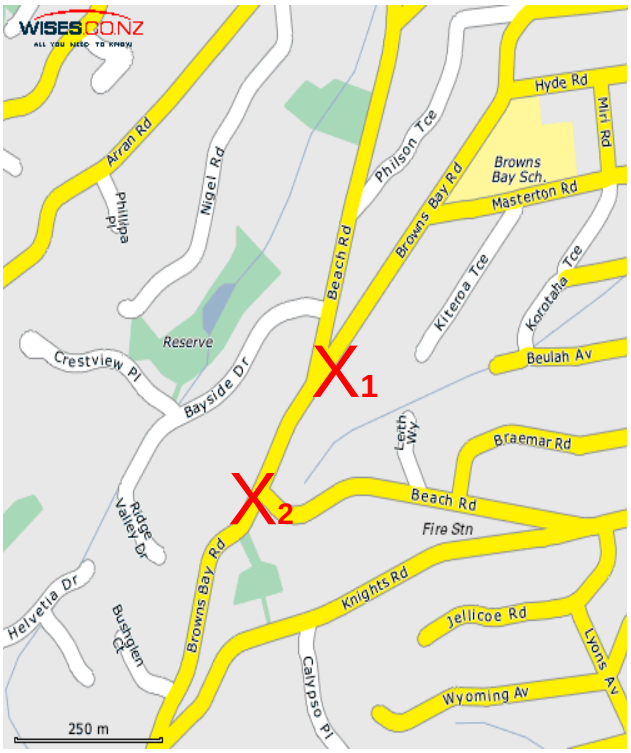
Note: In 2014, 15 per cent of the total cycle movements (n=41) in the evening peak were identified as cycling in groups. Three or more cyclists were observed travelling in groups at this site at the following times:

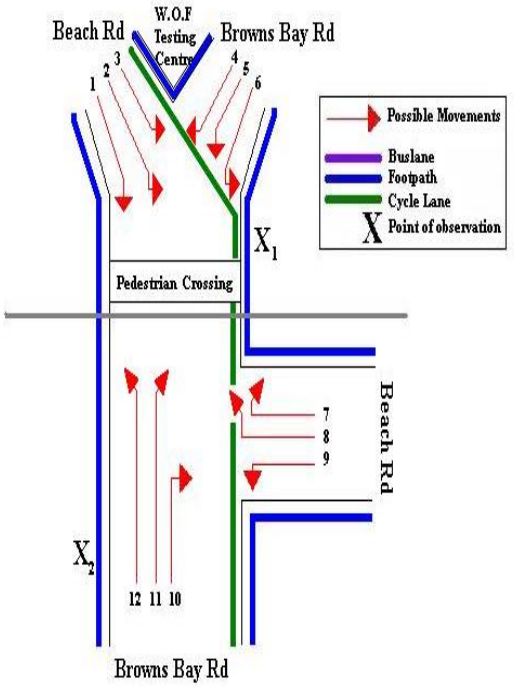
- *3 cyclists at 6:00pm*
- *3 cyclists at 6:30pm.*

5. BEACH ROAD/BROWNS BAY ROAD, ROTHESAY BAY (SITE 45)

Figure 5.1 shows the possible cyclist movements at this intersection. *Note: Due to the size of this intersection, two surveyors were used to conduct the cycle counts.*

Figure 5.1: Cycle Movements: Beach/Browns Bay Road





5.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	11	8	19	44
2008	26	19	45	66
2009	29	30	59	86
2010	50	27	77	114
2011	47	28	75	107
2012	28	33	61	88
2013	43	17	60	89
2014	**27**	**43**	**70**	**101**

5.2 Morning Peak

Environmental Conditions

- The weather was mostly fine throughout the morning shift, with drizzle recorded at 6:30am to 6:38am and 7:23am to 7:27am.
- There were no road works or accidents that may affect cycle counts.

Key Points

- In 2014, the morning cyclist traffic at the intersection of Beach/Browns Bay Road decreased by 16 movements (from 43 movements last year to 27 this year).
- The key movement in the morning was turning right out of Beach Road and continuing north (Movement 8 = 10 movements).
- Morning cyclist volumes at this site increased most noticeably at Movement 8 (up 5 movements) while the most notable decrease was at Movement 2 (down 11 movements).

Table 5.1: Morning Cyclist Movements

Beach/Browns Bay Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	1	4	7	0	1	4	2	**3**	**1**
2	2	4	0	1	8	13	15	**4**	**-11**
3	3	0	0	2	3	1	7	**0**	**-7**
4	3	0	0	1	0	0	2	**0**	**-2**
5	0	4	7	22	20	0	1	**3**	**2**
6	2	3	0	1	0	0	7	**5**	**-2**
7	0	0	5	7	7	2	1	**1**	**0**
8	0	9	6	3	0	2	5	**10**	**5**
9	0	0	0	3	0	1	0	**0**	**0**
10	0	0	0	0	0	0	0	**0**	**0**
11	0	0	3	8	5	4	1	**0**	**-1**
12	0	2	1	2	3	1	1	**1**	**0**
DK	-	-	-	-	-	-	1	**0**	**-1**
Total	**11**	**26**	**29**	**50**	**47**	**28**	**43**	**27**	**-16**

- Over the morning peak in 2014, the share of adult cyclists has greatly increased from last year (96 per cent, compared with 74 per cent in 2013).
- Consistent with last year, all cyclists recorded were wearing a helmet.
- The majority of cyclists were male (93 per cent, unchanged from last year).
- All of the morning cyclists were riding on the road (100 per cent, compared to 77 per cent last year).

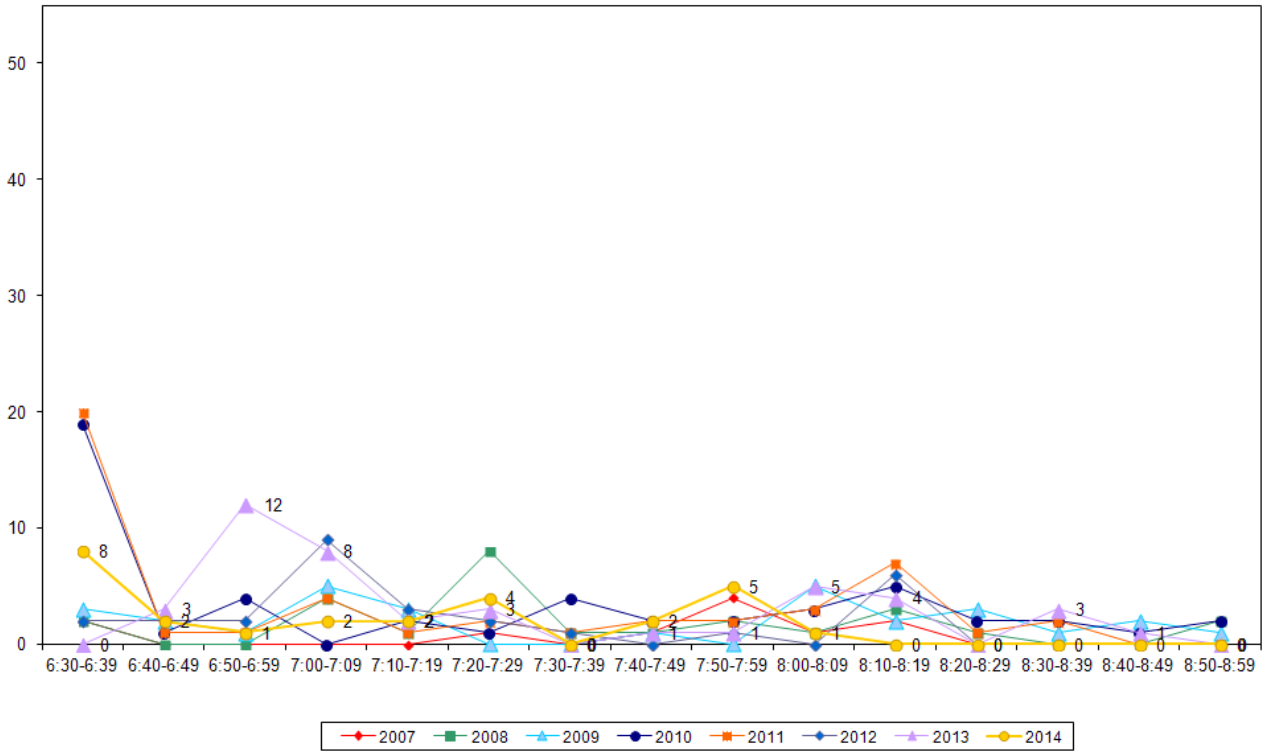
Table 5.2: Morning Cyclist Characteristics

Beach/Browns Bay Road 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	36	88	69	80	74	75	74	**96**	**22**
School child	64	12	31	20	26	25	26	**4**	**-22**
Helmet Wearing									
Helmet on head	91	96	93	98	100	96	100	**100**	**0**
No helmet	9	4	7	2	0	4	0	**0**	**0**
Gender									
Male	-	-	-	-	94	96	93	**93**	**0**
Female	-	-	-	-	6	4	7	**7**	**0**
Can't tell	-	-	-	-	0	0	0	**0**	**0**
Where Riding									
Road	45	88	42	80	74	79	77	**100**	**23**
Footpath	55	12	34	6	26	21	23	**0**	**-23**
Off-road cycleway	-	-	24	14	0	0	0	**0**	**0**
Base:	***11***	***26***	***29***	***50***	***47***	***28***	***43***	***27***	

- Similar to previous years, the volume of morning cyclist movements peaked at the beginning of the shift, with 8 movements between 6:30am and 6:39am. Cycle volume remained low over the middle part of the monitoring period, before coming to a small peak of five movements from 7:50am to 7:59am. This compares to the peaks between 6:50am and 6:59 am (12 movements) and between 8:00am and 8:09am (5 movements) last year.

Figure 5.2: Morning Peak Cyclist Frequency
Beach/Browns Bay Road 2007 – 2014 (n)



Note: No cyclists were recorded as riding in groups in 2014. This compares with 33 per cent (n-14) in 2013 and 14 per cent (n=4) in 2012.

5.3 Evening Peak

Environmental Conditions

- The weather was fine and windy throughout the monitoring period.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The volume of cycle movements at the Beach/Browns Bay Road intersection has more than doubled compared to last year (43 movements, up from 17 in 2013).
- The key movement in the evening was riding north along Browns Bay Road turning left into Beach Road (Movement 12 = 13 movements).
- Compared with last year, the volume of evening cyclists heading north from Browns Bay Road has notably increased (Movement 11, up 7 cyclists and Movement 12, up 8 cyclists).

Table 5.3: Evening Cyclist Movements

Beach/Browns Bay Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	1	3	4	4	3	2	1	**5**	**4**
2	0	2	0	3	1	2	1	**5**	**4**
3	3	1	0	0	3	1	0	**0**	**0**
4	0	0	0	0	2	2	0	**0**	**0**
5	0	2	13	3	1	3	2	**1**	**-1**
6	0	1	0	2	1	2	1	**0**	**-1**
7	1	1	4	1	3	1	2	**2**	**0**
8	0	1	4	3	2	5	5	**6**	**1**
9	0	0	0	1	3	0	0	**0**	**0**
10	0	0	0	0	0	1	0	**4**	**4**
11	3	4	3	5	2	5	0	**7**	**7**
12	0	4	2	5	7	9	5	**13**	**8**
Total	**8**	**19**	**30**	**27**	**28**	**33**	**17**	**43**	**26**

- Most cyclists were adults (88 per cent, unchanged from 2013).
- The majority of cyclists were wearing a helmet (down to 88 per cent this year).
- Eighty-six per cent of evening cyclists were male. The share of female cyclists has increased by six percentage points compared to last year.
- Two-thirds of cyclists were riding on the road (67 per cent, down slightly from 71 per cent at the previous measure). The remaining 33 per cent of cyclists were riding on the footpath.

Table 5.4: Evening Cyclist Characteristics

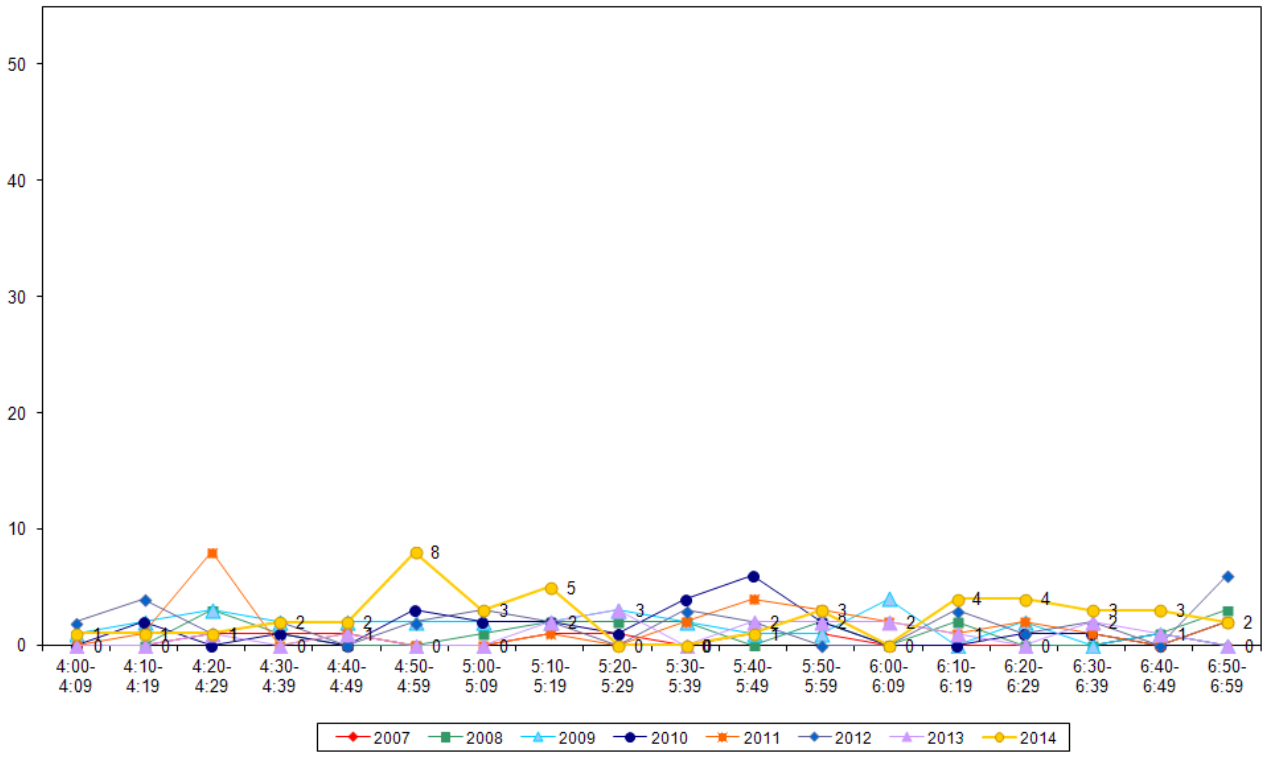
Beach/Browns Bay Road 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	100	58	60	85	82	91	88	**88**	**0**
School child	0	42	40	15	18	9	12	**12**	**0**
Helmet Wearing									
Helmet on head	100	95	100	89	96	91	100	**88**	**-12**
No helmet	0	5	0	11	4	9	0	**12**	**12**
Gender									
Male	-	-	-	-	89	88	94	**86**	**-8**
Female	-	-	-	-	11	9	6	**12**	**6**
Can't tell	-	-	-	-	0	3	0	**2**	**2**
Where Riding									
Road	87	63	33	81	75	76	71	**67**	**-4**
Footpath	13	37	44	15	25	24	29	**33**	**4**
Off-road cycleway	-	-	23	4	0	0	0	**0**	**0**
Base:	***8***	***19***	***30***	***27***	***28***	***33***	***17***	***43***	

- Evening cyclist movement volumes were relatively low at the beginning of the monitoring period. Cycle traffic increased towards the end of the morning peak. A peak in cycle movements was also recorded at 4:50pm to 4:59pm with 8 cyclists observed during this period.

Figure 5.3: Evening Peak Cyclist Frequency

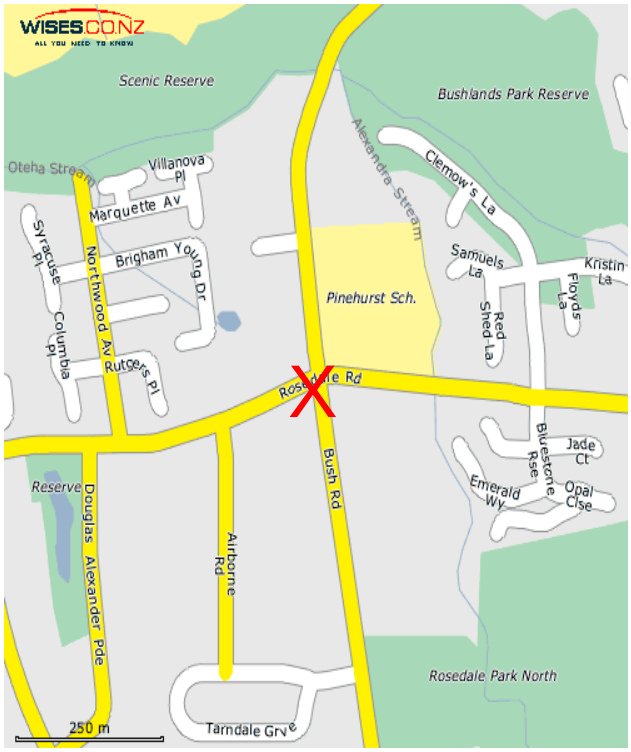
Beach/Browns Bay Road 2007 – 2014 (n)

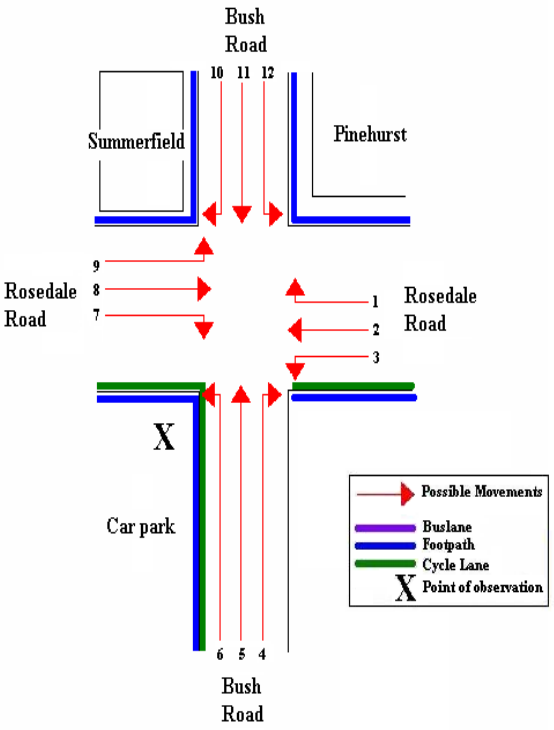


6. ROSEDALE ROAD/BUSH ROAD, ALBANY (SITE 46)

Figure 6.1 shows the possible cyclist movements at this intersection.

Figure 6.1: Cycle Movements: Rosedale/Bush Road





6.1 Site Summary

	Raw Counts			*AADT*
	Morning Peak	***Evening Peak***	***Total***	***Total***
2007	15	16	31	70
2008	36	37	73	106
2009	26	46	72	103
2010	48	61	109	157
2011	29	56	85	121
2012	22	41	63	90
2013	43	57	100	144
2014	**22**	**58**	**81**	**114**

6.2 Morning Peak

Environmental Conditions

- The weather was generally fine throughout the morning shift, with light drizzle recorded at 6:33am to 6:35am and 7:16am to 7:24am.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Since last year, the volume of morning cyclists at the Rosedale/Bush Road intersection has decreased, from 43 in 2013 to 22 movements this year.
- The most common movement in the morning was from the eastern side of Rosedale Road turning left and heading south down Bush Road (Movement 3 = 5 cyclists).
- The most noticeable change since last year was at Movements 2 (down 8 cyclists).

Table 6.1: Morning Cyclist Movements

Rosedale/Bush Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	0	1	0	2	1	0	3	**0**	**-3**
2	8	6	13	16	9	6	11	**3**	**-8**
3	0	1	1	1	3	2	1	**5**	**4**
4	0	1	0	2	3	1	1	**0**	**-1**
5	4	3	1	6	2	2	3	**1**	**-2**
6	0	12	2	5	4	1	4	**2**	**-2**
7	0	0	0	0	0	0	0	**0**	**0**
8	0	3	3	5	2	3	9	**3**	**-6**
9	0	2	0	4	0	2	5	**0**	**-5**
10	3	3	3	2	2	1	3	**3**	**0**
11	0	2	2	4	2	3	3	**3**	**0**
12	0	2	1	1	1	1	0	**1**	**1**
Don't know	0	0	0	0	0	0	0	**1**	**1**
Total	**15**	**36**	**26**	**48**	**29**	**22**	**43**	**22**	**-21**

- Over the morning peak, a high percentage of cyclists at this site were adults (91 per cent, an increase from 84 per cent last year).
- All cyclists were wearing a helmet (100 per cent, up from 95 per cent in 2014).
- The majority of cyclists continued to be male (77 per cent, down from 91 per cent last year).
- Most cyclists were riding on the road (73 per cent, down from 91 per cent last year).

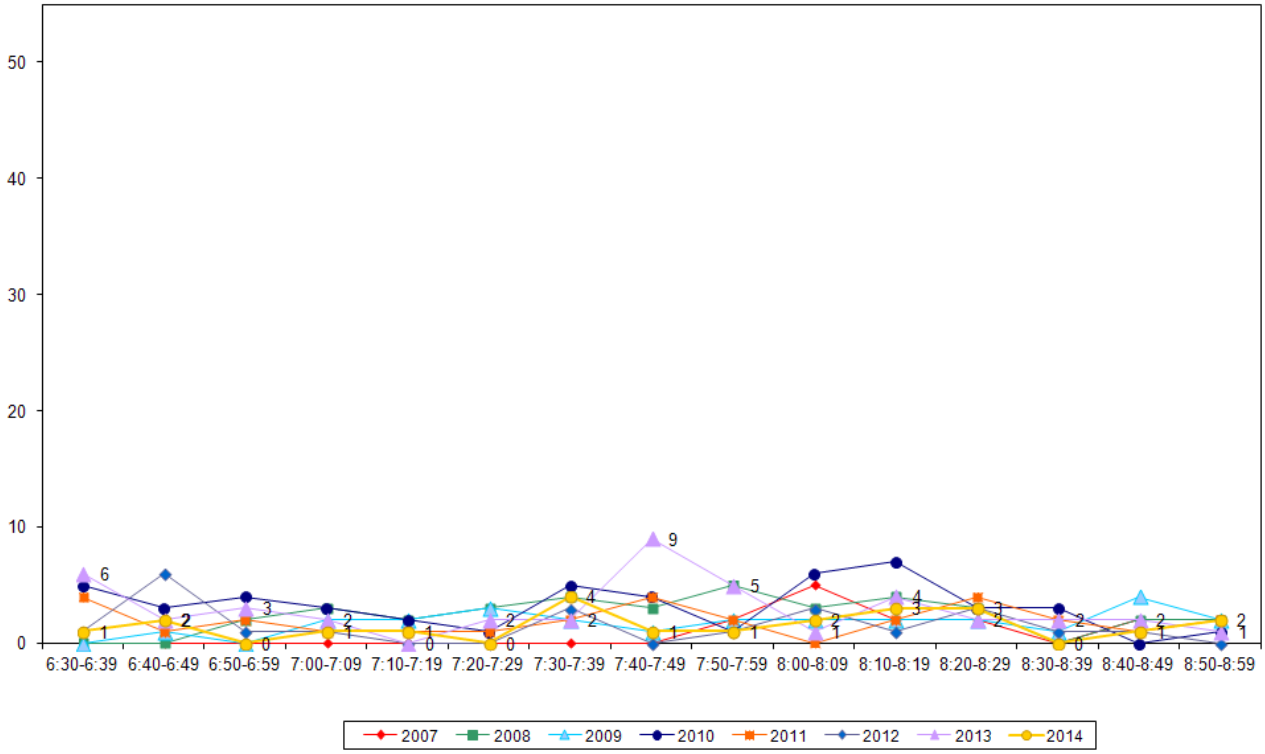
Table 6.2: Morning Cyclist Characteristics

Rosedale/Bush Road 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	40	81	81	81	93	82	84	**91**	**7**
School child	60	19	19	19	7	18	16	**9**	**-7**
Helmet Wearing									
Helmet on head	100	92	92	96	97	95	95	**100**	**5**
No helmet	0	8	8	4	3	5	5	**0**	**-5**
Gender									
Male	-	-	-	-	69	86	91	**77**	**-14**
Female	-	-	-	-	24	14	9	**14**	**5**
Can't tell	-	-	-	-	7	0	0	**9**	**9**
Where Riding									
Road	33	61	69	73	83	82	91	**73**	**-18**
Footpath	67	39	31	27	17	18	9	**27**	**18**
Base:	***15***	***36***	***26***	***48***	***29***	***22***	***43***	***22***	

- Consistent with the trends in previous years, cyclist volumes were low throughout most of the monitoring period. This year, no more than four cyclists were observed during each ten minute interval throughout the monitoring period.

