gravitas

Research Report Prepared for
Auckland Transport

May 2014

2014 Auckland Region Manual Cycle Monitor

- Albert-Eden-Roskill Ward -

Gravitas Research and Strategy Limited
Level 12, Wellesley Centre,
44-52 Wellesley St, Auckland
PO Box 3802, Shortland St, Auckland
tel. 09 356 8842, fax. 09 356 5767
e-mail. info@gravitas.co.nz

TABLE OF CONTENTS

APPENDICES

1. ALBERT-EDEN-ROSKILL WARD SUMMARY OF RESULTS

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:

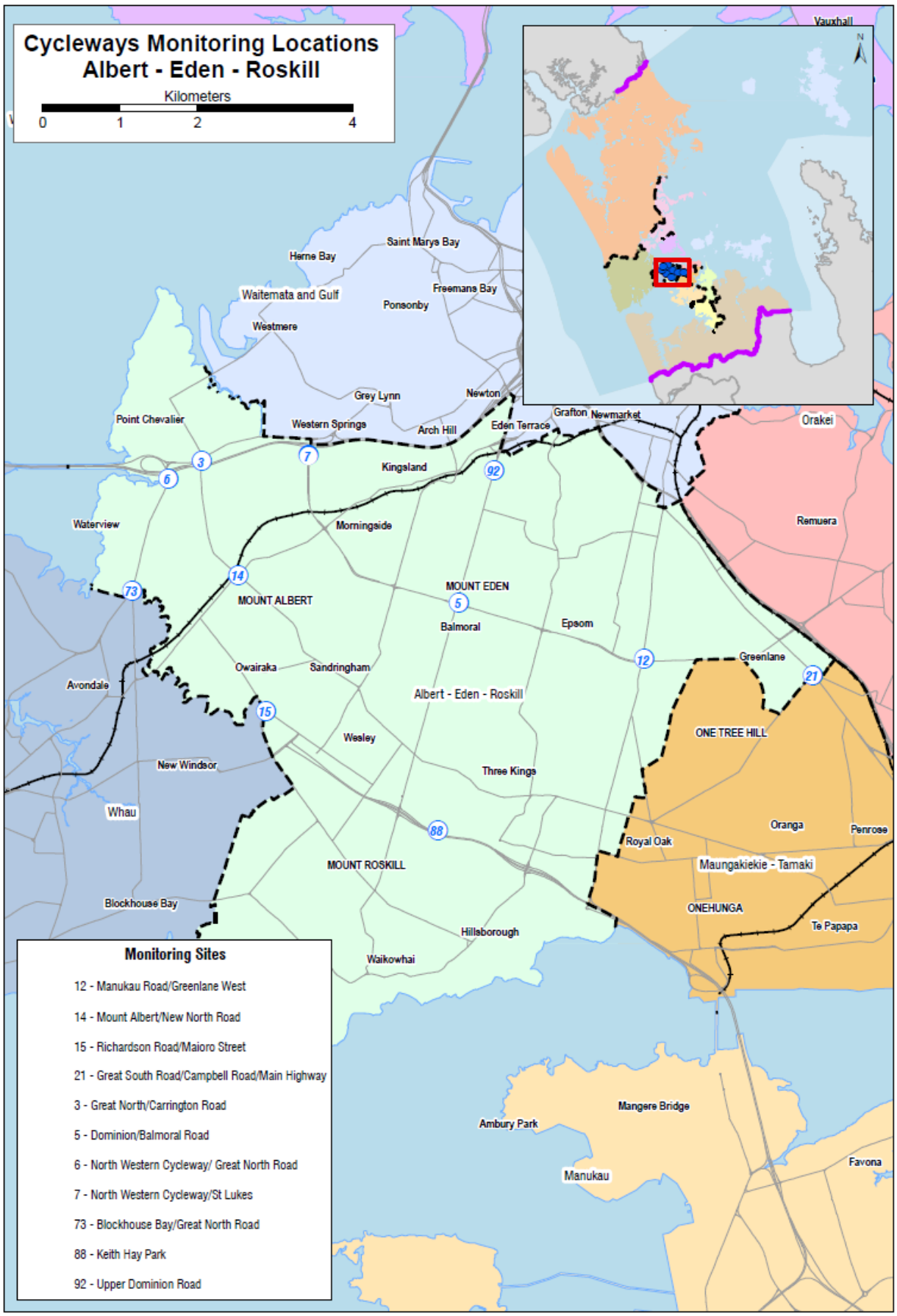
- standard monitoring days are used – that is, school and tertiary holidays, and statutory holidays are excluded and that monitoring preferably takes place at the same time each year to enable reliable year-on-year comparisons to be made. Decisions about whether cycle counts take place on weekdays and 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 11 sites in the Albert-Eden-Roskill 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 11 pre-determined sites in the Albert-Eden-Roskill 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 Albert-Eden-Roskill ward. Note that two sites (Blockhouse Bay/Great North Road in Avondale (Site 73) and Richardson Road/Maioro Street in Mt Roskill (Site 15) lie on the border with the Whau ward. Consequently results for these sites have been included in both ward reports. Similarly, the Great South/Campbell Road/Main Highway site (Site 21) lies on the border with the Maungakiekie-Tamaki ward and has been included in both ward reports also.

Figure 1.1: 2014 Cycle Monitoring Locations in Albert-Eden-Roskill 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, 11th, 12th, or 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.

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 have 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.

[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).

[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 11 sites surveyed in the Albert-Eden-Roskill 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 Albert-Eden-Roskill 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 Twelve of this report.

Note: Surveying in the Albert-Eden-Roskill ward was undertaken on Thursday 6th March, 2014. Sunrise was at 7:11am and sunset was at 7:54pm. Highest temperature on that day was 22.0 degree Celsius.

1.4 Morning Peak Summary Results

Environmental Conditions

- All sites monitored in the Albert-Eden-Roskill ward had fine weather in the morning. Some sites recorded light winds at the beginning of the shift.
- Construction was reported at the North Western Cycleway/Great North Road (Site 6). However, the cycleway was mostly unaffected.
- All other sites had no road works or accidents that may have affected cycle counts.

Key Points

- A total of 1,278 cyclist movements were recorded across the 11 sites in the morning peak period in 2014. Two per cent (n=23) of the total cycle movements in the morning peak were observed made by those cycling in groups. This compares with 2 per cent (n=29) in 2013.
- The average volume of morning cyclists across all 11 sites in Albert-Eden-Roskill was 116 cycle movements, stable from 115 last year.
- Of the 11 sites monitored, the busiest in the morning peak continued to be the North Western Cycleway at St Lukes (315 cycle movements), whereas the Richardson Road/Maioro Street site has the lowest volume of morning cyclists (21 movements).
- Of the 11 sites, 4 recorded increases in cycle movements this year compared to 2013. The most notable increases were at:
  - Upper Dominion Road/Eden Terrace – up 16 per cent; and
  - North Western Cycleway/St Lukes – up 14 per cent.
- Of the 11 sites, 7 recorded decreases in cycle movements this year compared to 2013. The most notable decreases were at:
  - Richardson Road/Maioro Street – down 16 per cent; and
  - Great North/Carrington Road down – 13 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
7	North Western Cycleway/St Lukes	152	156	155	222	240	222	277	**315**	**14%**	**107%**
6	North Western Cycleway/Great North Road	98	156	145	244	204	201	258	**261**	**1%**	**166%**
5	Dominion/Balmoral Road	114	90	85	91	99	97	128	**123**	**-4%**	**8%**
3	Great North/Carrington Road	114	95	97	150	103	112	112	**97**	**-13%**	**-15%**
12	Manukau Road/Greenlane West	103	92	84	130	120	110	99	**92**	**-7%**	**-11%**
21	Great South Road/Campbell Road/Main Highway	89	53	64	69	60	68	77	**79**	**3%**	**-11%**
14	Mount Albert/New North Road	75	68	59	91	97	94	70	**62**	**-11%**	**-17%**
	Average per site (7 sites since 2007)	**106**	**101**	**98**	**142**	**132**	**129**	**146**	**147**	**1%**	**39%**
	Total (7 sites since 2007)	**745**	**710**	**689**	**997**	**923**	**904**	**1021**	**1029**	**1%**	**28%**
73	Blockhouse Bay/Great North Road	-	57	57	66	56	60	73	**72**	**-1%**	**-**
88	Keith Hay Park/Somerset Rd/ Bridge	-	-	-	28	29	28	45	**43**	**-4%**	**-**
15	Richardson Road/Maioro Street	-	-	8	14	15	29	25	**21**	**-16%**	**-**
	Average per site (8 sites in 2008, 9 sites in 2009, 10 sites in 2010)	**-**	**96**	**84**	**110**	**102**	**102**	**117**	**117**	**0%**	**-**
	Total (8 sites in 2008, 9 sites in 2009, 10 sites in 2010)	**-**	**767**	**754**	**1105**	**1023**	**1021**	**1164**	**1165**	**0%**	**-**
92	Upper Dominion Road/Eden Terrace	-	-	-	-	-	-	97	**113**	**16%**	**-**
	Average per site (8 sites in 2008, 9 sites in 2009, 10 sites in 2010-2012, 11 sites in 2013-2014)	-	-	-	-	-	-	**115**	**116**	**1%**	**-**
	Total (8 sites in 2008, 9 sites in 2009, 10 sites in 2010-2012, 11 sites in 2013-2014)	-	-	-	-	-	-	**1261**	**1278**	**1%**	**-**

- Morning cyclist characteristics this year were similar to those reported in 2013. Ninety-two per cent of cyclists this year were adults (unchanged from 2013).
- Almost all morning cyclists were wearing a helmet (97 per cent, unchanged from 2013).
- The majority of morning cyclists were male (82 per cent, down 2 percentage points from last year).
- Riding on the road continued to be the most common (45 per cent, stable from 46 per cent last year).

Table 1.2: Summary of Morning Cyclist Characteristics

2007 – 2014 (%)

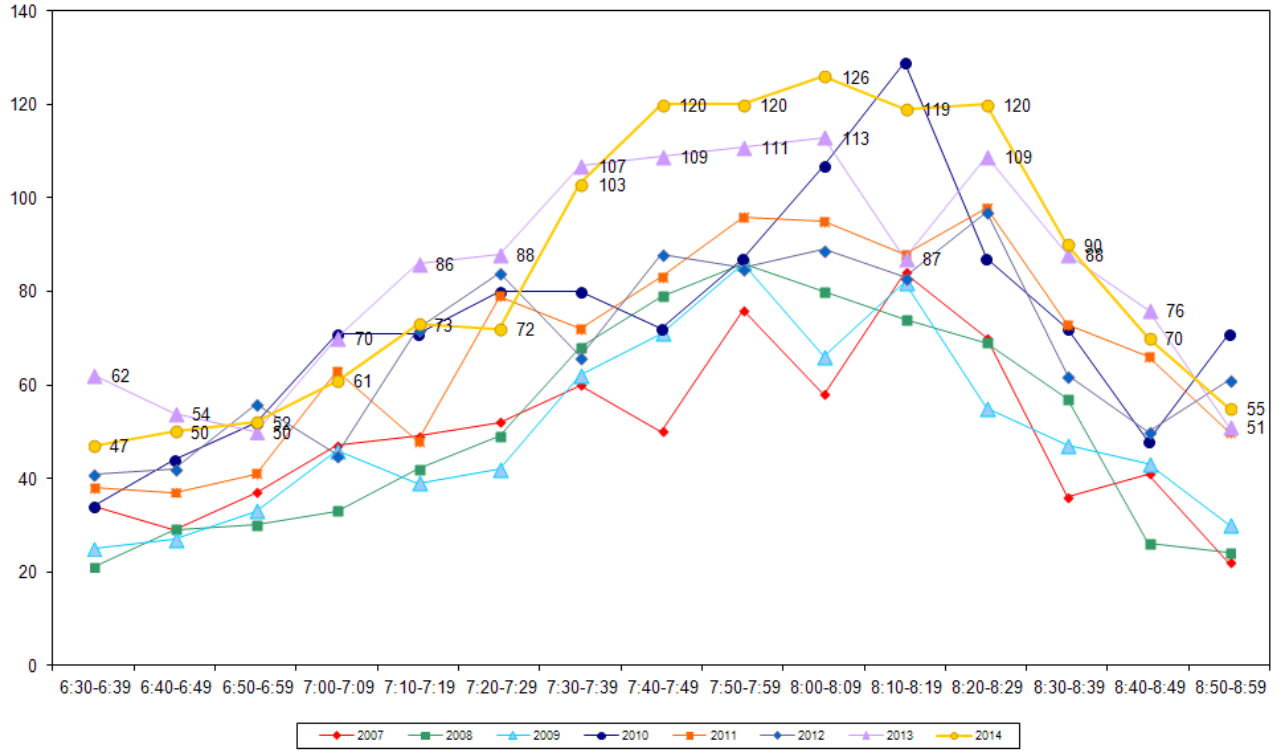
	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	87	87	87	88	89	89	92	**92**	**0**
School child	13	13	13	12	11	11	8	**8**	**0**
Helmet Wearing									
Helmet on head	95	95	94	94	94	91	97	**97**	**0**
No helmet	5	5	6	6	6	9	3	**3**	**0**
Gender									
Male	-	-	-	-	78	81	84	**82**	**-2**
Female	-	-	-	-	18	17	15	**17**	**2**
Can't tell	-	-	-	-	4	2	1	**1**	**0**
Where Riding*									
Road	81	81	54	48	45	43	46	**45**	**-1**
Footpath	19	19	14	16	16	17	16	**15**	**-1**
Off-road cycleway	0	0	32	36	39	40	38	**40**	**2**
Base:	***745***	***767***	***754***	***1105***	***1023***	***1021***	***1261***	***1278***	

** Note: Prior to 2009, cyclists riding on the North-Western Cycleway were categorised as road riders.*

- Figure 1.2 showed the overall pattern of morning cyclist volumes recorded at the 11 sites monitored in 2014. Morning cyclist numbers followed an increasing trend from 6:30am to a peak between 8:00am and 8:09am (126 cyclists), after which the number of movements declined over the remainder of the morning period. This pattern is similar to that observed in previous years.

Figure 1.2: Total Cyclist Frequency

Morning Peak 2007 – 2014 (n)



1.5 Evening Peak Summary Results

Environmental Conditions

- All sites monitored in the Albert-Eden-Roskill ward had fine weather in the evening. Richardson Road/Maioro Street (Site 15) recorded strong winds throughout the monitoring period.
- Construction was reported at the North Western Cycleway/Great North Road (Site 6). However, the cycleway was mostly unaffected.
- All other sites had no road works or accidents that may have affected cycle counts.

Key Points

- A total of 1392 cyclist movements were recorded across the 11 sites in the evening peak period in 2014. Two per cent of the total cycle movements in the evening peak were made by those cycling in groups (n=25). This compares with less than 1 per cent (n=3) in 2013.
- The average volume of evening cyclist movements across all 11 sites in the Albert-Eden-Roskill ward was 127 cycle movements.
- Of the 11 Albert-Eden-Roskill sites, the volume of evening cyclists was lowest at the Keith Hay Park/Somerset Road/Bridge site (15 cycle movements recorded), whereas the North Western Cycleway/St Lukes site continued to be the busiest in terms of evening cyclists' activity, with 344 movements recorded.
- Only Richardson Road/Maioro Street has recorded a decrease in evening cycle movements this year compared to 2013, down 13 per cent from last year.
- Every other site has recorded an increase in evening cycle movements this year compared to 2013. The increases were most noticeable at:
  - North Western Cycleway/St Lukes – up 27 per cent;
  - Manukau Road/Greenlane West – up 25 per cent;
  - Green Lane/Carrington Road – up 11 per cent; and
  - Upper Dominion Road/Eden Terrace – up 10 per cent.

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
7	North Western Cycleway/St Lukes	172	175	155	210	273	207	270	**344**	**27%**	**100%**
6	Northwestern Cycleway/Great North Rd	134	213	141	241	282	204	261	**281**	**8%**	**110%**
3	Great North/Carrington Road	121	136	96	164	129	94	116	**130**	**11%**	**7%**
12	Manukau Road/Greenlane West	122	113	92	127	107	95	100	**125**	**25%**	**2%**
5	Dominion/Balmoral Road	123	111	98	114	98	91	107	**112**	**5%**	**-9%**
14	Mount Albert/New North Road	81	96	83	118	104	76	100	**107**	**7%**	**-32%**
21	Great South Road/Campbell Road/Main Highway	85	61	87	102	78	64	69	**70**	**1%**	**-18%**
	Average per site (7 sites since 2007)	**120**	**129**	**107**	**154**	**153**	**119**	**145**	**167**	**15%**	**39%**
	Total (7 sites since 2007)	**838**	**905**	**752**	**1076**	**1071**	**831**	**1023**	**1169**	**14%**	**39%**
73	Blockhouse Bay/Great North Road	-	60	62	75	73	69	68	**70**	**3%**	-
15	Richardson Road/Maioro Street	-	-	13	25	22	24	23	**20**	**-13%**	-
88	Keith Hay Park/Somerset Rd/ Bridge	-	-	-	25	40	19	14	**15**	**7%**	-
	Average per site (8 sites in 2008, 9 sites in 2009, 10 sites since 2010)	**-**	**121**	**92**	**120**	**121**	**94**	**113**	**127**	**12%**	-
	Total (8 sites in 2008, 9 sites in 2009, 10 sites since 2010)	**-**	**965**	**827**	**1201**	**1206**	**943**	**1128**	**1274**	**13%**	-
92	Upper Dominion Road/Eden Terrace	-	-	-	-	-	-	107	**118**	**10%**	-
	Average per site (8 sites in 2008, 9 sites in 2009, 10 sites in 2010-2012, 11 sites in 2013-2014)	-	-	-	-	-	-	**112**	**127**	**13%**	-
	Total (8 sites in 2008, 9 sites in 2009, 10 sites in 2010-2012, 11 sites in 2013-2014)	-	-	-	-	-	-	**1235**	**1392**	**13%**	-

- Evening cyclist characteristics this year were similar to those reported in 2013. In particular, 95 per cent of evening cyclists this year were adults (stable from 96 per cent in 2013).
- Most cyclists were wearing a helmet in the evening (94 per cent, stable from 93 per cent in 2013).
- The majority of the cyclists recorded over the evening monitoring period were male (83 per cent).
- Riding on the road continued to be the most common for evening cyclists (44 per cent, stable from 2013).

Table 1.4: Summary of Evening Cyclist Characteristics

2007 – 2014 (%)

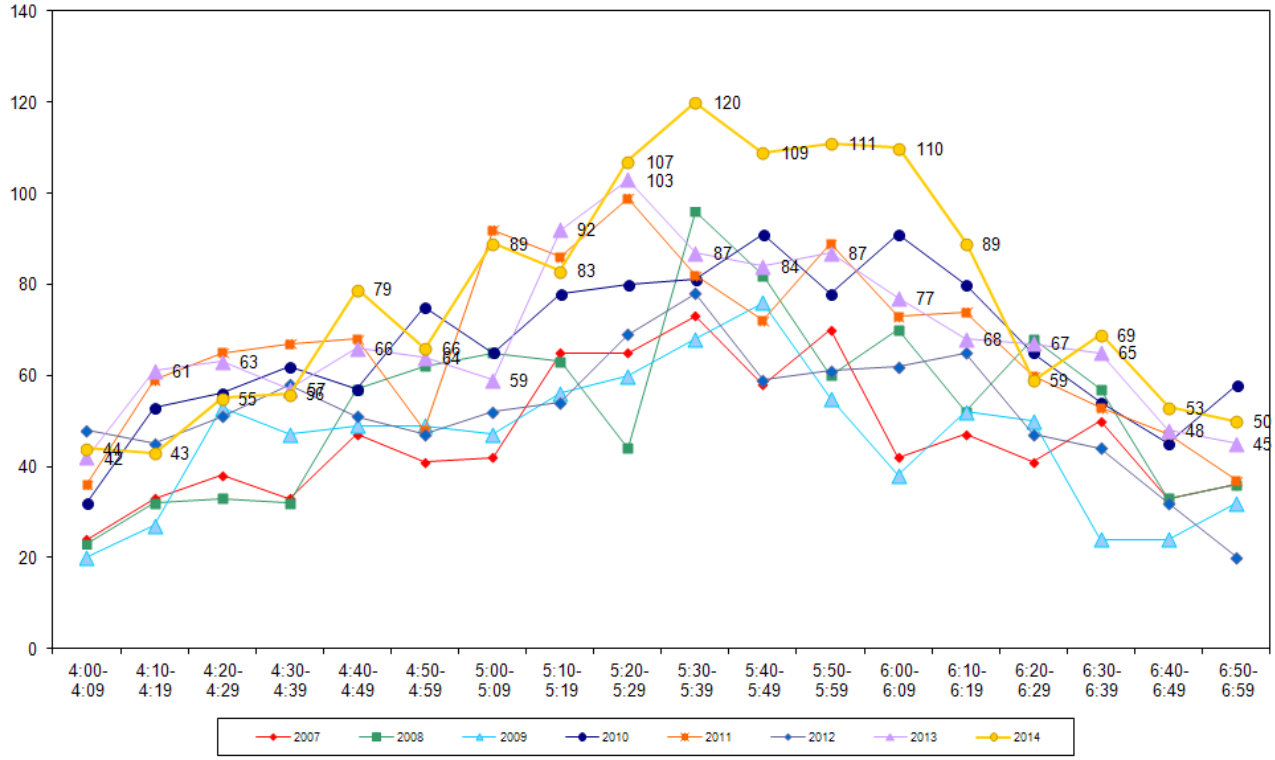
	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	93	90	95	93	92	94	96	**95**	**-1**
School child	7	10	5	7	8	6	4	**5**	**1**
Helmet Wearing									
Helmet on head	93	92	92	90	92	91	93	**94**	**1**
No helmet	7	8	8	10	8	9	7	**6**	**-1**
Gender									
Male	-	-	-	-	84	84	84	**83**	**-1**
Female	-	-	-	-	14	15	16	**16**	**0**
Can't tell	-	-	-	-	2	1	0	**1**	**1**
Where Riding*									
Road	80	82	54	48	42	43	46	**44**	**-2**
Footpath	20	18	15	19	16	16	17	**17**	**0**
Off-road cycleway	0	0	31	33	42	41	37	**39**	**2**
Base:	***838***	***965***	***827***	***1201***	***1206***	***943***	***1235***	***1392***	

** Note: Prior to 2009, cyclists riding on the North-Western Cycleway were categorised as road riders.*

- The overall pattern of evening cyclist volumes derived from the 11 sites in the Albert-Eden-Roskill ward has been illustrated in Figure 1.3. Evening cyclist numbers started off at a moderate level, increasing to a peak between 5:30pm and 5:39pm (120 movements). Cycle volume remained high for further half an hour, before numbers began to decline between 6:10pm to 6:19pm. After this, the traffic continued to decline throughout the remainder of the monitoring period. This pattern is similar to that observed in previous years.

Figure 1.3: Total Cyclist Frequency

Evening Peak 2007 – 2014 (n)



1.6 Aggregated Total Summary Results

- Overall, a total of 2,670 cyclist movements were recorded across the 11 sites monitored in 2014 – among which two per cent (n=48) were made by pelotons. This compares with one per cent (n=32) cycling in groups in 2013.
- Total cycle movements for all sites have increased by 7 per cent over the last 12 months – up from 2,496 in 2013 to 2,670 this year.
- In the Albert-Eden-Roskill ward, the busiest site continued to be North Western Cycleway/St Lukes Road with a total of 659 movements, while Richardson Road/Maioro Street has the fewest cyclists (41 movements).

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 07-13
7	North Western Cycleway/St Lukes	324	331	310	432	513	429	547	**659**	**20%**	**104%**
6	North Western Cycleway/Great North Road	232	369	286	485	486	405	519	**542**	**4%**	**134%**
5	Dominion/Balmoral Road	237	201	183	205	197	188	235	**235**	**0%**	**-1%**
3	Great North/Carrington Road	235	231	193	314	232	206	228	**227**	**0%**	**-3%**
12	Manukau Road/Greenlane West	225	205	176	257	227	205	199	**217**	**9%**	**-4%**
14	Mount Albert/New North Road	156	164	142	209	201	170	170	**169**	**-1%**	**8%**
21	Great South Road/Campbell Road/Main Highway	174	114	151	171	138	132	146	**149**	**2%**	**-14%**
	Average per site (7 sites since 2007)	**226**	**231**	**206**	**296**	**285**	**248**	**292**	**314**	**8%**	**39%**
	Total (7 sites since 2007)	**1583**	**1615**	**1441**	**2073**	**1994**	**1735**	**2044**	**2198**	**8%**	**39%**
73	Blockhouse Bay/Great North Road	-	117	119	141	129	129	141	**142**	**1%**	**-**
88	Keith Hay Park/Somerset Rd/ Bridge	**-**	**-**	**-**	53	69	47	59	**58**	**-2%**	**-**
15	Richardson Road/Maioro Street	-	-	21	39	37	53	48	**41**	**-15%**	**-**
	Average per site (8 sites in 2008, 9 sites in 2009, 10 sites since 2010)	**-**	**217**	**176**	**231**	**223**	**196**	**229**	**244**	**7%**	**-**
	Total (8 sites in 2008, 9 sites in 2009, 10 sites since 2010)	**-**	**1732**	**1581**	**2306**	**2229**	**1964**	**2292**	**2439**	**6%**	**-**
92	Upper Dominion Road/Eden Terrace	-	-	-	-	-	-	204	**231**	**13%**	-
	Average per site (8 sites in 2008, 9 sites in 2009, 10 sites in 2010-2012, 11 sites in 2013-2014)	-	-	-	-	-	-	**227**	**243**	**7%**	-
	Total (8 sites in 2008, 9 sites in 2009, 10 sites in 2010-2012, 11 sites in 2013-2014)	-	-	-	-	-	-	**2496**	**2670**	**7%**	-

- Overall, cyclist characteristics this year are similar to those reported in 2013. In particular, 94 per cent of all cyclists this year are adults (unchanged from last year).
- Most cyclists were wearing a helmet (95 per cent, unchanged from 2013).
- Males made up approximately four in five cyclists (83 per cent).
- Forty-five per cent of cyclists were riding on the road, while 39 per cent were riding on the off-road cycleway.

