

# 2013 Auckland Region Manual Cycle Monitor

## - Waitemata and Gulf Ward -





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**APPENDICES**

Appendix One: Annual Average Daily Traffic (AADT) Calculation



# 1. WAITEMATA AND GULF 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:

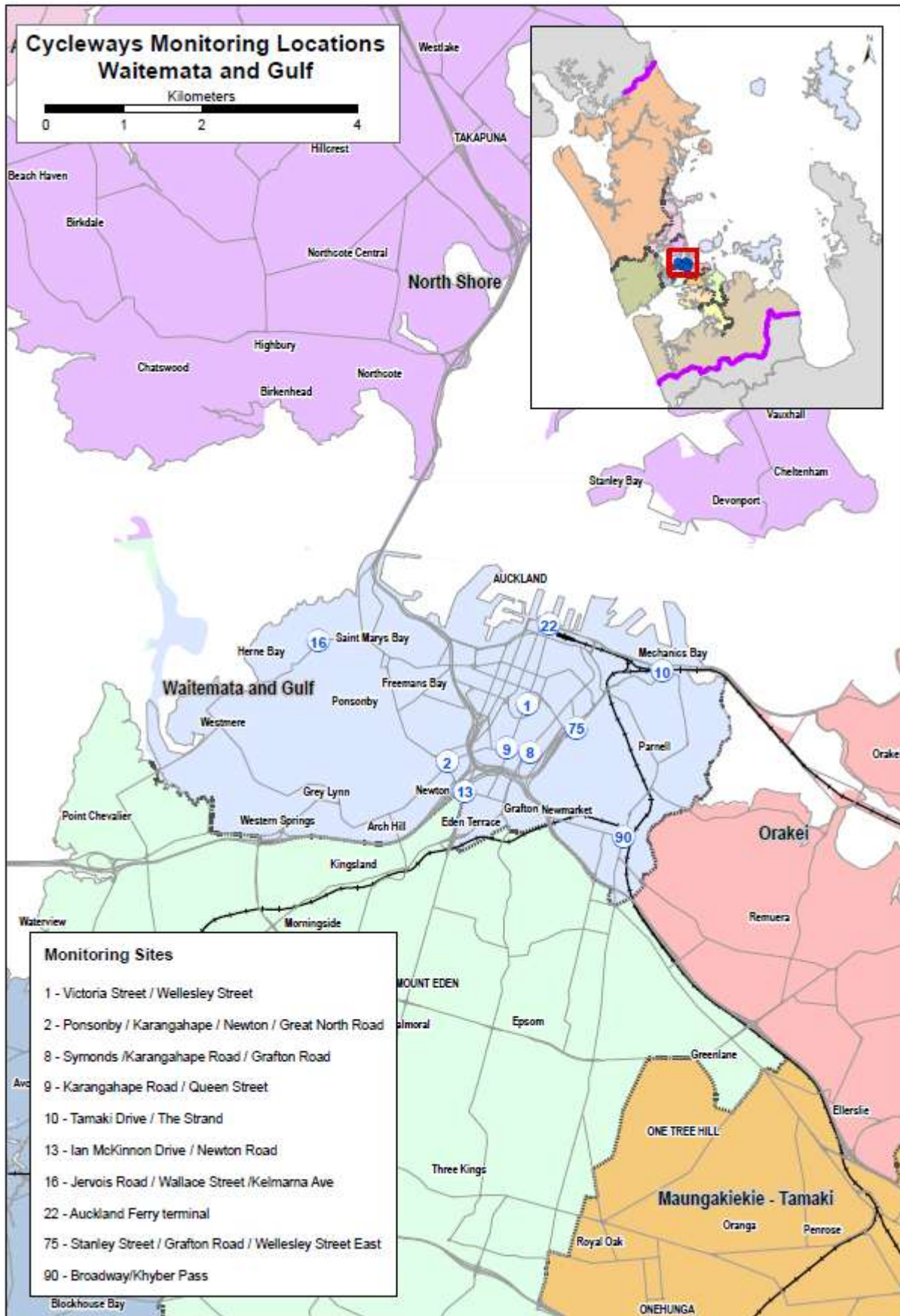
- standard monitoring days are used – that is, school and tertiary holidays, and statutory holidays are excluded and that monitoring preferably takes place at the same time each year to enable reliable year-on-year comparisons to be made. Decisions about whether cycle counts take place on weekdays and 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 10 sites in the Waitemata and Gulf 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 ten pre-determined sites in the Waitemata and Gulf 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 Waitemata and Gulf ward.

Figure 1.1: 2013 Cycle Monitoring Locations in Waitemata and Gulf 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 6:30am and 9:00am, 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 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup>, or 14<sup>th</sup> of March.

Counts were conducted on the following days:

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

#### **Tuesday 5<sup>th</sup> 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 cloud in the evening.





### Wednesday 6<sup>th</sup> 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 7<sup>th</sup> 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 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 have been given in the report, along with a percentage figure indicating what share of all cyclists at the site were riding as groups.

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

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

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

### ***Data Analysis***

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

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

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

### **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.

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<sup>8</sup> 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 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 filled out the online count form and submitted it electronically to Gravitass. Gravitass 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 ten sites surveyed in the Waitemata and Gulf 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 Waitemata and Gulf 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 Eleven of this report.

Note: Surveying in the Waitemata and Gulf ward was undertaken on Wednesday 6<sup>th</sup> of March, 2013. Sunrise was at 7:11am and sunset was at 7:53pm. The highest temperature was 24 degrees Celsius.



## 1.4 Morning Peak Summary Results

### *Environmental Conditions*

- All sites in the Waitemata and Gulf ward had fine weather in the morning monitoring period.
- No sites reported road works or accidents that may have affected cycle counts.

### *Key Points*

- A total of 2,543 cyclist movements were recorded across the ten sites in the morning peak period in 2013. There has been a considerable increase in morning cycle movements (up 16 per cent) between 2012 (2193 movements) and 2013 (2543 movements).
- Three per cent (n=71) of the total cycle movements in the morning peak were made by those cycling in groups. This compares with nine per cent (n=138) last year.
- The average volume of morning cyclists across the all ten sites monitored in the Waitemata and Gulf ward was 254. This compares with 219 movements last year.
- Of the ten sites monitored, the busiest site in the morning peak continued to be the intersection of Tamaki Drive and The Strand (507 cycle movements), whereas the Stanley Street/Grafton Road site was still the quietest site in the morning (55 cycle movements).
- All sites have recorded increases over the last twelve months, the most noticeable being at:
  - Stanley Street/Grafton Road – up 45 per cent
  - Victoria/Wellesley Street – up 26 per cent; and
  - Ponsonby/Karangahape Road – up 24 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
10	Tamaki Drive/The Strand	480	416	321	498	630	503	<b>507</b>	<b>1%</b>	<b>6%</b>
8	Symonds Street/Karangahape Road	290	285	246	283	317	338	<b>410</b>	<b>21%</b>	<b>41%</b>
9	Karangahape Road/Queen Street	246	212	238	272	256	266	<b>315</b>	<b>18%</b>	<b>28%</b>
2	Ponsonby/Karangahape Road	226	199	176	242	222	204	<b>253</b>	<b>24%</b>	<b>12%</b>
22	Ferry Terminal	195	158	137	198	205	189	<b>205</b>	<b>8%</b>	<b>5%</b>
1	Victoria/Wellesley Street	70	57	59	82	116	82	<b>103</b>	<b>26%</b>	<b>47%</b>
	<b>Average per site (6 sites since 2007)</b>	<b>251</b>	<b>221</b>	<b>196</b>	<b>263</b>	<b>291</b>	<b>264</b>	<b>299</b>	<b>13%</b>	<b>19%</b>
	<b>Total (6 sites since 2007)</b>	<b>1507</b>	<b>1327</b>	<b>1177</b>	<b>1575</b>	<b>1746</b>	<b>1582</b>	<b>1794</b>	<b>13%</b>	<b>19%</b>
13	Ian McKinnon/Newton Road	-	-	139	190	236	219	<b>303</b>	<b>28%</b>	-
16	Jervois Road/Wallace Street	-	-	60	88	73	62	<b>70</b>	<b>13%</b>	-
75	Stanley Street/Grafton Road	-	36	49	47	27	38	<b>55</b>	<b>45%</b>	-
	<b>Average per site (7 sites since 2008, 9 sites in 2009, 2010, and 2011)</b>	-	<b>195</b>	<b>158</b>	<b>211</b>	<b>231</b>	<b>211</b>	<b>247</b>	<b>17%</b>	-
	<b>Total (7 sites since 2008, 9 sites since 2009, 10 sites in 2009, 2010, and 2011)</b>	-	<b>1363</b>	<b>1425</b>	<b>1900</b>	<b>2082</b>	<b>1901</b>	<b>2221</b>	<b>17%</b>	-
90	Broadway/Khyber Pass Road	-	-	-	-	-	292	<b>322</b>	<b>10%</b>	-
	<b>Average per site (7 sites since 2008, 9 sites since 2009, 10 sites since 2012)</b>	-	-	-	-	-	<b>219</b>	<b>254</b>	<b>16%</b>	-
	<b>Total (7 sites since 2008, 9 sites since 2009, 10 sites since 2012)</b>	-	-	-	-	-	<b>2193</b>	<b>2543</b>	<b>16%</b>	-





- Morning cyclist characteristics this year are similar to those reported in 2012. Ninety-nine per cent of cyclists were adults (unchanged since 2010).
- Almost all cyclists were wearing a helmet (95 per cent, stable from 93 per cent in 2012).
- Over three-quarters of morning cyclists were male (79 per cent, up from 76 per cent last year).
- Riding on the road remained common (74 per cent, slightly down from 78 per cent last year).

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

	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>								
Adult	99	96	98	99	99	99	99	0
School child	1	4	2	1	1	1	1	0
<b>Helmet Wearing</b>								
Helmet on head	95	93	93	92	92	93	95	2
No helmet	5	7	7	8	8	7	5	-2
<b>Gender</b>								
Male	-	-	-	-	74	76	79	3
Female	-	-	-	-	19	16	17	1
Can't tell	-	-	-	-	7	8	4	-4
<b>Where Riding*</b>								
Road	89	94	78	75	74	78	74	-4
Footpath	11	6	11	16	15	13	13	0
Off-road cycleway	0	0	11	9	11	9	12	3
Can't tell	-	-	-	-	-	-	1	1
<b>Base:</b>	<b>1507</b>	<b>1363</b>	<b>1425</b>	<b>1900</b>	<b>2082</b>	<b>2193</b>	<b>2543</b>	

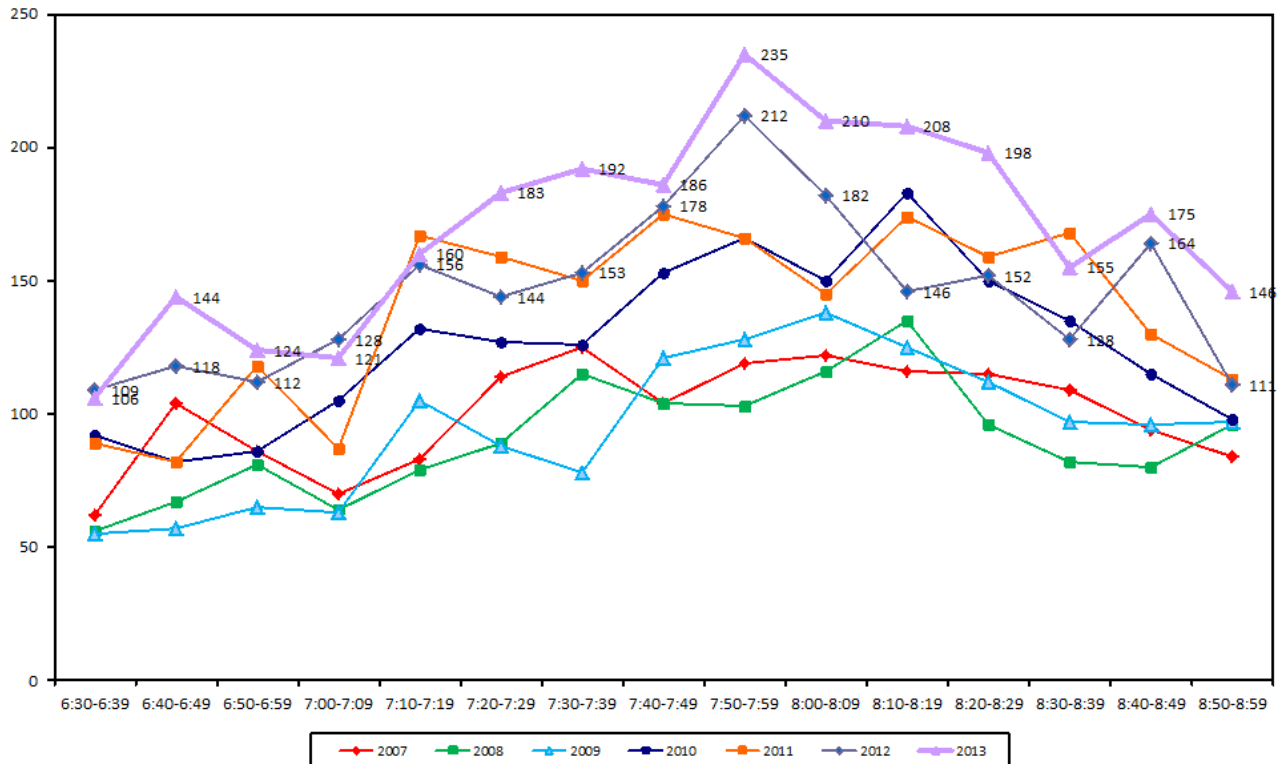
\* Note: Prior to 2009, cyclists riding on the North-Western, Waikaraka, Onehunga Harbour Road cycleways, and the designated side of the footpath on Tamaki Drive are categorised as road riders.

The Ferry Terminal, Auckland Central site has not been included for figures regarding where cyclists were riding.



- Figure 1.2 shows the overall pattern of morning cyclist volumes recorded at the ten sites monitored in 2013. Morning cyclist numbers followed an increasing trend to peak between 7:50am and 7:59am (235 cyclists), after which the numbers of movements declined until the end of the monitoring period.

**Figure 1.2: Total Cyclist Frequency – Morning Peak  
2007 – 2013 (n)**





## 1.5 Evening Peak Summary Results

### *Environmental Conditions*

- All sites had fine weather, with some clouds during the evening monitoring period.
- There were no road works or accidents that may affect cycle counts.

### *Key Points*

- A total of 2,594 cyclist movements were recorded across the ten sites in the evening peak period in 2013, an overall increase of six per cent between 2012 (2450 movements) and 2013 (2594 movements).
- No cyclists were observed as riding in groups this year, compared with three per cent (n=75) of the total cycle movements in the evening peak made by pelotons last year.
- The average volume of morning cyclists across all ten sites monitored in the Waitemata and Gulf ward was 259 cycle movements. This compares with 245 movements in 2012.
- Of the ten sites monitored, the busiest site in the evening peak was the intersection of Symonds Street/Karangahape Road (492 cycle movements, the highest count since monitoring began in 2007), whereas the Stanley Street/Grafton Road site has the lowest volume of evening cyclists (62 movements, also the highest count at this site since it was first monitored in 2008).
- Seven of the ten sites have recorded increases this year. The most noticeable increases were at:
  - Victoria/Wellesley Street - up 34 per cent; and
  - Symonds Street/Karangahape Road – up 25 per cent.
- Three sites have recorded decreases in evening cycle volumes, they are:
  - Jervois Road/Wallace Street – down 16 per cent
  - Tamaki Drive/The Strand – down 6 per cent; and
  - Ian McKinnon Drive/Newton Road – down 2 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
8	Symonds Street/Karangahape Road	349	336	282	314	373	394	<b>492</b>	<b>25%</b>	<b>41%</b>
10	Tamaki Drive/The Strand	420	370	282	438	429	441	<b>414</b>	<b>-6%</b>	<b>-1%</b>
9	Karangahape Road/Queen Street	261	212	221	310	298	307	<b>339</b>	<b>10%</b>	<b>30%</b>
2	Ponsonby/Karangahape Road	261	216	194	317	289	294	<b>342</b>	<b>16%</b>	<b>31%</b>
22	Ferry Terminal	185	158	111	197	186	200	<b>212</b>	<b>6%</b>	<b>15%</b>
1	Victoria/Wellesley Street	90	79	65	80	109	110	<b>73</b>	<b>34%</b>	<b>-19%</b>
	<b>Average per site (6 sites since 2007)</b>	<b>261</b>	<b>229</b>	<b>193</b>	<b>276</b>	<b>281</b>	<b>291</b>	<b>312</b>	<b>7%</b>	<b>20%</b>
	<b>Total (6 sites since 2007)</b>	<b>1566</b>	<b>1371</b>	<b>1155</b>	<b>1656</b>	<b>1684</b>	<b>1746</b>	<b>1872</b>	<b>7%</b>	<b>20%</b>
13	Ian McKinnon/Newton Road	-	-	152	184	324	284	<b>279</b>	<b>-2%</b>	<b>-</b>
16	Jervois Road/Wallace Street	-	-	51	79	75	79	<b>66</b>	<b>-16%</b>	<b>-</b>
75	Stanley Street/Grafton Road	-	29	47	46	47	56	<b>62</b>	<b>11%</b>	<b>-</b>
	<b>Average per site (7 sites since 2008, 9 sites in 2009, 2010, and 2011)</b>	<b>-</b>	<b>189</b>	<b>156</b>	<b>218</b>	<b>237</b>	<b>241</b>	<b>253</b>	<b>5%</b>	<b>-</b>
	<b>Total (7 sites since 2008, 9 sites since 2009, 10 sites in 2009, 2010, and 2011)</b>	<b>-</b>	<b>1321</b>	<b>1405</b>	<b>1965</b>	<b>2130</b>	<b>2165</b>	<b>2279</b>	<b>5%</b>	<b>-</b>
90	Broadway/Khyber Pass Road	-	-	-	-	-	285	<b>315</b>	<b>11%</b>	<b>-</b>
	<b>Average per site (7 sites since 2008, 9 sites since 2009, 10 sites since 2012)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>245</b>	<b>259</b>	<b>6%</b>	<b>-</b>
	<b>Total (7 sites since 2008, 9 sites since 2009, 10 sites since 2012)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2450</b>	<b>2594</b>	<b>6%</b>	<b>-</b>



- Ninety-eight per cent of evening cyclists this year were adults (stable from 2007).
- Most cyclists were wearing a helmet in the evening (91 per cent, stable from 90 per cent in 2012).
- Most cyclists were male (80 per cent, unchanged from last year).
- The majority of evening cyclists were riding on the road (72 per cent, up slightly from 69 per cent in 2012). The use of the cycleway and footpath for riding has been on a decline over the last few years.

