

2013 Auckland Region Manual Cycle Monitor

Maungakiekie Tamaki Ward





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1. MAUNGAKIEKIE-TAMAKI WARD SUMMARY OF RESULTS

1.1 Introduction

The Need For Reliable Cycle Trip Data

Monitoring cycle movements and cycle traffic is important to Auckland Transport, to identify where investment may be needed to improve infrastructure for cycling. Cycle traffic data will also help Auckland Transport prioritise future funding through the Auckland Land Transport Programme¹.

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 methodology². This variability prevented the possibility of comparing the relative popularity of different sites across TA boundaries. In addition, each monitor programme took place at different times of the year, preventing comparability from location to location since factors such as weather, school/tertiary education holidays, seasonal variations and daylight savings each have an impact on the numbers of cyclists. Even within TAs, inconsistencies as to when counts took place from year to year prevented robust comparability over time.

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

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

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



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

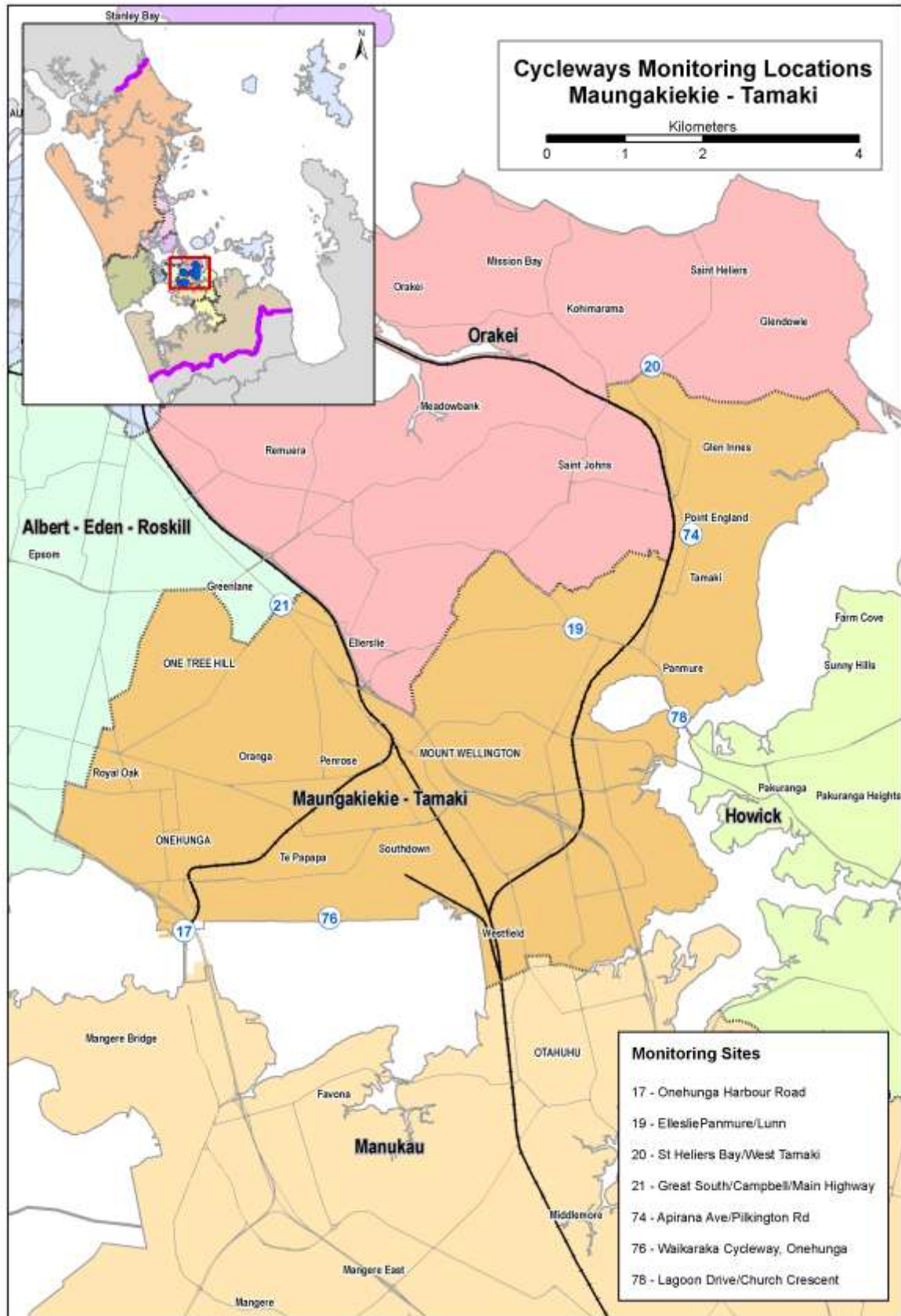
- standard monitoring days are used – that is, school and tertiary holidays, and statutory holidays are excluded and that monitoring preferably takes place at the same time each year to enable reliable year-on-year comparisons to be made. Decisions about whether cycle counts take place on weekdays and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

This report presents results from manual cycle counts conducted at 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: 2013 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 5th of March and be conducted on the first three fine days of the 5th, 6th, 7th, 12th, 13th, or 14th of March.

Counts were conducted on the following days:

- Tuesday 5th March Albany, North Shore, Waitakere
- Wednesday 6th March Howick, Franklin, Manukau, Waitemata & Gulf
- Thursday 7th 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 four count days in 2013 was as follows:

Tuesday 5th March

- Sunrise: 7:10am; Sunset: 7:55pm.
- Highest temperature: 24.0 degrees Celsius.
- Mostly fine weather with a few sites experiencing light drizzle in the morning and some cloud in the evening.

Wednesday 6th March

- Sunrise: 7:11am; Sunset: 7:53pm.
- Highest temperature: 24.0 degrees Celsius.
- Mostly fine weather with clear sky in the morning and evening shifts.

Thursday 7th March

- Sunrise: 7:12am; Sunset: 7:52pm.
- Highest temperature: 26.0 degrees Celsius.
- Mostly fine weather with some clouds for some sites 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 team³.

During their shift the surveyor collected data on:

- The total number of cyclists⁴ 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 cycleway⁵.

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

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

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



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

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

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

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

Data Analysis

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

Annual Average Daily Traffic (AADT) Analysis

It is acknowledged that the number of cyclists using a site varies by time of day, day of the week and week of the year, and therefore it is not valid to simply multiply manual count data collected over a certain (relatively brief) period out to represent a full day, week or year. However, according to Land Transport New Zealand⁶, 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 ViaStrada⁷.

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

⁷ 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 study⁸.

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.

Methodology

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

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

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



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 5th 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, 283 responses were received, a response rate of 92 per cent. (This compares with 74 per cent in 2012).

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 7th of March, 2013. Sunrise was at 7:12am and sunset at 7:52pm; highest temperature was 26.0 degree Celsius.



1.4 Morning Peak Summary Results

Environmental Conditions

- All sites monitored in Maungakiekie-Tamaki ward had fine weather in the morning.
- No sites reported road works or accidents that may have affected cycle counts.

Key Points

- A total of 594 cyclist movements were recorded across the seven sites in the morning peak period (between 6:30am and 9:00am) in 2013, a 24 per cent increase from 12 months ago.
- The average volume of morning cyclists across the seven sites in this ward was 85 cycle movements. This compares with 68 movements in 2012 (a 25 per cent increase).
- Twenty-two per cent (n=129) of the total cycle movements in the morning peak were made by those cycling in groups. This compares with 11 per cent (n=53) last year.
- The busiest site in the morning peak continued to be Onehunga Harbour Road (178 cycle movements, up from 171 movements in 2012), whereas the Apirana Avenue/Pilkington/Tripoli Road site had the lowest volume of morning cyclists (20 movements).
- All sites have registered increases this year compared to 2012. The most notable change was at St Heliers Bay/West Tamaki Road (up 106 per cent to 177 movements this year, the biggest cycle volume at this site since monitoring began in 2007). The smallest increase was at Ellerslie Panmure Highway/Lunn Ave (up 3 per cent).

**Table 1.1: Summary of Morning Cyclist Movements
2007 – 2013 (n)**

Site No.	Locations	2007	2008	2009	2010	2011	2012	2013	Change 12-13	Change 07-13
17	Onehunga Harbour Road	93	88	74	98	139	171	178	4%	91%
20	St Heliers Bay/West Tamaki Road	139	107	61	98	150	86	177	106%	27%
21	Great South Road/Campbell Road/Main Highway	89	53	64	69	60	68	77	13%	-13%
19	Ellerslie Panmure Highway/Lunn Ave	52	42	31	44	31	40	41	3%	-21%
	Average per site (4 sites since 2007)	93	73	58	77	95	91	118	30%	27%
	Total (4 sites since 2007)	373	290	230	309	380	365	473	30%	27%
78	Lagoon Drive/Church Crescent	-	-	57	100	65	66	72	9%	-
76	Waikaraka Cycleway	-	13	18	7	29	28	29	4%	-
74	Apirana Avenue/Pilkington/Tripoli Road	-	22	12	30	14	19	20	5%	-
	Average per site (6 sites in 2008, 7 sites since 2009)	-	54	45	64	70	68	85	25%	-
	Total (6 sites in 2008, 7 sites since 2009)	-	325	317	446	488	478	594	24%	-



- Ninety-one per cent of cyclists this year were adults (stable from 92 per cent in 2012).
- Almost all cyclists were wearing a helmet (93 per cent in 2013, unchanged from last year).
- The greatest share of morning cyclists were male (85 per cent, up slightly from 82 per cent last year).
- The road continued to be the dominant location for cyclists (76 per cent, stable from last year).

**Table 1.2: Summary of Morning Cyclist Characteristics
2007 – 2013 (%)**

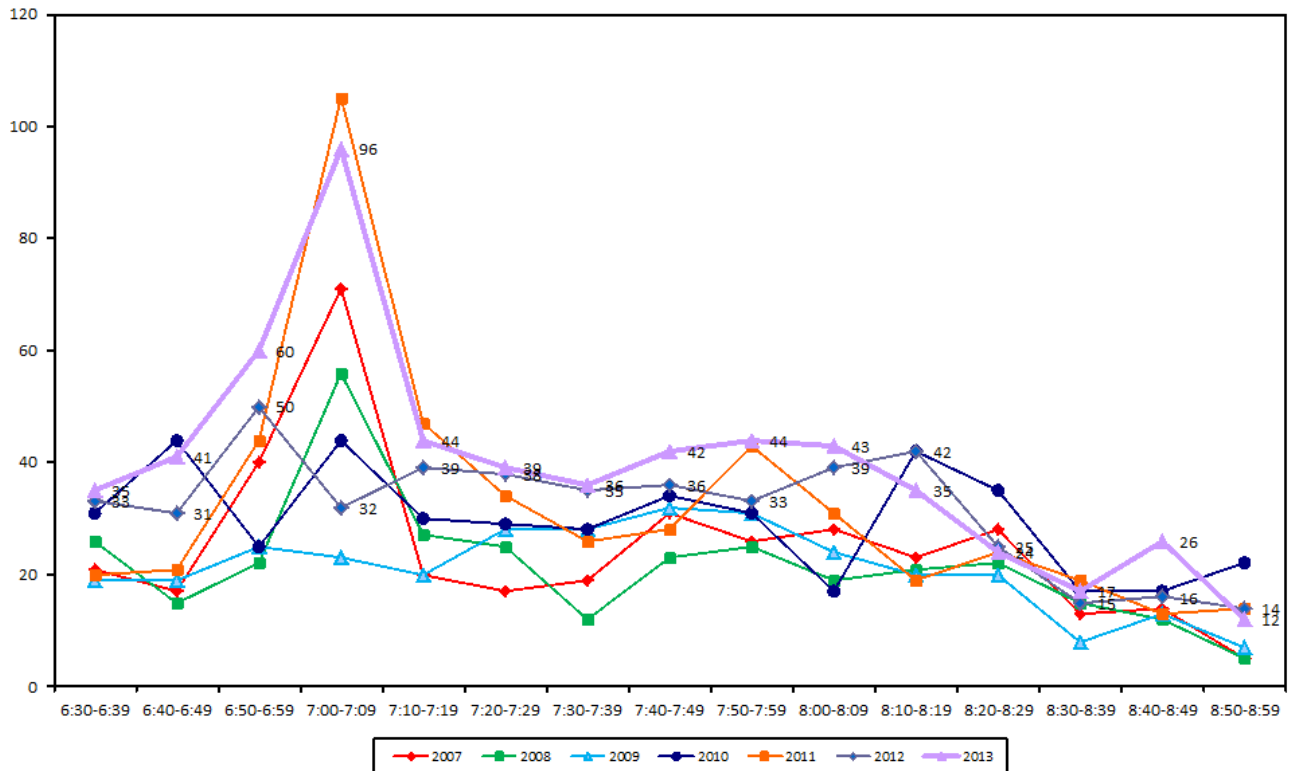
	2007	2008	2009	2010	2011	2012	2013	Change 12-13
Cyclist Type								
Adult	88	89	88	91	90	92	91	-1
School child	12	11	12	9	10	8	9	1
Helmet Wearing								
Helmet on head	94	93	94	94	94	93	93	0
No helmet	6	7	6	6	6	7	4	-3
Can't tell	-	-	-	-	-	-	3	3
Gender								
Male	-	-	-	-	83	82	85	3
Female	-	-	-	-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

*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 2013. Morning cyclist numbers peaked sharply between 7:00am and 7:09am (96 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 – 2013 (n)**





1.5 Evening Peak Summary Results

Environmental Conditions

- All sites monitored in Maungakiekie-Tamaki ward had fine weather in the evening.
- No sites reported road works or accidents that may have affected cycle counts.

Key Points

- A total of 624 cyclist movements were recorded across the seven sites in the evening peak period (between 4:00pm and 7:00pm) in 2013, a 46 per cent increase from 12 months ago.
- The average volume of evening cycle movements across all seven sites monitored in 2013 was 89 cycle movements, up from 61 last year.
- Eight per cent of the total cycle movements (n=47) in the evening peak were made by those cycling in groups. This compares with three per cent (n=12) last year.
- Of the seven sites, the volume of cyclists was the lowest at Apirana Avenue/Pilkington/Tripoli Road in the evening (19 cycle movements, the smallest volume at this site since monitoring began in 2008), whereas the Onehunga Harbour Road intersection was the busiest in terms of evening cycling activity, with 248 movements recorded (the largest volume at this site since monitoring began in 2007).
- The one site that experienced a decline in cycle volume was Apirana Avenue/Pilkington/Tripoli Road – down 30 per cent from last year.
- All other sites recorded increases this year compared to 2012, the most noticeable being:
 - Waikaraka Cycleway – up 125 per cent; and
 - Onehunga Harbour Road – up 63 per cent.



**Table 1.3: Summary of Evening Cyclist Movements
2007 – 2013 (n)**

Site No.	Locations	2007	2008	2009	2010	2011	2012	2013	Change 12-13	Change 07-13
17	Onehunga Harbour Road	156	132	106	159	171	152	248	63%	59%
20	St Heliers Bay/West Tamaki Road	69	60	47	72	74	49	71	45%	3%
21	Great South Road/Campbell Road/Main Highway	85	61	87	102	78	64	69	8%	-19%
19	Ellerslie Panmure Highway/Lunn Ave	66	52	51	56	46	39	53	36%	-20%
	Average per site (4 sites since 2007)	94	76	73	97	92	76	110	45%	17%
	Total (4 sites since 2007)	376	305	291	389	369	304	441	45%	17%
78	Lagoon Drive/Church Crescent	-	-	72	95	98	71	110	55%	-
76	Waikaraka Cycleway	-	41	33	35	36	24	54	125%	-
74	Apirana Avenue/Pilkington/Tripoli Road	-	39	20	30	41	27	19	-30%	-
	Average per site (6 sites in 2008, 7 sites since 2009)	-	57	59	78	78	61	89	46%	-
	Total (6 sites in 2008, 7 sites since 2009)	-	344	416	549	544	426	624	46%	-



- Ninety-two per cent of the evening cyclists were adults, unchanged from last year.
- Most cyclists were wearing a helmet in the evening (91 per cent, stable from 92 per cent in 2012).
- The majority of the evening peak cyclists were male (83 per cent, down slightly from 86 per cent last year).
- Sixty-three per cent of the cyclists were riding on the road (unchanged from last year). As a result of increased usage of the off-road cycleway, the share of riding on the footpath has decreased (from 29 per cent last year to 23 per cent this year).

