

# 2014 Auckland Region Manual Cycle Monitor

## Maungakiekie Tamaki Ward





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**APPENDICES**

Appendix One: Annual Average Daily Traffic (AADT) Calculation



# 1. MAUNGAKIEKIE-TAMAKI WARD SUMMARY OF RESULTS

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## 1.1 Introduction

### *The Need For Reliable Cycle Trip Data*

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

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<sup>2</sup>. 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.

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<sup>1</sup> Auckland Regional Transport Authority (2006) *Regional Cycle Monitoring Plan (Provisional Guidelines)*

<sup>2</sup> 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:

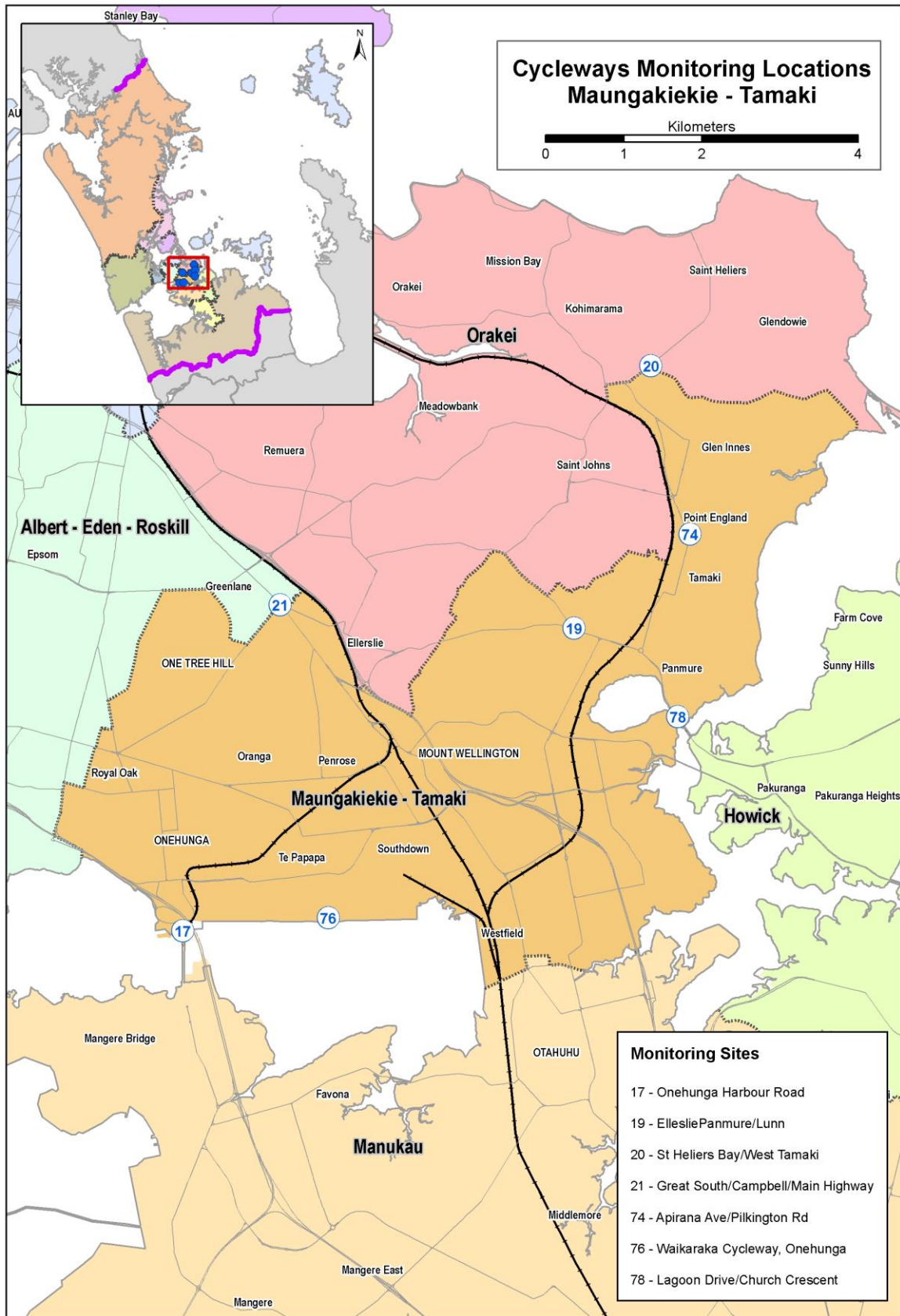
- standard monitoring days are used – that is, school and tertiary holidays, and statutory holidays are excluded and that monitoring preferably takes place at the same time each year to enable reliable year-on-year comparisons to be made. Decisions about whether cycle counts take place on weekdays and 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 seven sites in the Maungakiekie-Tamaki 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 seven pre-determined sites in the Maungakiekie-Tamaki 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 Maungakiekie-Tamaki ward. Note that two sites (Great South/Campbell Road/Main Highway in Ellerslie (Site 21) and St Heliers Bay/West Tamaki Road in Glen Innes (Site 20)) lie on the border with the other wards (Albert-Eden-Roskill and Orakei respectively). Consequently these sites have been included in both ward reports.

Figure 1.1: 2014 Cycle Monitoring Locations in Maungakiekie-Tamaki 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 5<sup>th</sup> of March and be conducted on the first three fine days of the 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup>, or 13<sup>th</sup> of March.

Counts were conducted on the following days:

- Tuesday 4<sup>th</sup> March                      Albany, North Shore, Waitakere
- Wednesday 5<sup>th</sup> March                Howick, Franklin, Manukau, Waitemata & Gulf
- Thursday 6<sup>th</sup> 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 4<sup>th</sup> 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 5<sup>th</sup> 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 6<sup>th</sup> 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<sup>3</sup>.

During their shift the surveyor collected data on:

- The total number of cyclists<sup>4</sup> 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<sup>5</sup>.

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<sup>3</sup> 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.

<sup>4</sup> 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.

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



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

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

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

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

### ***Data Analysis***

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

### ***Annual Average Daily Traffic (AADT) Analysis***

It is acknowledged that the number of cyclists using a site varies by time of day, day of the week and week of the year, and therefore it is not valid to simply multiply manual count data collected over a certain (relatively brief) period out to represent a full day, week or year. However, according to Land Transport New Zealand<sup>6</sup>, 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.

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<sup>7</sup>.

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<sup>6</sup> <http://www.itsa.govt.nz/road-user-safety/walking-and-cycling/cycle-network/appendix2.html>

<sup>7</sup> ViaStrada is a traffic engineering and transport planning consultancy based in Christchurch, New Zealand.



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<sup>8</sup>.*

### **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.

### **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,

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<sup>8</sup> Appendix 2 of the Cycle Network and Route Planning Guide (CNRPG) (Land Transport New Zealand, 2004)



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 5<sup>th</sup> 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 2013, 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 seven sites surveyed in the Maungakiekie-Tamaki 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 Maungakiekie-Tamaki 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 Eight of this report.

Note: Surveying in the Maungakiekie-Tamaki ward was undertaken on Thursday 6<sup>th</sup> of March, 2013. Sunrise was at 7:11am and sunset at 7:54pm; highest temperature was 22.0 degree Celsius.



## 1.4 Morning Peak Summary Results

### *Environmental Conditions*

- All sites monitored in Maungakiekie-Tamaki ward had fine weather in the morning.
- There were major road works at Lagoon Drive/Church Crescent site (as part of the AMETI project). While the road works did not impact on cyclists' ability to make movements through the intersection, the extent of the road works is likely to have been a detractor to cyclists travelling through this area.
- There was no road works in the immediate vicinity of Onehunga Harbour Road. However, major road works (as part of the AMETI project) were being carried out on the Ellerslie Panmure Highway, east of the Lunn Avenue intersection.
- The remaining sites did not report any road works or accidents that may have affected cycle counts.

### *Key Points*

- A total of 569 cyclist movements were recorded across the seven sites in the morning peak period (between 6:30am and 9:00am) in 2014, a 4 per cent decrease from 12 months ago.
- The average volume of morning cyclists across the seven sites in this ward was 81 cycle movements. This compares with 85 movements in 2013 (a 5 per cent decrease).
- Nineteen per cent (n=110) of the total cycle movements in the morning peak were made by those cycling in groups. This compares with 22 per cent (n=129) last year.
- The busiest site in the morning peak continued to be Onehunga Harbour Road (189 cycle movements, up from 178 movements in 2013), whereas the Apirana Avenue/Pilkington/Tripoli Road and Waikaraka Cycleway sites had the lowest volume of morning cyclists (each 22 movements).
- Compared to 2013, the most notable change was at Apirana Avenue/Pilkington/Tripoli Road (up 10 per cent to 22 movements). The most notable decrease was at Waikaraka Cycleway (down 24 per cent to 22 movements).



**Table 1.1: Summary of Morning Cyclist Movements**

**2007 – 2014 (n)**

<b>Site No.</b>	<b>Locations</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>Change 13-14</b>	<b>Change 07-14</b>
17	Onehunga Harbour Road	93	88	74	98	139	171	178	189	-6%	103%
20	St Heliers Bay/West Tamaki Road	139	107	61	98	150	86	177	154	-13%	11%
21	Great South Road/Campbell Road/ Main Highway	89	53	64	69	60	68	77	79	3%	-11%
19	Ellerslie Panmure Highway/Lunn Ave	52	42	31	44	31	40	41	33	-20%	-37%
	<b>Average per site (4 sites since 2007)</b>	<b>93</b>	<b>73</b>	<b>58</b>	<b>77</b>	<b>95</b>	<b>91</b>	<b>118</b>	<b>114</b>	<b>-3%</b>	<b>23%</b>
	<b>Total (4 sites since 2007)</b>	<b>373</b>	<b>290</b>	<b>230</b>	<b>309</b>	<b>380</b>	<b>365</b>	<b>473</b>	<b>455</b>	<b>-4%</b>	<b>22%</b>
78	Lagoon Drive/Church Crescent	-	-	57	100	65	66	72	70	-3%	-
76	Waikaraka Cycleway	-	13	18	7	29	28	29	22	-24%	-
74	Apirana Avenue/Pilkington/Tripoli Road	-	22	12	30	14	19	20	22	10%	-
	<b>Average per site (6 sites in 2008, 7 sites since 2009)</b>	<b>-</b>	<b>54</b>	<b>45</b>	<b>64</b>	<b>70</b>	<b>68</b>	<b>85</b>	<b>81</b>	<b>-5%</b>	<b>-</b>
	<b>Total (6 sites in 2008, 7 sites since 2009)</b>	<b>-</b>	<b>325</b>	<b>317</b>	<b>446</b>	<b>488</b>	<b>478</b>	<b>594</b>	<b>569</b>	<b>-4%</b>	<b>-</b>





- Ninety-two per cent of cyclists this year were adults (stable from 91 per cent in 2013).
- Almost all cyclists were wearing a helmet (95 per cent in 2014, stable from last year).
- The greatest share of morning cyclists were male (84 per cent, stable from 85 per cent last year).
- The road continued to be most dominant location for cyclists (76 per cent, unchanged from last year). Cycle volumes on off-road cycleways and the road remained stable during the morning peak throughout Maungakiekie-Tamaki this year.

**Table 1.2: Summary of Morning Cyclist Characteristics  
2007 – 2014 (%)**

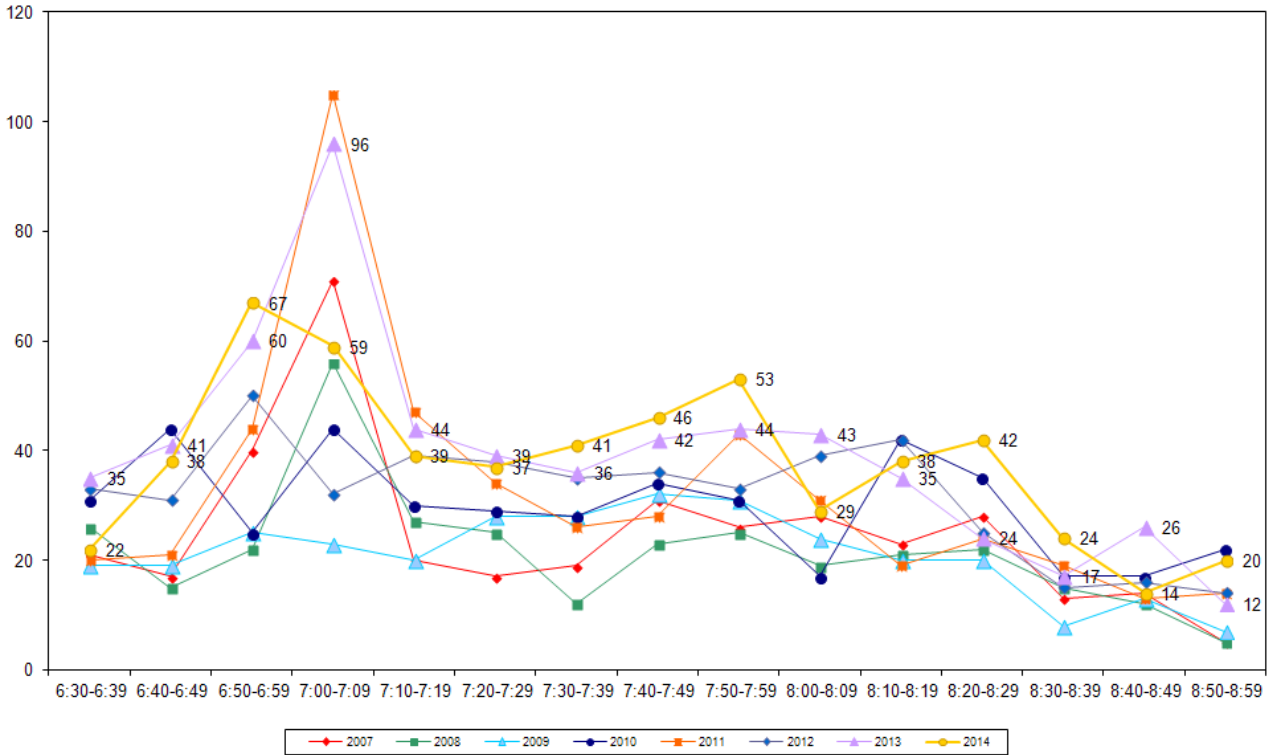
	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	88	89	88	91	90	92	91	<b>92</b>	<b>1</b>
School child	12	11	12	9	10	8	9	<b>8</b>	<b>-1</b>
<b>Helmet Wearing</b>									
Helmet on head	94	93	94	94	94	93	93	<b>95</b>	<b>2</b>
No helmet	6	7	6	6	6	7	4	<b>5</b>	<b>1</b>
Can't tell	-	-	-	-	-	-	3	<b>0</b>	<b>-3</b>
<b>Gender</b>									
Male	-	-	-	-	83	82	85	<b>84</b>	<b>-1</b>
Female	-	-	-	-	16	14	13	<b>15</b>	<b>2</b>
Can't tell	-	-	-	-	1	4	2	<b>1</b>	<b>-1</b>
<b>Where Riding*</b>									
Road	85	78	75	81	75	75	76	<b>76</b>	<b>0</b>
Footpath	15	17	18	17	17	16	17	<b>18</b>	<b>1</b>
Off-road cycleway	0	5	7	2	8	9	7	<b>6</b>	<b>-1</b>
<b>Base:</b>	<b>373</b>	<b>325</b>	<b>317</b>	<b>446</b>	<b>488</b>	<b>478</b>	<b>594</b>	<b>569</b>	

*\*The Onehunga Harbour Road site is not included in the results regarding where cyclists were riding as cyclists could use multiple riding locations during a single trip through the site.*



- Figure 1.2 shows the overall pattern of morning cyclist volumes recorded from the seven sites monitored in 2014. Morning cyclist numbers peaked sharply between 6:50am and 6:59am (67 movements), then decreased towards the end of the morning peak. The trend was consistent with 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 Maungakiekie-Tamaki ward had fine weather in the evening.
- There were major road works at Lagoon Drive/Church Crescent site (as part of the AMETI project). While the road works did not impact on cyclists' ability to make movements through the intersection, the extent of the road works is likely to have been a detractor to cyclists travelling through this area.
- There was no road works in the immediate vicinity of Onehunga Harbour Road. However, major road works (as part of the AMETI project) were being carried out on the Ellerslie Panmure Highway, east of the Lunn Avenue intersection.
- The remaining sites did not report any road works or accidents that may have affected cycle counts.

### *Key Points*

- A total of 582 cyclist movements were recorded across the seven sites in the evening peak period (between 4:00pm and 7:00pm) in 2014, a 7 per cent decrease from 12 months ago.
- The average volume of evening cycle movements across all seven sites monitored in 2014 was 83 cycle movements, down from 89 last year.
- Seven per cent of the total cycle movements (n=40) in the evening peak were made by those cycling in groups. This compares with eight per cent (n=47) last year.
- Of the seven sites, the volume of cyclists was the lowest at Apirana Avenue/Pilkington/Tripoli Road in the evening (25 cycle movements), whereas the Onehunga Harbour Road intersection was the busiest in terms of evening cycling activity, with 253 movements recorded (the largest volume at this site since monitoring began in 2007).
- The site that experienced the most considerable decline in cycle volume was the Ellerslie Panmure Highway/Lunn Avenue – down 38 per cent from last year.
- The greatest recorded increase this year compared to 2013, was Apirana Avenue/Pilkington/Tripoli Road – up 32 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
17	Onehunga Harbour Road	156	132	106	159	171	152	248	253	2%	62%
21	Great South Road/Campbell Road/ Main Highway	85	61	87	102	78	64	69	70	1%	-18%
20	St Heliers Bay/West Tamaki Road	69	60	47	72	74	49	71	65	-8%	-6%
19	Ellerslie Panmure Highway/Lunn Ave	66	52	51	56	46	39	53	33	-38%	-50%
	<b>Average per site (4 sites since 2007)</b>	<b>94</b>	<b>76</b>	<b>73</b>	<b>97</b>	<b>92</b>	<b>76</b>	<b>110</b>	<b>105</b>	<b>-5%</b>	<b>12%</b>
	<b>Total (4 sites since 2007)</b>	<b>376</b>	<b>305</b>	<b>291</b>	<b>389</b>	<b>369</b>	<b>304</b>	<b>441</b>	<b>421</b>	<b>-5%</b>	<b>12%</b>
78	Lagoon Drive/Church Crescent	-	-	72	95	98	71	110	85	-23%	-
76	Waikaraka Cycleway	-	41	33	35	36	24	54	51	-6%	-
74	Apirana Avenue/Pilkington/Tripoli Road	-	39	20	30	41	27	19	25	32%	-
	<b>Average per site (6 sites in 2008, 7 sites since 2009)</b>	<b>-</b>	<b>57</b>	<b>59</b>	<b>78</b>	<b>78</b>	<b>61</b>	<b>89</b>	<b>83</b>	<b>-7%</b>	<b>-</b>
	<b>Total (6 sites in 2008, 7 sites since 2009)</b>	<b>-</b>	<b>344</b>	<b>416</b>	<b>549</b>	<b>544</b>	<b>426</b>	<b>624</b>	<b>582</b>	<b>-7%</b>	<b>-</b>



- Ninety-four per cent of the evening cyclists were adults, stable from last year.
- Most cyclists were wearing a helmet in the evening (94 per cent, up from 91 per cent in 2013).
- The majority of the evening peak cyclists were male (83 per cent, unchanged from last year).
- Sixty-one per cent of the cyclists were riding on the road (stable from 63 per cent last year). As a result there has been an increase in the number of cyclists making use of the off-road-cycleway (up from 14 per cent, to 16 per cent this year). Cycle volumes on the footpath have remained unchanged.