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

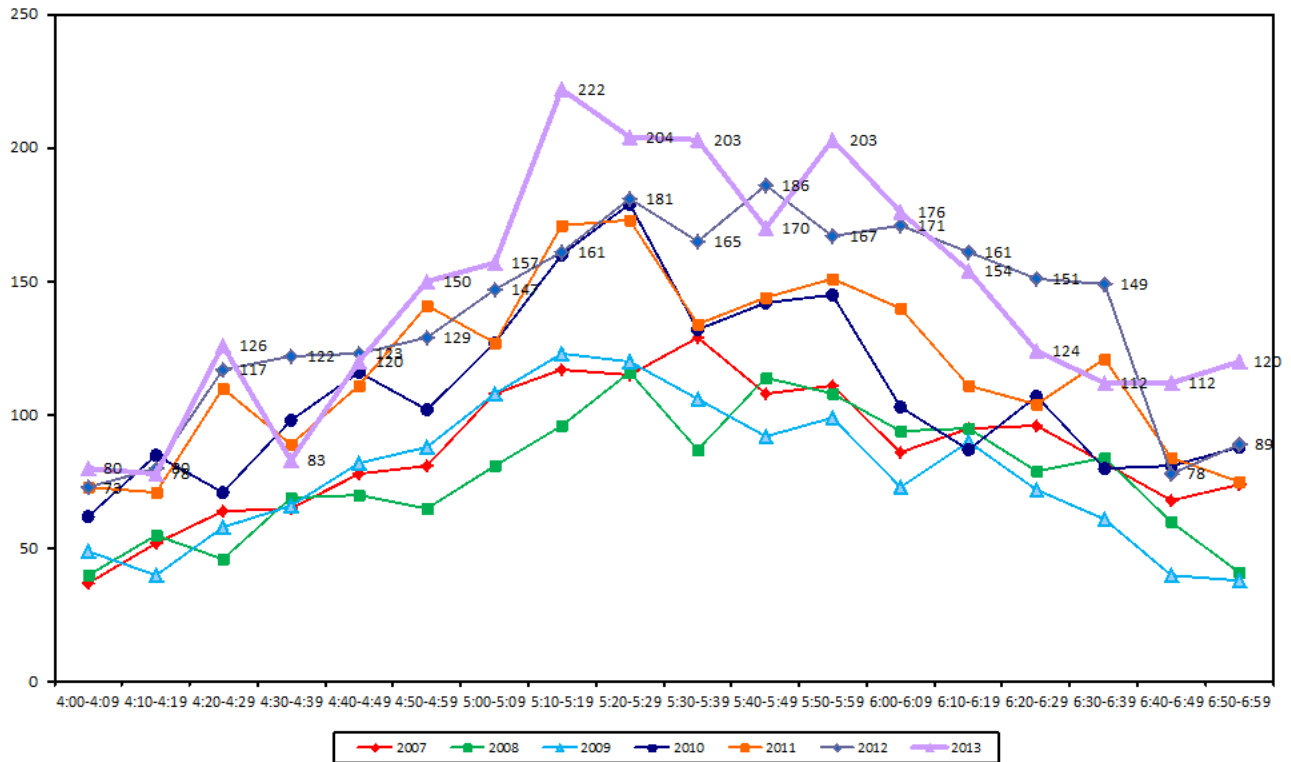
	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>								
Adult	99	99	98	99	99	99	<b>98</b>	<b>-1</b>
School child	1	1	2	1	1	1	<b>2</b>	<b>1</b>
<b>Helmet Wearing</b>								
Helmet on head	89	91	91	89	88	90	<b>91</b>	<b>1</b>
No helmet	11	9	9	11	12	10	<b>9</b>	<b>-1</b>
<b>Gender</b>								
Male	-	-	-	-	74	80	<b>80</b>	<b>0</b>
Female	-	-	-	-	19	16	<b>18</b>	<b>2</b>
Can't tell	-	-	-	-	7	4	<b>2</b>	<b>-2</b>
<b>Where Riding*</b>								
Road	86	93	61	62	64	69	<b>72</b>	<b>3</b>
Footpath	14	7	18	20	21	18	<b>14</b>	<b>-4</b>
Off-road cycleway	0	0	21	18	15	13	<b>13</b>	<b>0</b>
Can't tell	-	-	-	-	-	-	<b>1</b>	<b>1</b>
<b>Base:</b>	<b>1566</b>	<b>1321</b>	<b>1405</b>	<b>1965</b>	<b>2130</b>	<b>2450</b>	<b>2594</b>	

\* Note: Prior to 2009, cyclists riding on the North-Western, Waikaraka, Onehunga Harbour Road cycleways, and the designated side of the footpath on Tamaki Drive were categorised as road riders.  
The Ferry Terminal, Auckland Central site has not been included for figures regarding where cyclists were riding.



- The overall pattern of evening cyclist volumes derived from the 10 Waitemata and Gulf sites is illustrated in Figure 1.3. Evening cycle volumes increased to a peak between 5:10pm to 5:19pm (222 cycle movements), after which the cycle volumes followed a decreasing trend until the end of the shift. The overall trend was consistent with previous years.

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





## 1.6 Aggregated Total Summary Results

- Overall, a total of 5,137 cyclist movements were recorded across the ten sites monitored in 2013. Cycle volumes in this ward have increased 11 per cent over the last 12 months (up from 4643 movements to 5138).
- One per cent (n=71) were observed as cycling in groups, compared to five per cent (n=213) in 2012.
- The average volume of morning cyclists across all ten sites monitored in the Waitemata and Gulf ward this year was 514, up from 464 cycle movements last year.
- Of the ten sites monitored, the busiest site continued to be the intersection of Tamaki Drive and The Strand (926 cycle movements, down from 944 movements last year), whereas the Stanley Street/Grafton Road site has the lowest volume of cyclists (117 movements, although there has been a 24 per cent increase from last year).
- Seven sites have recorded increases this year. The most noticeable increases were at:
  - Stanley Street/Grafton Road - up 24 per cent; and
  - Symonds Street/Karangahape Road – up 23 per cent.
- Three sites have recorded decreases in evening cycle volumes, they were:
  - Victoria/Wellesley Street - down 8 per cent
  - Jervois Road/Wallace Street – down 4 per cent; and
  - Tamaki Drive/The Strand – down 2 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
10	Tamaki Drive/The Strand	900	786	603	936	1059	944	921	-2%	3%
8	Symonds Street/Karangahape Road	639	621	528	597	690	732	902	23%	41%
9	Karangahape Road/Queen Street	507	424	459	582	554	573	654	14%	29%
2	Ponsonby/Karangahape Road	487	415	370	559	511	498	595	19%	22%
22	Ferry Terminal	380	316	248	395	391	389	417	7%	10%
1	Victoria/Wellesley Street	160	136	124	162	225	192	176	-8%	10%
	<b>Average per site (6 sites since 2007)</b>	<b>512</b>	<b>450</b>	<b>389</b>	<b>539</b>	<b>572</b>	<b>555</b>	<b>611</b>	<b>10%</b>	<b>20%</b>
	<b>Total (6 sites since 2007)</b>	<b>3073</b>	<b>2698</b>	<b>2332</b>	<b>3231</b>	<b>3430</b>	<b>3328</b>	<b>3665</b>	<b>10%</b>	<b>19%</b>
13	Ian McKinnon/Newton Road	-	-	291	374	560	503	582	16%	-
16	Jervois Road/Wallace Street	-	-	111	167	148	141	136	-4%	-
75	Stanley Street/Grafton Road	-	65	96	93	74	94	117	24%	-
	<b>Average per site (7 sites since 2008, 9 sites in 2009, 2010, and 2011)</b>	<b>-</b>	<b>375</b>	<b>314</b>	<b>429</b>	<b>468</b>	<b>452</b>	<b>500</b>	<b>11%</b>	<b>-</b>
	<b>Total (7 sites since 2008, 9 sites since 2009, 10 sites in 2009, 2010, and 2011)</b>	<b>-</b>	<b>2627</b>	<b>2830</b>	<b>3865</b>	<b>4212</b>	<b>4066</b>	<b>4500</b>	<b>11%</b>	<b>-</b>
90	Broadway/Khyber Pass Road						577	637	10%	-
	<b>Average per site (7 sites since 2008, 9 sites since 2009, 10 sites since 2012)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>464</b>	<b>514</b>	<b>11%</b>	<b>-</b>
	<b>Total (7 sites since 2008, 9 sites since 2009, 10 sites since 2012)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4643</b>	<b>5137</b>	<b>11%</b>	<b>-</b>





- Overall, cyclist characteristics this year are similar to those reported in 2012. In particular, 99 per cent of evening cyclists this year are adults (stable since 2007).
- Most cyclists were wearing a helmet (93 per cent, stable from 91 per cent in 2012).
- Eighty per cent of the cyclists were male, an increasing trend since 2011.
- The majority of cyclists were riding on the road (73 per cent). Fourteen per cent were riding on the footpath, with the remaining 13 per cent riding on the off-road cycleway (all percentages stable from last year).

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

	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>								
Adult	99	98	98	99	99	99	99	0
School child	1	2	2	1	1	1	1	0
<b>Helmet Wearing</b>								
Helmet on head	92	92	92	90	90	91	93	2
No helmet	8	8	8	10	10	9	7	-2
<b>Gender</b>								
Male	-	-	-	-	74	78	80	2
Female	-	-	-	-	19	16	17	1
Can't tell	-	-	-	-	7	6	3	-3
<b>Where Riding*</b>								
Road	87	93	66	65	69	74	73	-1
Footpath	13	7	14	17	18	15	14	-1
Off-road cycleway	0	0	20	18	13	11	13	2
<b>Base:</b>	<b>3073</b>	<b>2627</b>	<b>2830</b>	<b>3865</b>	<b>4212</b>	<b>4643</b>	<b>5137</b>	

\* Note: Prior to 2009 cyclists riding on the North-Western, Waikaraka, Onehunga Harbour Road cycleways, and the designated side of the footpath on Tamaki Drive were categorised as road riders.  
The Ferry Terminal, Auckland Central site has not been included for figures regarding where cyclists were riding.



## 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 Tamaki Drive/The Strand (1,346 daily movements, down from 1,377 movements in 2012) and the lowest is at Stanley Street/Grafton Road (170 daily movements).
- Seven of the ten sites have recorded increases in total AADT estimates this year compared to 2012. The most noticeable increases were at:
  - Stanley Street/Grafton Road – up 26 per cent;
  - Symonds Street/Karangahape Road – up 23 per cent; and
  - Ponsonby/Karangahape Road – up 20 per cent.
- Three sites (of those monitored since 2009) have recorded decreases, the most noticeable being Victoria/Wellesley Street, down 7 per cent since 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
10	Tamaki Drive/The Strand	1313	1146	880	1365	1555	1377	<b>1346</b>	-2%	3%
8	Symonds Street/Karangahape Road	924	899	765	865	999	1060	<b>1305</b>	23%	41%
9	Karangahape Road/Queen Street	736	616	669	843	802	830	<b>949</b>	14%	29%
90	Broadway/Khyber Pass Road	-	-	-	-	-	839	<b>927</b>	10%	-
2	Ponsonby/Karangahape Road	705	602	536	807	738	717	<b>858</b>	20%	22%
13	Ian McKinnon/Newton Road	-	-	422	544	807	726	<b>848</b>	17%	-
22	Ferry Terminal	553	459	363	574	570	565	<b>606</b>	7%	10%
1	Victoria/Wellesley Street	231	201	180	236	328	277	<b>258</b>	-7%	12%
16	Jervois Road/Wallace Street	-	-	162	243	215	204	<b>200</b>	-2%	-
75	Stanley Street/Grafton Road	-	95	140	135	106	135	<b>170</b>	26%	-



## 1.8 School Bike Shed Count Summary

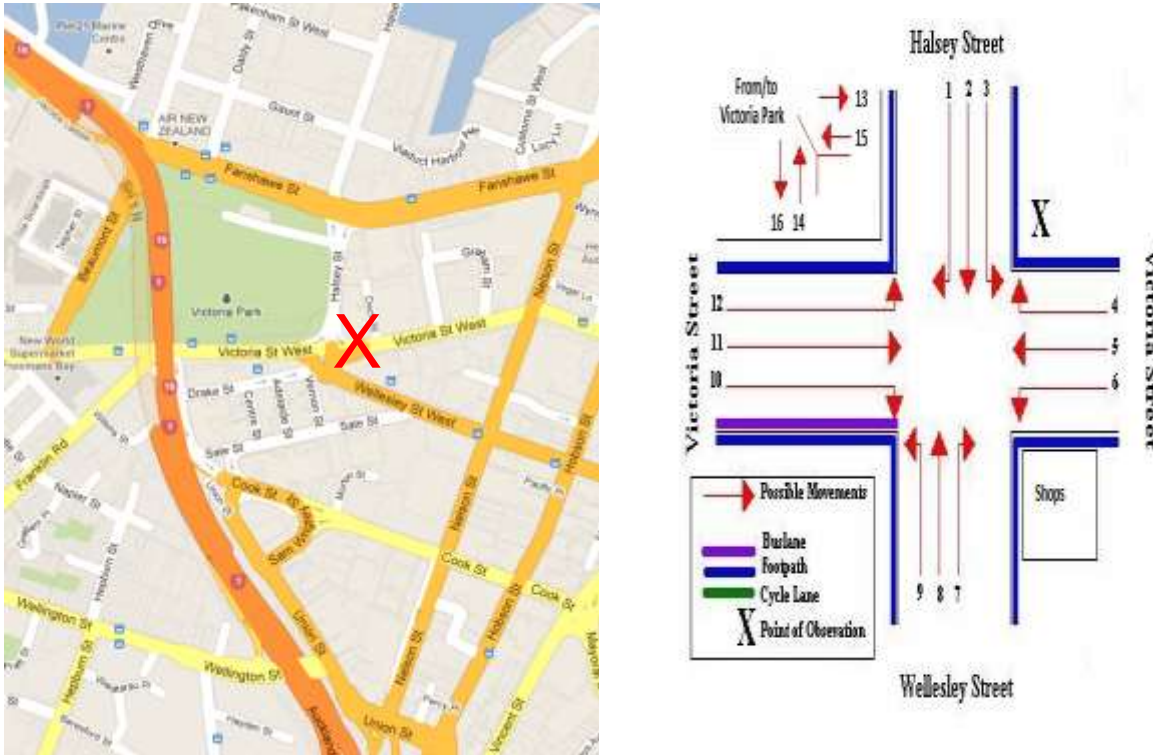
### *Key Points*

- Of those eligible to cycle, on average two per cent of students are cycling to their schools (unchanged from last year).
- Across the 18 eligible schools that responded, n=215 students were reported to cycle to school.
- Okiwi School reported the highest share of cyclists – 26 per cent of all eligible students currently cycling.
- Of the 11 schools that participated in the count in both 2012 and 2013, three (Mulberry Grove School, Ponsonby Intermediate and Auckland International College) reported an increase in the share of students cycling to school.
- Five schools (28 per cent) had no students cycling to school.
- Rates of cycling to school are highest among intermediate schools (5 per cent, stable from 4 per cent in 2012) while composite schools have the lowest rates in this ward (less than 1 per cent).

## 2. VICTORIA STREET/WELLESLEY STREET/HALSEY STREET (SITE 1)

Figure 2.1 shows the possible cyclist movements at this intersection.

**Figure 2.1: Cycle Movements: Victoria/Wellesley/Halsey Street**



### 2.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2007	70	90	160	231
2008	57	79	136	201
2009	59	65	124	180
2010	82	80	162	236
2011	116	109	225	328
2012	82	110	192	277
<b>2013</b>	<b>103</b>	<b>73</b>	<b>176</b>	<b>258</b>



## 2.2 Morning Peak

### *Environmental Conditions*

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

### *Key Points*

- The volume of morning peak cyclist movements recorded at the Victoria/Wellesley/Halsey intersection has increased (103 movements, up from 82 in 2012).
- The key route in the morning was turning left from Victoria Street West onto Halsey Street travelling south (Movement 12 = 30 movements).
- Of the 16 movements possible at this intersection, the most noticeable change since last year was at Movement 12 (up 13 movements).

**Table 2.1: Morning Cyclist Movements  
Victoria/Wellesley/Halsey 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	10	6	11	18	12	15	3
2	0	4	2	10	6	9	9	0
3	2	5	2	5	23	18	17	-1
4	1	0	3	3	0	1	1	0
5	3	5	1	5	4	3	2	-1
6	0	0	1	1	3	0	1	1
7	0	0	0	0	2	0	0	0
8	1	4	1	4	9	2	2	0
9	0	1	1	0	5	0	0	0
10	2	2	1	3	1	2	1	-1
11	22	13	11	15	16	17	15	-2
12	23	13	30	25	29	17	30	13
13	-	-	-	-	-	1	0	0
14	-	-	-	-	-	0	0	0
15	-	-	-	-	-	0	0	0
16	-	-	-	-	-	0	0	0
<b>Total</b>	<b>70</b>	<b>57</b>	<b>59</b>	<b>82</b>	<b>116</b>	<b>82</b>	<b>103</b>	<b>21</b>

*Note: Movements 13, 14, 15 and 16 are new possible movements since 2012.*



- All cyclists at this site were adults.
- Almost all cyclists were wearing a helmet (99 per cent, up from 93 per cent last year).
- The majority of cyclists were male (84 per cent, up slightly from 81 per cent in 2012).
- The majority of cyclists were riding on the road (95 per cent, an 11 percentage point increase from 2012).