Table 1.6: Summary of Total Cyclist Characteristics

2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	90	89	91	91	91	91	94	**94**	**0**
School child	10	11	9	9	9	9	6	**6**	**0**
Helmet Wearing									
Helmet on head	94	93	93	92	93	91	95	**95**	**0**
No helmet	6	7	7	8	7	9	5	**5**	**0**
Gender									
Male	-	-	-	-	81	82	84	**83**	**-1**
Female	-	-	-	-	16	16	15	**16**	**1**
Can't tell	-	-	-	-	3	2	1	**1**	**0**
Where Riding*									
Road	80	82	54	48	43	43	46	**45**	**-1**
Footpath	20	18	15	15	16	17	17	**16**	**-1**
Off-road cycleway	0	0	31	37	41	40	37	**39**	**2**
Base:	***1583***	***1732***	***1581***	***2306***	***2229***	***1964***	***2496***	***2670***	

** Note: Prior to 2009 cyclists riding on the North-Western Cycleway were categorised as road riders.*

1.7 Average Annual Daily Traffic (AADT) Estimate

Note: A discussion of Average Annual Daily Traffic Estimates is provided in Section 1.1. 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 is at the North Western Cycleway/St Lukes site (956 daily movements, up from 796 movements in 2013) and the lowest is at Richardson Road/Maioro Street (60 daily movements, down from 70 movements in 2013).
- Six sites experienced volume increases in total AADT estimates since last year, the most considerable being:
  - North Western Cycleway/St Lukes – up 20 per cent;
  - Upper Dominion Road/Eden Terrace – up 13 per cent; and
  - Manukau Road/Greenlane West – up 8 per cent.
- In contrast, four sites have recorded decreases in total AADT estimates this year compared with 2013, the most considerable being Richardson Road/Maioro Street, down by 14 percentage points.

Table 1.7: 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*	*2013 AADT*	Change 13-14	Change 07-14
7	North Western Cycleway/St Lukes	469	480	451	629	743	625	796	**956**	**20%**	**104%**
6	North Western Cycleway/Great North Road	335	532	416	705	701	589	754	**786**	**4%**	**135%**
5	Dominion/Balmoral Road	344	291	265	296	286	274	343	**342**	**0%**	**-1%**
92	Upper Dominion Road/Eden Terrace	-	-	-	-	-	-	296	**335**	**13%**	**-**
3	Great North/Carrington Road	341	333	281	455	335	301	331	**327**	**-1%**	**-4%**
12	Manukau Road/Greenlane West	326	296	255	374	331	299	289	**313**	**8%**	**-4%**
14	Mount Albert/New North Road	226	236	205	302	292	249	245	**242**	**-1%**	**7%**
21	Great South Road/Campbell Road/Main Highway	253	165	218	246	199	192	213	**217**	**2%**	**-14%**
73	Blockhouse Bay/Great North Road	-	170	173	204	186	187	205	**207**	**1%**	**-**
88	Keith Hay Park/Somerset Rd/ Bridge	-	-	-	77	99	69	88	**86**	**-2%**	**-**
15	Richardson Road/Maioro Street	-	-	30	56	53	77	70	**60**	**-14%**	**-**

1.8 School Bike Shed Count Summary

Cycle Counts

- Of those eligible to cycle, on average two per cent of students are cycling to their schools. This result is unchanged from 2013.
- Across the 21 eligible schools that responded, n=230 students were reported to cycle to school.
- Kohia Terrace School reported the highest share of cyclists – 16 per cent of all eligible students currently cycling (up from 7 per cent last year).
- Of the 21 eligible schools that responded, 7 (33 per cent) had no students cycling to school.
- Rates of cycling to school are highest among intermediate schools (6 per cent, up from 4 per cent in 2013).

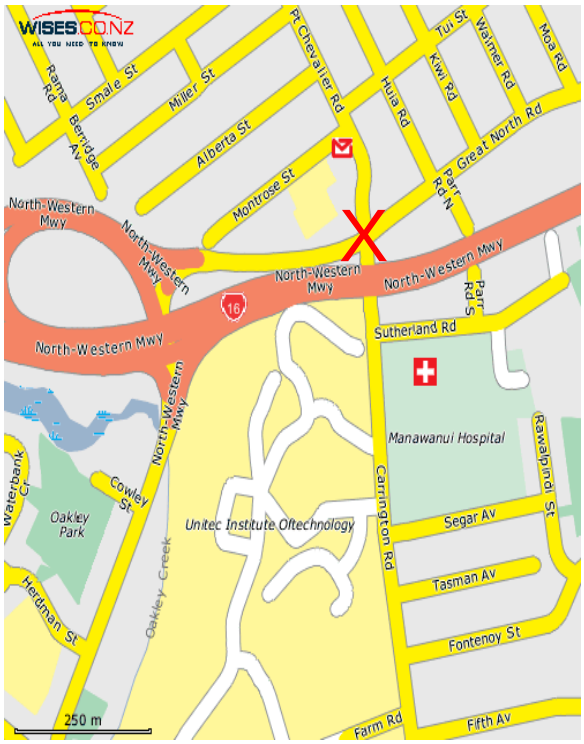
Scooter Counts

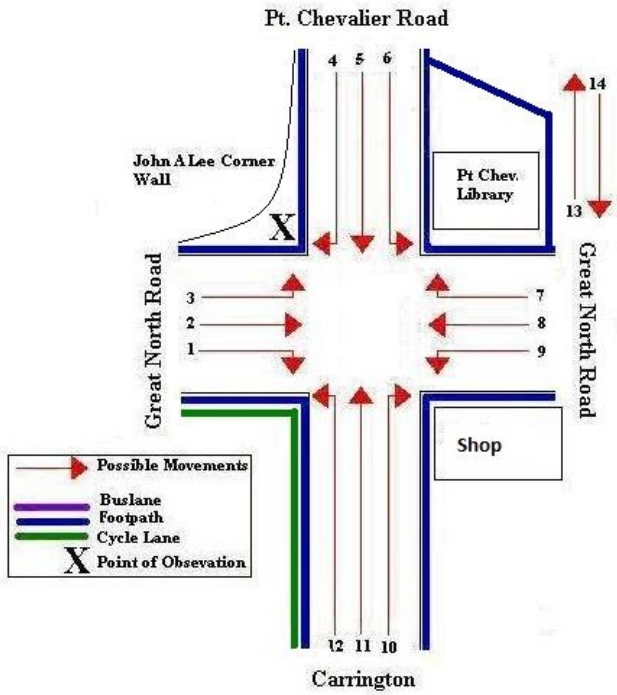
- Among the surveyed schools, of those eligible to scooter, on average, two per cent of students are scootering to their schools.
- Kohia Terrace School reported the highest share of scooters – 15 per cent of all eligible students currently scootering to school.
- In total, n=308 students from the responding schools were reported to be scootering to school.
- Of the 21 schools that responded, 16 (62 per cent) had no students scootering to school.

2. GREAT NORTH/CARRINGTON/POINT CHEVALIER ROAD, POINT CHEVALIER (SITE 3)

Figure 2.1 shows the possible cyclist movements at this intersection.

Figure 2.1: Cycle Movements: Great North/Carrington/Point Chevalier





2.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	114	121	235	341
2008	95	136	231	333
2009	97	96	193	281
2010	150	164	314	455
2011	103	129	232	335
2012	112	94	206	301
2013	112	116	228	331
2014	**97**	**130**	**227**	**327**

2.2 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

- In 2014, morning cyclist movements recorded at the Great North/Carrington/Point Chevalier Road intersection have decreased to 97 movements.
- The key movements at this intersection were the right hand turn from Carrington Road into Point Chevalier Road (Movement 10 = 25 cyclist movements) and straight from Point Chevalier Road into Carrington (Movement 5 = 31 cyclist movements).
- Compared with last year, the volume of morning cyclist movements has increased most notably at Movement 10 (up 4 cyclists) and decreased most notably at Movement 11 (down 15 cyclists).

Table 2.1: Morning Cyclist Movements

Great North/Carrington/Point Chevalier 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	0	0	0	2	0	2	0	**1**	**1**
2	10	10	9	14	6	10	3	**2**	**-1**
3	0	5	1	4	3	0	0	**2**	**2**
4	4	2	3	1	1	0	2	**0**	**-2**
5	23	15	17	24	36	41	28	**31**	**3**
6	5	0	0	1	0	0	1	**2**	**1**
7	4	2	1	1	0	0	2	**1**	**-1**
8	4	2	2	4	1	1	4	**3**	**-1**
9	14	4	7	19	13	13	11	**9**	**-2**
10	32	36	31	36	18	28	21	**25**	**4**
11	17	18	22	44	24	16	33	**18**	**-15**
12	1	1	4	0	1	1	0	**1**	**1**
13	-	-	-	-	-	-	0	**0**	**0**
14	-	-	-	-	-	-	0	**0**	**0**
Don't know	-	-	-	-	-	-	7	**2**	**-5**
Total	**114**	**95**	**97**	**150**	**103**	**112**	**112**	**97**	**-15**

- The majority of cyclists at this intersection were adults (94 per cent, an increase from 88 per cent at the previous measure).
- Most cyclists were wearing a helmet (97 per cent, unchanged from 2013).
- The majority of cyclists continued to be male (78 per cent, down 8 percentage points since 2013).
- Eighty-five per cent of cyclists were riding on the road (up from 76 per cent last year).

Table 2.2: Morning Cyclist Characteristics

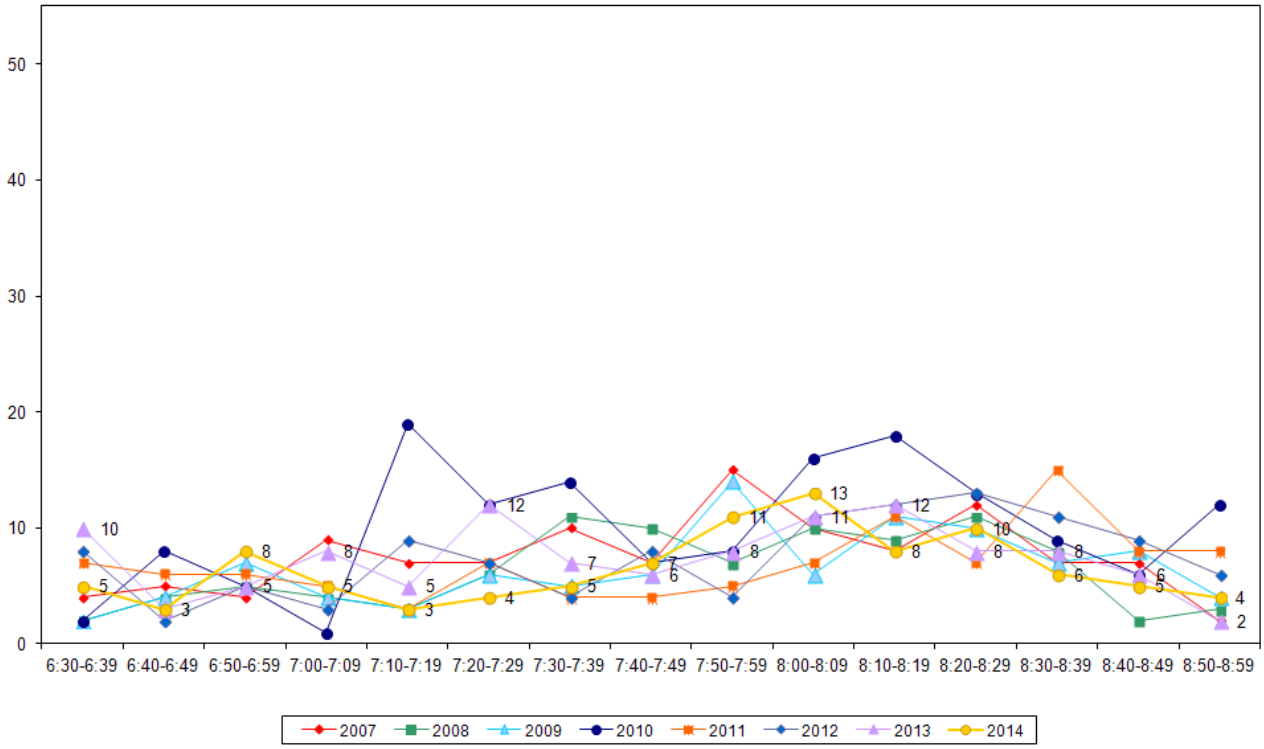
Great North/Carrington/Point Chevalier 2004 – 2014 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type												
Adult	91	84	93	86	84	87	89	89	87	88	**94**	**6**
School child	9	16	7	14	16	13	11	11	13	12	**6**	**-6**
Helmet Wearing												
Helmet on head	86	88	88	89	93	91	94	92	86	97	**97**	**0**
No helmet	14	12	12	11	7	9	6	8	14	3	**3**	**0**
Gender												
Male	-	-	-	-	-	-	-	64	77	86	**78**	**-8**
Female	-	-	-	-	-	-	-	21	20	12	**19**	**7**
Can't tell	-	-	-	-	-	-	-	15	3	2	**3**	**1**
Where Riding												
Road	64	68	75	67	73	68	73	74	69	76	**85**	**9**
Footpath	36	32	25	33	27	32	27	26	31	24	**15**	**-9**
Base:	***70***	***57***	***76***	***114***	***95***	***97***	***150***	***103***	***112***	***112***	***97***	

- Morning cyclist volumes gradually increased for the first half of the monitoring period, reaching the peak for the morning at 8:00am – 8:19am with 13 cyclists recorded. Volumes then continued to decrease throughout the remainder of the morning shift.

Figure 2.2: Morning Peak Cyclist Frequency

Great North/Carrington/Point Chevalier 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

- Evening cyclist movement numbers (130 movements) have increased at this intersection since last year (116 movements).
- The key movements in the evening at this intersection were straight through from Carrington Road into Pt Chevalier Road (Movement 11 = 33 movements), straight through Pt Chevalier into Carrington Road (Movements 5 = 33 cyclists) and turning left off Great North Road onto Carrington Road (Movement 9 = 31 cyclists)
- The most noticeable increase was at Movement 5 (up 15 movements).

Table 2.3: Evening Cyclist Movements

Great North/Carrington/Point Chevalier 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	1	0	0	1	1	0	1	**0**	**-1**
2	5	5	3	2	3	2	0	**2**	**2**
3	0	1	3	1	0	0	1	**0**	**-1**
4	4	10	1	6	3	2	2	**2**	**0**
5	18	14	18	35	29	12	18	**33**	**15**
6	4	1	1	1	0	0	0	**2**	**2**
7	6	4	2	3	0	0	3	**2**	**-1**
8	12	12	12	15	8	6	5	**3**	**-2**
9	22	29	22	37	31	22	23	**31**	**8**
10	23	25	15	28	22	26	26	**22**	**-4**
11	26	34	19	35	31	23	35	**33**	**-2**
12	0	1	0	0	1	1	0	**0**	**0**
13	-	-	-	-	-	-	0	**0**	**0**
14	-	-	-	-	-	-	1	**0**	**-1**
Don't know	-	-	-	-	-	-	1	**0**	**-1**
Total	**121**	**136**	**96**	**164**	**129**	**94**	**116**	**130**	**14**

- Over the evening peak, most cyclists using this intersection were adults (97 per cent, stable from 98 per cent in 2013).
- Compared with last year, the share of cyclists wearing a helmet has remained consistent (89 per cent, stable from 88 per cent in 2013).
- The majority of cyclists continued to be male (80 per cent).
- Approximately three in four cyclists were riding on the road (up 6 percentage points from 70 per cent last year).

Table 2.4: Evening Cyclist Characteristics

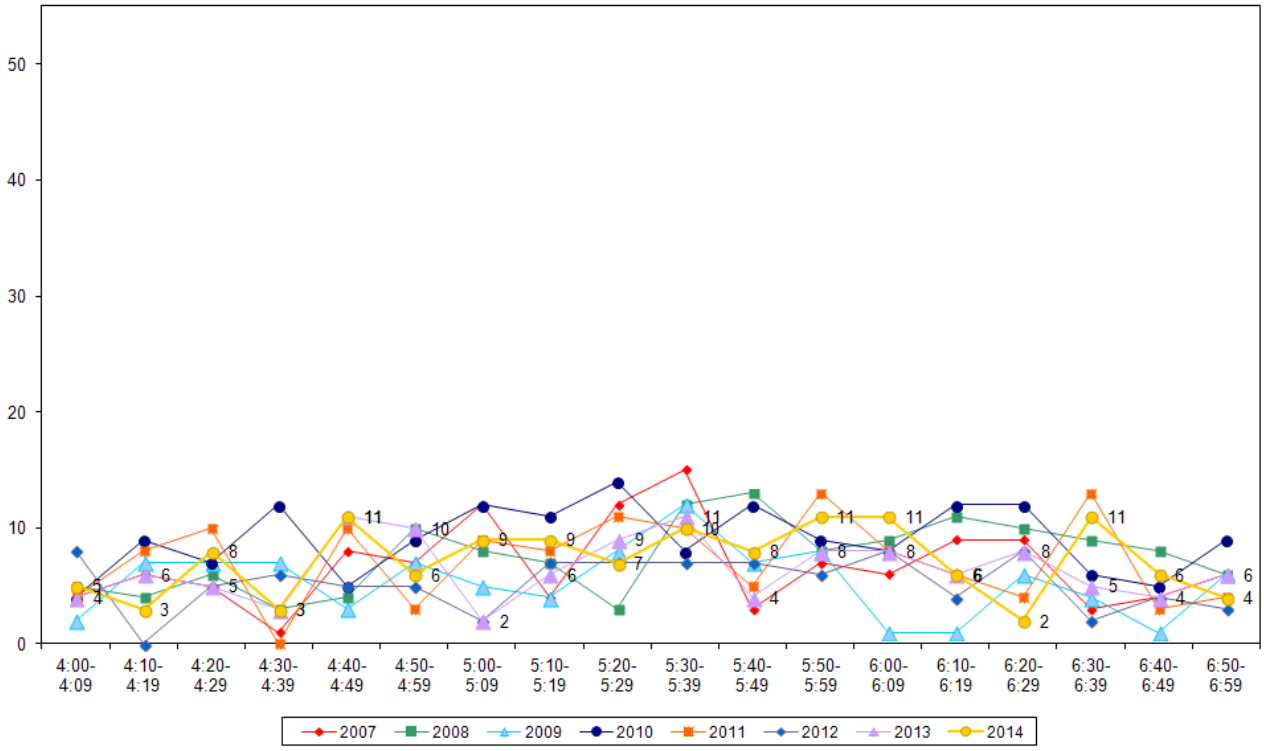
Great North/Carrington/Point Chevalier 2004 – 2014 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type												
Adult	86	89	100	89	96	95	96	91	89	98	**97**	**-1**
School child	14	11	0	11	4	5	4	9	11	2	**3**	**1**
Helmet Wearing												
Helmet on head	81	85	84	85	91	91	84	92	79	88	**89**	**1**
No helmet	19	15	16	15	9	9	16	8	21	12	**11**	**-1**
Gender												
Male	-	-	-	-	-	-	-	79	88	84	**80**	**-4**
Female	-	-	-	-	-	-	-	19	12	16	**19**	**3**
Can't tell	-	-	-	-	-	-	-	2	0	0	**1**	**1**
Where Riding												
Road	47	66	69	64	71	64	61	64	55	70	**76**	**6**
Footpath	53	34	31	36	29	36	39	36	45	30	**24**	**-6**
Base:	***43***	***65***	***45***	***121***	***136***	***96***	***164***	***129***	***94***	***116***	***130***	

- Evening cyclist volumes varied throughout the shift, with no obvious peak periods. The greatest number of cyclists at any ten minute interval was 11, and this occurred four times throughout the shift. The present trend is similar to that of previous years.

Figure 2.3: Evening Peak Cyclist Frequency

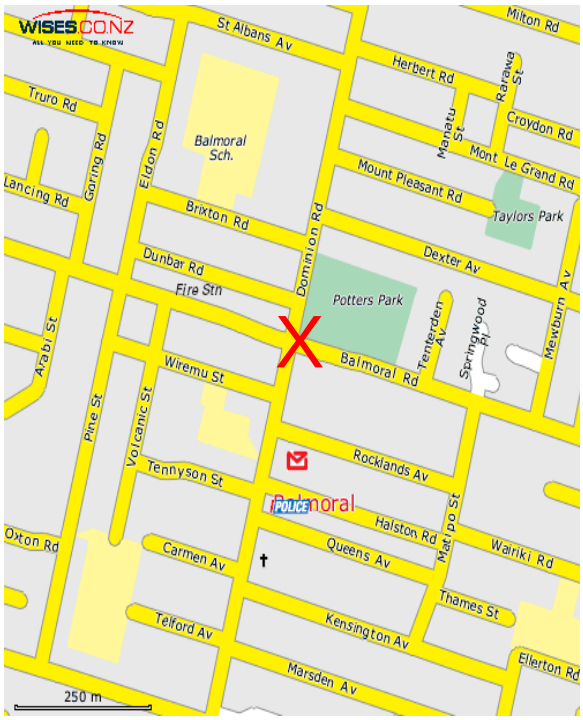
Great North/Carrington/Point Chevalier 2007 -2014 (n)

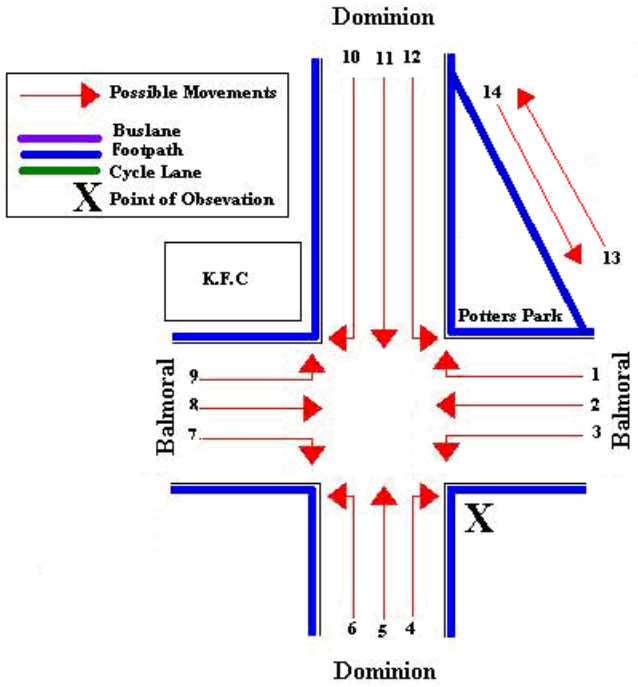


3. DOMINION/BALMORAL ROAD, BALMORAL (SITE 5)

Figure 3.1 shows the possible cyclist movements at this intersection.

Figure 3.1: Cycle Movement: Dominion/Balmoral





3.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	114	123	237	344
2008	90	111	201	291
2009	85	98	183	265
2010	91	114	205	296
2011	99	98	197	286
2012	97	91	188	274
2013	128	107	235	343
2014	**123**	**112**	**235**	**342**

3.2 Morning Peak

Environmental Conditions

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

Key Points

- In 2014, the total number of morning cyclist movements at the Balmoral/Dominion Road intersection has decreased by 5 movements (123 movements, compared with 128 movements in 2013).
- The key movement at this site was travelling north along Dominion Road towards the city (Movement 5 = 61 cyclists).
- Movement 2 and Movement 9 showed the most noticeable increases (each movement having an increase of 3 cyclists).

Table 3.1: Morning Cyclist Movements

Dominion/Balmoral 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	20	15	10	6	1	5	7	**7**	**0**
2	11	10	6	7	8	3	4	**7**	**3**
3	1	0	0	3	0	5	1	**1**	**0**
4	1	0	2	1	5	7	2	**0**	**-2**
5	52	41	35	43	53	43	64	**61**	**-3**
6	4	1	1	3	0	1	1	**1**	**0**
7	3	0	1	2	1	2	3	**0**	**-3**
8	12	12	15	11	17	13	13	**14**	**1**
9	4	4	6	4	4	4	7	**10**	**3**
10	1	1	4	0	1	4	5	**5**	**0**
11	3	4	4	10	7	6	17	**16**	**-1**
12	2	2	1	1	2	4	3	**1**	**-2**
13	-	-	-	-	-	-	1	**0**	**-1**
14	-	-	-	-	-	-	0	**0**	**0**
Total	**114**	**90**	**85**	**91**	**99**	**97**	**128**	**123**	

- Most cyclists at this site were adults (94 per cent, stable from 95 per cent last year).
- Consistent with previous years, almost all cyclists using this intersection were wearing a helmet (93 per cent, stable from 95 per cent last year).
- Seventy-eight per cent of the cyclists were male, down from 89 per cent last year.
- Most cyclists were observed riding on the road (85 per cent), a small decrease from the 88 per cent observed last year.