**Table 1.4: Summary of Evening Cyclist Characteristics  
2007 – 2014 (%)**

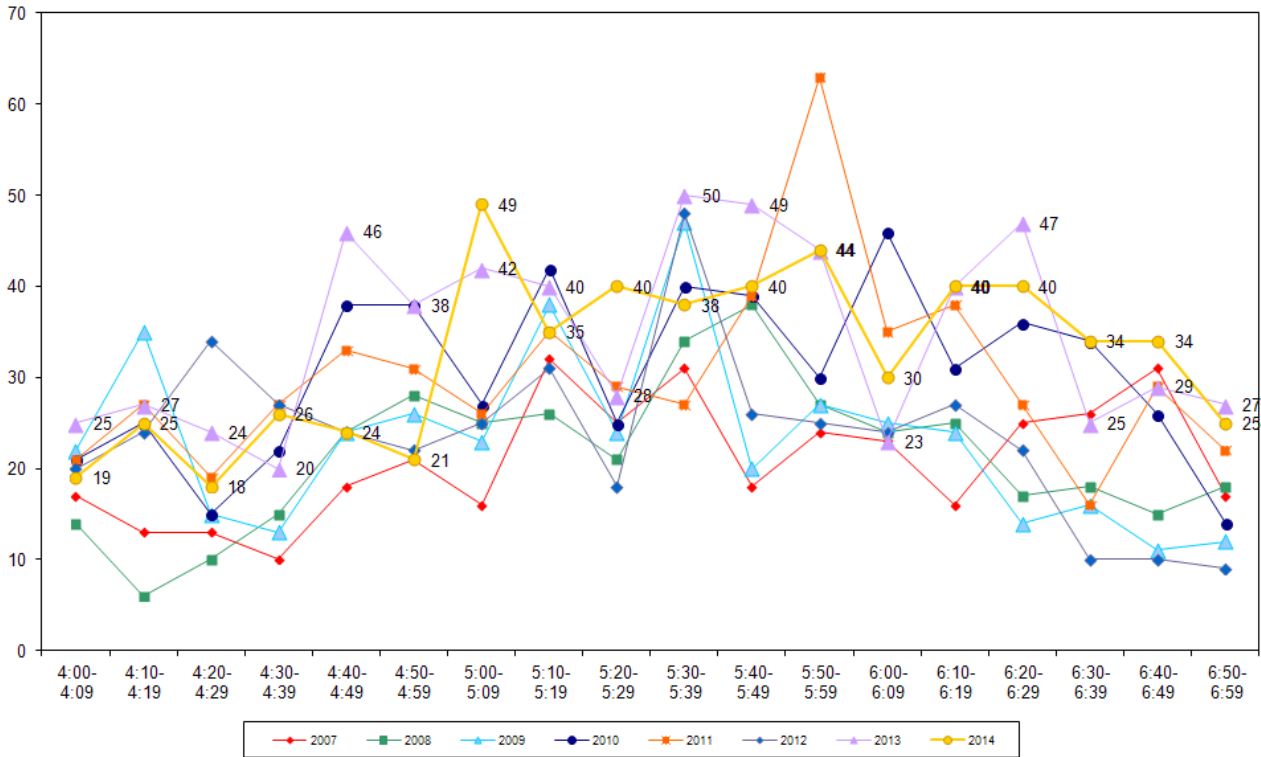
	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	95	92	94	94	91	92	92	<b>94</b>	<b>2</b>
School child	5	8	6	6	9	8	7	<b>6</b>	<b>-1</b>
Can't tell	-	-	-	-	-	-	1	<b>0</b>	<b>-1</b>
<b>Helmet Wearing</b>									
Helmet on head	91	89	89	92	89	92	91	<b>94</b>	<b>3</b>
No helmet	9	11	11	8	11	8	9	<b>6</b>	<b>-3</b>
<b>Gender</b>									
Male	-	-	-	-	84	86	83	<b>83</b>	<b>0</b>
Female	-	-	-	-	15	13	15	<b>16</b>	<b>1</b>
Can't tell	-	-	-	-	1	1	2	<b>1</b>	<b>-1</b>
<b>Where Riding*</b>									
Road	83	67	70	78	66	63	63	<b>61</b>	<b>-2</b>
Footpath	17	17	19	13	24	29	23	<b>23</b>	<b>0</b>
Off-road cycleway	0	16	11	9	10	8	14	<b>16</b>	<b>2</b>
<i>Base:</i>	<b>376</b>	<b>344</b>	<b>416</b>	<b>549</b>	<b>544</b>	<b>426</b>	<b>624</b>	<b>582</b>	

*\*The Onehunga Harbour Road site is not included in the results regarding where cyclists were riding as cyclists could use multiple riding locations during a single trip through the site.*



- The overall pattern of evening cyclist volumes derived from the seven sites in the Maungakiekie-Tamaki ward is illustrated in Figure 1.3. Evening cyclist numbers fluctuated throughout the monitoring period, peaking most notably between 5:00pm and 5:09pm (49 movements). The trend followed this year is similar to that of previous years.

**Figure 1.3: Cyclist Frequency – Evening Peak  
2007 – 2014 (n)**





## 1.6 Aggregated Total Summary Results

- Overall, a total of 1151 cyclist movements were recorded across the seven sites monitored in 2014, among which 150 of them (13 per cent) were observed as peloton movements. This compares with 14 per cent in 2013.
- The average number of cycle movements for the seven sites monitored in 2014 is 164, a 6 per cent decrease from 174 last year.
- Of the seven sites in this ward, the busiest site continued to be Onehunga Harbour Road with a total of 441 movements (the highest count at this site since monitoring began in 2007), while Apirana Avenue/Pilkington/Tripoli Road has the fewest cyclists (47 movements).
- Overall, the most noticeable increase in cycle traffic since last year was at Apirana Avenue/Pilkington/Tripoli Road – up 21 per cent.
- The most noticeable decrease in cycle volume over the last 12 months was the Ellerslie Panmure Highway/Lunn Avenue – down 30 per cent.

**Table 1.5: Summary of Total Cyclist Movements  
2007 – 2014 (n)**

Site No.	Locations	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14	Change 07-14
17	Onehunga Harbour Road	249	220	180	257	310	323	426	441	4%	77%
20	St Heliers Bay/West Tamaki Road	208	167	108	170	224	135	248	220	-11%	6%
21	Great South Road/Campbell Road/Main Highway	174	114	151	171	138	132	146	149	-2%	-14%
19	Ellerslie Panmure Highway/Lunn Ave	118	94	82	100	77	79	94	66	-30%	-44%
	<b>Average per site (4 sites since 2007)</b>	<b>187</b>	<b>149</b>	<b>130</b>	<b>175</b>	<b>187</b>	<b>167</b>	<b>229</b>	<b>219</b>	<b>-4%</b>	<b>17%</b>
	<b>Total (4 sites since 2007)</b>	<b>749</b>	<b>595</b>	<b>521</b>	<b>698</b>	<b>749</b>	<b>669</b>	<b>914</b>	<b>876</b>	<b>-4%</b>	<b>17%</b>
78	Lagoon Drive/Church Crescent	-	-	129	195	163	137	182	155	-15%	-
76	Waikaraka Cycle Way	-	54	51	42	65	52	83	73	-12%	-
74	Apirana Avenue/Pilkington/Tripoli Road	-	61	32	60	55	46	39	47	21%	-
	<b>Average per site (6 sites in 2008, 7 sites since 2009)</b>	<b>-</b>	<b>109</b>	<b>105</b>	<b>142</b>	<b>147</b>	<b>129</b>	<b>174</b>	<b>164</b>	<b>-6%</b>	<b>-</b>
	<b>Total (6 sites in 2008, 7 sites since 2009)</b>	<b>-</b>	<b>656</b>	<b>733</b>	<b>995</b>	<b>1032</b>	<b>904</b>	<b>1218</b>	<b>1151</b>	<b>-6%</b>	<b>-</b>



- Ninety-three per cent of evening cyclists this year were adults (stable from 92 per cent last year).
- Most cyclists were wearing a helmet (94 per cent, up 2 percentage points since 2013).
- The share of male cyclists has remained the same, at 84 per cent.
- The greatest share of cyclists continued to ride on the road (70 per cent, unchanged from last year).  
Cycle volumes on the road and footpath throughout Maungakiekie-Tamaki also remained unchanged compared to 2013.

**Table 1.6: Summary of Total Cyclist Characteristics  
2007 – 2014 (%)**

	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	91	91	91	93	91	83	92	<b>93</b>	<b>1</b>
School child	9	9	9	7	9	17	8	<b>7</b>	<b>-1</b>
<b>Helmet Wearing</b>									
Helmet on head	93	91	92	93	92	92	92	<b>94</b>	<b>2</b>
No helmet	7	9	8	7	8	8	7	<b>6</b>	<b>-1</b>
Can't tell	-	-	-	-	-	-	1	<b>0</b>	<b>-1</b>
<b>Gender</b>									
Male	-	-	-	-	84	84	84	<b>84</b>	<b>0</b>
Female	-	-	-	-	15	13	14	<b>15</b>	<b>1</b>
Can't tell	-	-	-	-	1	3	2	<b>1</b>	<b>-1</b>
<b>Where Riding*</b>									
Road	84	72	72	79	71	70	70	<b>70</b>	<b>0</b>
Footpath	16	17	18	15	20	21	20	<b>20</b>	<b>0</b>
Off-road cycleway	0	11	9	6	9	9	10	<b>10</b>	<b>0</b>
<b>Base:</b>	<b>749</b>	<b>656</b>	<b>733</b>	<b>995</b>	<b>1032</b>	<b>904</b>	<b>1218</b>	<b>1151</b>	

*The Onehunga Harbour Road site is not included for results regarding where cyclists were riding as cyclists could use multiple riding locations during a single trip through this site.*





## 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 Onehunga Harbour Road (636 daily movements, up from 614 movements in 2013) and the lowest is at Apirana Avenue/Pilkington/Tripoli Road (68 daily movements, up from 57 last year).
- All but one site has experienced decreases this year compared to 2013. Apirana Avenue/Pilkington/Tripoli Road site registered an increase in AADT of 19 per cent.
- The most noticeable decline in volume was the Ellerslie Panmure Highway/Lunn Avenue (down 29 per cent from last year).

**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	2014 AADT	Change 13-14	Change 07-14
17	Onehunga Harbour Road	357	316	259	369	448	471	614	<b>636</b>	<b>-4%</b>	<b>78%</b>
20	St Heliers Bay/West Tamaki Road	308	246	158	249	331	199	369	<b>325</b>	<b>-12%</b>	<b>6%</b>
78	Lagoon Drive/Church Crescent	-	-	186	284	234	199	262	<b>224</b>	<b>-15%</b>	-
21	Great South Road/Campbell Road/Main Highway	253	165	218	246	246	192	213	<b>217</b>	<b>-2%</b>	<b>-14%</b>
76	Waikaraka Cycleway	-	76	73	59	94	76	119	<b>104</b>	<b>-13%</b>	-
19	Ellerslie Panmure Highway/Lunn Ave	170	136	118	144	111	115	136	<b>96</b>	<b>-29%</b>	<b>-44%</b>
74	Apirana Avenue/Pilkington/Tripoli Road	-	87	46	87	78	66	57	<b>68</b>	<b>19%</b>	-



## 1.8 School Bike Shed Count Summary

### *Cycle Counts*

- Of those students eligible to cycle, on average one per cent of students are currently cycling to their schools (stable from 2013).
- In total, n=80 students from the 22 responding schools were reported as cycling to school.
- Onehunga High School reported the highest share of cyclists this year, with 3 per cent of students cycling to school.
- Of the 22 schools that responded, 13 (59 per cent) had no students cycling to school.
- Of the 21 schools that participated in the count in both 2013 and 2014, 4 (19 per cent) reported an increase in the share of students cycling. Two of the 21 schools that participated in the count in both 2013 and 2014 reported a decrease in the share of students cycling.
- Rates of cycling to school are highest among intermediate and secondary schools (each 2 per cent).

### *Scooter Counts*

- Among the surveyed schools, of those eligible to scooter, on average, less than one per cent of students are scootering to their schools.
- Glenbrae Primary School, Tamaki Primary School and Te Kura Kaupapa Maori O Puau Te Moananui-a-kiwa reported the highest share of scooters – each with 2 per cent of all eligible students currently scootering to school.
- In total, n=11 students from the responding schools were reported to be scootering to school.
- Of the 22 schools that responded, 18 (82 per cent) had no students scootering to school.

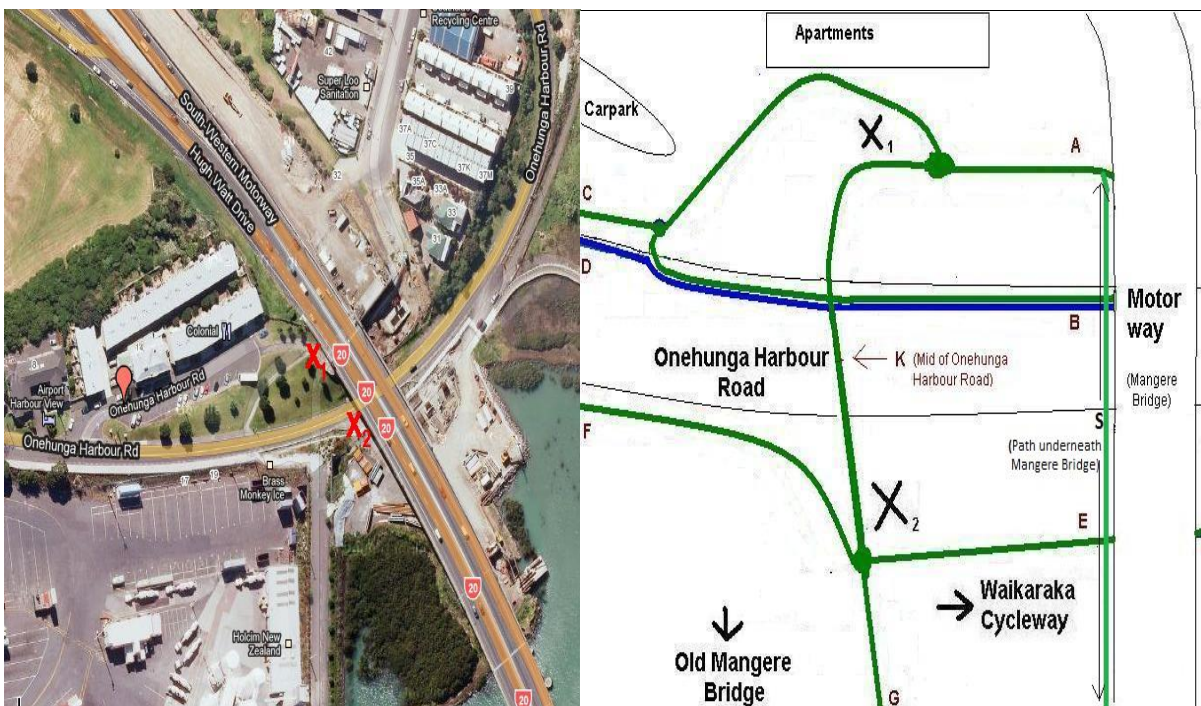
# 1.9 ONEHUNGA HARBOUR ROAD, ONEHUNGA

## (SITE 17)

Figure 2.1 shows the possible cyclist movements at this site.

*Note: Due to the complexity of this site, the map and movement directions were re-designed in 2011 to more accurately capture how this site is used by cyclists. Rather than trying to keep track of cyclists as they move around the site, surveyors were instead required to record the zone at which each cyclist entered the site (represented by letters on the map), and the zone from which they exited. As a result, movement numbers are not directly comparable with previous years.*

**Figure 2.1: Cycle Movements: Onehunga Harbour Road**



### 1.10 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2007	93	156	249	357
2008	88	132	220	316
2009	74	68	142	259
2010	98	159	257	369
2011	139	171	310	448
2012	171	152	323	471
2013	178	248	426	614
<b>2014</b>	<b>189</b>	<b>253</b>	<b>441</b>	<b>636</b>



## 1.11 Morning Peak

### Environmental Conditions

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

### Key Points

- Compared with the previous year, the volume of morning cyclists at Onehunga Harbour Road has increased (189 movements, up from 178 cycle movements recorded in 2013).
- The most common entry point in the morning peak was at Zone G, with 77 cyclists entering the site from Old Mangere Bridge.
- The most frequently used exit point was also Zone G, with 57 cyclists leaving the site via Old Mangere Bridge.
- The most common movement in the morning peak was entering the site in Zone K and exiting in Zone A (39 movements).

**Table 2.1A: Morning Cyclist Movements  
Onehunga Harbour Road 2014 (n)**

Entry	Exit										Total
	A	B	C	D	E	F	G	K	S	DK	
A	0	0	0	0	0	0	0	5	0	0	5
B	0	0	0	0	0	0	0	3	0	0	3
C	0	0	0	0	0	0	22	2	0	0	24
D	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	1	1	0	0	2
F	0	0	4	0	0	0	27	0	0	0	31
G	0	0	12	0	3	26	0	36	0	0	77
K	39	0	0	0	0	1	7	0	0	0	47
S	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>39</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>3</b>	<b>27</b>	<b>57</b>	<b>47</b>	<b>0</b>	<b>0</b>	<b>189</b>

**Table 2.1B: Morning Cyclist Movements  
Onehunga Harbour Road 2007 – 2014 (n)**

	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Total Movements</b>	93	88	74	98	139	171	178	189	11



- Ninety per cent of cyclists using this site were adults (up from 86 per cent last year).
- Helmet wearing was wide-spread this year (95 per cent, stable from 96 per cent in 2013).
- The greatest share of morning cyclists continued to be male (86 per cent).
- This year, 50 per cent of cyclists were observed crossing Onehunga Harbour Road.