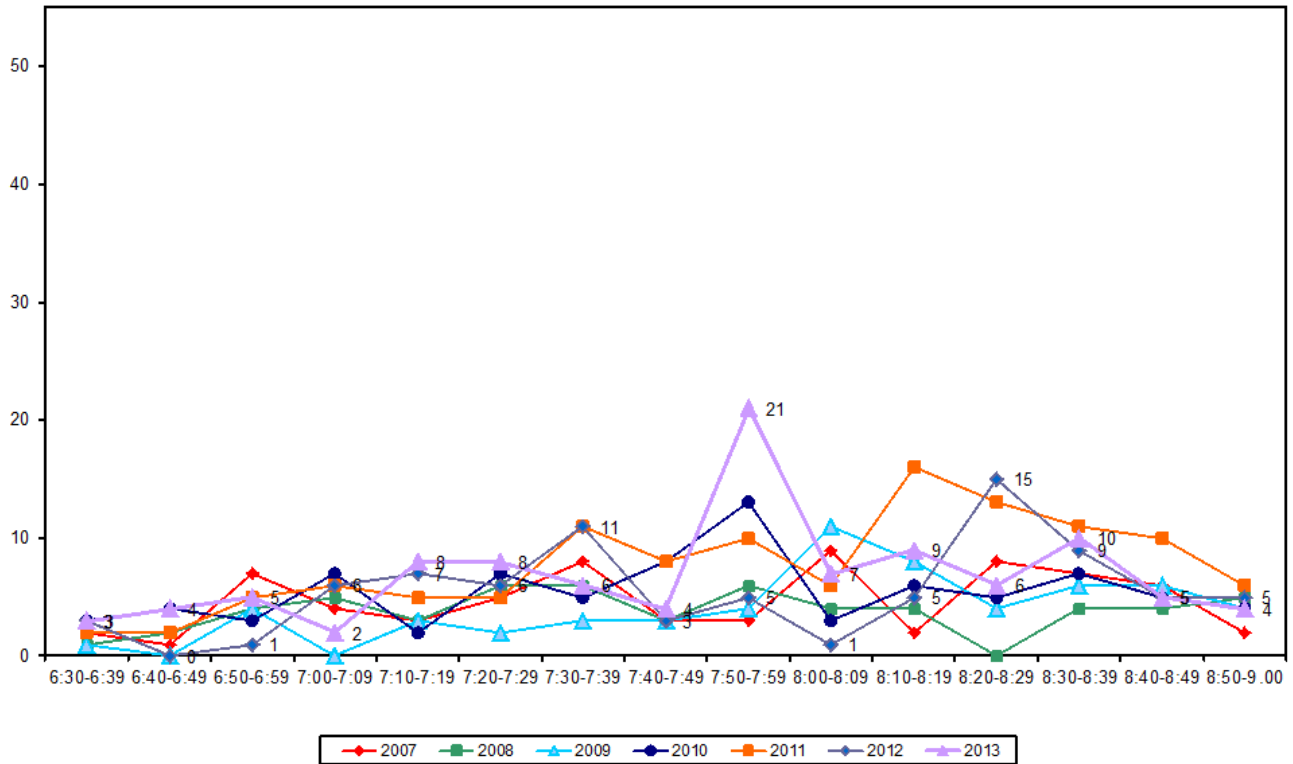
**Table 2.2: Morning Cyclist Characteristics  
Victoria/Wellesley/Halsey 2004 – 2013 (%)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>											
Adult	100	89	100	100	100	92	99	99	99	<b>100</b>	<b>1</b>
School child	0	11	0	0	0	8	1	1	1	<b>0</b>	<b>-1</b>
<b>Helmet Wearing</b>											
Helmet on head	94	91	96	91	98	93	90	90	93	<b>99</b>	<b>6</b>
No helmet	6	9	4	9	2	7	10	10	7	<b>1</b>	<b>-6</b>
<b>Gender</b>											
Male	-	-	-	-	-	-	-	85	81	<b>84</b>	<b>3</b>
Female	-	-	-	-	-	-	-	15	19	<b>16</b>	<b>-3</b>
Can't tell	-	-	-	-	-	-	-	0	0	<b>0</b>	<b>0</b>
<b>Where Riding</b>											
Road	88	88	100	91	86	83	84	81	84	<b>95</b>	<b>11</b>
Footpath	12	12	0	9	14	17	16	19	16	<b>5</b>	<b>-11</b>
<b>Base:</b>	<b>33</b>	<b>56</b>	<b>51</b>	<b>70</b>	<b>57</b>	<b>59</b>	<b>82</b>	<b>116</b>	<b>82</b>	<b>103</b>	



- The volume of morning cycle movements in 2013 remained low (less than 10 movements in a ten-minute interval) for most of the monitoring period, with exception of a sharp peak from 7:50am to 7:59am (21 movements). This pattern has not been seen in previous years.

**Figure 2.2: Morning Peak Cyclist Frequency  
Victoria/Wellesley/Halsey 2007 – 2013 (n)**



*Note: A group of three (3 per cent of the morning cycle volume at this site) rode past at 7:57am.*



## 2.3 Evening Peak

### Environmental Conditions

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

### Key Points

- The volume of evening peak cyclist movements recorded at the Victoria/Wellesley/Halsey intersection was down from 110 movements last year to 73 this year.
- The key movements in the evening were turning right from Halsey Street onto Victoria Street travelling west (Movement 1 = 28 cyclists), and heading straight on Victoria Street West travelling west (Movement 5 = 20).
- Evening cyclist volumes have most noticeably decreased at Movement 5 and at Movement 9 (both down 8 movements) and most noticeably increased at Movement 1 (up 7 movements).

**Table 2.3: Evening Cyclist Movements**  
Victoria/Wellesley/Halsey 2007 – 2013 (n)

Movement	2007	2008	2009	2010	2011	2012	2013	Change 12-13
1	25	23	15	26	28	21	28	7
2	3	6	5	2	12	3	1	-2
3	0	1	7	1	1	3	3	0
4	5	3	3	3	8	7	1	-6
5	23	8	11	12	21	28	20	-8
6	1	0	0	0	0	0	1	1
7	0	2	0	0	1	0	0	0
8	2	10	6	11	6	6	4	-2
9	3	2	4	3	5	8	0	-8
10	4	0	0	0	0	1	0	-1
11	5	7	5	9	1	10	4	-6
12	19	17	9	13	26	16	11	-5
13	-	-	-	-	-	1	0	-1
14	-	-	-	-	-	2	0	-2
15	-	-	-	-	-	2	0	-2
16	-	-	-	-	-	2	0	-2
<b>Total</b>	<b>90</b>	<b>79</b>	<b>65</b>	<b>80</b>	<b>109</b>	<b>110</b>	<b>73</b>	<b>-37</b>

Note: Movements 13, 14, 15 and 16 are new possible movements since 2012





- Almost all cyclists using the Victoria/Wellesley/Halsey intersection were adults (99 per cent, stable from 2012).
- Most evening cyclists at this site were wearing a helmet (95 per cent, up from 87 per cent in 2012).
- The majority of cyclists were male (82 per cent, stable from 84 per cent last year).
- Four in five cyclists were riding on the road (79 per cent, slightly up from 76 per cent in 2012).

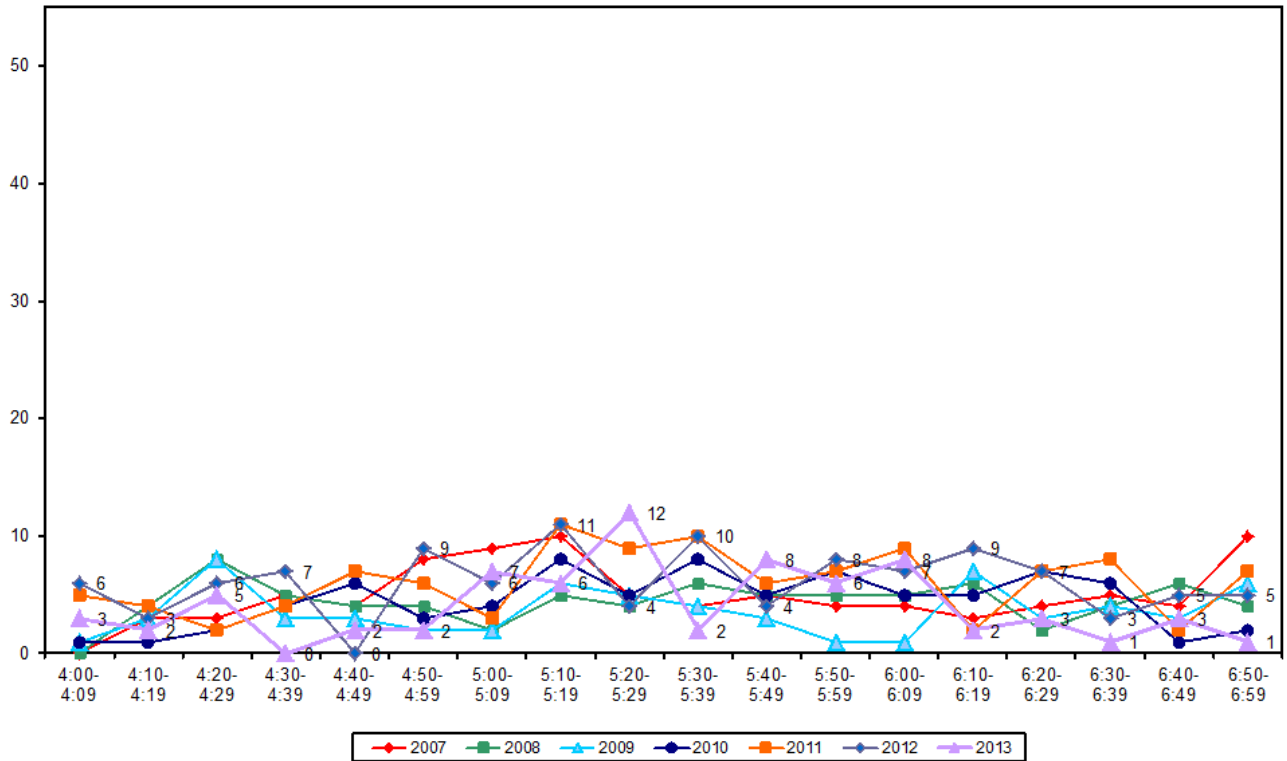
**Table 2.4: Evening Cyclist Characteristics  
Victoria/Wellesley/Halsey 2004 – 2013 (%)**

	2004	2006	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>										
Adult	100	97	100	99	100	100	98	98	99	1
School child	0	3	0	1	0	0	2	2	1	-1
<b>Helmet Wearing</b>										
Helmet on head	86	91	91	96	83	81	86	87	95	8
No helmet	14	9	9	4	17	19	14	13	5	-8
<b>Gender</b>										
Male	-	-	-	-	-	-	80	84	82	-2
Female	-	-	-	-	-	-	17	15	18	3
Can't tell	-	-	-	-	-	-	3	1	0	-1
<b>Where Riding</b>										
Road	72	94	87	87	71	76	73	76	79	3
Footpath	18	6	13	13	29	24	27	24	21	-3
<b>Base:</b>	<b>36</b>	<b>33</b>	<b>90</b>	<b>79</b>	<b>65</b>	<b>80</b>	<b>109</b>	<b>110</b>	<b>73</b>	



- Evening cycle movement volume by time of trip has been low and variable this year. Traffic was heavier in the middle session of the monitoring period, with a slight peak of 12 movements between 5:20pm and 5:29pm.

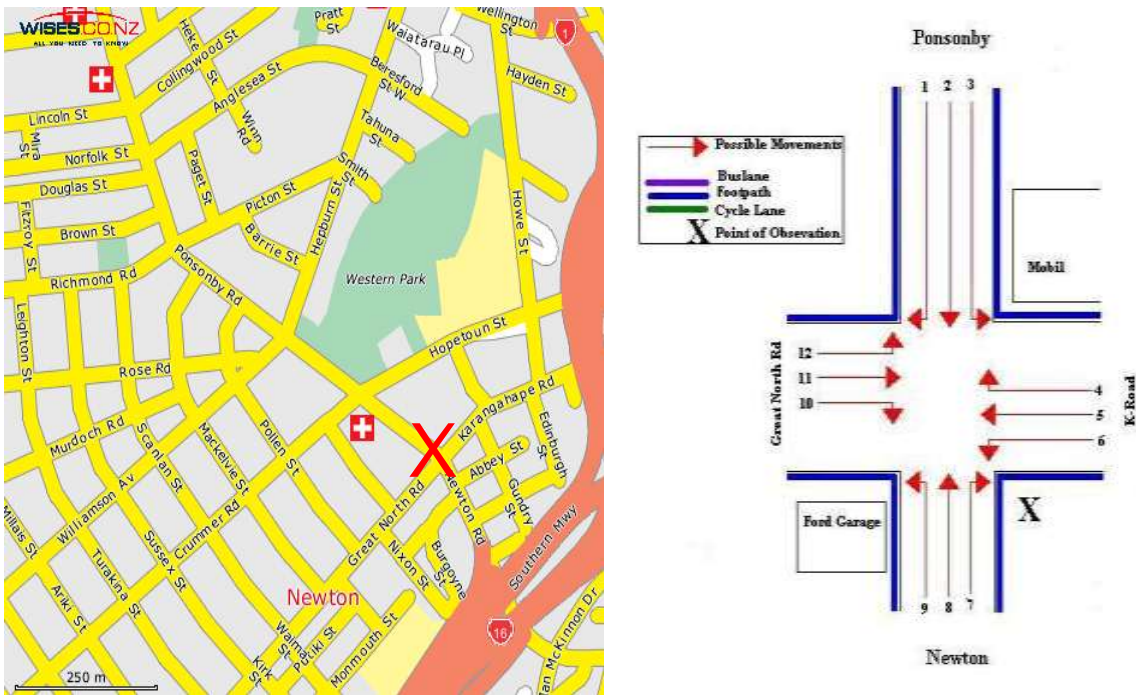
**Figure 2.3: Evening Peak Cyclist Frequency**  
**Victoria/Wellesley/Halsey 2007 – 2013 (n)**



### 3. PONSONBY/KARANGAHAPE/ NEWTON/GREAT NORTH ROAD, NEWTON (SITE 2)

Figure 3.1 shows the possible cyclist movements at this intersection.

**Figure 3.1: Cycle Movements: Ponsonby/Karangahape/Newton/Great North Roads**



#### 3.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2007	226	261	487	705
2008	199	216	415	602
2009	176	194	370	536
2010	242	317	559	807
2011	222	289	511	738
2012	204	294	498	717
<b>2013</b>	<b>253</b>	<b>342</b>	<b>595</b>	<b>858</b>



## 3.2 Morning Peak

### *Environmental Conditions*

- The weather was cloudy at the start of the shift, but cleared to a sunny morning.
- There were no road works or accidents that may affect cycle counts.

### *Key Points*

- The volume of morning peak cyclists recorded at the Ponsonby/Karangahape/Newton/Great North Road intersection in 2013 has increased (253 movements, up from 204 movements in 2012).
- The most common movement at this intersection continued to be straight through from Great North Road into Karangahape Road travelling in a north-easterly direction (Movement 11 = 110 cyclists).
- Morning cyclist volumes decreased most noticeably at Movement 5 (down 5 movements) while the most noticeable increase occurred at Movement 11 (up 26 movements).

**Table 3.1: Morning Cyclist Movements**  
**Ponsonby/Karangahape/Newton/Great North 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	7	6	8	10	5	8	<b>12</b>	<b>4</b>
2	7	6	7	12	6	8	<b>6</b>	<b>-2</b>
3	24	22	28	36	43	21	<b>30</b>	<b>9</b>
4	15	15	9	14	18	10	<b>17</b>	<b>7</b>
5	16	9	7	10	9	14	<b>9</b>	<b>-5</b>
6	2	1	1	2	1	1	<b>3</b>	<b>2</b>
7	11	5	5	4	8	7	<b>11</b>	<b>4</b>
8	11	15	7	19	15	21	<b>29</b>	<b>8</b>
9	0	2	1	2	1	2	<b>1</b>	<b>-1</b>
10	5	0	0	1	4	1	<b>2</b>	<b>1</b>
11	105	97	84	97	79	84	<b>110</b>	<b>26</b>
12	23	21	19	35	33	27	<b>23</b>	<b>-4</b>
<b>Total</b>	<b>226</b>	<b>199</b>	<b>176</b>	<b>242</b>	<b>222</b>	<b>204</b>	<b>253</b>	<b>49</b>



- All cyclists using the Ponsonby/Karangahape/Newton/Great North Road intersection were adults (up from 96 per cent in 2012).
- Most cyclists were wearing a helmet (89 per cent, stable from 87 per cent 12 months ago).
- Three-quarters of cyclists were male (76 per cent, up slightly from 73 per cent in 2012).
- A quarter of the cyclists at this site were riding on the footpath (25 per cent, down slightly from 30 per cent in 2012).

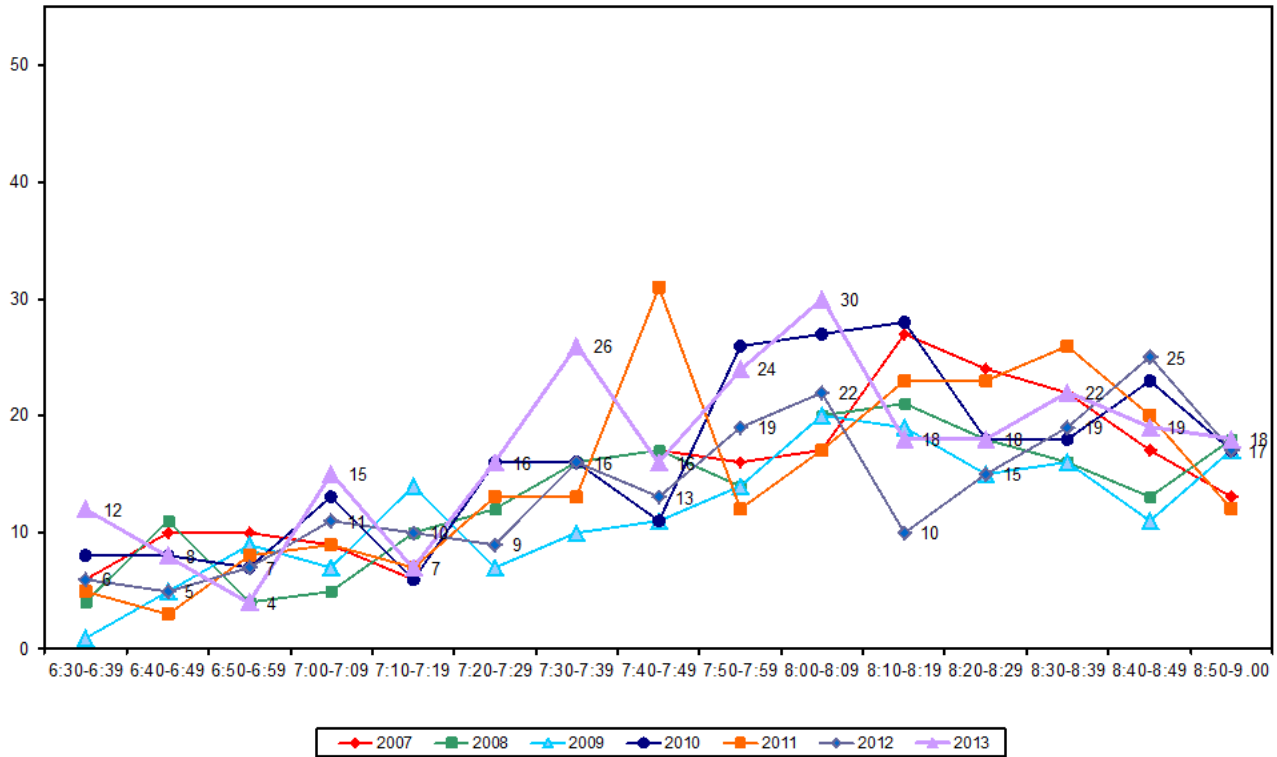
**Table 3.2: Morning Cyclist Characteristics  
Ponsonby/Karangahape/Newton/Great North 2004 – 2013 (%)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>											
Adult	96	96	100	98	97	95	99	100	96	100	4
School child	4	4	0	2	3	5	1	0	4	0	-4
<b>Helmet Wearing</b>											
Helmet on head	92	92	92	93	92	91	89	89	87	89	2
No helmet	8	8	8	7	8	9	11	11	13	10	-3
Can't tell	-	-	-	-	-	-	-	-	-	1	1
<b>Gender</b>											
Male	-	-	-	-	-	-	-	75	73	76	3
Female	-	-	-	-	-	-	-	18	24	21	-3
Can't tell	-	-	-	-	-	-	-	6	3	3	0
<b>Where Riding</b>											
Road	40	89	72	68	91	79	64	66	70	75	5
Footpath	60	11	28	32	9	21	36	34	30	25	-5
<b>Base:</b>	<b>177</b>	<b>155</b>	<b>140</b>	<b>226</b>	<b>199</b>	<b>176</b>	<b>242</b>	<b>222</b>	<b>204</b>	<b>253</b>	



- Morning cyclist movements rose unsteadily from the beginning of the shift to a peak between 8:00am and 8:09am (30 movements), before decreasing to a more stable traffic flow until the end of the shift.