Table 3.2: Morning Cyclist Characteristics

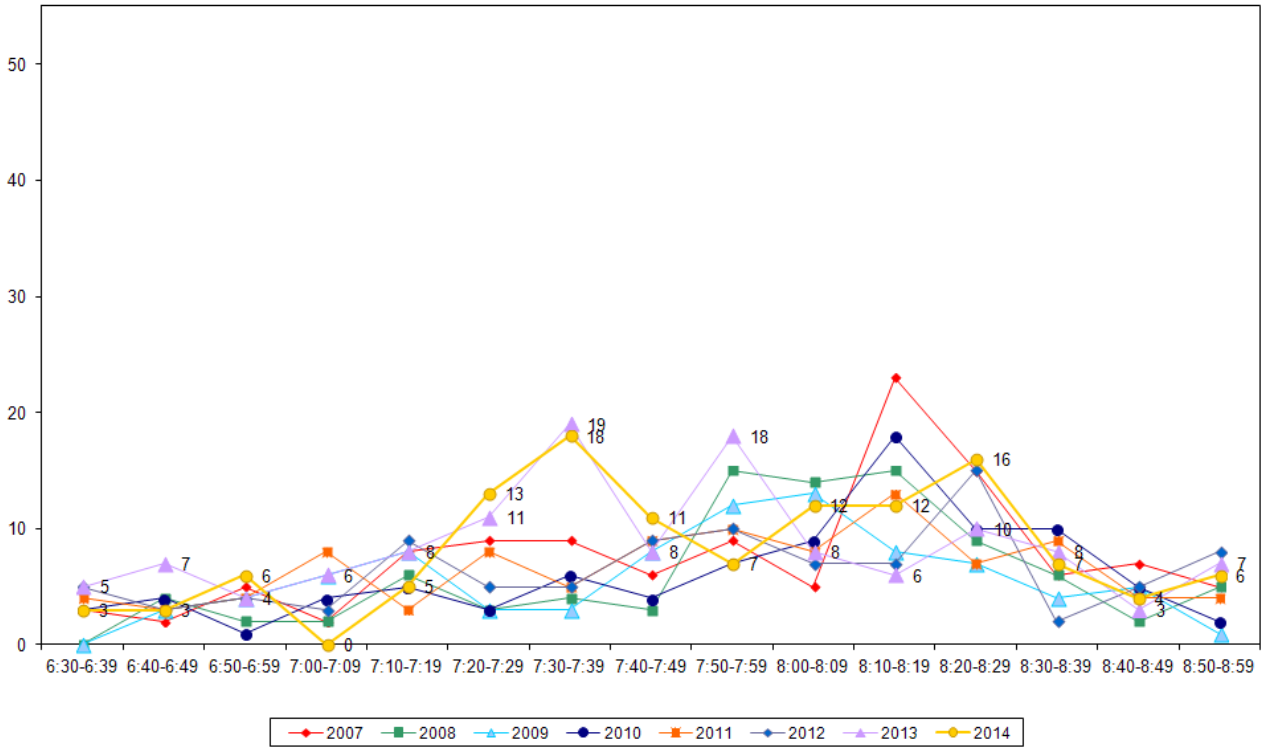
Dominion/Balmoral 2004 – 2014 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type												
Adult	67	81	75	71	74	87	78	95	89	95	**94**	**-1**
School child	33	19	25	29	26	13	22	5	11	5	**6**	**1**
Helmet Wearing												
Helmet on head	93	97	98	96	96	96	97	94	95	95	**93**	**-2**
No helmet	7	3	2	4	4	4	3	6	5	5	**7**	**2**
Gender												
Male	-	-	-	-	-	-	-	75	80	89	**78**	**-11**
Female	-	-	-	-	-	-	-	21	19	9	**19**	**10**
Can't tell	-	-	-	-	-	-	-	4	1	2	**3**	**1**
Where Riding												
Road	67	69	67	65	67	100	70	92	85	88	**85**	**-3**
Footpath	33	31	33	35	33	0	30	8	15	12	**15**	**3**
Base:	***76***	***94***	***92***	***114***	***90***	***85***	***91***	***99***	***97***	***128***	***123***	

- Morning cyclist movement volume varied throughout the shift with a notable peak of 18 cycle movements recorded between 7:30am to 7:39am (consistent with last year). Cycle movements decreased slightly then reaching 16 movements between 8:20am to 8:29am. As with previous years, the number of cyclists fell towards the end of the morning monitoring period.

Figure 3.2: Morning Peak Cyclist Frequency

Dominion/Balmoral 2007 – 2014 (n)



Note: In 2014, six cyclists (5 per cent of all morning peak cycle movements at this site) were observed riding together at 7:32am. This compares with 6 per cent (n=8) cyclists riding together in 2013.

3.3 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

- In 2014, the volume of evening peak cyclist movements recorded at the Dominion/Balmoral Road intersection has increased since last year to 112 cycle movements (from 107 movements in 2013).
- The key movement at this site was straight along Dominion Road heading south (Movement 11 = 58 movements).
- The most noticeable change since last year in terms of evening cyclist volumes was at Movement 11 (up 11 movements).

Table 3.3: Evening Cyclist Movements

Dominion/Balmoral Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	3	7	2	3	3	2	9	0	**-9**
2	23	22	18	19	11	15	14	11	**-3**
3	3	2	1	2	4	4	3	3	**0**
4	1	0	1	5	1	0	0	8	**8**
5	10	10	9	15	14	11	12	15	**3**
6	3	4	2	5	4	1	0	0	**0**
7	5	4	3	1	2	2	0	0	**0**
8	8	13	4	5	5	4	7	5	**-2**
9	2	0	1	0	1	2	3	2	**-1**
10	8	2	7	7	4	7	8	6	**-2**
11	51	44	48	47	45	43	47	58	**11**
12	5	3	2	5	4	0	4	2	**-2**
13	-	-	-	-	-	-	0	1	**1**
14	-	-	-	-	-	-	0	1	**1**
Total	**123**	**111**	**98**	**114**	**98**	**91**	**107**	**112**	**5**

- Almost all cyclists using the Dominion/Balmoral intersection were adults (94 per cent, down slightly from 98 per cent in 2013).
- The majority of cyclists wore a helmet (92 per cent, stable from 94 per cent in 2013).
- Most cyclists were male (83 per cent).
- Seventy-nine per cent of the cyclists were riding on the road, consistent with previous years.

Table 3.4: Evening Cyclist Characteristics

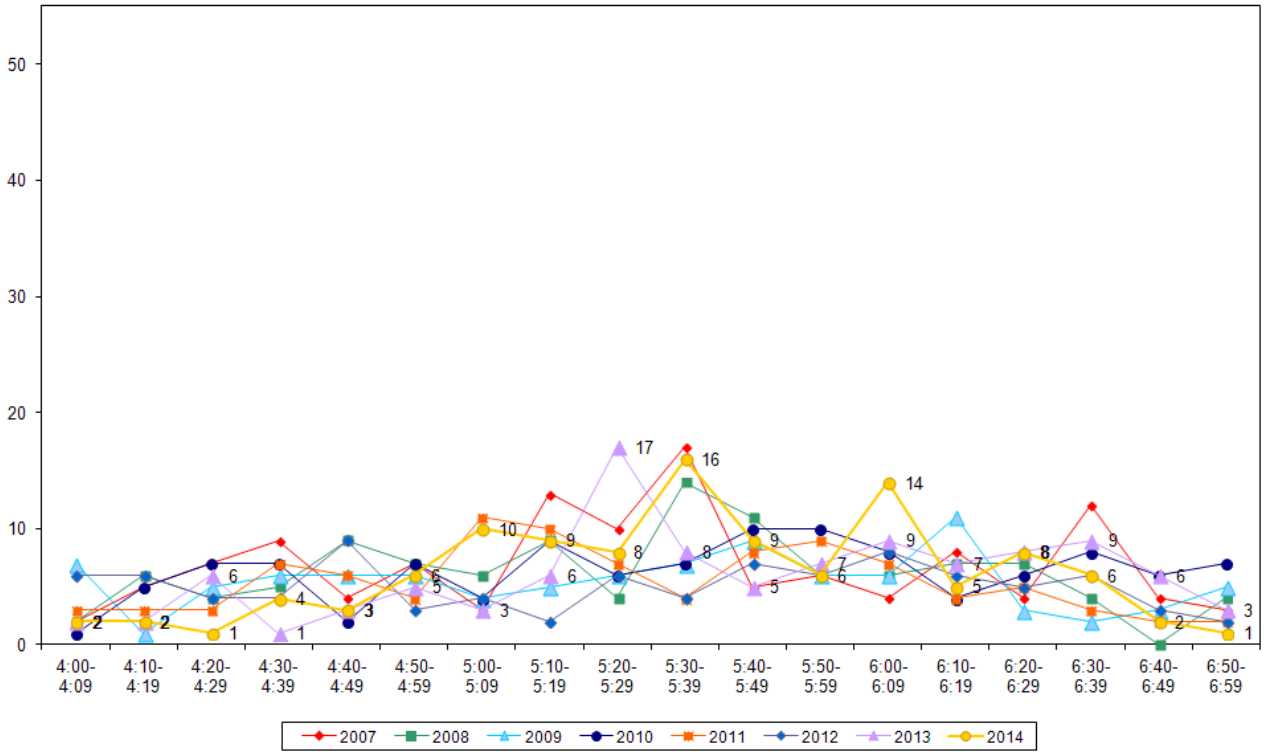
Dominion/Balmoral 2004 – 2014 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type												
Adult	81	89	100	93	79	92	86	91	97	98	**94**	**-4**
School child	19	11	0	7	21	8	14	9	3	2	**5**	**3**
Don't know	0	0	0	0	0	0	0	0	0	0	**1**	**1**
Helmet Wearing												
Helmet on head	82	84	92	89	86	96	86	90	93	94	**92**	**-2**
No helmet	18	16	8	11	14	4	14	10	7	6	**8**	**2**
Gender												
Male	-	-	-	-	-	-	-	84	80	78	**83**	**5**
Female	-	-	-	-	-	-	-	15	19	21	**13**	**-8**
Can't tell	-	-	-	-	-	-	-	1	1	1	**4**	**3**
Where Riding												
Road	70	70	92	78	68	100	82	80	80	79	**79**	**0**
Footpath	30	30	8	22	32	0	18	20	20	21	**20**	**-1**
Don't know	0	0	0	0	0	0	0	0	0	0	**1**	**1**
Base:	***73***	***74***	***64***	***123***	***111***	***98***	***114***	***98***	***91***	***107***	***112***	

- Cyclist volume remained relatively stable in the evening. There are two peaks evident, firstly between 5:30pm to 5:39pm (16 movements) and secondly between 6:00pm to 6:09pm (14 movements). With the exception of these peaks, cycle counts remained at or below 10 throughout the monitoring period.

Figure 3.3: Evening Peak Cyclist Frequency

Dominion/Balmoral 2007 – 2014 (n)

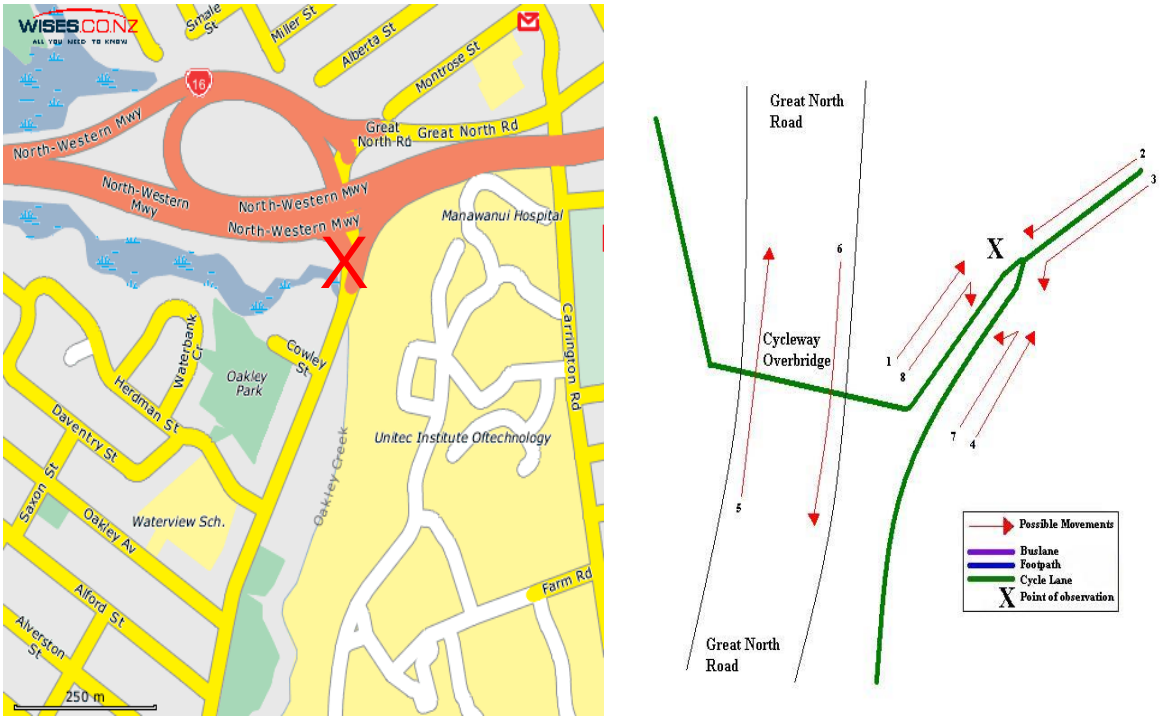


Note: In 2014, five cyclists (4 per cent of the total cycle movements) in the evening peak were observed riding together at 6:04pm. No cyclists were observed riding in a group in 2013.

4. NORTH WESTERN CYCLEWAY/GREAT NORTH ROAD, WATERVIEW, (SITE 6)

Figure 4.1 shows the possible cyclist movements at this intersection. *Note: A revised map was used for this site from 2008 onwards. The movements monitored now more accurately reflect what is visible from a single observation point, and focus predominantly on cycle movements on the North Western Cycleway. As a result, movement data collected this year can only be compared with data collected from 2008 onwards.*

Figure 4.1: Cycle Movements: Great North Road/North Western Cycleway



4.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007				335
2008	156	213	369	532
2009	145	141	286	416
2010	244	241	485	705
2011	204	282	486	701
2012	201	204	405	589
2013	258	261	519	754
2014	**261**	**281**	**542**	**786**

4.2 Morning Peak

Environmental Conditions

- The weather was fine throughout the morning shift.
- Significant road works were underway at this site as part of the Waterview connection project. Whilst all of the movements in Figure 4.1 were still possible, the extent of the road works may have deterred some cyclists from using this site.

Key Points

- Morning cyclist movements recorded at Great North Road/North Western Cycleway have increased slightly from 258 movements last year to 261 this year.
- This year experienced the highest traffic volume since monitoring began in 2007.
- The key morning movement was across Great North Road away from the UNITEC overbridge heading north (Movement 1 = 140 movements).
- Noticeable increases in cycle numbers were evident at Movement 4 (up 16 movements) and at Movement 2 (up 7 movements). The biggest decrease occurred at Movement 1 (down 17 movements)

Table 4.1: Morning Cyclist Movements

Great North Road/North Western Cycleway 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	-	82	75	133	117	119	157	**140**	**-17**
2	-	30	28	55	32	26	29	**36**	**7**
3	-	5	9	11	10	10	8	**5**	**-3**
4	-	27	13	28	34	28	58	**74**	**16**
5	-	10	9	12	6	12	1	**3**	**2**
6	-	1	6	4	3	4	1	**0**	**-1**
7	-	1	1	1	2	2	1	**3**	**2**
8	-	0	4	0	0	0	3	**0**	**-3**
Total	**98**	**156**	**145**	**244**	**204**	**201**	**258**	**261**	**3**

- Consistent with previous years, most cyclists this year were adults (99 per cent, stable from 97 per cent last year).
- Almost all cyclists were wearing a helmet (98 per cent, stable from 99 per cent last year).
- The greatest share of morning cyclists continued to be male (87 per cent).
- Nearly all cyclists were riding on the off-road cycleway (99 per cent, unchanged from last year).

Table 4.2: Morning Cyclist Characteristics

Great North Road/North Western Cycleway 2006 – 2014 (%)

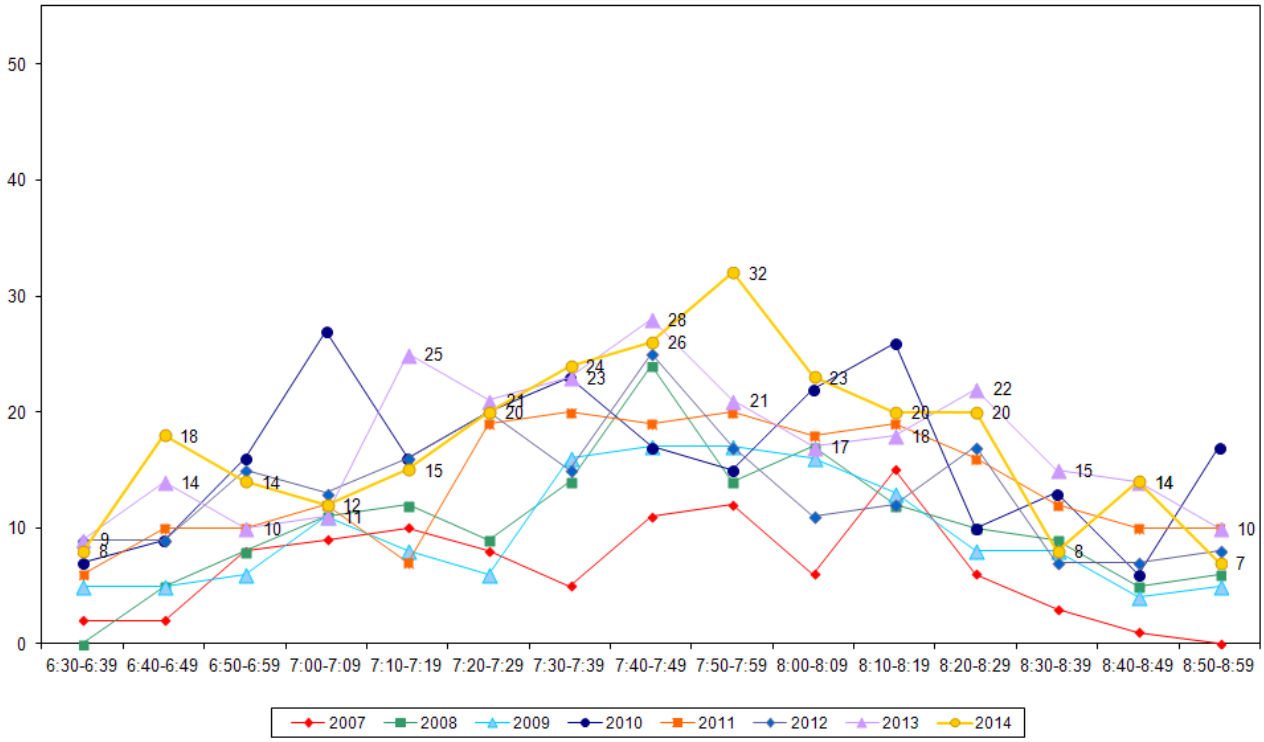
	2006	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type										
Adult	97	91	95	90	93	93	96	97	**99**	**2**
School child	3	9	5	10	7	7	4	3	**1**	**-2**
Helmet Wearing										
Helmet on head	94	99	97	97	94	95	96	99	**98**	**-1**
No helmet	6	1	3	3	6	5	4	1	**2**	**1**
Gender										
Male	-	-	-	-	-	81	86	86	**87**	**1**
Female	-	-	-	-	-	16	14	14	**13**	**-1**
Can't tell	-	-	-	-	-	3	0	0	**0**	**0**
Where Riding*										
Road	100	100	100	9	5	5	7	1	**1**	**0**
Off-road cycleway	-	-	-	91	95	95	93	99	**99**	**0**
Base:	***127***	***98***	***156***	***145***	***244***	***204***	***201***	***258***	***261***	

** In 2009 onwards, riding on the road was split into riding on off road cycleway and road. Therefore, 2014 results are only comparable with results from 2009 onwards.*

- Traffic was low at the start of the monitoring period, peaking slightly between 6:40am to 6:49am with 18 cyclists recorded. Cycle volumes reached a considerable peak between 7:50am and 7:59am (32 movements) then declined towards the end of the period.

Figure 4.2: Morning Peak Cyclist Frequency

Great North Road/North Western Cycleway 2007 – 2014 (n)



Note: In 2014, eight cyclists (3 per cent of all morning peak cycle movements at this site) were observed riding together at 7:59am. This compares with no cyclists riding in groups in 2013.

4.3 Evening Peak

Environmental Conditions

- The weather was fine throughout the evening shift.
- Significant road works were underway at this site as part of the Waterview connection project. Whilst all of the movements in Figure 4.1 were still possible, the extent of the road works may have deterred some cyclists from using this site.

Key Points

- The number of evening cyclists has increased this measure, from 261 last year to 281 movements this year.
- The dominant movements at this site in the evening were straight across Great North Road (via the overbridge) in both directions (Movement 2 = 157 cyclists; Movement 1 = 46 cyclists) and coming from the east on the cycle lane and continuing south along Great North Road (Movement 3 = 62 cyclists).
- The most noticeable increase was at Movements 2 (up 26 cyclists from 2013).

Table 4.3: Evening Cyclist Movements

Great North Road/North Western Cycleway 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	-	59	25	55	57	25	44	**46**	**2**
2	-	94	70	113	142	105	131	**157**	**26**
3	-	40	29	42	49	53	63	**62**	**-1**
4	-	7	7	11	5	8	11	**5**	**-6**
5	-	6	5	9	9	5	2	**1**	**-1**
6	-	5	5	9	13	7	1	**0**	**-1**
7	-	1	0	0	1	0	2	**3**	**1**
8	-	1	0	2	6	1	7	**7**	**0**
Total	**134**	**213**	**141**	**241**	**282**	**204**	**261**	**281**	**20**

- All recorded cyclists in the evening peak were adults (100 per cent, stable from last year).
- Almost all cyclists were wearing helmets (97 per cent, unchanged from 97 per cent last year).
- The greatest share of cyclists continued to be male (86 per cent).
- All cyclists were recorded as riding on the off-road cycleway (stable from 2013).

Table 4.4: Evening Cyclist Characteristics

Great North Road/North Western Cycleway 2006 – 2014 (%)

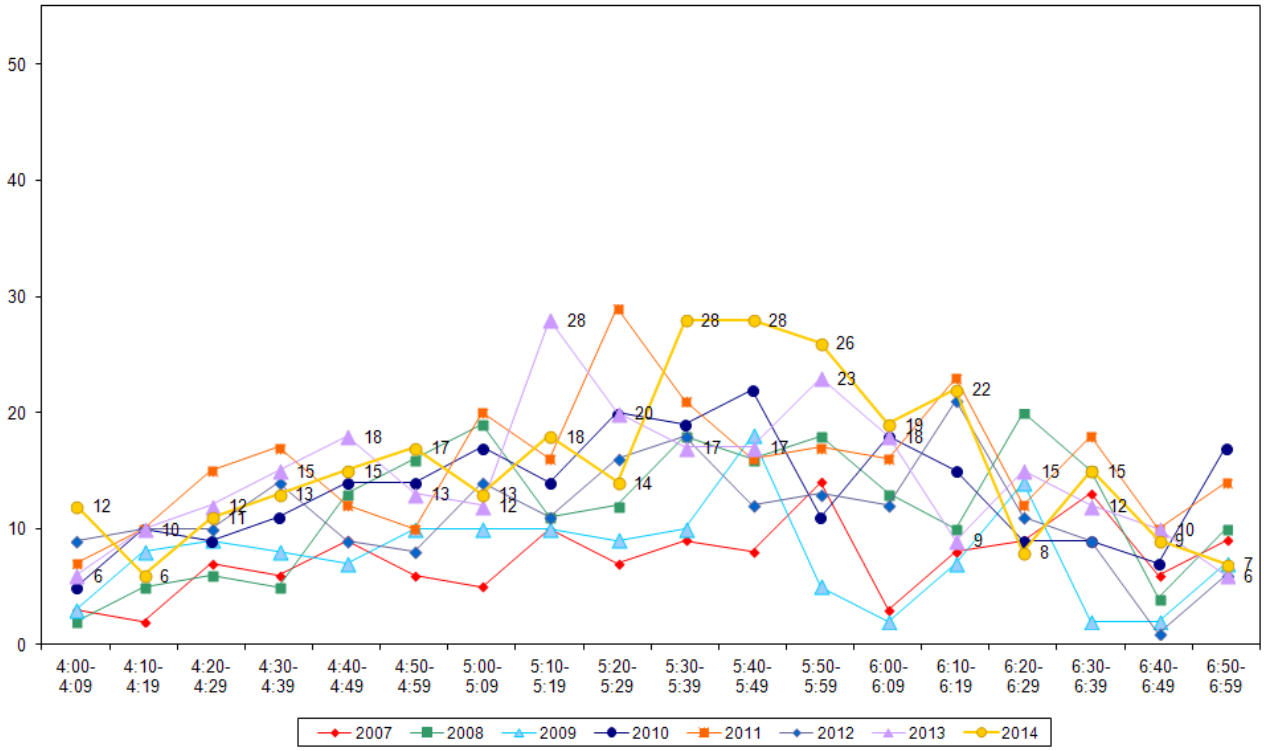
	2006	*2007*	*2008*	*2009*	*2010*	*2011*	2012	2013	2014	Change 13-14
Cyclist Type										
Adult	100	93	100	97	98	96	99	99	**100**	**1**
School child	0	7	0	3	2	4	1	1	**0**	**-1**
Helmet Wearing										
Helmet on head	95	98	97	95	95	96	92	97	**97**	**0**
No helmet	5	2	3	5	5	4	8	3	**3**	**0**
Gender										
Male	-	-	-	-	-	82	89	85	**86**	**1**
Female	-	-	-	-	-	15	11	15	**14**	**-1**
Can't tell	-	-	-	-	-	2	0	0	**0**	**0**
Where Riding*										
Road	100	100	100	7	7	8	6	1	**0**	**-1**
Off-road cycleway	-	-	-	93	93	92	94	99	**100**	**1**
Base:	***94***	***134***	***213***	***141***	***241***	***282***	***204***	***261***	***281***	

** In 2009 onwards, riding on the road was split into riding on off road cycleway and road. Therefore, 2014 results are only comparable with results from 2009 onwards.*

- The volume of evening cyclists varied over time, with a notable peak beginning at 5:30pm and lasting half an hour. Over the duration of this 30 minute peak, 82 cyclists were recorded, representing 29 per cent of the total evening cycle movements. The remainder of the shift observed fluctuations in cycle volumes similar to previous years.