**Table 1.4: Summary of Evening Cyclist Characteristics
2007 – 2013 (%)**

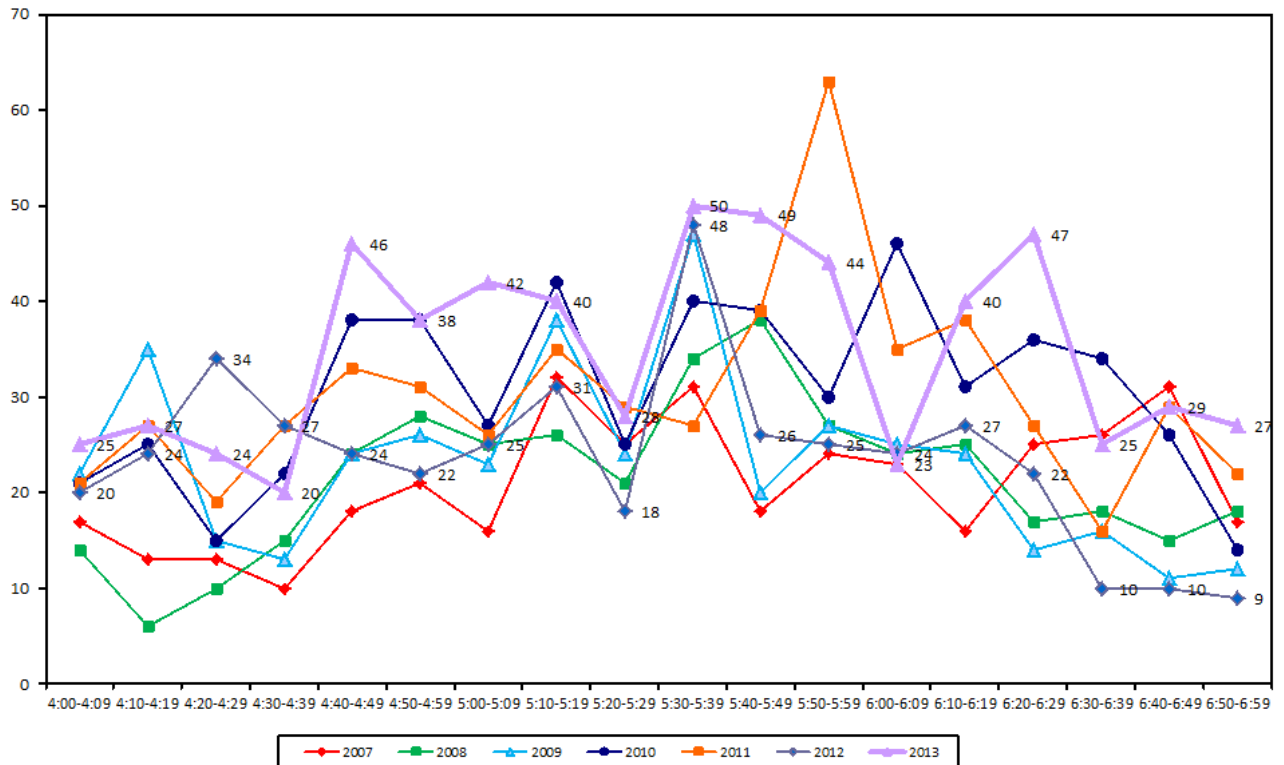
	2007	2008	2009	2010	2011	2012	2013	Change 12-13
Cyclist Type								
Adult	95	92	94	94	91	92	92	0
School child	5	8	6	6	9	8	7	-1
Can't tell	-	-	-	-	-	-	1	1
Helmet Wearing								
Helmet on head	91	89	89	92	89	92	91	-1
No helmet	9	11	11	8	11	8	9	1
Gender								
Male	-	-	-	-	84	86	83	-3
Female	-	-	-	-	15	13	15	2
Can't tell	-	-	-	-	1	1	2	1
Where Riding*								
Road	83	67	70	78	66	63	63	0
Footpath	17	17	19	13	24	29	23	-6
Off-road cycleway	0	16	11	9	10	8	14	6
Base:	376	344	416	549	544	426	624	

*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 at three different times – from 4:40pm to 4:49pm (46 movements), 5:30pm to 5:39pm (50 movements), 5:30pm to 5:39pm (48 movements), 5:40pm to 5:49pm (49 movements), and 6:20pm to 6:29pm (47 movements).

**Figure 1.3: Cyclist Frequency – Evening Peak
2007 – 2013 (n)**





1.6 Aggregated Total Summary Results

- Overall, a total of 1218 cyclist movements were recorded across the seven sites monitored in 2013, among which 176 of them (14 per cent) were observed as peloton movements.
- The average number of cycle movements for the seven sites monitored since 2012 was 174, a 35 per cent increase from 129 last year.
- Of the seven sites in this ward, the busiest site continued to be Onehunga Harbour Road with a total of 426 movements (the highest count at this site since monitoring began in 2007), while Apirana Avenue/Pilkington/Tripoli Road has the fewest cyclists (39 movements).
- Overall, the most noticeable increase in cycle traffic since last year was at St Heliers Bay/West Tamaki Road – up 84 per cent.
- The only site that experienced a decrease in cycle volume over the last 12 months was Apirana Avenue/Pilkington/Tripoli Road – down 15 per cent.

**Table 1.5: Summary of Total Cyclist Movements
2007 – 2013 (n)**

Site No.	Locations	2007	2008	2009	2010	2011	2012	2013	Change 12-13	Change 07-13
17	Onehunga Harbour Road	249	220	180	257	310	323	426	32%	71%
20	St Heliers Bay/West Tamaki Road	208	167	108	170	224	135	248	84%	19%
21	Great South Road/Campbell Road/Main Highway	174	114	151	171	138	132	146	11%	-16%
19	Ellerslie Panmure Highway/Lunn Ave	118	94	82	100	77	79	94	19%	-20%
	Average per site (4 sites since 2007)	187	149	130	175	187	167	229	37%	22%
	Total (4 sites since 2007)	749	595	521	698	749	669	914	37%	22%
78	Lagoon Drive/Church Crescent	-	-	129	195	163	137	182	33%	-
76	Waikaraka Cycle Way	-	54	51	42	65	52	83	60%	-
74	Apirana Avenue/Pilkington/Tripoli Road	-	61	32	60	55	46	39	-15%	-
	Average per site (6 sites in 2008, 7 sites since 2009)	-	109	105	142	147	129	174	35%	-
	Total (6 sites in 2008, 7 sites since 2009)	-	656	733	995	1032	904	1218	35%	-



- Ninety-two per cent of evening cyclists this year were adults (up from 83 per cent last year).
- Most cyclists were wearing a helmet (92 per cent, unchanged since 2011).
- 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). Twenty per cent were riding on the footpath (stable from last year). The remaining 10 per cent rode on the off-road cycleway (stable from 9 per cent last year).

**Table 1.6: Summary of Total Cyclist Characteristics
2007 – 2013 (%)**

	2007	2008	2009	2010	2011	2012	2013	Change 12-13
Cyclist Type								
Adult	91	91	91	93	91	83	92	9
School child	9	9	9	7	9	17	8	-9
Helmet Wearing								
Helmet on head	93	91	92	93	92	92	92	0
No helmet	7	9	8	7	8	8	7	-1
Can't tell	-	-	-	-	-	-	1	1
Gender								
Male	-	-	-	-	84	84	84	0
Female	-	-	-	-	15	13	14	1
Can't tell	-	-	-	-	1	3	2	-1
Where Riding*								
Road	84	72	72	79	71	70	70	0
Footpath	16	17	18	15	20	21	20	-1
Off-road cycleway	0	11	9	6	9	9	10	1
Base:	749	656	733	995	1032	904	1218	

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 (614 daily movements, up from 471 movements in 2012) and the lowest is at Apirana Avenue/Pilkington/Tripoli Road (57 daily movements, down from 66 last year).
- All but one site has experienced increases this year compared to 2012. The most noticeable increases were at:
 - St Heliers Bay/West Tamaki Road – up 85 per cent; and
 - Waikaraka Cycleway – up 57 per cent.
- The only site that recorded a decline in volume was Apirana Avenue/Pilkington Road/Tripoli Road (down 14 per cent from last year).

Table 1.7: AADT Estimates Based on Morning and Evening Cyclist Movements 2007 – 2013 (n)

Site No.	Locations	2007 AADT	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	12-13 Change	07-13 Change
17	Onehunga Harbour Road	357	316	259	369	448	471	614	30%	72%
20	St Heliers Bay/West Tamaki Road	308	246	158	249	331	199	369	85%	20%
78	Lagoon Drive/Church Crescent	-	-	186	284	234	199	262	32%	-
21	Great South Road/Campbell Road/Main Highway	253	165	218	246	246	192	213	11%	-16%
19	Ellerslie Panmure Highway/Lunn Ave	170	136	118	144	111	115	136	18%	-20%
76	Waikaraka Cycleway	-	76	73	59	94	76	119	57%	-
74	Apirana Avenue/Pilkington/Tripoli Road	-	87	46	87	78	66	57	-14%	-



1.8 School Bike Shed Count Summary

Key Points

- Of those students eligible to cycle, on average one per cent of students are currently cycling to their schools (up from no students in 2012).
- Six schools share the highest share of cyclists this year (each with one per cent of students cycling):
 - Ellerslie School
 - Glen Innes School
 - One Tree Hill College
 - Onehunga High School
 - Royal Oak Intermediate
 - Tamaki Primary School.
- Of the 22 schools that responded, 15 (68 per cent) had no students cycling to school.
- Rates of cycling to school are highest among intermediate and secondary schools (each 1 per cent).

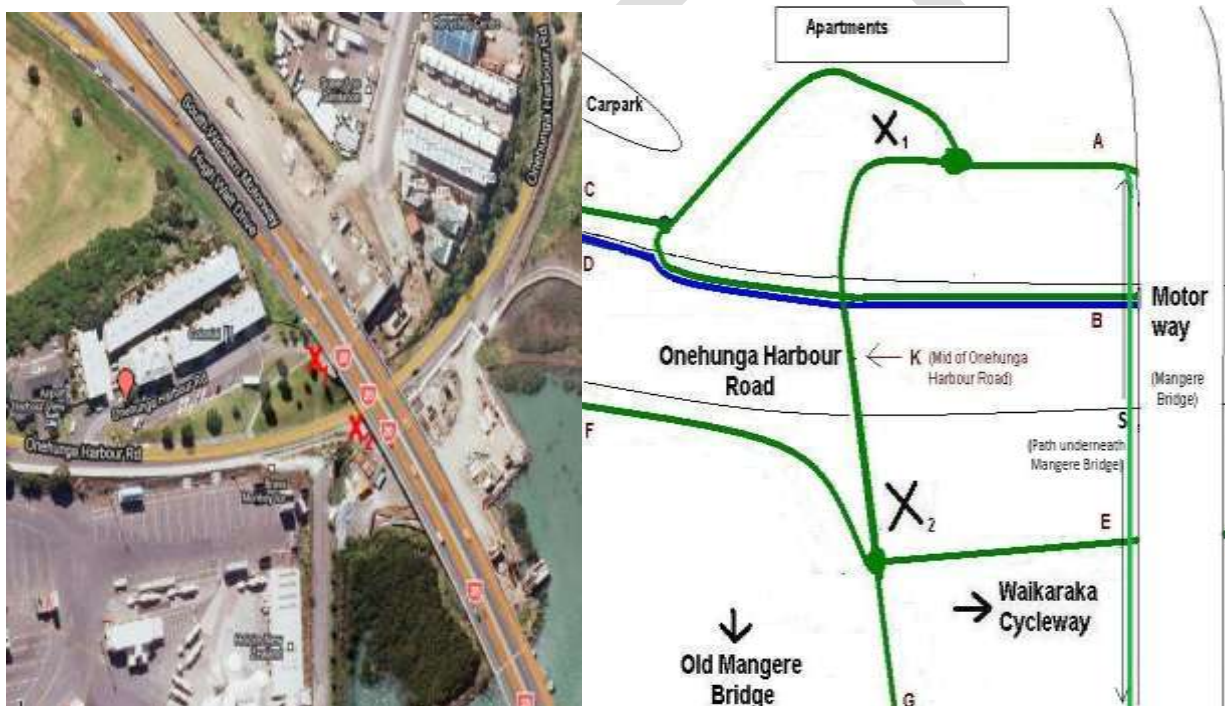
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2. ONEHUNGA HARBOUR ROAD, ONEHUNGA (SITE 17)

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



2.1 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



2.2 Morning Peak

Environmental Conditions

- The weather was fine 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 (178 movements, up from 171 cycle movements recorded in 2012).
- The most common entry point in the morning peak was at Zone G, with 76 cyclists entering the site from Old Mangere Bridge.
- The most frequently used exit point was also Zone G, with 61 cyclists leaving the site via Old Mangere Bridge.
- The most common movement in the morning peak was entering the site in Zone G and exiting in Zone F (32 movements).

**Table 2.1A: Morning Cyclist Movements
Onehunga Harbour Road 2013 (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	0	0	0	0
C	0	0	0	0	0	0	0	1	0	0	1
D	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	1	24	1	0	0	26
F	0	0	0	0	7	0	31	0	0	0	38
G	0	0	0	0	15	32	0	28	0	1	76
K	25	0	0	0	0	1	6	0	0	0	32
S	0	0	0	0	0	0	0	0	0	0	0
Total	25	0	0	0	22	34	61	35	0	1	178

**Table 2.1B: Morning Cyclist Movements
Onehunga Harbour Road 2007 – 2013 (n)**

	2007	2008	2009	2010	2011	2012	2013	Change 12-13
Total Movements	93	88	74	98	139	171	178	7



- Eighty-six per cent of cyclists using this site were adults (stable from 88 per cent last year).
- Helmet wearing has been wide-spread this year (96 per cent, up from 86 per cent in 2012).
- The greatest share of morning cyclists continued to be male (87 per cent).
- Thirty-six per cent of cyclists were observed crossing Onehunga Harbour Road, down from 43 per cent last year.