Figure 6.2: Morning Peak Cyclist Frequency
Rosedale/Bush Road 2007 – 2014 (n)



Note: No cyclists were observed riding together in 2014. This compares with 11 per cent (n=6) in 2013.

6.3 Evening Peak

Environmental Conditions

- The weather was fine throughout the monitoring period. After 5:15pm the wind grew stronger for the remainder of the shift.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The total number of cycle movements recorded at the Rosedale/Bush Road intersection over the evening shift has remained stable at 58 cyclists (compared to 57 last year).
- The key evening movements were travelling straight along Rosedale Road heading west (Movement 2 = 13 movements) and heading north along Bush Road, turning right into Rosedale Road to the east (Movement 4 = 11 movements).
- The most noticeable change since 2013 was at Movement 4 (up 10 cyclist movements).

Table 6.3: Evening Cyclist Movements

Rosedale/Bush Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	1	1	2	0	2	0	1	**4**	**3**
2	1	10	8	9	16	6	15	**13**	**-2**
3	0	5	2	1	3	2	3	**4**	**1**
4	0	1	1	6	3	1	1	**11**	**10**
5	2	4	2	12	6	5	1	**3**	**2**
6	3	5	0	7	4	6	4	**5**	**1**
7	0	0	3	2	0	2	1	**0**	**-1**
8	4	3	6	4	4	7	14	**7**	**-7**
9	0	1	2	3	1	2	2	**3**	**1**
10	1	3	14	5	2	2	5	**3**	**-2**
11	3	3	3	6	13	5	8	**4**	**-4**
12	1	1	3	6	2	3	2	**1**	**-1**
Total	**16**	**37**	**46**	**61**	**56**	**41**	**57**	**58**	**1**

- Consistent with the previous measure, the majority of evening cyclists using this intersection are adults (88 per cent, up from 84 per cent in 2013).
- Helmet wearing remains prevalent (95 per cent, unchanged last year).
- The greatest share of cyclists continued to be male (64 per cent, down from 82 per cent last year).
- Thirty-eight per cent of cyclists were riding on the footpath (up from 28 per cent last year).

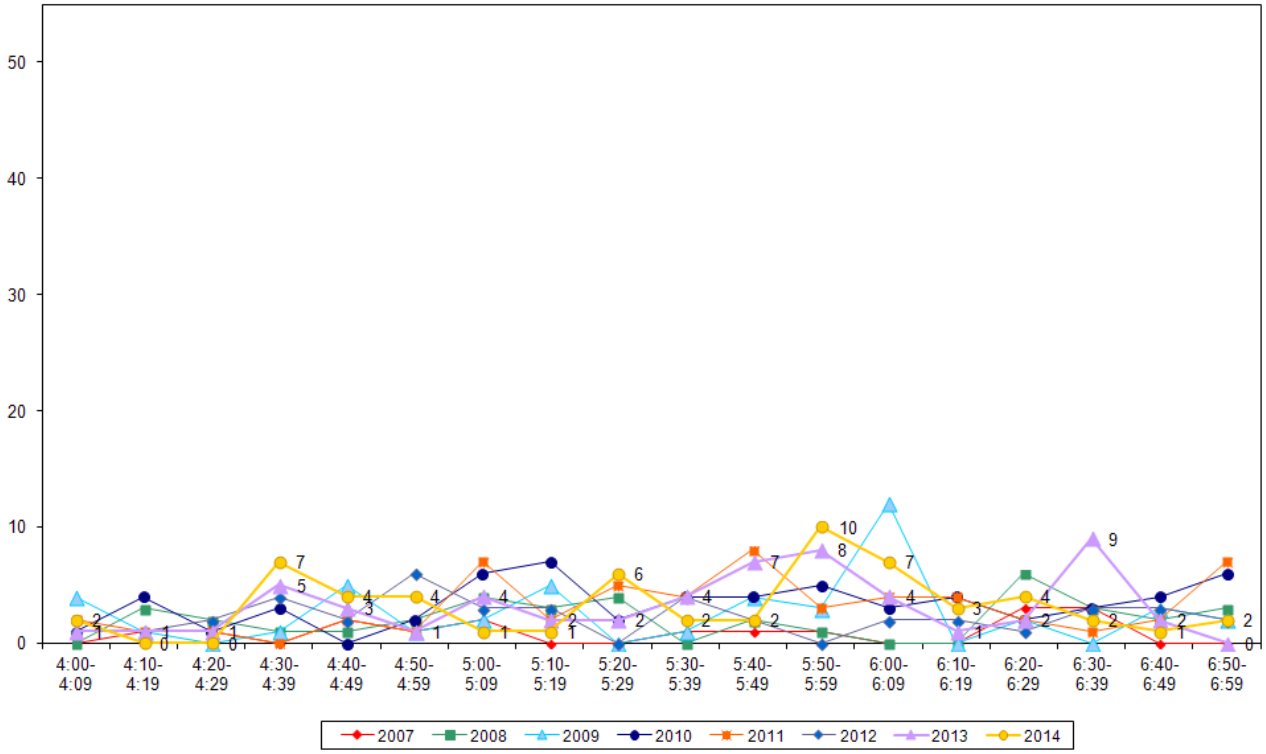
Table 6.4: Evening Cyclist Characteristics

Rosedale/Bush Road 2007 – 2014 (%)

	2007	***2008***	***2009***	***2010***	***2011***	***2012***	***2013***	***2014***	**Change 13-14**
Cyclist Type									
Adult	81	78	76	80	95	80	84	**88**	**4**
School child	19	22	24	20	5	20	16	**12**	**-4**
Helmet Wearing									
Helmet on head	94	92	93	84	98	93	95	**95**	**0**
No helmet	6	8	7	16	2	7	5	**5**	**0**
Gender									
Male	-	-	-	-	88	93	82	**64**	**-18**
Female	-	-	-	-	13	7	18	**34**	**16**
Can't tell	-	-	-	-	0	0	0	**2**	**2**
Where Riding									
Road	62	76	61	69	84	85	72	**62**	**-10**
Footpath	38	24	39	31	16	15	28	**38**	**10**
Base:	***16***	***37***	***46***	***61***	***56***	***41***	***57***	***58***	

- Cyclist volumes were low in the first half of the monitoring period, with the exception of a small peak of 7 cyclists at 4:30pm to 4:39pm. Cycle traffic was heavier in the second half of the shift, with a notable peak at 5:50pm to 5:59pm with 10 cyclists observed.

Figure 6.3: Evening Peak Cyclist Frequency
Rosedale/Bush Road 2007 – 2014 (n)



Note: In 2014, 21 per cent of the total cycle movements (n=58) in the evening peak were identified as cycling in groups. Three or more cyclists were observed travelling in groups at this site at the following times:

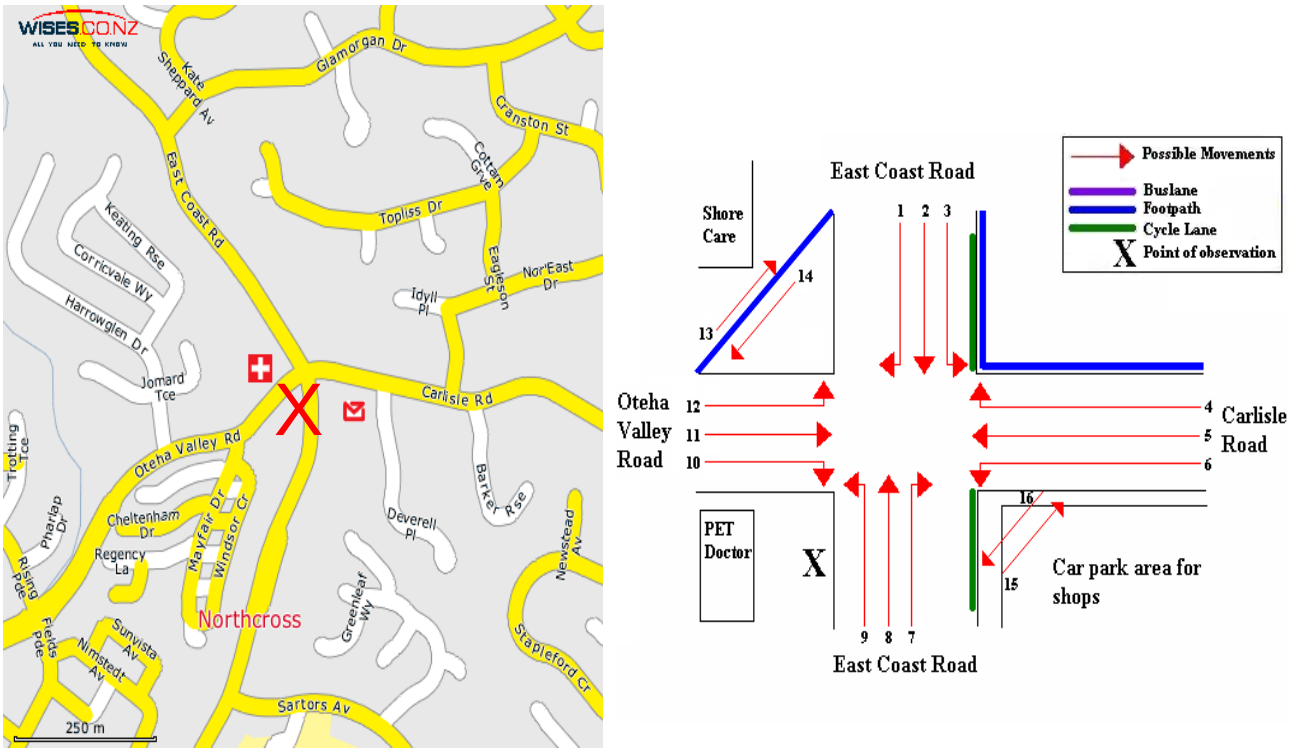
- *4 cyclists at 4:34pm*
- *4 cyclists at 5:23pm*
- *4 cyclists at 5:55pm.*

This compares with no cyclists riding as a group in 2013.

7. OTEHA VALLEY ROAD/EAST COAST ROAD, ALBANY (SITE 47)

Figure 7.1 shows the possible cyclist movements at this intersection.

Figure 7.1: Cycle Movements: Oteha Valley/East Coast Road



7.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	42	17	59	137
2008	40	74	114	163
2009	69	69	138	201
2010	87	81	168	245
2011	53	76	129	186
2012	68	69	137	199
2013	60	46	106	155
2014	**56**	**47**	**103**	**150**

7.2 Morning Peak

Environmental Conditions

- The weather was cloudy throughout the majority of the monitoring period. Rain was recorded at several periods during the shift; 6:32am to 6:40am, 7:23am to 7:30am and 7:35am to 7:49am.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Compared to last year, the volume of morning cyclists at the Oteha Valley/East Coast Road intersection has slightly decreased, from 60 movements last year to 56 movements this year.
- The most common movement in the morning continued to be cycling straight through East Coast Road north to south (Movement 2 = 13 cyclists, down from 20 in 2013).

Table 7.1: Morning Cyclist Movements

Oteha Valley/East Coast Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	2	0	1	4	6	2	1	**6**	**5**
2	16	14	18	29	8	24	20	**13**	**-7**
3	2	0	0	0	0	0	0	**2**	**2**
4	3	0	3	4	1	0	1	**1**	**0**
5	3	3	4	4	8	6	8	**4**	**-4**
6	8	3	15	8	16	13	11	**10**	**-1**
7	0	0	1	3	1	0	0	**0**	**0**
8	1	3	4	8	0	7	7	**2**	**-5**
9	1	2	2	7	3	3	3	**4**	**1**
10	0	6	5	8	5	2	6	**2**	**-4**
11	0	1	1	4	1	4	0	**2**	**2**
12	0	1	2	0	0	1	2	**0**	**-2**
13	0	0	0	1	0	0	0	**0**	**0**
14	0	0	0	0	1	1	0	**0**	**0**
15	1	1	2	1	1	2	0	**2**	**2**
16	5	6	11	6	2	3	1	**8**	**7**
Total	**42**	**40**	**69**	**87**	**53**	**68**	**60**	**56**	**-4**

- Over the morning peak, the greatest share of cyclists was adults (64 per cent, down from 88 per cent in 2013).
- Almost all cyclists were wearing a helmet (93 per cent).
- Two-thirds of cyclists were recorded as male (70 per cent). However, the share of female cyclists has been increasing since 2011.
- Fifty-two per cent of cyclists are riding on the footpath (up from 13 per cent in 2013).

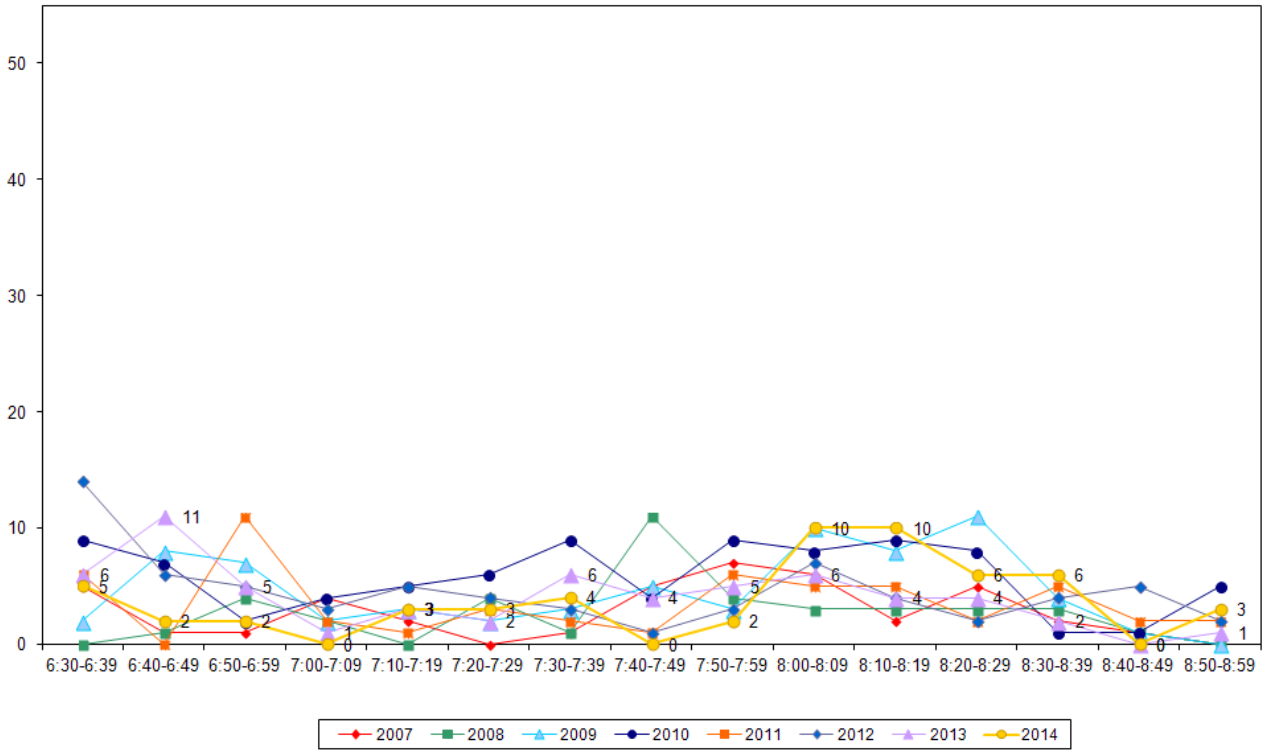
Table 7.2: Morning Cyclist Characteristics

Oteha Valley/East Coast Road 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	48	68	59	64	74	78	88	**64**	**-24**
School child	52	32	41	36	26	22	12	**36**	**24**
Helmet Wearing									
Helmet on head	95	90	97	98	96	98	100	**93**	**-7**
No helmet	5	10	3	2	4	2	0	**7**	**7**
Gender									
Male	-	-	-	-	79	74	68	**70**	**2**
Female	-	-	-	-	15	18	27	**30**	**3**
Can't tell	-	-	-	-	6	8	5	**0**	**-5**
Where Riding									
Road	62	60	59	70	62	74	87	**48**	**-39**
Footpath	38	40	41	30	38	26	13	**52**	**39**
Base:	***42***	***40***	***69***	***87***	***53***	***68***	***60***	***56***	

- Morning cycle volumes started off relatively low, with five or less cyclists recorded at any ten minute interval in the first half of the shift. A sharp peak is evident towards the second half of the shift, between 8:00am to 8:09am and 8:10am to 8:19am with 20 cyclists recorded (10 movements at each interval). Cycle activity then decreased for the remainder of the shift.

Figure 7.2: Morning Peak Cyclist Frequency
Oteha Valley/East Coast Road 2007 – 2014 (n)



Note: In 2014, 4 cyclists (7 per cent of all morning peak cycle movements at this site) were observed riding together at 8:15am. This compares with no cyclists observed riding together in 2013.

7.3 Evening Peak

Environmental Conditions

- The weather was fine throughout the evening monitoring period.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The total number of evening cycle movements recorded at the Oteha Valley/East Coast Road intersection has remained stable, from 46 movements last year to 47 movements in 2014.
- The key evening movements were Movement 8, Movement 11 and Movement 12, with the three movements recording eight cyclists each.
- The most noticeable decrease this year was at Movement 8 (down 6 cyclists) while the most noticeable increase was Movement 12 (up 5 cycles).

Table 7.3: Evening Cyclist Movements

Oteha Valley/East Coast Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	0	6	0	2	2	1	1	**1**	**0**
2	3	13	3	10	17	7	2	**5**	**3**
3	1	3	4	3	3	3	3	**2**	**-1**
4	0	2	1	1	3	1	1	**0**	**-1**
5	0	3	4	6	4	6	0	**3**	**3**
6	1	3	6	7	3	4	3	**0**	**-3**
7	2	6	10	12	6	7	3	**3**	**0**
8	5	15	12	14	14	13	14	**8**	**-6**
9	1	3	6	3	5	9	5	**5**	**0**
10	0	3	2	3	2	4	2	**1**	**-1**
11	1	6	7	9	6	5	8	**8**	**0**
12	2	8	4	0	2	7	3	**8**	**5**
13	0	0	0	4	7	0	0	**0**	**0**
14	0	0	0	0	0	0	0	**0**	**0**
15	1	1	7	4	2	2	1	**3**	**2**
16	0	2	3	3	0	0	0	**0**	**0**
Total	**17**	**74**	**69**	**81**	**76**	**69**	**46**	**47**	**1**

- Over the evening peak, the majority of cyclists using this site were adults (94 per cent, up from 91 per cent in 2013).
- Most cyclists were wearing a helmet (98 per cent, unchanged from 2013).
- Seventy-nine per cent of the cyclists were male (a 10 per cent decrease from last year).
- Seventy-four per cent of cyclists were riding on the road (a 13 percentage point decrease from last year).

Table 7.4: Evening Cyclist Characteristics

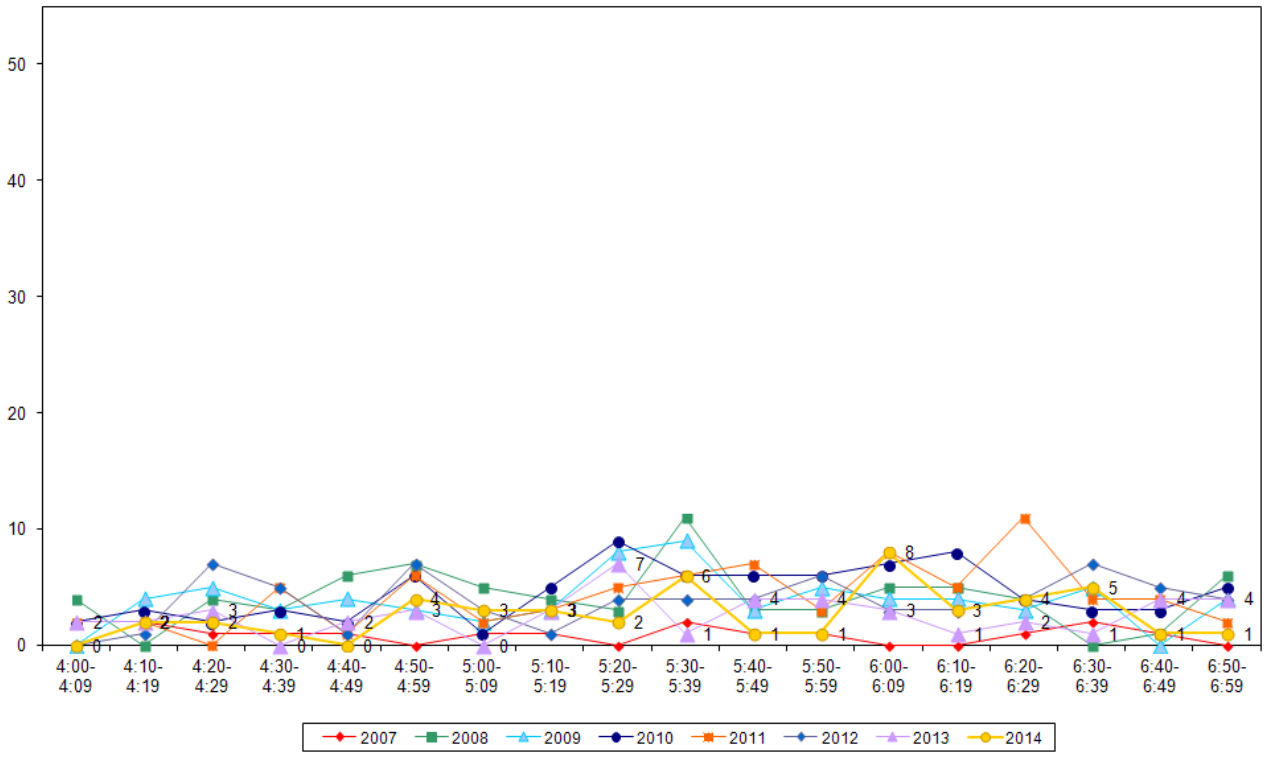
Oteha Valley/East Coast Road 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	76	81	75	80	91	80	91	**94**	**3**
School child	24	19	25	20	9	20	9	**6**	**-3**
Helmet Wearing									
Helmet on head	88	96	94	90	96	93	98	**98**	**0**
No helmet	12	4	6	10	4	7	2	**2**	**0**
Gender									
Male	-	-	-	-	93	89	89	**79**	**-10**
Female	-	-	-	-	7	10	11	**21**	**10**
Can't tell	-	-	-	-	0	1	0	**0**	**0**
Where Riding									
Road	71	72	74	67	83	75	87	**74**	**-13**
Footpath	29	28	26	33	17	25	13	**26**	**13**
Base:	***17***	***74***	***69***	***81***	***76***	***69***	***46***	***47***	

- The volume of cycle movements was low throughout the evening period, with two small peaks between 5:30pm and 5:39pm (6 movements) and between 6:00pm and 6:09pm (8 movements). The overall trend remained fairly consistent with previous years.