Figure 4.3: Evening Peak Cyclist Frequency

Great North Road/North Western Cycleway 2007 – 2014 (n)



Note: In 2014, three per cent of the total cycle movements (n=9) 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:

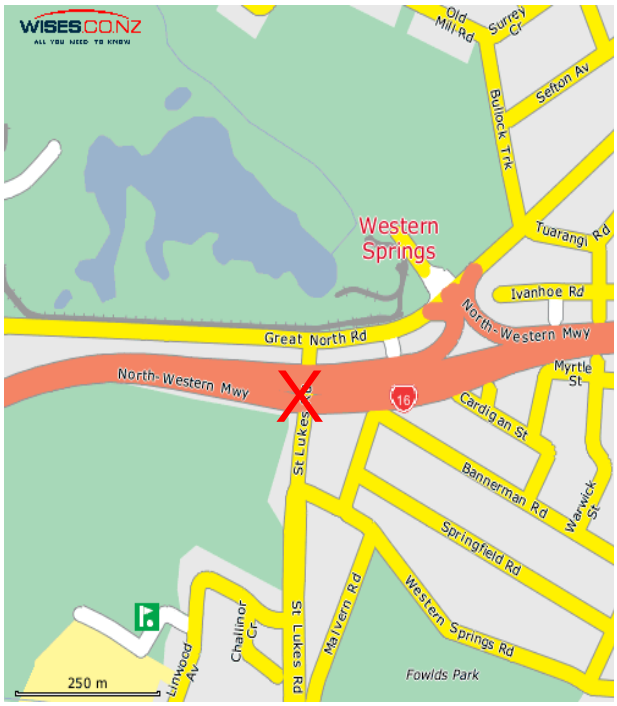
- *5 cyclists at 4:36pm*
- *4 cyclists at 5:43pm.*

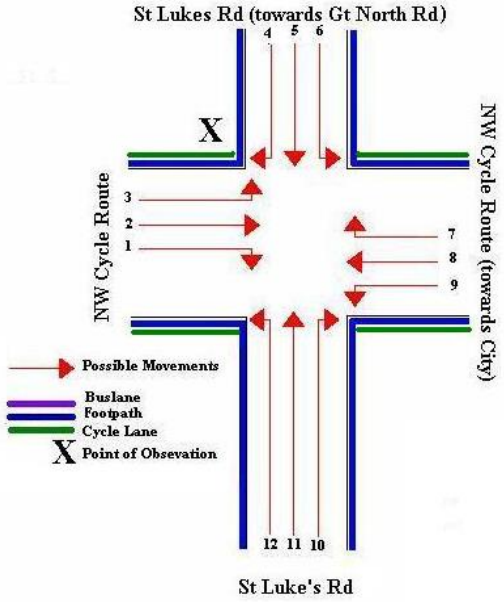
This compares with no cyclists riding in a group in 2013.

5. NORTH WESTERN CYCLEWAY/ST LUKES ROAD, WESTERN SPRINGS (SITE 7)

Figure 5.1 shows the possible cyclist movements at this intersection.

Figure 5.1: Cycle Movements: North Western Cycleway/St Lukes Road





5.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	152	172	324	469
2008	156	175	331	480
2009	155	155	310	451
2010	222	210	432	629
2011	240	273	513	743
2012	222	207	429	625
2013	277	270	547	796
2014	**315**	**344**	**659**	**956**

5.2 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

- Morning cyclist movements recorded at the North Western Cycleway/St Lukes Road site in 2014 have increased from 2013 (315 movements, compared with 277 last year).
- The key morning movement at this site was straight along the North Western cycleway towards the city (Movement 2 = 173 cyclists).
- The most notable changes in movements were the increases seen at Movement 2 (up 11 movements) and at Movement 11 (up 9 movements).

Table 5.1: Morning Cyclist Movements

North Western Cycleway/St Lukes Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	8	6	9	12	13	14	14	**12**	**-2**
2	60	63	59	83	120	124	162	**173**	**11**
3	10	10	11	6	4	4	7	**5**	**-2**
4	7	3	5	5	2	4	1	**1**	**0**
5	6	4	7	11	9	2	2	**4**	**2**
6	3	2	0	8	7	7	7	**10**	**3**
7	15	7	4	7	14	15	15	**20**	**5**
8	9	16	15	20	16	21	22	**22**	**0**
9	0	2	4	0	0	3	5	**7**	**2**
10	7	14	4	13	18	15	18	**23**	**5**
11	21	23	29	40	30	8	20	**29**	**9**
12	6	6	8	17	7	5	4	**8**	**4**
Don't know	0	0	0	0	0	0	0	**1**	**1**
Total	**152**	**156**	**155**	**222**	**240**	**222**	**277**	**315**	**38**

- The greatest share of cyclists was adults (95 per cent, stable from 96 per cent last year).
- Most cyclists were wearing a helmet (95 per cent, down slightly from 98 per cent in 2013).
- The majority of cyclists continued to be male (78 per cent).
- The majority of cyclists (69 per cent, stable from 68 per cent in 2012) were cycling on the off-road cycleway, while the remaining 30 per cent was equally split between the road and the footpath.

Table 5.2: Morning Cyclist Characteristics

North Western Cycleway/St Lukes Road 2004 – 2014 (%)

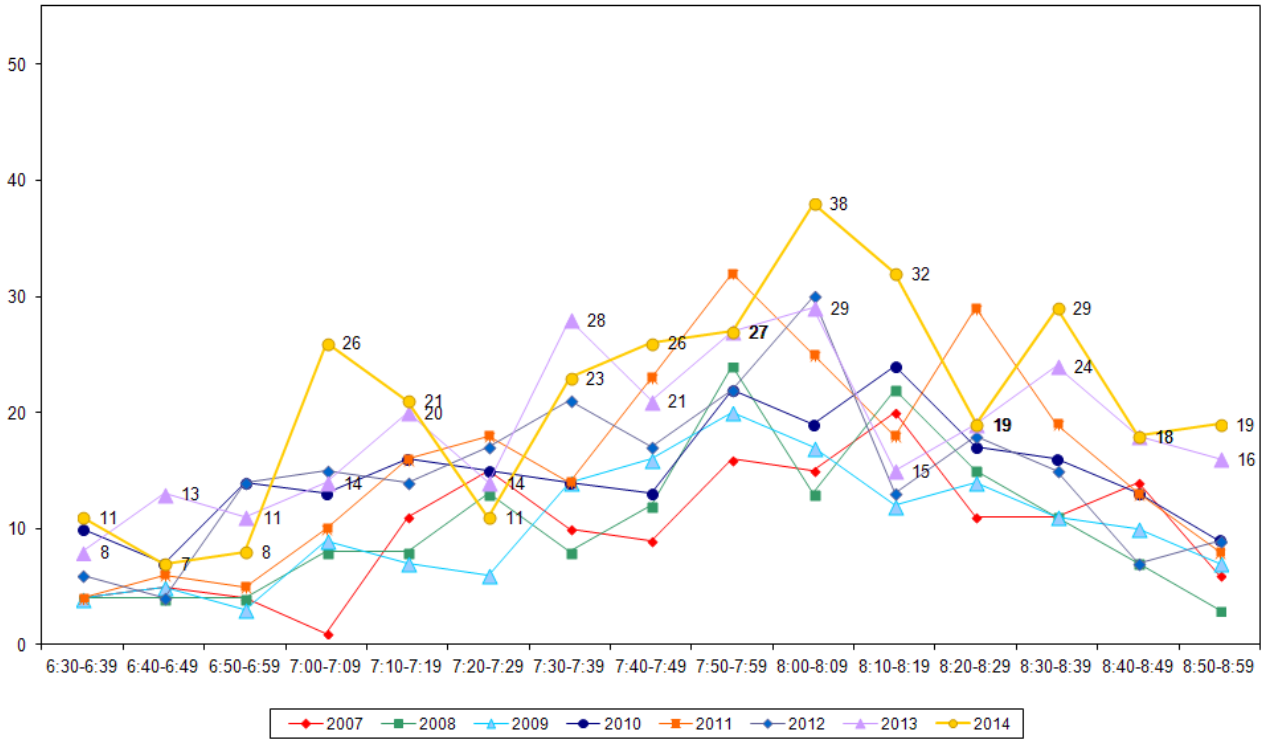
	2004	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type												
Adult	75	92	97	82	85	89	86	91	96	96	**95**	**-1**
School child	25	8	3	18	15	11	14	9	4	4	**5**	**1**
Helmet Wearing												
Helmet on head	99	95	98	97	94	95	94	95	96	98	**95**	**-3**
No helmet	1	5	2	3	6	5	6	5	4	2	**4**	**2**
Don't know	0	0	0	0	0	0	0	0	0	0	**1**	**1**
Gender												
Male	-	-	-	-	-	-	-	80	78	81	**78**	**-3**
Female	-	-	-	-	-	-	-	16	18	18	**18**	**0**
Can't tell	-	-	-	-	-	-	-	4	4	1	**4**	**3**
Where Riding												
Road	89	76	78	87	94	20	21	9	10	13	**15**	**2**
Footpath	11	24	22	13	6	10	15	20	10	19	**15**	**-4**
Off-road cycleway*	-	-	-	-	-	70	64	71	80	68	**69**	**1**
Don't know	-	-	-	-	-	0	0	0	0	0	**1**	**1**
Base:	***95***	***130***	***133***	***152***	***156***	***155***	***222***	***240***	***222***	***277***	***315***	

** In 2009 onwards, riding on the road was split into riding on off road cycleway and road. Therefore, 2014 results are only comparable with results from 2009 onwards.*

- As in 2013, traffic was relatively low at the start of the monitoring period, before peaking between 7:00am to 7:09am (26 cyclists). A second peak is evident between 8:00am to 8:09am with 38 cycle movements recorded during this interval. The remaining hour of the monitoring period observed varied cycle volumes.

Figure 5.2: Morning Peak Cyclist Frequency

North Western Cycleway/St Lukes Road 2007 – 2014 (n)



Note: In 2014, three cyclists (2 per cent of all morning peak cycle movements at this site) were observed riding together at 8:41am. No cyclists were observed riding together in 2013.

5.3 Evening Peak

Environmental Conditions

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

Key Points

- Evening cyclist numbers have increased noticeably since last year (344 movements compared to 270 last year).
- In the evening peak, the key route was along the North Western cycleway away from the city (Movement 8 = 183 cyclists).
- Of the 12 movements possible at this site, the biggest change since last year was at Movement 8 (up 31 movements).

Table 5.3: Evening Cyclist Movements

North Western Cycleway/St Lukes Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	11	13	9	11	8	5	8	**6**	**-2**
2	8	20	12	28	28	22	22	**37**	**15**
3	7	7	5	5	4	3	2	**3**	**1**
4	11	13	13	16	12	6	11	**8**	**-3**
5	27	7	18	24	23	9	15	**21**	**6**
6	5	4	1	1	1	6	4	**11**	**7**
7	5	4	3	10	10	10	11	**21**	**10**
8	69	60	64	80	149	121	152	**183**	**31**
9	6	11	2	8	18	7	14	**17**	**3**
10	1	1	1	1	1	2	5	**2**	**-3**
11	18	22	13	14	16	11	9	**14**	**5**
12	4	13	14	12	3	5	17	**20**	**3**
Don't know	0	0	0	0	0	0	0	**1**	**1**
Total	**172**	**175**	**155**	**210**	**273**	**207**	**270**	**344**	**74**

- Consistent with previous years, adults comprised the greatest share of cyclists (97 per cent, stable from 99 per cent in 2013).
- Most cyclists were wearing a helmet (96 per cent, an increase of 3 percentage points from the previous measure).
- The majority of cyclists continued to be male (76 per cent).
- The greatest share of cyclists (68 per cent, stable from 66 per cent in 2013) were cycling on the off-road cycleway, while 21 per cent were riding on the footpath.

Table 5.4: Evening Cyclist Characteristics

North Western Cycleway/St Lukes Road 2004 – 2014 (%)

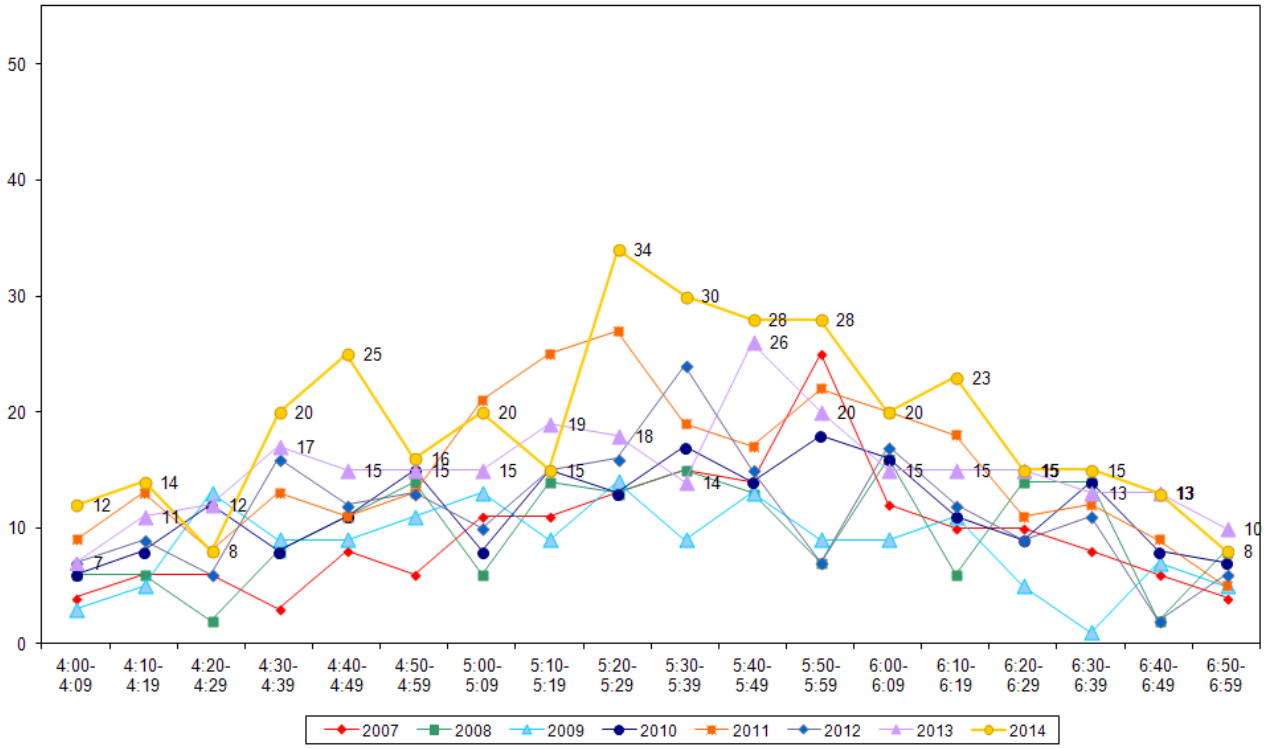
	2004	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type												
Adult	93	98	100	96	88	100	95	98	98	99	**97**	**-2**
School child	7	2	0	4	12	0	5	2	2	1	**3**	**2**
Helmet Wearing												
Helmet on head	97	92	98	97	91	93	93	96	96	93	**96**	**3**
No helmet	3	8	2	3	9	7	7	4	4	7	**4**	**-3**
Gender												
Male	-	-	-	-	-	-	-	84	80	84	**76**	**-8**
Female	-	-	-	-	-	-	-	12	18	16	**22**	**6**
Can't tell	-	-	-	-	-	-	-	4	2	0	**2**	**2**
Where Riding*												
Road	98	87	98	85	89	15	16	15	10	12	**11**	**-1**
Footpath	2	13	2	15	11	5	20	13	14	22	**21**	**-1**
Off-road cycleway*	-	-	-	-	-	80	64	72	76	66	**68**	**2**
Base:	***87***	***108***	***80***	***172***	***175***	***155***	***210***	***273***	***207***	***270***	***344***	

** In 2009 onwards, riding on the road was split into riding on off road cycleway and road. Therefore, 2014 results are only comparable with results from 2009 onwards.*

- Evening cyclist movements slowly increased throughout the monitoring period reaching a peak of 25 cycle movements between 4:40pm to 4:49pm. Cycle volumes increased considerably between 5:20pm to 5:29pm (34 movements) and the number of cyclists remained high for a further half an hour. From there, volumes decreased through to the end of the period.

Figure 5.3: Evening Peak Cyclist Frequency

North Western Cycleway/St Lukes Road 2007 –2014 (n)



Note: In 2014, 3 per cent of the total cycle movements (n=11) 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:

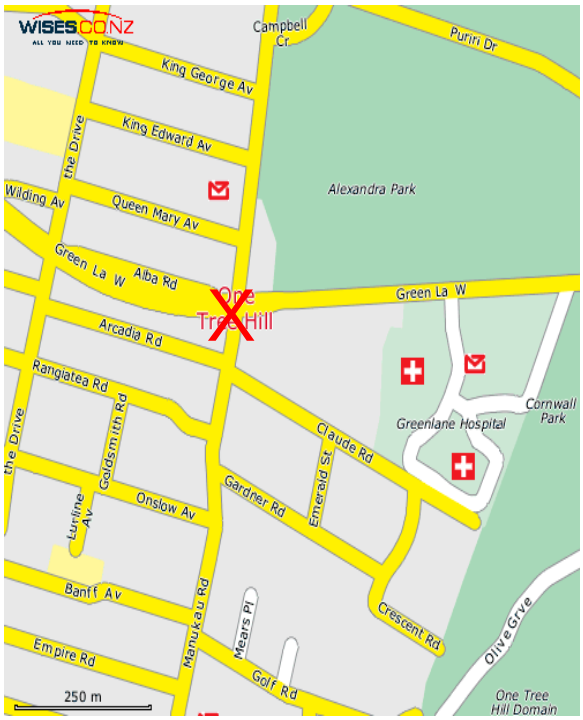
- *4 cyclists at 4:30pm*
- *3 cyclists at 4:36pm*
- *4 cyclists at 5:36pm.*

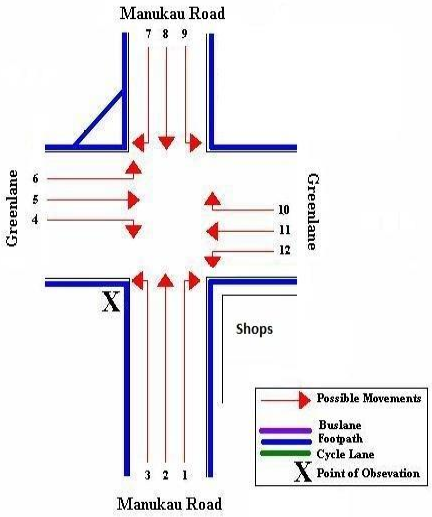
This compares with no cyclists riding as a group in 2013.

6. MANUKAU/GREENLANE ROAD, EPSOM (SITE 12)

Figure 6.1 shows the possible cyclist movements at this intersection.

Figure 6.1: Cycle Movements: Manukau/Greenlane West





6.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	103	122	225	326
2008	92	113	205	296
2009	84	92	176	255
2010	130	127	257	374
2011	120	107	227	331
2012	110	95	205	299
2013	99	100	199	289
2014	**92**	**125**	**217**	**313**

6.2 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

- In 2014, the number of morning cyclist movements recorded at the Manukau/Greenlane West intersection decreased slightly from 2013 (down by 7 movements to 92).
- As in previous years, the most common morning movement at this intersection was north along Manukau Road towards the city (Movement 2 = 34 movements).
- The largest increase in cyclist movements was observed at Movement 8 (up 7 movements) and the largest decrease was at Movement 11 (down 6 movements).

Table 6.1: Morning Cyclist Movements

Manukau/Greenlane West 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	4	6	1	4	4	4	1	**5**	**4**
2	27	26	30	48	48	30	32	**34**	**2**
3	4	2	4	7	5	3	3	**3**	**0**
4	1	5	2	1	7	8	5	**2**	**-3**
5	20	15	16	20	20	15	21	**18**	**-3**
6	1	6	4	8	5	8	6	**4**	**-2**
7	4	4	1	4	3	2	1	**1**	**0**
8	22	14	14	16	16	20	10	**17**	**7**
9	9	4	1	3	3	7	3	**0**	**-3**
10	2	2	2	5	0	0	5	**1**	**-4**
11	7	7	9	11	9	10	12	**6**	**-6**
12	2	1	0	3	0	3	0	**1**	**1**
Total	**103**	**92**	**84**	**130**	**120**	**110**	**99**	**92**	**-7**

- Almost all of the morning cyclists at the Manukau/Greenlane West intersection were adults (88 per cent, compared with 90 per cent last year).
- Almost all cyclists were wearing a helmet (97 per cent, up slightly from 94 per cent last year).
- The majority of cyclists continued to be male (82 per cent).
- The proportion of cyclists riding on the road has increased by 9 percentage points to 87 per cent this year.

Table 6.2: Morning Cyclist Characteristics

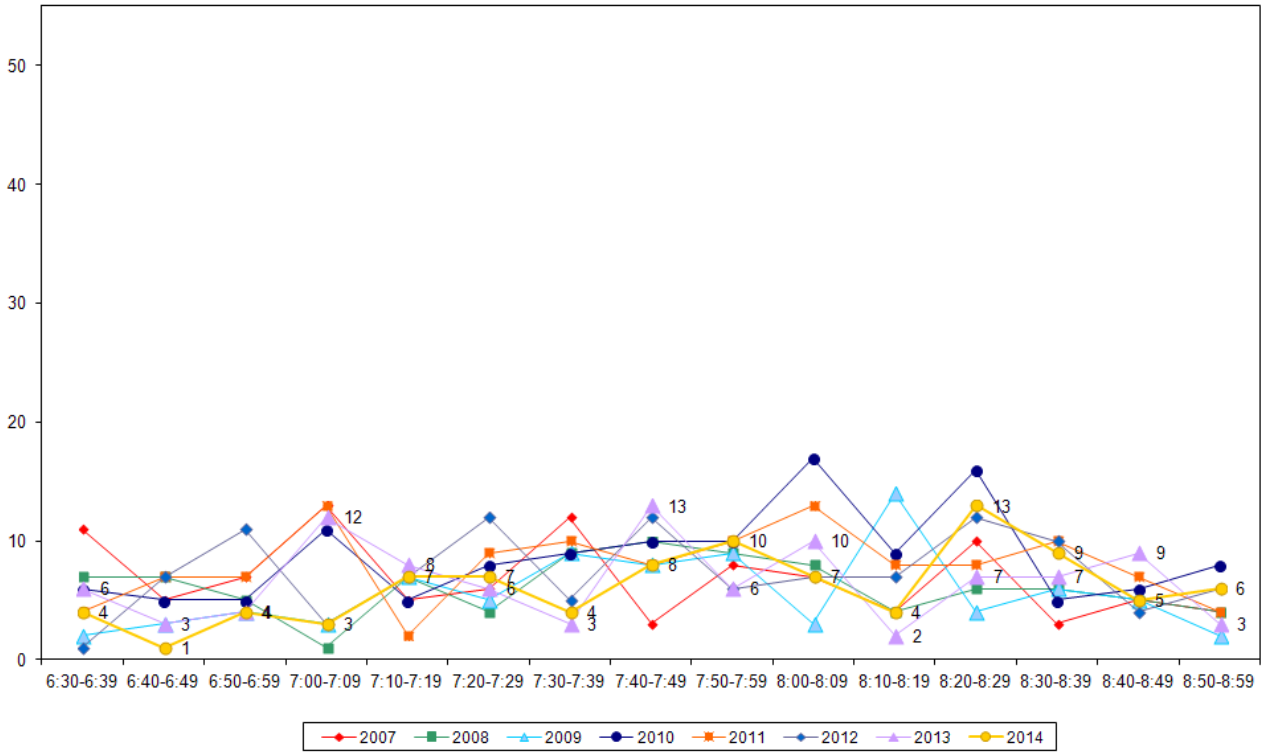
Manukau/Greenlane West 2004 – 2014 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type												
Adult	71	89	87	95	87	87	97	87	84	90	**88**	**-2**
School child	29	11	13	5	13	13	3	13	16	10	**12**	**2**
Helmet Wearing												
Helmet on head	92	99	93	95	99	95	99	98	95	94	**97**	**3**
No helmet	8	1	7	5	1	5	1	2	5	6	**3**	**-3**
Gender												
Male	-	-	-	-	-	-	-	74	71	81	**82**	**1**
Female	-	-	-	-	-	-	-	23	24	18	**18**	**0**
Can't tell	-	-	-	-	-	-	-	3	5	1	**0**	**-1**
Where Riding												
Road	71	71	74	78	79	73	88	75	75	78	**87**	**9**
Footpath	29	29	26	22	21	27	12	25	25	22	**13**	**-9**
Base:	***66***	***92***	***89***	***103***	***92***	***84***	***130***	***120***	***110***	***99***	***92***	

- The volume of morning cyclists fluctuated over the entire monitoring period, but with no more than 13 cyclist movements per 10 minute interval. Small peaks in cyclist volumes could be observed throughout the monitoring period.

Figure 6.2: Morning Peak Cyclist Frequency

Manukau/Greenlane West 2007 – 2014 (n)



6.3 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

- In 2014, the number of evening cyclist movements recorded at the Manukau/Greenlane West intersection has increased (125 movements, up from 100 movements last year).
- The two key movements in the evening at this intersection were straight along Manukau Road heading south (Movement 8 = 40 cyclists) and west along Greenlane West (Movement 11 = 28 cyclists).
- The most noticeable change in cycle movement numbers occurred at Movement 11 (an increase of 11 movements).