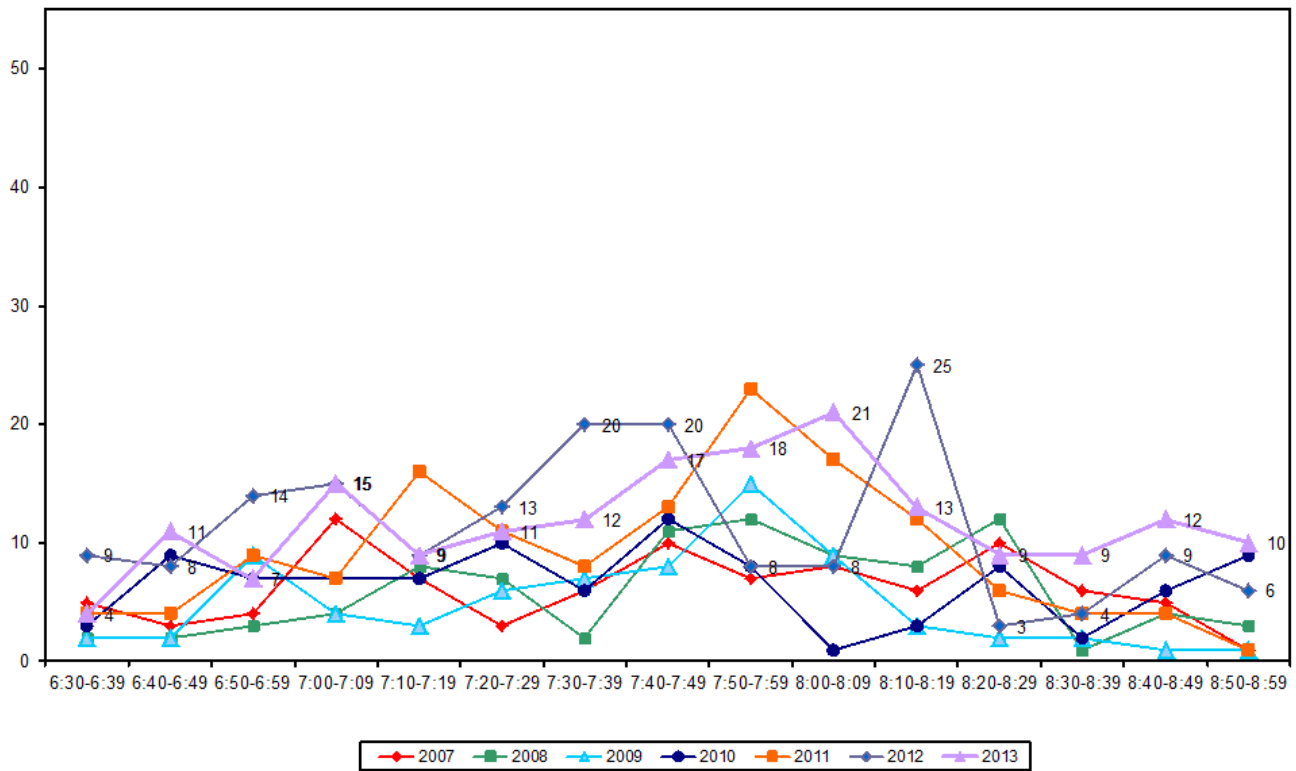
**Table 2.2: Morning Cyclist Characteristics
Onehunga Harbour Road 2007 – 2013 (%)**

	2007	2008	2009	2010	2011	2012	2013	Change 12-13
Cyclist Type								
Adult	83	77	80	81	81	88	86	-2
School child	17	23	20	19	19	12	14	2
Helmet Wearing								
Helmet on head	84	84	95	88	91	86	96	10
No helmet	16	16	5	12	9	14	2	-12
Unsure	-	-	-	-	-	-	2	2
Gender								
Male	-	-	-	-	82	85	87	2
Female	-	-	-	-	17	14	12	-2
Can't tell	-	-	-	-	1	1	1	0
Crossing Onehunga Road								
Yes	-	14	19	21	17	43	36	-7
No	-	86	81	79	83	57	62	5
Can't tell	-	-	-	-	-	-	2	2
Base:	93	88	74	98	139	171	178	



- The volume of morning cycle movements increased to a peak between 8:00am and 8:09am (21 cyclists), then the volume decreased for the remaining hour of the shift. This compares with the peak of 25 movements between 8:10am and 8:19am last year.

**Figure 2.2: Morning Peak Cyclist Frequency
Onehunga Harbour Road 2007 – 2013 (n)**



Note: In 2013, 25 cyclists (14 per cent of the morning cycle movements 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 7:22am
- 3 cyclists at 7:23am
- 9 cyclists at 7:53am
- 4 cyclists at 8:00am
- 3 cyclists at 8:42am
- 3 cyclists at 8:44am.

This compares with 23 cyclists (13 per cent) being recorded as pelotons last year.



2.3 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

- Compared with the previous year, the volume of evening cyclists at Onehunga Harbour Road has increased (248 movements, up from 152 cycle movements recorded in 2012).
- The most common entry point in the evening peak was at Zone G, 84 cyclists entering the site via Old Mangere Bridge.
- The most frequently used exit point was also Zone G, 98 cyclists leaving the site via Old Mangere Bridge.
- The most common movement in the evening peak was entering the site in Zone E and exiting in Zone G (61 movements).

**Table 2.3A: Evening Cyclist Movements
Onehunga Harbour Road 2007 – 2013 (n)**

Entry	Exit									Total
	A	B	C	D	E	F	G	K	S	
A	0	0	0	0	0	0	0	11	0	11
B	1	0	0	0	0	0	0	0	0	1
C	1	0	0	0	0	0	0	0	0	1
D	0	1	0	0	0	0	0	0	0	1
E	0	0	0	0	0	6	61	8	0	75
F	0	0	0	0	3	0	25	0	0	28
G	0	0	0	0	10	42	2	30	0	84
K	36	0	0	0	1	0	10	0	0	47
S	0	0	0	0	0	0	0	0	0	0
Total	38	1	0	0	14	48	98	49	0	248

**Table 2.3B: Morning Cyclist Movements
Onehunga Harbour Road 2007 – 2013 (n)**

	2007	2008	2009	2010	2011	2012	2013	Change 12-13
Total Movements	156	132	68	159	171	152	248	96



- Over the evening shift, almost all cyclists using this site were adults (93 per cent, down from 97 per cent in 2012).
- The majority of cyclists were wearing a helmet (94 per cent, stable from 93 per cent last year).
- The greatest share of evening cyclists were male (85 per cent, down slightly from 88 per cent last year).
- Thirty-nine per cent of cyclists were observed crossing Onehunga Harbour Road (down from 49 per cent in 2012).

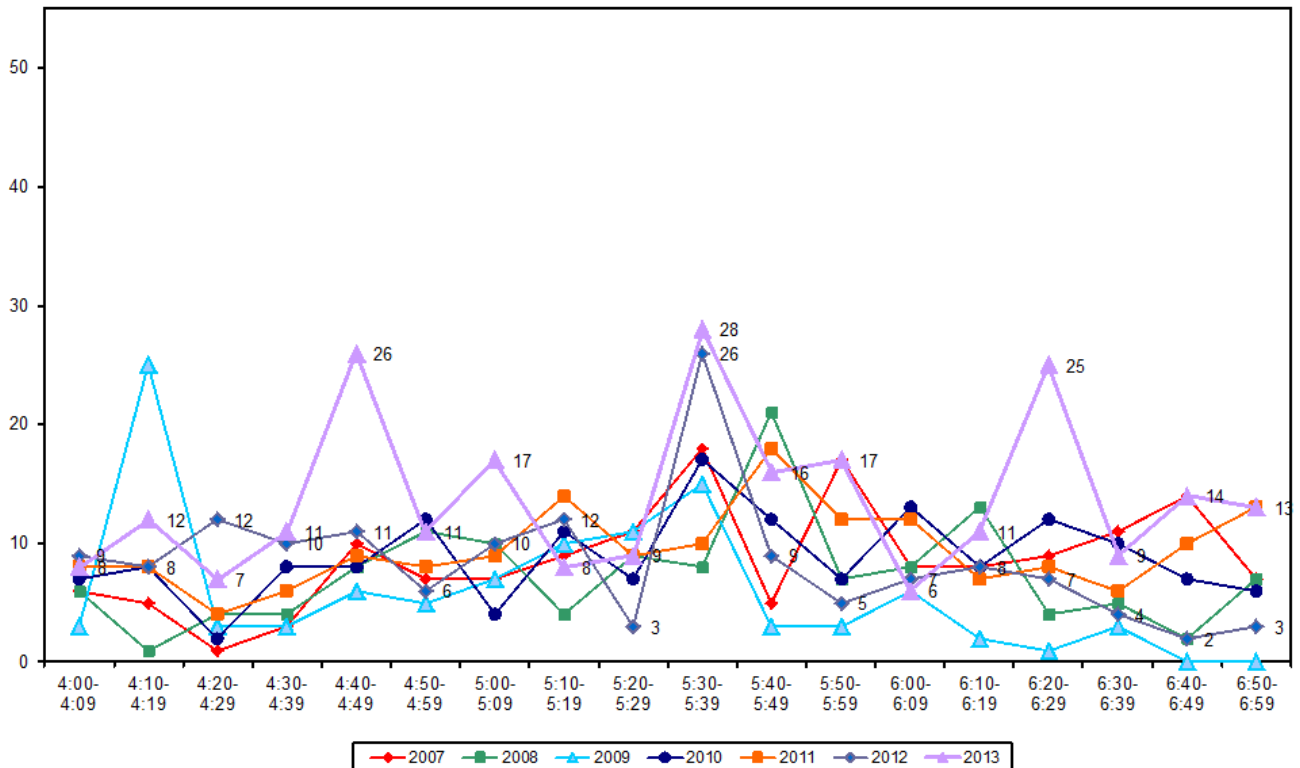
**Table 2.4: Morning Cyclist Characteristics
Onehunga Harbour Road 2007 – 2013 (%)**

	2007	2008	2009	2010	2011	2012	2013	Change 12-13
Cyclist Type								
Adult	96	93	92	91	95	97	93	-4
School child	4	7	8	9	5	3	7	4
Helmet Wearing								
Helmet on head	83	91	97	94	89	93	94	1
No helmet	17	9	3	6	11	7	6	-1
Gender								
Male	-	-	-	-	86	88	85	-3
Female	-	-	-	-	12	11	14	3
Can't tell	-	-	-	-	2	1	1	0
Crossing Onehunga Harbour Road								
Yes	-	27	8	23	16	49	39	-10
No	-	73	92	77	84	51	61	10
Base:	156	132	68	159	171	152	248	



- The volume of evening cyclists fluctuated throughout the monitoring period, with sharp peaks occurring every 50 minutes. The first peak was from 4:40pm to 4:49pm with 26 movements, the second one from 5:30pm to 5:39pm with 28 movements, and the last one between 6:20pm and 6:29pm (25 movements).

**Figure 2.3: Evening Peak Cyclist Frequency
Onehunga Harbour Road 2007 – 2013 (n)**



Note: In 2013, 33 cyclists (17 per cent of the evening cycle movements 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:

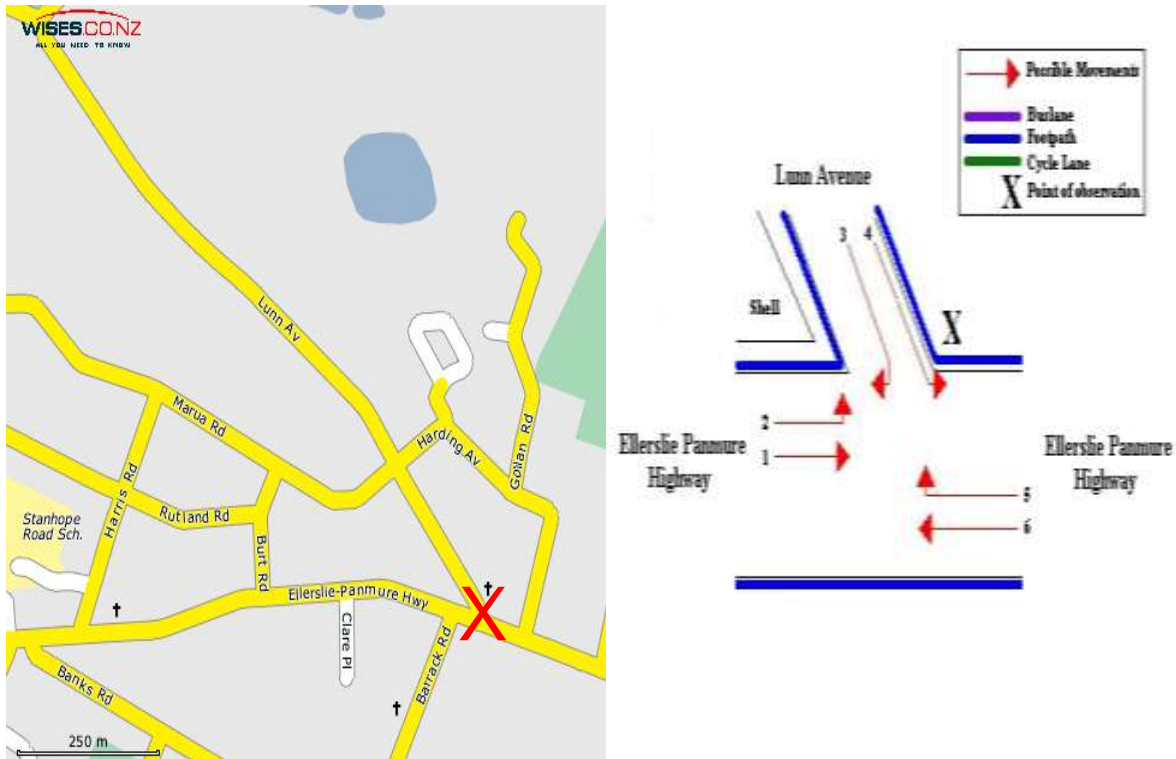
- 3 cyclists at 4:17pm
- 4 cyclists at 5:06pm
- 19 cyclists at 5:36pm
- 4 cyclists at 5:55pm
- 3 cyclists at 6:26pm.

This compares with 8 cyclists (5 per cent) identified as pelotons last year.

3. 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



3.1 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



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

- Morning cyclist volumes recorded at the Ellerslie Panmure Highway/Lunn Avenue intersection has remained stable from last year, with 41 cycle movements recorded.
- The most common morning movements were straight along the Ellerslie Panmure Highway heading west (Movement 6 = 18 cyclists) and in the opposite direction (Movement 1 = 13 cyclists).
- The most notable increase was at Movement 1 (up 12 cyclists), while the biggest decrease occurred at Movement 2 (down 10 cyclists).

Table 3.1: Morning Cyclist Movements
Ellerslie Panmure Highway/Lunn Avenue 2007 – 2013 (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>Change 12-13</i>
1	15	7	8	10	7	1	13	12
2	1	3	1	2	0	11	1	-10
3	2	8	2	8	2	2	1	-1
4	12	8	8	7	8	8	6	-2
5	3	3	8	4	1	7	2	-5
6	19	13	4	13	13	11	18	7
Total	52	42	31	44	31	40	41	1



- Over the morning peak, adults comprised the majority of all cycle movements (98 per cent, unchanged from last year).
- Almost all cyclists were wearing a helmet over the morning peak at this site (85 per cent, down from 95 per cent in 2012).
- The majority of morning cyclists were male (88 per cent).
- Approximately two-thirds of cyclists were riding on the road (68 per cent, down from 78 per cent at the previous measure).

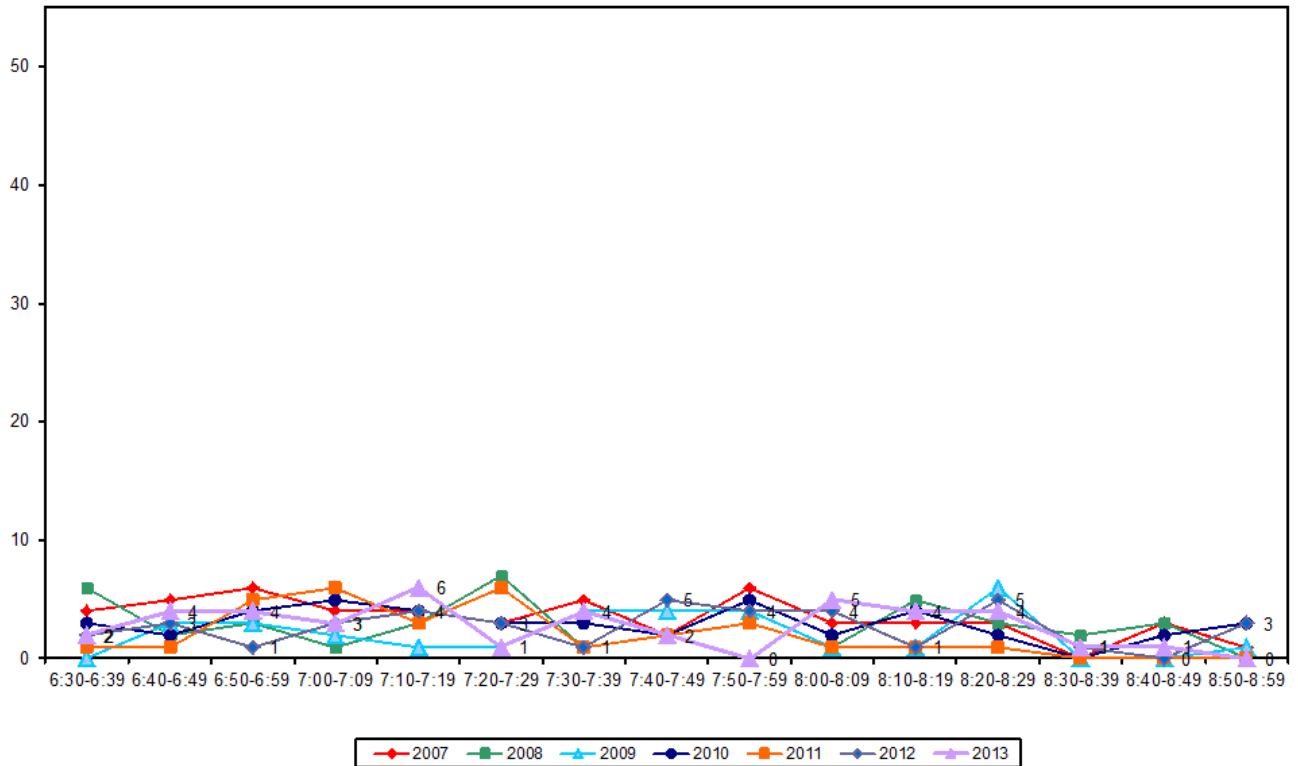
Table 3.2: Morning Cyclist Characteristics
Ellerslie Panmure Highway/Lunn Avenue 2007 – 2013 (%)

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



- Morning cycle volumes were relatively low over the entire monitoring period. Two slight peaks occurred - between 7:10am to 7:19am (6 movements) and 8:00am to 8:29am (a total of 14 movements over the three 10 minute intervals). 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 – 2013 (n)



Note: A peloton was observed at this site just prior to monitoring commencing – 11 cyclists riding as a group at 6:18pm (making Movement 4).