**Figure 3.2: Morning Peak Cyclist Frequency**  
**Ponsonby/Karangahape/Newton/Great North 2007 – 2013 (n)**



*Note: One per cent of the total cycle movements in the morning peak were identified as cycling in groups. A group of three rode past at 6:39am.*



### 3.3 Evening Peak

#### Environmental Conditions

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

#### Key Points

- Total cyclist volume at the Ponsonby/Karangahape/Newton/Great North Road intersection has increased by 48 movements over the last 12 months to 342 movements.
- As in earlier years, the most common movement at this intersection was straight through from Karangahape Road into Great North Road travelling in a south-westerly direction (Movement 5 = 146 movements).
- The most noticeable change in evening cyclist volume was at Movement 11 (down 13 movements from 2012). The most noticeable increase was at Movement 5 (up 27 movements from 12 months ago).

**Table 3.3: Evening Cyclist Movements  
Ponsonby/Karangahape/Newton/Great North 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	38	18	23	19	27	26	<b>30</b>	<b>4</b>
2	14	20	7	21	18	23	<b>31</b>	<b>8</b>
3	20	12	15	19	24	14	<b>22</b>	<b>8</b>
4	32	25	31	45	40	40	<b>41</b>	<b>1</b>
5	106	97	85	139	110	119	<b>146</b>	<b>27</b>
6	8	1	9	15	15	8	<b>18</b>	<b>10</b>
7	1	1	1	2	2	1	<b>9</b>	<b>8</b>
8	10	6	6	16	11	15	<b>9</b>	<b>-6</b>
9	1	1	3	0	2	2	<b>4</b>	<b>2</b>
10	0	1	1	0	1	0	<b>1</b>	<b>1</b>
11	22	22	8	31	30	34	<b>21</b>	<b>-13</b>
12	9	12	5	10	9	12	<b>10</b>	<b>-2</b>
<b>Total</b>	<b>261</b>	<b>216</b>	<b>194</b>	<b>317</b>	<b>289</b>	<b>294</b>	<b>342</b>	<b>48</b>



- Over the evening peak, all riders at this intersection were adults (100 per cent, stable from 99 per cent in 2012).
- The majority of cyclists were wearing a helmet (88 per cent, stable from 86 per cent 2012).
- The majority of cyclists were male (80 per cent, stable from 81 per cent 12 months ago).
- Four out of five cyclists were riding on the road (81 per cent, up slightly from 78 per cent in 2012).

**Table 3.4: Evening Cyclist Characteristics  
Ponsonby/Karangahape/Newton/Great North 2004 – 2013 (%)**

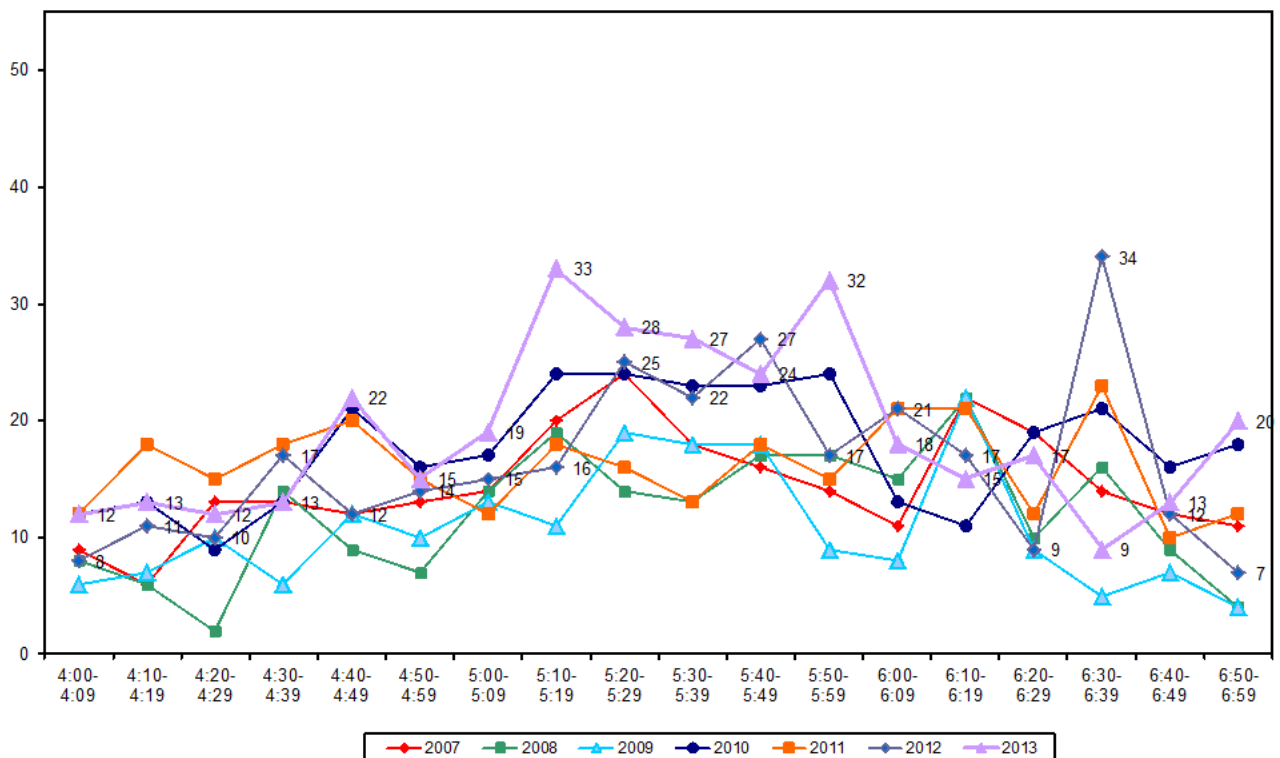
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>											
Adult	94	98	100	99	98	97	99	100	99	100	1
School child	6	2	0	1	2	3	1	0	1	0	-1
<b>Helmet Wearing</b>											
Helmet on head	87	90	86	87	89	88	85	85	86	88	2
No helmet	13	10	14	13	11	12	15	15	14	12	-2
<b>Gender</b>											
Male	-	-	-	-	-	-	-	78	81	80	-1
Female	-	-	-	-	-	-	-	20	18	20	2
Can't tell	-	-	-	-	-	-	-	2	1	0	-1
<b>Where Riding</b>											
Road	65	88	68	74	90	75	68	72	78	81	3
Footpath	35	12	32	26	10	25	32	28	22	19	-3
<b>Base:</b>	<b>154</b>	<b>136</b>	<b>117</b>	<b>261</b>	<b>216</b>	<b>194</b>	<b>317</b>	<b>289</b>	<b>294</b>	<b>342</b>	





- The volume of cyclist movements was heaviest in the hour from 5:00pm to 6:00pm. Two peaks occurred during this time, first between 5:10pm to 5:19pm with 33 movements and again between 5:50pm to 5:59pm with 32 movements. At the start and at the end of the monitoring period, cycle volumes were relatively low.

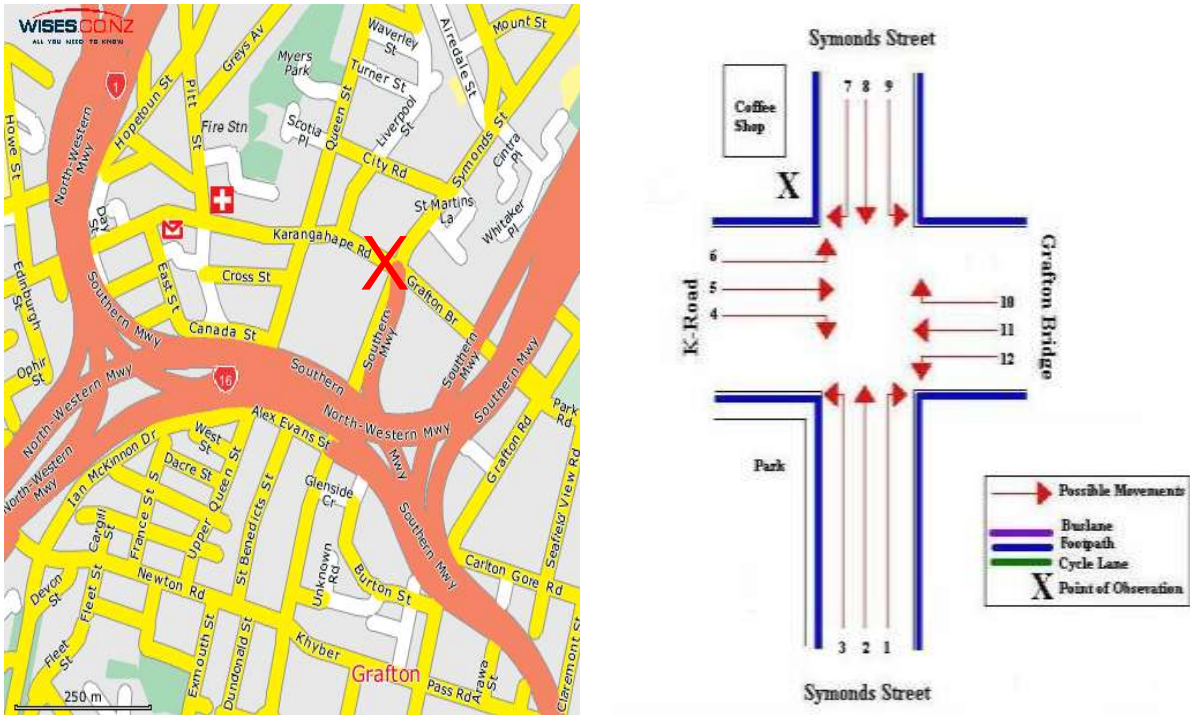
**Figure 3.3: Evening Peak Cyclist Frequency**  
**Ponsonby/Karangahape/Newton/Great North 2007 – 2013 (n)**



# 4. SYMONDS/KARANGAHAPE/ GRAFTON ROAD, GRAFTON (SITE 8)

Figure 4.1 shows the possible cyclist movements at this intersection.

**Figure 4.1: Cycle Movements: Symonds/Karangahape/Grafton**



## 4.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2007	290	349	639	924
2008	285	336	621	899
2009	246	282	528	735
2010	283	314	597	865
2011	317	373	690	999
2012	338	394	732	1060
<b>2013</b>	<b>410</b>	<b>492</b>	<b>902</b>	<b>1305</b>



## 4.2 Morning Peak

### *Environmental Conditions*

- The weather was cloudy at the start of the shift, but gradually improved.
- There were no road works or accidents that may affect cycle counts.

### *Key Points*

- The volume of morning peak cyclists recorded at the Symonds/Karangahape/Grafton intersection in 2013 (410 movements) has increased since last year (338 movements).
- This year, key routes in the morning were northbound along Symonds Street (Movement 2 = 118 cyclists), from Karangahape Road onto Grafton Bridge (Movement 5 = 69 cyclists), and straight through from Grafton Bridge into Karangahape Road (Movement 11 = 61 cyclists).
- The most noticeable changes since last year occurred at Movement 3 (up 15 movements) and at Movement 5 (up 15 movements).

**Table 4.1: Morning Cyclist Movements  
Symonds/Karangahape/Grafton 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	3	10	6	4	17	19	<b>14</b>	<b>-5</b>
2	92	81	77	87	75	107	<b>118</b>	<b>11</b>
3	9	18	18	22	9	11	<b>26</b>	<b>15</b>
4	2	6	1	1	6	2	<b>4</b>	<b>2</b>
5	55	54	51	51	57	54	<b>69</b>	<b>15</b>
6	12	11	12	7	26	21	<b>30</b>	<b>9</b>
7	3	3	0	1	6	0	<b>2</b>	<b>2</b>
8	11	8	2	19	17	19	<b>18</b>	<b>-1</b>
9	8	5	9	7	8	13	<b>16</b>	<b>3</b>
10	41	33	21	31	38	35	<b>48</b>	<b>13</b>
11	51	53	48	48	55	55	<b>61</b>	<b>6</b>
12	3	3	1	5	3	2	<b>4</b>	<b>2</b>
<b>Total</b>	<b>290</b>	<b>285</b>	<b>246</b>	<b>283</b>	<b>317</b>	<b>338</b>	<b>410</b>	<b>72</b>



- Similar to previous years, all morning cyclists at this site were adults.
- Ninety-seven per cent of cyclists at this site were wearing a helmet (stable from 96 per cent at the previous measure).
- The greatest share of cyclists continued to be males (79 per cent).
- The share of cyclists riding on the road has been stable since 2011 (94 per cent).

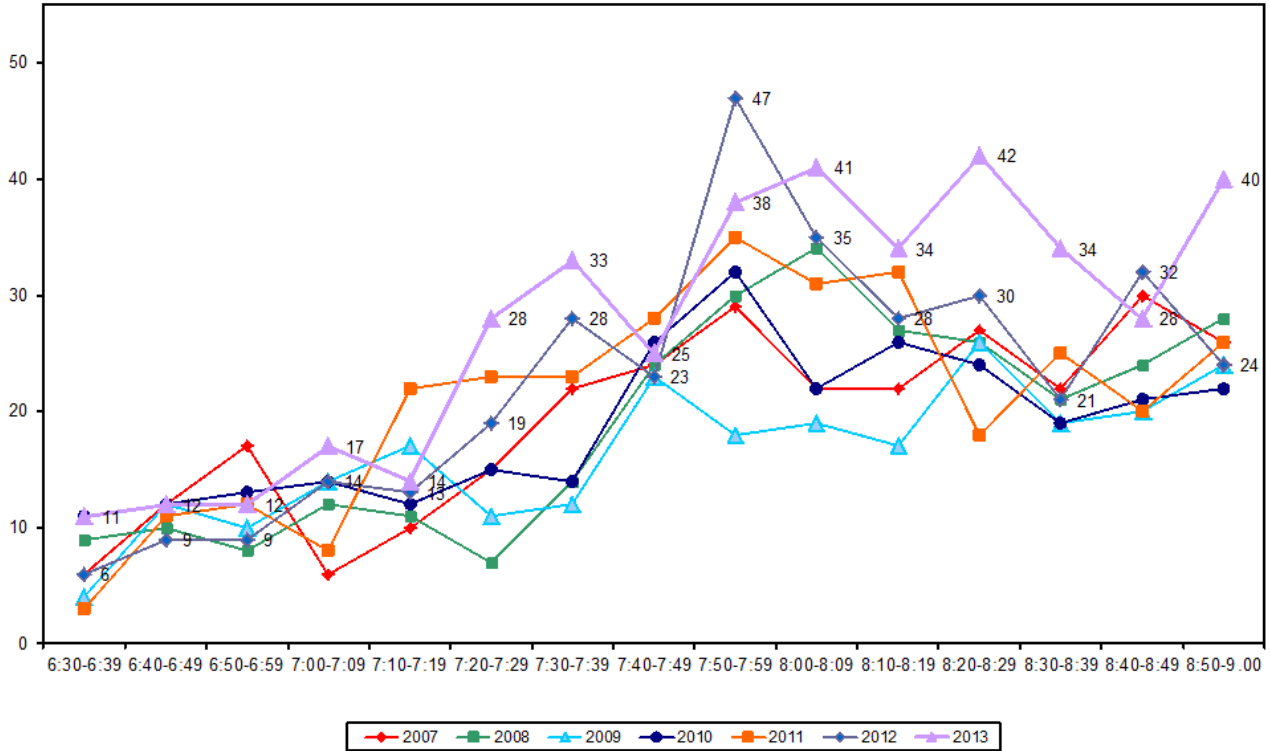
**Table 4.2: Morning Cyclist Characteristics  
Symonds/Karangahape/Grafton 2004 – 2013 (%)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>											
Adult	99	99	99	99	100	100	99	99	99	100	1
School child	1	1	1	1	0	0	1	1	1	0	-1
<b>Helmet Wearing</b>											
Helmet on head	95	96	94	98	95	94	94	95	96	97	1
No helmet	5	4	6	2	5	6	6	5	4	3	-1
<b>Gender</b>											
Male	-	-	-	-	-	-	-	68	75	79	4
Female	-	-	-	-	-	-	-	18	18	20	2
Can't tell	-	-	-	-	-	-	-	14	7	1	-6
<b>Where Riding</b>											
Road	84	92	92	91	92	91	87	93	91	94	3
Footpath	16	8	8	9	8	9	13	7	9	6	-3
<b>Base:</b>	<b>202</b>	<b>231</b>	<b>271</b>	<b>290</b>	<b>285</b>	<b>246</b>	<b>283</b>	<b>317</b>	<b>338</b>	<b>410</b>	



- Morning cyclist movement volumes increased unsteadily over the monitoring period to reach three peaks - between 7:30am to 7:39am (33 movements), between 8:00am and 8:09am (41 movements) and between 8:20am to 8:29am (42 movements). The morning monitoring period finished with a peak of 40 movements. The overall pattern is similar to previous years.

**Figure 4.2: Morning Peak Cyclist Frequency**  
**Symonds/Karangahape/Grafton 2007 – 2013 (n)**



Note: A group of three cyclists (1 per cent of the morning cycle volume at this site) rode past at 7:31am.



## 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 number of cyclists at this site has increased this year (492 movements, up from 394 in 2012).
- The key evening movements at this site were straight along Symonds Street travelling south (Movement 8 = 129 movements), straight from Grafton Bridge into Karangahape Road (Movement 11 = 94 movements) and the opposite route (Movement 5 = 88 movements).
- The most noticeable increases this year were at Movements 11 and 5 (up 40 and 26 movements respectively). The most noticeable decrease was at Movement 9 (down 14 movements).