Table 6.3: Evening Cyclist Movements

Manukau/Greenlane West 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	4	1	2	6	3	3	2	**1**	**-1**
2	16	17	5	17	8	8	6	**15**	**9**
3	4	4	3	4	5	7	6	**6**	**0**
4	6	7	5	7	8	9	8	**9**	**1**
5	9	11	8	11	3	3	6	**11**	**5**
6	1	1	5	0	6	4	0	**1**	**1**
7	5	3	3	3	1	6	8	**5**	**-3**
8	26	37	33	36	36	25	31	**40**	**9**
9	6	0	2	4	3	2	4	**1**	**-3**
10	11	4	3	6	5	9	9	**5**	**-4**
11	30	25	17	29	24	15	17	**28**	**11**
12	4	3	6	4	5	4	3	**3**	**0**
Total	**122**	**113**	**92**	**127**	**107**	**95**	**100**	**125**	**25**

- The greatest share of cyclists continued to be adults (85 per cent, stable from 87 per cent in 2013).
- The share wearing a helmet remained reasonably high (95 per cent, stable from 93 per cent in 2013).
- The majority of cyclists continued to be male (89 per cent).
- The proportion of cyclists riding on the road has increased from 2013, up from 77 per cent to 80 per cent this year.

Table 6.4: Evening Cyclist Characteristics

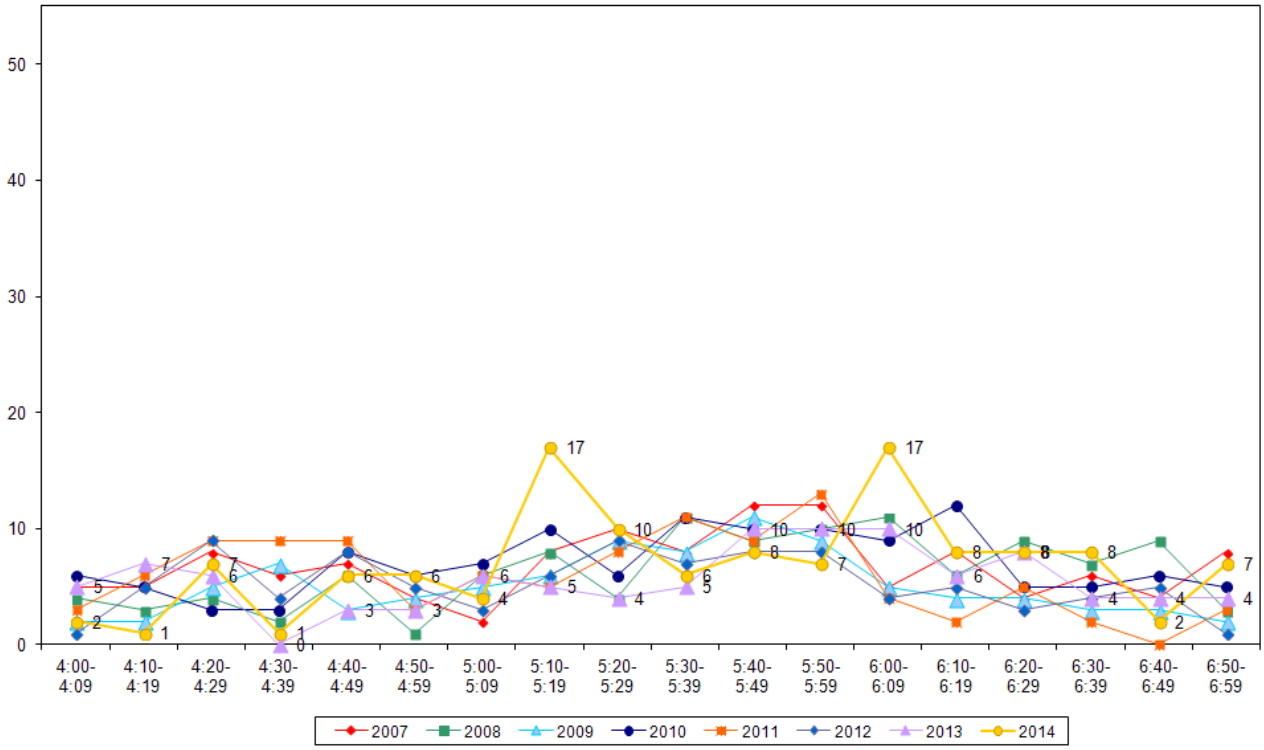
Manukau/Greenlane West 2004 – 2014 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type												
Adult	78	96	95	88	81	91	94	84	95	87	**85**	**-2**
School child	22	4	5	12	19	9	6	16	5	13	**14**	**1**
Don't know	0	0	0	0	0	0	0	0	0	0	**1**	**1**
Helmet Wearing												
Helmet on head	90	98	98	95	94	93	98	91	97	93	**95**	**2**
No helmet	10	2	2	5	6	7	2	9	3	7	**4**	**-3**
Don't know	0	0	0	0	0	0	0	0	0	0	**1**	**1**
Gender												
Male	-	-	-	-	-	-	-	84	74	88	**89**	**1**
Female	-	-	-	-	-	-	-	16	23	11	**11**	**0**
Can't tell	-	-	-	-	-	-	-	0	3	1	**0**	**-1**
Where Riding												
Road	73	87	86	76	78	84	74	74	90	77	**80**	**3**
Footpath	27	13	14	24	22	16	26	26	10	23	**20**	**-3**
Base:	***60***	***55***	***56***	***122***	***113***	***92***	***127***	***107***	***95***	***100***	***125***	

- In the evening, cyclist movement volume remained low but steady, with no more than 10 movements during most 10 minute intervals. The exceptions to this occurred between 5:10pm to 5:19pm and 6:00pm and 6:09pm, 17 cyclists recorded during these intervals. These two peaks are in contrast to previous years at this site.

Figure 6.3: Evening Peak Cyclist Frequency

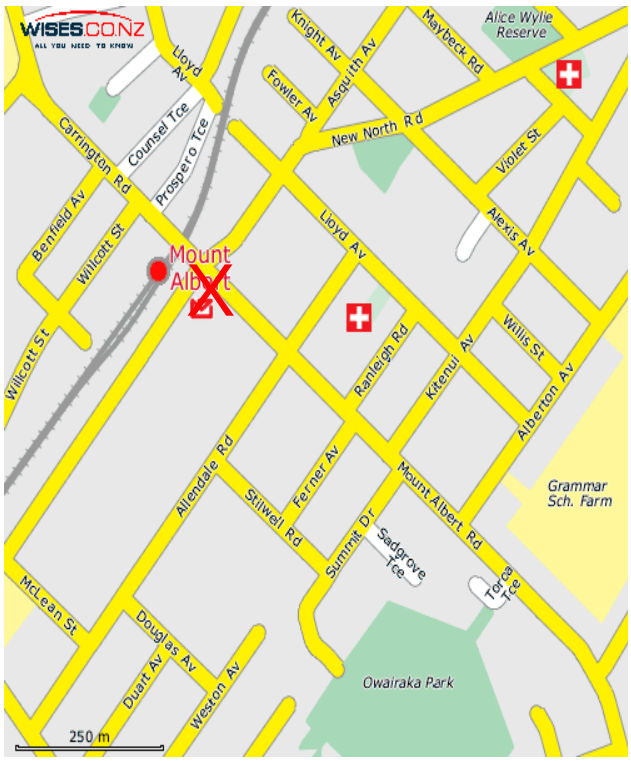
Manukau/Greenlane West 2007 – 2014 (n)

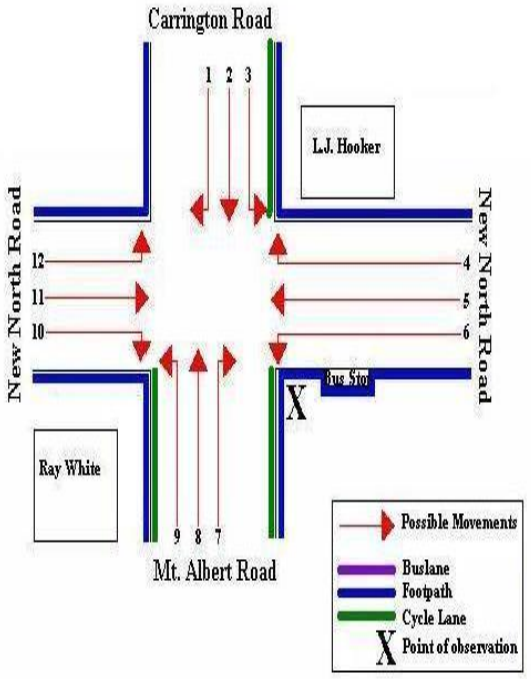


7. MOUNT ALBERT/NEW NORTH/ CARRINGTON ROAD, MT ALBERT (SITE 14)

Figure 7.1 shows the possible cyclist movements at this intersection.

Figure 7.1: Cycle Movements: Mount Albert/New North Road/Carrington Road





7.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	75	81	156	226
2008	68	96	164	236
2009	59	83	142	205
2010	91	118	209	302
2011	97	104	201	292
2012	94	76	170	249
2013	70	100	170	245
2014	**62**	**107**	**169**	**242**

7.2 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

- Compared with last year, the volume of morning cyclist movements at the Mount Albert/New North Road/Carrington Road intersection has declined (62 movements, down from 70 movements in 2013).
- The most common movement in the morning was straight along Mt Albert Road heading into Carrington Road (Movement 8 = 18 movements).
- The greatest change in morning cyclist movement volumes occurred at Movement 11 (down 10 movements).

Table 7.1: Morning Cyclist Movements

Mount Albert/New North Road/Carrington Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	1	3	1	2	2	3	3	**2**	**-1**
2	11	10	11	19	26	18	10	**11**	**1**
3	3	2	2	4	5	3	5	**1**	**-4**
4	3	3	1	2	0	5	3	**1**	**-2**
5	5	3	5	6	9	7	3	**6**	**3**
6	0	0	0	0	2	1	1	**1**	**0**
7	2	3	2	1	1	5	3	**2**	**-1**
8	14	14	6	22	19	19	15	**18**	**3**
9	1	3	1	0	4	2	0	**0**	**0**
10	6	4	3	1	0	2	1	**2**	**1**
11	25	23	25	32	26	25	24	**14**	**-10**
12	4	0	2	2	3	4	2	**3**	**1**
Don't know	0	0	0	0	0	0	0	**1**	**1**
Total	**75**	**68**	**59**	**91**	**97**	**94**	**70**	**62**	**-8**

- Over the morning peak, most cyclists using the Mount Albert/New North Road/Carrington Road intersection were adults (87 per cent, down from 91 per cent in 2013).
- Helmet-wearing remained stable this year (97 per cent, stable from 96 per cent in 2013).
- The majority of cyclists were recorded as male remained consistent (84 per cent).
- The proportion of cyclists riding on the road at this site has decreased over the last 12 months – down 13 percentage points to 74 per cent. The remaining 26 per cent rode on the footpath.

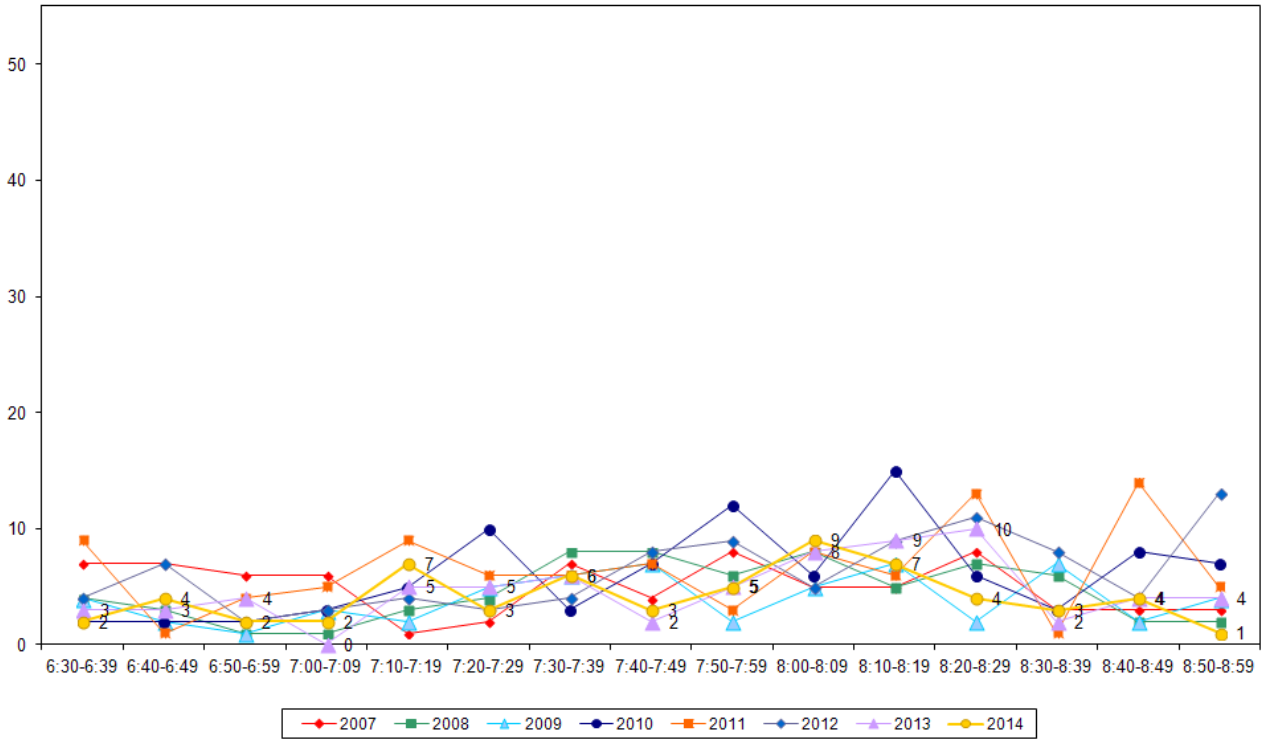
Table 7.2: Morning Cyclist Characteristics

Mount Albert/New North Road/Carrington Road 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	95	91	92	87	94	80	91	**87**	**-4**
School child	5	9	8	13	6	20	9	**13**	**4**
Helmet Wearing									
Helmet on head	91	91	86	90	91	79	96	**97**	**1**
No helmet	9	9	14	10	9	21	4	**3**	**-1**
Gender									
Male	-	-	-	-	85	89	84	**84**	**0**
Female	-	-	-	-	13	9	16	**16**	**0**
Can't tell	-	-	-	-	2	2	0	**0**	**0**
Where Riding									
Road	84	85	90	81	84	68	87	**74**	**-13**
Footpath	16	15	10	19	16	32	13	**26**	**13**
Base:	***75***	***68***	***59***	***91***	***97***	***94***	***70***	***62***	

- The volume of morning cycle movements remained low throughout the majority of the monitoring period. No more than 9 cyclists were recorded during any ten minute interval during the shift.

Figure 7.2: Morning Peak Cyclist Frequency
Mount Albert/New North Road/Carrington Road 2007 – 2014 (n)



7.3 Evening Peak

Environmental Conditions

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

Key Points

- The total number of evening cycle movements recorded at the Mount Albert/New North Road/Carrington Road intersection has increased, from 100 in 2013 to 107 movements this year.
- The most common evening movement was straight along Mt Albert Road onto Carrington Road (Movement 8 = 20 cyclists).
- Evening cyclist volumes increased most notably at Movement 2 – travelling along Carrington Road onto Mt Albert Road (up 7 movements).

Table 7.3: Evening Cyclist Movements

Mount Albert/New North Road/Carrington Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	3	5	2	2	4	1	3	**8**	**5**
2	13	16	17	23	20	11	12	**19**	**7**
3	3	5	1	5	2	5	5	**5**	**0**
4	5	3	4	5	8	6	6	**7**	**1**
5	28	31	34	34	21	23	26	**15**	**-11**
6	2	2	3	1	1	2	3	**1**	**-2**
7	3	1	3	1	1	2	1	**1**	**0**
8	9	8	9	16	19	13	16	**20**	**4**
9	1	2	0	12	10	2	8	**6**	**-2**
10	3	4	1	7	7	3	6	**4**	**-2**
11	7	10	6	8	9	3	12	**18**	**6**
12	4	9	3	4	2	5	2	**3**	**1**
Total	**81**	**96**	**83**	**118**	**104**	**76**	**100**	**107**	**7**

- The majority of cyclists using this intersection were adults (96 per cent, an increase of 7 percentage points from 2013).
- Helmet-wearing has become less widespread this year (83 per cent, down from 91 per cent last year).
- The majority of cyclists were male (83 per cent).
- Three in four cyclists were riding on the road (73 per cent, down 8 percentage points from 2013).

Table 7.4: Evening Cyclist Characteristics

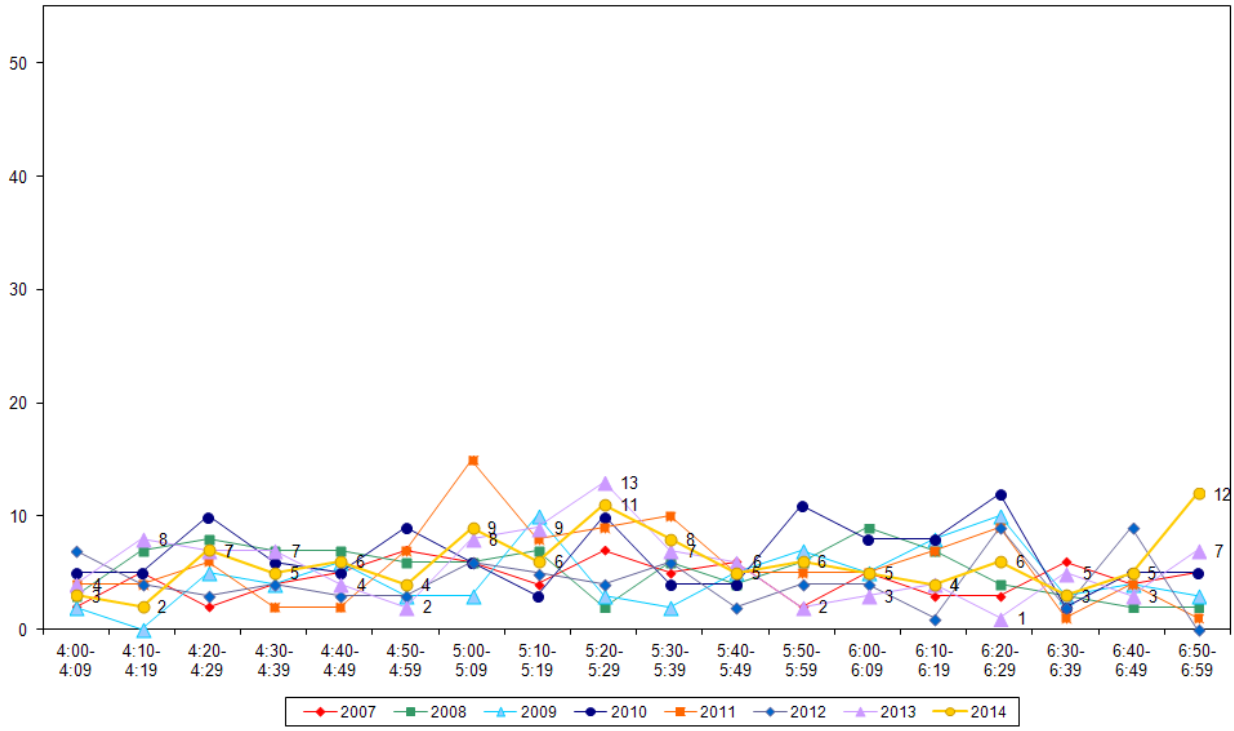
Mount Albert/New North Road/Carrington Road 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	94	85	98	84	88	88	89	**96**	**7**
School child	6	15	2	16	12	12	11	**4**	**-7**
Helmet Wearing									
Helmet on head	90	90	86	81	83	82	91	**83**	**-8**
No helmet	10	10	14	19	17	18	9	**17**	**8**
Gender									
Male	-	-	-	-	90	90	88	**83**	**-5**
Female	-	-	-	-	10	9	11	**14**	**3**
Can't tell	-	-	-	-	0	1	1	**3**	**2**
Where Riding									
Road	63	78	75	73	70	66	81	**73**	**-8**
Footpath	37	22	25	27	30	34	19	**27**	**8**
Base:	***81***	***96***	***83***	***118***	***104***	***76***	***100***	***107***	

- The volume of cycle movements varied throughout the evening shift, but generally remained low. A peak occurred at the end of the shift between 6:50pm to 6:59pm (12 movements).

Figure 7.3: Evening Peak Cyclist Frequency

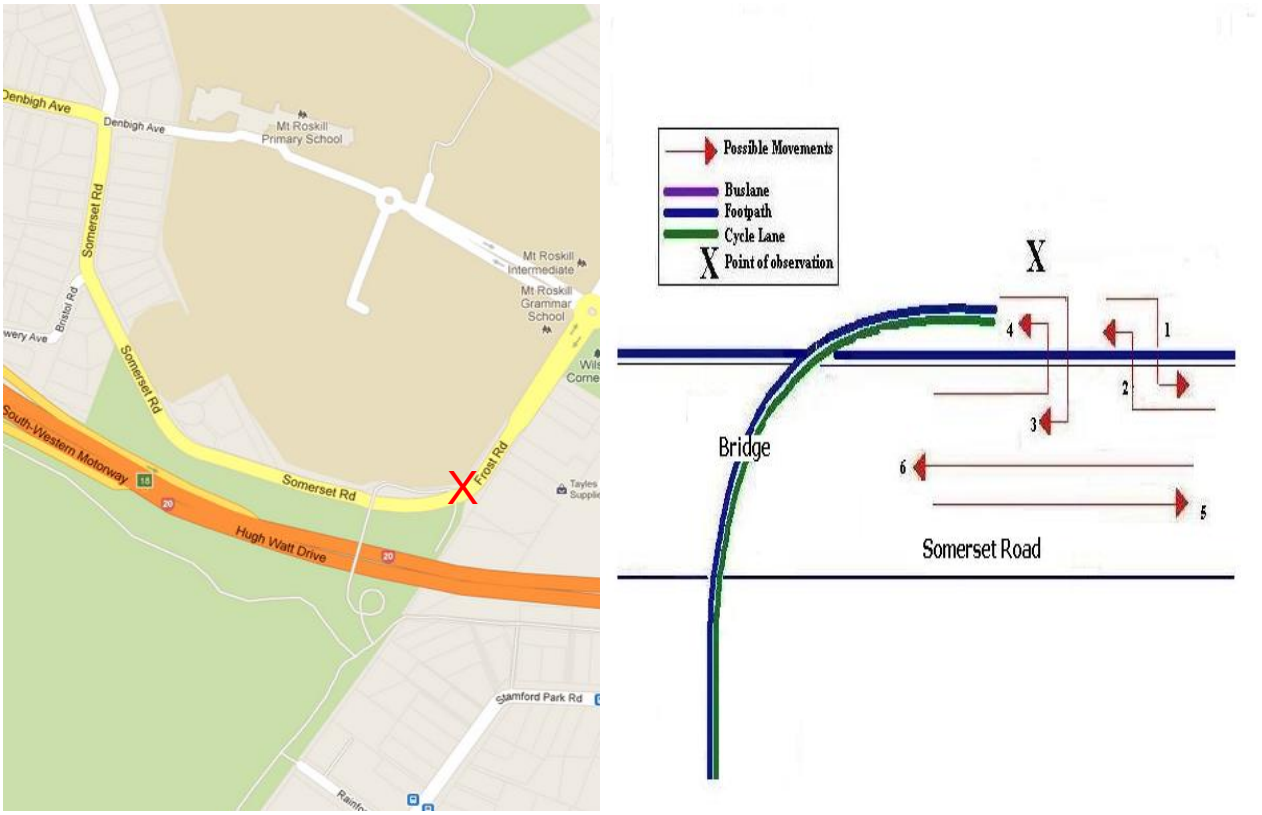
Mount Albert/New North Road/Carrington Road 2007 – 2014 (n)



8. KEITH HAY PARK/SOMERSET RD/ BRIDGE, MT ROSKILL (SITE 88)

Figure 8.1 shows the possible cyclist movements at this intersection.

Figure 8.1: Cycle Movements: Keith Hay Park/Somerset Rd/ Bridge, Mt Roskill



Note: This site was monitored for the first time in 2010.

8.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2010	28	25	53	77
2011	29	40	69	99
2012	28	19	47	69
2013	45	14	59	88
2014	**43**	**15**	**58**	**86**

8.2 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

- Forty-three cycle movements were recorded at this site in 2014, stable from last year.
- The key morning movement has changed from Movement 5 to Movement 1 – turning off the overbridge and heading east (21 movements).
- The greatest increase in cyclist number occurred at Movement 1 (up 21 cyclists), while the biggest decline was observed at Movement 5 (down 25 movements), the predominant movement last year.

Table 8.1: Morning Cyclist Movements

Keith Hay Park/Somerset Rd/ Bridge, Mt Roskill 2010 – 2014 (n)

Movement	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	22	22	19	0	**21**	**21**
2	3	1	1	1	**3**	**2**
3	0	1	1	1	**0**	**-1**
4	0	1	2	0	**2**	**2**
5	1	2	2	41	**16**	**-25**
6	2	2	3	2	**1**	**-1**
Total	**28**	**29**	**28**	**45**	**43**	**-2**

- Over the morning peak, the majority of cyclists were school children (67 per cent, compared with 64 per cent in 2013).
- The majority of cyclists were wearing a helmet (91 per cent, up from 80 per cent in 2013).
- The majority of cyclists were male (86 per cent).
- There has been a noticeable (23 percentage point) increase in the share of cyclists riding on the cycleway, while riders on the footpath have decreased by 24 percentage points.