3.3 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

- The number of evening cycle movements at the Ellerslie Panmure Highway/Lunn Avenue intersection has increased, from 39 movements recorded in 2012 to 53 movements this year.
- The key evening movement continued to be straight along Ellerslie Panmure Highway heading east (Movement 1 = 22 cyclists).
- The most notable change was at Movement 1 (up 7 cyclist movements this year).

Table 3.3: Evening Cyclist Movements
Ellerslie Panmure Highway/Lunn Avenue 2007 – 2013 (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>Change 12-13</i>
1	16	14	24	16	14	15	22	7
2	5	4	1	4	2	2	3	1
3	6	5	1	0	3	1	5	4
4	14	12	7	14	9	9	8	-1
5	4	8	6	12	5	3	5	2
6	21	9	12	10	13	9	10	1
Total	66	52	51	56	46	39	53	14



- The majority of cyclists using this intersection were adults (92 per cent, down from 97 per cent last year).
- Helmet wearing was still common over the evening peak (94 per cent, up slightly from 90 per cent in 2011).
- The majority of evening peak cyclists were male (87 per cent, down from 95 per cent in 2012).
- Four in five cyclists were riding on the road (79 per cent, a 15 percentage point increase from the previous measure).

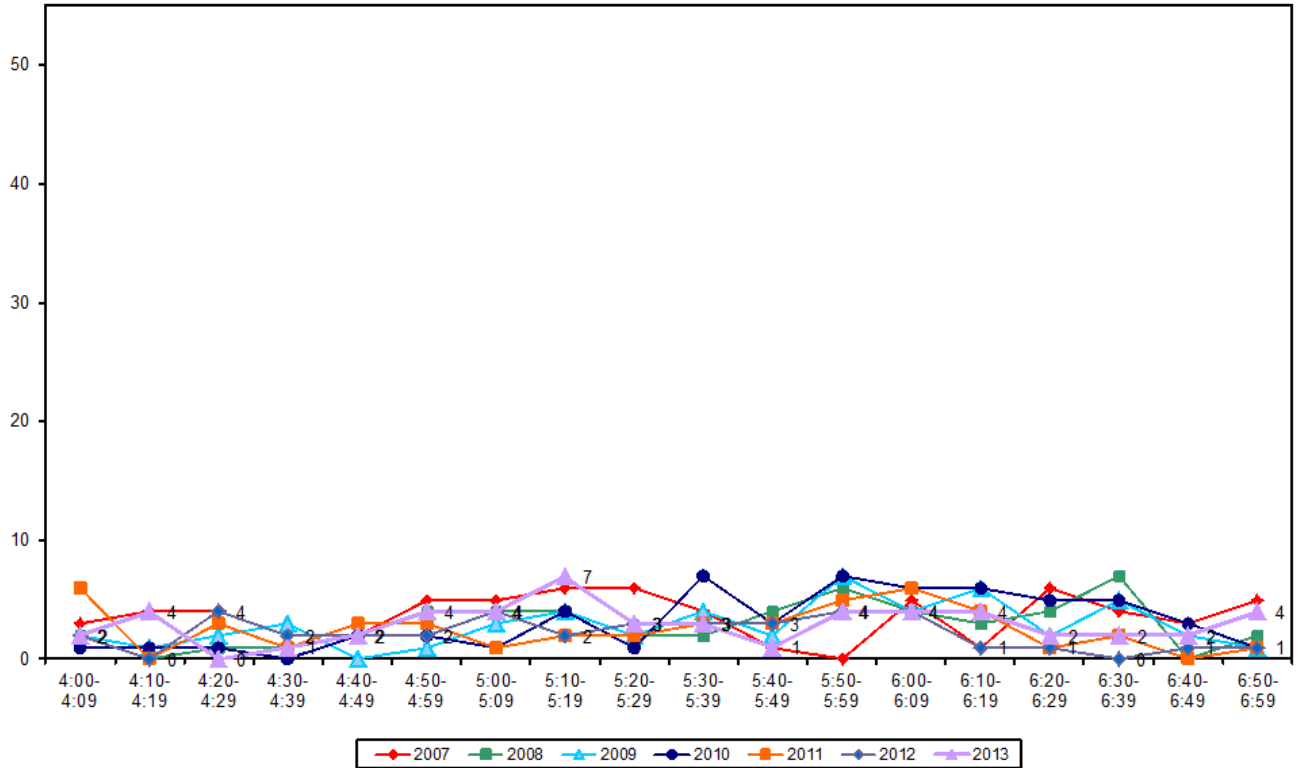
**Table 3.4: Evening Cyclist Characteristics
Ellerslie Panmure Highway/Lunn Avenue 2007 – 2013 (%)**

	2007	2008	2009	2010	2011	2012	2013	Change 12-13
Cyclist Type								
Adult	86	88	98	95	87	97	92	-5
School child	14	12	2	5	13	3	8	5
Helmet Wearing								
Helmet on head	95	92	88	89	89	90	94	4
No helmet	5	8	12	11	11	10	6	-4
Gender								
Male	-	-	-	-	91	95	87	-8
Female	-	-	-	-	9	5	11	6
Can't tell	-	-	-	-	0	0	2	2
Where Riding								
Road	73	73	78	79	65	64	79	15
Footpath	27	27	22	21	35	36	21	-15
Base:	66	52	51	56	46	39	53	



- The volume of evening cycle movements at this site was low throughout the monitoring period, with no more than four cyclists observed in any ten minute interval. This is consistent with 2012.

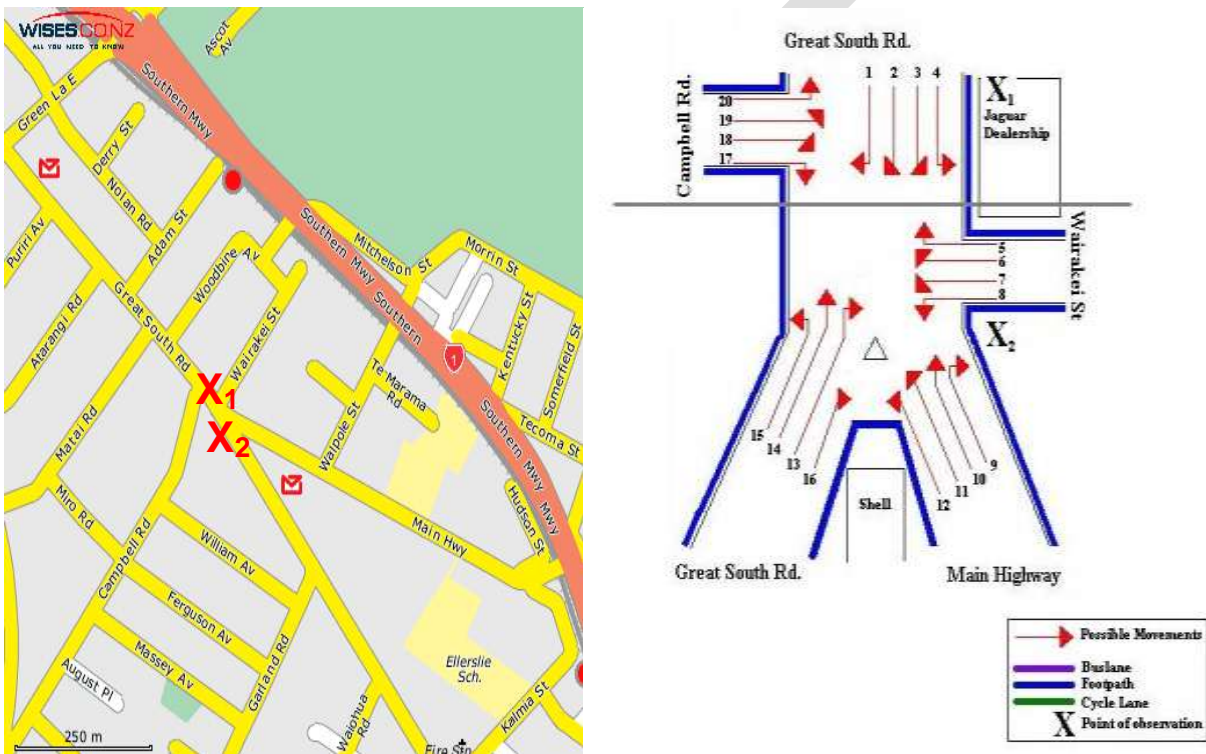
Figure 3.3: Evening Peak Cyclist Frequency
Ellerslie Panmure Highway/Lunn Avenue 2007 – 2013 (n)



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

Figure 4.1 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 4.1: Cycle Movements: Great South/Campbell Road



4.1 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	246
2012	68	64	132	192
2013	77	69	146	213



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 Great South/Campbell Road intersection has increased from 68 movements last year to 77 this year.
- Key morning movements were going from Main Highway to Great South Road northwards (Movement 10 = 19 cyclists), straight along Great South Road heading south (Movement 2 = 18 cyclists), and straight along Great South Road heading north (Movement 14 = 15 cyclists).
- The most noticeable increase was at Movement 10 (up 11 cyclists).

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Table 4.1: Morning Cyclist Movements
Great South/Campbell Road 2007 – 2013 (n)

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



- Over the morning peak, adults comprised the greatest share of cycle movements (92 per cent, down from 97 per cent in the previous year).
- Nearly all cyclists were wearing a helmet (97 per cent, stable in 2012).
- The greatest share of cyclists continued to be male (73 per cent), but proportion of female cyclists has continued to increase since 2011.
- The majority of cyclists were riding on the road (84 per cent, up from 81 per cent in 2012).

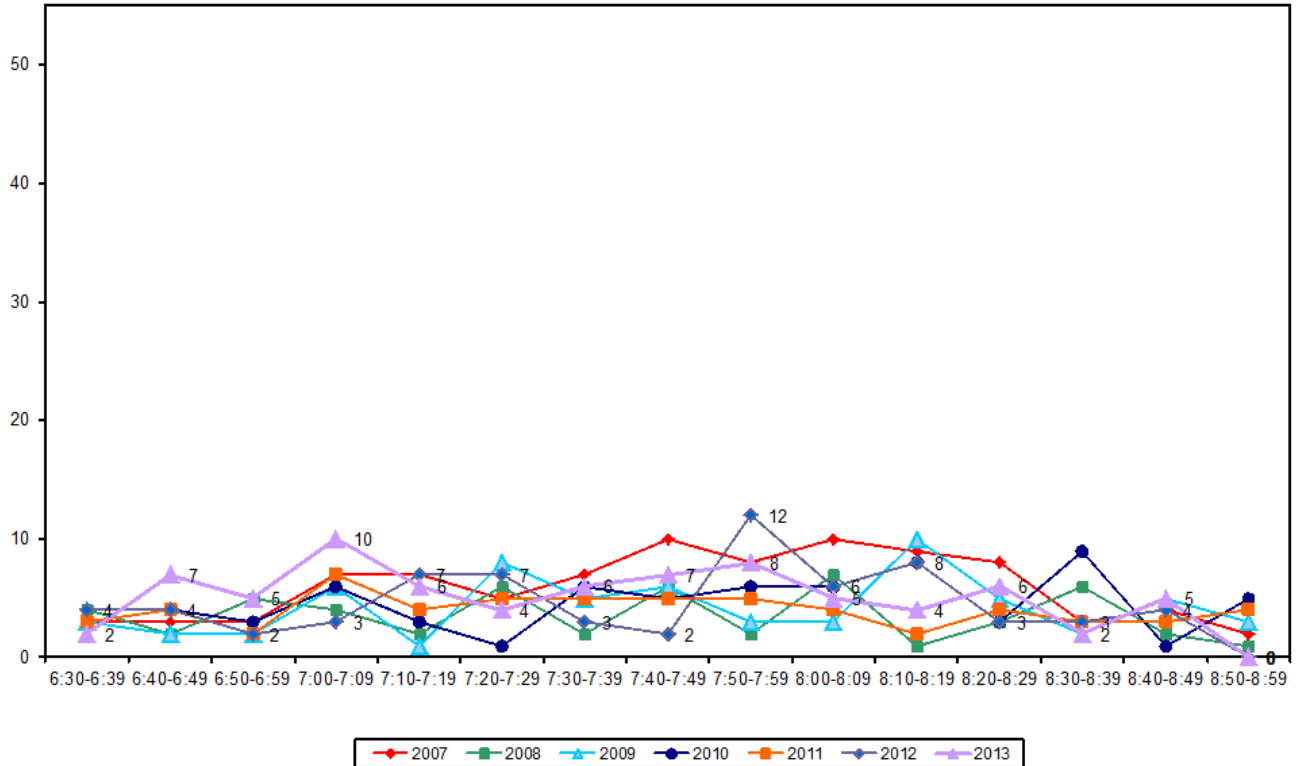
**Table 4.2: Morning Cyclist Characteristics
Great South/Campbell Road 2007 – 2013 (%)**

	2007	2008	2009	2010	2011	2012	2013	Change 12-13
Cyclist Type								
Adult	94	92	88	93	95	97	92	-5
School child	6	8	12	7	5	3	8	5
Helmet Wearing								
Helmet on head	97	94	95	96	95	97	97	0
No helmet	3	6	5	4	5	3	3	0
Gender								
Male	-	-	-	-	84	79	73	-6
Female	-	-	-	-	13	18	22	4
Can't tell	-	-	-	-	3	3	5	2
Where Riding								
Road	87	68	84	83	82	81	84	3
Footpath	13	32	16	17	18	19	16	-3
Base:	89	53	64	69	60	68	77	



- Morning cyclist volumes remained low throughout the monitoring period, with a peak of 10 cyclist movements between 7:00am and 7:09am. This compared with a peak last year between 7:50am and 7:59am (12 cyclists).

**Figure 4.2: Morning Peak Cyclist Frequency
Great South/Campbell Road 2007 – 2013 (n)**





4.3 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 increased – up from 64 in 2012 to 69 cycle movements this year.
- Key movements were straight along Great South Road heading north (Movement 14 = 24 cyclists) and left from Great South Road into Main Highway heading south-east (Movement 3 = 17 cyclists).
- The most noticeable decrease in cyclist movements was at Movement 2 (down 7 cyclists). Meanwhile the biggest increase occurred at Movement 14 (up 7 movements).

**Table 4.3: Evening Cyclist Movements
Great South/Campbell Road 2007 – 2013 (n)**

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



- Over the evening peak, almost all cyclists using this intersection were adults (91 per cent, down from 97 per cent last year).
- Most cyclists at this site were wearing a helmet (97 per cent, up from 92 per cent in 2012).
- The greatest share of evening cyclists continued to be male (74 per cent).
- Most cyclists (74 per cent) were riding on the road, this share down slightly from 2012 (77 per cent).