**Table 4.3: Evening Cyclist Movements**  
**Symonds/Karangahape/Grafton 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	2	1	0	2	2	1	1	0
2	20	17	11	24	15	22	38	16
3	4	4	6	3	3	4	8	4
4	17	24	23	20	21	24	25	1
5	56	49	40	41	58	62	88	26
6	4	5	3	8	10	10	9	-1
7	16	16	12	7	29	12	23	11
8	117	103	74	85	89	121	129	8
9	38	55	33	27	30	51	37	-14
10	20	11	16	15	9	16	17	1
11	42	42	60	74	89	54	94	40
12	13	9	4	8	18	17	23	6
<b>Total</b>	<b>349</b>	<b>336</b>	<b>282</b>	<b>314</b>	<b>373</b>	<b>394</b>	<b>492</b>	<b>98</b>



- All evening cyclists at the Symonds/Karangahape/Grafton intersection were adults (100 per cent, stable since monitoring began).
- The majority of cyclists at this site were wearing a helmet (92 per cent, relatively stable since the monitor began).
- The majority of cyclists continue to be male (80 per cent, unchanged from last year).
- Most cyclists were riding on the road (86 per cent, an increase from 80 per cent in 2012).

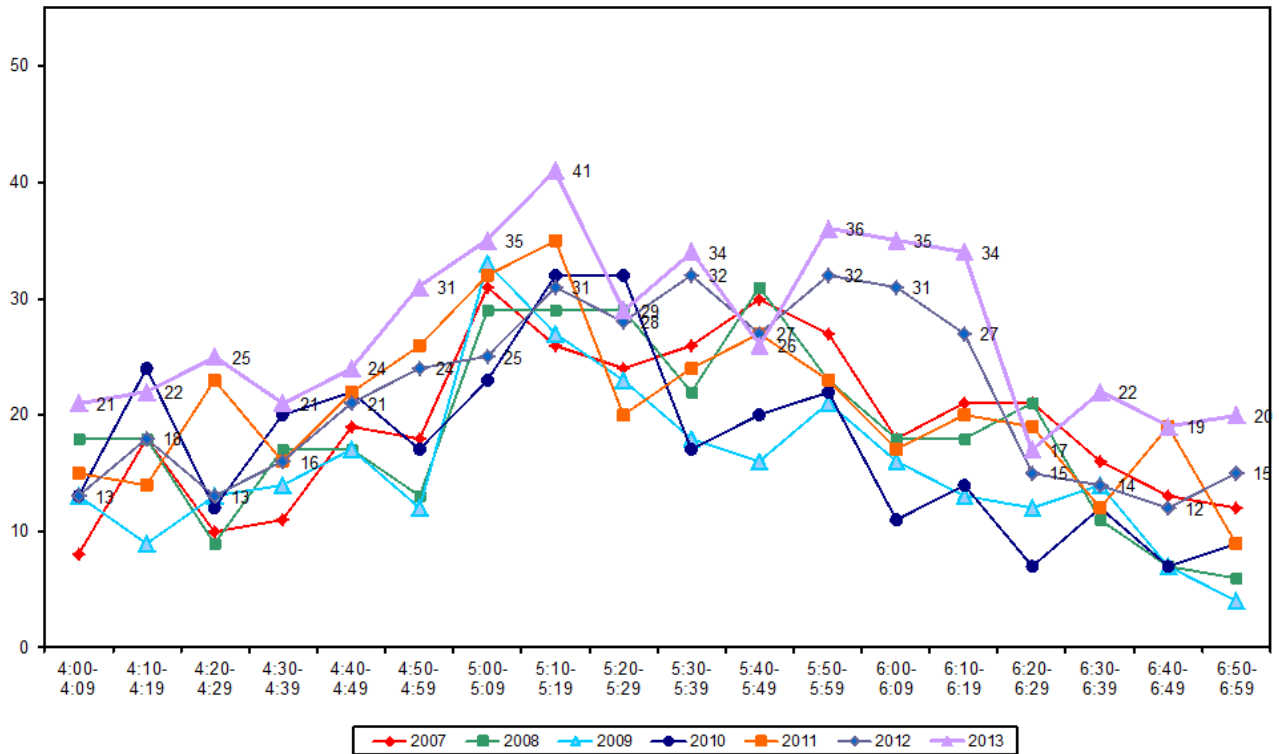
**Table 4.4: Evening Cyclist Characteristics  
Symonds/Karangahape/Grafton 2004 – 2013 (%)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>											
Adult	99	98	99	99	100	100	99	99	100	100	0
School child	1	2	1	1	0	0	1	1	0	0	0
<b>Helmet Wearing</b>											
Helmet on head	90	90	94	90	92	90	92	90	93	92	-1
No helmet	10	10	6	10	8	10	8	10	7	8	1
<b>Gender</b>											
Male	-	-	-	-	-	-	-	69	80	80	0
Female	-	-	-	-	-	-	-	22	16	20	4
Can't tell	-	-	-	-	-	-	-	9	4	0	-4
<b>Where Riding</b>											
Road	81	88	80	84	97	88	79	82	80	86	6
Footpath	19	12	20	16	3	12	21	18	20	13	-7
Can't tell	-	-	-	-	-	-	-	-	-	1	1
<b>Base:</b>	<b>205</b>	<b>202</b>	<b>258</b>	<b>349</b>	<b>336</b>	<b>282</b>	<b>314</b>	<b>373</b>	<b>394</b>	<b>492</b>	



- Evening cycle volumes in 2013 increased over the monitoring period to peak between 5:10pm to 5:19pm (41 movements) and between 5:50pm to 6:19pm (an average of 35 movements per ten minute interval in this time frame). Although elevated, the trend looked similar to the trend from last year.

**Figure 4.3: Evening Peak Cyclist Frequency**  
**Symonds/Karangahape/Grafton 2007 – 2013 (n)**

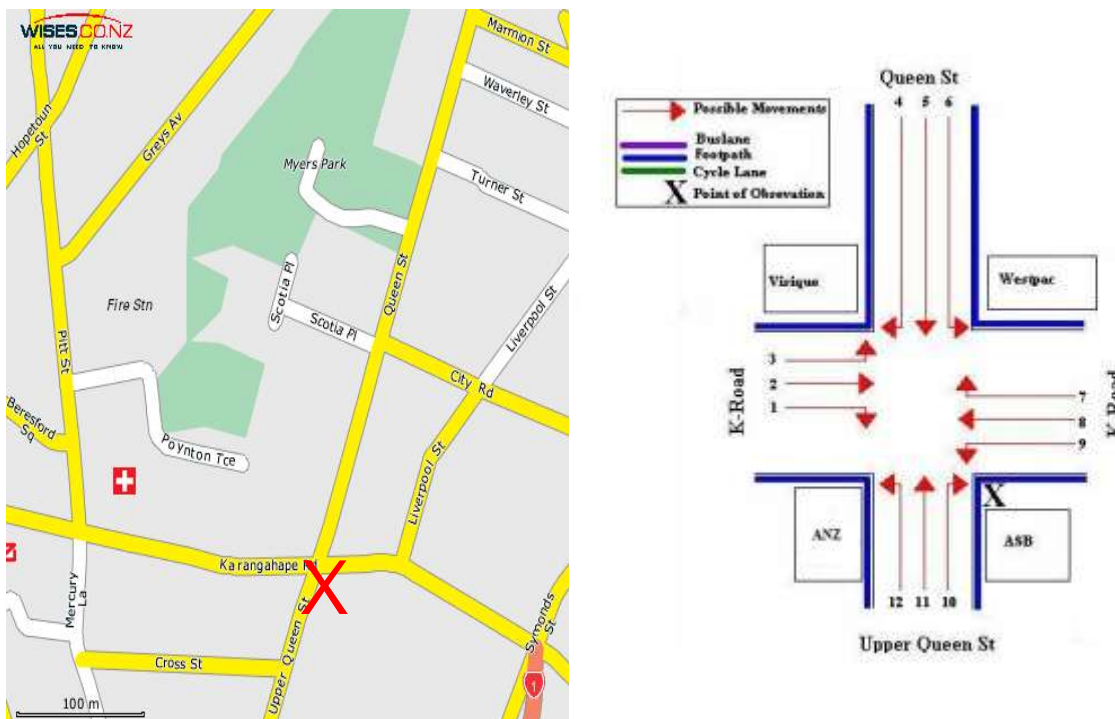




## 5. KARANGAHAPE ROAD/QUEEN STREET, AUCKLAND CENTRAL (SITE 9)

Figure 5.1 shows the possible cyclist movements at this intersection.

Figure 5.1: Cycle Movements: Karangahape/Queen



### 5.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2007	246	261	507	736
2008	212	212	424	616
2009	238	221	459	669
2010	272	310	582	843
2011	256	298	554	802
2012	266	307	573	830
<b>2013</b>	<b>315</b>	<b>339</b>	<b>654</b>	<b>949</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*

- Total morning cyclist volumes recorded at the Karangahape/Queen Street intersection in 2013 have increased from last year (315 movements, up from 266 in 2012).
- Key morning movements were straight along Karangahape Road in both directions (Movement 2 = 93 movements travelling east; Movement 8 = 98 movements travelling west).
- Of the twelve movements possible at this intersection, the most noticeable change occurred at Movement 8 (up 32 movements).

**Table 5.1: Morning Cyclist Movements  
Karangahape/Queen 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	0	0	1	0	0	1	4	3
2	85	77	96	99	93	95	93	-2
3	10	6	13	8	6	11	9	-2
4	8	2	2	2	2	2	1	-1
5	2	4	2	3	4	2	0	-2
6	9	0	3	2	6	0	2	2
7	9	11	10	15	12	13	11	-2
8	60	67	69	74	69	66	98	32
9	0	1	0	0	4	1	4	3
10	12	16	8	13	13	14	29	15
11	38	20	28	46	30	48	55	7
12	13	8	6	10	17	13	9	-4
<b>Total</b>	<b>246</b>	<b>212</b>	<b>238</b>	<b>272</b>	<b>256</b>	<b>266</b>	<b>315</b>	<b>49</b>



- All cyclists were adults (100 per cent, consistent with results recorded in previous years with the exception of 2008 – 83 per cent).
- Most of the cyclists were wearing a helmet (95 per cent, up slightly from 91 per cent in 2012).
- The majority of cyclists continued to be male (78 per cent, stable from last year).
- The percentage of cyclists riding on the road continued to be high (91 per cent, up slightly from 88 per cent in 2012).

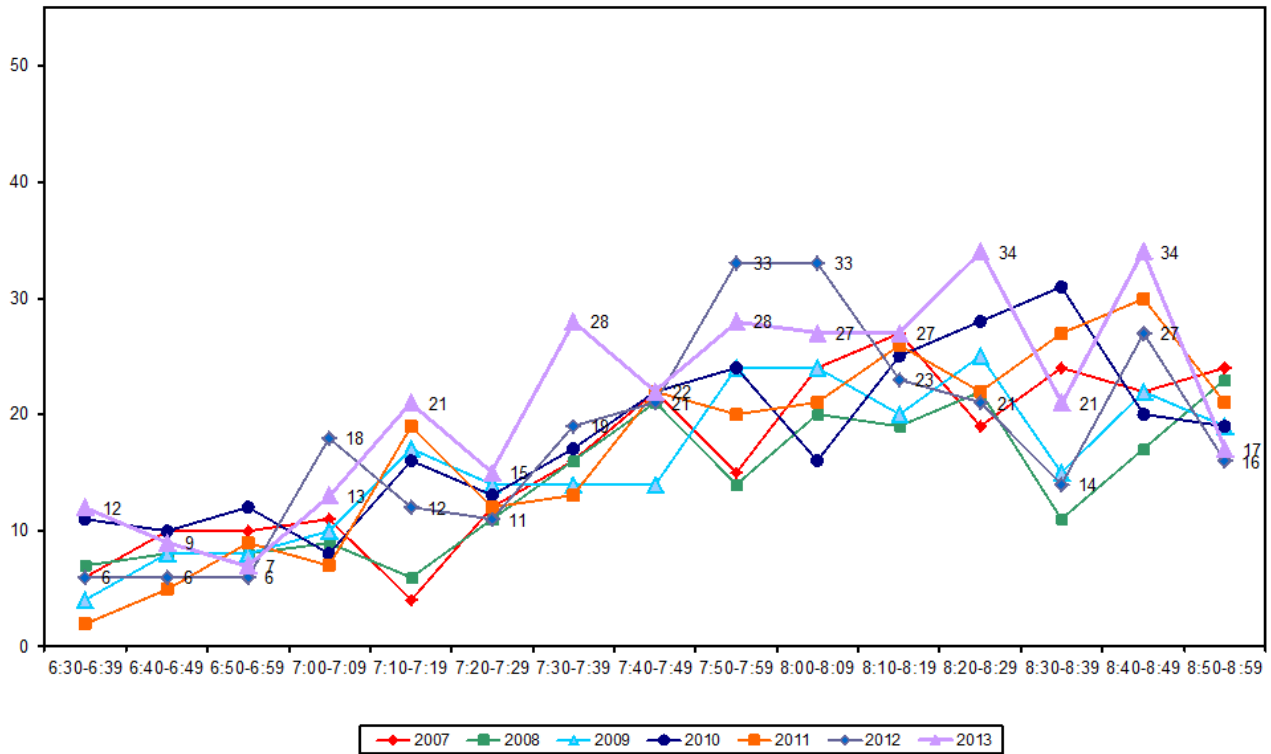
**Table 5.2: Morning Cyclist Characteristics  
Karangahape/Queen 2004 – 2013 (%)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>											
Adult	99	99	99	99	83	99	100	99	100	100	0
School child	1	1	1	1	17	1	0	1	0	0	0
<b>Helmet Wearing</b>											
Helmet on head	90	91	91	95	92	93	97	92	91	95	4
No helmet	10	9	9	5	8	7	3	8	9	5	-4
<b>Gender</b>											
Male	-	-	-	-	-	-	-	78	79	78	-1
Female	-	-	-	-	-	-	-	18	21	15	-6
Can't tell	-	-	-	-	-	-	-	4	0	7	7
<b>Where Riding</b>											
Road	95	93	94	92	92	92	94	86	88	91	3
Footpath	5	7	6	8	8	8	6	14	12	9	-3
<b>Base:</b>	<b>209</b>	<b>203</b>	<b>211</b>	<b>246</b>	<b>212</b>	<b>238</b>	<b>272</b>	<b>256</b>	<b>266</b>	<b>315</b>	



- Morning cyclist volumes increased unsteadily throughout the entire monitoring period, with four peaks. Two occurred in the earlier part of the monitoring - between 7:10am to 7:19am with 21 cyclists, and between 7:30am to 7:39am with 28 cyclists. The other two peaks, with 34 cyclists each, occurred near the end of the shift - between 8:20am to 8:29am and 8:40am to 8:49am.

**Figure 10.2: Morning Peak Cyclist Frequency**  
**Karangahape/Queen 2007 – 2013 (n)**





## 5.3 Evening Peak

### Environmental Conditions

- The weather was fine in the beginning of the evening, but become cloudy towards the end of the shift.
- There were no road works or accidents that may affect cycle counts.

### Key Points

- The number of evening cyclist movements recorded at the Karangahape Road/Queen Street intersection has increased (339 movements, up from 307 in 2012).
- Key evening movements were straight along Karangahape Road in both directions (Movement 8 = 132 movements travelling east; Movement 2 = 115 movements travelling west).
- A noticeable increase in cycle movement volumes was seen at Movement 8 (up 23 movements).

**Table 5.3: Evening Cyclist Movements  
Karangahape/Queen 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	4	3	3	6	6	1	<b>7</b>	<b>6</b>
2	85	63	70	104	83	112	<b>115</b>	<b>3</b>
3	2	8	5	4	3	8	<b>5</b>	<b>-3</b>
4	6	4	14	15	10	9	<b>9</b>	<b>0</b>
5	24	17	10	15	21	39	<b>35</b>	<b>-4</b>
6	16	4	5	4	5	4	<b>1</b>	<b>-3</b>
7	6	5	5	10	9	3	<b>13</b>	<b>10</b>
8	94	84	101	137	140	109	<b>132</b>	<b>23</b>
9	5	11	4	8	9	5	<b>12</b>	<b>7</b>
10	2	3	0	1	3	3	<b>1</b>	<b>-2</b>
11	11	9	3	4	7	11	<b>9</b>	<b>-2</b>
12	6	1	1	2	2	3	<b>0</b>	<b>-3</b>
<b>Total</b>	<b>261</b>	<b>212</b>	<b>221</b>	<b>310</b>	<b>298</b>	<b>307</b>	<b>339</b>	<b>32</b>



- All riders at this intersection were adults (consistent with previous years).
- Most cyclists were wearing a helmet (86 per cent, stable from 87 per cent in 2012).
- The majority of cyclists were male (79 per cent, stable from last year).
- Riding on the road continued to be most common in the evening (83 per cent).

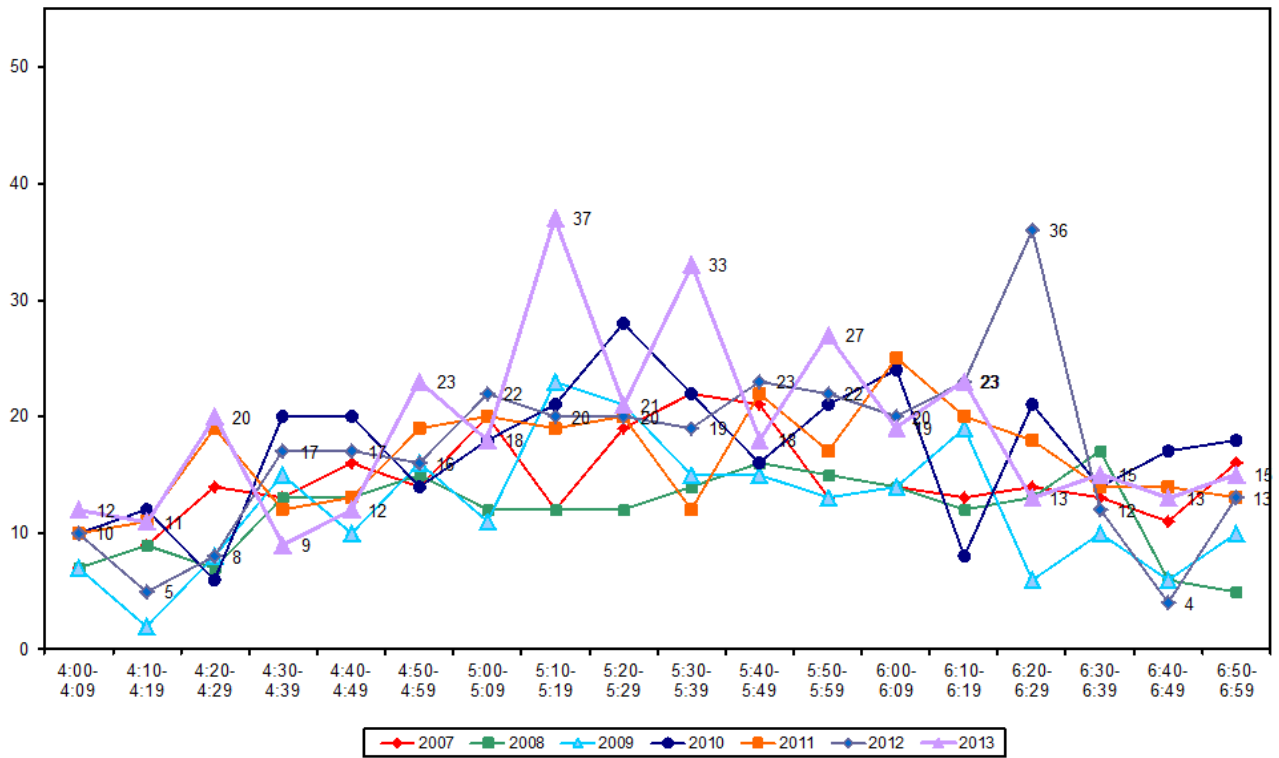
**Table 4.4: Evening Cyclist Characteristics  
Karangahape/Queen 2004 – 2013 (%)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>											
Adult	98	99	100	99	94	100	100	99	99	<b>100</b>	<b>1</b>
School child	2	1	0	1	6	0	0	1	1	<b>0</b>	<b>-1</b>
<b>Helmet Wearing</b>											
Helmet on head	80	77	88	78	88	86	91	82	87	<b>86</b>	<b>-1</b>
No helmet	20	23	12	22	12	14	9	18	13	<b>14</b>	<b>1</b>
<b>Gender</b>											
Male	-	-	-	-	-	-	-	76	80	<b>79</b>	<b>-1</b>
Female	-	-	-	-	-	-	-	23	20	<b>18</b>	<b>-2</b>
Can't tell	-	-	-	-	-	-	-	1	0	<b>3</b>	<b>3</b>
<b>Where Riding</b>											
Road	81	75	78	80	86	77	86	74	81	<b>83</b>	<b>2</b>
Footpath	19	25	22	20	14	23	14	26	19	<b>17</b>	<b>-2</b>
<b>Base:</b>	<b>168</b>	<b>142</b>	<b>120</b>	<b>261</b>	<b>212</b>	<b>221</b>	<b>310</b>	<b>298</b>	<b>307</b>	<b>339</b>	



- Cyclist movement volumes fluctuated over the monitoring periods. Peaks occurred approximately every 20 minutes, with the biggest one between 5:10pm to 5:19pm (37 movements) and subsequent peaks at even lower volumes. This is a considerably different pattern than observed in 2012, where there was one major peak at 6:20pm to 6:29pm (36 movements).