Table 8.2: Morning Cyclist Characteristics

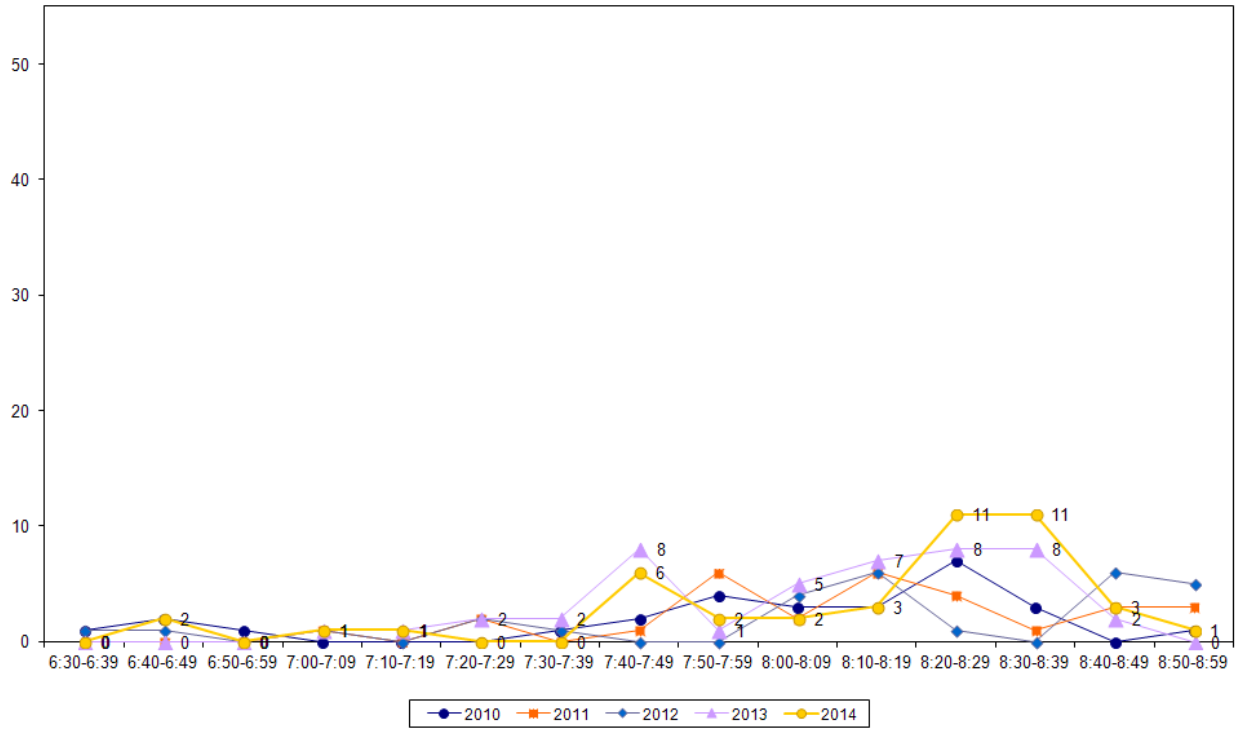
Keith Hay Park/Somerset Rd/ Bridge, Mt Roskill 2010 – 2014 (%)

	2010	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type						
Adult	25	28	29	36	**33**	**-3**
School child	75	72	71	64	**67**	**3**
Helmet Wearing						
Helmet on head	82	83	68	80	**91**	**11**
No helmet	18	17	32	20	**9**	**-11**
Gender						
Male	-	86	89	87	**86**	**-1**
Female	-	14	11	13	**14**	**1**
Can't tell	-	0	0	0	**0**	**0**
Where Riding						
Road	7	14	18	22	**23**	**1**
Footpath	4	0	0	47	**23**	**-24**
Off-road cycleway	89	86	82	31	**54**	**23**
Base:	***28***	***29***	***28***	***45***	***43***	

- Like last year, morning cycle volume was low throughout the shift. However, two peaks could be seen clearly. The first peak was a sudden increase in volume (6 cyclists) from 7:40am to 7:49am, due to a peloton of six passing through the site at this time. The second peak is evident between 8:20am to 8:39am (two intervals) with 22 cyclists passing through during this period. These peaks are consistent with the previous year.

Figure 8.2: Morning Peak Cyclist Frequency

Keith Hay Park/Somerset Rd/ Bridge, Mt Roskill 2010 – 2014 (n)



Note: In 2014, 6 cyclists (14 per cent of all morning peak cycle movements at this site) were observed riding together at 7:40am. This compares with 24 per cent of cyclists (n=11) riding in groups in 2013.

8.3 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

- Fifteen cyclist movements were recorded at this site this year (stable from 14 recorded last year).
- The most notable increase in the evening was turning off the overbridge and heading east (Movement 1 = up 4 movements).
- The biggest decrease was at Movement 2 - turning onto the overbridge from Somerset Road to the east (down 3 movements).

Table 8.3: Evening Cyclist Movements

Keith Hay Park/Somerset Rd/ Bridge, Mt Roskill 2010 – 2014 (n)

Movement	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	8	13	7	0	**4**	**4**
2	7	17	5	7	**4**	**-3**
3	0	0	2	0	**1**	**1**
4	4	2	2	0	**0**	**0**
5	4	4	0	3	**4**	**1**
6	2	4	3	4	**2**	**-2**
Total	**25**	**40**	**19**	**14**	**15**	**1**

- Half of cyclists were school children (53 per cent, a slight increase from 50 per cent in 2013).
- Helmet wearing by cyclists has increased considerably since 2013 (80 per cent, compared with 57 per cent in 2013).
- The majority of cyclists were male (87 per cent).
- Sixty per cent of cyclists were riding on the cycleway (down from 64 per cent in 2013), while 33 per cent were riding on the road (up from 7 per cent last year).

Table 8.4: Evening Cyclist Characteristics

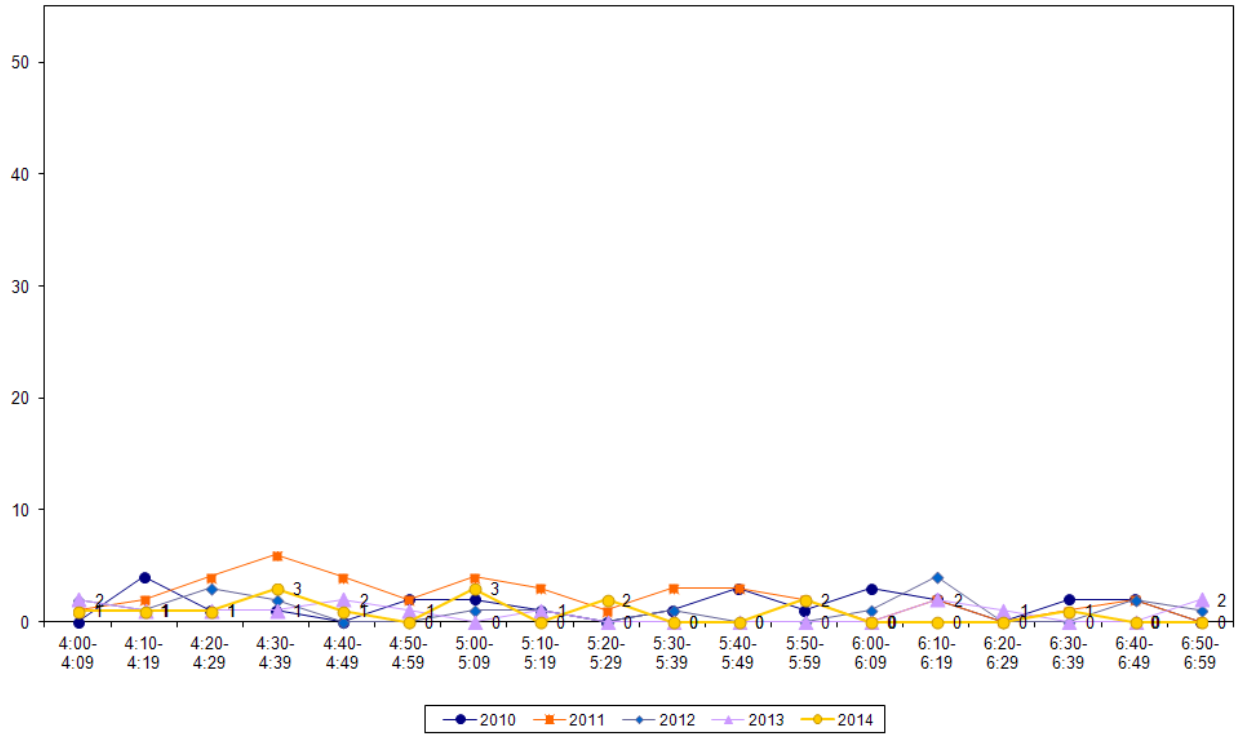
Keith Hay Park/Somerset Rd/ Bridge, Mt Roskill 2010 – 2014 (%)

	2010	***2011***	***2012***	***2013***	***2014***	**Change 13-14**
Cyclist Type						
Adult	72	48	53	50	**47**	**-3**
School child	28	53	47	50	**53**	**3**
Helmet Wearing						
Helmet on head	76	58	89	57	**80**	**23**
No helmet	24	43	11	43	**20**	**-23**
Gender						
Male	-	95	84	79	**87**	**8**
Female	-	5	16	21	**13**	**-8**
Can't tell	-	0	0	0	**0**	**0**
Where Riding						
Road	20	20	16	7	**33**	**26**
Footpath	4	0	0	29	**7**	**-22**
Off-road cycleway	76	80	84	64	**60**	**-4**
Base:	***25***	***40***	***19***	***14***	***15***	

- Evening cyclist volume was very low throughout the monitoring period, with no more than three cyclists recorded during any ten minute interval.

Figure 8.3: Evening Peak Cyclist Frequency

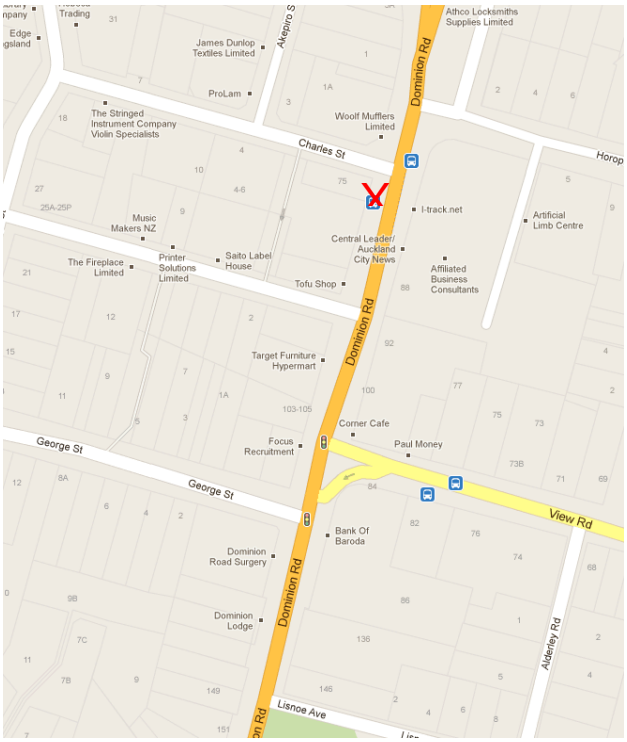
Keith Hay Park/Somerset Rd/ Bridge, Mt Roskill 2010 – 2014 (n)

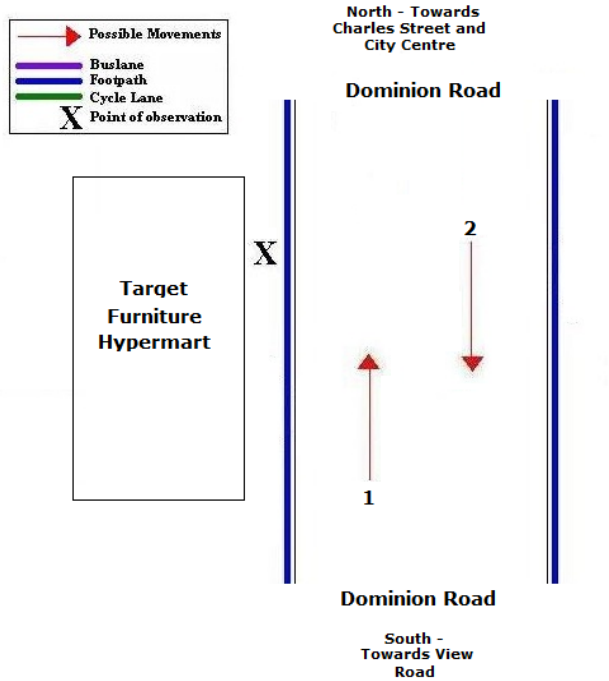


9. UPPER DOMINION ROAD, EDEN TERRACE (SITE 92)

Figure 9.1 shows the possible cyclist movements at this intersection.

Figure 9.1: Cycle Movements: Upper Dominion Road, Eden Terrace





Note: This site is monitored for the first time in 2013.

9.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2013	97	107	204	296
2014	**113**	**118**	**231**	**335**

9.2 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

- The number of morning cycle movements recorded at this site was 113 (an increase from 97 recorded in 2013).
- The key morning movement was riding straight along Dominion Road towards the city centre (Movement 1 = 105 cyclists).

Table 9.1: Morning Cyclist Movements

Upper Dominion Road, Eden Terrace 2013 - 2014 (n)

Movement	*2013*	*2014*	Change 13-14
1	87	**105**	**18**
2	10	**8**	**-2**
Total	**97**	**113**	**16**

- Over the morning peak, almost all cyclists were adults (99 per cent, unchanged from last year).
- The majority of cyclists were wearing a helmet (97 per cent, stable from 2013).
- Seventy-seven per cent cyclists were male.
- Riding on the road was the most common at this site (87 per cent, a decrease from 96 per cent recorded last year).

Table 9.2: Morning Cyclist Characteristics

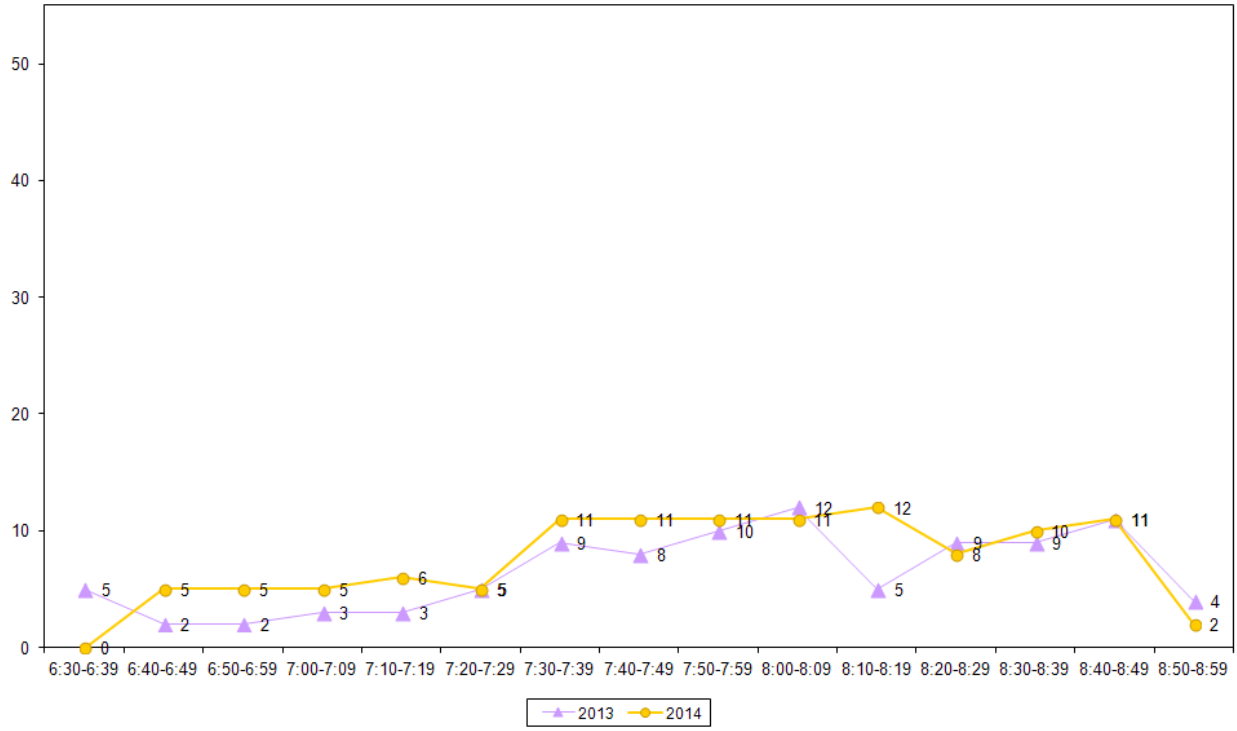
Upper Dominion Road, Eden Terrace 2013 - 2014 (%)

	2013	***2014***	**Change 13-14**
Cyclist Type			
Adult	99	**99**	**0**
School child	1	**1**	**0**
Helmet Wearing			
Helmet on head	99	**97**	**-2**
No helmet	1	**3**	**2**
Gender			
Male	84	**77**	**-7**
Female	15	**23**	**8**
Can't tell	1	**0**	**-1**
Where Riding			
Road	96	**87**	**-9**
Footpath	4	**13**	**9**
Off-road cycleway	0	**0**	
Base:	***97***	***113***	

- Morning cycle volume started off low but rose around 7:30am to a peak of 12 cyclists between 8:10am to 8:19am. Cycle volume then remained relatively stable until declining between 8:50am to 8:59am.

Figure 9.2: Morning Peak Cyclist Frequency

Upper Dominion Road, Eden Terrace 2013 - 2014 (n)



9.3 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 number of evening cycle movements during the evening shift was 118, an increase of 11 movements from 2013.
- The key evening movement was riding straight along Dominion Road heading south (Movement 2 = 95 cyclists).

Table 9.3: Evening Cyclist Movements

Upper Dominion Road, Eden Terrace 2013 - 2014 (n)

Movement	*2013*	*2014*	Change 13-14
1	24	**23**	**-1**
2	83	**95**	**12**
Total	**107**	**118**	**11**

- Nearly all cyclists were adults (95 per cent, a small decrease from 99 per cent last year).
- Ninety per cent of the cyclists were wearing a helmet, down 6 percentage points from 2013.
- The greatest share of cyclists was male (81 per cent).
- Riding on the road was the most common at this site (87 per cent, stable from the previous year).

Table 9.4: Evening Cyclist Characteristics

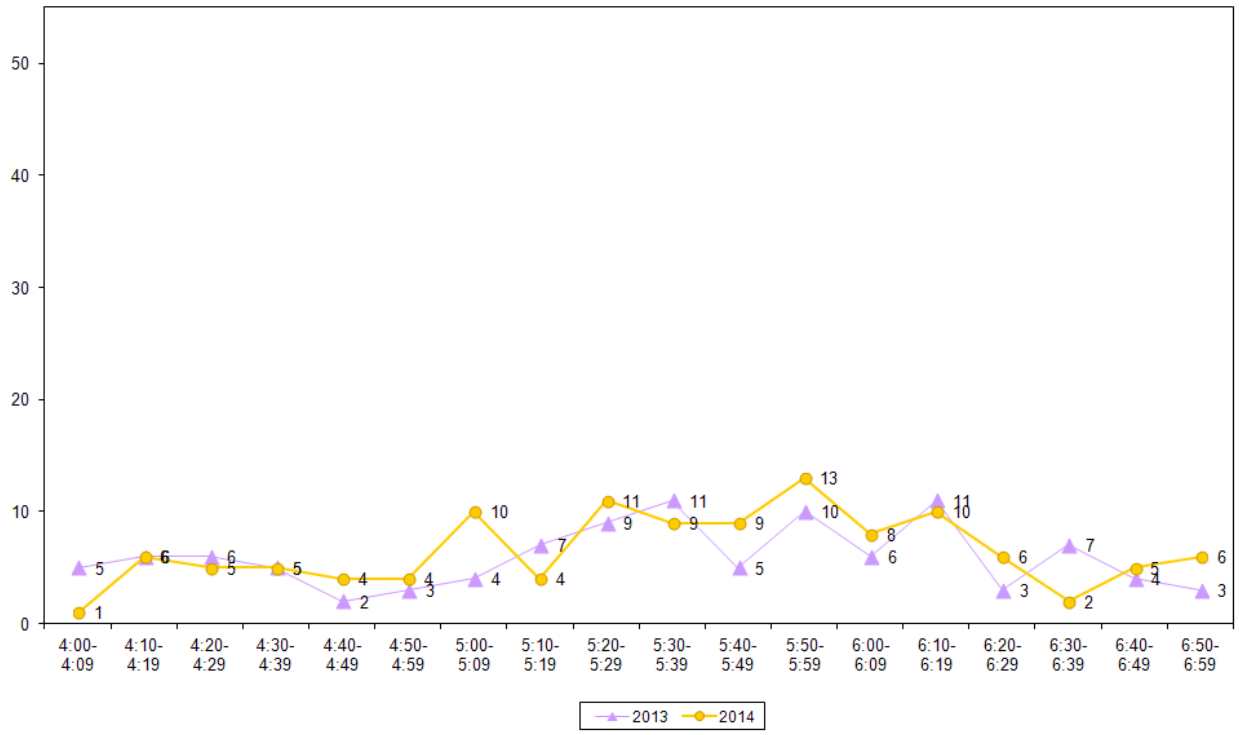
Upper Dominion Road, Eden Terrace 2013 - 2014 (%)

	2013	***2014***	**Change 13-14**
Cyclist Type			
Adult	99	**95**	**-4**
School child	1	**5**	**4**
Helmet Wearing			
Helmet on head	96	**90**	**-6**
No helmet	4	**10**	**6**
Gender			
Male	78	**81**	**3**
Female	22	**19**	**-3**
Can't tell	0	**0**	**0**
Where Riding			
Road	87	**86**	**-1**
Footpath	13	**14**	**1**
Off-road cycleway	0	**0**	**0**
Base:	***107***	***118***	

- Evening cyclist volume was low but steady during the first hour of the monitoring period. After 5:00pm, cycle volumes fluctuated for the remainder of the monitoring period, peaking with 13 cycle movements between 5:50pm to 5:59pm.

Figure 9.3: Evening Peak Cyclist Frequency

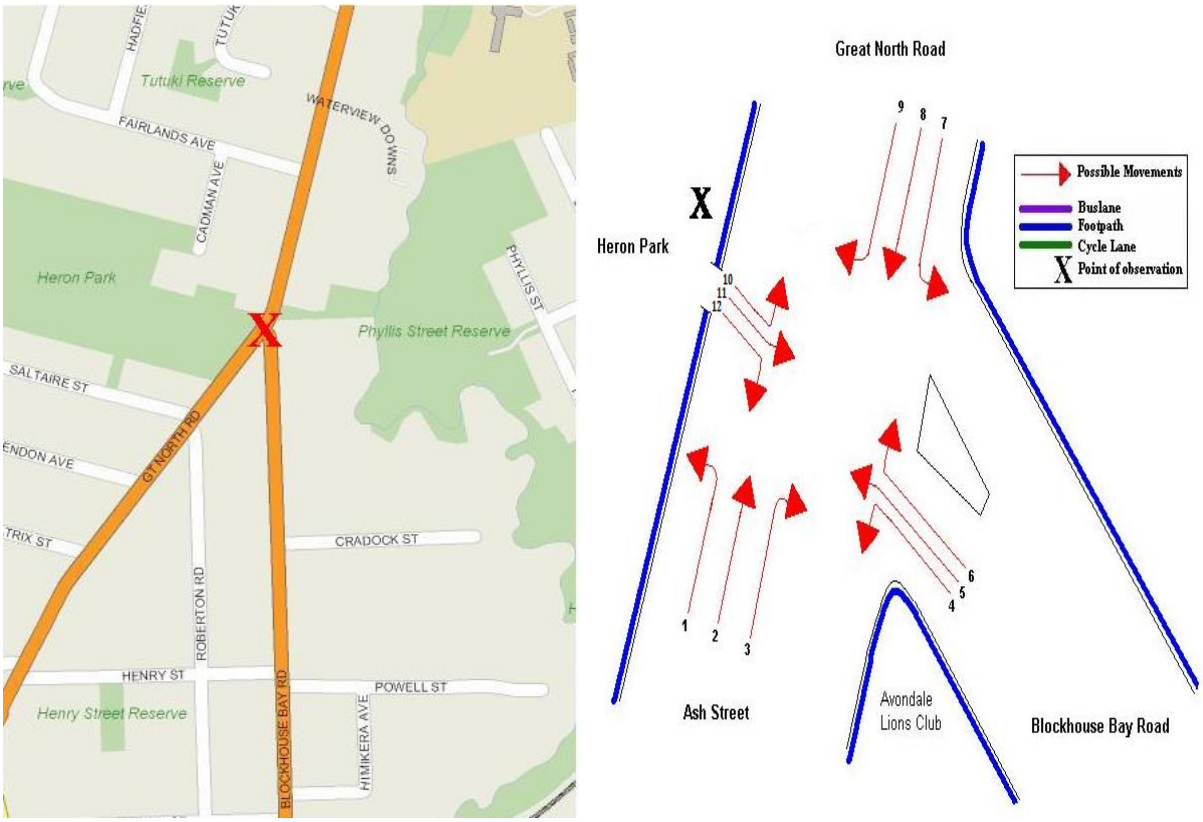
Upper Dominion Road, Eden Terrace 2013 - 2014 (n)



10. BLOCKHOUSE BAY ROAD/GREAT NORTH ROAD, AVONDALE (SITE 73)

Figure 10.1 shows the possible cyclist movements at this intersection.

Figure 10.1: Cycle Movements: Blockhouse Bay/Great North Road



10.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2008	57	60	117	170
2009	57	62	119	173
2010	66	75	141	204
2011	56	73	129	186
2012	60	69	129	187
2013	73	68	141	205
2014	**72**	**70**	**142**	**182**

10.2 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

- Seventy-two movements were recorded at the Blockhouse Bay/Great North Road site in the morning peak. This number is stable from the 73 movements recorded last year.
- The key morning movements were straight through Great North Road (Movement 2 = 42 cyclists) and the right turn out of Blockhouse Bay Road into Great North Road (Movement 6 = 21 cyclists).
- The most notable increase in cyclist movements in the morning at this site was at Movement 2 (up 8 cyclists) and the most notable decrease in cyclist movements was at Movement 8 (down 10 cyclists.