Figure 7.3: Evening Peak Cyclist Frequency

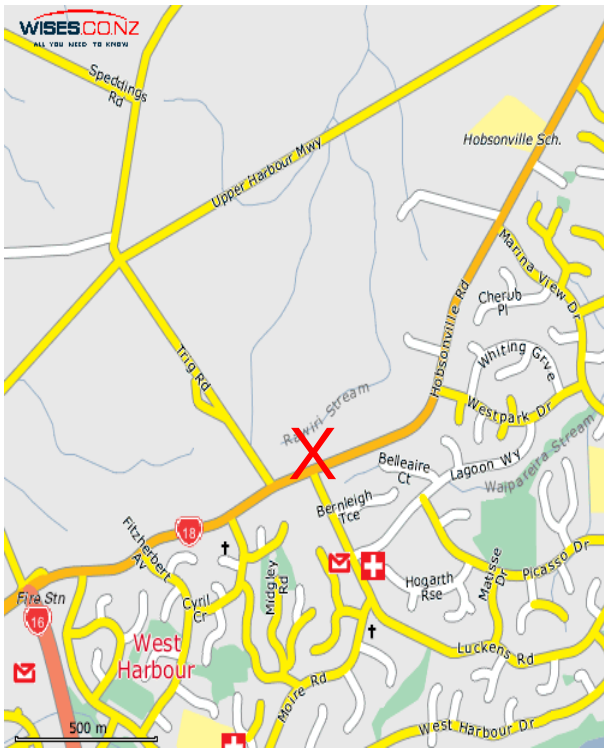
Oteha Valley/East Coast Road 2007 – 2014 (n)

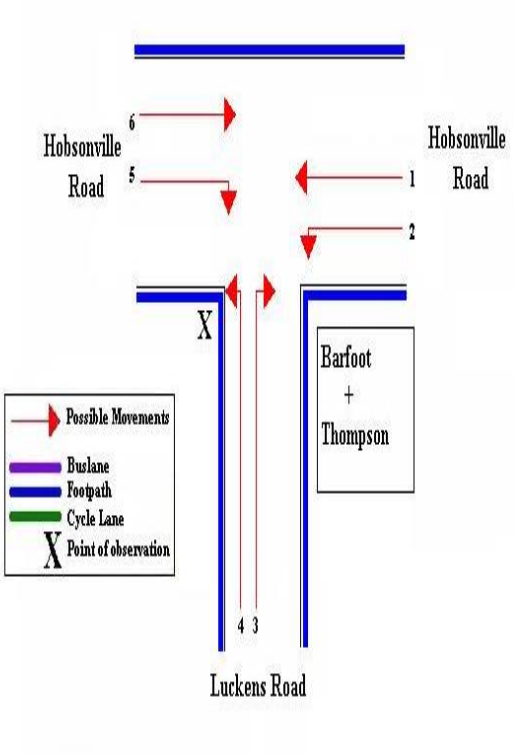


8. LUCKENS ROAD/HOBSONVILLE ROAD, WEST HARBOUR (SITE 51)

Figure 8.1 shows the possible cyclist movements at this intersection.

Figure 8.1: Cycle Movement: Luckens Road/Hobsonville Road





8.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	20	12	32	47
2008	25	16	41	60
2009	26	51	77	110
2010	41	54	95	137
2011	14	38	52	74
2012	42	70	112	161
2013	44	60	104	150
2014	**17**	**24**	**41**	**59**

8.2 Morning Peak

Environmental Conditions

- The weather was overcast throughout the morning shift. Heavy showers were reported at 6:20am to 6:30am and light drizzle at 8:32am.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The volume of morning cyclists at the Luckens/Hobsonville Road intersection has decreased notably this year (17 cycle movements, compared with 44 movements in 2013).
- The key decrease at this site was travelling straight along Hobsonville Road heading southwest (Movement 1 down 10 cyclists).
- Four cyclists were recorded each at Movement 1, Movement 4 and Movement 6.

Table 8.1: Morning Cyclist Movements

Luckens/Hobsonville Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	5	3	7	7	7	15	14	**4**	**-10**
2	3	8	9	9	4	11	10	**3**	**-7**
3	2	7	1	6	0	3	3	**0**	**-3**
4	2	3	6	7	2	5	10	**4**	**-6**
5	0	2	2	1	0	1	0	**1**	**1**
6	8	2	1	11	1	7	7	**4**	**-3**
Don't know	0	0	0	0	0	0	0	**1**	**1**
Total	**20**	**25**	**26**	**41**	**14**	**42**	**44**	**17**	**-27**

- Over the morning peak, every cyclist was recorded as an adult (stable from 98 per cent in 2013).
- All cyclists were wearing a helmet (stable from 98 per cent of cyclists in 2013).
- The majority of cyclists recorded were male (88 per cent, stable from 90 per cent last year).
- Almost all of the cyclists were riding on the road (94 per cent, a 4 percentage point decrease from 2013).

Table 8.2: Morning Cyclist Characteristics

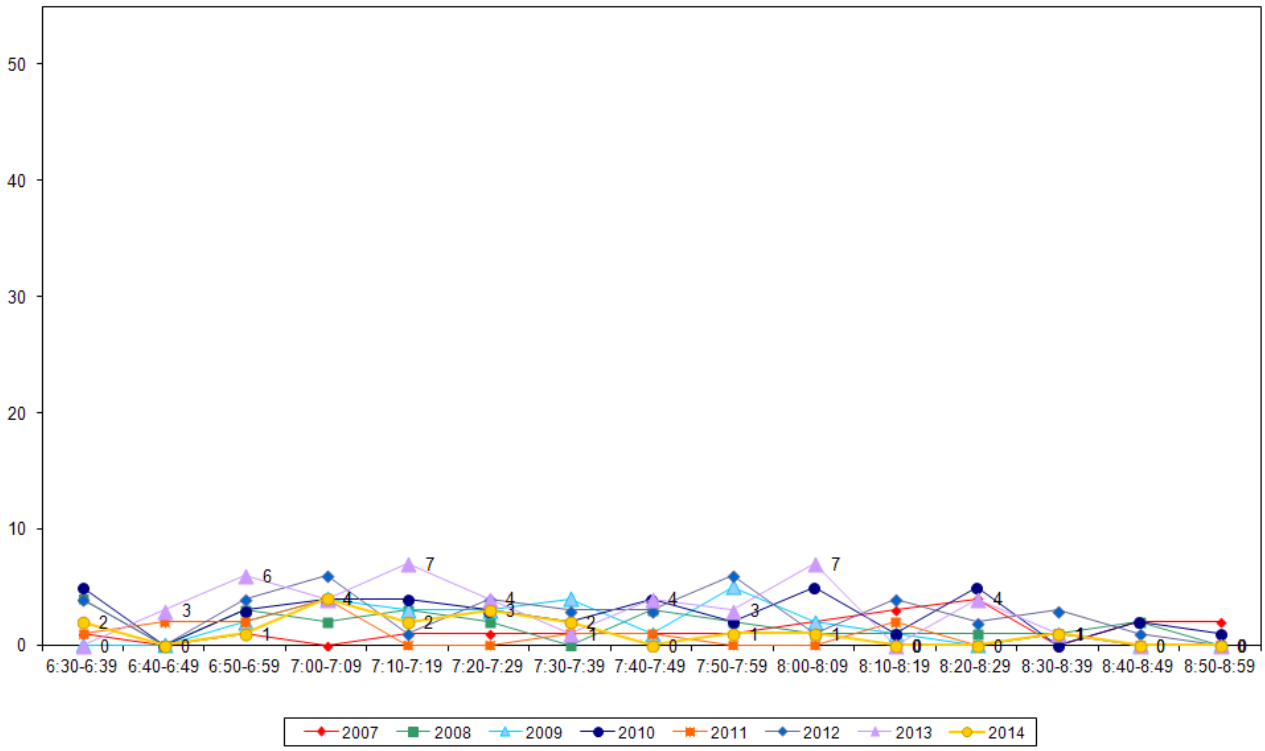
Luckens/Hobsonville Road 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	75	88	88	83	86	93	98	**100**	**2**
School child	25	12	12	17	14	7	2	**0**	**-2**
Helmet Wearing									
Helmet on head	100	100	96	98	93	95	98	**100**	**2**
No helmet	0	0	4	2	7	5	2	**0**	**-2**
Gender									
Male	-	-	-	-	100	83	90	**88**	**-2**
Female	-	-	-	-	0	17	5	**12**	**7**
Can't tell	-	-	-	-	0	0	5	**0**	**-5**
Where Riding									
Road	70	80	81	80	79	86	98	**94**	**-4**
Footpath	30	20	19	20	21	14	2	**6**	**4**
Base:	***20***	***25***	***26***	***41***	***14***	***42***	***44***	***17***	

- The volume of cycle movements was low throughout the morning peak monitoring period. The highest volume of cyclist movements was between 7:00am and 7:09am (4 movements).

Figure 8.2: Morning Peak Cyclist Frequency

Luckens/Hobsonville Road 2007 – 2014 (n)



8.3 Evening Peak

Environmental Conditions

- The weather was cloudy throughout the evening shift.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The total number of evening cycle movements recorded at the Luckens/Hobsonville Road intersection has decreased, with 24 movements recorded, compared with 60 movements last year.
- The largest change in cycle volumes in the evening was turning right into Hobsonville Road from Luckens Road (Movement 3, down 15 cyclists).

Table 8.3: Evening Cyclist Movements

Luckens/Hobsonville Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	6	1	8	12	13	13	9	**6**	**-3**
2	3	6	4	6	4	1	6	**2**	**-4**
3	1	2	13	10	6	28	19	**4**	**-15**
4	2	2	2	5	4	4	4	**1**	**-3**
5	0	0	3	4	6	8	14	**5**	**-9**
6	0	5	21	17	5	16	8	**6**	**-2**
Total	**12**	**16**	**51**	**54**	**38**	**70**	**60**	**24**	**-36**

- All cyclists using this intersection were adults (an increase of 10 percentage points from the previous year).
- Helmet-wearing continued to be wide-spread (100 per cent, an increase from 92 per cent last year).
- The majority of cyclists were male (71 per cent, down 19 percentage points from 2013).
- Most cyclists were riding on the road (79 per cent, down from 83 per cent in 2013).

Table 8.4: Evening Cyclist Characteristics

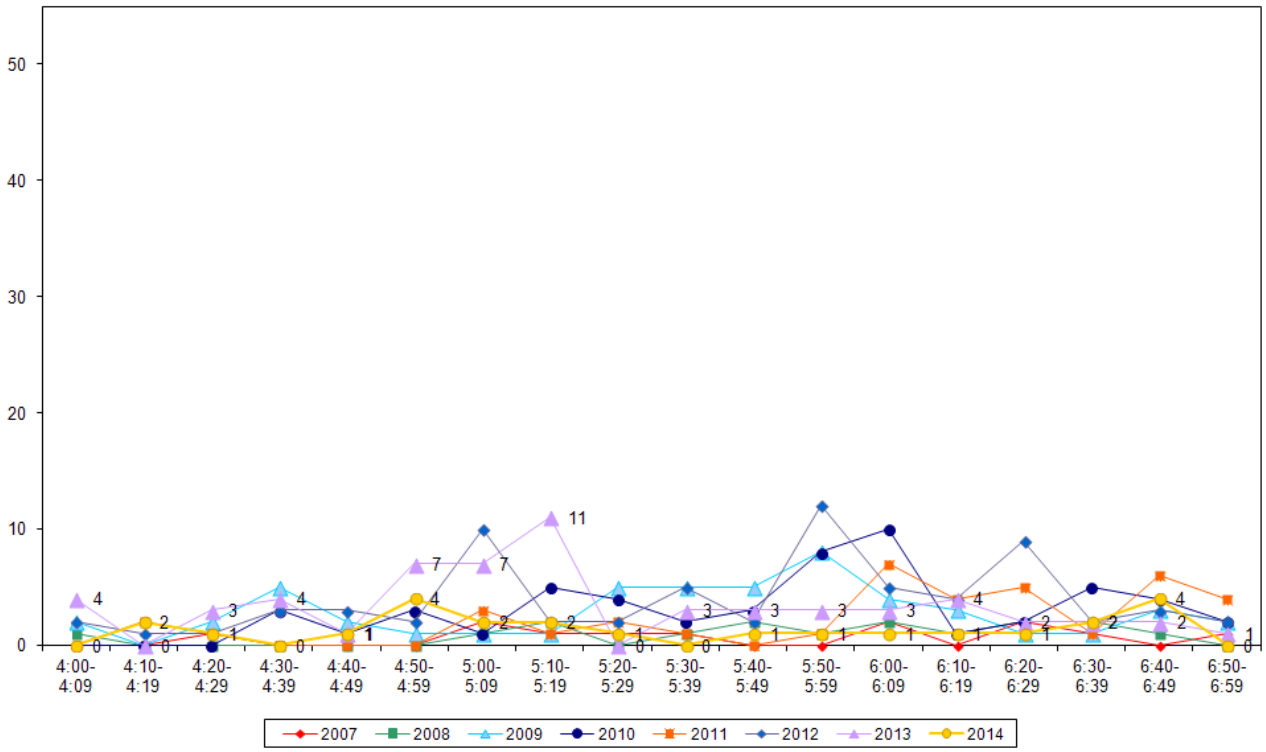
Luckens/Hobsonville Road 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	100	94	100	91	66	89	90	**100**	**10**
School child	0	6	0	9	34	11	10	**0**	**-10**
Helmet Wearing									
Helmet on head	100	69	98	94	74	97	92	**100**	**8**
No helmet	0	31	2	6	26	3	8	**0**	**-8**
Gender									
Male	-	-	-	-	87	87	90	**71**	**-19**
Female	-	-	-	-	5	13	10	**29**	**19**
Can't tell	-	-	-	-	8	0	0	**0**	**0**
Where Riding									
Road	100	81	90	81	53	91	83	**79**	**-4**
Footpath	0	19	10	19	47	9	17	**21**	**4**
Base:	***12***	***16***	***51***	***54***	***38***	***70***	***60***	***24***	

- Cycle volumes have been low throughout the evening monitoring period, with no more than four cycle mounts recorded at any ten minute interval. In contrast to cycle volumes from previous years, there are no notable peaks during the evening period.

Figure 8.3: Evening Peak Cyclist Frequency

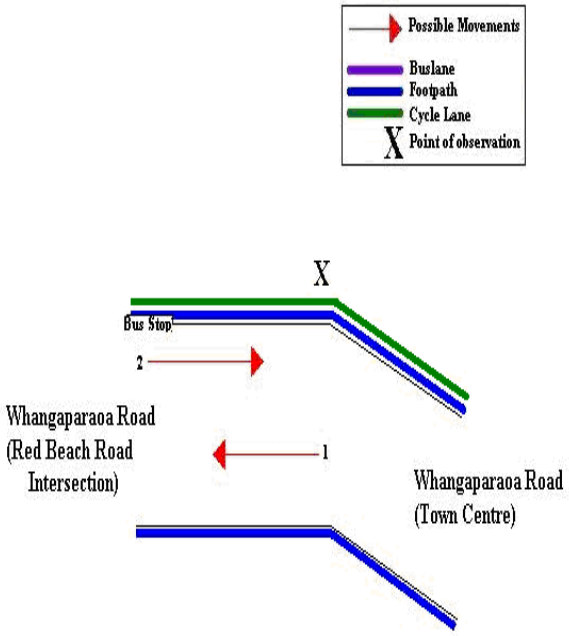
Luckens/Hobsonville Road 2007 – 2014 (n)



9. WHANGAPARAOA ROAD – NEAR RED BEACH INTERSECTION, WHANGAPARAOA (SITE 59)

Figure 9.1 shows the possible cyclist movements at this site.

Figure 9.1: Cycle Movements: Whangaparaoa Road, near Red Beach intersection



9.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	13	16	29	42
2008	15	16	23	45
2009	15	11	26	38
2010	21	8	29	43
2011	11	15	26	37
2012	15	13	28	41
2013	15	10	25	37
2014	**7**	**11**	**18**	**26**

9.2 Morning Peak

Environmental Conditions

- The weather conditions at the beginning of the shift were fine with no wind or rain. Several showers of rain occurred between 6:00am and 7:00am with inconsistent light winds. The weather began to clear towards the end of the shift.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The volume of morning cyclists at Whangaparaoa Road near the Red Beach intersection has decreased by 8 cyclists since last year.
- The key morning movement was straight along Whangaparaoa Road heading west towards the Red Beach intersection (Movement 1 = 6 cyclists, a decrease from 13 cyclists last year).

Table 9.1: Morning Cyclist Movements

Whangaparaoa Road, near Red Beach intersection 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	10	13	12	18	10	12	13	**6**	**-7**
2	3	2	3	3	1	3	2	**1**	**-1**
Total	**13**	**15**	**15**	**21**	**11**	**15**	**15**	**7**	**-8**

- Over the morning peak, adults comprised of 57 per cent of cyclists (up from 40 per cent in 2013).
- Most cyclists were wearing a helmet (86 per cent).
- Predominantly male cyclists used this site (71 per cent, down from 87 per cent last year).
- Since 2011, riding on the road was split into riding on the road and riding on the off-road cycleway. In 2014, 86 per cent were recorded as riding on the off-road cycleway (up from 80 per cent last year).

Table 9.2: Morning Cyclist Characteristics

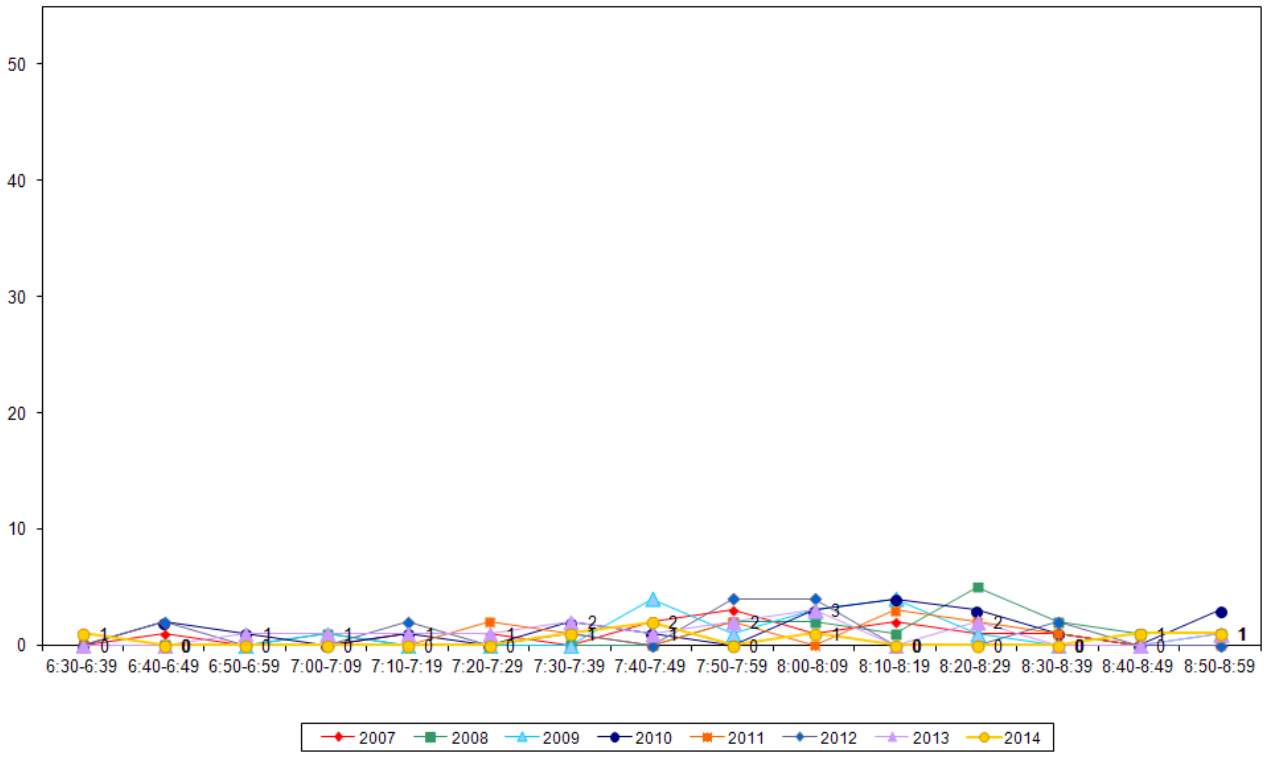
Whangaparaoa Road, near Red Beach intersection 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	62	27	20	48	55	47	40	**57**	**17**
School child	38	73	80	52	45	53	60	**43**	**-17**
Helmet Wearing									
Helmet on head	92	100	93	76	100	93	100	**86**	**-14**
No helmet	8	0	7	24	0	7	0	**14**	**14**
Gender									
Male	-	-	-	-	91	93	87	**71**	**-16**
Female	-	-	-	-	9	7	13	**29**	**16**
Can't tell	-	-	-	-	0	0	0	**0**	
Where Riding									
Road	15	20	13	33	18	27	20	**14**	**-6**
Footpath	85	80	87	67	9	0	0	**0**	**0**
Off-road cycleway	-	-	-	-	73	73	80	**86**	**6**
Base:	***13***	***15***	***15***	***21***	***11***	***15***	***15***	***7***	

- The volume of morning cycle movements at Whangaparaoa Road, near Red Beach intersection was extremely low. The largest number of cyclists recorded at any ten minute interval was two, observed between 7:40am and 7:49am.

Figure 9.2: Morning Peak Cyclist Frequency

Whangaparaoa Road, near Red Beach intersection 2007 – 2014 (n)



9.3 Evening Peak

Environmental Conditions

- The weather was cloudy and windy throughout the evening shift. Intermittent showers were experienced between 4:00pm and 5:00pm. The clouds cleared and winds eased after 5:00pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The total number of cycle movements recorded at the Whangaparaoa Road, near Red Beach intersection was stable from 2013 (11 movements, up from 10 movements last year).
- In contrast to the morning shift, the most common movement in the evening was east along Whangaparaoa Road heading towards the Town Centre (Movement 2 = 7 cyclists).

Table 9.3: Evening Cyclist Movements

Whangaparaoa Road, near Red Beach intersection 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	6	3	4	3	6	5	3	**4**	**1**
2	10	13	7	5	9	8	7	**7**	**0**
Total	**16**	**16**	**11**	**8**	**15**	**13**	**10**	**11**	**1**

- In the evening period, all of the cyclists using Whangaparaoa Road were adults.
- Seventy-three per cent cyclists were wearing a helmet, down from 90 per cent last year.
- All of the recorded cyclists were male.
- From 2011, riding on the road was split into riding on the road and riding on the off-road cycleway. The share riding on the off-road cycleway (82 per cent) and road (18 per cent) are stable from last year.