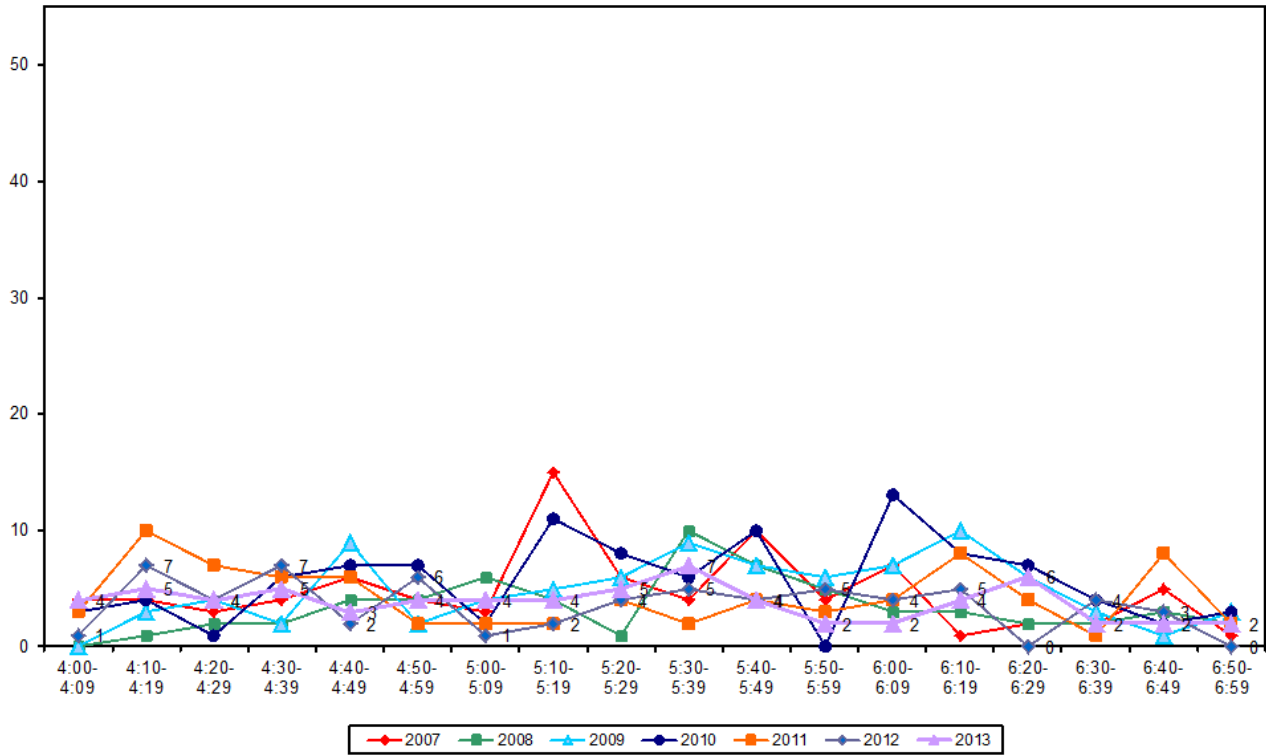
**Table 4.4: Evening Cyclist Characteristics
Great South/Campbell Road 2007 – 2013 (%)**

	2007	2008	2009	2010	2011	2012	2013	Change 12-13
Cyclist Type								
Adult	100	97	97	95	97	97	91	-6
School child	0	3	3	5	3	3	9	6
Helmet Wearing								
Helmet on head	95	89	98	92	99	92	97	5
No helmet	5	11	2	8	1	8	3	-5
Gender								
Male	-	-	-	-	82	83	74	-9
Female	-	-	-	-	17	14	23	9
Can't tell	-	-	-	-	1	3	3	0
Where Riding								
Road	87	82	83	89	85	77	74	-3
Footpath	13	18	17	11	15	23	26	3
Base:	85	61	87	102	78	64	69	



- Evening cycle volume was low but steady, with no more than seven cyclists recorded during any 10 minute intervals. There were two small peaks - the first occurred between 5:30pm to 5:39pm (7 cyclists), the second one between 6:20pm and 6:29pm (6 cyclists).

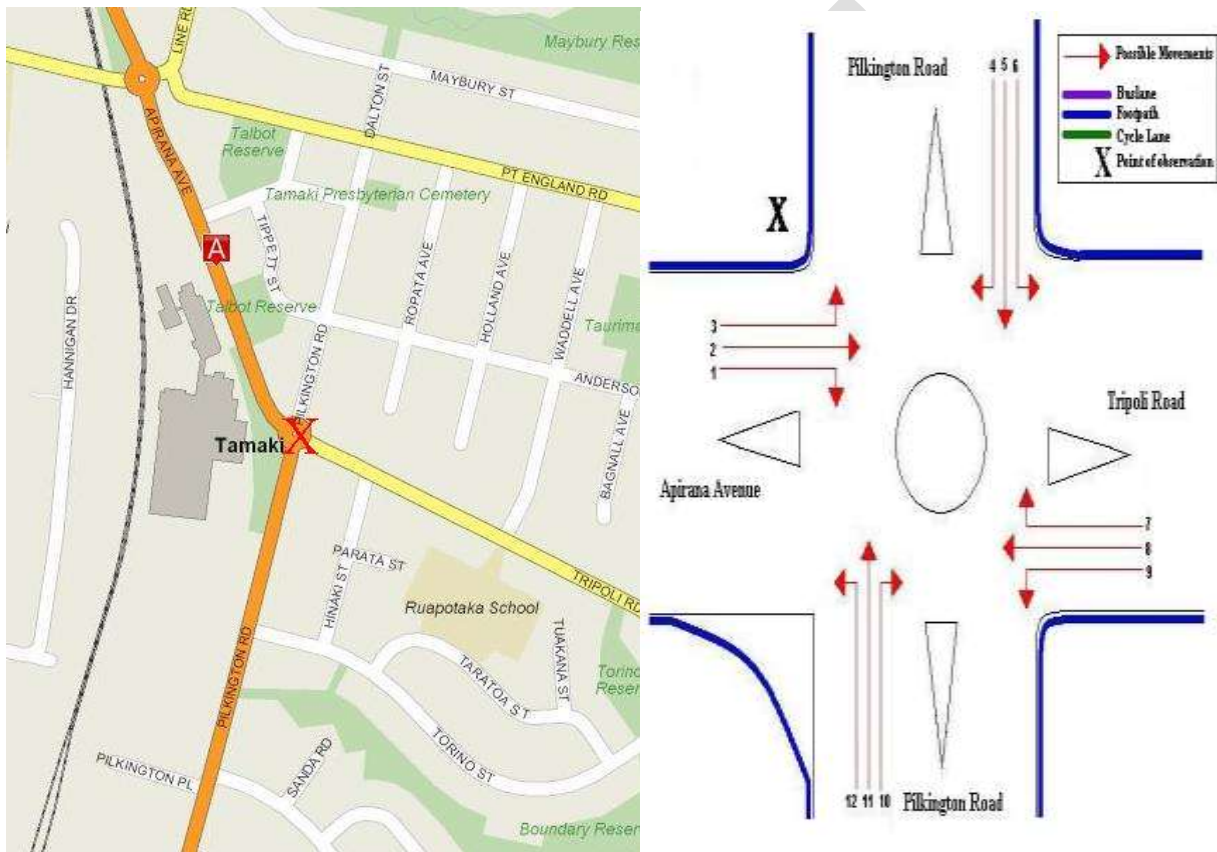
**Figure 4.3: Evening Peak Cyclist Frequency
Great South/Campbell Road 2007 – 2013 (n)**



5. 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



5.1 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



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 volume of morning cyclists at the Apirana Avenue/Pilkington Road/Tripoli Road site was low, with 20 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 = 6 cyclists).
- Compared with last year, the most notable increase was at Movement 8 (up 3 cyclists).

Table 5.1: Morning Cyclist Movements
Apirana Avenue/Pilkington Road/Tripoli Road 2008 – 2013 (n)

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



- Over the morning peak, 80 per cent of the cyclists were adults, down from 100 per cent last year.
- Three-quarters of the cyclists were wearing a helmet (75 per cent).
- The majority of morning cyclists continued to be male (90 per cent, up from 84 per cent in 2012).
- Most cyclists were riding on the road (70 per cent, down noticeably from 89 per cent at the previous measure).

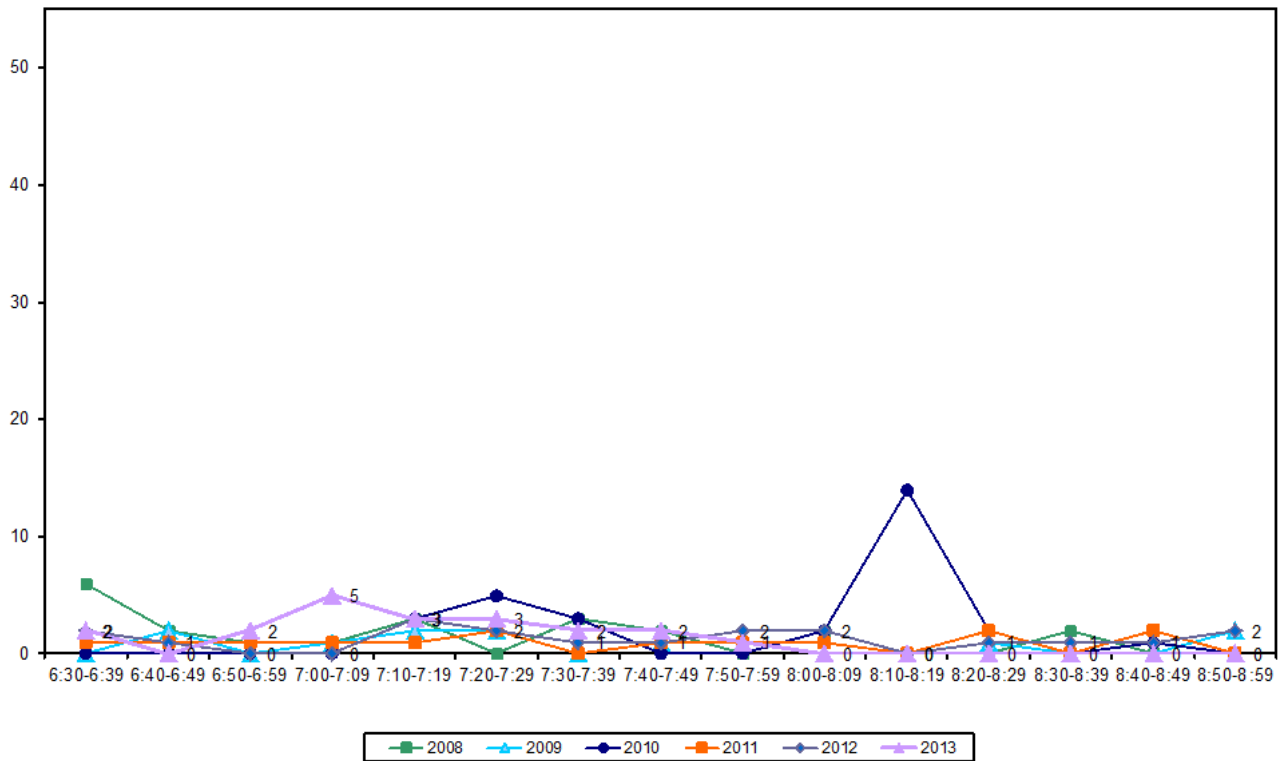
Table 5.2: Morning Cyclist Characteristics
Apirana Avenue/Pilkington Road/Tripoli Road 2008 – 2013 (%)

	2008	2009	2010	2011	2012	2013	Change 12-13
Cyclist Type							
Adult	95	92	100	79	100	80	-20
School child	5	8	0	21	0	20	20
Helmet Wearing							
Helmet on head	100	83	97	71	79	75	-4
No helmet	0	17	3	29	21	25	4
Gender							
Male	-	-	-	93	84	90	6
Female	-	-	-	7	16	10	-6
Can't tell	-	-	-	0	0	0	0
Where Riding							
Road	73	67	93	57	89	70	-19
Footpath	27	33	7	43	11	30	19
Base:	22	12	30	14	19	20	



- Morning cycle volumes were low throughout most of the shift, with no more than three cyclists per ten minute monitoring interval. The exception was a small peak of five movements between 7:00am and 7:09am.

Figure 5.2: Morning Cyclist Frequency
Apirana Avenue/Pilkington Road/Tripoli Road 2008 – 2013 (n)





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

- The total number of cycle movements recorded at the Apirana Avenue/Pilkington Road/Tripoli Road site was 19, the lowest volume since monitoring began at this site in 2008.
- The most common movement in the evening was travelling from Apirana Avenue onto Tripoli Road (Movement 2 = 4 cyclists).
- Movement 2 also experienced the most noticeable increase in cycle volume (up from no movements last year to 4 movements this year).

Table 5.3: Evening Cyclist Movements
Apirana Avenue/Pilkington Road/Tripoli Road 2008 – 2013 (n)

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



- Eighty-nine per cent of cyclists in the evening peak were adults (up from 74 per cent last year).
- There has been a decrease in helmet wearing (58 per cent, down from 63 per cent at the previous measure).
- All evening cyclists were male this year.
- Approximately two-thirds of the evening cyclists at this site were riding on the footpath (63 per cent, compared with 56 per cent in 2012).

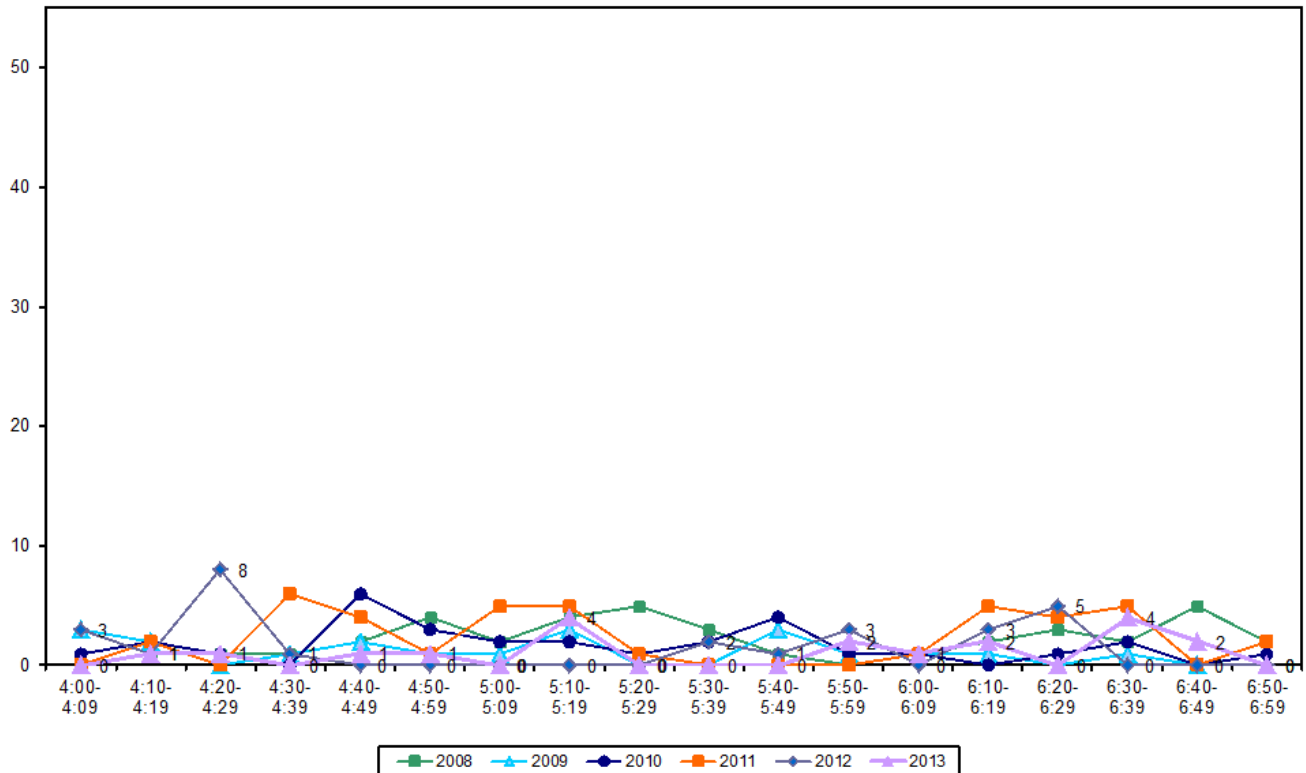
Table 5.4: Evening Cyclist Characteristics
Apirana Avenue/Pilkington Road/Tripoli Road 2008 – 2013 (%)

	2008	2009	2010	2011	2012	2013	Change 12-13
Cyclist Type							
Adult	92	75	97	61	74	89	15
School child	8	25	3	39	26	11	-15
Helmet Wearing							
Helmet on head	72	40	83	56	63	58	-5
No helmet	28	60	17	44	37	42	5
Gender							
Male	-	-	-	61	85	100	15
Female	-	-	-	39	15	0	-15
Can't tell	-	-	-	0	0	0	0
Where Riding							
Road	74	40	77	51	44	37	-7
Footpath	26	60	23	49	56	63	7
Base:	39	20	30	41	27	19	



- Evening cycle volumes were very low throughout the shift. However, two small peaks can be identified – the first one from 5:10pm to 5:19pm and the second one from 6:30pm to 6:39pm (each peak had 4 movements recorded). This compares with the peak between 4:20pm and 4:29pm (8 cyclists) last year.