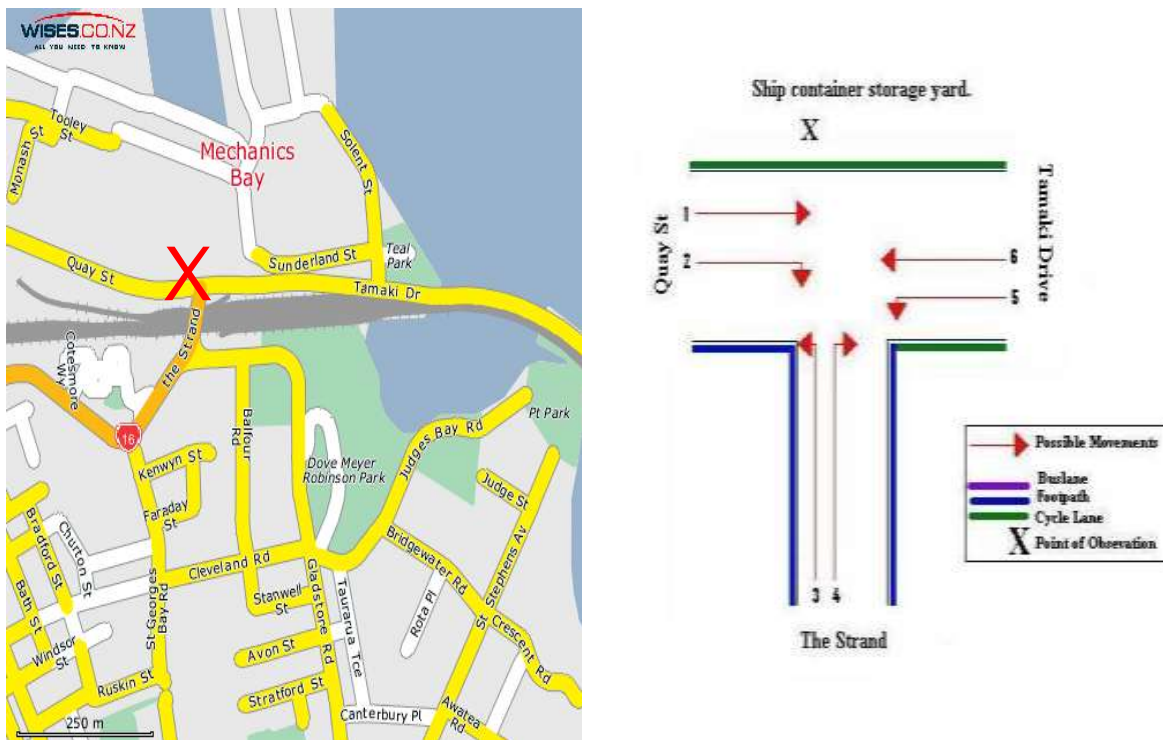
**Figure 5.3: Evening Peak Cyclist Frequency**  
**Karangahape/Queen 2007 – 2013 (n)**



## 6. TAMAKI DRIVE/THE STRAND, PARNELL (SITE 10)

Figure 6.1 shows the possible cyclist movements at this intersection.

Figure 6.1: Cycle Movements: Tamaki/The Strand



### 6.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2007	480	420	900	1313
2008	416	370	786	1146
2009	321	282	603	880
2010	498	438	936	1365
2011	630	429	1059	1555
2012	503	441	944	1377
<b>2013</b>	<b>507</b>	<b>414</b>	<b>921</b>	<b>1346</b>





## 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

- Morning cyclist numbers at the Tamaki Drive/The Strand/Quay Street intersection in 2013 have remained stable from the previous year (507 movements, compared with 503 in 2012).
- The most common movements were heading straight along Tamaki Drive onto Quay Street (Movement 6 = 251 movements) and turning left from Tamaki Drive onto The Strand (Movement 5 = 114).
- Of the six movements possible at this site, the most significant increase occurred at Movement 6 (up 40 movements). The most noticeable decrease was at Movement 5 (down 56 movements).

**Table 6.1: Morning Cyclist Movements  
Tamaki/The Strand 2007 – 2013 (n)**

<b>Movement</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>Change 12-13</b>
1	55	58	47	92	57	44	<b>49</b>	<b>5</b>
2	31	36	29	37	43	38	<b>37</b>	<b>-1</b>
3	14	9	14	29	19	22	<b>34</b>	<b>12</b>
4	26	25	8	17	37	18	<b>22</b>	<b>4</b>
5	147	112	50	106	221	170	<b>114</b>	<b>-56</b>
6	207	176	173	217	253	211	<b>251</b>	<b>40</b>
<b>Total</b>	<b>480</b>	<b>416</b>	<b>321</b>	<b>498</b>	<b>630</b>	<b>503</b>	<b>507</b>	<b>4</b>



- Almost all cyclists at this intersection were adults (99 per cent, unchanged since 2011).
- Nearly all riders were wearing a helmet (98 per cent, stable from previous years).
- The majority of riders were male (83 per cent, slightly down from 87 per cent in 2012).
- Most cyclists were riding on the road (70 per cent), while 22 per cent rode on the off-road cycleway, and 8 per cent rode on the footpath.

**Table 6.2: Morning Cyclist Characteristics  
Tamaki/The Strand 2004 – 2013 (%)**

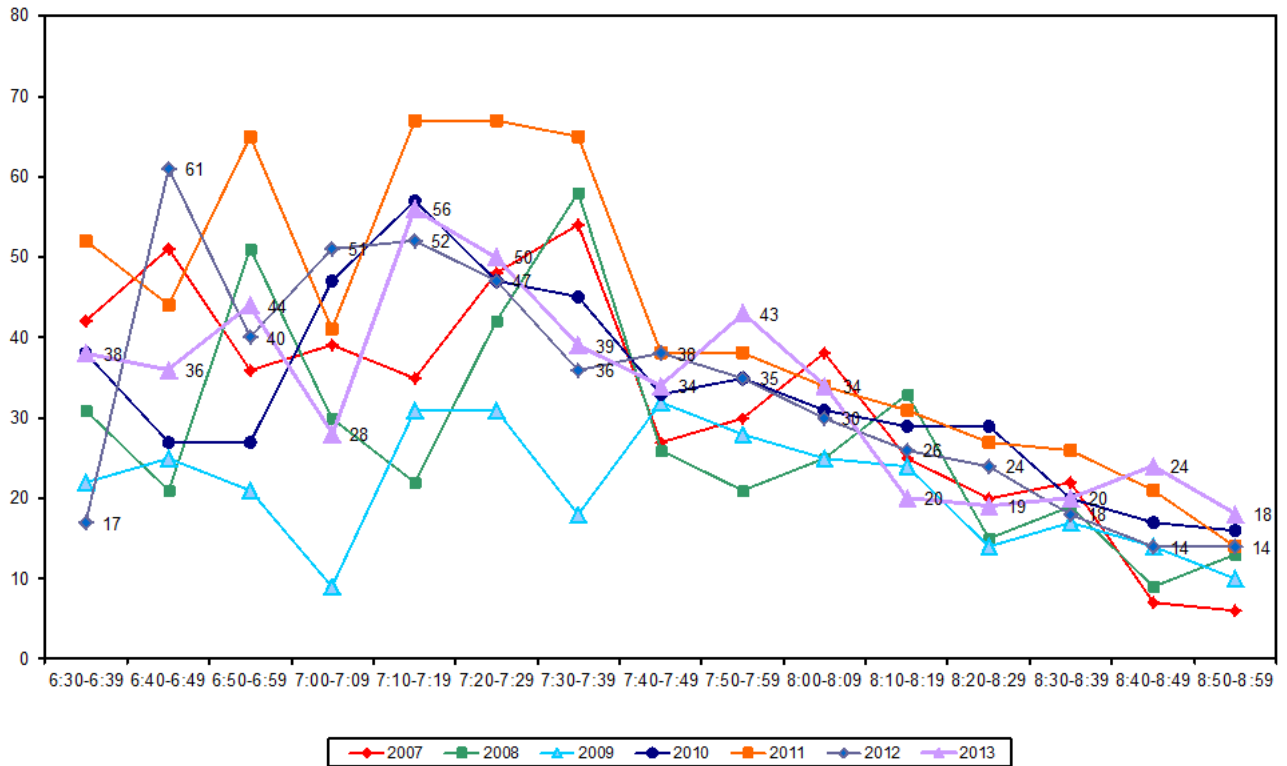
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>											
Adult	98	100	100	100	100	100	100	99	99	99	0
School child	2	0	0	0	0	0	0	1	1	1	0
<b>Helmet Wearing</b>											
Helmet on head	97	98	98	99	100	99	97	97	99	98	-1
No helmet	3	2	2	1	0	1	3	3	1	2	1
<b>Gender</b>											
Male	-	-	-	-	-	-	-	77	87	83	-4
Female	-	-	-	-	-	-	-	23	13	17	4
Can't tell	-	-	-	-	-	-	-	0	0	0	0
<b>Where Riding*</b>											
Road	83	71	70	95	99	74	78	77	79	70	-9
Footpath	17	29	30	5	1	2	7	9	6	8	2
Off-road cycleway	-	-	-	-	-	24	15	14	15	22	7
<b>Base:</b>	<b>125</b>	<b>261</b>	<b>282</b>	<b>480</b>	<b>416</b>	<b>321</b>	<b>498</b>	<b>630</b>	<b>503</b>	<b>507</b>	

\* Prior to 2009, cyclists riding on the cycle-designated side of the footpath on Tamaki Drive were classified as road riders. In 2009, a separate classification of 'off-road cycleway' was introduced, which incorporates separated cycleways such as Tamaki Drive. From 2009, 'road riders' were defined as those cycling on the cycle designated side of the footpath, and 'footpath' riders as those cycling on the pedestrian-designated side of the footpath.



- Morning cyclist volumes increased to a peak of 56 movements between 7:10am to 7:19am, then cyclist volumes declined throughout the remainder of the shift. This decreasing trend in the second half of the monitoring period was consistent with previous years.

**Figure 6.2: Morning Peak Cyclist Frequency  
Tamaki/The Strand 2007 – 2013 (n)**



Note: In 2013, nine per cent of the total cycle movements in the morning peak (n = 44) were identified as cycling in groups. Three or more cyclists were observed travelling in groups at this site at the following times:

- 11 cyclists at 6:33am
- 3 cyclists at 6:37am
- 5 cyclists at 6:42am
- 4 cyclists at 7:03am
- 6 cyclists at 7:12am
- 4 cyclists at 7:15am
- 5 cyclists at 7:22am
- 6 cyclists at 7:23am.

This compares with 13 per cent (n=67) in 2012.



### 6.3 Evening Peak

#### Environmental Conditions

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

#### Key Points

- Evening cycle movement volumes have decreased from last year by 23 movements, to a total of 414 this year.
- Movements made in the evening were dominated by those travelling east along Tamaki Drive away from the city (Movement 1 = 196 cyclists), and also to a lesser extent, by those travelling right onto Tamaki Drive from The Strand (Movement 4 = 75 cyclists).
- Cyclist volumes have decreased most noticeably at Movement 5 (down 15 cyclists) and at Movement 6 (down 13 cyclists).

**Table 6.3: Evening Cyclist Movements  
Tamaki/The Strand 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	182	150	152	170	200	198	<b>196</b>	<b>-2</b>
2	24	12	15	29	28	31	<b>40</b>	<b>9</b>
3	21	25	24	28	38	32	<b>28</b>	<b>-4</b>
4	98	78	51	102	73	77	<b>75</b>	<b>-2</b>
5	38	30	13	36	49	44	<b>29</b>	<b>-15</b>
6	57	75	27	73	41	59	<b>46</b>	<b>-13</b>
<b>Total</b>	<b>420</b>	<b>370</b>	<b>282</b>	<b>438</b>	<b>429</b>	<b>441</b>	<b>414</b>	<b>-23</b>



- Nearly all cyclists using this intersection were adults (99 per cent, stable from previous years).
- Almost all cyclists were wearing a helmet (96 per cent, stable from 94 per cent last year).
- The greatest share of evening cyclists was male (83 per cent, stable from 84 per cent in 2012).
- Riding on the road continued to be the most popular (56 per cent). However, there has been a 9 percentage point increase on the share of riding on the cycleway from last year.

**Table 6.4: Evening Cyclist Characteristics  
Tamaki/The Strand 2004 – 2013 (%)**

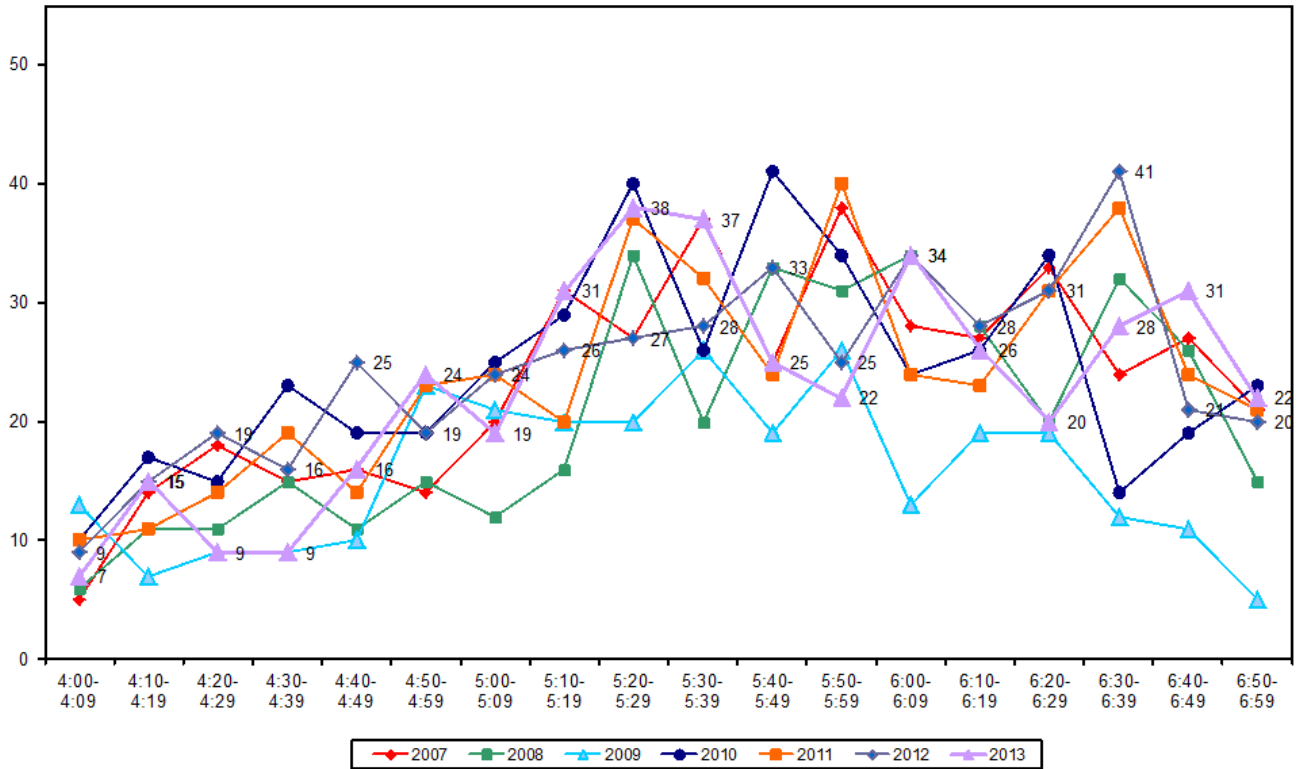
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>											
Adult	94	98	100	100	100	100	99	100	100	99	-1
School child	6	2	0	0	0	0	1	0	0	1	1
<b>Helmet Wearing</b>											
Helmet on head	91	98	98	96	100	99	96	93	94	96	2
No helmet	9	2	2	4	0	1	4	7	6	4	-2
<b>Gender</b>											
Male	-	-	-	-	-	-	-	82	84	83	-1
Female	-	-	-	-	-	-	-	18	16	17	1
Can't tell	-	-	-	-	-	-	-	0	0	0	0
<b>Where Riding*</b>											
Road	54	78	61	97	99	57	63	61	58	56	-2
Footpath	46	22	39	3	1	4	12	16	14	7	-7
Off-road cycleway	-	-	-	-	-	39	25	23	28	37	9
<b>Base:</b>	<b>116</b>	<b>199</b>	<b>120</b>	<b>420</b>	<b>370</b>	<b>282</b>	<b>438</b>	<b>429</b>	<b>441</b>	<b>414</b>	

\* Prior to 2009, cyclists riding on the cycle-designated side of the footpath on Tamaki Drive were classified as road riders. In 2009, a separate classification of 'off-road cycleway' was introduced, which incorporates separated cycleways such as Tamaki Drive. From 2009, 'road riders' were defined as those cycling on the cycle designated side of the footpath, and 'footpath' riders as those cycling on the pedestrian-designated side of the footpath.