Table 9.4: Evening Cyclist Characteristics

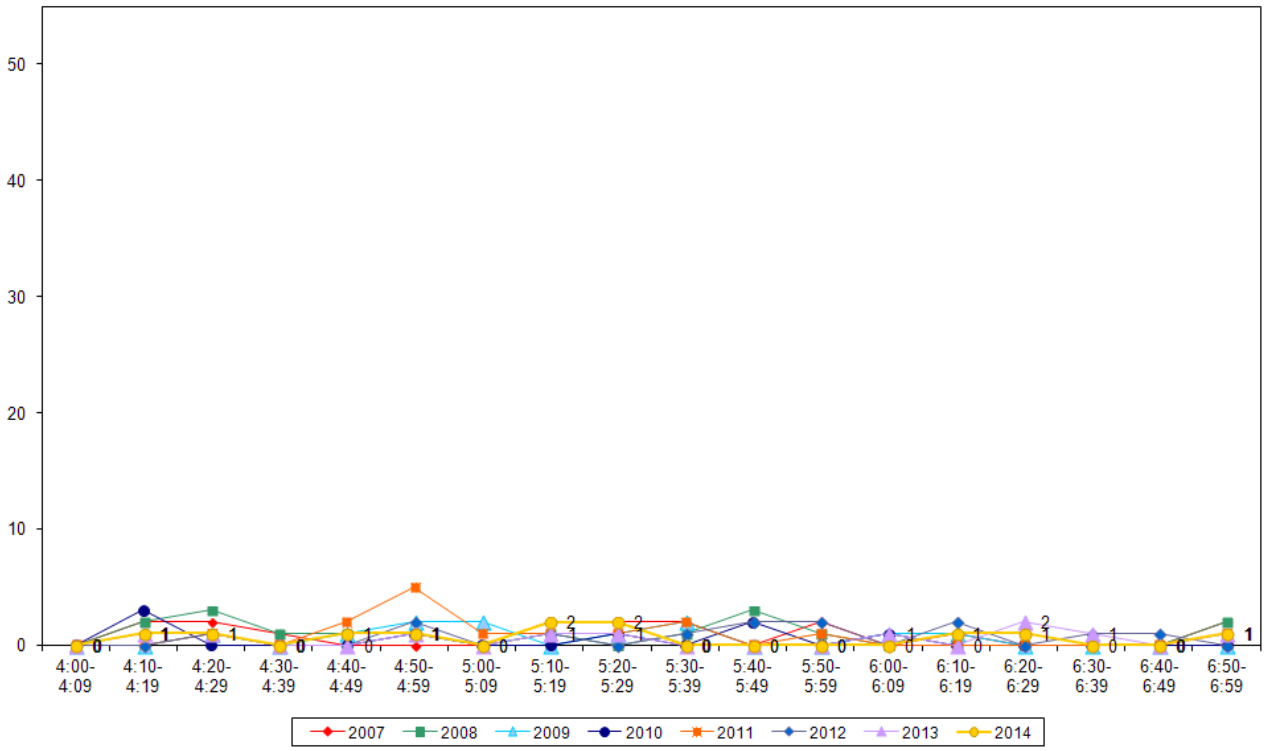
Whangaparaoa Road, near Red Beach Intersection 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	75	88	64	75	93	92	80	**100**	**20**
School child	25	12	36	25	7	8	20	**0**	**-20**
Helmet Wearing									
Helmet on head	87	94	100	63	100	85	90	**73**	**-17**
No helmet	13	6	0	37	0	15	10	**27**	**17**
Gender									
Male	-	-	-	-	87	92	90	**100**	**10**
Female	-	-	-	-	13	8	10	**0**	**-10**
Can't tell	-	-	-	-	0	0	0	**0**	**0**
Where Riding									
Road	25	37	36	12	67	62	20	**18**	**-2**
Footpath	75	63	64	88	0	0	0	**0**	**0**
Off-road cycle way	-	-	-	-	33	38	80	**82**	**2**
Base:	***16***	***16***	***11***	***8***	***15***	***13***	***10***	***11***	

- Evening cyclist numbers remained relatively low over the entire peak period, with no more than two cyclists recorded over any ten minute interval. This trend was consistent with last year.

Figure 9.3: Evening Peak Cyclist Frequency

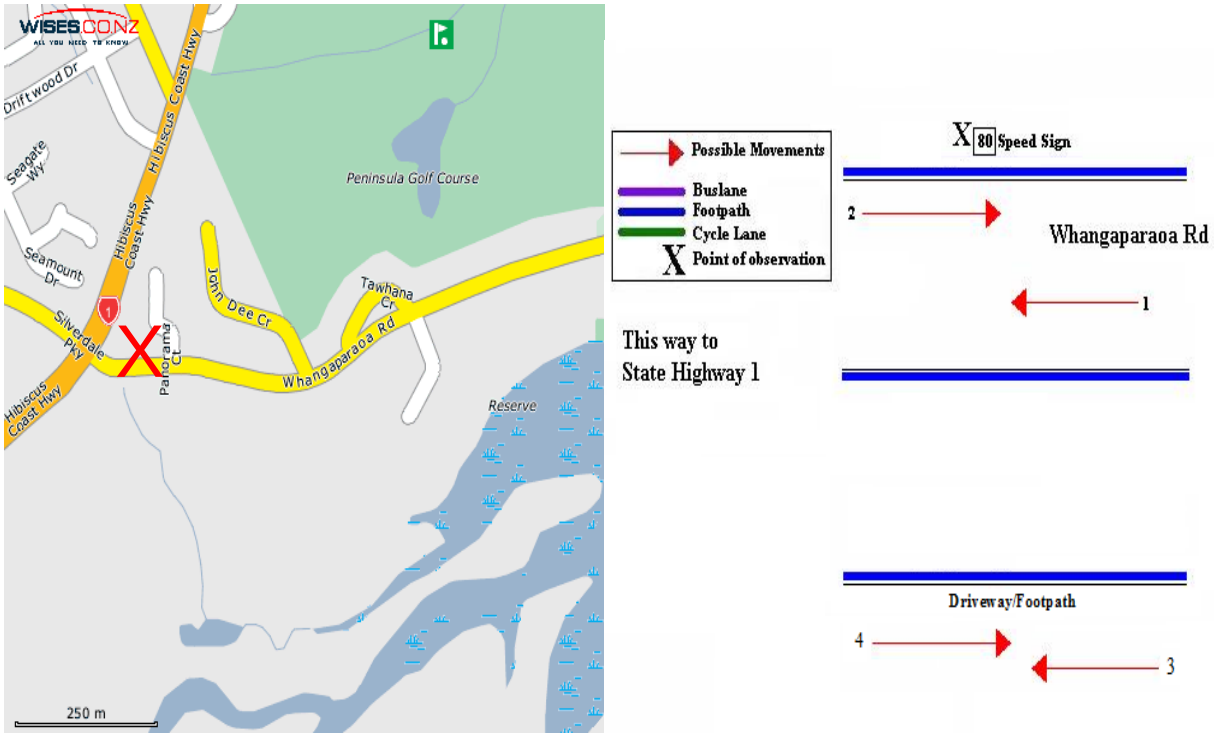
Whangaparaoa Road, near Red Beach Intersection 2007 – 2014 (n)



10. WHANGAPARAOA ROAD – NEAR HIBISCUS COAST HIGHWAY INTERSECTION, WHANGAPARAOA (SITE 60)

Figure 10.1 shows the possible cyclist movements at this site.

Figure 10.1: Cycle Movements: Whangaparaoa Road, near Hibiscus Coast Highway Intersection



10.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	11	17	28	40
2008	9	11	20	29
2009	6	6	12	17
2010	13	10	23	34
2011	7	15	22	31
2012	10	10	20	29
2013	10	9	19	28
2014	**6**	**9**	**15**	**22**

10.2 Morning Peak

Environmental Conditions

- The weather was overcast throughout the morning monitoring period, with a spell of light drizzle from 6:00am to 6:20am, 6:40am to 6:55am and 8:45am to 8:55am.
- There were no road works or accidents that may affect cycle counts.

Key Points

- In 2014, the volume of morning cyclist traffic at Whangaparaoa Road, near the Hibiscus Coast Highway intersection, has decreased to 6 movements from 10 movements last year.
- All cyclists at this site were moving straight along Whangaparaoa Road heading towards State Highway 1 (Movement 1 = 6 cyclists).

Table 10.1: Morning Cyclist Movements

Whangaparaoa Road, near Hibiscus Coast Highway Intersection 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	9	9	5	11	7	8	8	**6**	**-2**
2	2	0	1	2	0	2	2	**0**	**-2**
3	-	-	-	-	-	-	0	**0**	**0**
4	-	-	-	-	-	-	0	**0**	**0**
Total	**11**	**9**	**6**	**13**	**7**	**10**	**10**	**6**	**-4**

Note: Movements 3 and 4 were added in 2013 to capture cyclists riding on the driveway/footpath above Whangaparaoa Road.

- Over the morning peak, school children comprise 67 per cent of the cyclists (an increase of 27 per cent from last year).
- Most cyclists were wearing a helmet (83 per cent, down 17 percentage points from 2013).
- All cyclists were recorded as male, which remains unchanged from last year.
- All of the cyclists recorded were riding on the footpath, compared to fifty per cent last year.

Table 10.2: Morning Cyclist Characteristics

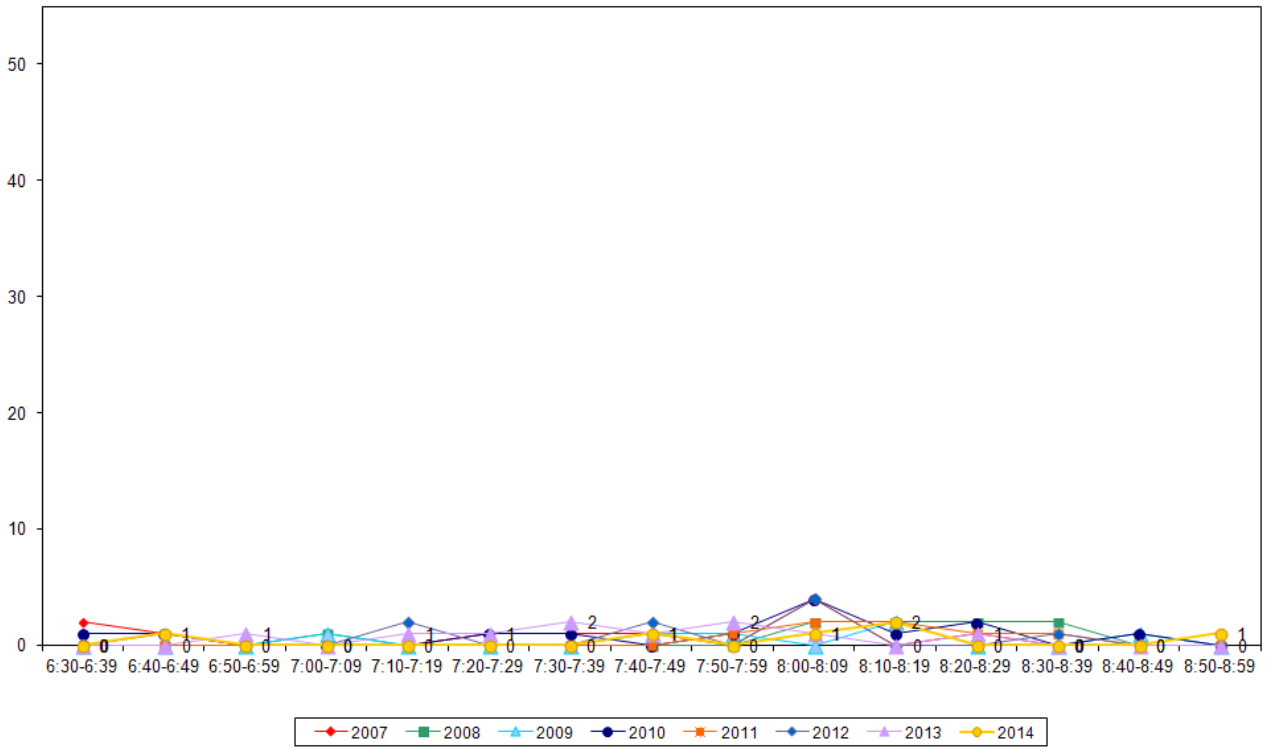
Whangaparaoa Road, near Hibiscus Coast Highway Intersection 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	55	33	50	38	29	60	60	**33**	**-27**
School child	45	67	50	62	71	40	40	**67**	**27**
Helmet Wearing									
Helmet on head	91	100	100	100	100	100	100	**83**	**-17**
No helmet	9	0	0	0	0	0	0	**17**	**17**
Gender									
Male	-	-	-	-	100	70	100	**100**	**0**
Female	-	-	-	-	0	30	0	**0**	**0**
Can't tell	-	-	-	-	0	0	0	**0**	**0**
Where Riding									
Road	36	33	33	31	29	40	50	**0**	**-50**
Footpath	64	67	67	69	71	60	50	**100**	**50**
Base:	***11***	***9***	***6***	***13***	***7***	***10***	***10***	***6***	

- As in previous years, morning cyclist movement volumes were low, with two cyclists being the largest number recorded during any ten minute interval, this occurring between 8:10am to 8:19am.

Figure 10.2: Morning Peak Cyclist Frequency

Whangaparaoa Road, near Hibiscus Coast Highway Intersection 2007 – 2014 (n)



10.3 Evening Peak

Environmental Conditions

- The weather was fine throughout the evening shift.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The volume of evening cyclists recorded at Whangaparaoa Road, near the Hibiscus Coast Highway intersection has remained stable over the last twelve months (9 movements this year, unchanged from 2013).
- The most common movement in the evening monitoring period was straight along Whangaparaoa Road heading east (Movement 2 = 6 cycle movements).

Table 10.3: Evening Cyclist Movements

Whangaparaoa Road, near Hibiscus Coast Highway Intersection 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	6	2	4	4	8	3	2	**3**	**-1**
2	11	9	2	6	7	7	5	**6**	**1**
3	-	-	-	-	-	-	1	**0**	**0**
4	-	-	-	-	-	-	1	**0**	**0**
Total	**17**	**11**	**6**	**10**	**15**	**10**	**9**	**9**	**0**

Note: Movements 3 and 4 were added in 2013 to capture cyclists riding on the driveway/footpath above Whangaparaoa Road.

- All cyclists using this site in the evening were adults (up from 78 per cent last year).
- All cyclists were wearing a helmet (100 per cent, unchanged from the last count in 2013).
- The majority of cyclists this year were male (67 per cent, compared with all cyclists in 2013).
- Eighty-nine per cent of cyclists were riding on the road (up 45 percentage points from 2013).

Table 10.4: Evening Cyclist Characteristics

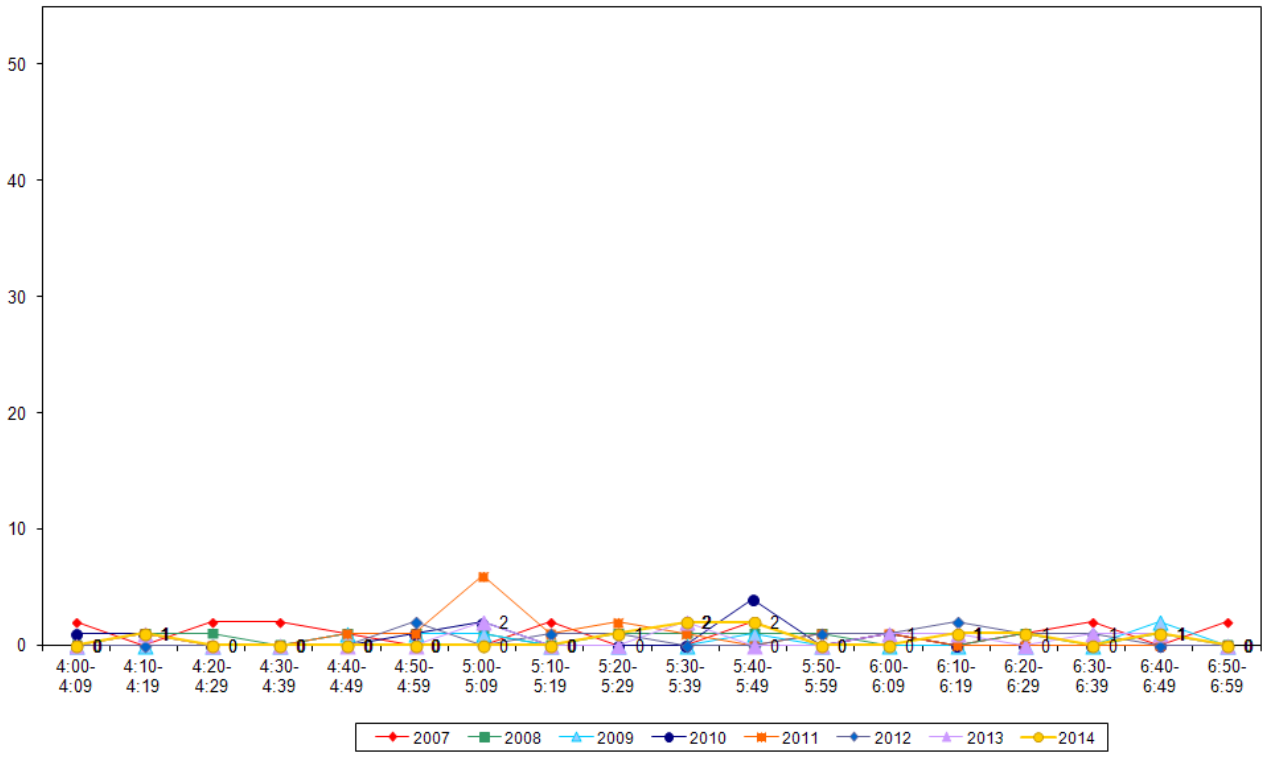
Whangaparaoa Road, near Hibiscus Coast Highway Intersection 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	53	82	67	60	67	100	78	**100**	**22**
School child	47	18	33	40	33	0	22	**0**	**-22**
Helmet Wearing									
Helmet on head	82	100	100	90	93	90	100	**100**	**0**
No helmet	18	0	0	10	7	10	0	**0**	**0**
Gender									
Male	-	-	-	-	80	90	100	**67**	**-33**
Female	-	-	-	-	20	10	0	**33**	**33**
Can't tell	-	-	-	-	0	0	0	**0**	**0**
Where Riding									
Road	35	45	50	30	60	50	44	**89**	**45**
Footpath	65	55	50	70	40	50	56	**11**	**-45**
Base:	***17***	***11***	***6***	***10***	***15***	**10**	**9**	**9**	

- Similar to previous years, the volume of evening cyclist movements remained low over the entire peak period, with no movements recorded during most ten minute intervals.

Figure 10.3: Evening Peak Cyclist Frequency

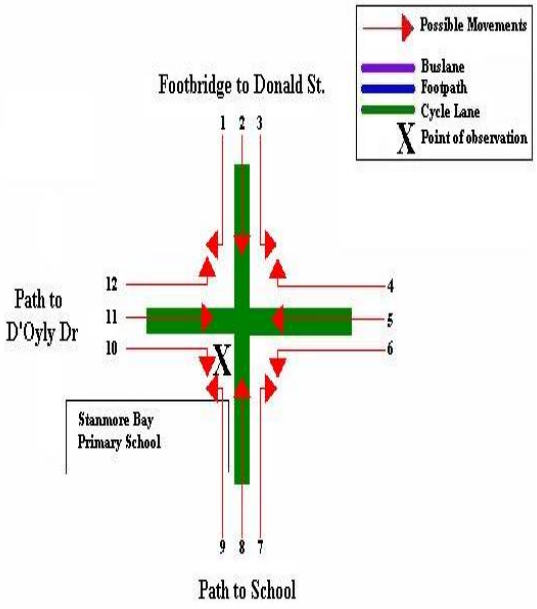
Whangaparaoa Road, near Hibiscus Coast Highway Intersection 2007 – 2014 (n)



11. D'OYLY RESERVE CYCLEWAY, WHANGAPARAOA (SITE 61)

Figure 11.1 shows the possible cyclist movements at this site.

Figure 11.1: Cycle Movements: D'Oyly Reserve Cycleway



11.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	14	10	24	35
2008	19	84	103	145
2009	5	4	9	13
2010	31	13	44	65
2011	13	45	58	82
2012	14	21	35	50
2013	13	14	27	39
2014	**10**	**14**	**24**	**35**

11.2 Morning Peak

Environmental Conditions

- The weather was cloudy with numerous patches of drizzle throughout the morning shift.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Morning cyclist traffic at the D'Oyly Reserve cycleway continued to be low this year, with 10 movements recorded during the morning shift (down from 13 movements in 2013).
- The most common movement in the morning was the left turn from the cycleway into the path to Stanmore Bay Primary School (Movement 6 = 5 cyclists).

Table 11.1: Morning Cyclist Movements

D'Oyly Reserve Cycleway 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	0	0	0	0	0	0	0	**0**	**0**
2	0	0	0	3	0	0	0	**3**	**3**
3	2	2	0	1	2	4	1	**0**	**-1**
4	0	0	0	0	0	0	1	**0**	**-1**
5	3	5	0	1	1	2	2	**1**	**-1**
6	3	5	4	15	6	4	7	**5**	**-2**
7	0	0	0	2	1	0	0	**0**	**0**
8	0	0	0	0	0	0	0	**0**	**0**
9	1	0	0	0	0	0	0	**0**	**0**
10	0	0	0	7	0	0	0	**0**	**0**
11	5	7	1	2	3	4	2	**1**	**-1**
12	0	0	0	0	0	0	0	**0**	**0**
Total	**14**	**19**	**5**	**31**	**13**	**14**	**13**	**10**	**-3**

- As in previous years, the majority of cyclists at this site were school children (90 per cent, up from 62 per cent last year).
- Almost all cyclists were wearing helmets (90 per cent, stable from 92 per cent in 2013).
- Approximately two in three cyclists were male (70 per cent, up from 54 per cent in 2013).