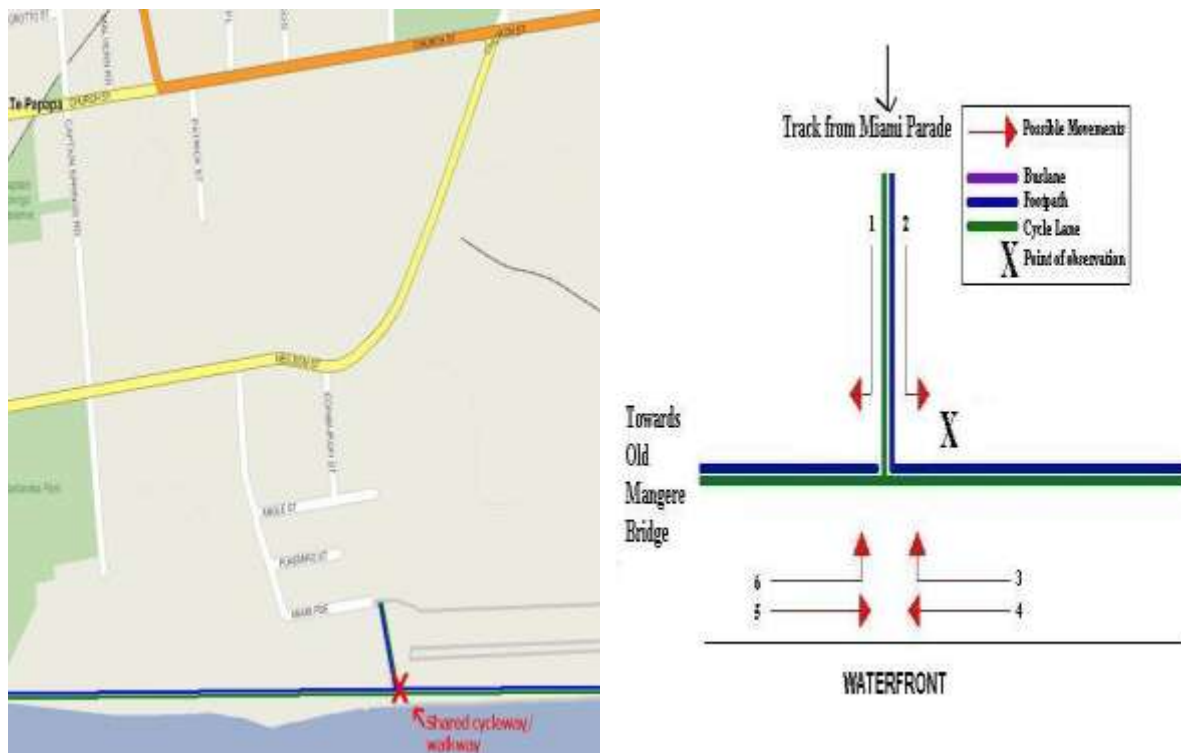
Figure 5.3: Evening Peak Cyclist Frequency
Apirana Avenue/Pilkington Road/Tripoli Road 2008 – 2013 (n)



6. 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



6.1 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



6.2 Morning Peak

Environmental Conditions

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

Key Points

- The total number of cycle movements recorded in the morning shift has remained stable, from 28 in 2012 to 29 this year.
- The key morning movement was straight along the waterfront, heading east (Movement 5 = 20 cyclists, unchanged from last year).
- The most notable increase in cyclist volumes across the six possible movements at this site was at Movement 4 (up 3 cyclists).

**Table 6.1: Morning Cyclist Movements
Waikaraka Cycleway, Onehunga South 2008 – 2013 (n)**

Movement	2008	2009	2010	2011	2012	2013	Change 12-13
1	0	0	0	0	1	0	-1
2	0	0	0	0	0	1	1
3	1	1	0	0	1	0	-1
4	2	3	2	11	3	6	3
5	9	11	1	17	20	20	0
6	1	3	4	1	3	2	-1
Total	13	18	7	29	28	29	1



- Over the morning peak, nearly all cyclists were adults (96 per cent). School children were observed riding past in the morning for the first time since 2008 (4 per cent).
- The majority of the cyclists were wearing a helmet (83 per cent, down from 100 per cent in 2012).
- Approximately four-fifths of cyclists (83 per cent) were male, stable from last year.

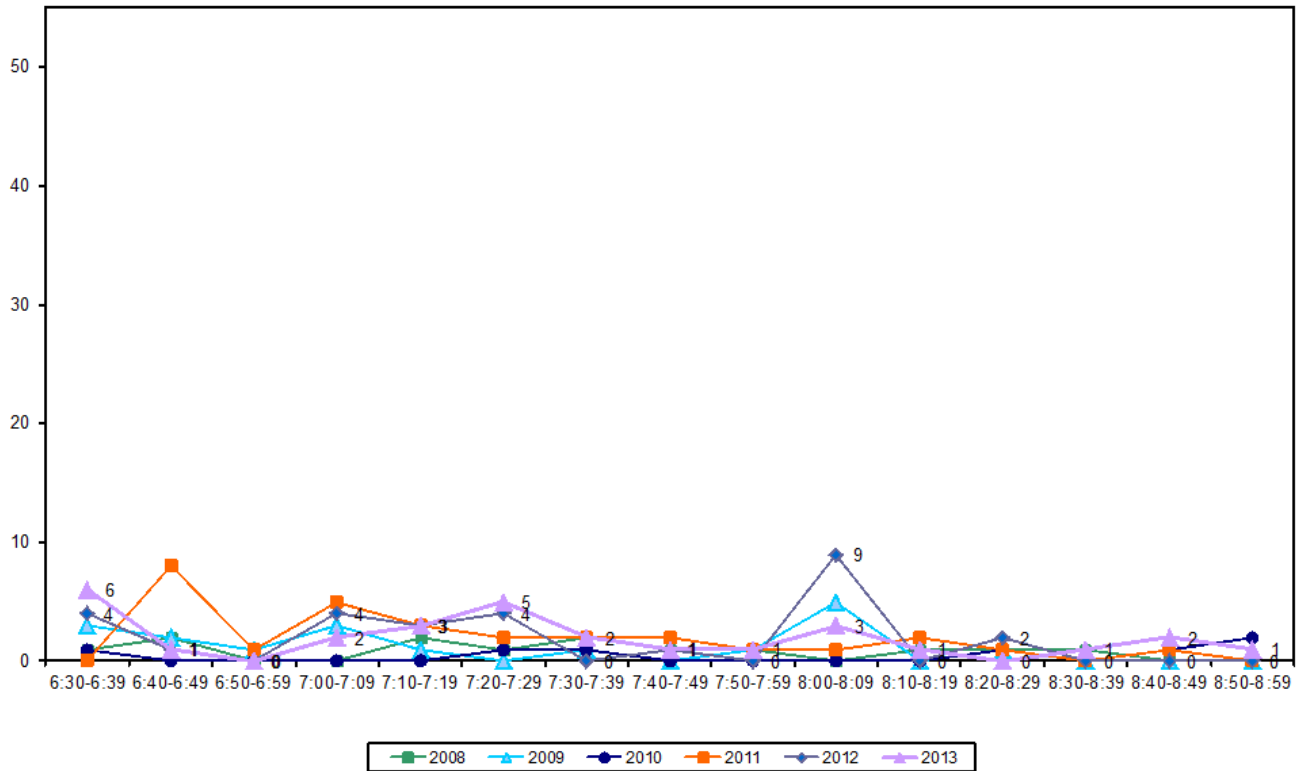
**Table 6.2: Morning Cyclist Characteristics
Waikaraka Cycleway, Onehunga South 2008 – 2013 (%)**

	2008	2009	2010	2011	2012	2013	Change 12-13
Cyclist Type							
Adult	100	100	100	100	100	96	-4
School child	0	0	0	0	0	4	4
Helmet Wearing							
Helmet on head	85	89	86	86	100	83	-17
No helmet	15	11	14	14	0	10	10
Unsure	-	-	-	-	-	7	7
Gender							
Male	-	-	-	66	82	83	1
Female	-	-	-	34	14	14	0
Can't tell	-	-	-	0	4	3	-1
Where Riding							
Off-road cycle way	100	100	100	100	100	100	0
Base:	13	18	7	29	28	29	



- Morning cycle volumes were low throughout the morning monitoring period, with a peak right at the start of the shift between 6:30am and 6:39am (6 movements) and a second peak between 7:20am and 7:29am (5 movements). This compares with the peak between 8:00am and 8:09am (9 cyclists) last year.

Figure 6.2: Morning Peak Cyclist Frequency
Waikaraka Cycleway, Onehunga South 2008 – 2013 (n)



Note: A group of three cyclists (10 per cent of the morning cycle volume at this site) rode past at 6:38am.



6.3 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 this year has been the highest since monitoring began at this site in 2008 – with 54 cycle movements recorded.
- The most common movement in the evening continued to be west along the cycleway towards the Old Mangere Bridge (Movement 4 = 27 cyclists).
- The most notable increases in cyclist volumes across the six possible movements at this site were at Movement 5 (up 13 cyclists) and at Movement 4 (up 11 cyclists).

Table 6.3: Evening Cyclist Movements
Waikaraka Cycleway, Onehunga South 2008 – 2012 (n)

<i>Movement</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>Change 12-13</i>
1	1	2	3	2	2	4	2
2	1	1	2	0	2	1	-1
3	0	0	1	0	0	1	1
4	21	19	18	21	16	27	11
5	15	8	9	13	4	17	13
6	3	3	2	0	0	4	4
Total	41	33	35	36	24	54	30



- Over the evening peak, nearly all cyclists using this cycleway were adults (94 per cent, down from 100 per cent in previous years).
- Four in five cyclists were wearing a helmet (79 per cent, down from 100 per cent at the previous measure).
- The greatest share of evening cyclists continued to be male (81 per cent, compared with 92 per cent last year).

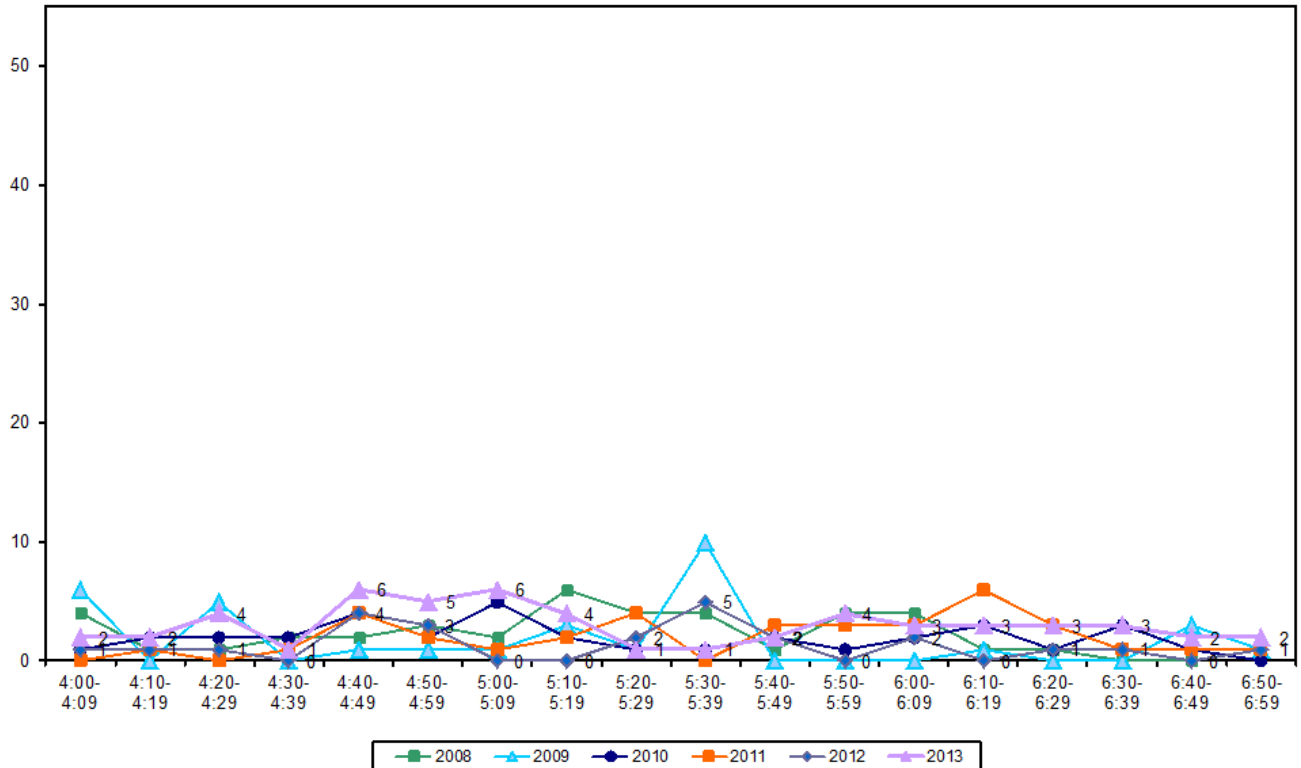
Table 6.4: Evening Cyclist Characteristics
Waikaraka Cycleway, Onehunga South 2008 – 2013 (%)

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



- Evening cycle volumes this year were slightly higher than previous years, with a peak period between 4:40pm and 5:19pm (21 cycle movements over the 40 minute period).