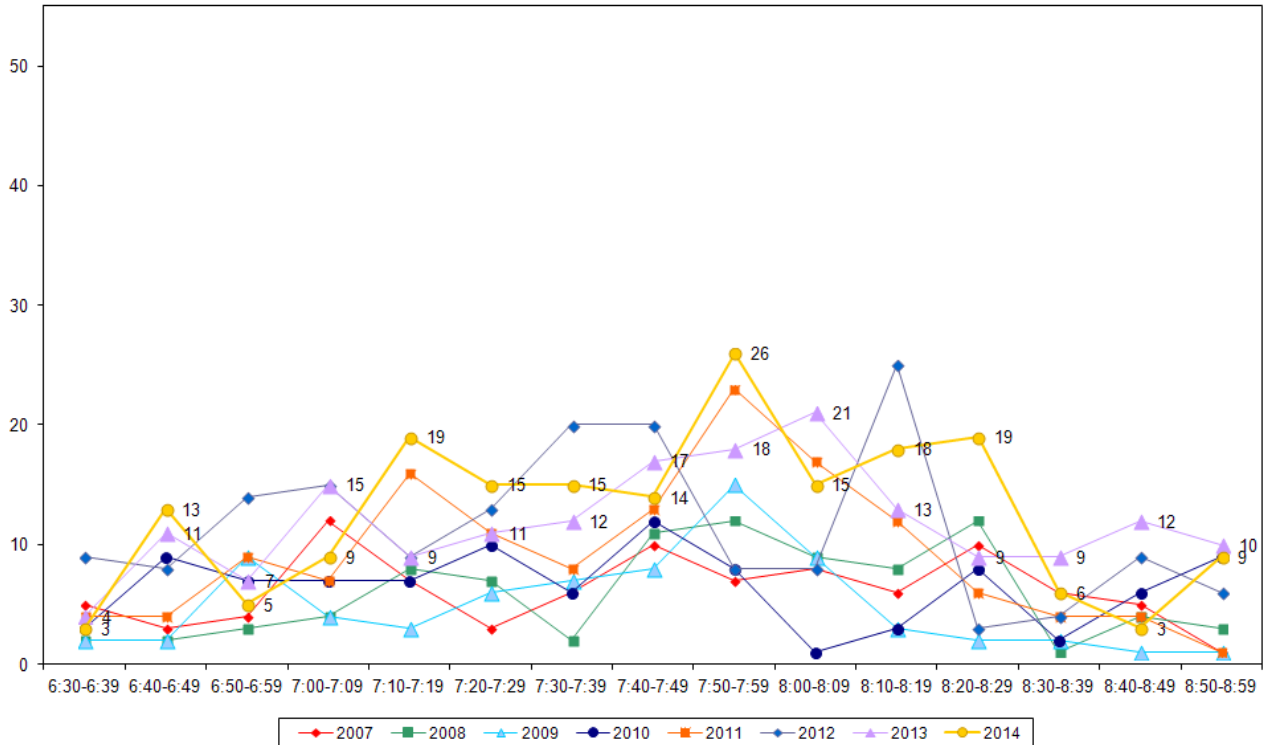
**Table 2.2: Morning Cyclist Characteristics  
Onehunga Harbour Road 2007 – 2014 (%)**

	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	83	77	80	81	81	88	86	90	-4
School child	17	23	20	19	19	12	14	10	4
<b>Helmet Wearing</b>									
Helmet on head	84	84	95	88	91	86	96	95	-1
No helmet	16	16	5	12	9	14	2	5	3
Unsure	-	-	-	-	-	-	2	0	-2
<b>Gender</b>									
Male	-	-	-	-	82	85	87	86	-1
Female	-	-	-	-	17	14	12	14	2
Can't tell	-	-	-	-	1	1	1	0	-1
<b>Crossing Onehunga Road</b>									
Yes	-	14	19	21	17	43	36	50	14
No	-	86	81	79	83	57	62	50	-12
Can't tell	-	-	-	-	-	-	2	0	-2
<b>Base:</b>	<b>93</b>	<b>88</b>	<b>74</b>	<b>98</b>	<b>139</b>	<b>171</b>	<b>178</b>	<b>189</b>	



- The volume of morning cycle movements increased to a peak between 7:50am and 7:59am (26 cyclists), then the volume decreased for the remaining hour of the shift. This compares with the peak of 21 movements between 8:00am and 8:09am last year.

**Figure 2.2: Morning Peak Cyclist Frequency  
Onehunga Harbour Road 2007 – 2014 (n)**



Note: In 2014, 14 per cent of the morning peak cycle movements (n=26) at this site were identified as cycling in groups. Three or more cyclists were observed travelling in groups at this site at the following times:

- 3 cyclists at 6:46am
- 5 cyclists at 7:12am
- 18 cyclists at 6:50am

This compares with 14 per cent of morning peak cycle movements (n=26) cycling as groups in 2013, and 13 per cent in 2012.



## 1.12 Evening Peak

### Environmental Conditions

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

### Key Points

- Compared with the previous year, the volume of evening cyclists at Onehunga Harbour Road has increased (253 movements, up from 248 cycle movements recorded in 2013).
- The most common entry point in the evening peak was at Zone G, 68 cyclists entering the site via Old Mangere Bridge.
- The most frequently used exit point was also Zone G, 111 cyclists leaving the site via Old Mangere Bridge.
- The most common movement in the evening peak was entering the site in Zone C and exiting in Zone G (59 movements).

**Table 2.3A: Evening Cyclist Movements  
Onehunga Harbour Road 2007 – 2014 (n)**

Entry	Exit									Total
	A	B	C	D	E	F	G	K	S	
A	0	0	0	0	0	0	0	22	0	22
B	0	0	0	0	0	0	0	0	0	0
C	0	0	0	0	0	5	59	3	0	67
D	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	3	4	0	0	7
F	0	0	5	0	0	0	26	1	0	32
G	0	0	8	0	3	26	0	31	0	68
K	32	0	1	0	1	1	22	0	0	57
S	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>32</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>4</b>	<b>35</b>	<b>111</b>	<b>57</b>	<b>0</b>	<b>253</b>

**Table 2.3B: Evening Cyclist Movements  
Onehunga Harbour Road 2007 – 2014 (n)**

	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Total Movements</b>	156	132	68	159	171	152	248	253	5



- Over the evening shift, almost all cyclists using this site were adults (95 per cent, stable from 93 per cent in 2013).
- The majority of cyclists were wearing a helmet (97 per cent, up slightly from 94 per cent last year).
- The greatest share of evening cyclists were male (80 per cent).
- This year, 45 per cent of cyclists were observed crossing Onehunga Harbour Road, up slightly from 39 per cent last year.

**Table 2.4: Evening Cyclist Characteristics  
Onehunga Harbour Road 2007 – 2014 (%)**

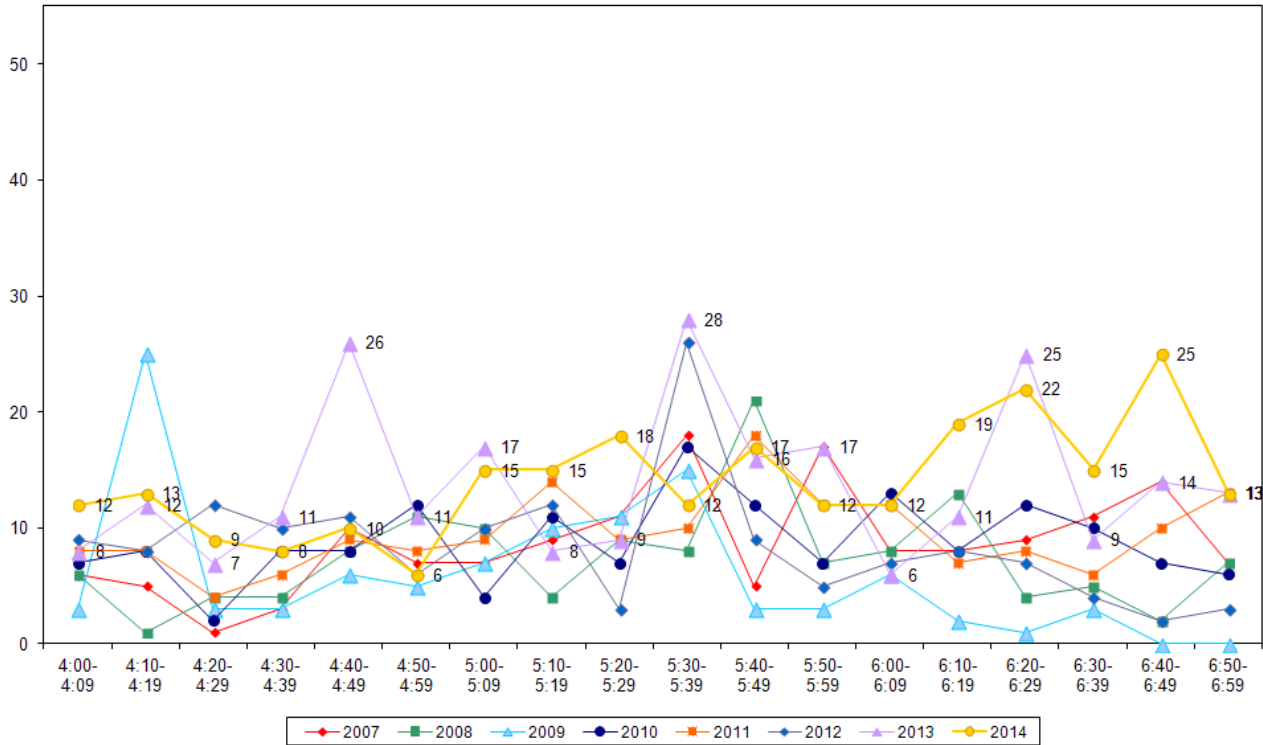
	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	96	93	92	91	95	97	93	95	2
School child	4	7	8	9	5	3	7	5	-2
<b>Helmet Wearing</b>									
Helmet on head	83	91	97	94	89	93	94	97	3
No helmet	17	9	3	6	11	7	6	3	-3
<b>Gender</b>									
Male	-	-	-	-	86	88	85	80	-5
Female	-	-	-	-	12	11	14	19	5
Can't tell	-	-	-	-	2	1	1	1	0
<b>Crossing Onehunga Harbour Road</b>									
Yes	-	27	8	23	16	49	39	45	6
No	-	73	92	77	84	51	61	55	-6
<b>Base:</b>	<b>156</b>	<b>132</b>	<b>68</b>	<b>159</b>	<b>171</b>	<b>152</b>	<b>248</b>	<b>253</b>	





- The volume of evening cyclists fluctuated throughout the monitoring period. A peak in cycle volume was observed towards the end of the monitoring period from 6:40pm to 6:49pm with 25 movements. This peak occurred twenty minutes earlier than a similar peak recorded last year, also of 25 movements.

**Figure 2.3: Evening Peak Cyclist Frequency  
Onehunga Harbour Road 2007 – 2014 (n)**



Note: In 2014, 11 per cent of the total cycle movements (n=27) in the evening peak were identified as cycling in groups. Three or more cyclists were observed travelling in groups at this site at the following times:

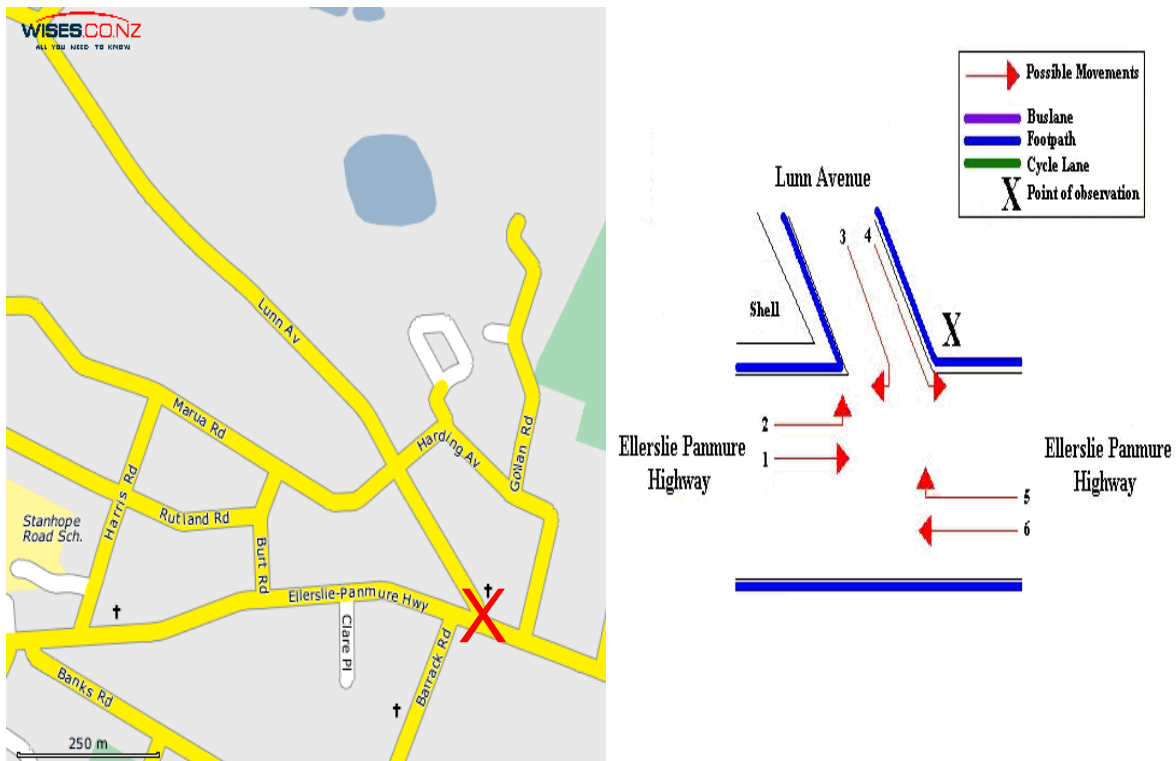
- 3 cyclists at 4:11pm
- 4 cyclists at 6:10pm
- 7 cyclists at 6:20pm
- 9 cyclists at 6:40pm
- 4 cyclists at 6:57pm.

This compares with 33 cyclists (17 per cent) identified as cycling in groups last year, and 5 per cent in 2012.

## 2. ELLERSLIE PANMURE HIGHWAY/LUNN AVENUE, PANMURE (SITE 19)

Figure 3.1 shows the possible cyclist movements at this intersection.

**Figure 3.1: Cycle Movements: Ellerslie Panmure Highway/Lunn Avenue**



### 2.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2007	52	66	118	170
2008	42	52	94	136
2009	31	51	82	118
2010	44	56	100	144
2011	31	46	77	111
2012	40	39	79	115
2013	41	53	94	136
<b>2014</b>	<b>33</b>	<b>33</b>	<b>66</b>	<b>96</b>



## 2.2 Morning Peak

### Environmental Conditions

- The weather was fine throughout the morning shift
- There were no road works or accidents in the immediate vicinity of this site. However, major road works (as part of the AMETI project) were being carried out on the Ellerslie Panmure Highway, east of the Lunn Avenue intersection.

### Key Points

- Morning cyclist volumes recorded at the Ellerslie Panmure Highway/Lunn Avenue intersection have decreased from last year, with 33 cycle movements recorded this year.
- The most common morning movement was turning left from Lunn Ave into Ellerslie Panmure Highway heading east (Movement 4 = 10 cyclists).
- The most notable increase was at Movement 5 (up 7 cyclists), while the most notable decreases occurred at Movements 1 and 6 (each down 9 cyclists).

**Table 3.1: Morning Cyclist Movements**  
**Ellerslie Panmure Highway/Lunn Avenue 2007 – 2014 (n)**

<i>Movement</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>Change 13-14</i>
1	15	7	8	10	7	1	13	4	-9
2	1	3	1	2	0	11	1	0	-1
3	2	8	2	8	2	2	1	1	0
4	12	8	8	7	8	8	6	10	4
5	3	3	8	4	1	7	2	9	7
6	19	13	4	13	13	11	18	9	-9
<b>Total</b>	<b>52</b>	<b>42</b>	<b>31</b>	<b>44</b>	<b>31</b>	<b>40</b>	<b>41</b>	<b>33</b>	<b>-8</b>



- Over the morning peak, adults comprised the majority of all cycle movements (97 per cent, stable from 98 per cent last year).
- Almost all cyclists were wearing a helmet over the morning peak at this site (97 per cent, up from 85 per cent in 2013).
- The majority of morning cyclists were male (91 per cent).
- Approximately three-in-four cyclists were riding on the road (76 per cent, up from 68 per cent at the previous measure).

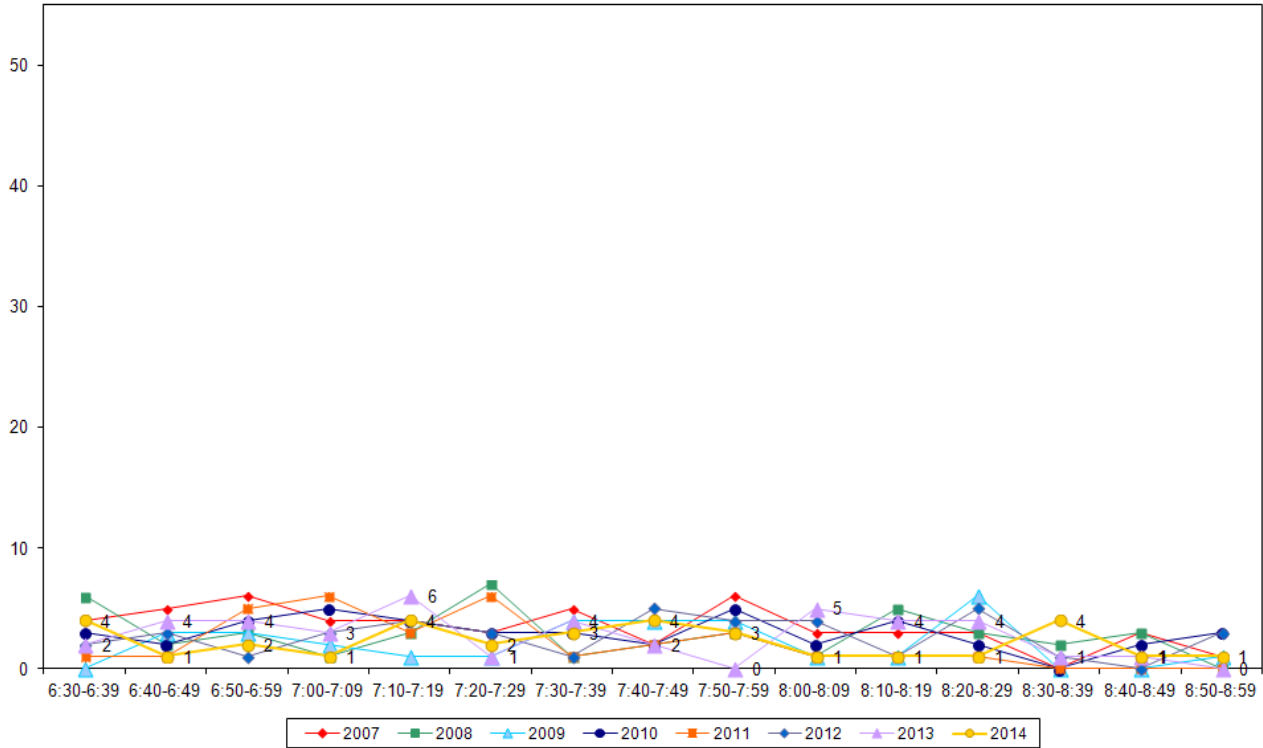
**Table 3.2: Morning Cyclist Characteristics**  
**Ellerslie Panmure Highway/Lunn Avenue 2007 – 2014 (%)**

	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	88	90	100	100	90	98	98	97	-1
School child	12	10	0	0	10	2	2	3	1
<b>Helmet Wearing</b>									
Helmet on head	94	98	97	95	100	95	85	97	12
No helmet	6	2	3	5	0	5	15	3	-12
<b>Gender</b>									
Male	-	-	-	-	91	90	88	91	3
Female	-	-	-	-	6	10	12	9	-3
Can't tell	-	-	-	-	3	0	0	0	0
<b>Where Riding</b>									
Road	77	79	81	80	81	78	68	76	-8
Footpath	23	21	19	20	19	22	32	24	8
<b>Base:</b>	<b>52</b>	<b>42</b>	<b>31</b>	<b>44</b>	<b>31</b>	<b>40</b>	<b>41</b>	<b>33</b>	



- Morning cycle volumes were relatively low over the entire monitoring period. No notable peaks occurred over the morning period, with four movements being the largest number recorded at any ten minute interval. This trend of low volumes across the monitoring period was consistent with previous years.