Table 11.2: Morning Cyclist Characteristics

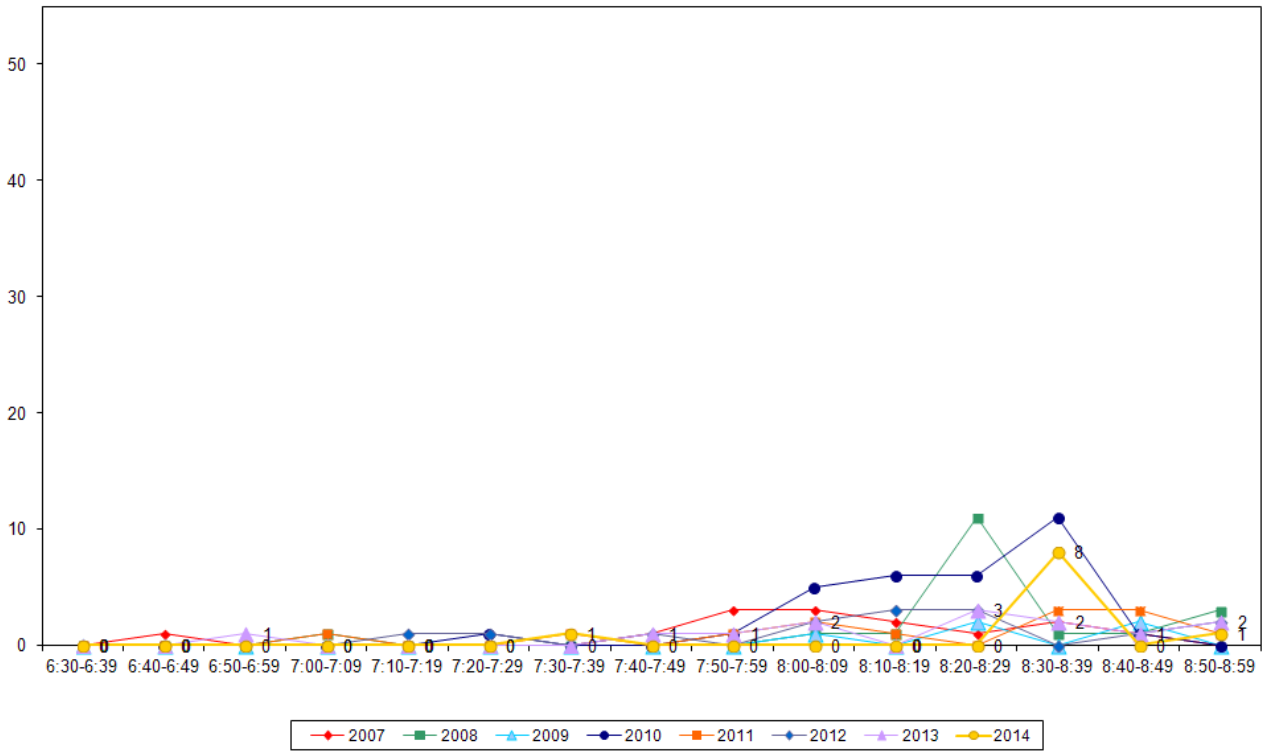
D'Oyly Reserve Cycleway 2007 – 2014 (%)

	2007	***2008***	***2009***	***2010***	***2011***	***2012***	***2013***	***2014***	**Change 13-14**
Cyclist Type									
Adult	21	16	0	10	8	29	38	**10**	**-28**
School child	79	84	100	90	92	71	62	**90**	**28**
Helmet Wearing									
Helmet on head	64	58	20	65	62	79	92	**90**	**-52**
No helmet	36	42	80	35	38	21	8	**10**	**2**
Gender									
Male	-	-	-	-	69	71	54	**70**	**16**
Female	-	-	-	-	31	29	46	**30**	**-16**
Can't tell	-	-	-	-	0	0	0	**0**	**0**
Where Riding									
Off-road cycleway	100	100	100	100	100	100	100	**100**	**0**
Base:	***14***	***19***	***5***	***31***	***13***	***14***	***13***	***10***	

- The volume of morning cycle movements was extremely low throughout the morning monitoring period, with only one cyclist recorded in the first two hours of the shift. A peak was recorded between 8:30am and 8:39am, with 8 cycle movements observed.

Figure 11.2: Morning Peak Cyclist Frequency

D'Oyly Reserve Cycleway 2007 – 2014 (n)



11.3 Evening Peak

Environmental Conditions

- The weather at the start of the shift was fine but gradually became cloudy over the course of the evening shift.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The number of cyclist movements observed at this site has remained the same with 14 movements this year.
- The most common movements in the evening were travelling along the cycleway heading towards D'Oyly Drive (Movement 5 = 6 movements) and the opposite direction, heading along the cycleway away from D'Oyly Drive (Movement 11 = 6 movements).

Table 11.3: Evening Cyclist Movements

D'Oyly Reserve Cycleway 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	0	10	0	0	1	0	0	**1**	**1**
2	0	3	0	0	6	2	0	**0**	**0**
3	2	17	0	0	1	4	0	**0**	**0**
4	0	15	0	1	2	1	2	**1**	**-1**
5	4	14	2	6	16	3	6	**6**	**0**
6	2	1	0	0	2	4	0	**0**	**0**
7	1	6	0	1	3	0	1	**0**	**-1**
8	1	0	0	0	4	0	0	**0**	**0**
9	0	0	1	0	0	0	0	**0**	**0**
10	0	0	0	0	0	0	0	**0**	**0**
11	0	9	1	4	10	4	5	**6**	**1**
12	0	9	0	1	0	3	0	**0**	**0**
Total	**10**	**84**	**4**	**13**	**45**	**21**	**14**	**14**	**0**

- More than half the cyclists using the D'Oyly Reserve cycleway were children (57 per cent, unchanged from 2013).
- There has been a decrease in helmet-wearing this year (64 per cent, down 22 percentage points from 86 per cent last year).
- The majority of cyclists this year were male (86 per cent).

Table 11.4: Evening Cyclist Characteristics

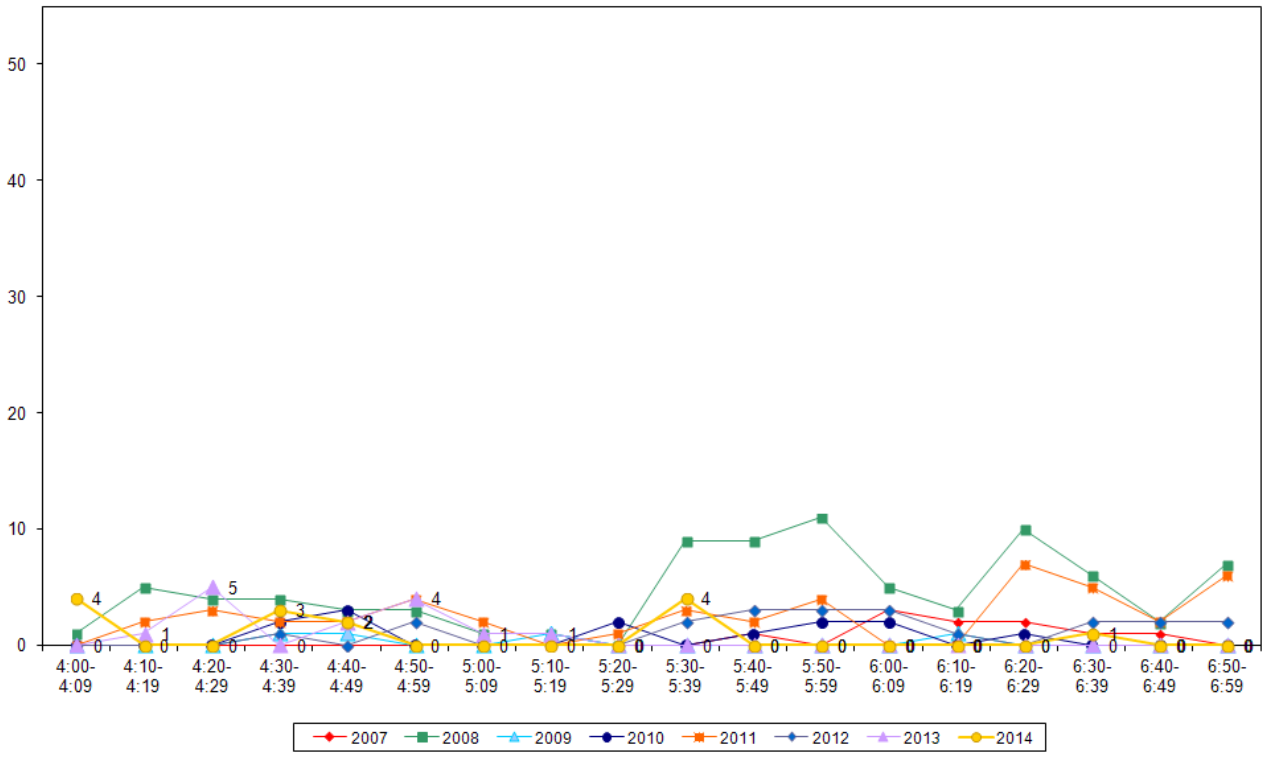
D'Oyly Reserve Cycleway 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	50	17	0	54	38	43	43	**43**	**0**
School child	50	83	100	46	62	57	57	**57**	**0**
Helmet Wearing									
Helmet on head	70	33	75	54	69	57	86	**64**	**-22**
No helmet	30	67	25	46	31	43	14	**36**	**22**
Gender									
Male	-	-	-	-	64	71	57	**86**	**29**
Female	-	-	-	-	36	29	43	**14**	**-29**
Can't tell	-	-	-	-	0	0	0	**0**	**0**
Where Riding									
Off-road cycleway	100	100	100	100	100	100	100	**100**	**0**
Base:	***10***	***84***	***4***	***13***	***45***	***21***	***14***	***14***	

- Evening cycle volumes experienced two peaks, between 4:00pm and 4:09pm (4 movements) and between 5:30 and 5:39 (4 movements). Consistent with previous years, most other intervals throughout the monitoring period experienced low cycle volumes.

Figure 11.3: Evening Peak Cyclist Frequency

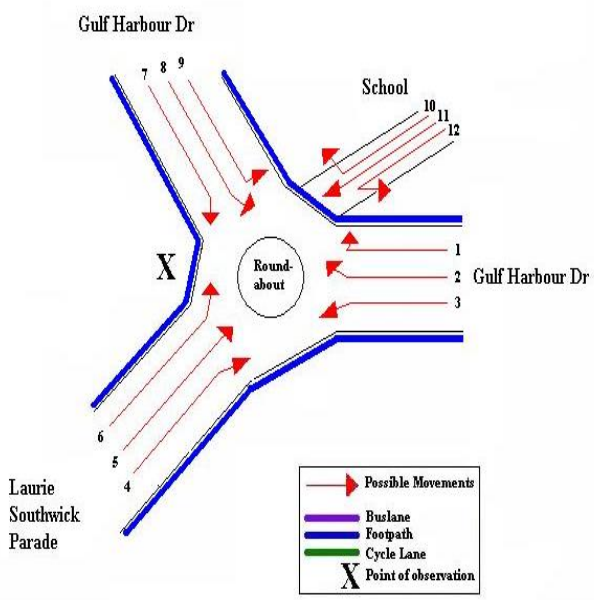
D'Oyly Reserve Cycleway 2007 – 2014 (n)



12. GULF HARBOUR DRIVE/LAURIE SOUTHWICK PARADE, WHANGAPARAOA (SITE 63)

Figure 12.1 shows the possible cyclist movements at this intersection.

Figure 12.1: Cycle Movements: Gulf Harbour Drive/Laurie Southwick Parade



12.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	17	39	56	80
2008	14	30	44	63
2009	5	17	22	31
2010	14	23	37	53
2011	12	27	39	56
2012	13	20	33	47
2013	24	16	40	59
2014	**14**	**15**	**29**	**42**

12.2 Morning Peak

Environmental Conditions

- The weather was cloudy throughout the morning shift with 10 minute periods of light rain at 7:50am and 8:32am.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The number of morning cyclist movements at the Gulf Harbour Drive/Laurie Southwick Parade intersection has decreased (from 24 movements last year to 14 movements this year).
- The most common morning movement was turning right from Gulf Harbour Drive on to Laurie Southwick Parade (Movement 7 = 4 movements).
- Morning cyclist movement volumes at all movements at this site remained relatively stable from last year; the most noticeable change was at Movement 3 (down 5 movements).

Table 12.1: Morning Cyclist Movements

Gulf Harbour Drive/Laurie Southwick Parade 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	2	1	1	1	0	1	1	**0**	**-1**
2	0	1	0	2	0	0	0	**0**	**0**
3	2	0	0	0	5	2	8	**3**	**-5**
4	1	2	1	1	1	2	3	**3**	**0**
5	1	0	0	1	1	0	1	**0**	**-1**
6	1	2	1	6	1	2	3	**2**	**-1**
7	4	4	2	1	2	4	6	**4**	**-2**
8	6	4	0	2	0	1	2	**2**	**0**
9	0	0	0	0	2	0	0	**0**	**0**
10	0	0	0	0	0	0	0	**0**	**0**
11	0	0	0	0	0	0	0	**0**	**0**
12	0	0	0	0	0	1	0	**0**	**0**
Total	**17**	**14**	**5**	**14**	**12**	**13**	**24**	**14**	**-10**

- Over the morning peak, the majority of the cyclists were adults (79 per cent, down from 88 per cent in 2013).
- Most cyclists were wearing a helmet (71 per cent).
- The majority of cyclists were male (86 per cent, up from 83 per cent last year).
- The share of cyclists riding on the footpath has increased by 35 percentage points this year, to 43 per cent.

Table 12.2: Morning Cyclist Characteristics

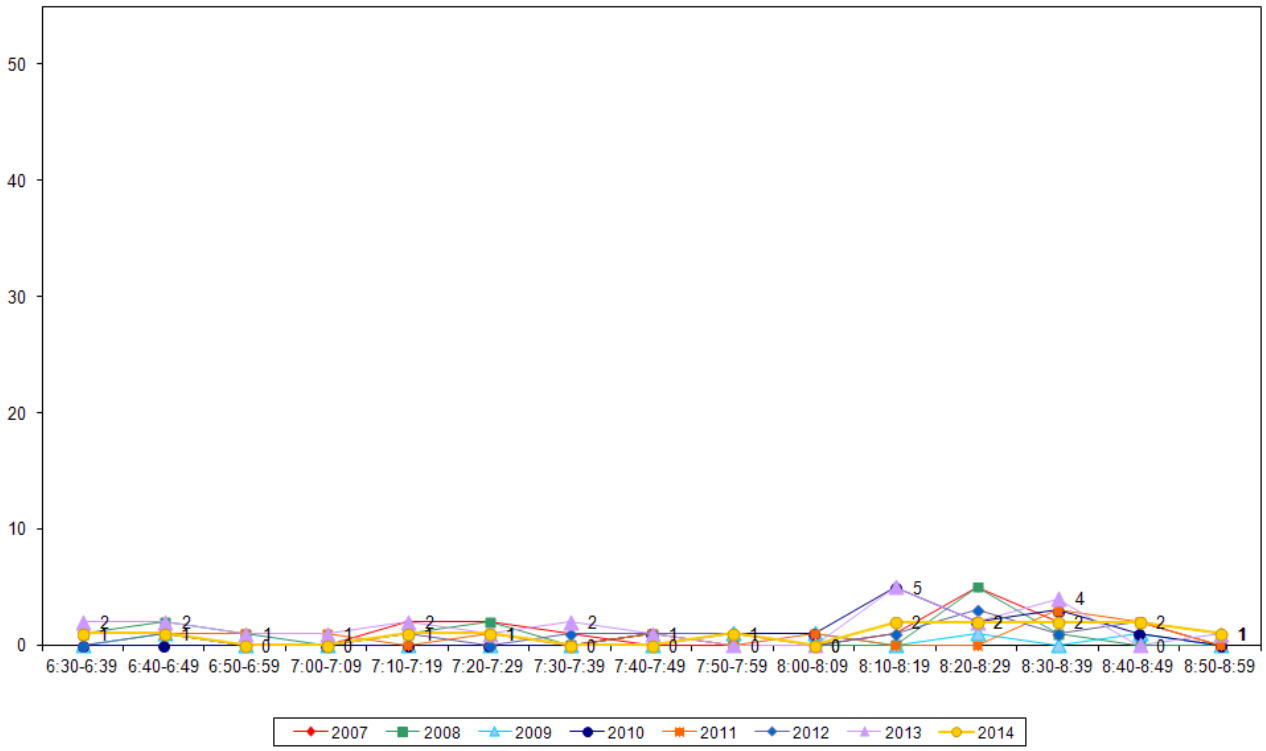
Gulf Harbour Drive/Laurie Southwick Parade 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	53	43	40	36	75	67	88	**79**	**-9**
School child	47	57	60	64	25	33	12	**21**	**9**
Helmet Wearing									
Helmet on head	88	50	80	71	75	85	88	**71**	**-17**
No helmet	12	50	20	29	25	15	12	**29**	**17**
Gender									
Male	-	-	-	-	92	69	83	**86**	**3**
Female	-	-	-	-	8	31	17	**14**	**-3**
Can't tell	-	-	-	-	0	0	0	**0**	**0**
Where Riding									
Road	41	50	0	36	75	54	92	**57**	**-35**
Footpath	59	50	100	64	25	46	8	**43**	**35**
Base:	***17***	***14***	***5***	***14***	***12***	**13**	**24**	**14**	

- The volume of cyclist movements was extremely low across the monitoring period. No more than two movements were recorded during any ten minute intervals.

Figure 12.2: Morning Peak Cyclist Frequency

Gulf Harbour Drive/Laurie Southwick Parade 2007 – 2014 (n)



12.3 Evening Peak

Environmental Conditions

- The weather was mostly fine throughout the evening, although it became cloudy towards the end of the shift.
- There was a child playing in the area who rode past the site at least three times. (Note: This child recorded three times only in the results below.)
- There were no road works or accidents that may affect cycle counts.

Key Points

- Evening cyclist volumes at the Gulf Harbour Drive/Laurie Southwick Parade intersection remained stable this year (15 movements, compared with 16 movements in 2013).
- The most common movement in the evening was travelling along Gulf Harbour Drive heading north (Movement 2 = 5 cyclists).
- Evening cyclist volumes were relatively stable over the last 12 months.

Table 11.3: Evening Cyclist Movements

Gulf Harbour Drive/Laurie Southwick Parade 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	0	0	0	1	1	0	2	**0**	**-2**
2	4	4	2	1	5	1	2	**5**	**3**
3	8	7	1	2	3	1	1	**0**	**-1**
4	6	7	3	3	4	2	4	**0**	**-4**
5	0	0	0	0	0	0	0	**1**	**1**
6	8	3	3	3	6	5	2	**2**	**0**
7	6	2	6	7	4	4	2	**2**	**0**
8	6	6	2	5	3	3	2	**4**	**2**
9	0	0	0	0	0	2	0	**0**	**0**
10	0	0	0	0	0	1	0	**0**	**0**
11	0	0	0	0	1	0	0	**0**	**0**
12	1	1	0	1	0	1	0	**1**	**1**
DK	-	-	-	-	-	-	1	**0**	**-1**
Total	**39**	**30**	**17**	**23**	**27**	**20**	**16**	**15**	**-1**

- The majority of cyclists at the Gulf Harbour/Laurie Southwick Parade site during the evening peak were school children (67 per cent, up from 37 per cent in 2013).
- Sixty-seven per cent of the cyclists were wearing a helmet (up from 63 per cent in 2013).
- Most cyclists were male (87 per cent, up from 81 per cent last year).
- The share of cyclists using the footpath has increased from last year (73 per cent, up from 44 per cent in 2013).

Table 12.4: Evening Cyclist Characteristics

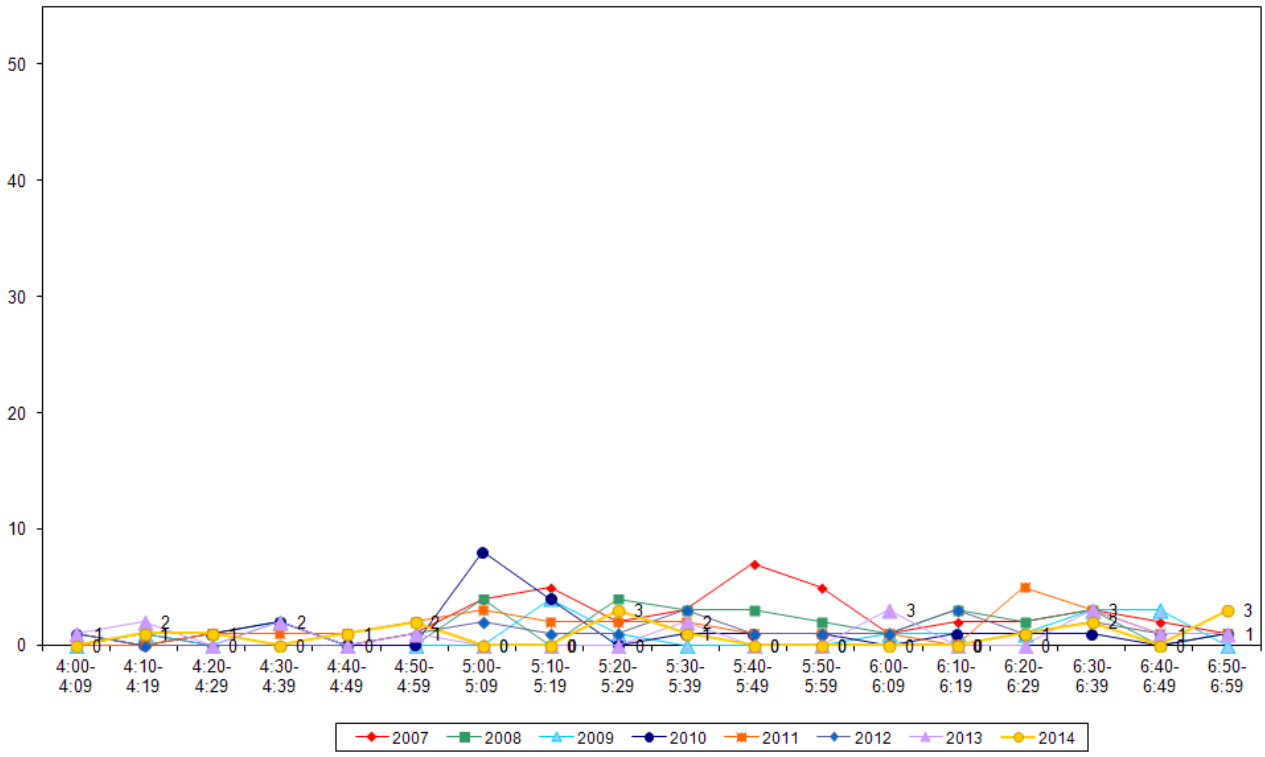
Gulf Harbour Drive/Laurie Southwick Parade 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	72	77	65	74	41	70	63	**33**	**-30**
School child	28	23	35	26	59	30	37	**67**	**30**
Helmet Wearing									
Helmet on head	77	73	47	70	59	75	63	**67**	**4**
No helmet	23	27	53	30	41	25	37	**33**	**-4**
Gender									
Male	-	-	-	-	63	70	81	**87**	**6**
Female	-	-	-	-	37	30	19	**13**	**-6**
Can't tell	-	-	-	-	0	0	0	**0**	**0**
Where Riding									
Road	54	80	53	74	33	50	56	**27**	**-29**
Footpath	46	20	47	26	67	50	44	**73**	**29**
Base:	***39***	***30***	***17***	***23***	***27***	***20***	***16***	***15***	

- In 2014, the volume of cyclist movements was consistently low, with no more than 3 movements recorded in all 10 minute intervals.

Figure 12.3: Evening Peak Cyclist Frequency

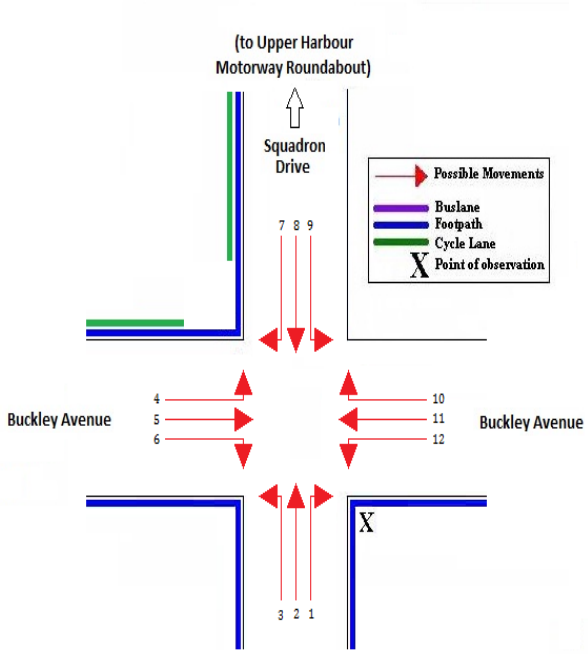
Gulf Harbour Drive/Laurie Southwick Parade 2007 – 2014 (n)



13. SQUADRON DRIVE/BUCKLEY AVENUE, GREENHITHE (SITE 70)

Figure 13.1 shows the possible cyclist movements at this intersection.

Figure 13.1: Cycle Movements: Squadron Drive/Buckley Avenue



Note: In the period between the 2013 and 2014 cycle monitor, Squadron Drive was extended south of Buckley Avenue. This has resulted in additional cycle movements being possible at this site. The new movements are illustrated in the diagram above. As a result of this change, cycle volumes by movement are not comparable over time.