- In the evening, cyclist movement volumes increased over the observation period to peak between 5:20pm and 5:29pm (38 movements). Cycle traffic then continued to stay above 20 movements per ten-minute interval until the end of the shift. Subsequent peaks were evident at 6:00pm to 6:09pm (34 movements), and from 6:40pm to 6:49pm (31 movements).

**Figure 6.3: Evening Peak Cyclist Frequency  
Tamaki/The Strand 2007 – 2013 (n)**



Note: In 2013, three per cent of the total cycle movements (n=11) in the evening peak were identified as cycling in groups. Three or more cyclists were observed travelling in groups at this site at the following times:

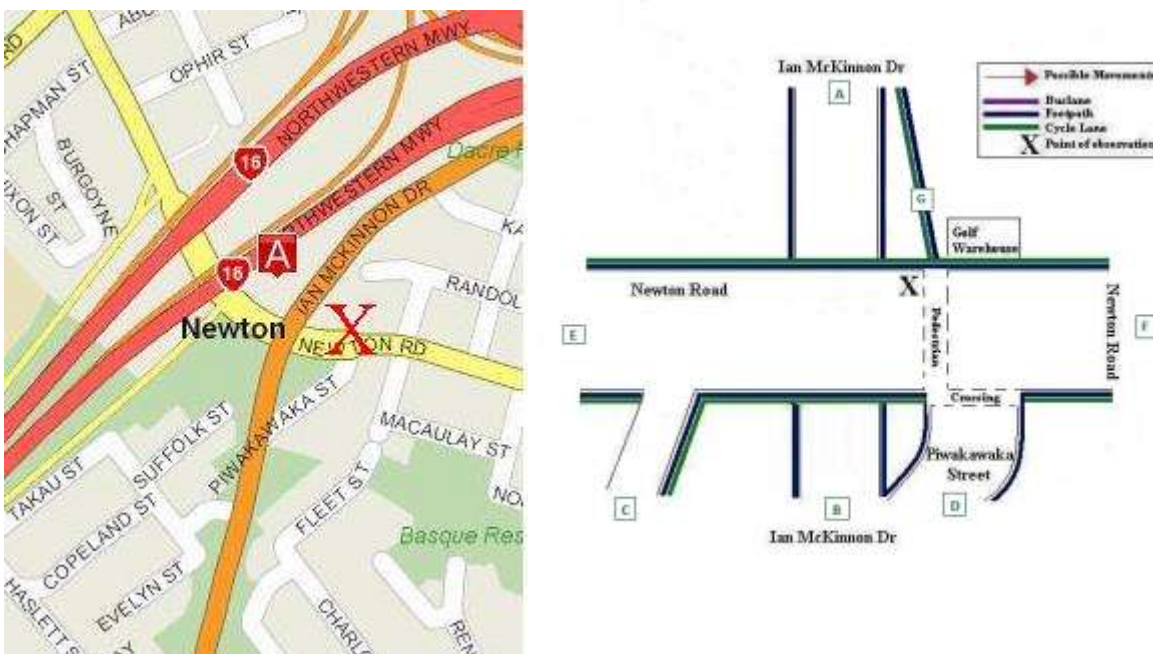
- 3 cyclists at 6:09pm
- 3 cyclists at 6:39pm
- 5 cyclists at 6:50pm.

## 7. IAN MCKINNON DRIVE/NEWTON ROAD, NEWTON (SITE 13)

Figure 7.1 shows the possible cyclist movements at this intersection.

*Note: Due to the complexity of this site, the map and movement directions were re-designed this year 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 7.1: Cycle Movements: Ian McKinnon Drive/Newton Road**



### 7.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2009	139	152	291	422
2010	190	184	374	544
2011	236	324	560	807
2012	219	284	503	726
<b>2013</b>	<b>303</b>	<b>279</b>	<b>582</b>	<b>848</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 cyclists at the Ian McKinnon Drive/Newton Road site has increased, from 219 in 2012 to 303 this year.
- Looking at entries only, Entry B (southern end of Ian McKinnon Drive) and C (off the North-Western Cycleway) had high cycle traffic in the morning (106 and 160 cycle movements respectively).
- Focusing on exits only, Exit A (north along Ian McKinnon Drive) had the highest traffic in the morning (106 movements).
- The key morning movement at this intersection was straight along Ian McKinnon Drive heading north towards the city (Entry B Exit A = 106 cyclists, up from 70 cyclists last year).

**Table 7.1A: Morning Cyclist Movements  
Ian McKinnon Drive/Newton Road 2013 (n)**

Entry	Exit								Total
	A	B	C	D	E	F	G	DK	
A	0	4	0	0	0	0	0	0	4
B	106	0	0	0	0	0	0	0	106
C	0	0	0	44	57	27	32	0	160
D	0	0	1	0	7	0	2	0	10
E	0	0	6	0	1	5	2	0	14
F	0	0	0	1	7	0	0	0	8
G	0	0	0	0	0	0	0	1	1
DK	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>106</b>	<b>4</b>	<b>7</b>	<b>45</b>	<b>72</b>	<b>32</b>	<b>36</b>	<b>1</b>	<b>303</b>

**Table 7.1B: Morning Cyclist Movements  
Ian McKinnon Drive/Newton Road 2009 – 2013 (n)**

	2009	2010	2011	2012	2013	Change 12-13
<b>Total Movements</b>	139	190	236	219	303	132





- All cyclists at this site were adults (stable from last year).
- All cyclists were wearing a helmet (stable since monitoring began in 2009).
- Just over two-thirds of the cyclists were identified as male (69 per cent, up from 57 per cent 12 months ago).
- Fifty-six per cent of the cyclists were riding on the off-road cycleway, while 25 per cent were riding on the footpath (both stable from last year). The remaining 18 per cent were riding on the road (percentage unchanged from last year).

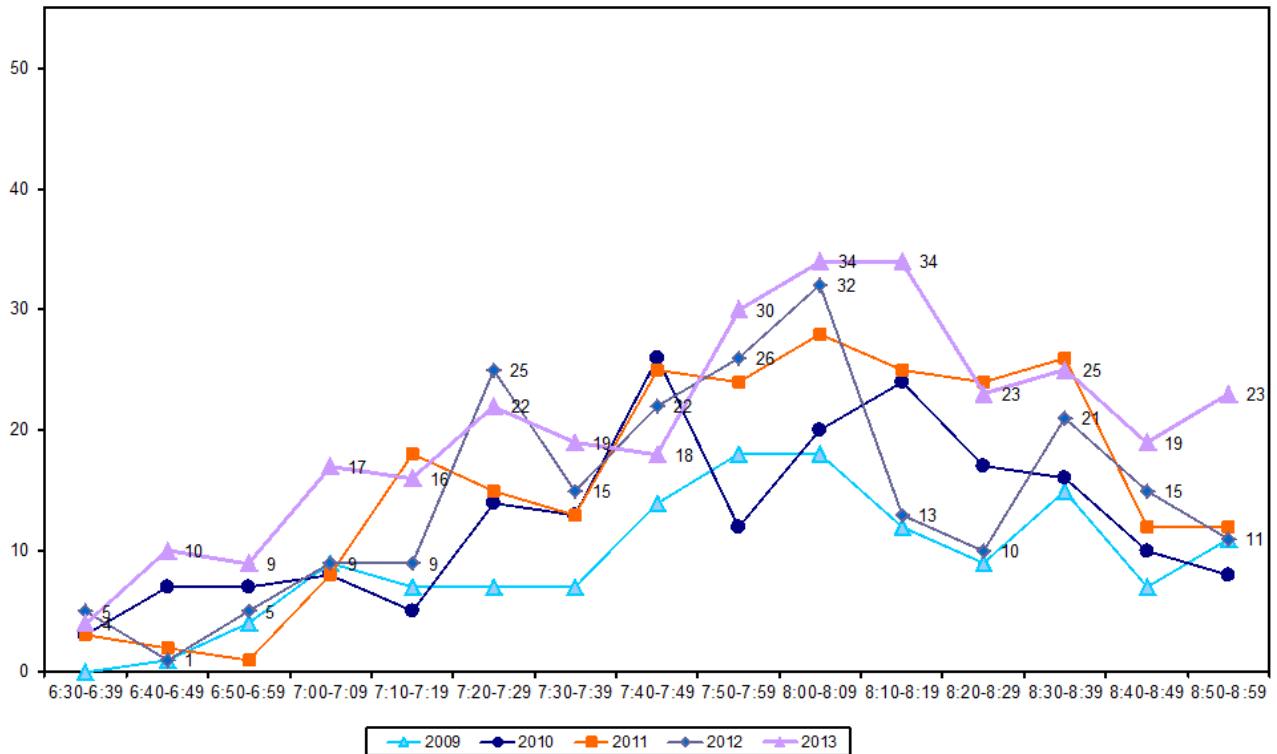
**Table 7.2: Morning Cyclist Characteristics**  
**Ian McKinnon Drive/Newton Road 2009 – 2013 (%)**

	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>Change 12-13</b>
<b>Cyclist Type</b>						
Adult	99	99	100	99	<b>100</b>	<b>1</b>
School child	1	1	0	1	<b>0</b>	<b>-1</b>
<b>Helmet Wearing</b>						
Helmet on head	90	93	98	95	<b>100</b>	<b>5</b>
No helmet	10	7	2	5	<b>0</b>	<b>-5</b>
<b>Gender</b>						
Male	-	-	53	57	<b>69</b>	<b>12</b>
Female	-	-	15	14	<b>11</b>	<b>-3</b>
Can't tell	-	-	32	29	<b>20</b>	<b>-9</b>
<b>Where Riding</b>						
Road	40	43	25	18	<b>18</b>	<b>0</b>
Footpath	15	19	22	24	<b>25</b>	<b>1</b>
Off-road cycleway	45	38	53	58	<b>56</b>	<b>-2</b>
Unsure	-	-	-	-	<b>1</b>	<b>1</b>
<b>Base:</b>	<b>139</b>	<b>190</b>	<b>236</b>	<b>219</b>	<b>303</b>	



- As in previous years, morning cyclist movement volumes started off low, but followed a generally increasing trend to reach maximum traffic flow around 8:00am. This year, the peak occurred from 8:00am to 8:19am with 34 movements per ten-minute interval during this time. Last year's peak occurred between 8:00am and 8:09am (32 movements).

**Figure 7.2: Morning Peak Cyclist Frequency**  
**Ian McKinnon Drive/Newton Road 2009 – 2013 (n)**





## 7.3 Evening Peak

### Environmental Conditions

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

### Key Points

- The number of evening cyclists recorded at the Ian McKinnon Drive/Newton Road intersection was 279, slightly down from 284 movements in 2012.
- Looking at entries only, Entry A (northern end of Ian McKinnon Drive) and E (western end of Newton Road) experienced the most cycle traffic in the evening (92 and 63 cycle movements respectively).
- In regards to exits, Exit C (North-Western Cycleway) and B (southern end of Ian McKinnon Drive) had the most evening cycle traffic (110 and 92 movements respectively).
- The key evening movements at this intersection was straight along Ian McKinnon Drive heading south (Entry A Exit B = 92 cyclist movements).

**Table 7.3A: Evening Cyclist Movements  
Ian McKinnon Drive/Newton Road 2013 (n)**

Entry	Exit								Total
	A	B	C	D	E	F	G	DK	
A	0	92	0	0	0	0	0	0	92
B	13	0	0	0	0	0	0	0	13
C	0	0	0	6	9	2	3	0	20
D	0	0	45	0	5	0	0	0	50
E	0	0	31	9	0	12	11	0	63
F	0	0	17	3	3	0	0	0	23
G	0	0	17	0	1	0	0	0	18
DK	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>13</b>	<b>92</b>	<b>110</b>	<b>18</b>	<b>18</b>	<b>14</b>	<b>14</b>	<b>0</b>	<b>279</b>

Note: From 2013, movements at this site are to be recorded by letters representing different intersections. As the roads are complicated at this site, the number system, which is being used at other sites and here in previous years, is rather impractical.

**Table 7.3B: Evening Cyclist Movements  
Ian McKinnon Drive/Newton Road 2009 – 2013 (n)**

	2009	2010	2011	2012	2013	Change 12-13
<b>Total Movements</b>	152	184	324	284	279	-5



- Over the evening peak, all cyclists using this site were adults (stable since the first monitor in 2009).
- The greatest share of cyclists at this site was wearing a helmet (99 per cent, up slightly from 96 per cent last year).
- Three in four cyclists were male (75 per cent, up from 60 per cent last year).
- Although there has been an 18 percentage point decrease, off-road cycleway cyclists still comprised the greatest share (45 per cent, down from 63 per cent in 2012). Twenty-five per cent were riding on the footpath (up from 19 per cent last year), while 29 per cent were riding on the road (up from 18 per cent last year).

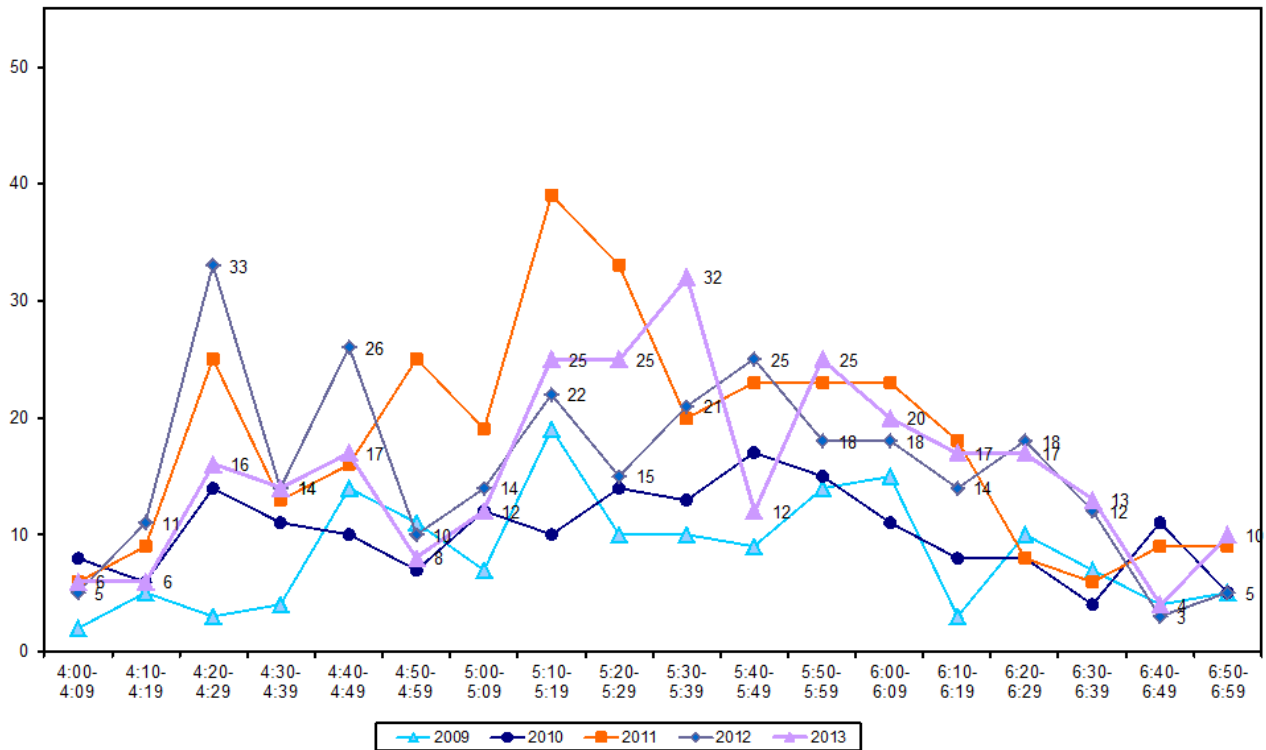
**Table 7.4: Evening Cyclist Characteristics  
Ian McKinnon Drive/Newton Road 2009 – 2013 (%)**

	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>						
Adult	98	99	100	99	<b>100</b>	<b>1</b>
School child	2	1	0	1	<b>0</b>	<b>-1</b>
<b>Helmet Wearing</b>						
Helmet on head	95	96	97	96	<b>99</b>	<b>3</b>
No helmet	5	4	3	4	<b>1</b>	<b>-3</b>
<b>Gender</b>						
Male	-	-	56	60	<b>75</b>	<b>15</b>
Female	-	-	17	11	<b>15</b>	<b>4</b>
Can't tell	-	-	27	29	<b>10</b>	<b>-19</b>
<b>Where Riding</b>						
Road	31	39	24	18	<b>29</b>	<b>11</b>
Footpath	25	29	16	19	<b>25</b>	<b>6</b>
Off-road cycleway	44	32	60	63	<b>45</b>	<b>-18</b>
Unsure	-	-	-	-	<b>1</b>	<b>1</b>
<b>Base:</b>	<b>152</b>	<b>184</b>	<b>324</b>	<b>284</b>	<b>279</b>	



- This year, the cycle movements were variable throughout the evening. Cycle traffic was heavier during the second half of the monitoring period and peaked between 5:30pm to 5:39 pm (32 movements).