**Figure 3.2: Morning Peak Cyclist Frequency  
Ellerslie Panmure Highway/Lunn Avenue 2007 – 2014 (n)**





## 2.3 Evening Peak

### Environmental Conditions

- The weather was fine throughout the evening shift.
- There were no road works or accidents in the immediate vicinity of this site. However, major road works (as part of the AMETI project) were being carried out on the Ellerslie Panmure Highway, east of the Lunn Avenue intersection.

### Key Points

- The number of evening cycle movements at the Ellerslie Panmure Highway/Lunn Avenue intersection has decreased, from 53 movements recorded in 2013 to 33 movements this year.
- The key evening movement was turning left from Lunn Ave into Ellerslie Panmure Highway heading east (Movement 4 = 11 cyclists).
- The most notable change was at Movement 1 (down 14 cyclist movements this year).

**Table 3.3: Evening Cyclist Movements**  
**Ellerslie Panmure Highway/Lunn Avenue 2007 – 2014 (n)**

<i>Movement</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>Change 13-14</i>
1	16	14	24	16	14	15	22	8	-14
2	5	4	1	4	2	2	3	1	-2
3	6	5	1	0	3	1	5	1	-4
4	14	12	7	14	9	9	8	11	3
5	4	8	6	12	5	3	5	5	0
6	21	9	12	10	13	9	10	7	-3
<b>Total</b>	<b>66</b>	<b>52</b>	<b>51</b>	<b>56</b>	<b>46</b>	<b>39</b>	<b>53</b>	<b>33</b>	<b>-20</b>



- The majority of cyclists using this intersection were adults (97 per cent, up from 92 per cent last year).
- Helmet wearing was still common over the evening peak (91 per cent, down slightly from 94 per cent in 2013).
- The majority of evening peak cyclists were male (91 per cent, up from 87 per cent in 2013).
- Seventy per cent of cyclists were riding on the road.

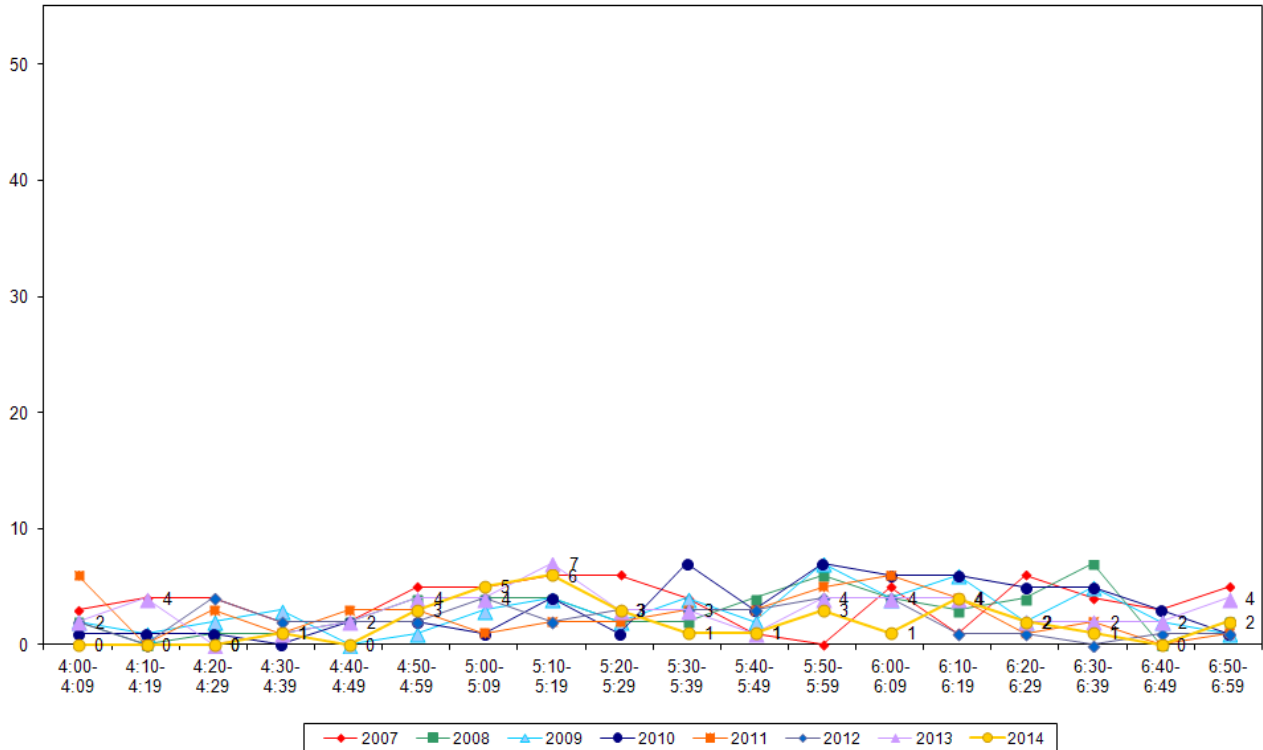
**Table 3.4: Evening Cyclist Characteristics  
Ellerslie Panmure Highway/Lunn Avenue 2007 – 2014 (%)**

	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	86	88	98	95	87	97	92	<b>97</b>	<b>5</b>
School child	14	12	2	5	13	3	8	<b>3</b>	<b>-5</b>
<b>Helmet Wearing</b>									
Helmet on head	95	92	88	89	89	90	94	<b>91</b>	<b>-3</b>
No helmet	5	8	12	11	11	10	6	<b>9</b>	<b>3</b>
<b>Gender</b>									
Male	-	-	-	-	91	95	87	<b>91</b>	<b>4</b>
Female	-	-	-	-	9	5	11	<b>6</b>	<b>-5</b>
Can't tell	-	-	-	-	0	0	2	<b>3</b>	<b>1</b>
<b>Where Riding</b>									
Road	73	73	78	79	65	64	79	<b>70</b>	<b>-9</b>
Footpath	27	27	22	21	35	36	21	<b>30</b>	<b>9</b>
<b>Base:</b>	<b>66</b>	<b>52</b>	<b>51</b>	<b>56</b>	<b>46</b>	<b>39</b>	<b>53</b>	<b>33</b>	



- The volume of evening cycle movements at this site was low throughout the monitoring period, with most ten minute intervals recording no more than four cyclists. The exception to this was between 5:00pm and 5:19pm where 11 cyclists were recorded.

**Figure 3.3: Evening Peak Cyclist Frequency**  
**Ellerslie Panmure Highway/Lunn Avenue 2007 – 2014 (n)**

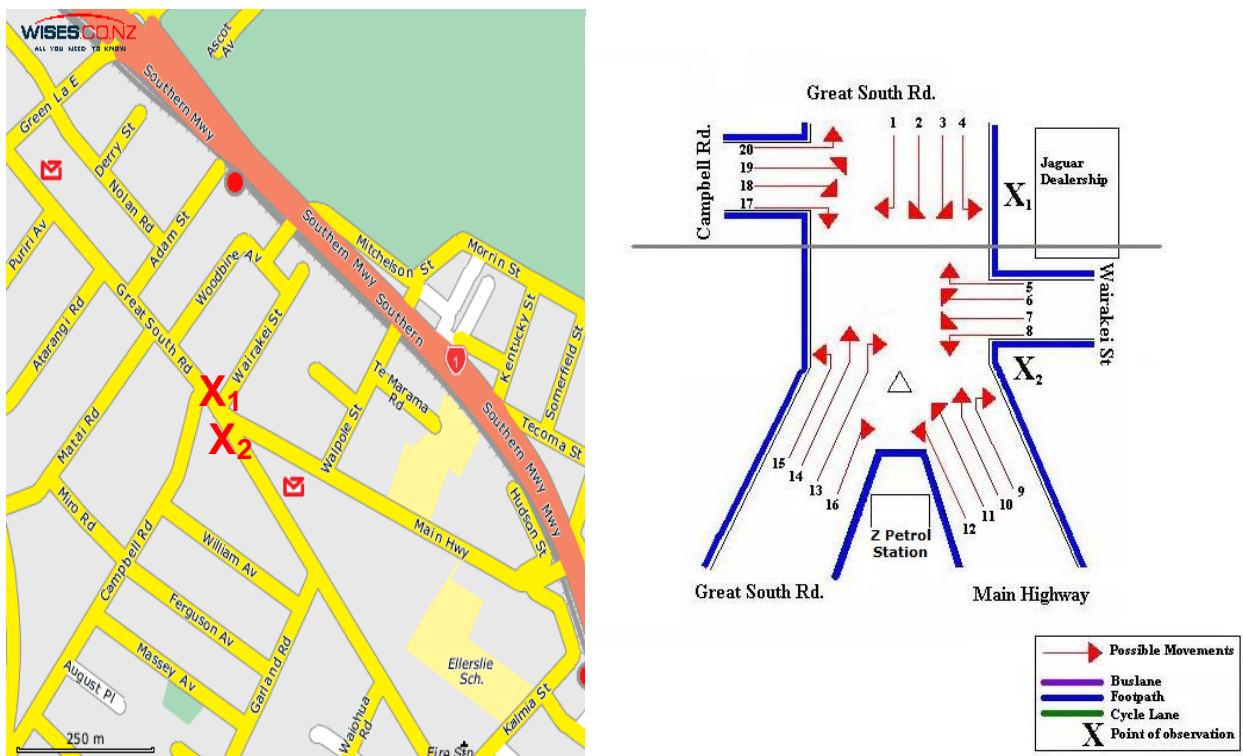




### 3. GREAT SOUTH ROAD/CAMPBELL ROAD/MAIN HIGHWAY, GREENLANE (SITE 21)

Figure 3.1 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 3.1: Cycle Movements: Great South/Campbell Road**



#### 3.1 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
<b>2014</b>	<b>79</b>	<b>70</b>	<b>149</b>	<b>217</b>

## 3.2 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 3.1: 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
<b>Total</b>	<b>89</b>	<b>53</b>	<b>64</b>	<b>69</b>	<b>60</b>	<b>68</b>	<b>77</b>	<b>79</b>	<b>2</b>



- 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).

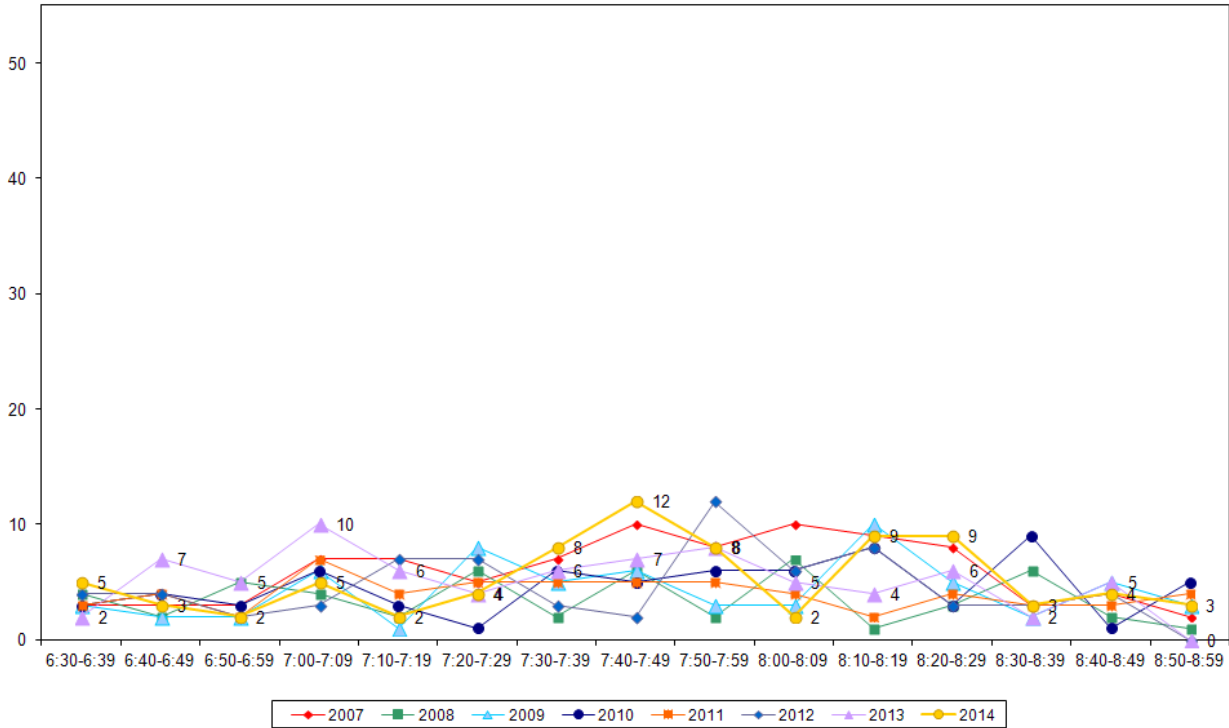
**Table 3.2: Morning Cyclist Characteristics  
Great South/Campbell Road 2007 – 2014 (%)**

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



- 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 3.2: Morning Peak Cyclist Frequency  
Great South/Campbell Road 2007 – 2014 (n)**





### 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

- 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 occurred at Movement 10 – heading north from Main Highway onto Great South Road (up 8 movements).

**Table 3.3: 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
<b>Total</b>	<b>85</b>	<b>61</b>	<b>87</b>	<b>102</b>	<b>78</b>	<b>64</b>	<b>69</b>	<b>70</b>	<b>1</b>



- 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).

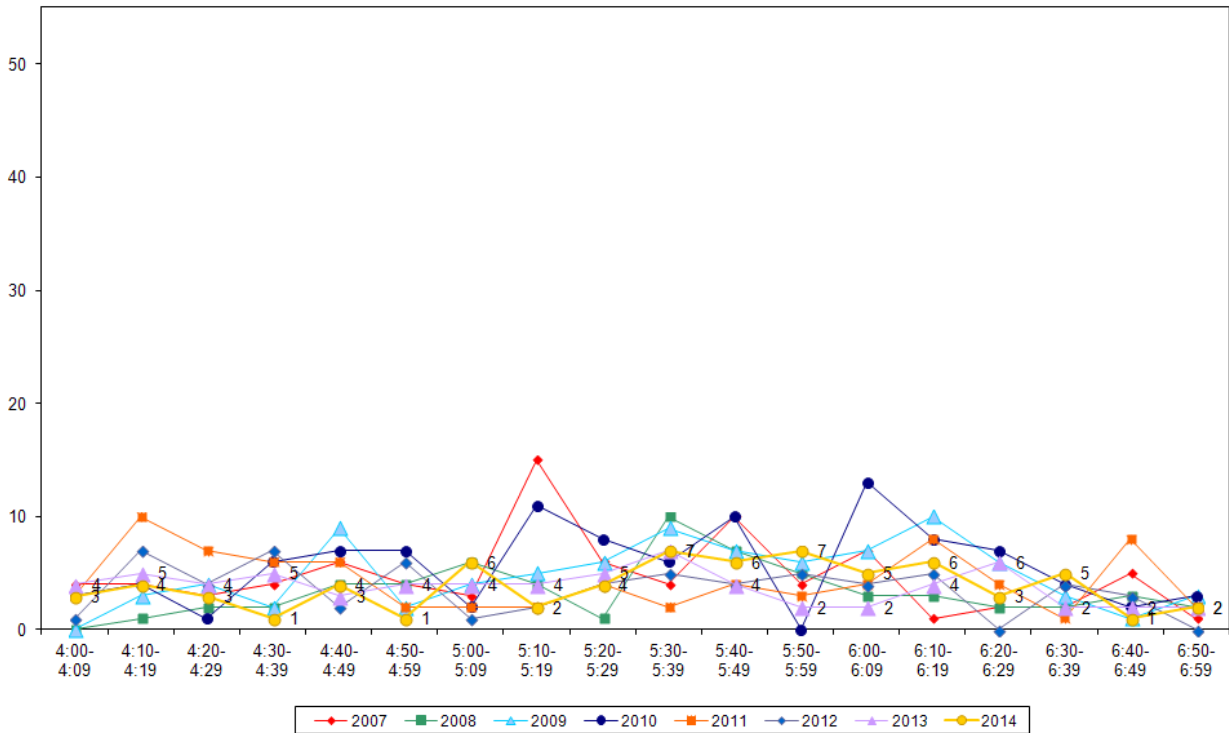
**Table 3.4: Evening Cyclist Characteristics  
Great South/Campbell Road 2007 – 2014 (%)**