13.1 Site Summary

	Raw Counts			*AADT*
	Morning Peak	***Evening Peak***	***Total***	***Total***
2010	37	57	94	135
2011	34	49	83	120
2012	28	82	110	156
2013	46	60	106	153
2014	**19**	**46**	**65**	**92**

13.2 Morning Peak

Environmental Conditions

- The weather was fine throughout the morning shift.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Nineteen cycle movements were recorded at the Squadron Drive/Buckley Avenue site, 27 less than last year.
- The key morning movements were turning right from Buckley Avenue into Squadron Drive heading south (Movement 6 = 7 cyclists) and turning right from Squadron Drive into Buckley Avenue heading west (Movement 7 = 7 cyclists).

Table 13.1: Morning Cyclist Movements

Squadron Drive/Buckley Avenue 2010 – 2014 (n)

Movement	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	-	-	-	-	**0**	**0**
2	-	-	-	-	**0**	**0**
3	-	-	-	-	**0**	**0**
4	-	-	-	-	**0**	**0**
5	-	-	-	-	**1**	**1**
6	-	-	-	-	**7**	**7**
7	-	-	-	-	**7**	**7**
8	-	-	-	-	**4**	**4**
9	-	-	-	-	**0**	**0**
10	-	-	-	-	**0**	**0**
11	-	-	-	-	**0**	**0**
12	-	-	-	-	**0**	**0**
Total	**37**	**34**	**28**	**46**	**19**	**-27**

In 2014, due to a change in road layout, this site has been altered. Consequently results by movement from previous years are not directly comparable.

- Almost all cyclists recorded at this site were adults (95 per cent, stable from last year).
- All cyclists were wearing a helmet (stable from 98 per cent last year).
- The majority of cyclists were male (95 per cent, up from 91 per cent in 2013).
- There has been a considerable increase in use of the footpath (32 per cent, up from 2 per cent last year).

Table 13.2: Morning Cyclist Characteristics

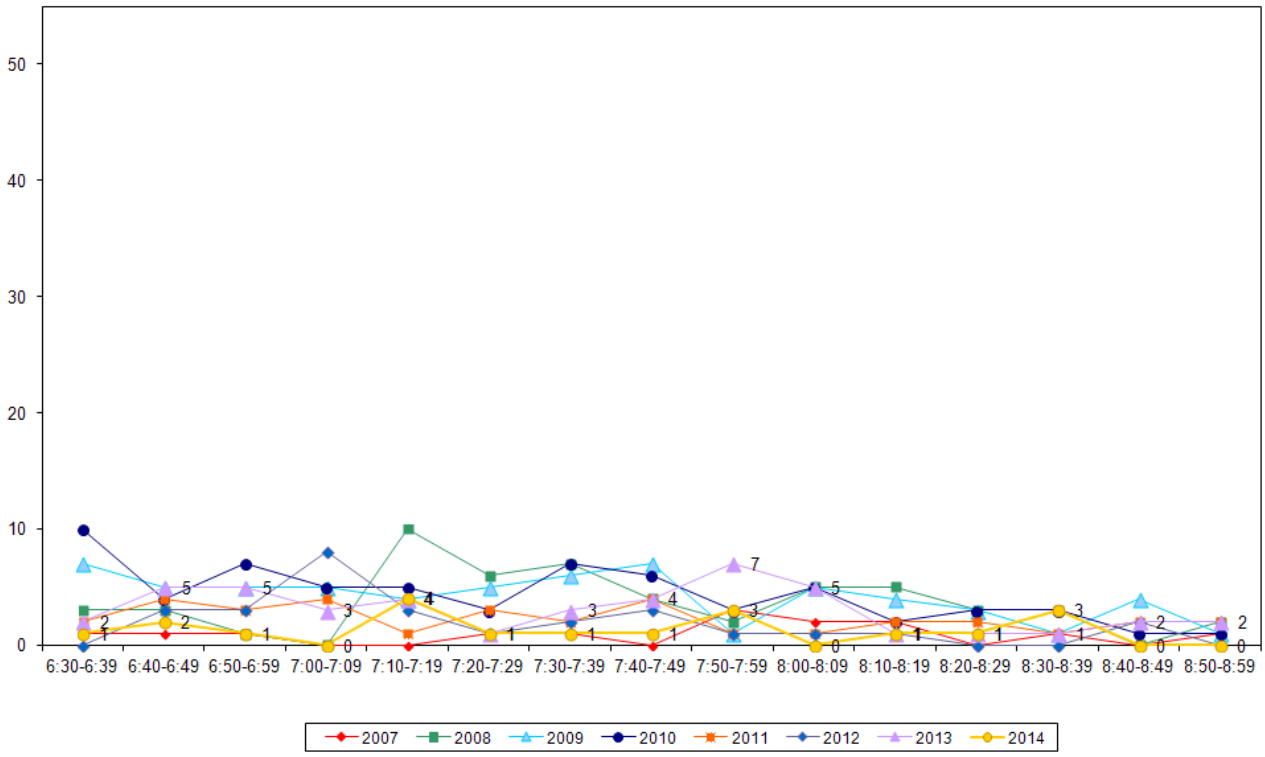
Squadron Drive/Buckley Avenue 2010 – 2014 (%)

	2010	***2011***	***2012***	***2013***	***2014***	**Change 13-14**
Cyclist Type						
Adult	65	97	100	98	**95**	**-3**
School child	35	3	0	2	**5**	**3**
Helmet Wearing						
Helmet on head	97	97	100	98	**100**	**2**
No helmet	3	3	0	2	**0**	**-2**
Gender						
Male	-	97	93	91	**95**	**4**
Female	-	0	7	9	**5**	**-4**
Can't tell	-	3	0	0	**0**	
Where Riding						
Road	19	85	93	76	**68**	**-8**
Footpath	0	15	0	2	**32**	**30**
Off-road cycleway	81	0	7	22	**0**	**-22**
Base:	***37***	***34***	***28***	***46***	***19***	

- In 2014, the volumes of cyclist movements were low throughout the morning period. No more than four cyclists were observed at any ten minute interval during the monitoring period.

Figure 13.2: Morning Peak Cyclist Frequency

Squadron Drive/Buckley Avenue 2007 – 2014 (n)



13.3 Evening Peak

Environmental Conditions

- The weather was fine with moderate winds throughout the shift.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The total number of cycle movements recorded at the Squadron Drive/Buckley Avenue site was 46, 16 fewer than the previous count.
- The most common movements were turning right from Buckley Avenue into Squadron Drive heading south (Movement 6 = 22 cyclists) and turning right from Squadron Drive into Buckley Avenue heading west (Movement 7 = 20 cyclists).

Table 13.3: Evening Cyclist Movements

Squadron Drive/Buckley Avenue 2010 – 2014 (n)

Movement	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	-	-	-	-	**0**	**0**
2	-	-	-	-	**0**	**0**
3	-	-	-	-	**1**	**1**
4	-	-	-	-	**0**	**0**
5	-	-	-	-	**0**	**0**
6	-	-	-	-	**22**	**22**
7	-	-	-	-	**20**	**20**
8	-	-	-	-	**2**	**2**
9	-	-	-	-	**0**	**0**
10	-	-	-	-	**1**	**1**
11	-	-	-	-	**0**	**0**
12	-	-	-	-	**0**	**0**
Total	**57**	**49**	**82**	**60**	**46**	**-16**

In 2014, due to a change in road layout, this site has been altered. Consequently results by movement from previous years are not directly comparable.

- Over the evening peak, almost all cyclists using this site were adults (96 per cent, down from 100 per cent last year).
- All evening cyclists at this site were wearing a helmet.
- The majority of cyclists were male (70 per cent, down from 92 per cent last year).
- There has been an increase in use of the footpath this year (22 per cent, compared to 3 per cent last year). The number of cyclists using the road has also increased by 6 percentage points since 2013.

Table 13.4: Evening Cyclist Characteristics

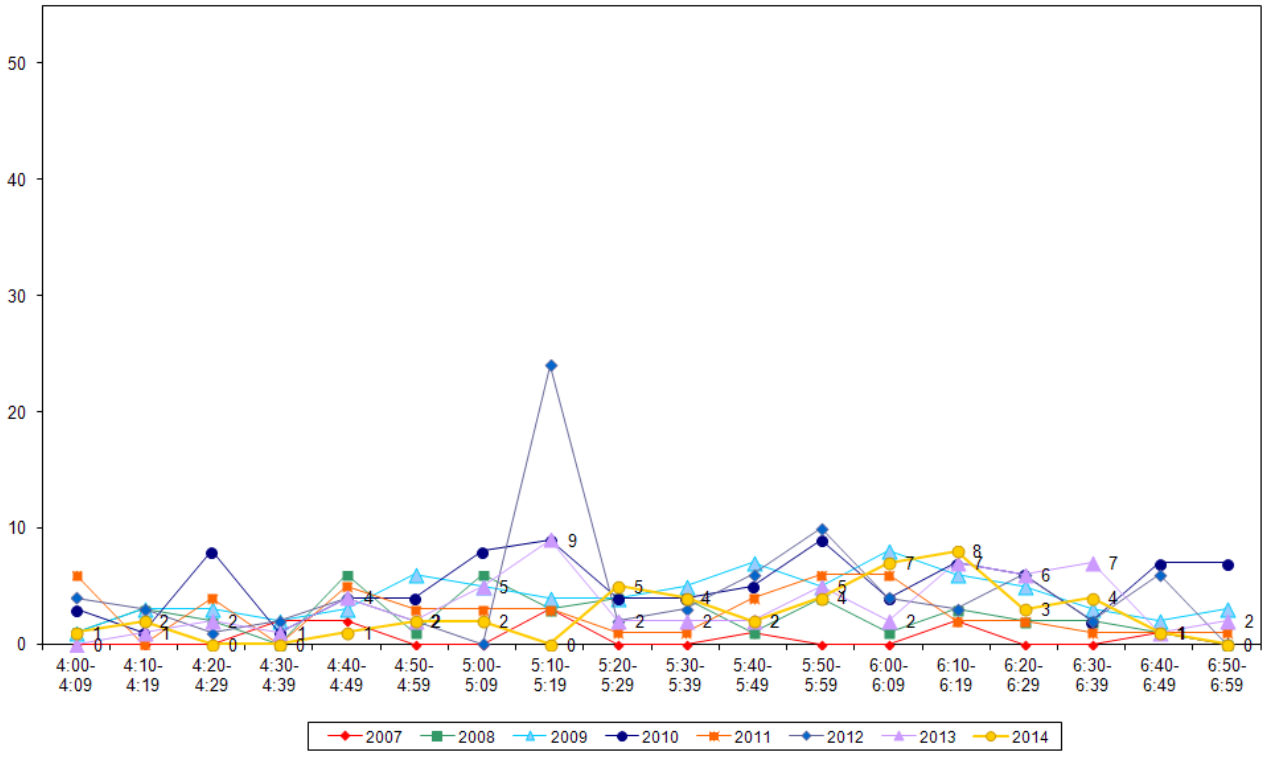
Squadron Drive/Buckley Avenue 2010 – 2014 (%)

	2010	***2011***	***2012***	***2013***	***2014***	**Change 13-14**
Cyclist Type						
Adult	100	92	72	100	**96**	**4**
School child	0	8	28	0	**4**	**-4**
Helmet Wearing						
Helmet on head	100	98	99	97	**100**	**3**
No helmet	0	2	1	3	**0**	**-3**
Gender						
Male	-	90	87	92	**70**	**-22**
Female	-	6	13	8	**30**	**22**
Can't tell	-	4	0	0	**0**	**0**
Where Riding						
Road	32	73	94	72	**78**	**6**
Footpath	0	27	0	3	**22**	**19**
Off-road cycleway	68	0	6	25	**0**	**-25**
Base:	***57***	***49***	***82***	***60***	***46***	

- Evening cyclist volumes were variable throughout the monitoring period. Cycle volumes were higher in the second half of the shift with a peak observed between 6:10pm and 6:19pm (8 movements).

Figure 14.3: Evening Peak Cyclist Frequency

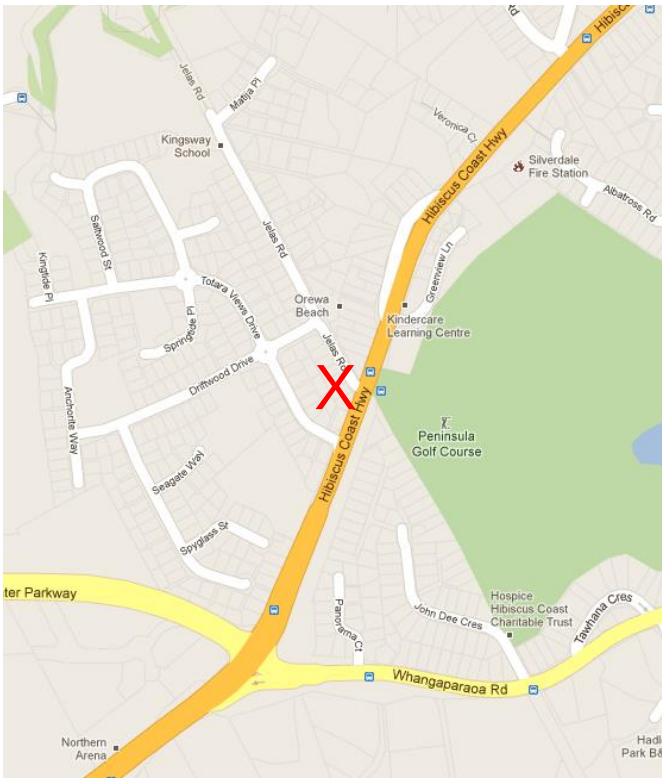
Squadron Drive/Buckley Avenue 2007 – 2014 (n)

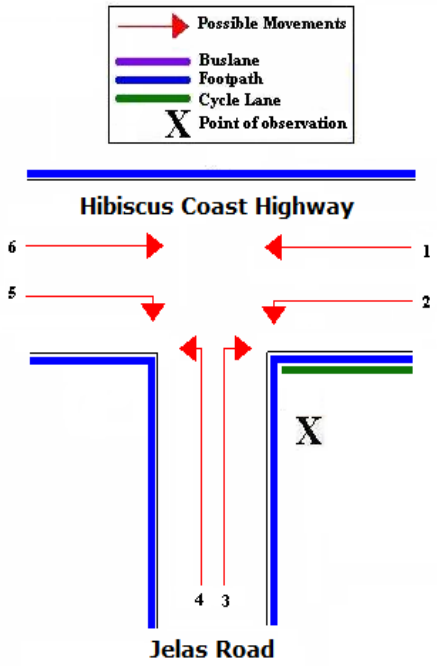


14. HIBISCUS COAST HIGHWAY/JELAS ROAD (SITE 82)

Figure 14.1 shows the possible cyclist movements at this site.

Figure 14.1: Cycle Movements: Hibiscus Coast Highway/Jelas Road





Note: Due to visibility difficulties, in 2013 monitoring at this site was reviewed and the site map was re-designed. Consequently, results from previous years are not directly comparable.

14.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2009	15	23	38	55
2010	24	15	39	57
2011	19	11	30	44
2012	20	14	34	50
2013	28	15	43	64
2014	**15**	**7**	**22**	**33**

14.2 Morning Peak

Environmental Conditions

- The weather was generally fine throughout the morning shift, although occasional drizzle was recorded until 7:00am.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The volume of morning cyclist movements recorded at the Hibiscus Coast Highway/Jelas Road site has decreased this year (15 movements, down from 28 movements in 2013).
- The most common movement in the morning was straight along Hibiscus Coast Highway heading northeast (Movement 1 = 8 cyclists).

Table 14.1: Morning Cyclist Movements

Hibiscus Coast Highway/Jelas Road 2009 – 2014 (n)

Movement	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	-	-	-	-	14	8	**-6**
2	-	-	-	-	0	2	**2**
3	-	-	-	-	0	0	**0**
4	-	-	-	-	3	2	**-1**
5	-	-	-	-	3	0	**-3**
6	-	-	-	-	8	3	**-5**
Total	**15**	**24**	**19**	**20**	**28**	**15**	**-13**

Note: Due to visibility difficulties, in 2013 monitoring at this site was reviewed and the site map was re-designed. Consequently, movements from previous years are not directly comparable.

- Over the morning peak, 67 per cent of the cyclists using this site were children (up from 50 per cent in 2013).
- Most cyclists were wearing a helmet (80 per cent).
- Most cyclists were male (93 per cent, up from 89 per cent in 2013).
- The greatest share of cyclists (80 per cent) were riding on the off-road cycleway.

Table 14.2: Morning Cyclist Characteristics

Hibiscus Coast Highway/Jelas Road 2009 – 2014 (%)

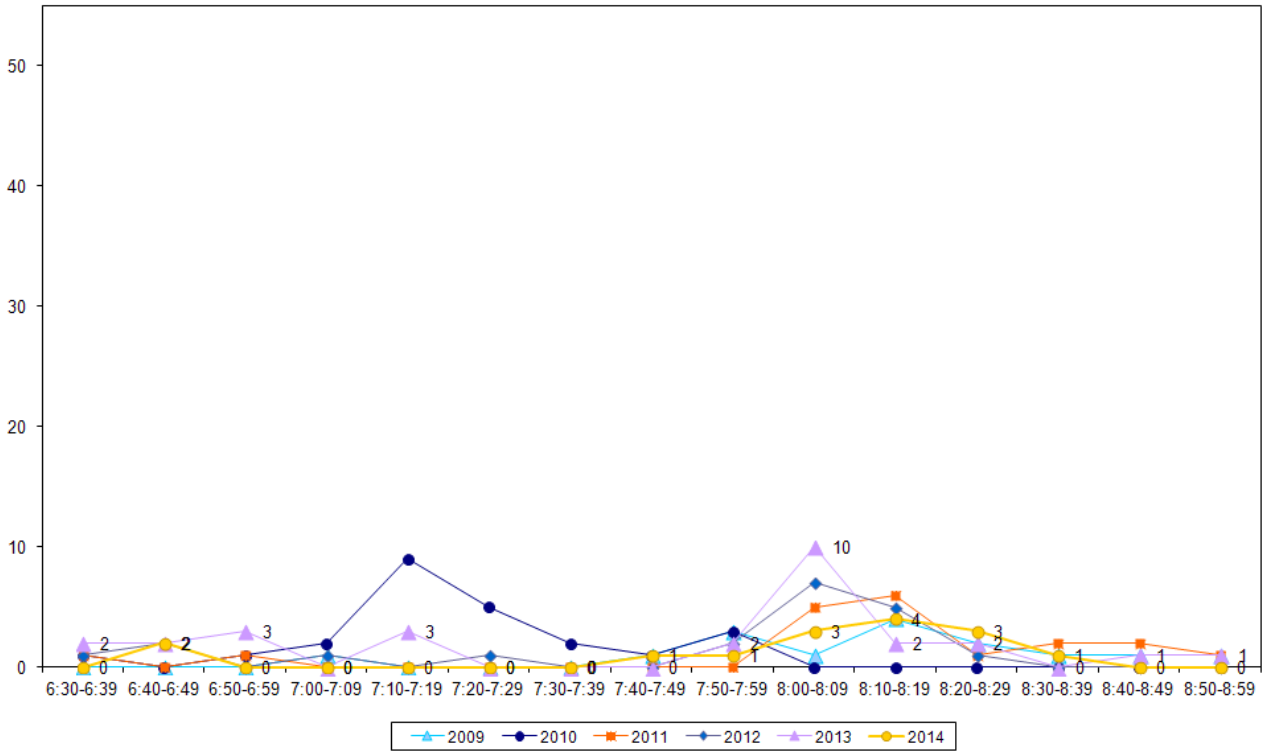
	2009	***2010***	***2011***	***2012***	***2013***	***2014***	**Change 13-14**
Cyclist Type							
Adult	27	25	53	40	50	**33**	**-17**
School child	73	75	47	60	50	**67**	**17**
Helmet Wearing							
Helmet on head	93	88	100	95	89	**80**	**-9**
No helmet	7	12	0	5	11	**20**	**9**
Gender							
Male	-		100	85	89	**93**	**4**
Female	-		0	15	11	**7**	**-4**
Can't tell	-		0	0	0	**0**	
Where Riding							
Road	-	-	-	-	43	**13**	**-30**
Footpath	-	-	-	-	57	**7**	**-50**
Off-road cycleway	-	-	-	-	0	**80**	**80**
Base:	***15***	***24***	***19***	***20***	***28***	***15***	

Note: Due to visibility difficulties, in 2013 monitoring at this site was reviewed and the site map was re-designed. Consequently, data on where cyclists were riding is not directly comparable.

- Cyclist volumes at the Hibiscus Coast/Jelas Road site were relatively low throughout the monitoring period, with the busiest period being between 8:00am to 8:29am (combined 10 movements). In contrast to previous years, there were no notable peaks evident during the monitoring period at this site.

Figure 14.2: Morning Peak Cyclist Frequency

Hibiscus Coast Highway/Jelas Road 2009 – 2014 (n)



14.3 Evening Peak Morning Peak

Environmental Conditions

- The weather was partially cloudy with a breeze throughout the evening shift.
- There were no other road works or accidents that may affect cycle counts.

Key Points

- Evening cyclist traffic at Hibiscus Coast Highway/Jelas Road remains low, with 7 movements recorded in 2014 (down from 15 movements in 2013).
- The key movement in the evening is travelling straight along Hibiscus Coast Highway heading southwest (Movement 6 = 4 movements).

Table 14.3: Evening Cyclist Movements

Hibiscus Coast Highway/Jelas Road 2009 – 2014 (n)

Movement	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	-	-	-	-	7	**1**	**-6**
2	-	-	-	-	1	**0**	**-1**
3	-	-	-	-	2	**0**	**-2**
4	-	-	-	-	3	**1**	**-2**
5	-	-	-	-	1	**1**	**0**
6	-	-	-	-	1	**4**	**3**
Total	**23**	**15**	**11**	**14**	**15**	**7**	**-8**

Note: Due to visibility difficulties, in 2013 monitoring at this site was reviewed and the site map was re-designed. Consequently, movements from previous years are not directly comparable.

- The greatest share of cyclists using the Hibiscus Coast Highway/Jelas Road site were school children (86 per cent, up from 33 per cent in 2013).
- The majority of cyclists were wearing a helmet (86 per cent, up from 73 per cent in 2013).
- All recorded cyclists at this site were male (up 20 percentage points from last year).
- The greatest share of cyclists (86 per cent) were riding on the off-road cycleway.