Table 10.1: Morning Cyclist Movements

Blockhouse Bay/Great North Road 2008 – 2014 (n)

Movement	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	0	0	0	0	0	0	**1**	**1**
2	29	28	33	23	36	34	**42**	**8**
3	0	0	2	0	0	1	**0**	**-1**
4	0	1	1	0	1	0	**0**	**0**
5	0	0	0	0	0	0	**0**	**0**
6	16	14	16	21	11	19	**21**	**2**
7	3	4	2	4	4	7	**4**	**-3**
8	9	10	12	8	6	12	**2**	**-10**
9	0	0	0	0	0	0	**0**	**0**
10	-	-	-	-	-	-	**0**	**0**
11	-	-	-	-	-	-	**1**	**1**
12	-	-	-	-	-	-	**1**	**1**
Total	**57**	**57**	**66**	**56**	**58**	**73**	**72**	**-1**

Note: In 2014 Movements 10, 11 and 12 were created in order to count cyclists who entered the intersection from Heron Park.

- Over the morning peak, most cyclists were adults (97 per cent, an increase from 86 per cent in 2013).
- The share of cyclists wearing a helmet has remained stable (94 per cent, compared with 96 per cent last year).
- Most cyclists were male (83 per cent).
- Fifty per cent of cyclists were observed riding on the road, an increase from 44 per cent last year.

Table 10.2: Morning Cyclist Characteristics

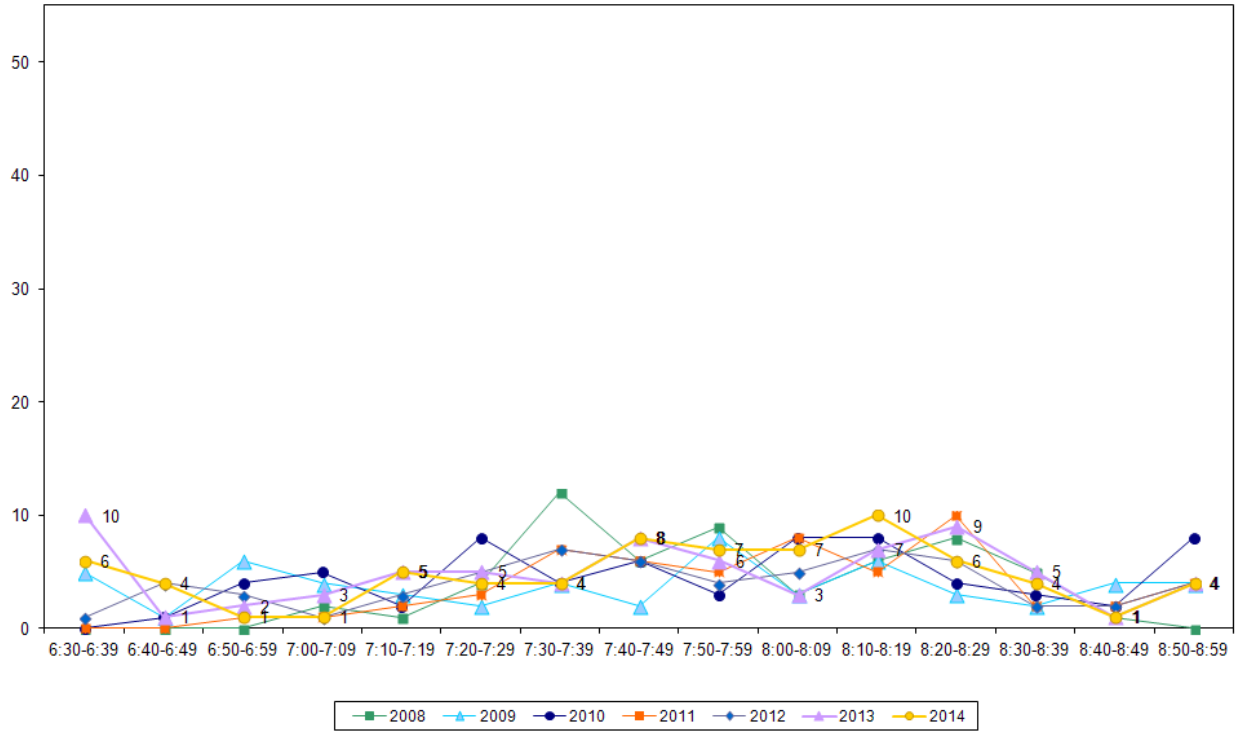
Blockhouse Bay/Great North Road 2008 – 2014 (%)

	2008	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type								
Adult	89	65	92	82	93	86	**97**	**11**
School child	11	35	8	18	7	14	**3**	**-11**
Helmet Wearing								
Helmet on head	93	88	95	98	88	96	**94**	**-2**
No helmet	7	12	5	2	12	4	**6**	**2**
Gender								
Male	-	-	-	86	85	91	**83**	**-8**
Female	-	-	-	5	13	8	**17**	**9**
Can't tell	-	-	-	9	2	1	**0**	**-1**
Where Riding								
Road	44	65	62	50	57	44	**50**	**6**
Footpath	56	35	38	50	43	56	**50**	**-6**
Base:	***57***	***57***	***66***	***56***	***60***	***73***	***72***	

- Morning cycle volumes remained stable throughout the morning monitoring period. The largest number of cycle movements recorded during any ten minute interval was 10, which were observed between 8:10am to 8:19am.

Figure 9.2: Morning Peak Cyclist Frequency

Blockhouse Bay/Great North Road 2008 – 2014 (n)



Note: In 2014, 3 cyclists (4 per cent of all morning peak cycle movements at this site) were observed riding together at 6:38am. This compares with 10 per cent of cyclists (n=7) observed riding together in 2013.

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 total number of evening peak cycle movements recorded at the Blockhouse Bay/Great North Road site was stable from last year (70 movements compared to 68 movements last year).
- The most common movement in the evening was straight through Great North Road in a south-westerly direction (Movement 8 = 38 cyclists).
- Cyclist volumes over the evening period have increased most notably at Movement 7 (up 10 cyclists) and decreased most notably at Movement 8 (down 6 cyclists).

Table 10.3: Evening Cyclist Movements

Blockhouse Bay/Great North Road 2008 – 2014 (n)

Movement	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	0	0	0	0	0	0	**0**	**0**
2	14	15	17	15	10	7	**5**	**-2**
3	0	0	2	1	2	0	**0**	**0**
4	0	1	0	0	1	0	**0**	**0**
5	0	2	0	0	0	0	**0**	**0**
6	1	2	4	6	5	5	**4**	**-1**
7	15	13	15	20	10	12	**22**	**10**
8	30	28	37	27	39	44	**38**	**-6**
9	0	1	0	4	1	0	**0**	**0**
10	-	-	-	-	-	-	**0**	**0**
11	-	-	-	-	-	-	**0**	**0**
12	-	-	-	-	-	-	**1**	**1**
Total	**60**	**62**	**75**	**73**	**68**	**68**	**70**	**2**

Note: In 2014 Movements 10, 11 and 12 were created in order to specifically count cyclists who entered the intersection from Heron Park and exited elsewhere.

- Over the evening peak, almost all cyclists at this site were adults (99 per cent, unchanged from 99 per cent last year).
- Most cyclists at this site were wearing a helmet (94 per cent, stable from 93 per cent at the previous measure).
- The majority of cyclists were recorded as male (77 per cent).
- Sixty-six per cent of cyclists were riding on the road, down from 72 per cent in 2013.

Table 10.4: Evening Cyclist Characteristics

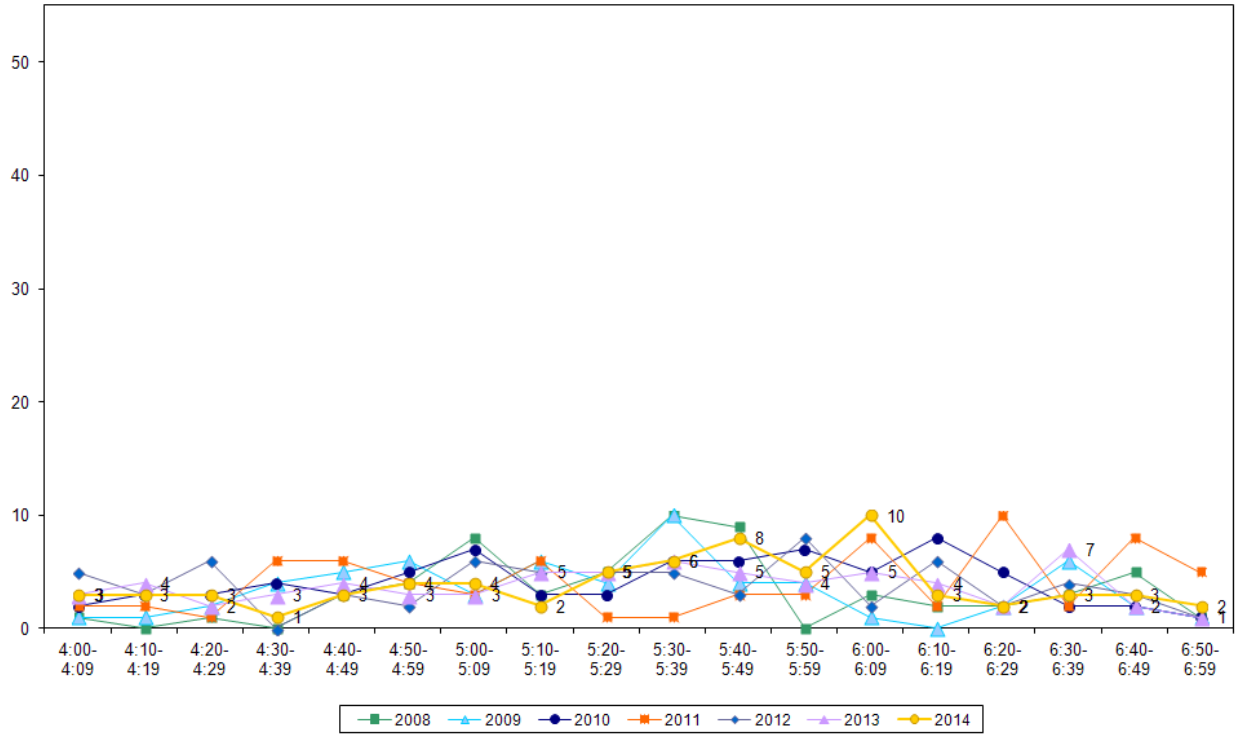
Blockhouse Bay/Great North Road 2008 – 2014 (%)

	2008	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type								
Adult	90	76	96	95	100	99	**99**	**0**
School child	10	24	4	5	0	1	**1**	**0**
Helmet Wearing								
Helmet on head	87	81	93	89	94	93	**94**	**1**
No helmet	13	19	7	11	6	7	**6**	**-1**
Gender								
Male	-	-	-	86	87	91	**77**	**-14**
Female	-	-	-	12	12	9	**22**	**13**
Can't tell	-	-	-	1	1	0	**1**	**1**
Where Riding								
Road	67	56	72	70	75	72	**66**	**-6**
Footpath	33	44	28	30	25	28	**34**	**6**
Base:	***60***	***62***	***75***	***73***	***68***	***68***	***70***	

- Evening cycle volumes were relatively steady and low throughout the monitoring period. There was a small peak observed between 6:00pm to 6:09pm with 10 cyclists recorded during this interval.

Figure 10.3: Evening Peak Cyclist Frequency

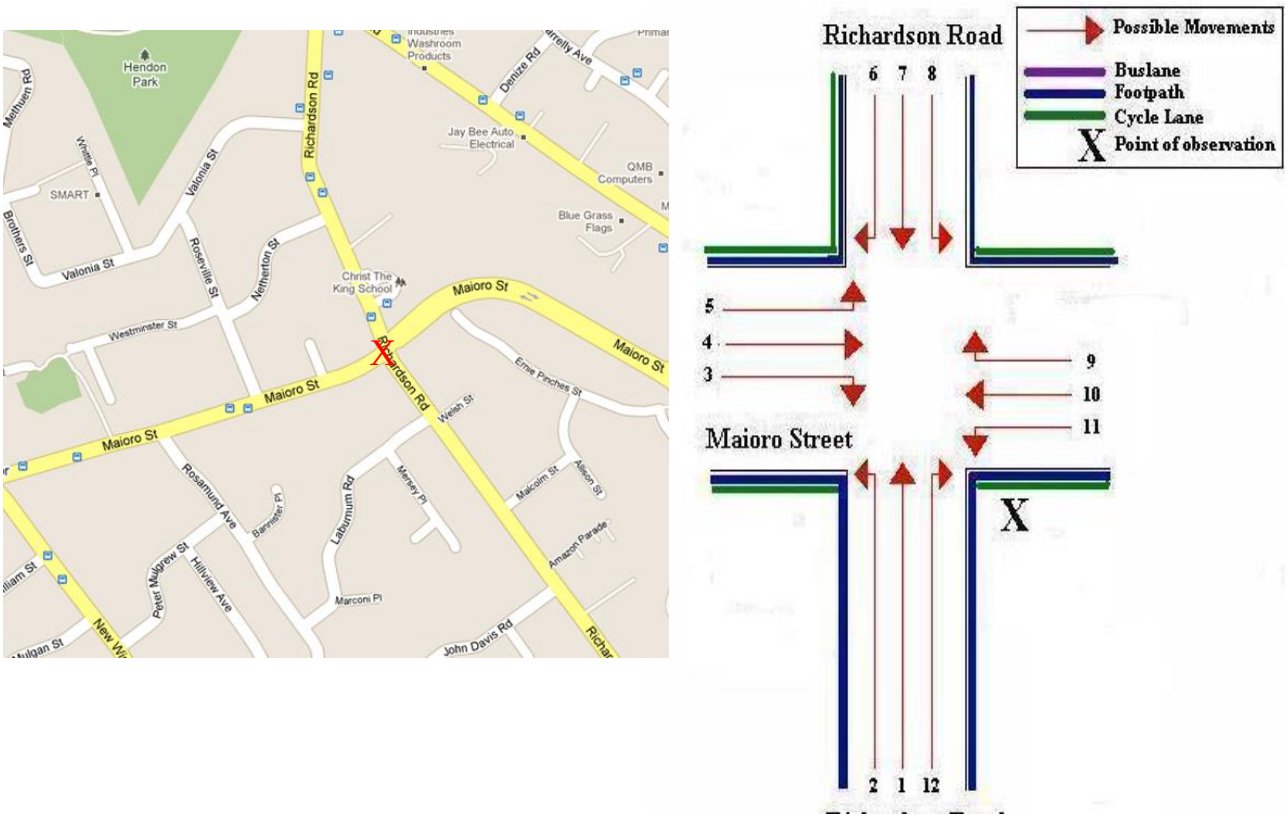
Blockhouse Bay/Great North Road 2008 – 2014 (n)



11. RICHARDSON ROAD/MAIORO STREET, MT ROSKILL (SITE 15)

Figure 11.1 shows the possible cyclist movements at this intersection.

Figure 11.1: Cycle Movement: Richardson Road/Maioro Street



Note: In 2010, the site map for this site was changed to reflect the construction of the southern motorway connection to the Manukau motorway. Consequently, comparative results are indicative only.

11.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2009	8	13	21	30
2010	14	25	39	56
2011	15	22	37	53
2012	29	24	53	77
2013	25	23	48	70
2014	**21**	**20**	**41**	**60**

Morning Peak

Environmental Conditions

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

Key Points

- The volume of cycle movements at the Richardson/Maioro intersection has decreased this year, with 21 cycle movements recorded (down 4 movements from last year).
- The key movement was travelling straight along Maioro Street travelling east (Movement 4 = 12 cyclists).
- The most noticeable changes occurred at Movement 10 – travelling straight along Maioro Road heading west (down 6 movements) and at Movement 4 – travelling straight along Maioro Road heading east (up 3 movements).

Table 11.1: Morning Cyclist Movements

Richardson/Maioro Street 2009 – 2014 (n)

Movement	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	2	4	1	4	1	**0**	**-1**
2	1	1	1	2	1	**2**	**1**
3	2	1	0	2	1	**1**	**0**
4	0	3	0	9	9	**12**	**3**
5	0	0	0	5	2	**1**	**-1**
6	1	0	0	0	1	**0**	**-1**
7	2	1	1	1	1	**2**	**1**
8	-	2	1	0	1	**0**	**-1**
9	-	0	1	0	0	**0**	**0**
10	-	2	10	6	8	**2**	**-6**
11	0	0	0	0	0	**0**	**0**
12	-	0	0	0	0	**1**	**1**
Total	**8**	**14**	**15**	**29**	**25**	**21**	**-4**

Note: In 2009, Movements 8, 9, 10 and 12 were not possible.

- Ninety per cent of the cyclists were adults (stable from last year).
- The majority of cyclists were wearing helmets (95 per cent, up from 88 per cent in 2013).
- Most of the cyclists were male (90 per cent).
- Nearly half of cyclists were riding on the off-road cycleway (48 per cent, down from 68 per cent last year). The remaining 52 per cent were riding on the road (up from 32 per cent in 2013).

Table 11.2: Morning Cyclist Characteristics

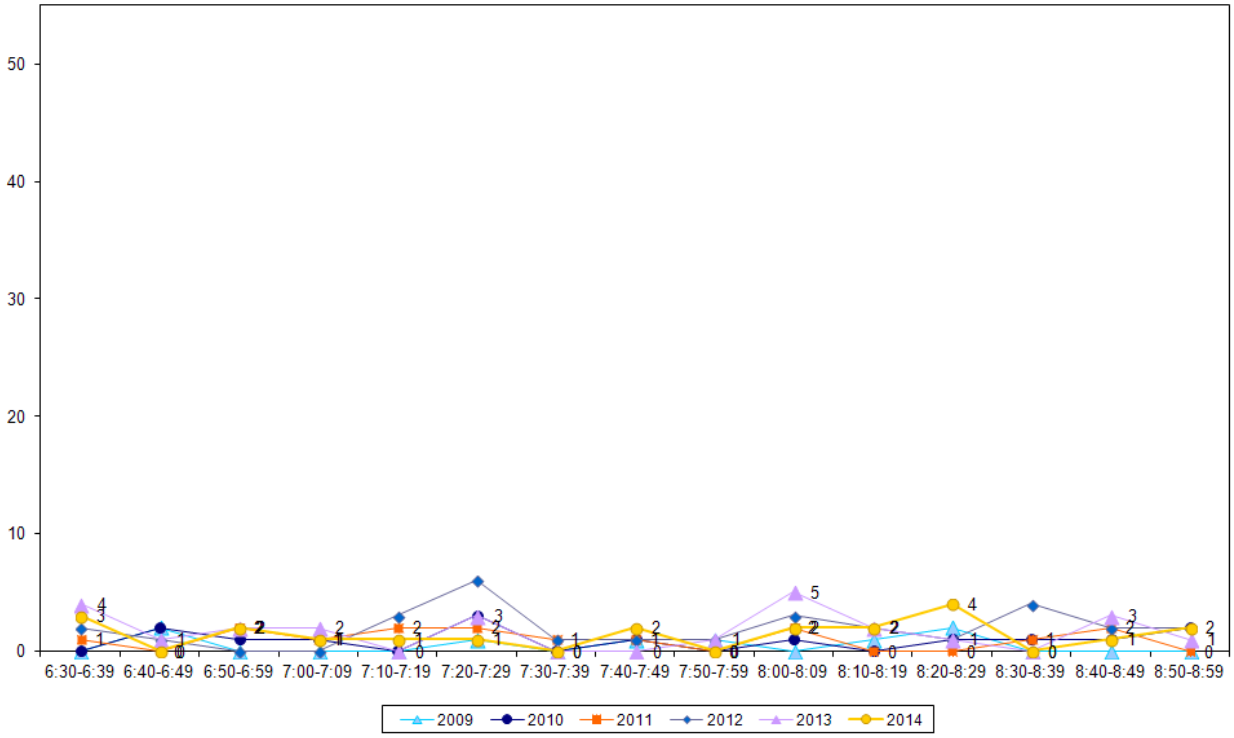
Richardson/Maioro Street 2009 – 2014 (%)

	2009	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type							
Adult	100	100	93	69	92	**90**	**-2**
School child	0	0	7	31	8	**10**	**2**
Helmet Wearing							
Helmet on head	100	93	87	79	88	**95**	**7**
No helmet	0	7	13	21	12	**0**	**-12**
Don't know	0	0	0	0	0	**5**	**5**
Gender							
Male	-	-	80	76	84	**90**	**-6**
Female	-	-	20	24	16	**10**	**6**
Can't tell	-	-	0	0	0	**0**	**0**
Where Riding							
Road	88	57	47	38	32	**52**	**20**
Footpath	12	14	13	0	0	**0**	**0**
Off-road Cycleway	-	29	40	62	68	**48**	**-20**
Base:	***8***	***14***	***15***	***29***	***25***	***21***	

- Consistent with previous years, morning cycle volume was low throughout most of the morning monitoring period, with no more than four cyclists recorded at any ten minute interval throughout the monitoring period.

Figure 11.2: Morning Peak Cyclist Frequency

Richardson/Maioro Street 2009 – 2014 (n)



No cyclists were observed riding in groups at this site in 2014. This compares with 2013 where 12 per cent of cyclists (n=3) were recorded as riding in groups.

11.2 Evening Peak

Environmental Conditions

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

Key Points

- The total number of evening cycle movements recorded at the Richardson/Maioro Street intersection was 20 (a slight decrease from 23 movements last year).
- The key movements in the evening were going straight along Maioro Street eastwards and westwards (Movement 4 = 5 cyclists; Movement 10 = 5 cyclists respectively).
- Turning left from Richardson Road to Maioro Street heading west (Movement 2) experienced the greatest change across all sites (up 4 movements).

Table 11.3: Evening Cyclist Movements

Richardson/Maioro Street 2009 – 2014 (n)

Movement	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	0	6	1	1	1	**0**	**-1**
2	4	2	1	6	1	**5**	**4**
3	1	1	2	3	2	**0**	**-2**
4	1	1	9	2	6	**5**	**-1**
5	1	0	1	0	1	**0**	**-1**
6	1	1	0	0	0	**1**	**1**
7	4	5	3	4	1	**2**	**1**
8	-	0	3	0	1	**0**	**-1**
9	-	3	1	1	1	**1**	**0**
10	-	4	1	4	7	**5**	**-2**
11	1	2	0	3	2	**1**	**-1**
12	-	0	0	0	0	**0**	**0**
Total	**13**	**25**	**22**	**24**	**23**	**20**	**-3**

Note: In 2009, Movements 8, 9, 10 and 12 were not possible.

- Four in five cyclists passing by this site were adults (90 per cent, a 10 percentage point decrease from 2013).
- Almost all cyclists were wearing a helmet (a decrease of 5 percentage points compared to last year).
- The majority of cyclists continued to be male (95 per cent).
- Sixty-five per cent of the cyclists were riding on the off-road cycleway (down 5 percentage points from 2013).

Table 11.4: Evening Cyclist Characteristics

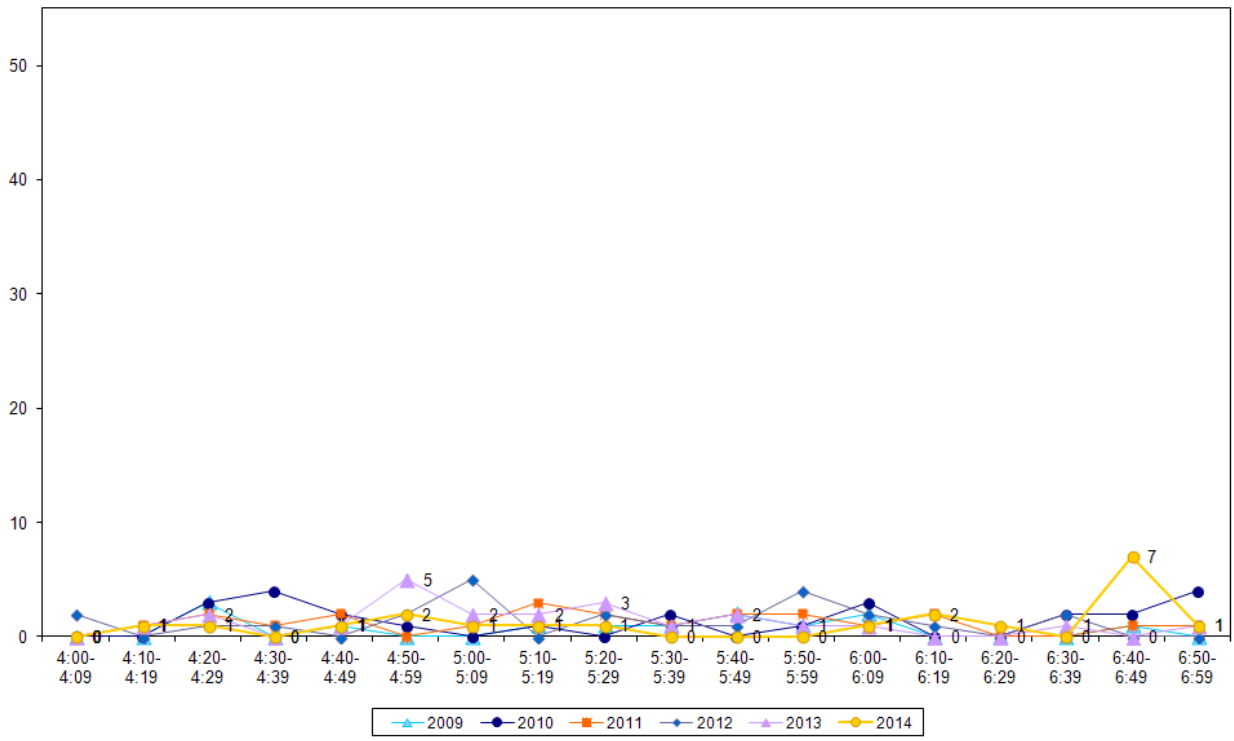
Richardson/Maioro Street 2009 – 2014 (%)

	2009	***2010***	***2011***	***2012***	***2013***	***2014***	**Change 13-14**
Cyclist Type							
Adult	100	80	91	75	100	**90**	**-10**
School child	0	20	9	25	0	**10**	**10**
Helmet Wearing							
Helmet on head	85	76	77	75	100	**95**	**-5**
No helmet	15	24	23	25	0	**5**	**5**
Gender							
Male	-	-	86	92	87	**95**	**8**
Female	-	-	9	8	13	**5**	**-8**
Can't tell	-	-	5	0	0	**0**	
Where Riding							
Road	46	16	32	46	30	**35**	**5**
Footpath	54	16	14	0	0	**0**	**0**
Off-road cycleway	-	68	54	54	70	**65**	**-5**
Base:	***13***	***25***	***22***	***24***	***23***	***20***	

- The volume of cycle movements remained relatively low over the majority of the evening peak, with no more than two cyclists recorded during all but one of the 10 minute intervals. The exception was the peak towards the end of the monitoring period – between 6:40pm and 6:49pm (7 movements).