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



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

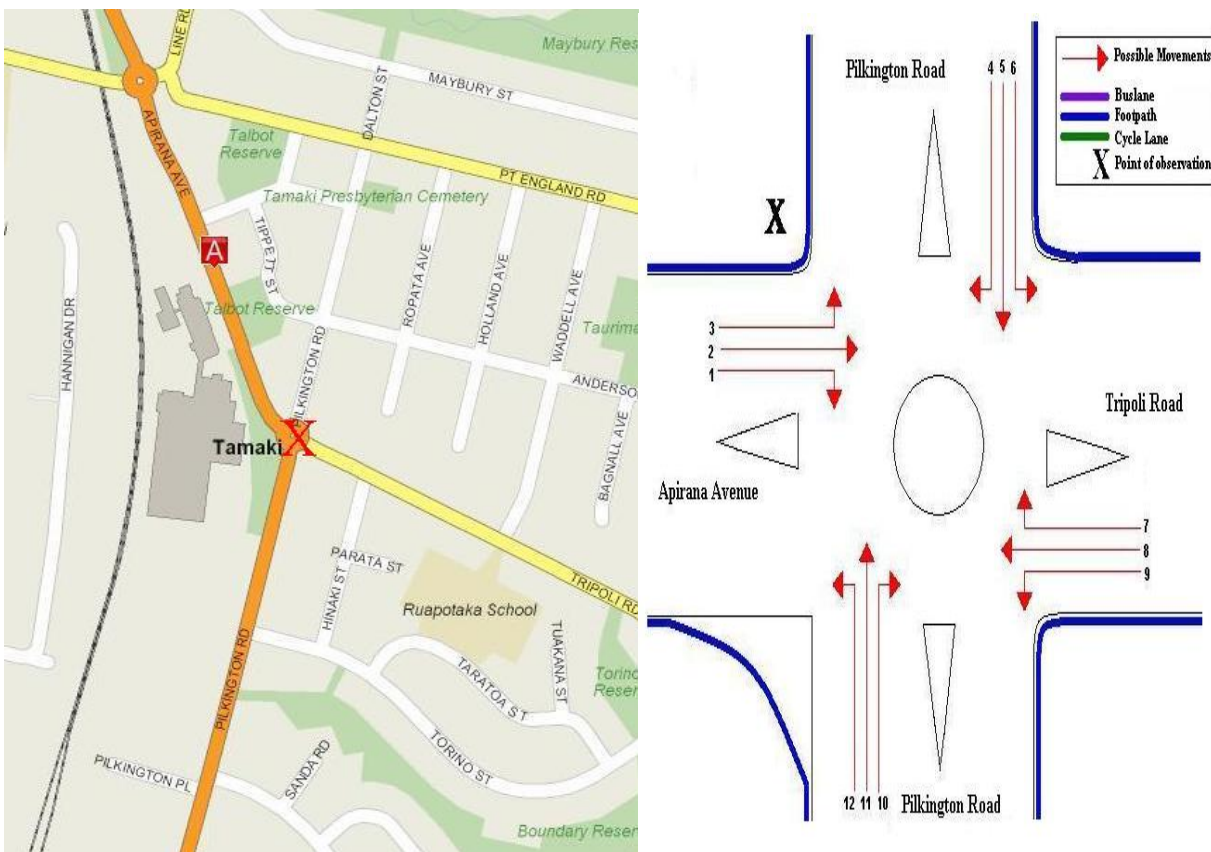
**Figure 3.3: Evening Peak Cyclist Frequency  
Great South/Campbell Road 2007 – 2014 (n)**



# 4. APIRANA AVENUE/PILKINGTON ROAD/TRIPOLI ROAD, POINT ENGLAND (SITE 74)

Figure 5.1 shows the possible cyclist movements at this intersection.

**Figure 5.1: Cycle Movements: Apirana Avenue/Pilkington Road/Tripoli Road**



## 4.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2008	22	39	61	87
2009	12	20	32	46
2010	30	30	60	87
2011	14	41	55	78
2012	19	27	46	66
2013	20	19	39	57
<b>2014</b>	<b>22</b>	<b>25</b>	<b>47</b>	<b>68</b>





## 4.2 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 Apirana Avenue/Pilkington Road/Tripoli Road site was low with 22 cycle movements recorded. This result is stable from last year.
- The most common morning movement was turning right from Apirana Avenue into Pilkington Road (Movement 1 = 5 cyclists).
- Compared with last year, the most notable increase was at Movement 2 (up 2 cyclists).

**Table 5.1: Morning Cyclist Movements**  
**Apirana Avenue/Pilkington Road/Tripoli Road 2008 – 2014 (n)**

<i>Movement</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>Change 13-14</i>
1	6	3	10	4	7	6	5	-1
2	0	0	13	0	2	0	2	2
3	1	0	0	0	0	0	0	0
4	0	0	0	0	0	1	0	-1
5	0	2	2	2	1	2	3	1
6	0	0	0	0	0	0	0	0
7	1	1	0	2	0	0	1	1
8	9	0	2	3	1	4	3	-1
9	1	0	0	0	1	1	0	-1
10	1	0	0	0	1	1	2	1
11	0	2	0	1	1	1	2	1
12	3	4	3	2	5	4	4	0
<b>Total</b>	<b>22</b>	<b>12</b>	<b>30</b>	<b>14</b>	<b>19</b>	<b>20</b>	<b>22</b>	<b>2</b>



- Over the morning peak, 91 per cent of the cyclists were adults, up from 80 per cent last year.
- Two-thirds of the cyclists were wearing a helmet (68 per cent).
- The majority of morning cyclists continued to be male (86 per cent, down from 90 per cent in 2013).
- Most cyclists were riding on the road (68 per cent, stable from from 70 per cent at the previous measure).

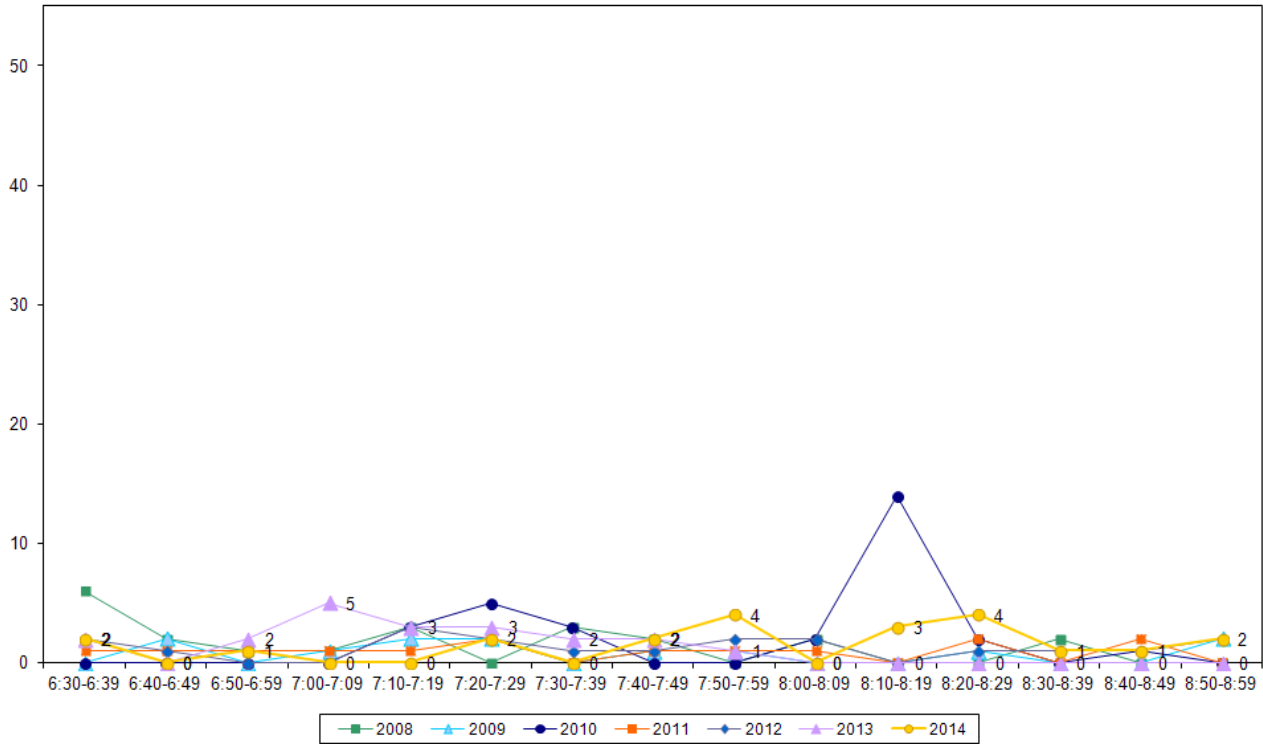
**Table 5.2: Morning Cyclist Characteristics**  
**Apirana Avenue/Pilkington Road/Tripoli Road 2008 – 2014 (%)**

	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>								
Adult	95	92	100	79	100	80	<b>91</b>	<b>11</b>
School child	5	8	0	21	0	20	<b>9</b>	<b>-11</b>
<b>Helmet Wearing</b>								
Helmet on head	100	83	97	71	79	75	<b>68</b>	<b>-7</b>
No helmet	0	17	3	29	21	25	<b>32</b>	<b>7</b>
<b>Gender</b>								
Male	-	-	-	93	84	90	<b>86</b>	<b>-4</b>
Female	-	-	-	7	16	10	<b>14</b>	<b>4</b>
Can't tell	-	-	-	0	0	0	<b>0</b>	<b>0</b>
<b>Where Riding</b>								
Road	73	67	93	57	89	70	<b>68</b>	<b>-2</b>
Footpath	27	33	7	43	11	30	<b>32</b>	<b>2</b>
<b>Base:</b>	<b>22</b>	<b>12</b>	<b>30</b>	<b>14</b>	<b>19</b>	<b>20</b>	<b>22</b>	



- Morning cycle volumes were low throughout most of the shift, with no more than four cyclists per ten minute monitoring interval.

**Figure 5.2: Morning Cyclist Frequency**  
**Apirana Avenue/Pilkington Road/Tripoli Road 2008 – 2014 (n)**





### 4.3 Evening Peak

#### Environmental Conditions

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

#### Key Points

- This year, the total number of cycle movements recorded at the Apirana Avenue/Pilkington Road/Tripoli Road site was 25, an increase on the 19 cyclists recorded last year.
- The most common movements in the evening were turning right from Apirana Avenue into Pilkington Road heading south (Movement 1 = 4 cyclists) and entering the intersection from Pilkington Road to the south and turning left into Apirana Avenue (Movement 12 = 4 cyclists).
- No cycle movements at this site experienced any considerable change in numbers from the previous year.

**Table 5.3: Evening Cyclist Movements**  
**Apirana Avenue/Pilkington Road/Tripoli Road 2008 – 2014 (n)**

Movement	2008	2009	2010	2011	2012	2013	2014	Change 13-14
1	12	5	7	5	5	3	4	1
2	7	2	2	5	0	4	3	-1
3	1	0	0	0	1	1	0	-1
4	0	0	1	0	0	0	0	0
5	0	1	0	1	2	0	2	2
6	1	1	1	9	2	3	2	-1
7	1	1	2	4	4	2	3	1
8	5	0	3	5	2	0	2	2
9	1	3	2	3	1	0	2	2
10	2	0	0	1	3	1	1	0
11	2	5	2	4	4	2	2	0
12	7	2	10	4	3	3	4	1
<b>Total</b>	<b>39</b>	<b>20</b>	<b>30</b>	<b>41</b>	<b>27</b>	<b>19</b>	<b>25</b>	<b>6</b>



- Sixty-eight per cent of cyclists in the evening peak were adults (down from 89 per cent last year).
- There has been an increase in helmet wearing this year (64 per cent, up from 58 per cent at the previous measure).
- Eighty per cent of evening cyclists were male this year.
- Approximately three quarters of the evening cyclists at this site were riding on the road (72 per cent, a notable increase from 37 per cent in 2013).

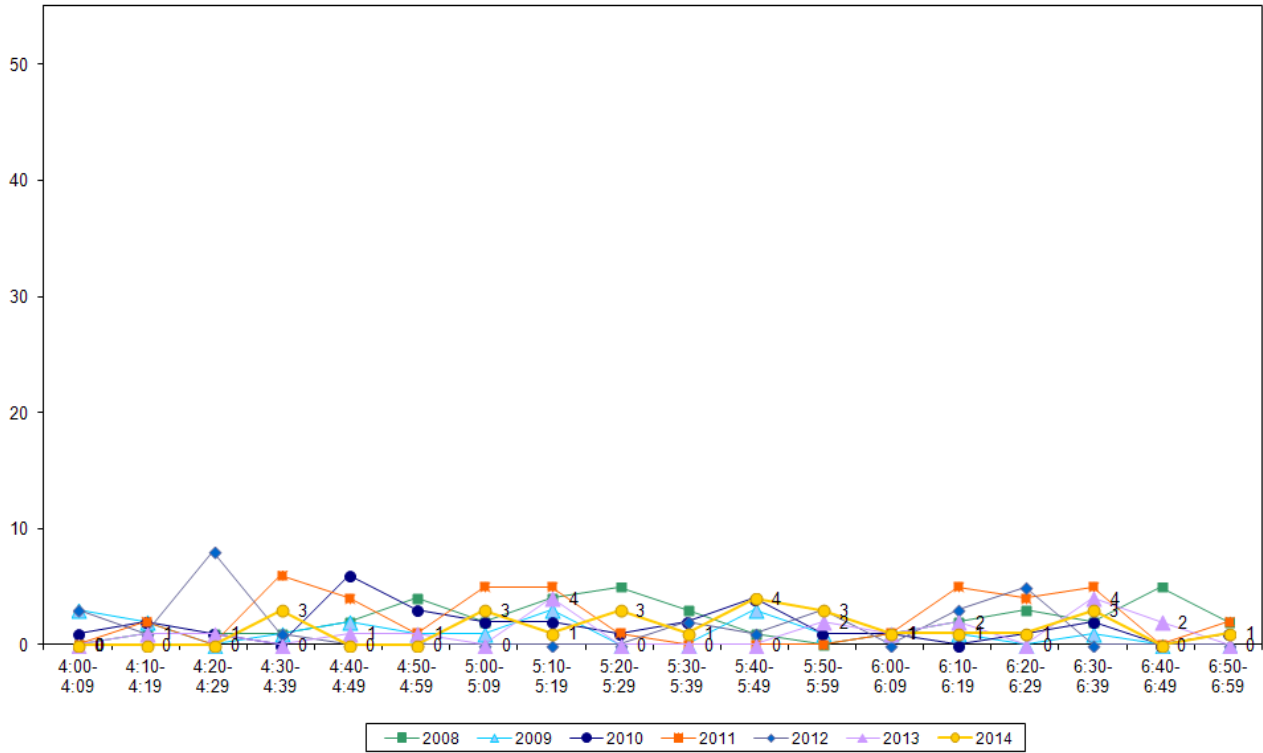
**Table 5.4: Evening Cyclist Characteristics**  
**Apirana Avenue/Pilkington Road/Tripoli Road 2008 – 2014 (%)**

	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>								
Adult	92	75	97	61	74	89	68	-21
School child	8	25	3	39	26	11	24	13
Don't know	0	0	0	0	0	0	8	8
<b>Helmet Wearing</b>								
Helmet on head	72	40	83	56	63	58	64	6
No helmet	28	60	17	44	37	42	36	-6
<b>Gender</b>								
Male	-	-	-	61	85	100	80	-20
Female	-	-	-	39	15	0	20	20
Can't tell	-	-	-	0	0	0	0	0
<b>Where Riding</b>								
Road	74	40	77	51	44	37	72	35
Footpath	26	60	23	49	56	63	28	-35
<b>Base:</b>	<b>39</b>	<b>20</b>	<b>30</b>	<b>41</b>	<b>27</b>	<b>19</b>	<b>25</b>	



- Evening cycle volumes were low throughout most of the shift, with no more than four cyclists per ten minute monitoring interval.

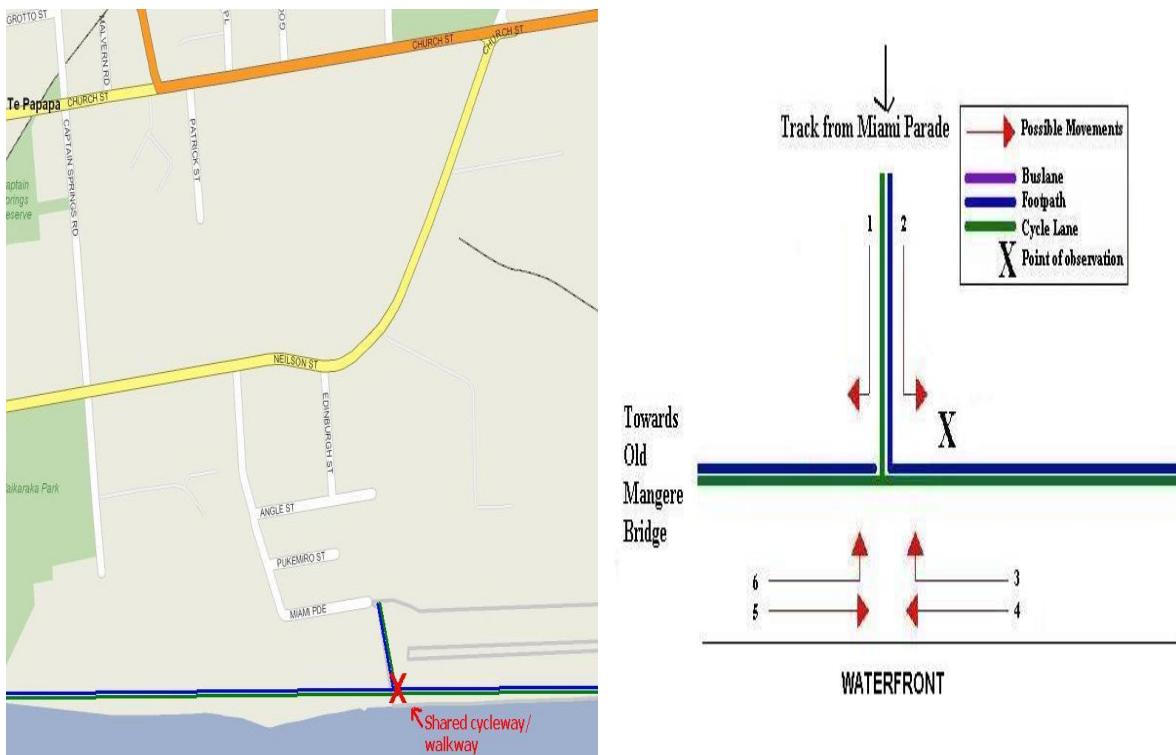
**Figure 5.3: Evening Peak Cyclist Frequency**  
**Apirana Avenue/Pilkington Road/Tripoli Road 2008 – 2014 (n)**



# 5. WAIKARAKA CYCLEWAY, ONEHUNGA SOUTH (SITE 76)

Figure 6.1 shows the possible cyclist movements at this site.