Table 14.4: Evening Cyclist Characteristics

Hibiscus Coast Highway/Jelas Road 2009 – 2014 (%)

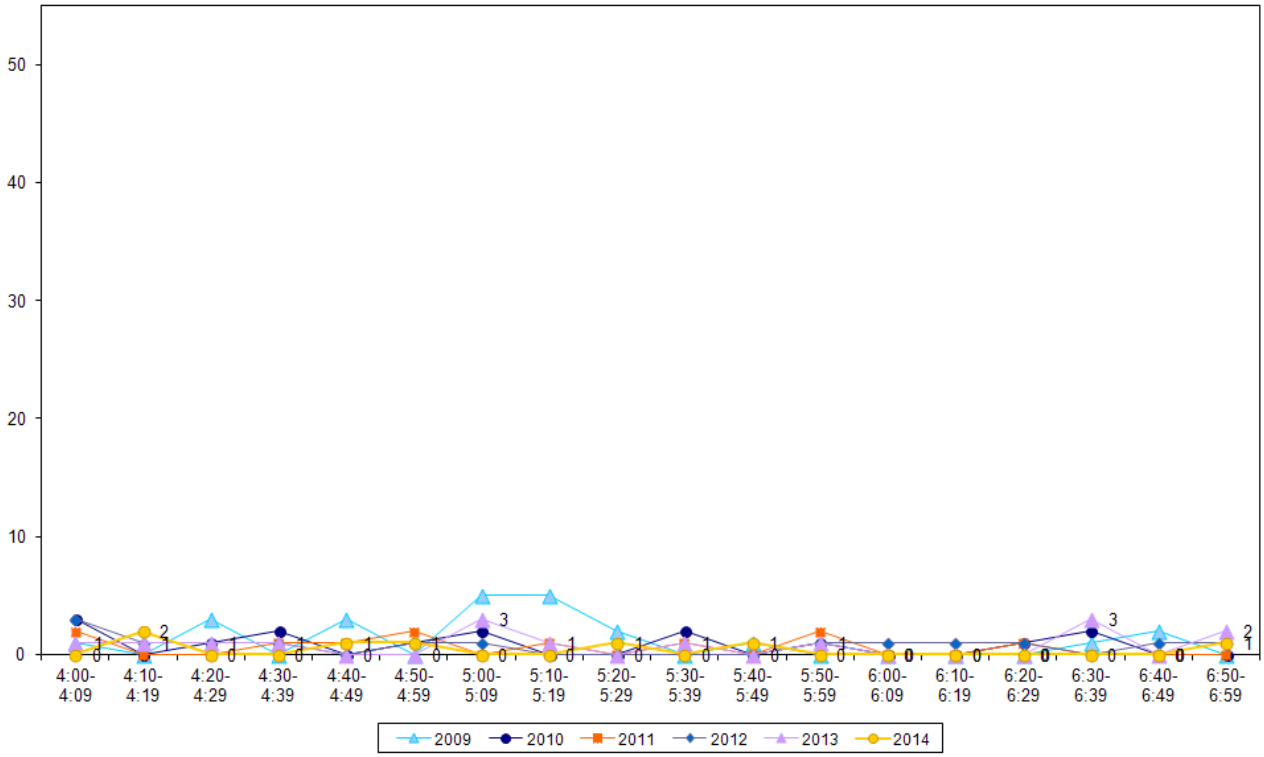
	2009	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type							
Adult	17	53	73	79	67	**14**	**-53**
School child	83	47	27	21	33	**86**	**53**
Helmet Wearing							
Helmet on head	74	93	73	79	73	**86**	**13**
No helmet	26	7	27	21	27	**14**	**-13**
Gender							
Male	-	-	91	79	80	**100**	**20**
Female	-	-	9	21	20	**0**	**-20**
Can't tell	-	-	0	0	0	**0**	**0**
Where Riding							
Road	-	-	-	-	47	**14**	**-33**
Footpath	-	-	-	-	53	**0**	**-53**
Off-road cycleway	-	-	-	-	0	**86**	**86**
Base:	***23***	***15***	***11***	***14***	***15***	***7***	

Note: Due to visibility difficulties, in 2013 monitoring at this site was reviewed and the site map was re-designed. Consequently, data on where cyclists were riding is not directly comparable.

- As in previous years, cyclist volumes are low throughout the evening monitoring period, with no more than two cyclists recorded over any ten minute interval.

Figure 14.3: Evening Peak Cyclist Frequency

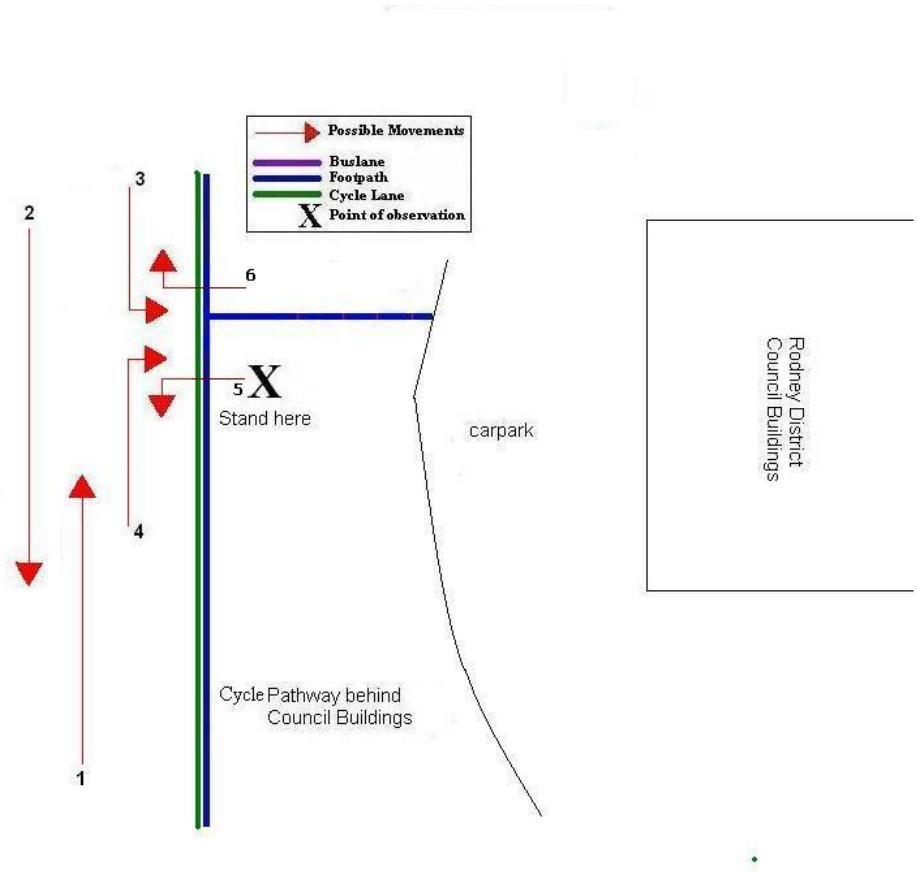
Hibiscus Coast Highway/Jelas Road 2009 – 2014 (n)



15. BEHIND AUCKLAND COUNCIL BUILDING, OREWA (SITE 84)

Figure 15.1 shows the possible cyclist movements at this site.

Figure 15.1: Cycle Movements: Behind Auckland Council Building, Orewa



15.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2009	75	11	86	130
2010	73	22	95	142
2011	72	66	138	201
2012	61	28	89	132
2013	66	23	89	133
2014	**59**	**16**	**75**	**112**

15.2 Morning Peak

Environmental Conditions

- The weather was overcast throughout the morning shift with patches of light rain between 6:30am and 7:00am.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The total number of cyclist movements recorded in 2014 has decreased from last year (59 movements, down from 66 movements in 2013).
- Most of the movements in the morning were heading north along the cycleway (Movement 1 = 52 cyclists).
- Change in morning cyclist volumes at this site since 2013 was most noticeable at Movement 1 (down 6 movements).

Table 15.1: Morning Cyclist Movements

Behind Auckland Council Building, Orewa 2009 – 2014 (n)

Movement	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	73	70	71	54	58	**52**	**-6**
2	1	3	1	2	6	**6**	**0**
3	0	0	0	1	0	**0**	**0**
4	1	0	0	2	1	**1**	**0**
5	0	0	0	2	0	**0**	**0**
6	0	0	0	0	1	**0**	**-1**
Total	**75**	**73**	**72**	**61**	**66**	**59**	**-7**

- The majority of morning cyclists at this site were school children (81 per cent, stable from 83 per cent in 2013).
- Eighty-five per cent of the cyclists were wearing a helmet.
- Most of the cyclists were male (92 per cent, up from 86 per cent last year).

Table 15.2: Morning Cyclist Characteristics

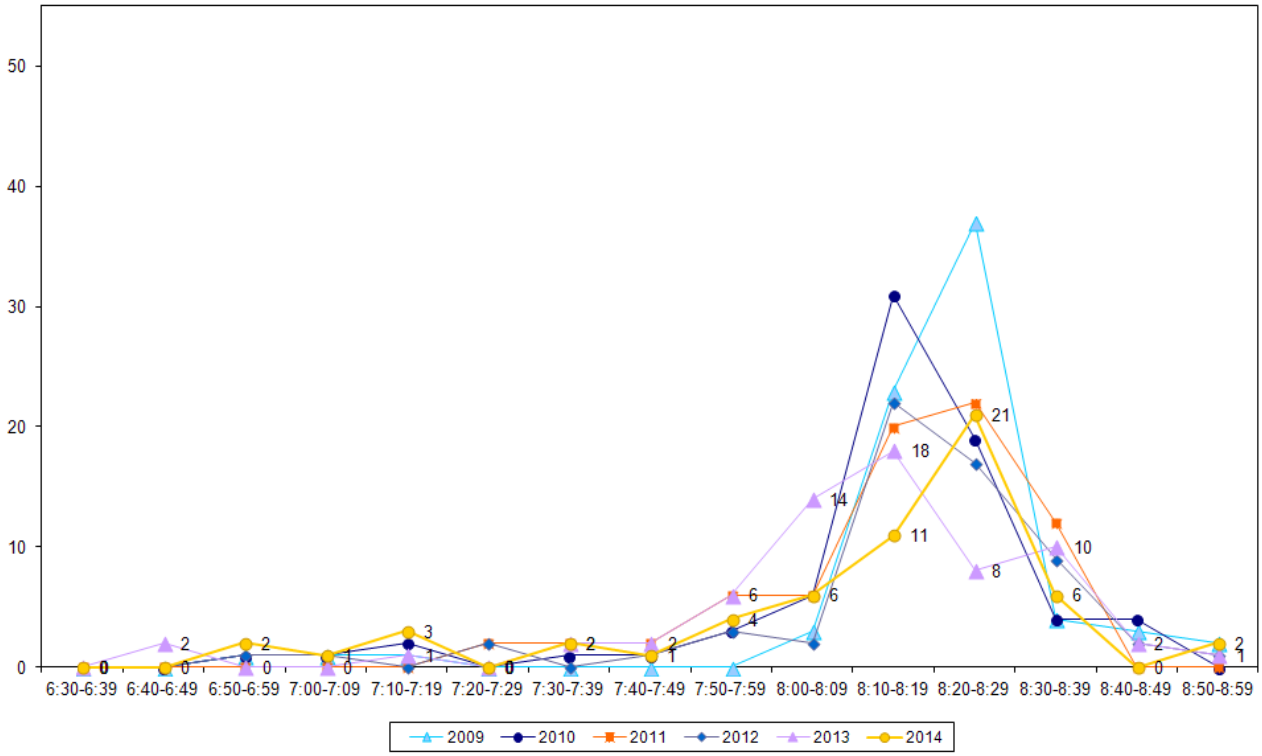
Behind Auckland Council Building, Orewa 2009 – 2014 (%)

	2009	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type							
Adult	8	12	11	18	17	**19**	**2**
School child	92	88	89	82	83	**81**	**-2**
Helmet Wearing							
Helmet on head	84	88	89	80	89	**85**	**-4**
No helmet	16	12	11	20	11	**15**	**4**
Gender							
Male	-	-	89	80	86	**92**	**6**
Female	-	-	7	20	14	**8**	**-6**
Can't tell	-	-	4	0	0	**0**	**0**
Where Riding							
Off-road cycleway	100	100	100	100	100	**100**	**0**
Base:	***75***	***73***	***72***	***61***	***66***	***59***	

- The volume of morning cyclist movements was very low until 8:00am, and peaked between 8:20am and 8:29am (21 movements). The trend was consistent with previous years.

Figure 15.2: Morning Peak Cyclist Frequency

Behind Auckland Council Building, Orewa 2009 – 2014 (n)



15.3 Evening Peak

Environmental Conditions

- The weather was fine but often cloudy throughout the evening shift.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Sixteen cycle movements were recorded during the evening peak at this site, slightly lower than the 23 movements recorded in 2013.
- The key movement was to head south along the cycleway (Movement 2 = 9 cyclists).
- The most noticeable change in movements from 2013 was Movement 5 (down 3 movements).

Table 15.3: Evening Cyclist Movements

Behind Auckland Council Building, Orewa 2009 – 2014 (n)

Movement	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	5	10	28	2	6	**5**	**-1**
2	4	12	31	14	11	**9**	**-2**
3	0	0	1	0	0	**0**	**0**
4	1	0	1	3	0	**1**	**1**
5	1	0	4	9	4	**1**	**-3**
6	0	0	1	0	2	**0**	**-2**
Total	**11**	**22**	**66**	**28**	**23**	**16**	**-7**

- Almost half of evening cyclists at this site were school children (44 per cent, up by 9 percentage points from last year).
- Two in three cyclists were wearing a helmet (63 per cent, an 11 percentage point decrease from 74 per cent in 2013).
- Eighty-one per cent of cyclists were male (up 24 percentage points from last year).

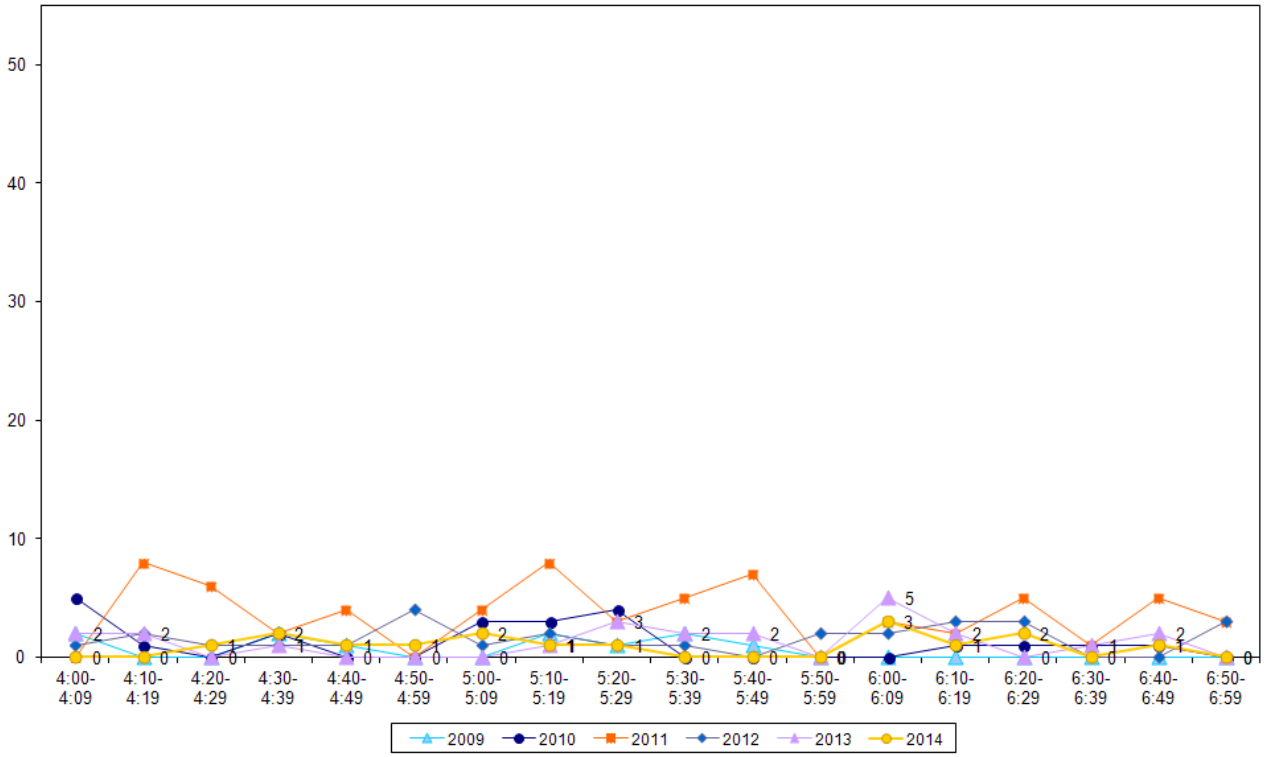
Table 14.4: Evening Cyclist Characteristics
Behind Auckland Council Building, Orewa 2009 – 2014 (%)

	2009	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type							
Adult	91	55	52	64	65	**56**	**-9**
School child	9	45	48	36	35	**44**	**9**
Helmet Wearing							
Helmet on head	82	59	77	57	74	**63**	**-11**
No helmet	18	41	23	43	26	**37**	**11**
Gender							
Male	-	-	71	71	57	**81**	**24**
Female	-	-	29	29	43	**19**	**-24**
Can't tell	-	-	0	0	0	**0**	**0**
Where Riding							
Off-road cycleway	100	100	100	100	100	**100**	**0**
Base:	***11***	***22***	***66***	***28***	***23***	***16***	

- Similar to last year, cyclist movement volumes were low during most of the monitoring period. The highest cycle volume during the evening peak was between 6:00pm and 6:09pm, with three movements.

Figure 15.3: Evening Peak Cyclist Frequency

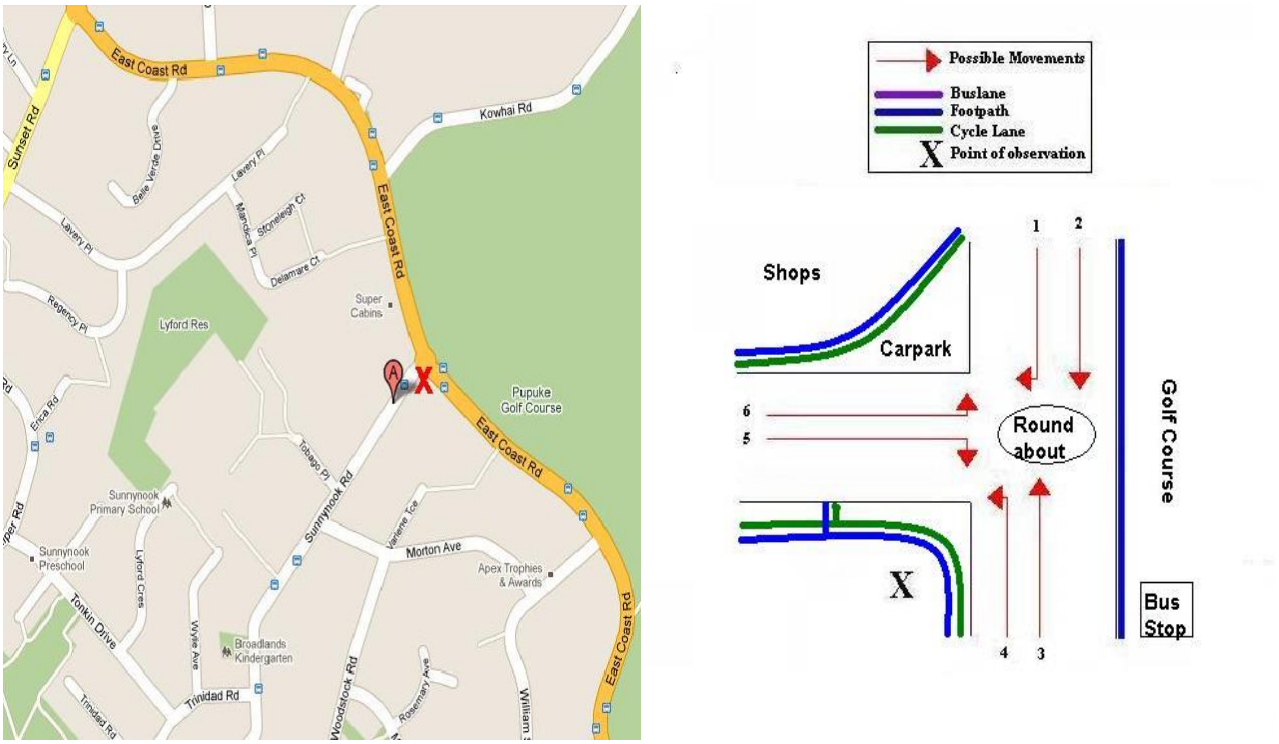
Behind Auckland Council Building, Orewa 2009 – 2014 (n)



16. SUNNYNOOK ROAD/EAST COAST ROAD, SUNNYNOOK (SITE 89)

Figure 16.1 shows the possible cyclist movements at this intersection.

Figure 16.1: Sunnynook Road/East Coast Road, Sunnynook



Note: This site was monitored for the first time in 2011.

16.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2011	81	93	174	252
2012	95	60	155	228
2013	96	53	149	211
2014	**45**	**52**	**97**	**140**

16.2 Morning Peak

Environmental Conditions

- The weather remained overcast throughout the morning shift. There were patches of rain recorded at 6:31am to 6:48am and from 7:16 am to 7:31am.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The volume of morning cyclist movements recorded at the Sunnynook/East Coast Road intersection in 2013 has decreased since last year (45 movements observed this year, compared with 96 in 2013).
- The key morning movement was continuing straight along East Coast Road travelling in a south-easterly direction (Movement 2 = 25 movements).
- The most noticeable change in morning cyclist movements was at Movement 2 (down 40 movements from 2013).

Table 16.1: Morning Cyclist Movements

Sunnynook Road/East Coast Road, Sunnynook 2011 – 2014 (n)

Movement	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	5	1	2	**2**	**0**
2	42	74	65	**25**	**-40**
3	25	17	22	**16**	**-6**
4	6	0	0	**0**	**0**
5	0	2	3	**1**	**-2**
6	3	1	4	**1**	**-3**
Total	**81**	**95**	**96**	**45**	**-51**

- Over the morning peak, the majority of cyclists were adults (87 per cent, stable from 85 per cent at the previous measure).
- Almost cyclists were wearing a helmet (98 per cent, stable from last year).
- The majority of cyclists continued to be male (78 per cent, down from 84 per cent in 2013).
- Most cyclists were riding on the road (78 per cent, up from 75 per cent last year).

Table 16.2: Morning Cyclist Characteristics

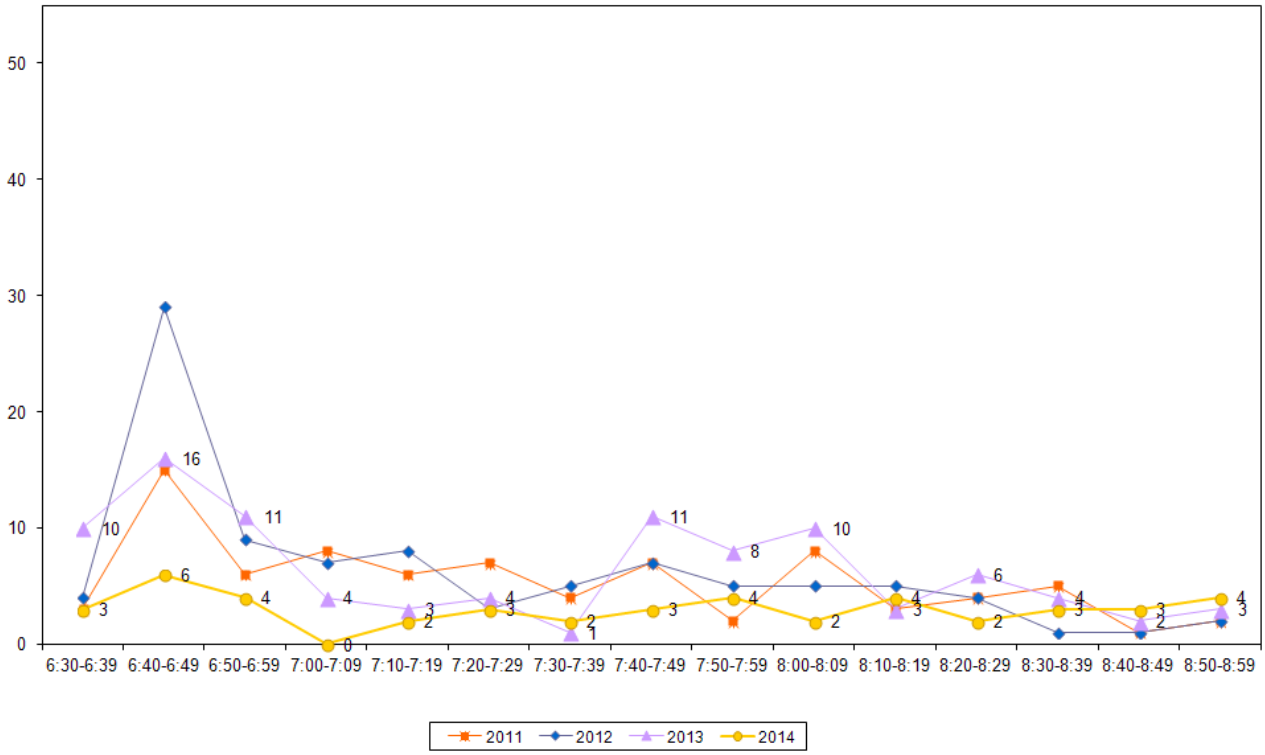
Sunnynook Road/East Coast Road, Sunnynook 2011 – 2014 (%)

	2011	***2012***	***2013***	***2014***	**Change 13-14**
Cyclist Type					
Adult	88	93	85	**87**	**2**
School child	12	7	15	**13**	**-2**
Helmet Wearing					
Helmet on head	99	100	98	**98**	**0**
No helmet	1	0	2	**2**	**0**
Gender					
Male	77	84	84	**78**	**-6**
Female	23	16	15	**22**	**7**
Can't tell	0	0	1	**0**	**-1**
Where Riding					
Road	79	88	75	**78**	**3**
Footpath	2	12	25	**22**	**-3**
Off-road cycle way	19	0	0	**0**	**0**
Base:	***81***	***95***	***96***	***45***	

- Morning cyclist movement volumes remained low throughout the morning monitoring period with no more than four cyclists recorded at any ten minute interval. The exception to this was recorded at 6:40am – 6:49am which reached six cycle movements. The remainder of the shift remained consistent.