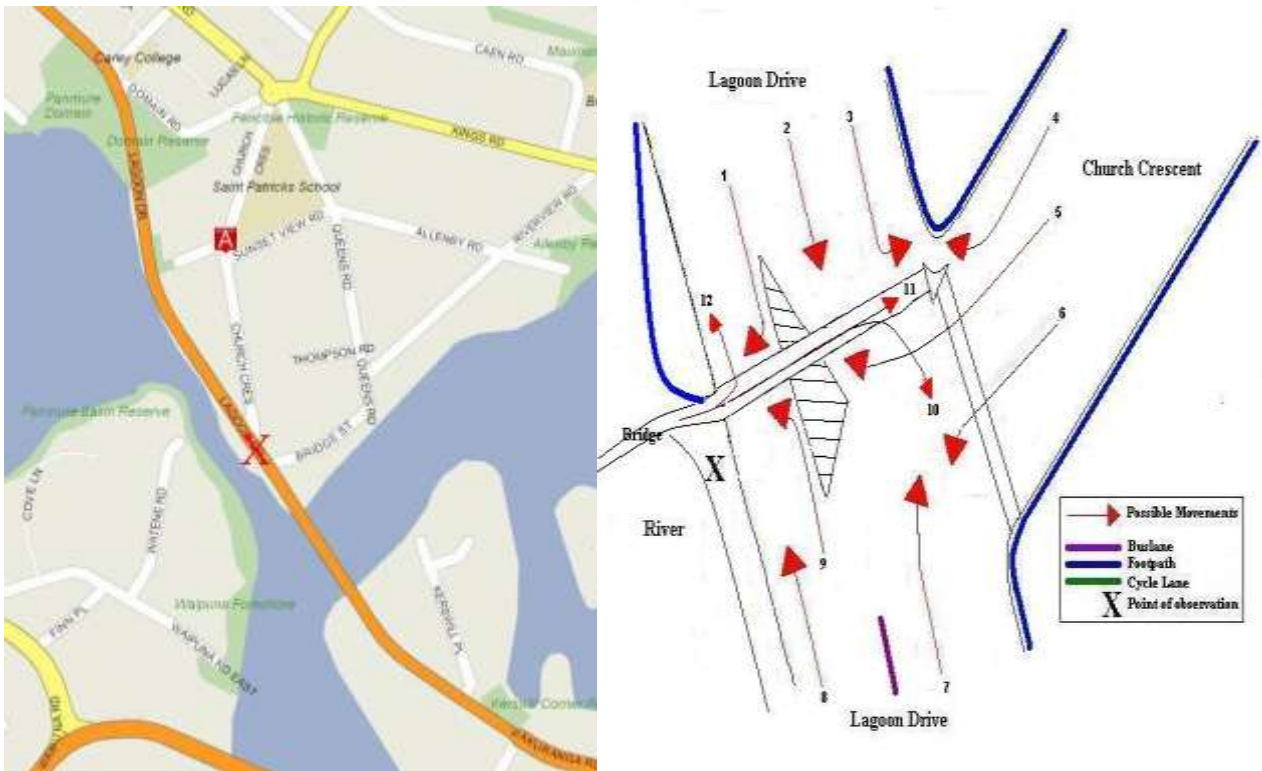
Figure 6.3: Evening Peak Cyclist Frequency
Waikaraka Cycleway, Onehunga South 2008 – 2013 (n)



7. 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



7.1 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



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

- Seventy-two cycle movements were recorded at this site in the morning peak, up from 66 in 2012.
- The key morning movement continued to be turning left from Lagoon Drive into the foot bridge (Movement 9 = 20 cyclists, stable from 21 cyclists last year).
- The most notable increase in cyclist volumes across the twelve possible movements at this site was at Movement 7 (up 9 cyclists).

Table 7.1: Morning Cyclist Movements
Lagoon Drive/Church Crescent, Panmure 2009 – 2013 (n)

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



- Almost all morning cyclists were adults at this site (94 per cent).
- Most cyclists were wearing a helmet (96 per cent, stable from 98 per cent in 2012).
- Ninety per cent of the cyclists were male, stable from last year.
- Just less than two-thirds of cyclists were riding on the road (62 per cent, down from 73 per cent in 2012).

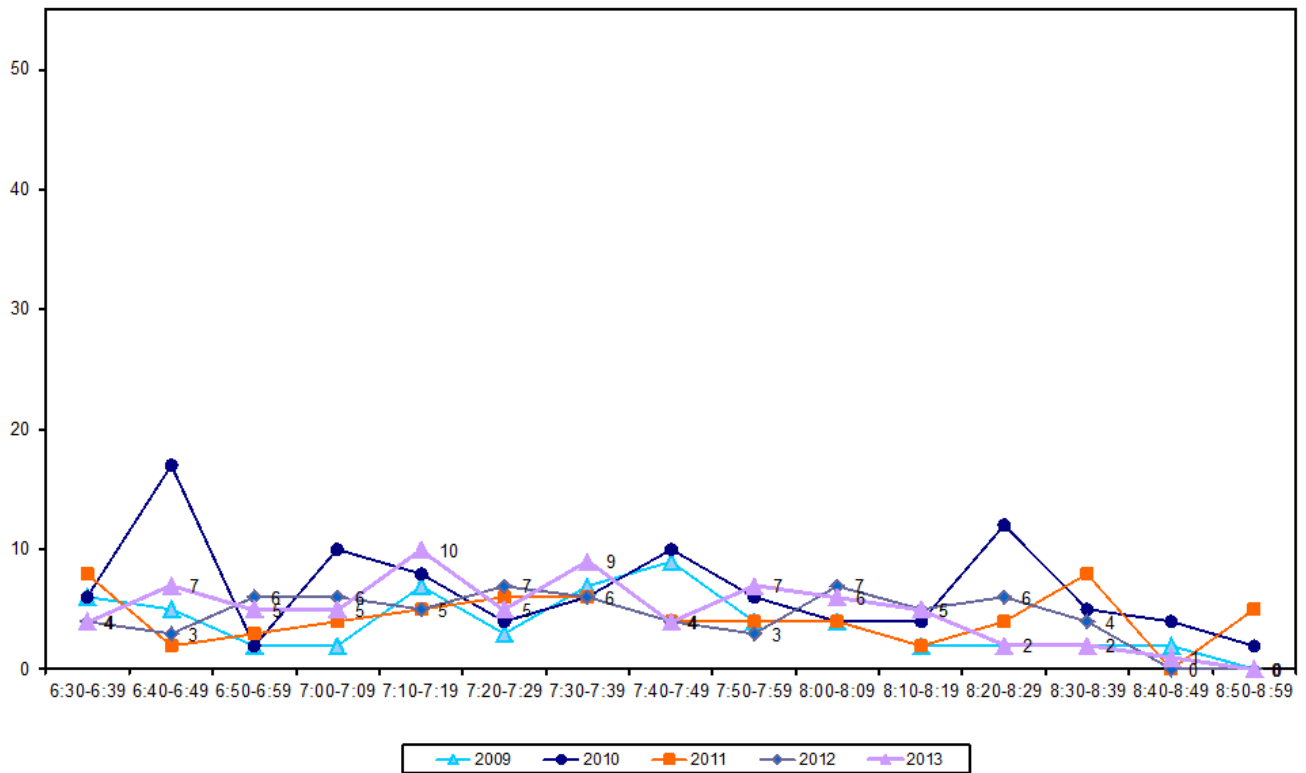
Table 7.2: Morning Cyclist Characteristics
Lagoon Drive/Church Crescent, Panmure 2009 – 2013 (%)

	2009	2010	2011	2012	2013	Change 12-13
Cyclist Type						
Adult	82	93	92	-	94	94
School child	18	7	8	-	6	6
Helmet Wearing						
Helmet on head	89	94	98	98	96	-2
No helmet	11	6	2	2	4	2
Gender						
Male	-	-	86	88	90	2
Female	-	-	14	11	6	-5
Can't tell	-	-	0	1	4	3
Where Riding						
Road	68	67	62	73	62	-11
Footpath	32	33	38	27	38	11
Base:	57	100	65	66	72	



- Morning cycle volumes were relatively low throughout the shift, with two peaks evident – the first one between 7:10am and 7:19 am (10 cyclists) and the second one between 7:30am and 7:39am (9 cyclists). From there, cycle volume slowly decreased until the end of the shift.

Figure 7.2: Morning Peak Cyclist Frequency
Lagoon Drive/Church Crescent, Panmure 2009 – 2013 (n)





7.3 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

- One hundred and ten movements were recorded over the evening shift at the Lagoon Drive and Church Crescent site, the highest count since monitoring began at this site in 2009.
- The most common movements in the evening were the right turn from Lagoon Drive into Church Crescent (Movement 7 = 27 cyclists) and return (Movement 6 = 23 cyclists), as well as turning right onto Lagoon Drive from the foot bridge (Movement 10 = 21 cyclists).
- The most notable increases in cyclist movements occurred at Movement 7 (up 17 cyclists) and at Movement 6 (up 11 cyclists).

Table 7.3: Evening Cyclist Movements
Lagoon Drive/Church Crescent, Panmure 2009 – 2013 (n)

<i>Movement</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>Change 12-13</i>
1	0	0	0	0	0	0
2	10	12	12	10	18	8
3	0	0	1	0	0	0
4	0	0	0	0	1	1
5	0	0	0	1	1	0
6	10	20	13	12	23	11
7	17	19	34	10	27	17
8	9	11	10	12	13	1
9	6	10	6	8	3	-5
10	15	18	19	18	21	3
11	5	5	3	0	3	3
12	0	0	0	0	0	0
Total	72	95	98	71	110	39



- Nearly all evening cyclists were adults (98 per cent).
- Most cyclists were wearing a helmet (92 per cent, down slightly from 96 per cent last year).
- The greatest share of evening cyclists were male (82 per cent, down from 88 per cent last year).
- Seventy-one per cent of the cyclists were riding on the road (up from 65 per cent in 2012).

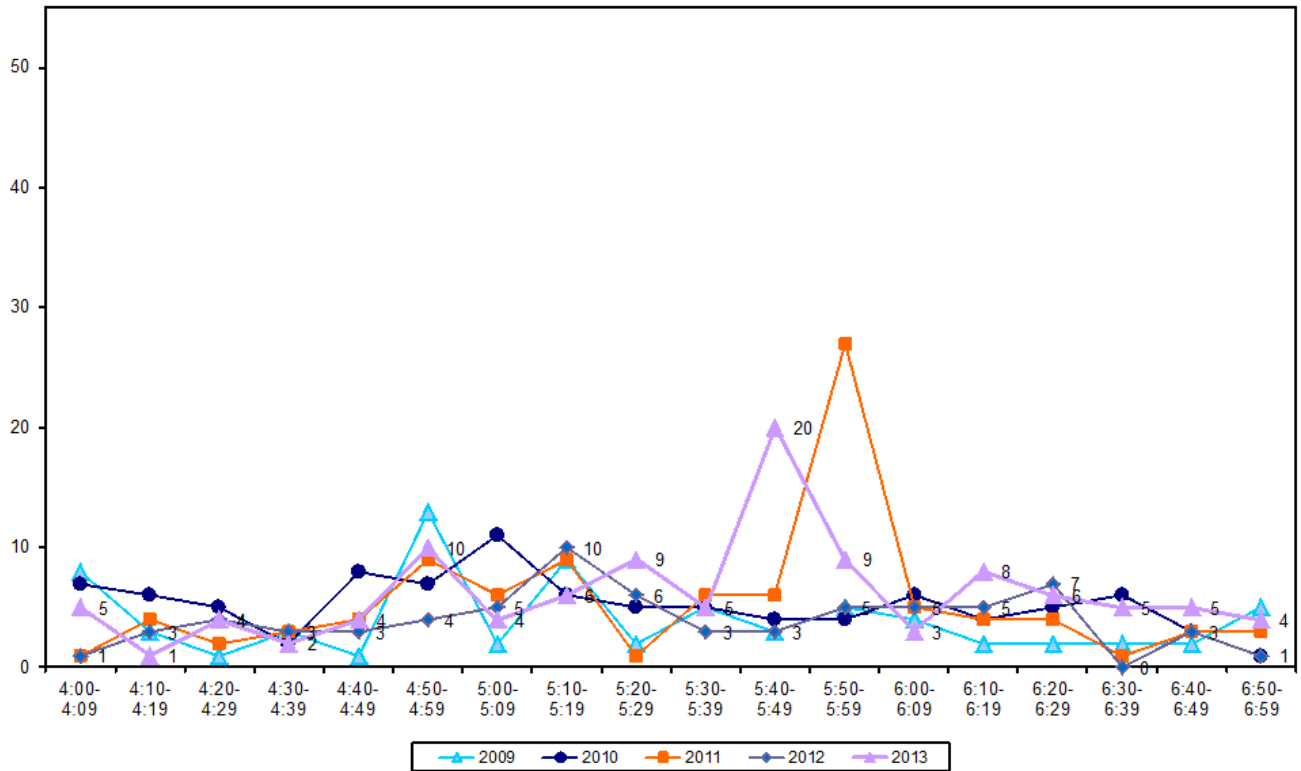
Table 7.4: Evening Cyclist Characteristics
Lagoon Drive/Church Crescent, Panmure 2009 – 2013 (%)

	2009	2010	2011	2012	2013	Change 12-13
Cyclist Type						
Adult	96	93	94	-	98	98
School child	4	7	6	-	2	2
Helmet Wearing						
Helmet on head	89	89	98	96	92	-4
No helmet	11	11	2	4	8	4
Gender						
Male	-	-	86	88	82	-6
Female	-	-	14	11	13	2
Can't tell	-	-	0	1	5	4
Where Riding						
Road	79	81	77	65	71	6
Footpath	21	19	23	35	29	-6
Base:	72	95	98	71	110	



- Cyclist volumes in the evening peaked sharply between 5:40pm and 5:49pm with 20 cyclists recorded. Otherwise cycle traffic did not exceed 10 cycle movements in any ten-minute interval. This compares with the peak between 5:10pm and 5:19pm (10 cyclists) last year.

Figure 7.3: Evening Peak Cyclist Frequency
Lagoon Drive/Church Crescent, Panmure 2009 – 2013 (n)

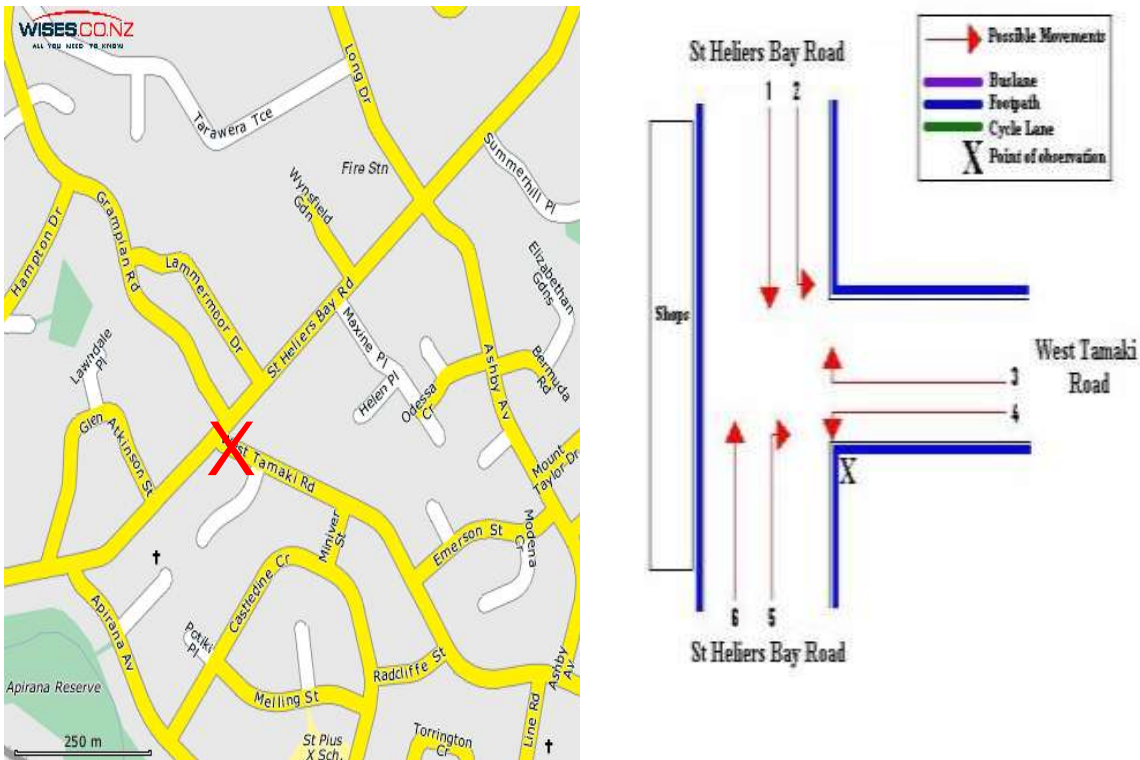


Note: A group of 14 cyclists (13 per cent of the evening cycle volume of this site) were observed riding past at 5:48pm.

8. 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



8.1 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



8.2 Morning Peak

Environmental Conditions

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

Key Points

- The volume of morning peak cyclists at the St Heliers Bay/West Tamaki Road intersection has increased noticeably from last year – up from 86 to 177 movements this year. More than half of the movements in the morning were made by pelotons (101 movements).
- The key morning movement was turning right on to West Tamaki Road from St Heliers Bay Road (Movement 5 = 86 cyclists). There have been 61 more cyclists making this movement this year compared with last year.