**Figure 6.1: Cycle Movements: Waikaraka Cycleway, Onehunga South**



## 5.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2008	13	41	54	76
2009	18	33	51	73
2010	7	35	42	59
2011	29	36	65	94
2012	28	24	52	76
2013	29	54	83	119
<b>2014</b>	<b>22</b>	<b>51</b>	<b>73</b>	<b>104</b>



## 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

- The total number of cycle movements recorded in the morning shift has decreased, from 29 in 2013 to 22 this year.
- The key morning movement was straight along the waterfront, heading east (Movement 5 = 12 cyclists).
- The most notable decrease in cyclist volumes across the six possible movements at this site was at Movement 5 (down 8 cyclists). All other movements remained stable from last year.

**Table 6.1: Morning Cyclist Movements**  
**Waikaraka Cycleway, Onehunga South 2008 – 2014 (n)**

<i>Movement</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>Change 13-14</i>
1	0	0	0	0	1	0	0	0
2	0	0	0	0	0	1	0	-1
3	1	1	0	0	1	0	0	0
4	2	3	2	11	3	6	7	1
5	9	11	1	17	20	20	12	-8
6	1	3	4	1	3	2	3	1
<b>Total</b>	<b>13</b>	<b>18</b>	<b>7</b>	<b>29</b>	<b>28</b>	<b>29</b>	<b>22</b>	<b>-7</b>





- Over the morning peak, all cyclists were adults. The number of school children observed at this site returned to the trend prior to 2013 with zero recorded.
- The majority of the cyclists were wearing a helmet (82 per cent, stable from 83 per cent in 2013).
- Almost all cyclists (95 per cent) were male, an increase of 12 percentage points on last year.

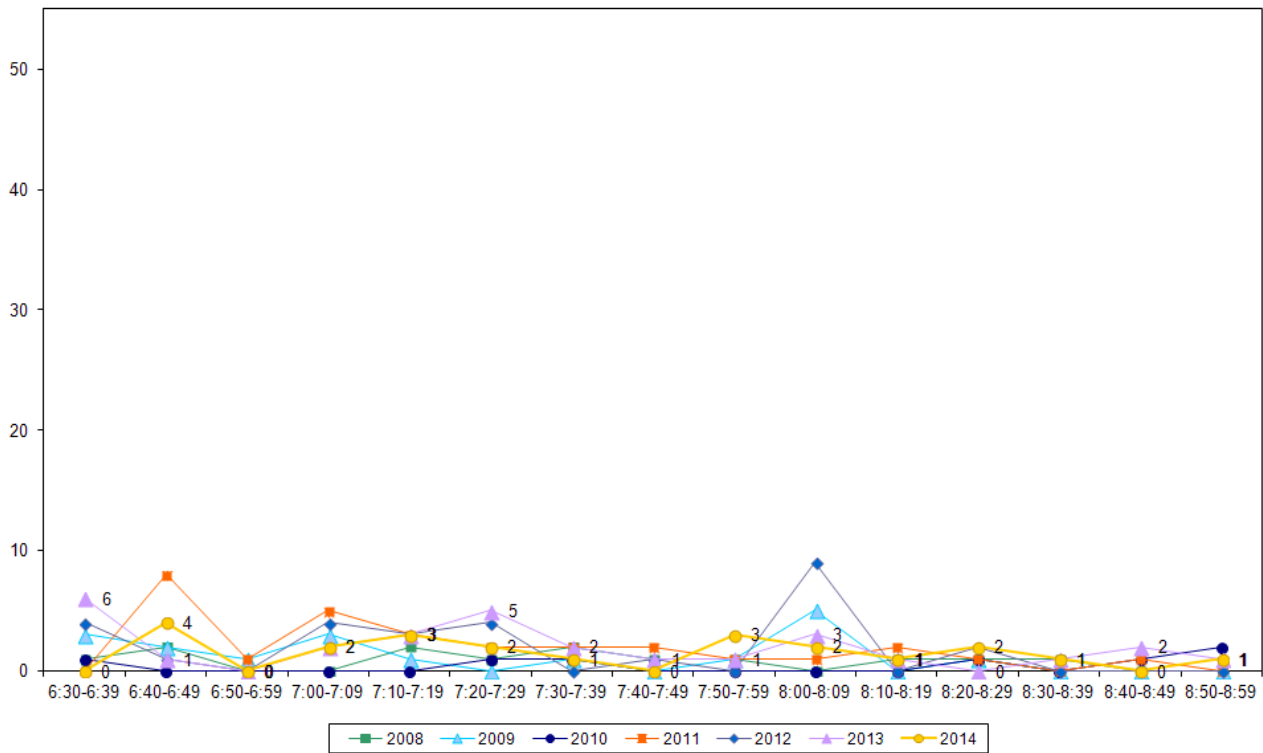
**Table 6.2: Morning Cyclist Characteristics  
Waikaraka Cycleway, Onehunga South 2008 – 2014 (%)**

	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>								
Adult	100	100	100	100	100	96	<b>100</b>	<b>4</b>
School child	0	0	0	0	0	4	<b>0</b>	<b>-4</b>
<b>Helmet Wearing</b>								
Helmet on head	85	89	86	86	100	83	<b>82</b>	<b>-1</b>
No helmet	15	11	14	14	0	10	<b>18</b>	<b>8</b>
Unsure	-	-	-	-	-	7	<b>0</b>	<b>-7</b>
<b>Gender</b>								
Male	-	-	-	66	82	83	<b>95</b>	<b>12</b>
Female	-	-	-	34	14	14	<b>5</b>	<b>-9</b>
Can't tell	-	-	-	0	4	3	<b>0</b>	<b>-3</b>
<b>Where Riding</b>								
Off-road cycle way	100	100	100	100	100	100	<b>100</b>	<b>0</b>
<b>Base:</b>	<b>13</b>	<b>18</b>	<b>7</b>	<b>29</b>	<b>28</b>	<b>29</b>	<b>22</b>	



- Morning cycle volumes were low throughout the morning monitoring period, with a small peak right at the start of the shift between 6:40am and 6:49am (4 movements). The remaining ten minute intervals did not record any more than three cyclists for the remainder of the morning.

**Figure 6.2: Morning Peak Cyclist Frequency**  
**Waikaraka Cycleway, Onehunga South 2008 – 2014 (n)**



*Note: No pelotons were observed at this site in 2014. This compares with 10 per cent (n=3) riding as a group in the morning peak in 2013.*



### 5.3 Evening Peak

#### Environmental Conditions

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

#### Key Points

- Evening cycle volume at the Waikaraka Cycleway site have decreased slightly in 2014 – with 51 cycle movements recorded.
- The most common movement in the evening continued to be west along the cycleway towards the Old Mangere Bridge (Movement 4 = 31 cyclists).
- The most notable changes in cyclist volumes across the six possible movements at this site were at Movement 4 (up 4 cyclists) and at Movement 6 (down 4 cyclists).

**Table 6.3: Evening Cyclist Movements**  
**Waikaraka Cycleway, Onehunga South 2008 – 2014 (n)**

<i>Movement</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>Change 13-14</i>
1	1	2	3	2	2	4	3	-1
2	1	1	2	0	2	1	0	-1
3	0	0	1	0	0	1	0	-1
4	21	19	18	21	16	27	31	4
5	15	8	9	13	4	17	17	0
6	3	3	2	0	0	4	0	-4
<b>Total</b>	<b>41</b>	<b>33</b>	<b>35</b>	<b>36</b>	<b>24</b>	<b>54</b>	<b>51</b>	<b>-3</b>



- Over the evening peak, all cyclists using this cycleway were adults (up from 94 per cent in 2013).
- Ninety per cent of cyclists were wearing a helmet (up from 79 per cent at the previous measure).
- The greatest share of evening cyclists continued to be male (65 per cent, compared with 81 per cent last year). Female cyclist numbers have continued to rise over the past three years, reaching 35 per cent this year.

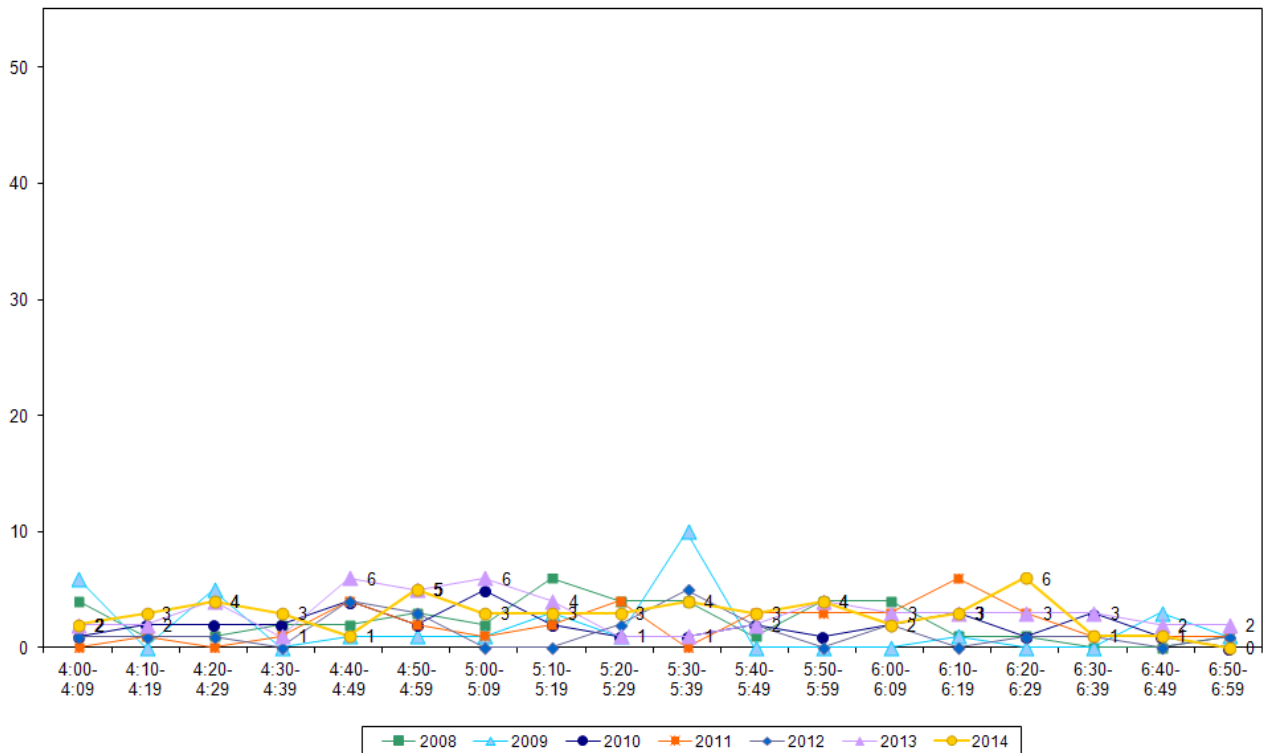
**Table 6.4: Evening Cyclist Characteristics**  
**Waikaraka Cycleway, Onehunga South 2008 – 2014 (%)**

	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>								
Adult	95	100	97	100	100	94	<b>100</b>	<b>6</b>
School child	5	0	3	0	0	6	<b>0</b>	<b>-6</b>
<b>Helmet Wearing</b>								
Helmet on head	88	79	97	89	100	79	<b>90</b>	<b>11</b>
No helmet	12	21	3	11	0	21	<b>10</b>	<b>-11</b>
<b>Gender</b>								
Male	-	-	-	83	92	81	<b>65</b>	<b>-16</b>
Female	-	-	-	17	8	13	<b>35</b>	<b>22</b>
Can't tell	-	-	-	0	0	6	<b>0</b>	<b>-6</b>
<b>Where Riding</b>								
Off-road cycle way	100	100	100	100	100	100	<b>100</b>	<b>0</b>
<b>Base:</b>	<b>41</b>	<b>33</b>	<b>35</b>	<b>36</b>	<b>24</b>	<b>54</b>	<b>51</b>	



- Evening cycle volumes this year were slightly lower than the previous year, with a small peak evident between 6:20pm and 6:29pm (6 movements recorded). Compared with previous years, the trend in cycle volumes has remained similar over the evening monitoring period.

**Figure 6.3: Evening Peak Cyclist Frequency**  
**Waikaraka Cycleway, Onehunga South 2008 – 2014 (n)**



Note: In 2014, 12 per cent of the total cycle movements (n=51) in the evening peak were identified as cycling in groups. Three or more cyclists were observed travelling in groups at this site at the following times:

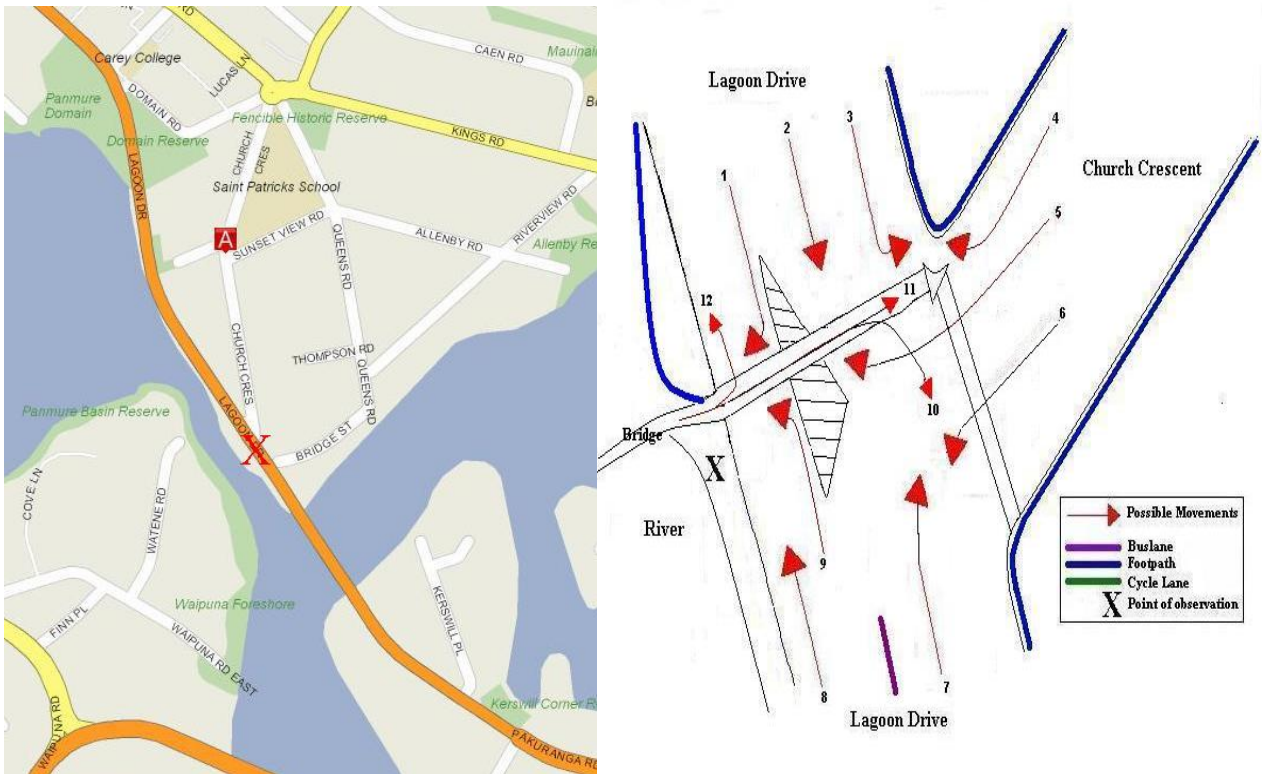
- 3 cyclists at 4:16pm
- 3 cyclists at 4:26pm.

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

# 6. LAGOON DRIVE/CHURCH CRESCENT, PANMURE (SITE 78)

Figure 7.1 shows the possible cyclist movements at this intersection.

**Figure 7.1: Cycle Movements: Lagoon Drive/Church Crescent, Panmure**



## 6.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2009	57	72	129	186
2010	100	95	195	284
2011	65	98	163	234
2012	66	71	137	199
2013	72	110	182	262
<b>2014</b>	<b>70</b>	<b>85</b>	<b>155</b>	<b>224</b>

## 6.2 Morning Peak

### Environmental Conditions

- The weather was overcast at the beginning of the shift, and gradually become fine over the remainder of the morning shift.
- There were major road works at this site (as part of the AMETI project). While the road works did not impact on cyclists' ability to make any of the movements in Figure 7.1, the extent of the road works is likely to have been a detractor to cyclists travelling through this area.

### Key Points

- Seventy cycle movements were recorded at this site in the morning peak, stable from the 72 recorded in 2013.
- The key morning movement continued to be turning left from Lagoon Drive into the foot bridge (Movement 9 = 26 cyclists).
- The most notable changes in cyclist volumes across the twelve possible movements at this site were at Movements 2 and 9 (each up 6 cyclists) and Movement 10 (down 7 cyclists).

**Table 7.1: Morning Cyclist Movements**  
Lagoon Drive/Church Crescent, Panmure 2009 – 2014 (n)

Movement	2009	2010	2011	2012	2013	2014	Change 13-14
1	0	0	0	0	0	0	0
2	8	9	6	7	3	9	6
3	1	0	0	2	0	0	0
4	0	0	0	0	0	0	0
5	3	3	2	1	0	2	2
6	9	15	11	15	12	10	-2
7	6	10	7	7	16	11	-5
8	12	15	11	5	11	10	-1
9	8	26	19	21	20	26	6
10	10	21	9	3	9	2	-7
11	0	1	0	1	0	0	0
12	0	0	0	4	0	0	0
Don't know	-	-	-	-	1	0	-1
<b>Total</b>	<b>57</b>	<b>100</b>	<b>65</b>	<b>66</b>	<b>72</b>	<b>70</b>	<b>-2</b>



- Almost all morning cyclists at this site were adults (99 per cent).
- Most cyclists were wearing a helmet (90 per cent, down from 96 per cent in 2013).
- Eighty-three per cent of the cyclists were male.
- Just less than two-thirds of cyclists were riding on the road (63 per cent, stable from 62 per cent in 2013).