Figure 16.2: Morning Peak Cyclist Frequency

Sunnynook Road/East Coast Road, Sunnynook 2011 – 2014 (n)



Note: In 2014, no cyclists were observed riding together in the morning peak. This compares with 16 per cent (n=16) cyclists in 2013 identified as riding in groups (and 21 per cent: n=20 in 2012).

16.3 Evening Peak

Environmental Conditions

- The weather was fine and sunny throughout the evening shift.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Cyclist movement volumes have remained stable this year at 52 movements, in comparison with 53 movements in 2013.
- The key movements were continuing straight along East Coast Road in a north/north westerly direction (Movement 3 = 29 movements) and continuing straight on East Coast Road travelling in a south-easterly direction (Movement 2 = 19 movements).
- The only observed change from last year was at Movement 4, which had a decrease of one cycle movement.

Table 16.3: Evening Cyclist Movements

Sunnynook Road/East Coast Road, Sunnynook 2011 – 2014 (n)

Movement	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	2	1	1	**1**	**0**
2	33	22	19	**19**	**0**
3	49	35	29	**29**	**0**
4	2	0	2	**1**	**-1**
5	4	0	1	**1**	**0**
6	3	2	1	**1**	**0**
Total	***93***	***60***	***53***	***52***	***-1***

- Almost all cyclists at this site were adults (88 per cent, down 4 percentage points relative to the previous measure).
- Almost all cyclists were wearing a helmet (96 per cent, stable from 2013).
- The majority of cyclists continued to be male (87 per cent, down from 91 per cent last year).
- Approximately nine out of ten cyclists were riding on the road (92 per cent, up from 81 per cent in 2013), while the remaining 8 per cent were riding on the footpath.

Table 16.4: Evening Cyclist Characteristics

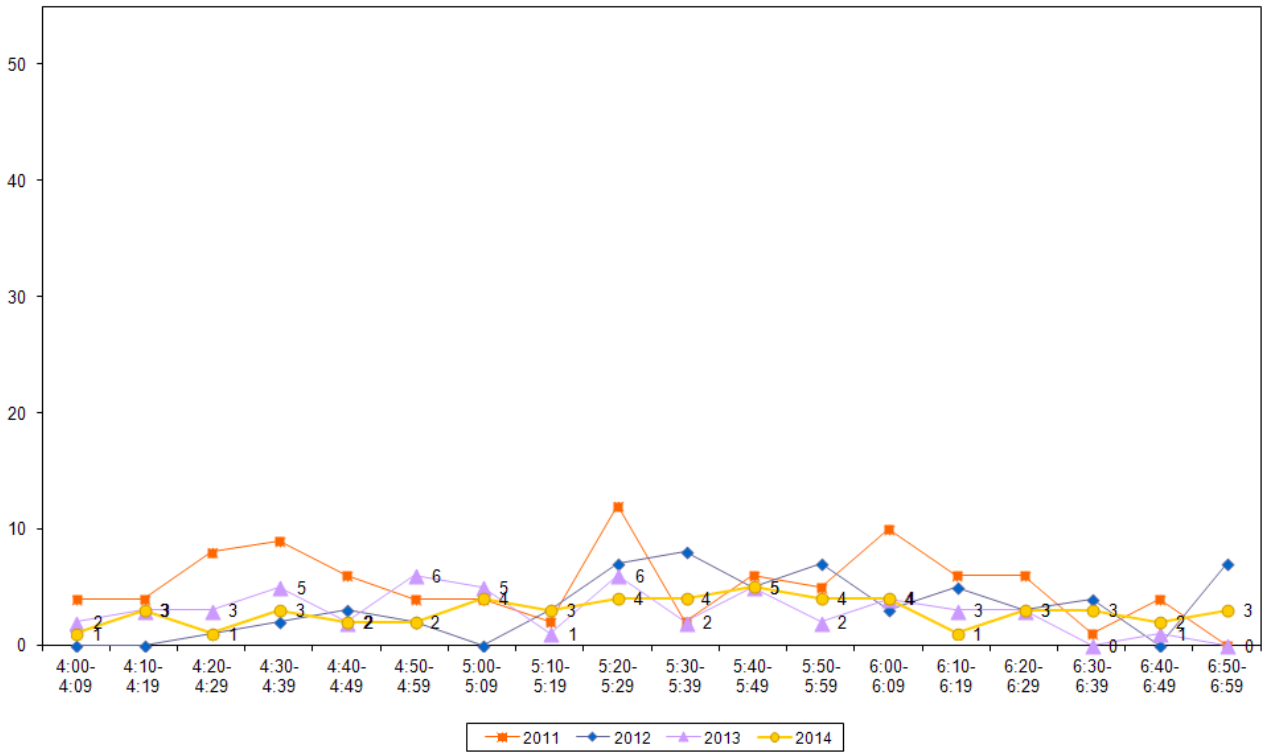
Sunnynook Road/East Coast Road, Sunnynook 2011 – 2014 (%)

	2011	***2012***	***2013***	***2014***	**Change 13-14**
Cyclist Type					
Adult	82	78	92	**88**	**-4**
School child	18	22	8	**12**	**4**
Helmet Wearing					
Helmet on head	97	98	98	**96**	**-2**
No helmet	3	2	2	**4**	**2**
Gender					
Male	91	83	91	**87**	**-4**
Female	9	17	9	**13**	**4**
Can't tell	0	0	0	**0**	
Where Riding					
Road	78	79	81	**92**	**11**
Footpath	7	21	19	**8**	**-11**
Off-road cycle way	15	0	0	**0**	**0**
Base:	***93***	***60***	***53***	***52***	

- Cyclist movement volumes in the evening were low, fluctuating between zero to five cyclists per ten-minute interval. This is consistent with previous years which have also recorded continuous low numbers throughout the evening monitoring period.

Figure 16.3: Evening Peak Cyclist Frequency

Sunnynook Road/East Coast Road, Sunnynook 2011 – 2014 (n)



17. ALBANY FERRY WHARVES

Environmental Conditions

- Stationary cycle counts at various ferry wharves were conducted on Tuesday 4th March 2014 (the same day as the cycle counts in the North Shore ward).
- There were no road works or incidents that may affect cycle counts.

Hobsonville Ferry Terminal - Key Points

- In 2014, no cycles were recorded at the Hobsonville Ferry Terminal at any of the four monitoring times.

Note: Ferry services from the Hobsonville ferry wharf commenced operation in February 2013. Observation of stationary cycles was conducted for the first time in 2013.

Table 17.1: Hobsonville Ferry Wharf Counts 2014 (n)

	2013	*2014*	Change 13-14
Morning Peak			
6:10am	0	**0**	**0**
9:10am	1	**0**	**-1**
Evening Peak			
3:30pm	1	**0**	**-1**
7:10pm	1	**0**	**-1**

Gulf Harbour Ferry Terminal - Key Points

- In 2014, no cycles were recorded at the Gulf Harbour Ferry Terminal at any of the four monitoring times.

Note: Observation of stationary cycles was conducted for the first time in 2014.

Table 17.2: Gulf Harbour Ferry Wharf Counts 2014 (n)

	2014
Morning Peak	
6:10am	**0**
9:10am	**0**
Evening Peak	
3:30pm	**0**
7:10pm	**0**

18. SCHOOL BIKE SHED COUNT

18.1 Cycle Count Background Information

- A total of 17 schools in the Albany ward participated in the school bike shed count in 2014. Most schools do not have policies that restrict students cycling to school[9].
- Of the schools that responded to the survey, only one reported any events or issues that may affect cycle counts[10].
- While the designated count day was Tuesday 4th of March 2014, most schools in the Albany Ward conducted their counts on an alternative day[11].

Note: Full primary schools (those taking children through to Year 8) were included in the count for the first time in 2011.

18.2 Cycle Count Key Points

- Among the surveyed schools, of those eligible to cycle to school, on average, two per cent of students are cycling to their schools. This share is unchanged from 2013.
- Hobsonville Point Primary School and Silverdale Primary School reported the highest share of cyclists – each with 24 per cent of all eligible students currently cycling to school.
- In total, n=270 students from the responding schools were reported to be cycling to school.
- Of the 17 schools that responded, four (24 per cent) had no students cycling to school.
- Of the 14 schools that participated in the count in both 2013 and 2014, six (43 per cent) reported an increase in the share of students cycling, the most notable increases being:
    - Silverdale Primary School (24 per cent, up from 6 per cent)

[9] The following schools have policies restricting cycling to school:
- Marina View School *"Only Year 5 and up allowed to cycle"*
- Silverdale Primary School *"Children under 10 years must be accompanied by an adult"*
- Whenuapai School *"Year 4/8 years or over"*

[10] The following schools reported events or issues that had an effect on the cycle count:
- Albany Junior High School *"1/4 of Year 8 student are away on school camp – around 80 students"*

[11] The following schools conducted their counts on alternative days:
- Albany Junior High School – 12th March 2014
- Albany Senior High School – 27th March 2014
- City Impact Church School – 18th March 2014
- Dairy Flat School – 18th March 2014
- Hobsonville Point Primary School – 18th March 2014
- Marina View School – 26th March 2014
- Murray's Bay Intermediate School – 26th March 2014
- Pinehurst School – 26th March 2014
- Rangitoto College – 17th March 2014
- Silverdale Primary School – 7th March 2014
- Te Kura Kaupapa Māori o Te Raki Paewhenua – 17th March 2014
- Whenuapai School – 18th March 2014

- Timatanga Community School (5 per cent, up from 0 per cent).
- Orewa College (8 per cent, up from 5 per cent).

- Of the 14 schools that participated in the count in both 2013 and 2014, 2 (14 per cent) reported a decrease in the share of students cycling.

Table 18.1 shows the results of the 17 schools surveyed in Albany ward.

Table 18.1: Summary Table Of School Bike Count

2007 – 2014 (n)

School Name	*School Type*	*School Roll Eligible To Cycle*	*No. of Cycles Counted*	*Cyclists as share of those eligible*[12]							
				2014	*2013*	*2012*	*2011*	*2010*	*2009*	*2008*	*2007*
Hobsonville Point Primary School	Full Primary	83	20	**24%**	31%	-	-	-	-	-	-
Silverdale Primary School	Full Primary	229	54	**24%**	6%	2%	8%	-	-	-	-
Orewa College	Intermediate/Secondary	1560	120	**8%**	5%	2%	4%	7%	5%	5%	6%
Timatanga Community School	Full Primary	19	1	**5%**	0%	-	-	-	-	-	-
Marina View School	Full Primary	281	7	**3%**	2%	-	-	-	-	-	-
Whenuapai School	Full Primary	260	8	**3%**	-	-	-	-	-	-	-
Albany Junior High School	Intermediate/Secondary	1045	20	**2%**	2%	5%	-	-	-	-	-
Stella Maris Primary School	Full Primary	280	6	**2%**	2%	0%	1%	-	-	-	-
Albany Senior High School	Secondary	727	4	**1%**	<1%	1%	1%	2%	-	-	-
Kristin School	Composite	1548	9	**1%**	<1%	<1%	<1%	<1%	1%	-	-
Murray's Bay Intermediate	Intermediate	931	10	**1%**	-	1%	2%	3%	2%	2%	5%
Pinehurst School	Composite	700	3	**<1%**	1%	1%	<1%	1%	0%	1%	1%
Rangitoto College	Secondary	3100	8	**<1%**	<1%	<1%	1%	1%	1%	<1%	1%
City Impact Church School	Composite	169	0	**0%**	0%	0%	0%	-	-	-	-
Dairy Flat School	Full Primary	253	0	**0%**	0%	0%	0%	-	-	-	-
Te Kura Kaupapa Māori o Te Raki Paewhenua	Composite	90	0	**0%**	-	0%	0%	-	-	-	-

[12] This share is calculated by averaging the number of cycles counted over the total number of students eligible to cycle. The figure obtained is rounded to zero decimal places.

School Name	*School Type*	*School Roll Eligible To Cycle*	*No. of Cycles Counted*	*Cyclists as share of those eligible*[12]							
				2014	*2013*	*2012*	*2011*	*2010*	*2009*	*2008*	*2007*
The Corelli International Academic School of the Arts	Composite	71	0	**0%**	0%	0%	-	-	-	-	-
Total		**11346**	**270**	**2%**	**2%**	**1%**	**-**	**-**	**-**	**-**	**-**

Table 18.2 illustrates the rates of cycling to school at different school levels. Rates of cycling to school are highest among full primary schools, with 7 per cent of students cycling to school (up from 4 per cent in 2013). Rates are lowest for secondary schools and composite schools (less than 1 per cent).

Table 18.2: Summary Table Of School Bike Count by School Type

2007 – 2014 (%)

School Type	*Number of Schools Responded in 2014 (n)*	*Cyclists as share of those eligible*								Change
		2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	13-14
Full Primary	7	-	-	-	-	3%	2%	4%	**7%**	**3%**
Intermediate/Secondary	2	5%	3%	5%	5%	4%	2%	4%	**5%**	**1%**
Intermediate	1	5%	1%	3%	3%	2%	1%	2%	**1%**	**-1%**
Composite	5	<1%	1%	1%	1%	1%	2%	1%	**<1%**	**-<1%**
Secondary	2	1%	<1%	<1%	1%	1%	<1%	<1%	**<1%**	**0%**

18.3 Scooter Count Background Information

Note: Non-motorised scooters were counted for the first time in 2014.

- A total of 17 schools in the Albany ward participated in the school bike shed scooter count. Of the schools that responded to the survey, most had no policies that restrict students scootering to school[13].
- No schools surveyed reported any events or issues that may affect the scooter counts.
- While the designated count day was Tuesday 4th of March 2014, most schools in the Albany Ward conducted their counts on an alternative day[14].

18.4 Scooter Count Key Points

- Among the surveyed schools, of those eligible to scooter, on average, two per cent of students are scootering to their schools.
- Timatanga Community School reported the highest share of scooters – 21 per cent of all eligible students currently scootering to school.
- In total, n=86 students from the responding schools were reported to be scootering to school.
- Of the 17 schools that responded, 9 (53 per cent) had no students scootering to school.

[13] The following schools have policies surrounding scootering to school:
- Albany Junior High School *"Scooters are not allowed in school at the moment although this matter is being looked at and reviewed and the situation may change in the future."*

[14] The following schools conducted their counts on alternative days:
- Albany Junior High School – 12th March 2014
- Albany Senior High School – 27th March 2014
- City Impact Church School – 18th March 2014
- Dairy Flat School – 18th March 2014
- Hobsonville Point Primary School – 18th March 2014
- Marina View School – 26th March 2014
- Murray's Bay Intermediate School – 26th March 2014
- Pinehurst School – 26th March 2014
- Rangitoto College – 17th March 2014
- Silverdale Primary School – 7th March 2014
- Te Kura Kaupapa Māori o Te Raki Paewhenua – 17th March 2014
- Whenuapai School – 18th March 2014

Table 18.3 shows the results of the 17 schools surveyed in the Albany ward.

Table 18.3: Summary Table Of School Scooter Count

2007 – 2014 (n)

School Name	*School Type*	*School Roll Eligible To Scooter*	*No. of Scooters Counted*	*Scooters as share of those eligible*[15]
				2014
Timatanga Community School	Full Primary	19	4	**21%**
Hobsonville Point Primary School	Full Primary	83	14	**17%**
Marina View School	Full Primary	644	20	**3%**
Orewa College	Intermediate/ Secondary	1560	25	**2%**
Silverdale Primary School	Full Primary	483	12	**2%**
Kristin School	Composite	1548	2	**<1%**
Murray's Bay Intermediate	Intermediate	931	7	**1%**
Pinehurst School	Composite	700	2	**<1%**
Albany Senior High School	Secondary	727	0	**0%**
City Impact Church School	Composite	169	0	**0%**
Dairy Flat School	Full Primary	253	0	**0%**
Rangitoto College	Secondary	3100	0	**0%**
Stella Maris Primary School	Full Primary	280	0	**0%**
The Corelli International Academic School of the Arts	Composite	71	0	**0%**
Whenuapai School	Full Primary	473	0	**0%**
Te Kura Kaupapa Māori o Te Raki Paewhenua	Composite	90	0	**0%**
Albany Junior High School	Intermediate/ Secondary	0	0	-
Total		**11131**	**86**	**1%**

[15] This share is calculated by averaging the number of scooters counted over the total number of students eligible to scooter. The figure obtained is rounded to zero decimal places.

Table 18.4 illustrates the rates of scootering to school at different school levels. Rates of scootering to school are highest for full primary, intermediate/secondary schools (2 per cent each).

Table 18.4: Summary Table Of School Scooter Count by School Type

2007 – 2014 (%)

School Type	***Number of Schools Responded in 2014 (n)***	***Scooter riders as share of those eligible***
		2014
Full Primary	7	2%
Intermediate/Secondary	2	2%
Intermediate	1	1%
Composite	5	<1%
Secondary	2	0%

APPENDIX

Appendix One: Annual Average Daily Traffic (AADT) Calculation

APPENDIX ONE: ANNUAL AVERAGE DAILY TRAFFIC (AADT) CALCULATION

Note: This description of the calculation of the Annual Average Daily Traffic Flow of Cyclists has been provided by ViaStrada based on their May 2007 report for ARTA entitled "Development of a Cycle Traffic AADT Tool".

Purpose

The purpose of this appendix is to document the recommended procedure for estimating a cycling AADT[16] in the Auckland region from any Gravitas manual count.

Method for Estimating AADT

The methodology is based on that published in Appendix 2 of the Cycle Network and Route Planning Guide (CNRPG)[17], adjusted for Auckland conditions based on data collected during March 2007. The aim was to use the published methodology as much as possible, with any necessary departure from it documented below. The following equation yields the best estimate of a cycling AADT:

$$AADT_{Cyc} = Count \times \frac{1}{\sum H} \times \frac{1}{D} \times \frac{W}{7} \times \frac{1}{R}$$

where *Count = result of count period*

H = scale factor for time of day

D = scale factor for day of week

W = scale factor for week of year

R = scale factor for weather conditions on the count day

If more than one set of count data is available (for example, both a morning count and afternoon count), then **the calculation should be carried out for each set of data, and the estimates derived from each averaged**.

The values for the scale factors (*H, D, W* and *R*) have been deduced in the ViaStrada report and are included in this report in Figure 1.

[16] Annual average daily traffic

[17] LTSA, 2004

For the Gravitas counts, the following factors apply:

$\sum H_{AM} = 30$; $\sum H_{PM} = 33.3$; (AM and PM refer to morning and afternoon respectively)

D = 14

W = 0.9

$R_{DRY} = 100$; $R_{WET} = 64$ (DRY and WET refer to fine and rainy conditions respectively)

These can be combined as a single multiplier to convert the manual count to an AADT estimate as follows:

	Morning	Afternoon
Dry weather	**3.06**	**2.78**
Wet weather	**4.78**	**4.35**

Worked Example

If morning and afternoon manual traffic counts are available at a site, the AADT can be calculated using the count summaries for each period. For example, a morning survey of 102 and an afternoon survey of 130 are suggested. It is assumed for this example that the weather was fine in both surveys.

- Thus the AADT from the morning survey is estimated as 3.06 x 102 = 312.
- The AADT from the afternoon survey is estimated as 2.78 x 130 = 359.
- The average of these two estimates is 335; this is the estimate of AADT for this site, based on the two surveys.

Figure 1: Scale Factors for Auckland Region

Period Starting	Period Ending	Interval (hours)	$H_{Weekday}$ Mon to Fri	$H_{Weekend}$ Sat & Sun
0:00	6:30	6.50	5.5%	1.8%
6:30	6:45	0.25	2.3%	0.8%
6:45	7:00	0.25	2.6%	1.5%
7:00	7:15	0.25	3.2%	1.4%
7:15	7:30	0.25	3.7%	2.1%
7:30	7:45	0.25	3.8%	2.8%
7:45	8:00	0.25	4.0%	3.3%
8:00	8:15	0.25	3.9%	3.2%
8:15	8:30	0.25	3.1%	3.8%
8:30	8:45	0.25	2.3%	3.5%
8:45	9:00	0.25	1.3%	3.5%
9:00	10:00	1.00	4.2%	13.6%
10:00	11:00	1.00	3.4%	11.6%
11:00	12:00	1.00	2.6%	9.1%
12:00	13:00	1.00	2.7%	6.6%
13:00	14:00	1.00	2.7%	5.0%
14:00	14:15	0.25	0.7%	1.9%
14:15	14:30	0.25	0.7%	1.3%
14:30	14:45	0.25	0.6%	1.3%
14:45	15:00	0.25	0.6%	1.2%
15:00	15:15	0.25	0.8%	1.1%
15:15	15:30	0.25	1.0%	0.9%
15:30	15:45	0.25	1.3%	1.4%
15:45	16:00	0.25	1.2%	1.3%
16:00	16:15	0.25	2.1%	1.0%
16:15	16:30	0.25	2.3%	1.7%
16:30	16:45	0.25	2.1%	1.0%
16:45	17:00	0.25	2.5%	1.2%
17:00	17:15	0.25	3.3%	1.2%
17:15	17:30	0.25	3.7%	1.2%
17:30	17:45	0.25	4.0%	1.1%
17:45	18:00	0.25	3.2%	1.1%
18:00	18:15	0.25	3.0%	0.9%
18:15	18:30	0.25	2.7%	0.7%
18:30	18:45	0.25	2.4%	0.8%
18:45	19:00	0.25	2.1%	0.6%
19:00	20:00	1.00	5.6%	2.0%
20:00	0:00	4.00	3.0%	1.5%
		24.00	100.0%	100.0%

Day	D
Monday	14%
Tuesday	14%
Wednesday	14%
Thursday	14%
Friday	14%
Saturday	14%
Sunday	16%

Period	W
Summer holidays	1.0
Term 1	0.9
April holidays	1.0
Term 2	1.0
July holidays	1.2
Term 3	1.1
Sep/Oct holidays	1.2
Term 4	1.0

Weather	R
Fine	100%
Rain	64%