Figure 11.3: Evening Peak Cyclist Frequency

Richardson/Maioro Street 2009 – 2014 (n)

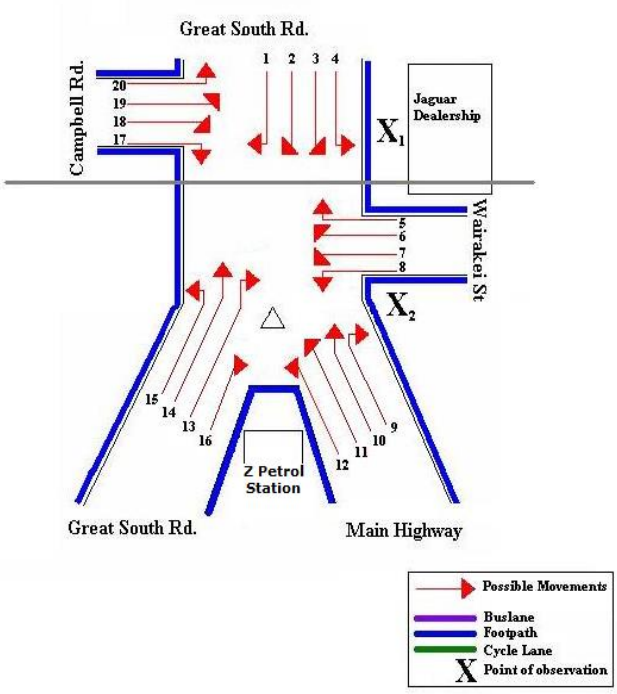


No cyclists were observed riding together in groups at this site in 2014. This compares with 2013 where 13 per cent of cyclists (n=3) were recorded as riding together.

12. GREAT SOUTH ROAD/CAMPBELL ROAD/MAIN HIGHWAY, GREENLANE (SITE 21)

Figure 12.1 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 12.1: Cycle Movements: Great South/Campbell Road



12.1 Site Summary

	Raw Counts			AADT
	Morning Peak	*Evening Peak*	*Total*	*Total*
2007	89	85	174	253
2008	53	61	114	165
2009	64	87	151	218
2010	69	102	171	246
2011	60	78	138	199
2012	68	64	132	192
2013	77	69	146	213
2014	**79**	**70**	**149**	**217**

12.2 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

- The volume of morning cyclists at the Great South/Campbell Road intersection has remained stable (from 77 movements last year to 79 this year).
- Key morning movements were travelling from Great South Road heading south onto the Main Highway (Movement 3 = 13 cyclists), straight along Great South Road heading south (Movement 2 = 24 cyclists), and straight along Great South Road heading north (Movement 14 = 14 cyclists).
- The most noticeable increase was at Movement 10 (down 9 cyclists).

Table 12.1: Morning Cyclist Movements

Great South/Campbell Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	3	1	2	5	1	0	2	**1**	**-1**
2	20	9	19	3	19	15	18	**24**	**6**
3	14	7	9	8	6	13	12	**13**	**1**
4	2	0	0	7	0	0	0	**2**	**2**
5	2	0	1	0	0	1	2	**1**	**-1**
6	0	0	0	0	0	0	0	**0**	**0**
7	0	0	0	4	2	3	2	**1**	**-1**
8	1	0	0	0	0	0	0	**1**	**1**
9	0	0	0	0	0	0	0	**0**	**0**
10	15	12	8	11	10	8	19	**10**	**-9**
11	1	0	0	2	2	2	1	**0**	**-1**
12	1	0	2	3	0	0	1	**1**	**0**
13	0	0	0	0	1	0	0	**2**	**2**
14	15	9	12	17	11	17	15	**14**	**-1**
15	2	4	0	0	1	2	0	**0**	**0**
16	2	0	0	0	0	0	0	**0**	**0**
17	1	1	1	1	2	1	0	**0**	**0**
18	5	1	2	4	2	3	1	**0**	**-1**
19	3	4	2	0	0	0	0	**0**	**0**
20	2	5	6	4	3	3	1	**9**	**8**
Don't know	-	-	-	-	-	-	3	**0**	**-3**
Total	**89**	**53**	**64**	**69**	**60**	**68**	**77**	**79**	**2**

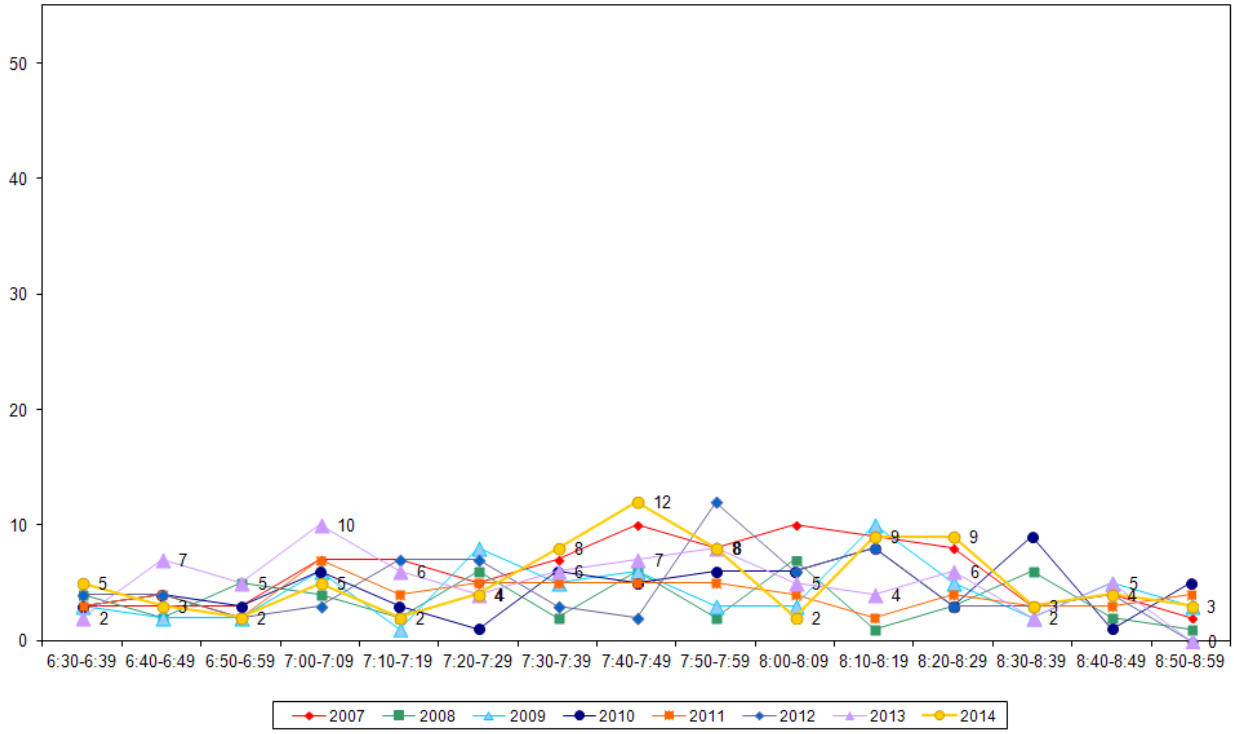
- Over the morning peak, adults comprised the greatest share of cycle movements (85 per cent, down from 92 per cent in the previous year).
- All recorded cyclists were wearing a helmet (100 per cent, stable from 99 per cent in 2013).
- The greatest share of cyclists continued to be male (89 per cent), with the proportion of female cyclists decreasing by 11 percentage points.
- The majority of cyclists were riding on the road (75 per cent, down from 84 per cent in 2013).

Table 12.2: Morning Cyclist Characteristics
Great South/Campbell Road 2007 – 2014 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	94	92	88	93	95	97	92	**85**	**-7**
School child	6	8	12	7	5	3	8	**15**	**7**
Helmet Wearing									
Helmet on head	97	94	95	96	95	97	99	**100**	**1**
No helmet	3	6	5	4	5	3	1	**0**	**-1**
Gender									
Male	-	-	-	-	84	79	73	**89**	**16**
Female	-	-	-	-	13	18	22	**11**	**-11**
Can't tell	-	-	-	-	3	3	5	**0**	**-5**
Where Riding									
Road	87	68	84	83	82	81	84	**75**	**-9**
Footpath	13	32	16	17	18	19	16	**25**	**9**
Base:	***89***	***53***	***64***	***69***	***60***	***68***	***77***	***79***	

- Morning cyclist volumes remained low throughout the majority of the monitoring period, with a peak of 12 cyclist movements between 7:40am and 7:49am. Higher volumes of cycle traffic were also observed between 8:10am to 8:19am and 8:20am to 8:29am, each interval recording 9 cycle movements.

Figure 12.2: Morning Peak Cyclist Frequency
Great South/Campbell Road 2007 – 2014 (n)



12.3 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 at the Great South/Campbell Road intersection has remained stable – 69 cycle movements in 2013 compared to 70 cycle movements this year.
- The key movement was straight along Great South Road heading north (Movement 14 = 18 cyclists).
- The most noticeable decrease in cyclist movements was at Movement 14 (down 6 cyclists). Meanwhile, the biggest increase occured at Movement 10 – heading north from Main Highway onto Great South Road (up 8 movements).

Table 12.3: Evening Cyclist Movements

Great South/Campbell Road 2007 – 2014 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	Change 13-14
1	2	3	5	5	1	3	1	**7**	**6**
2	14	7	13	14	16	16	9	**13**	**4**
3	16	8	10	19	14	15	17	**13**	**-4**
4	1	0	4	2	0	1	1	**0**	**-1**
5	0	0	0	1	0	0	0	**0**	**0**
6	0	0	0	0	0	0	0	**0**	**0**
7	0	0	2	0	0	1	0	**0**	**0**
8	0	0	0	1	0	1	2	**1**	**-1**
9	0	0	0	1	0	1	1	**1**	**0**
10	14	7	8	12	7	3	3	**11**	**8**
11	4	5	4	6	3	2	3	**1**	**-2**
12	1	0	0	1	0	1	1	**2**	**1**
13	0	0	1	0	1	0	0	**0**	**0**
14	15	13	28	34	30	17	24	**18**	**-6**
15	5	8	2	1	3	0	2	**1**	**-1**
16	3	1	1	1	0	0	1	**0**	**-1**
17	2	2	1	0	0	0	0	**1**	**1**
18	4	1	5	0	0	1	1	**1**	**0**
19	0	3	0	0	1	0	0	**0**	**0**
20	4	3	3	4	2	2	0	**0**	**0**
Don't know	-	-	-	-	-	-	3	**0**	**-3**
Total	**85**	**61**	**87**	**102**	**78**	**64**	**69**	**70**	**1**

- Over the evening peak, almost all cyclists using this intersection were adults (97 per cent, up from 91 per cent last year).
- Most cyclists at this site were wearing a helmet (99 per cent, stable from 97 per cent in 2013).
- Almost all evening cyclists were recorded as male (99 per cent, up 25 percentage points from the previous year).
- The majority of cyclists (71 per cent) were riding on the road, this share down from 2013 (74 per cent).

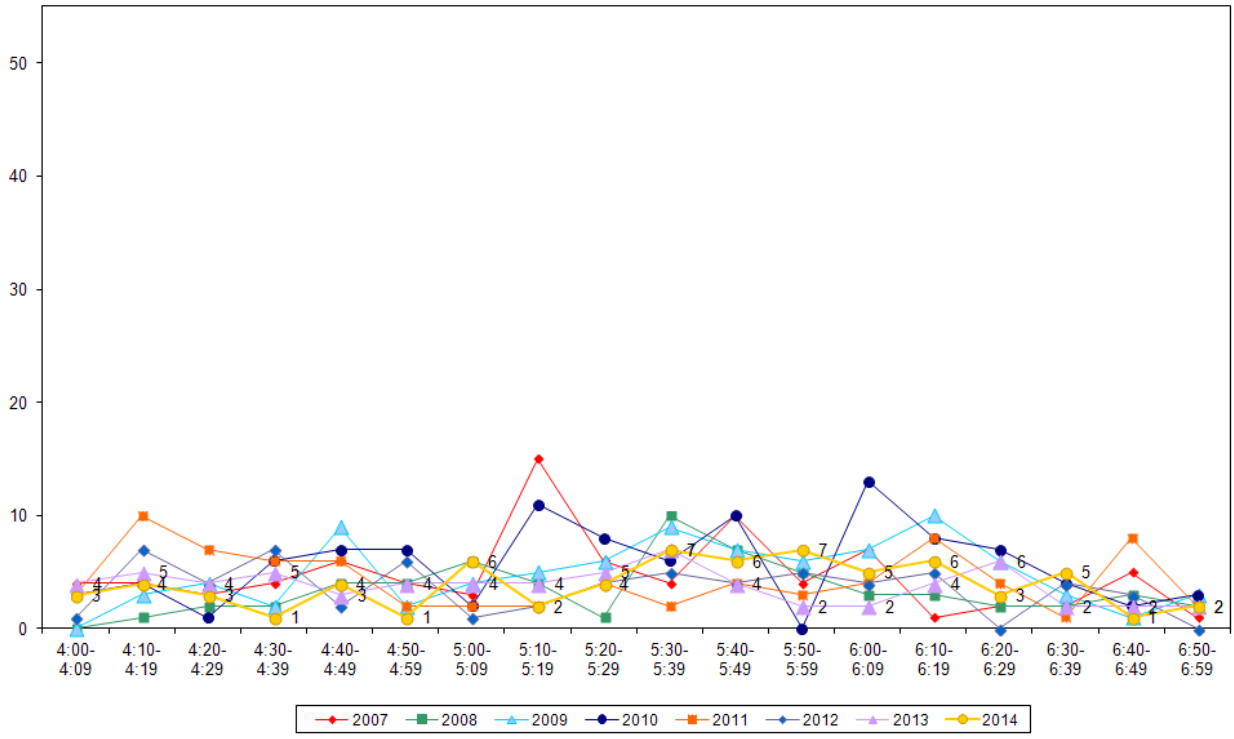
Table 12.4: Evening Cyclist Characteristics

Great South/Campbell Road 2007 – 2014 (%)

	2007	*2008*	*2009*	2010	2011	*2012*	*2013*	*2014*	Change 13-14
Cyclist Type									
Adult	100	97	97	95	97	97	91	**97**	**6**
School child	0	3	3	5	3	3	9	**3**	**-6**
Helmet Wearing									
Helmet on head	95	89	98	92	99	92	97	**99**	**2**
No helmet	5	11	2	8	1	8	3	**1**	**-2**
Gender									
Male	-	-	-	-	82	83	74	**99**	**25**
Female	-	-	-	-	17	14	23	**1**	**-22**
Can't tell	-	-	-	-	1	3	3	**0**	**-3**
Where Riding									
Road	87	82	83	89	85	77	74	**71**	**-3**
Footpath	13	18	17	11	15	23	26	**29**	**3**
Base:	***85***	***61***	***87***	***102***	***78***	***64***	***69***	***70***	

- Evening cycle volume was low but steady, with no more than seven cyclists recorded during any 10 minute intervals throughout the evening monitoring period.

Figure 12.3: Evening Peak Cyclist Frequency
Great South/Campbell Road 2007 – 2014 (n)



13. SCHOOL BIKE SHED COUNT

13.1 Cycle Count Background Information

- A total of 21 schools in the Albert-Eden-Roskill ward participated in the school bike shed count. Of the schools that responded to the survey, most had no policies that restrict students cycling to school[9].
- Three schools reported an event or issue that may have affected cycle counts[10].
- The designated count day was Tuesday 4th of March 2014[11].

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

13.2 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, unchanged from 2013.
- Kohia Terrace School reported the highest share of cyclists – 16 per cent of all eligible students currently cycling to school, up from 7 per cent last year.
- In total, n=230 students from the responding schools were reported to be cycling to school.
- Of the 21 schools that responded, 7 (33 per cent) had no students cycling to school.

[9] The following schools have policies surrounding cycling to school:
- Christ the King Catholic School *"Students not allowed to cycle to and from school"*
- Kohia Terrace School *"As recommended in the Transport Agency Code for Cyclists, children from the age of 11 can ride unsupervised"*

[10] The following schools reported events or issues that had an effect on the cycle count:
- Epsom Girls' Grammar *"Year 10 students away on school camp. May account for a couple more bikes"*
- Lynfield College *"A small number of year 12 students were at camp, but a very low proportion of year 12 students cycle to school"*
- Waikowhai Intermediate School *"Overcast/cold morning. Year 7 and 8 boys were out at CZ softball so came with parents and gear bags"*

[11] The following schools conducted their counts on alternative days:
- Auckland Normal Intermediate – 18th March 2014
- Balmoral School – 26th March 2014
- Balmoral Seventh Day Adventist School – 12th March 2014
- Christ the King Catholic School – 12th March 2014
- Dilworth School – 28th February 2014
- Epsom Girls' Grammar – 1st March 2014
- Ficino School – 12th March 2014
- Hebron Christian College – 18th March 2014
- Lynfield College – 6th March 2014
- Our Lady Sacred Heart School (Epsom) – 13th March 2014
- Pasadena Intermediate – 17th March 2014
- St Cuthbert's College – 27th March 2014
- Te Kura Kaupapa o Nga Maungarongo –27th March 2014

- Of the 19 schools that participated in the count in both 2013 and 2014, 5 (26 per cent) reported an increase in the share of students cycling, the most notable increases being:
  - Kohia Terrace School (16 per cent, up from 7 per cent)
  - Auckland Normal Intermediate (10 per cent, up from 3 per cent).
- Of the 19 schools that participated in the count in both 2013 and 2014, 5 (26 per cent) reported a decrease in the share of students cycling:
  - St Cuthbert's College (0 per cent, down from 4 per cent)
  - Hebron Christian College (2 per cent, down from 5 per cent).

Table 13.1 shows the results of the 21 schools surveyed in the Albert-Eden-Roskill ward.

Table 13.1: 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*
Kohia Terrace School	Full Primary	108	17	**16%**	7%	2%	-	-	-	-	-
Auckland Normal Intermediate	Intermediate	735	72	**10%**	3%	4%	7%	7%	6%	5%	7%
Pasadena Intermediate School	Intermediate	253	23	**9%**	11%	12%	22%	26%	17%	12%	18%
Waikowhai Intermediate School	Intermediate	378	18	**5%**	4%	6%	5%	3%	4%	3%	3%
Balmoral School	Full Primary	804	21	**3%**	3%	4%	4%	0%	-	-	-
Hebron Christian College	Composite	230	5	**2%**	5%	1%	-	-	-	-	-
Kowhai Intermediate School	Intermediate	400	9	**2%**	2%	3%	5%	5%	6%	6%	6%
Te Kura Kaupapa o Nga Maungarongo	Composite	280	5	**2%**	-	-	-	-	-	-	-
Lynfield College	Secondary	1804	11	**1%**	<1%	<1%	<1%	<1%	1%	<1%	1%
Mount Albert Grammar School	Secondary	2730	29	**1%**	1%	2%	-	-	-	-	-
Mt Roskill Intermediate School	Intermediate	559	6	**1%**	2%	3%	2%	4%	-	2%	2%
Our Lady Sacred Heart School (Epsom)	Full Primary	215	3	**1%**	3%	-	-	-	-	-	-
Diocesan School for Girls	Composite	1322	6	**<1%**	<1%	<1%	<1%	<1%	0%	<1%	0%
Epsom Girls' Grammar School	Secondary	2217	5	**<1%**	0%	<1%	0%	<1%	0%	<1%	-
Balmoral SDA School	Full Primary	95	0	**0%**	0%	2%	2%	-	-	-	-

[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
Christ the King Catholic School	Full Primary	0	0	**0%**	0%	0%	0%	-	-	-	-
Dilworth School	Full Primary	626	0	**0%**	-	0%	-	-	-	-	-
Ficino School	Full Primary	107	0	**0%**	0%	0%	0%	-	-	-	-
Marcellin College	Intermediate/ Secondary	645	0	**0%**	0%	0%	<1%	0%	0%	1%	-
St Cuthbert's College	Composite	1400	0	**0%**	4%	<1%	-	-	-	-	-
St Therese School (Three Kings)	Full Primary	129	0	**0%**	0%	-	0%	-	-	-	-
Total		**15037**	**230**	**2%**	2%	2%	2%	-	-	-	-

- Table 13.2 illustrates the rates of cycling to school at different school levels. Rates of cycling to school are highest among intermediate schools (6 per cent, up from 4 per cent in 2013), and lowest for intermediate/secondary schools (0 per cent).

Table 13.2: 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 13-14
		2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	
Intermediate	5	7%	6%	8%	9%	7%	5%	4%	**6%**	**2%**
Full Primary	7	-	-	-	-	2%	2%	3%	**3%**	**0%**
Secondary	3	2%	<1%	1%	<1%	1%	1%	1%	**1%**	**0%**
Composite	5	0%	<1%	0%	<1%	<1%	<1%	2%	**<1%**	**2%**
Intermediate/Secondary	1	-	1%	0%	<1%	<1%	0%	0%	**0%**	**0%**

13.3 Scooter Count Background Information

- A total of 21 schools in the Albert-Eden-Roskill 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].
- Three schools surveyed reported any events or issues that may affect the scooter counts[14].
- The designated count day was Tuesday 4th of March 2014[15].

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

13.4 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.
- Kohia Terrace School reported the highest share of scooters – 15 per cent of all eligible students currently scootering to school.
- In total, n=308 students from the responding schools were reported to be scootering to school.
- Of the 21 schools that responded, 13 (62 per cent) had no students scootering to school.

[13] The following schools have policies surrounding cycling to school:
- Christ the King Catholic School *"Students not allowed to cycle to and from school"*
- Kohia Terrace School *"As recommended in the Transport Agency Code for Cyclists, children from the age of 11 can ride unsupervised or over"*

[14] The following schools reported events or issues that had an effect on the cycle count:
- Epsom Girls' Grammar *"Year 10 students away on school camp. May account for a couple more bikes"*
- Lynfield College *"A small number of year 12 students were at camp, but a very low proportion of year 12 students cycle to school"*
- Waikowhai Intermediate School *"Overcast/cold morning. Year 7 and 8 boys were out at CZ softball so came with parents and gear bags"*

[15] The following schools conducted their counts on alternative days:
- Auckland Normal Intermediate – 18th March 2014
- Balmoral School – 26th March 2014
- Balmoral Seventh Day Adventist School – 12th March 2014
- Christ the King Catholic School – 12th March 2014
- Dilworth School – 28th February 2014
- Epsom Girls' Grammar – 1st March 2014
- Ficino School – 12th March 2014
- Hebron Christian College – 18th March 2014
- Lynfield College – 6th March 2014
- Our Lady Sacred Heart School (Epsom) – 13th March 2014
- Pasadena Intermediate – 17th March 2014
- St Cuthbert's College – 27th March 2014
- Te Kura Kaupapa o Nga Maungarongo –27th March 2014

Table 13.3 shows the results of the 21 schools surveyed in the Franklin ward.

Table 13.3: 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*[16]
				2014
Kohia Terrace School	Full Primary	337	49	**15%**
Balmoral School	Full Primary	804	106	**13%**
Kowhai Intermediate School	Intermediate	400	49	**12%**
Pasadena Intermediate	Intermediate	253	23	**9%**
Auckland Normal Intermediate	Intermediate	735	53	**7%**
Waikowhai Intermediate School	Intermediate	378	20	**5%**
Our Lady Sacred Heart School (Epsom)	Full Primary	215	7	**3%**
Lynfield College	Secondary	1804	1	**<1%**
Balmoral Seventh Day Adventist School	Full Primary	95	0	**0%**
Christ the King Catholic School	Full Primary	0	0	**0%**
Dilworth School	Composite	626	0	**0%**
Diocesan School for Girls	Composite	1322	0	**0%**
Epsom Girls' Grammar	Secondary	2217	0	**0%**
Ficino School	Full Primary	107	0	**0%**
Hebron Christian College	Composite	230	0	**0%**
Marcellin College	Intermediate/Secondary	645	0	**0%**
Mount Albert Grammar School	Secondary	2730	0	**0%**
Mt Roskill Intermediate School	Intermediate	559	0	**0%**
St Cuthbert's College	Composite	1400	0	**0%**
St Therese School	Full Primary	129	0	**0%**
Te Kura Kaupapa o Nga Maungarongo	Composite	280	0	**0%**
Total		**15266**	**308**	**2%**

[16] 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 13.4 illustrates the rates of scootering to school at different school levels. Rates of scootering to school are highest for fully primary schools (9 per cent).

Table 13.4: 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	**9%**
Intermediate	5	**6%**
Secondary	3	**<1%**
Composite	5	**0%**
Intermediate/Secondary	1	**0%**

APPENDICES

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[17] 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)[18], 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.

[17] Annual average daily traffic

[18] 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.

Appendix 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%