**Table 7.2: Morning Cyclist Characteristics**  
**Lagoon Drive/Church Crescent, Panmure 2009 – 2014 (%)**

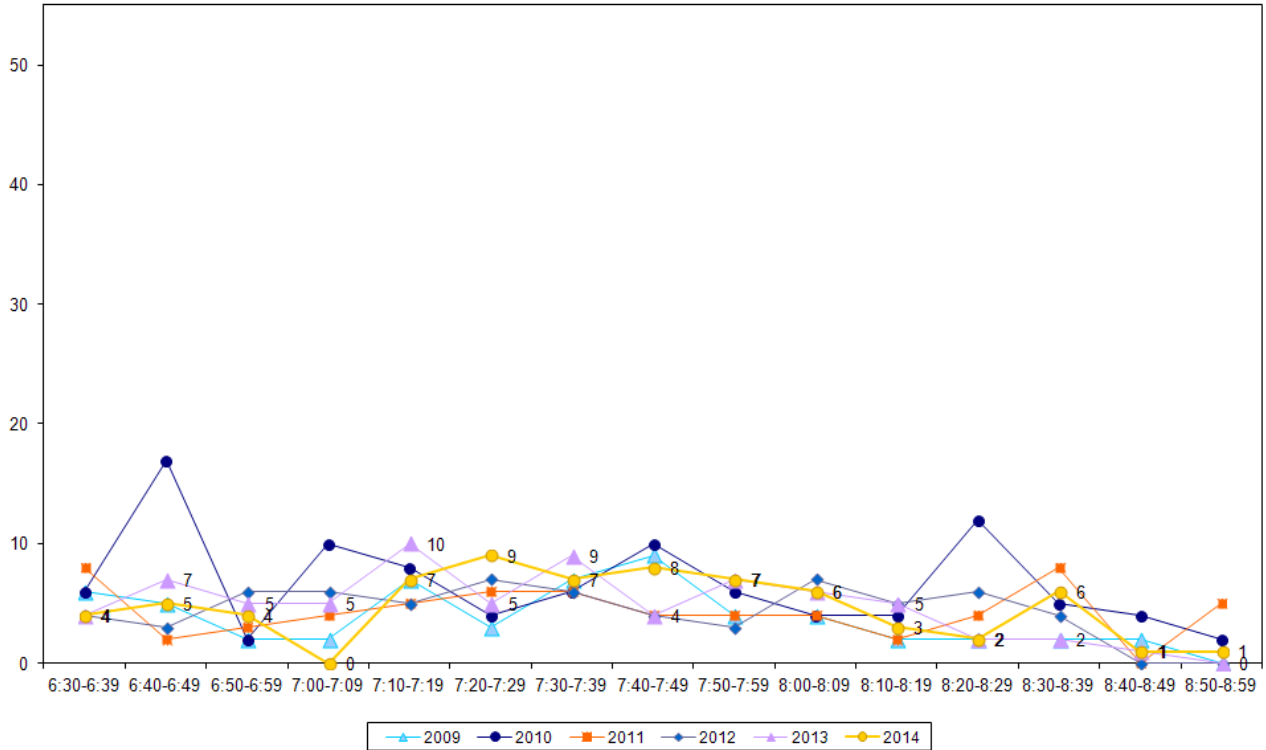
	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>							
Adult	82	93	92	-	94	<b>99</b>	<b>5</b>
School child	18	7	8	-	6	<b>1</b>	<b>-5</b>
<b>Helmet Wearing</b>							
Helmet on head	89	94	98	98	96	<b>90</b>	<b>-6</b>
No helmet	11	6	2	2	4	<b>9</b>	<b>5</b>
Don't know	0	0	0	0	0	<b>1</b>	<b>1</b>
<b>Gender</b>							
Male	-	-	86	88	90	<b>83</b>	<b>-7</b>
Female	-	-	14	11	6	<b>16</b>	<b>10</b>
Can't tell	-	-	0	1	4	<b>1</b>	<b>-3</b>
<b>Where Riding</b>							
Road	68	67	62	73	62	<b>63</b>	<b>1</b>
Footpath	32	33	38	27	38	<b>37</b>	<b>-1</b>
<b>Base:</b>	<b>57</b>	<b>100</b>	<b>65</b>	<b>66</b>	<b>72</b>	<b>70</b>	





- Morning cycle volumes were relatively low throughout the shift, with no considerable peaks evident. The largest cycle volume observed during any ten minute interval was between 7:20am and 7:29am, with 9 cyclists recorded. Compared to previous years, cycle patterns have remained relatively stable.

**Figure 7.2: Morning Peak Cyclist Frequency**  
**Lagoon Drive/Church Crescent, Panmure 2009 – 2014 (n)**





## 6.3 Evening Peak

### Environmental Conditions

- The weather was overcast at the beginning of the shift, and gradually become fine over the remainder of the evening monitoring period.
- There were major road works at this site (as part of the AMETI project). While the road works did not impact on cyclists' ability to make any of the movements in Figure 7.1, the extent of the road works is likely to have been a detractor to cyclists travelling through this area.

### Key Points

- Eighty-five movements were recorded over the evening shift at the Lagoon Drive and Church Crescent site, down from 110 last year.
- The most common movements in the evening were the right turn from Lagoon Drive into Church Crescent (Movement 7 = 19 cyclists) and return (Movement 6 = 16 cyclists), as well as turning right onto Lagoon Drive from the foot bridge (Movement 10 = 23 cyclists).
- The most notable changes in cyclist movements occurred at Movement 7 (down 8 cyclists) and at Movement 6 (down 7 cyclists).

**Table 7.3: Evening Cyclist Movements**  
Lagoon Drive/Church Crescent, Panmure 2009 – 2014 (n)

Movement	2009	2010	2011	2012	2013	2014	Change 13-14
1	0	0	0	0	0	0	0
2	10	12	12	10	18	13	-5
3	0	0	1	0	0	0	0
4	0	0	0	0	1	0	-1
5	0	0	0	1	1	0	-1
6	10	20	13	12	23	16	-7
7	17	19	34	10	27	19	-8
8	9	11	10	12	13	10	-3
9	6	10	6	8	3	3	0
10	15	18	19	18	21	23	2
11	5	5	3	0	3	1	-2
12	0	0	0	0	0	0	0
<b>Total</b>	<b>72</b>	<b>95</b>	<b>98</b>	<b>71</b>	<b>110</b>	<b>85</b>	<b>-25</b>



- This year all evening cyclists were adults (stable from 98 per cent).
- Most cyclists were wearing a helmet (89 per cent).
- The greatest share of evening cyclists were male (92 per cent, up from 82 per cent last year).
- Seventy per cent of the cyclists were riding on the road (stable from 71 per cent in 2013).

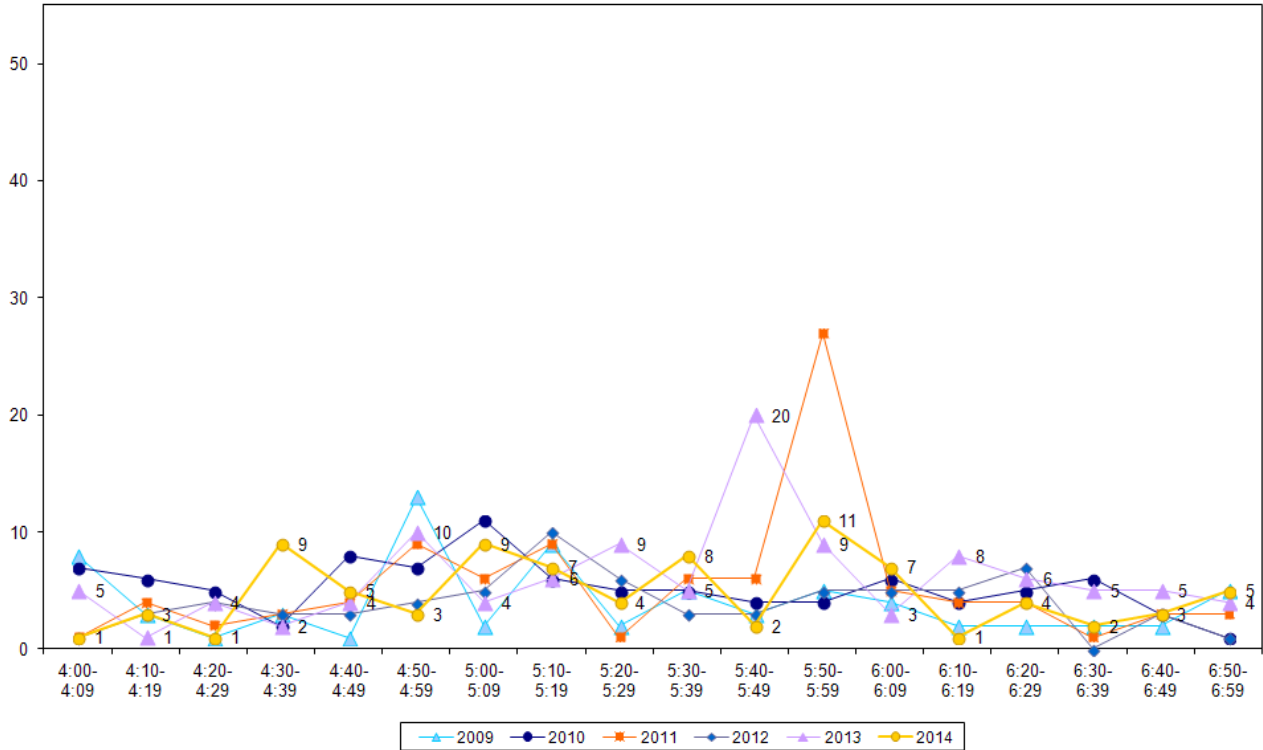
**Table 7.4: Evening Cyclist Characteristics**  
**Lagoon Drive/Church Crescent, Panmure 2009 – 2014 (%)**

	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>							
Adult	96	93	94	-	98	100	2
School child	4	7	6	-	2	0	-2
<b>Helmet Wearing</b>							
Helmet on head	89	89	98	96	92	89	-3
No helmet	11	11	2	4	8	11	3
<b>Gender</b>							
Male	-	-	86	88	82	92	10
Female	-	-	14	11	13	8	-5
Can't tell	-	-	0	1	5	0	-5
<b>Where Riding</b>							
Road	79	81	77	65	71	70	-1
Footpath	21	19	23	35	29	29	0
Don't know	0	0	0	0	0	1	1
<b>Base:</b>	<b>72</b>	<b>95</b>	<b>98</b>	<b>71</b>	<b>110</b>	<b>85</b>	



- Cyclist volumes in the evening fluctuated considerably over the duration of the monitoring period. However, a peak occurs between 5:50pm to 5:59pm which consists of 11 cyclists. This compares to 20 cyclists recorded between 5:40pm to 5:49pm last year. The Cycle traffic did not exceed 10 cycle movements per ten minute interval for the remainder of the monitoring period.

**Figure 7.3: Evening Peak Cyclist Frequency**  
**Lagoon Drive/Church Crescent, Panmure 2009 – 2014 (n)**

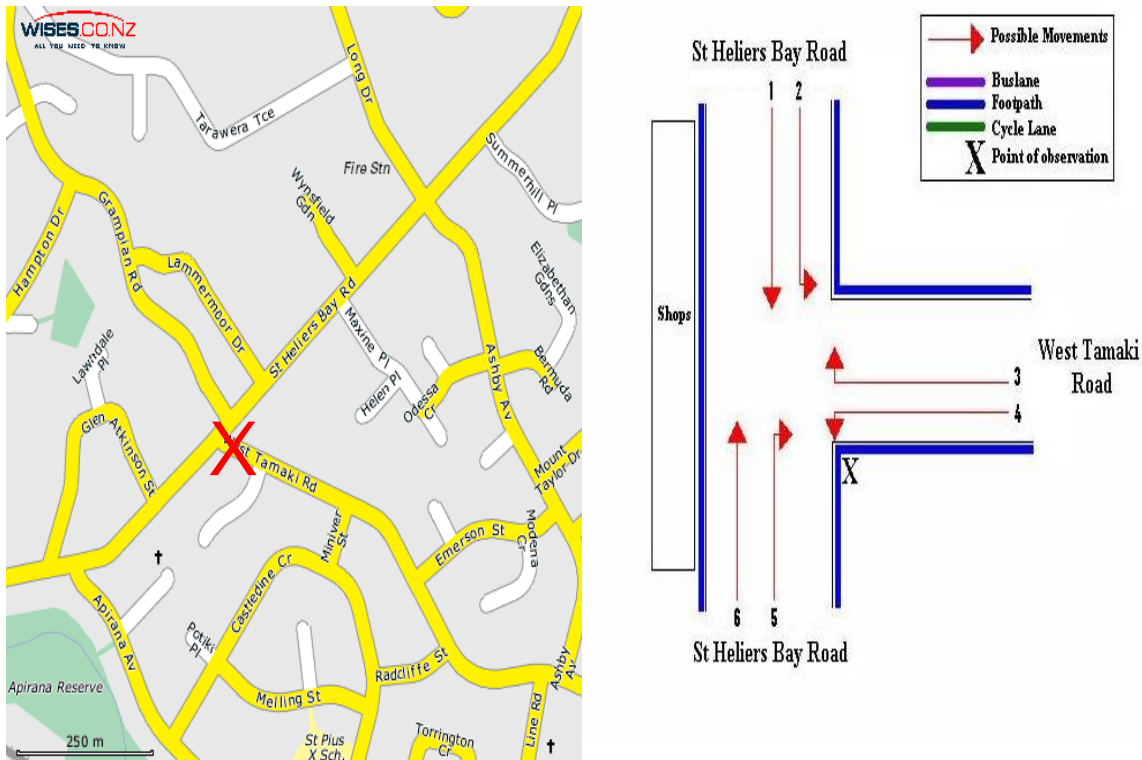


*Note: In 2014, 7 cyclists (8 per cent of all evening peak cycle movements at this site) were observed riding together at 5:51pm. This compares with 13 per cent of cycle movements (n=14) riding together in 2013.*

# 7. ST HELIERS BAY ROAD/WEST TAMAKI ROAD, GLEN INNES (SITE 20)

Figure 8.1 shows the possible cyclist movements at this intersection.

**Figure 8.1: Cycle Movements: St Heliers Bay/West Tamaki Road**



## 7.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2007	139	69	208	308
2008	107	60	167	246
2009	61	47	108	158
2010	98	72	170	249
2011	150	74	224	331
2012	86	49	135	199
2013	177	71	248	369
<b>2014</b>	<b>154</b>	<b>65</b>	<b>220</b>	<b>325</b>



## 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

- The volume of morning peak cyclists at the St Heliers Bay/West Tamaki Road intersection has decreased from last year – down from 177 to 154 movements this year.
- The key morning movement was turning right on to West Tamaki Road from St Heliers Bay Road (Movement 5 = 70 cyclists). There have been 16 fewer cyclists making this movement this year compared with 2013.

**Table 8.1: Morning Cyclist Movements**  
**St Heliers Bay/West Tamaki Road 2007 – 2014 (n)**

<i>Movement</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>Change 13-14</i>
1	17	14	16	20	19	17	24	17	-7
2	4	4	1	5	4	3	3	10	7
3	21	7	5	7	6	3	28	23	-5
4	5	14	12	12	33	12	19	12	-7
5	69	53	7	21	61	25	86	70	-16
6	23	15	20	33	27	26	17	22	5
<b>Total</b>	<b>139</b>	<b>107</b>	<b>61</b>	<b>98</b>	<b>150</b>	<b>86</b>	<b>177</b>	<b>154</b>	<b>-23</b>



- Over the morning peak, adults comprised the greatest share of cycle movements (94 per cent, stable from 92 per cent the previous year).
- Nearly all cyclists were wearing a helmet (99 per cent, up from 92 per cent last year).
- Seventy-eight per cent of cyclists were male.
- Consistent with last year, the majority of cyclists are riding on the road (96 per cent, up slightly from 93 per cent last measure).

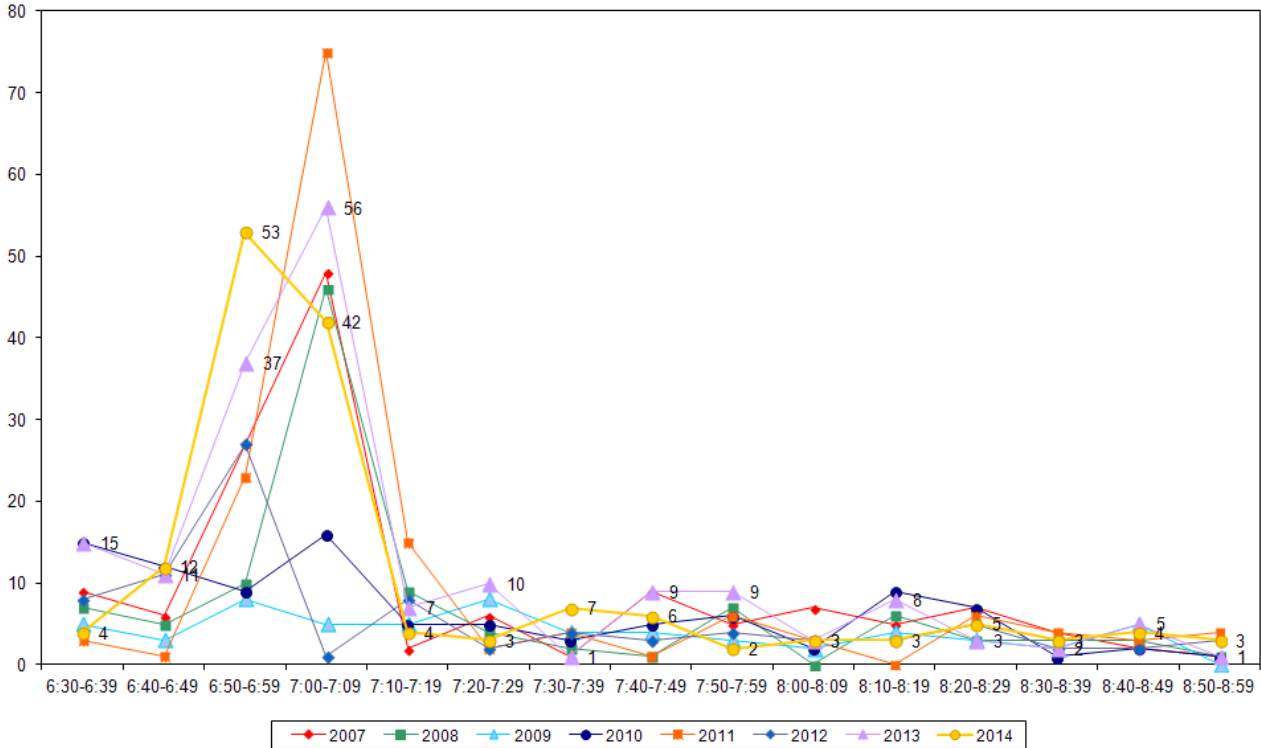
**Table 8.2: Morning Cyclist Characteristics  
St Heliers Bay/West Tamaki Road 2007 – 2014 (%)**

	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	87	93	92	93	95	88	92	94	2
School child	13	7	8	7	5	12	8	5	-3
Don't know	0	0	0	0	0	0	0	1	1
<b>Helmet Wearing</b>									
Helmet on head	100	97	98	100	99	99	92	99	7
No helmet	0	3	2	0	1	1	2	1	-1
Unsure	-	-	-	-	-	-	6	0	-6
<b>Gender</b>									
Male	-	-	-	-	84	69	85	78	-7
Female	-	-	-	-	16	15	15	19	4
Can't tell	-	-	-	-	0	16	0	3	3
<b>Where Riding</b>									
Road	87	92	93	95	93	93	93	96	3
Footpath	13	8	7	5	7	7	7	4	-3
<b>Base:</b>	<b>139</b>	<b>107</b>	<b>61</b>	<b>98</b>	<b>150</b>	<b>86</b>	<b>177</b>	<b>154</b>	



- There was a sharp peak in cycle volume between 6:50am and 7:09am (a total of 95 cyclists) which then fell to become a stable volume of movements for the remainder of the monitoring period. This trend was consistent with previous years.