Table 8.1: Morning Cyclist Movements
St Heliers Bay/West Tamaki Road 2007 – 2013 (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>Change 12-13</i>
1	17	14	16	20	19	17	24	7
2	4	4	1	5	4	3	3	0
3	21	7	5	7	6	3	28	25
4	5	14	12	12	33	12	19	7
5	69	53	7	21	61	25	86	61
6	23	15	20	33	27	26	17	-9
Total	139	107	61	98	150	86	177	91



- Over the morning peak, adults comprised the greatest share of cycle movements (92 per cent, up from 88 per cent the previous year).
- Nearly all cyclists were wearing a helmet (92 per cent, down from 99 per cent last year).
- Eighty-five per cent of cyclists were male.
- Consistent with last year, the majority of cyclists are riding on the road (93 per cent, unchanged with the last measure).

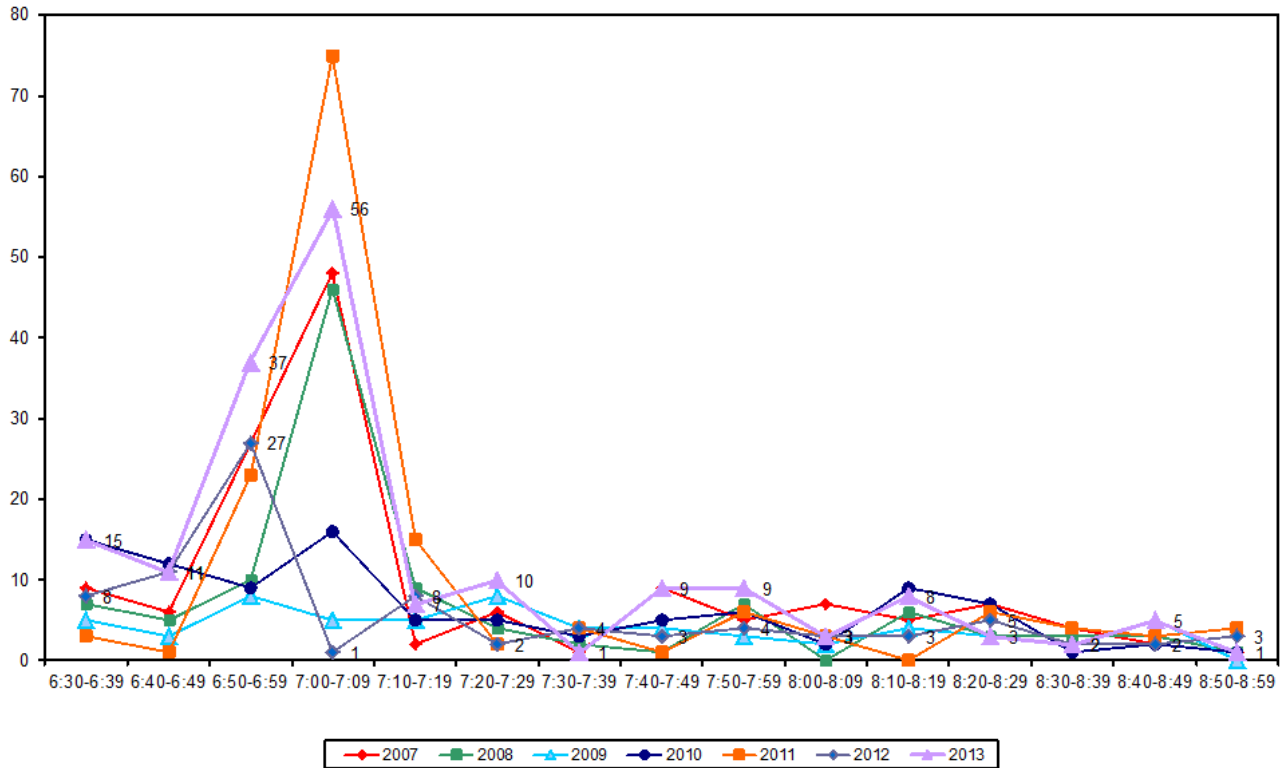
**Table 8.2: Morning Cyclist Characteristics
St Heliers Bay/West Tamaki Road 2007 – 2013 (%)**

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



- There was a sharp peak in cycle volume between 6:50am and 7:09am (a total of 63 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 – 2013 (n)**



Note: In 2013, 57 per cent of the total cycle movements (n=101) in the morning peak were identified as cycling in groups. Three or more cyclists were observed travelling in groups at this site at the following times:

- 4 cyclists at 6:30am
- 4 cyclists at 6:32am
- 3 cyclists at 6:37am
- 3 cyclists at 6:40am
- 17 cyclists at 6:52am
- 3 cyclists at 6:57am
- 13 cyclists at 6:59am
- 30 cyclists at 7:02am
- 20 cyclists at 7:05am
- 4 cyclists at 7:06am.



8.3 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 increased by 22 movements, to a total of 71 movements in 2013.
- The key movement at this site in the evening was straight along St Heliers Bay Road heading north (Movement 6 = 26 cyclists).
- The most noticeable increases were at Movement 5 and at Movement 4 (up 7 cyclists and 6 cyclists respectively).

**Table 8.3: Evening Cyclist Movements
St Heliers Bay/West Tamaki Road 2007 – 2013 (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>Change 12-13</i>
1	22	19	15	23	17	9	14	5
2	6	6	7	6	6	5	4	-1
3	4	8	6	2	4	1	1	0
4	5	5	5	6	8	4	10	6
5	3	12	7	9	11	9	16	7
6	29	10	7	26	28	21	26	5
Total	69	60	47	72	74	49	71	22



- Consistent with the morning peak, the greatest share of cyclists using this intersection were adults (86 per cent, up from 73 per cent in 2012).
- Most cyclists at this site were wearing a helmet (92 per cent, unchanged from last year).
- Eighty-three per cent of cyclists were male, up from 71 per cent last year.
- The majority of cyclists were riding on the road (83 per cent, stable from 82 per cent last year).

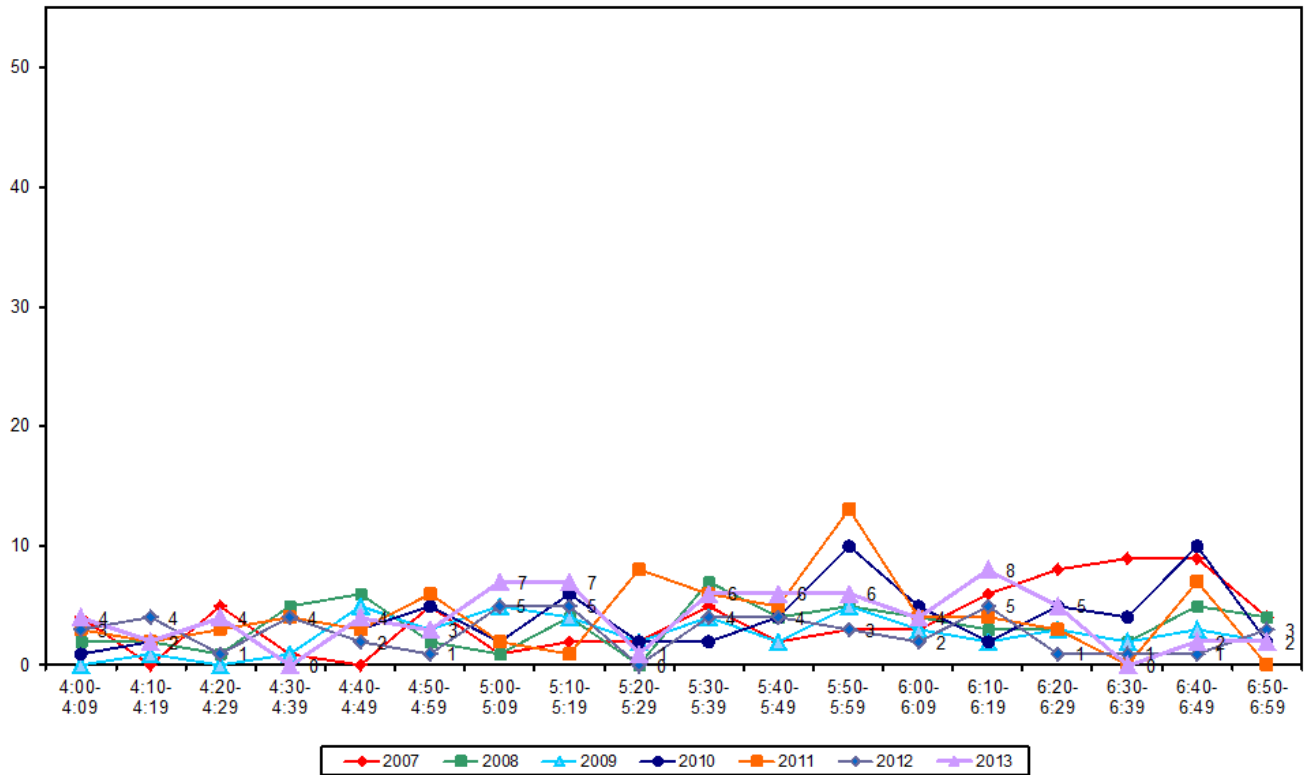
**Table 8.4: Evening Cyclist Characteristics
St Heliers Bay/West Tamaki Road 2007 – 2013 (%)**

	2007	2008	2009	2010	2011	2012	2013	Change 12-13
Cyclist Type								
Adult	93	88	89	96	89	73	86	13
School child	7	12	11	4	11	27	14	-13
Helmet Wearing								
Helmet on head	99	92	94	96	88	92	92	0
No helmet	1	8	6	4	12	8	8	0
Gender								
Male	-	-	-	-	91	71	83	12
Female	-	-	-	-	9	27	17	-10
Can't tell	-	-	-	-	0	2	0	-2
Where Riding								
Road	88	87	87	96	76	82	83	1
Footpath	12	13	13	4	24	18	17	-1
Base:	69	60	47	72	74	49	71	



- The volume of evening cycle movements was relatively stable throughout the evening period, with a maximum of eight cyclists from 6:10pm to 6:19pm. The trough between 5:20pm to 5:29pm was consistent with previous years.

Figure 8.3: Evening Peak Cyclist Frequency
St Heliers Bay/West Tamaki Road 2007 – 2013 (n)





9. SCHOOL BIKE SHED COUNT

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

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 school⁹.
- Most schools did not report any events or issues that may affect cycle counts¹⁰.
- Although the designated count day was Tuesday 5th of March 2013, most schools in the Maungakiekie-Tamaki ward completed their count on an alternative day¹¹.

Key Points

- Of those students eligible to cycle, on average one per cent of students are currently cycling to their schools (up from no students in 2012).
- In total, n=38 students from the 22 responding schools were reported as cycling to school.
- Six schools share the highest share of cyclists this year (each with one per cent of students cycling):

⁹ The following schools had policies surrounding the riding of bicycles to school:

- Ellerslie School *"Students in Years 5-8 may ride"*
- Panmure Bridge School *"No one is allowed to cycle to school"*
- Panmure District School *"No one is allowed to bike - situated on a main road"*
- St Patrick's School (Panmure) *"Bring bicycle to school only with permission of parents and principal, approved safety gear to be used at all time when riding a bicycle, parents/caregivers and students responsible for maintaining the bicycle in accordance with current NZ Bicycle code"*
- Stanhope Road School *"Letter from parents, bike needs to be roadworthy - helmet, etc."*

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

- Ellerslie School *"Softball tournament may have impact on this total"*

¹¹ The following schools undertook counts on alternative days:

- Bailey Road School – 11th March 2013
- Carey College – 15th March 2013
- Destiny School – 13th March 2013
- Glen Innes School – 13th March 2013
- Glenbrae Primary School – 13th March 2013
- Golden Grove School – 13th March 2013
- One Tree Hill College – 14th March 2013
- Onehunga High School – 14th March 2013
- Panmure Bridge School – 14th March 2013
- Panmure District School – 13th March 2013
- Pt England School – 13th March 2013
- Royal Oak Intermediate – 14th March 2013
- Somerville Special School – 28 February 2013
- St Patrick's School (Panmure) – 28th February 2013
- St Pius X School (Glen Innes) – 13th March 2013
- Stanhope Road School – 13th March 2013
- Tamaki College – 11th March 2013
- Te Kura Kaupapa Māori o Puau Te Moananui-a-Kiwa – 1st March 2013



- Ellerslie School
 - Glen Innes School
 - One Tree Hill College
 - Onehunga High School
 - Royal Oak Intermediate
 - Tamaki Primary School.
- Of the 22 schools that responded, 15 (68 per cent) had no students cycling to school.
 - Of the 13 schools that participated in the count in both 2012 and 2013, 3 (23 per cent) reported an increase in the share of students cycling. None of the 13 schools that participated in the count in both 2012 and 2013 reported a decrease in the share of students cycling.
 - Rates of cycling to school are highest among intermediate and secondary schools (each 1 per cent).

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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 – 2013 (n)**

School Name	School Type	School Roll Eligible To Cycle	No. of Cycles	Cyclists as share of those eligible ¹²						
				2013	2012	2011	2010	2009	2008	2007
Ellerslie School	Full Primary	230	2	1%	0%	1%	-	-	-	-
Glen Innes School	Full Primary	180	1	1%	0%	-	-	-	-	-
One Tree Hill College	Secondary	920	8	1%	-	-	<1%	0%	-	-
Onehunga High School	Secondary	1300	18	1%	-	-	1%	1%	-	-
Royal Oak Intermediate	Intermediate	500	6	1%	-	-	-	3%	2%	2%
Tamaki Primary School	Full Primary	248	2	1%	-	-	-	-	-	-
Stanhope Road Primary	Full Primary	466	1	<1%	0%	<1%	-	-	-	-
Sylvia Park School	Full Primary	370	0	0%	-	0%	-	-	-	-
Bailey Road School	Full Primary	400	0	0%	0%	0%	-	-	-	-
Carey College	Composite	33	0	0%	-	-	0%	0%	-	-
Destiny School	Full Primary	160	0	0%	0%	0%	-	-	-	-
Glenbrae School	Full Primary	184	0	0%	0%	-	-	-	-	-
Golden Grove School	Full Primary	30	0	0%	0%	0%	-	-	-	-
Panmure Bridge School	Full Primary	0	0	0%	-	-	-	-	-	-
Panmure District School	Full Primary	0	0	0%	0%	1%	-	-	-	-
Pt England School	Full Primary	590	0	0%	0%	0%	-	-	-	-
Ruapotaka School	Full Primary	186	0	0%	0%	-	-	-	-	-

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



School Name	School Type	School Roll Eligible To Cycle	No. of Cycles	Cyclists as share of those eligible ¹²						
				2013	2012	2011	2010	2009	2008	2007
Sommerville Special School	Composite	203	0	0%	0%	-	-	-	-	-
St Patrick's School (Panmure)	Full Primary	99	0	0%	0%	-	-	-	-	-
St Pius X School (Glen Innes)	Full Primary	153	0	0%	0%	1%	-	-	-	-
Te Kura Kaupapa Māori o Puau Te Moananui-a-Kiwa	Composite	138	0	0%	-	0%	-	-	-	-
Tamaki College	Secondary	600	0	0%	-	-	0%	0%	<1%	<1%
Total		6990	38	1%	0%	-	-	-	-	-

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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 1 per cent).

**Table 9.2: Summary Table of School Bike Count by School Type
2007 – 2013 (%)**

Year Levels	Number of Schools Responded in 2013	Cyclists as share of those eligible							
		2007	2008	2009	2010	2011	2012	2013	Change 12-13
Intermediate	1	3%	0%	1%	0%	1%	0%	1%	1%
Secondary	3	-	-	-	-	-	-	1%	-
Full Primary	14	-	-	-	-	<1%	0%	<1%	0%
Composite	4	-	-	-	-	0%	0%	0%	0%
Intermediate/Secondary	0	-	-	-	-	-	-	-	-

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APPENDICES

Appendix One: Annual Average Daily Traffic (AADT) Calculation



APPENDIX ONE: ANNUAL AVERAGE DAILY TRAFFIC (AADT) CALCULATION

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

Purpose

The purpose of this appendix is to document the recommended procedure for estimating a cycling AADT¹³ 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)¹⁴, 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.

¹³ Annual average daily traffic

¹⁴ 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 _{Weekday}		H _{Weekend}	
			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%