**Figure 8.2: Morning Peak Cyclist Frequency  
St Heliers Bay/West Tamaki Road 2007 – 2014 (n)**



Note: In 2014, 55 per cent of the morning peak cycle movements (n=84) at this site were identified as cycling in groups. Three or more cyclists were observed travelling in groups at this site at the following times:

- 3 cyclists at 6:40am
- 3 cyclists at 6:45am
- 18 cyclists at 6:50am
- 13 cyclists at 6:58am
- 16 cyclists at 6:59am
- 3 cyclists at 7:00am
- 4 cyclists at 7:02am
- 24 cyclists at 7:04am.

This compares with 2013 where 57 per cent of cycle movements (n=101) were made by those riding in groups.





### 7.3 Evening Peak

#### Environmental Conditions

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

#### Key Points

- The number of evening cycle movements recorded at the St Heliers Bay/West Tamaki Road intersection has decreased by 6 movements, to a total of 65 movements in 2014.
- The key movement at this site in the evening was straight along St Heliers Bay Road heading south (Movement 1 = 22 cyclists).
- The most noticeable increase was at Movement 1 (up 8 cyclists) while the most notable decrease was at Movement 6 (down 12 cyclists).

**Table 8.3: Evening Cyclist Movements**  
**St Heliers Bay/West Tamaki Road 2007 – 2014 (n)**

<i>Movement</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>Change 13-14</i>
1	22	19	15	23	17	9	14	22	8
2	6	6	7	6	6	5	4	5	1
3	4	8	6	2	4	1	1	5	4
4	5	5	5	6	8	4	10	5	-5
5	3	12	7	9	11	9	16	14	-2
6	29	10	7	26	28	21	26	14	-12
<b>Total</b>	<b>69</b>	<b>60</b>	<b>47</b>	<b>72</b>	<b>74</b>	<b>49</b>	<b>71</b>	<b>65</b>	<b>-6</b>



- Consistent with the morning peak, the greatest share of cyclists using this intersection were adults (78 per cent, down from 86 per cent in 2013).
- Most cyclists at this site were wearing a helmet (94 per cent, stable from 92 per cent last year).
- Seventy-eight per cent of cyclists were male.
- The majority of cyclists were riding on the road (78 per cent, down slightly from 83 per cent last year).

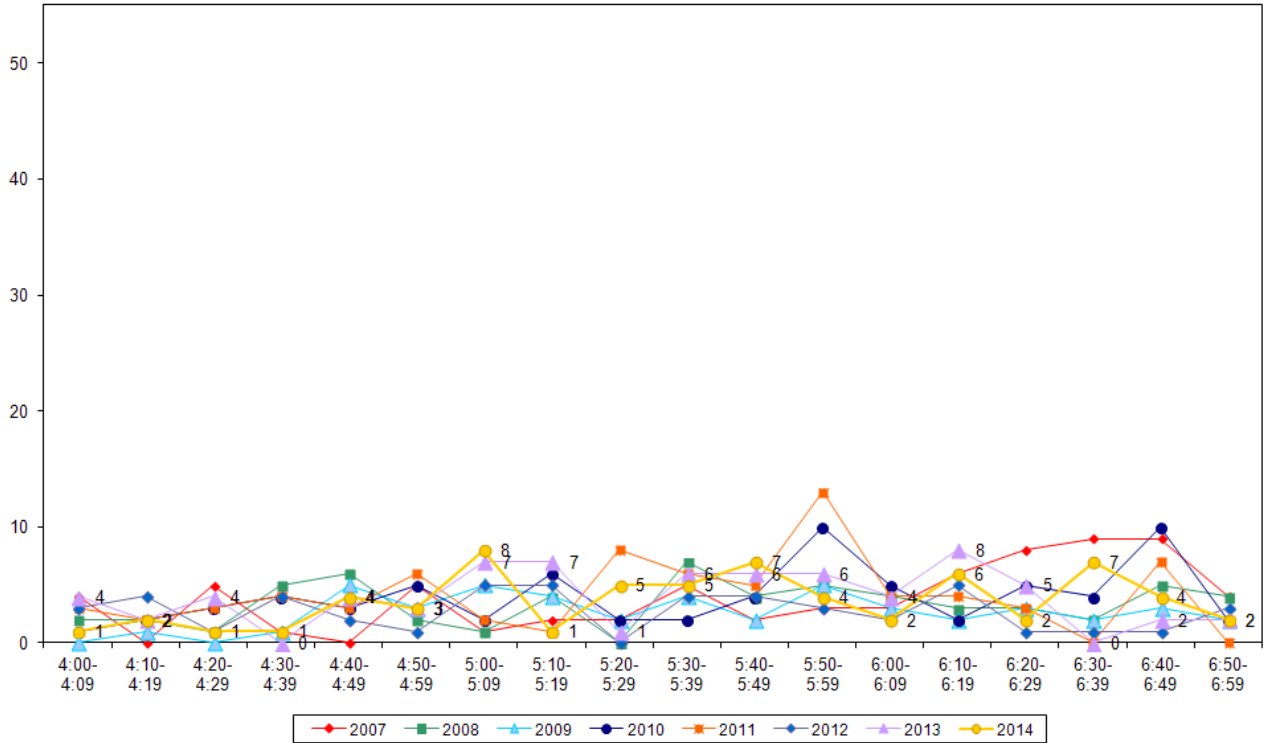
**Table 8.4: Evening Cyclist Characteristics**  
**St Heliers Bay/West Tamaki Road 2007 – 2014 (%)**

	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	93	88	89	96	89	73	86	<b>78</b>	<b>-8</b>
School child	7	12	11	4	11	27	14	<b>20</b>	<b>6</b>
Don't know	0	0	0	0	0	0	0	<b>2</b>	<b>2</b>
<b>Helmet Wearing</b>									
Helmet on head	99	92	94	96	88	92	92	<b>94</b>	<b>2</b>
No helmet	1	8	6	4	12	8	8	<b>6</b>	<b>-2</b>
<b>Gender</b>									
Male	-	-	-	-	91	71	83	<b>78</b>	<b>-5</b>
Female	-	-	-	-	9	27	17	<b>20</b>	<b>3</b>
Can't tell	-	-	-	-	0	2	0	<b>2</b>	<b>2</b>
<b>Where Riding</b>									
Road	88	87	87	96	76	82	83	<b>78</b>	<b>-5</b>
Footpath	12	13	13	4	24	18	17	<b>22</b>	<b>5</b>
<b>Base:</b>	<b>69</b>	<b>60</b>	<b>47</b>	<b>72</b>	<b>74</b>	<b>49</b>	<b>71</b>	<b>65</b>	



- The volume of evening cycle movements was relatively stable throughout the evening period, with a maximum of eight cyclists recorded between 5:00pm to 5:09pm. The trough between 5:10pm to 5:19pm was consistent with previous years.

**Figure 8.3: Evening Peak Cyclist Frequency  
St Heliers Bay/West Tamaki Road 2007 – 2014 (n)**





## 8. SCHOOL BIKE SHED COUNT

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### 8.1 Cycle Count Background Information

- A total of 22 schools in the Maungakiekie-Tamaki ward participated in the school bike shed count. Of the schools that responded to the survey, most do not have policies that restrict students cycling to school<sup>9</sup>.
- Most schools did not report any events or issues that may affect cycle counts<sup>10</sup>.
- Although the designated count day was Tuesday 4<sup>th</sup> of March 2014, most schools in the Maungakiekie-Tamaki ward completed their count on an alternative day<sup>11</sup>.

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

### 8.2 Cycle Count Key Points

- Of those students eligible to cycle, on average one per cent of students are currently cycling to their schools (stable from 2013).
- In total, n=80 students from the 22 responding schools were reported as cycling to school.
- Onehunga High School reported the highest share of cyclists this year, with 3 per cent of students cycling to school.
- Of the 22 schools that responded, 13 (59 per cent) had no students cycling to school.

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<sup>9</sup> The following schools had policies surrounding the riding of bicycles to school:

- Bailey Road School *"We do not allow the students to ride to school"*
- Ellerslie School *"Years 6 and up only"*
- Glenbrae Primary School *"Years 5 and above"*
- Stanhope Road School *"The parents/caregivers ask for permission for their child to cycle to school in writing and the bicycle and helmet is then checked by our community constable."*
- St Patrick's School (Panmure) *"Students not allowed to cycle/scooter to school."*

<sup>10</sup> The following schools reported events or issues that had an effect on the cycle count:

- Tamaki Primary School *"We usually have a family of 4 bike but as it rained they were dropped off."*

<sup>11</sup> The following schools undertook counts on alternative days:

- Carey College – 26<sup>th</sup> March 2014
- Glenbrae Primary School – 12<sup>th</sup> March 2014
- Golden Grove School – 12<sup>th</sup> March 2014
- One Tree Hill College – 19<sup>th</sup> March 2014
- Panmure Bridge School – 17<sup>th</sup> March 2014
- Panmure District School – 17<sup>th</sup> March 2014
- Royal Oak Intermediate – 27<sup>th</sup> March 2014
- Somerville Intermediate – 17<sup>th</sup> March 2014
- St Patrick's School (Panmure) – 17<sup>th</sup> March 2014
- St Pius X School (Glen Innes) – 17<sup>th</sup> March 2014
- Sylvia Park School – 17<sup>th</sup> March 2014
- Tamaki College – 17<sup>th</sup> March 2014
- Te Kura Kaupapa Māori o Puau Te Moananui-a-Kiwa – 17<sup>th</sup> March 2014



- Of the 21 schools that participated in the count in both 2013 and 2014, 4 (19 per cent) reported an increase in the share of students cycling. Two of the 21 schools that participated in the count in both 2013 and 2014 reported a decrease in the share of students cycling.
- Rates of cycling to school are highest among intermediate and secondary schools (each 2 per cent).



Table 9.1 shows the results of the 22 schools surveyed in the Maungakiekie-Tamaki ward.

**Table 9.1: Summary Table of School Bike Count  
2007 – 2014 (n)**

School Name	School Type	School Roll Eligible To Cycle	No. of Cycles	Cyclists as share of those eligible <sup>12</sup>							
				2014	2013	2012	2011	2010	2009	2008	2007
Onehunga High School	Secondary	1200	37	3%	1%	-	-	1%	1%	-	-
Ellerslie School	Full Primary	250	5	2%	1%	0%	1%	-	-	-	-
Somerville Intermediate	Intermediate	965	24	2%	-	-	-	-	-	-	-
Royal Oak Intermediate	Intermediate	378	3	1%	1%	-	-	-	3%	2%	2%
Stanhope Road Primary	Full Primary	210	2	1%	<1%	0%	<1%	-	-	-	-
Tamaki College	Secondary	550	3	1%	0%	-	-	0%	0%	<1%	<1%
Tamaki Primary School	Full Primary	230	2	1%	1%	-	-	-	-	-	-
Te Kura Kaupapa Māori o Puau Te Moananui-a-Kiwa	Composite	143	2	1%	0%	-	0%	-	-	-	-
One Tree Hill College	Secondary	997	2	<1%	1%	-	-	<1%	0%	-	-
Bailey Road School	Full Primary	0	0	0%	0%	0%	0%	-	-	-	-
Carey College	Composite	25	0	0%	0%	-	-	0%	0%	-	-
Destiny School	Full Primary	180	0	0%	0%	0%	0%	-	-	-	-
Glen Innes School	Full Primary	199	0	0%	1%	0%	-	-	-	-	-
Glenbrae School	Full Primary	88	0	0%	0%	0%	-	-	-	-	-
Golden Grove School	Full Primary	35	0	0%	0%	0%	0%	-	-	-	-
Panmure Bridge School	Full Primary	206	0	0%	0%	-	-	-	-	-	-

<sup>12</sup> 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	Cyclists as share of those eligible <sup>12</sup>							
				2014	2013	2012	2011	2010	2009	2008	2007
Panmure District School	Full Primary	132	0	0%	0%	0%	1%	-	-	-	-
Pt England School	Full Primary	610	0	0%	0%	0%	0%	-	-	-	-
Ruapotaka School	Full Primary	200	0	0%	0%	0%	-	-	-	-	-
St Patrick's School (Panmure)	Full Primary	0	0	0%	0%	0%	-	-	-	-	-
St Pius X School (Glen Innes)	Full Primary	140	0	0%	0%	0%	1%	-	-	-	-
Sylvia Park School	Full Primary	422	0	0%	0%	-	0%	-	-	-	-
<b>Total</b>		<b>7160</b>	<b>80</b>	<b>1%</b>	<b>1%</b>	<b>0%</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

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Table 9.2 illustrates the rates of cycling to school at different school levels. Rates of cycling to school are highest among intermediate and secondary schools (each 2 per cent).

**Table 9.2: Summary Table of School Bike Count by School Type  
2007 – 2014 (%)**

Year Levels	Number of Schools Responded in 2014	Cyclists as share of those eligible								
		2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
Intermediate	2	3%	0%	1%	0%	1%	0%	1%	2%	1%
Secondary	3	-	-	-	-	-	-	1%	2%	1%
Composite	3	-	-	-	-	0%	0%	0%	1%	1%
Full Primary	14	-	-	-	-	<1%	0%	<1%	<1%	-
Intermediate/Secondary	-	-	-	-	-	-	-	-	-	-

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### 8.3 Scooter Count Background Information

- A total of 22 schools in the Maungakiekie-Tamaki ward participated in the school bike shed count. Of the schools that responded to the survey, most do not have policies that restrict students cycling to school<sup>13</sup>.
- No schools reported any events or issues that may affect cycle counts.
- Although the designated count day was Tuesday 4<sup>th</sup> of March 2014, most schools in the Maungakiekie-Tamaki ward completed their count on an alternative day<sup>14</sup>.

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

### 8.4 Scooter Count Key Points

- Among the surveyed schools, of those eligible to scooter, on average, less than one per cent of students are scooting to their schools.
- Glenbrae Primary School, Tamaki Primary School and Te Kura Kaupapa Maori O Puau Te Moananui-a-kiwa reported the highest share of scooters – each with 2 per cent of all eligible students currently scooting to school.
- In total, n=11 students from the responding schools were reported to be scooting to school.
- Of the 22 schools that responded, 18 (82 per cent) had no students scooting to school.

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<sup>13</sup> The following schools had policies surrounding the riding of bicycles to school:

- Bailey Road School “*We do not allow the students to ride to school*”
- Glenbrae Primary School “*Years 5 and above*”
- St Patrick’s School (Panmure) “*Students not allowed to cycle/scooter to school.*”
- Somerville Intermediate School “*Scooters not allowed.*”

<sup>14</sup> The following schools undertook counts on alternative days:

- Carey College – 26<sup>th</sup> March 2014
- Glenbrae Primary School – 12<sup>th</sup> March 2014
- Golden Grove School – 12<sup>th</sup> March 2014
- One Tree Hill College – 19<sup>th</sup> March 2014
- Panmure Bridge School – 17<sup>th</sup> March 2014
- Panmure District School – 17<sup>th</sup> March 2014
- Royal Oak Intermediate – 27<sup>th</sup> March 2014
- Somerville Intermediate – 17<sup>th</sup> March 2014
- St Patrick’s School (Panmure) – 17<sup>th</sup> March 2014
- St Pius X School (Glen Innes) – 17<sup>th</sup> March 2014
- Sylvia Park School – 17<sup>th</sup> March 2014
- Tamaki College – 17<sup>th</sup> March 2014
- Te Kura Kaupapa Māori o Puau Te Moananui-a-Kiwa – 17<sup>th</sup> March 2014



Table 9.3 shows the results of the 22 schools surveyed in the Maungakiekie-Tamaki ward.

**Table 9.3: 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 <sup>15</sup>
				2014
Tamaki Primary School	Full Primary	230	4	2%
Te Kura Kaupapa Maori O Puau Te Moananui-a-kiwa	Composite	143	3	2%
Glenbrae Primary School	Full Primary	88	2	2%
Sylvia Park School	Full Primary	422	2	<1%
Bailey Road School	Full Primary	0	0	0%
Carey College	Composite	25	0	0%
Destiny School	Composite	180	0	0%
Ellerslie School	Full Primary	603	0	0%
Glen Innes School	Full Primary	199	0	0%
Golden Grove School	Full Primary	35	0	0%
One Tree Hill College	Secondary	997	0	0%
Onehunga High School	Secondary	1200	0	0%
Panmure Bridge School	Full Primary	206	0	0%
Panmure District School	Full Primary	132	0	0%
Pt England School	Full Primary	610	0	0%
Royal Oak Intermediate	Intermediate	378	0	0%
Ruapotaka School	Full Primary	200	0	0%
Somerville Intermediate	Intermediate	0	0	0%
St Patrick's School (Panmure)	Full Primary	0	0	0%
St Puis X School (Glen Innes)	Full Primary	140	0	0%
Stanhope Road School	Full Primary	450	0	0%
Tamaki College	Secondary	550	0	0%
<b>Total</b>		<b>6788</b>	<b>11</b>	<b>&lt;1%</b>

<sup>15</sup> 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 9.4 illustrates the rates of scootering to school at different school levels. Rates of scootering to school are highest for the composite schools (1 per cent).

**Table 9.4: Summary Table Of School Scooter Count by School Type  
2007 – 2014 (%)**

<i>School Type</i>	<i>Number of Schools Responded in 2014 (n)</i>	<i>Scooter riders as share of those eligible</i>
		<i>2014</i>
Composite	3	1%
Full Primary	14	<1%
Secondary	3	0%
Intermediate	2	0%
Intermediate/Secondary	-	-

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## APPENDICES

Appendix One: Annual Average Daily Traffic (AADT) Calculation



# APPENDIX ONE: ANNUAL AVERAGE DAILY TRAFFIC (AADT) CALCULATION

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**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<sup>16</sup> 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)<sup>17</sup>, 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.

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<sup>16</sup> Annual average daily traffic

<sup>17</sup> LTSA, 2004



For the Gravitas counts, the following factors apply:

$\Sigma H_{AM} = 30\%$ ;  $\Sigma H_{PM} = 33.3\%$ ; (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  $3.06 \times 102 = 312$ .
- The AADT from the afternoon survey is estimated as  $2.78 \times 130 = 359$ .
- The average of these two estimates is 335; this is the estimate of AADT for this site, based on the two surveys.



Figure 1: Scale Factors for Auckland Region

Period Starting	Period Ending	Interval (hours)	H <sub>Weekday</sub>		H <sub>Weekend</sub>	
			Mon to Fri	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%