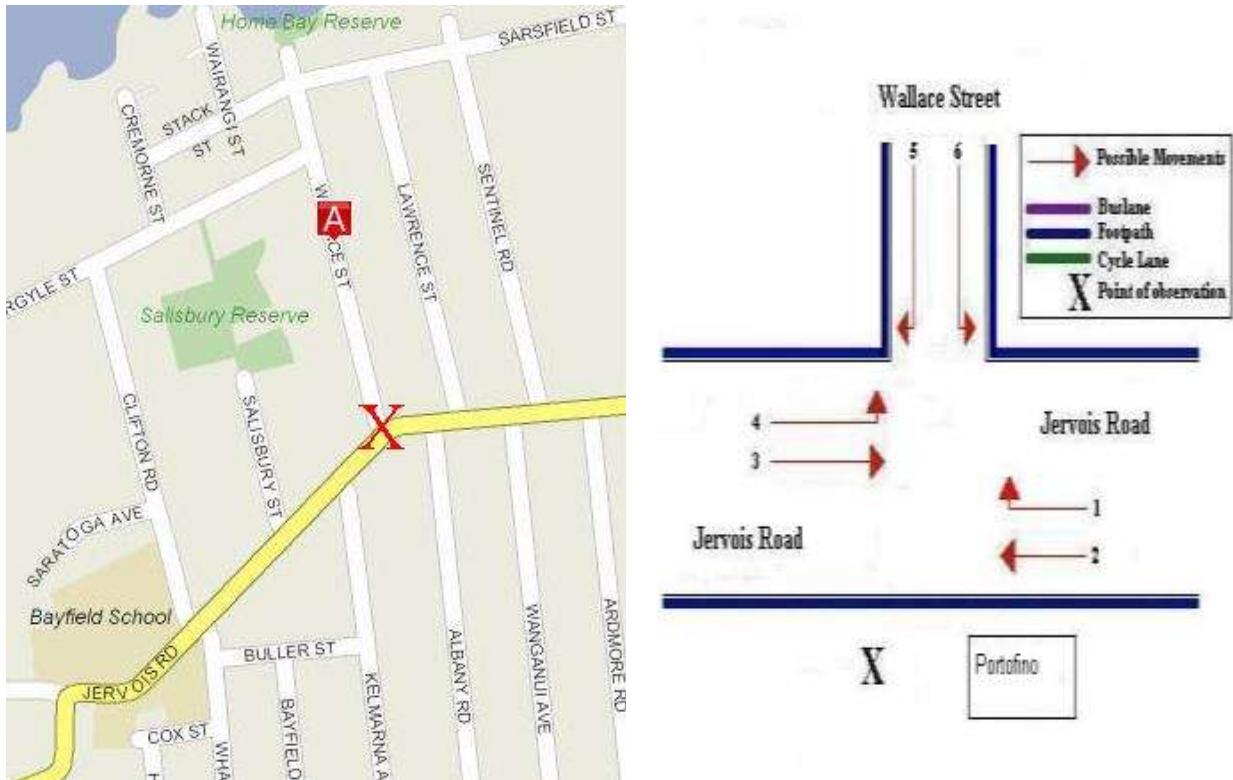
**Figure 7.3: Evening Peak Cyclist Frequency**  
**Ian McKinnon Drive/Newton Road 2009 – 2013 (n)**



## 8. JERVOIS ROAD/WALLACE STREET, HERNE BAY (SITE 16)

Figure 8.1 shows the possible cyclist movements at this intersection.

**Figure 8.1: Cycle Movements: Jervois Road/Wallace Street**



### 8.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2009	60	51	111	162
2010	88	79	167	243
2011	73	79	152	215
2012	62	79	141	204
<b>2013</b>	<b>70</b>	<b>66</b>	<b>136</b>	<b>200</b>



## 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 total number of cyclists recorded at this site in the morning has increased (70 movements, up from 62 in 2012).
- The key movements were straight along Jervois Road in both directions (Movement 2 heading southwest = 21 movements; Movement 3 heading northeast = 37 movements).
- The most noticeable change was an increase at Movement 3 (up 8 movements).

**Table 8.1: Morning Cyclist Movements**  
**Jervois Road/Wallace Street 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	1	1	0	1	1
2	30	36	37	17	21	4
3	24	37	25	29	37	8
4	2	12	8	12	8	-4
5	1	1	0	2	1	-1
6	3	1	2	2	2	0
<b>Total</b>	<b>60</b>	<b>88</b>	<b>73</b>	<b>62</b>	<b>70</b>	<b>8</b>



- There was a ten percentage point increase in younger cyclists (up from no cyclists in 2012 to 10 per cent in 2013).
- Helmet wearing continued to be widespread (97 per cent, stable from 94 per cent last year).
- The proportion of male cyclists continued to increase – up from 79 per cent in 2012 to 83 per cent this year.
- A greater share of cyclists were riding on the footpath this year (27 per cent, up 20 percentage points from 7 per cent in 2012).

**Table 8.2: Morning Cyclist Characteristics  
Jervois Road/Wallace Street 2009 – 2013 (%)**

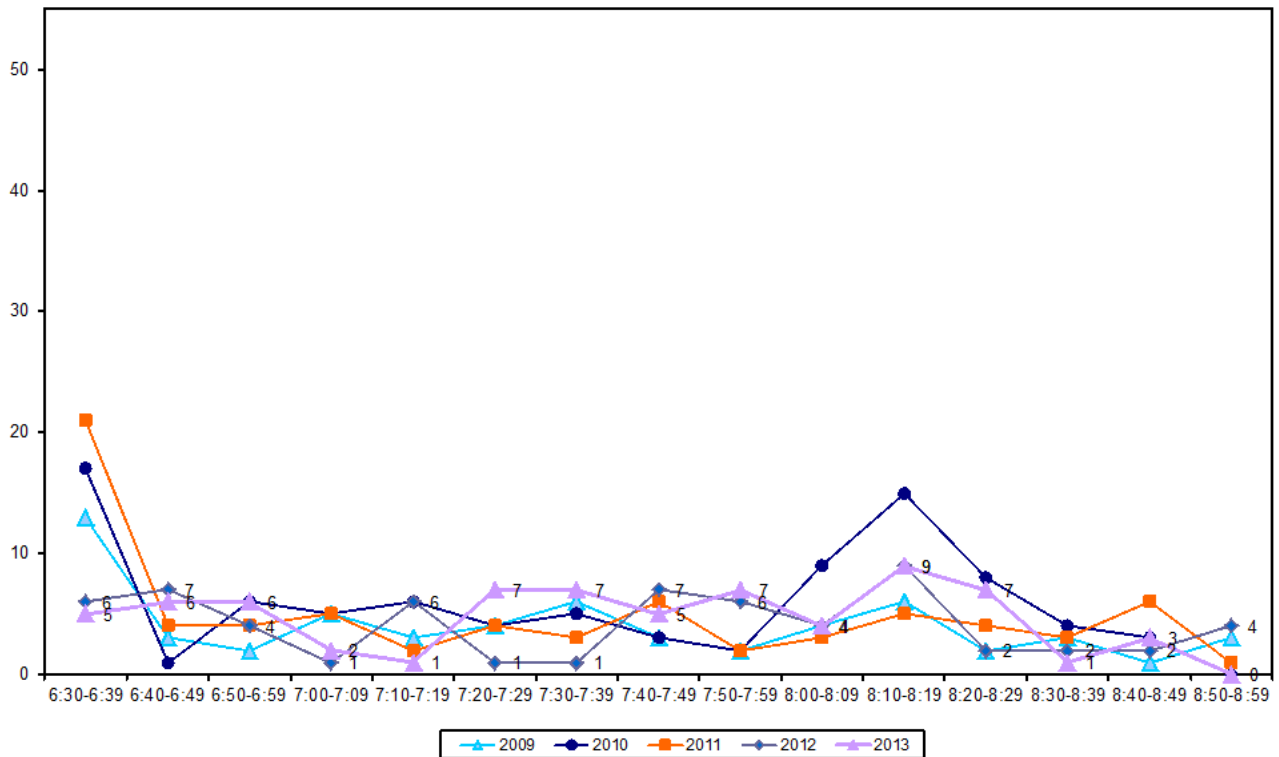
	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>						
Adult	90	80	97	100	<b>90</b>	<b>-10</b>
School child	10	20	3	0	<b>10</b>	<b>10</b>
<b>Helmet Wearing</b>						
Helmet on head	98	97	93	94	<b>97</b>	<b>3</b>
No helmet	2	3	7	6	<b>3</b>	<b>-3</b>
<b>Gender</b>						
Male	-	-	71	79	<b>83</b>	<b>4</b>
Female	-	-	29	21	<b>17</b>	<b>-4</b>
Can't tell	-	-	0	0	<b>0</b>	<b>0</b>
<b>Where Riding</b>						
Road	85	73	85	93	<b>73</b>	<b>-20</b>
Footpath	15	27	15	7	<b>27</b>	<b>20</b>
<b>Base:</b>	<b>60</b>	<b>88</b>	<b>73</b>	<b>62</b>	<b>70</b>	





- Morning cycle volumes were relatively low over most of the monitoring period. A peak occurred between 8:10am and 8:19am (9 movements), at the same time and with the same volume as last year.

**Figure 8.2: Morning Peak Cyclist Frequency**  
**Jervois Road/Wallace Street 2009 – 2013 (n)**



*Note: Four per cent of the total cycle movements in the morning peak were identified as cycling in groups. A group of three cyclists rode past at 7:52am. This compares with 15 per cent (n=9) last year.*



### 8.3 Evening Peak

#### Environmental Conditions

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

#### Key Points

- Evening cyclist numbers have decreased from last year by 13 movements (66 movements, down from 79 in 2012).
- Consistent with the morning peak, the key movement in the evening was straight along Jervois Road travelling in a southwest direction (Movement 2 = 38 movements).
- The most noticeable changes occurred at Movement 3 (down 8 movements) and at Movement 5 (down 6 movements).

**Table 8.3: Evening Cyclist Movements**  
**Jervois Road/Wallace Street 2009 – 2013 (n)**

<b>Movement</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>Change 12-13</b>
1	1	4	1	3	1	-2
2	22	50	41	35	38	3
3	17	21	19	22	14	-8
4	3	0	1	3	1	-2
5	3	4	10	13	7	-6
6	5	0	3	3	5	2
<b>Total</b>	<b>51</b>	<b>79</b>	<b>75</b>	<b>79</b>	<b>66</b>	<b>-13</b>



- Most cyclists at this site in 2013 were adults (96 per cent, the highest count recorded since monitoring began in 2009).
- Most cyclists were wearing a helmet (88 per cent, stable from 89 per cent last year).
- The majority of cyclists were male (83 per cent, a decrease from 89 per cent in 2012).
- There has been an increasing trend of riding on the footpath, the share of footpath riders up from 24 per cent in 2011 and 26 per cent in 2012, to 38 per cent this year.

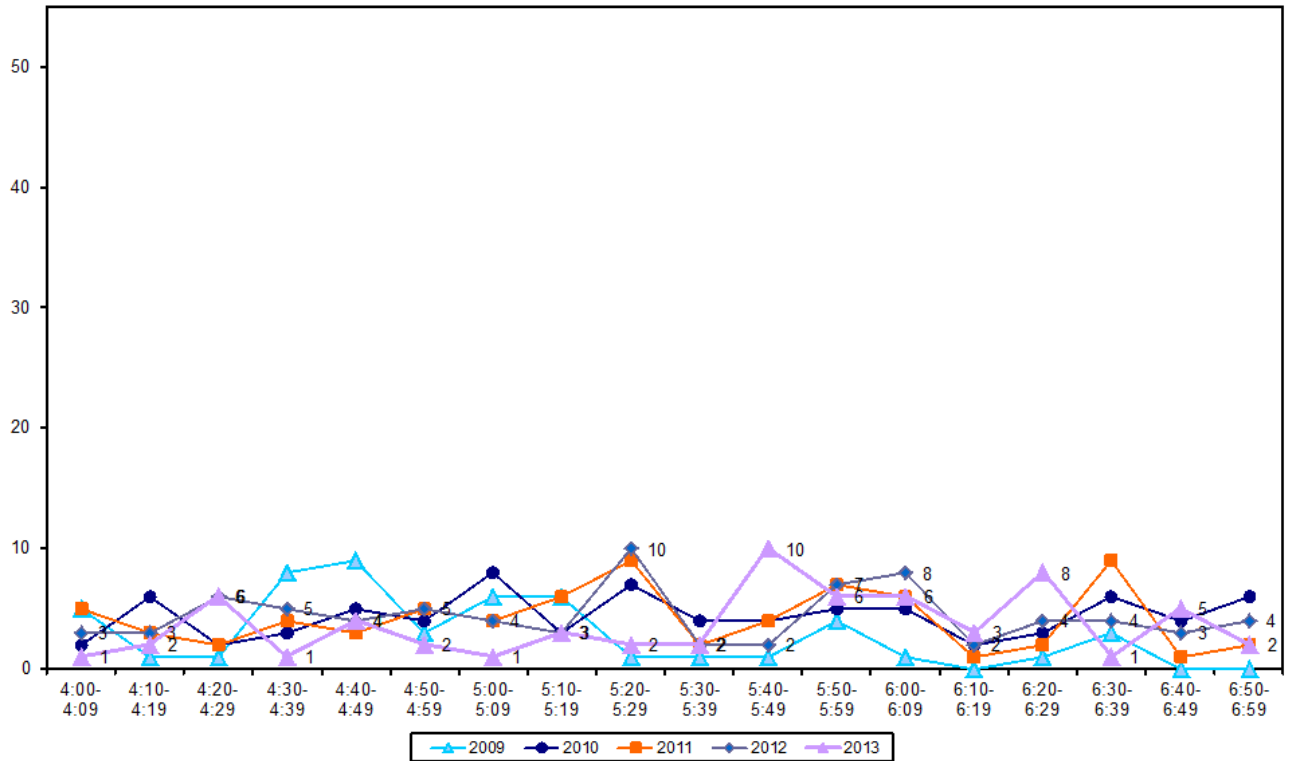
**Table 8.4: Evening Cyclist Characteristics  
Jervois Road/Wallace Street 2009 – 2013 (%)**

	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>						
Adult	55	78	92	91	<b>96</b>	<b>-5</b>
School child	45	22	8	9	<b>14</b>	<b>5</b>
<b>Helmet Wearing</b>						
Helmet on head	98	85	92	89	<b>88</b>	<b>-1</b>
No helmet	2	15	8	11	<b>12</b>	<b>1</b>
<b>Gender</b>						
Male	-	-	76	89	<b>83</b>	<b>-6</b>
Female	-	-	24	11	<b>17</b>	<b>6</b>
Can't tell	-	-	0	0	<b>0</b>	<b>0</b>
<b>Where Riding</b>						
Road	55	62	76	74	<b>62</b>	<b>-12</b>
Footpath	45	38	24	26	<b>38</b>	<b>12</b>
<b>Base:</b>	<b>51</b>	<b>79</b>	<b>75</b>	<b>79</b>	<b>66</b>	



- Evening cycle movement volumes were low across the entire monitoring period, with the first peak occurring between 5:40pm to 5:49pm (10 movements), and the second occurring between 6:20pm to 6:29pm (8 movements).

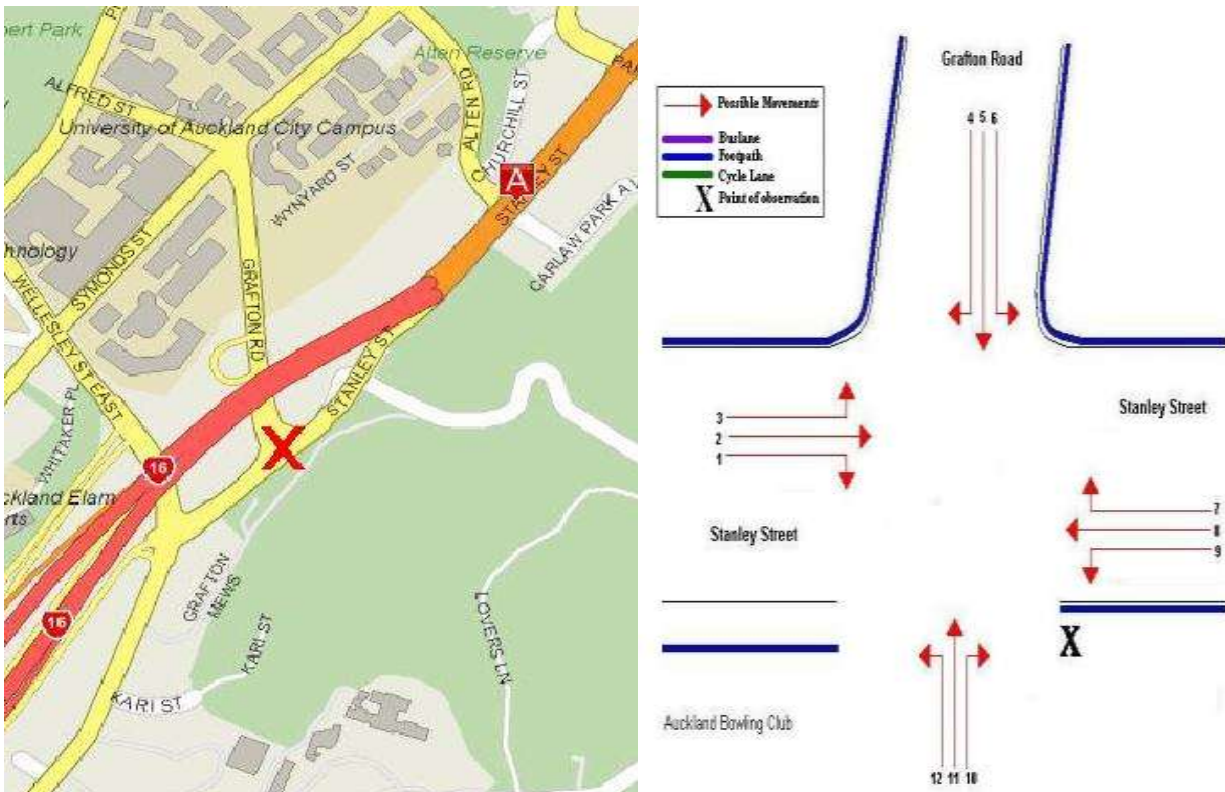
**Figure 8.3: Evening Peak Cyclist Frequency**  
**Jervois Road/Wallace Street 2009 – 2013 (n)**



# 9. STANLEY STREET/GRAFTON ROAD, GRAFTON (SITE 75)

Figure 9.1 shows the possible cyclist movements at this intersection.

**Figure 9.1: Cycle Movements: Stanley Street/Grafton Road**



## 9.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2008	36	29	65	95
2009	49	47	96	140
2010	47	46	93	135
2011	27	47	74	106
2012	38	56	94	135
<b>2013</b>	<b>55</b>	<b>62</b>	<b>117</b>	<b>170</b>



## 9.2 Morning Peak

### Environmental Conditions

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

### Key Points

- The cycle volumes at the Stanley Street/Grafton Road site have increased this year (55 movements, up from 38 twelve months ago).
- The most common morning movements were travelling along Stanley Street in both directions (Movement 2 to head north = 17 movements; Movement 8 to head south = 14 movements), and from Stanley Street turning right onto Grafton Road (Movement 7 = 11 movements).
- The most noticeable decrease in cyclist volumes from 2012 was at Movement 7 (down 9 movements). Meanwhile the biggest increase occurred at Movement 2 (up 15 movements to a total of 17).

**Table 9.1: Morning Cyclist Movements  
Stanley Street/Grafton 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	0	0	0	0	0	1	1
2	3	10	9	6	2	17	15
3	1	1	1	1	1	3	2
4	0	0	0	0	0	2	2
5	0	0	1	0	0	0	0
6	1	1	0	1	1	1	0
7	8	11	9	8	20	11	-9
8	9	13	16	5	10	14	4
9	2	3	0	4	1	0	-1
10	0	0	0	0	0	0	0
11	12	9	11	2	3	6	3
12	0	1	0	0	0	0	0
<b>Total</b>	<b>36</b>	<b>49</b>	<b>47</b>	<b>27</b>	<b>38</b>	<b>55</b>	<b>17</b>



- Over the morning peak, all cyclists were adults (100 per cent, unchanged from last year).
- Almost all cyclists were wearing a helmet (95 per cent, unchanged from last year).
- Three-quarters of cyclists were male (76 per cent, consistent with 74 per cent last year).
- The greatest share of cyclists were riding on the footpath (53 per cent, down slightly from 58 per cent last year).

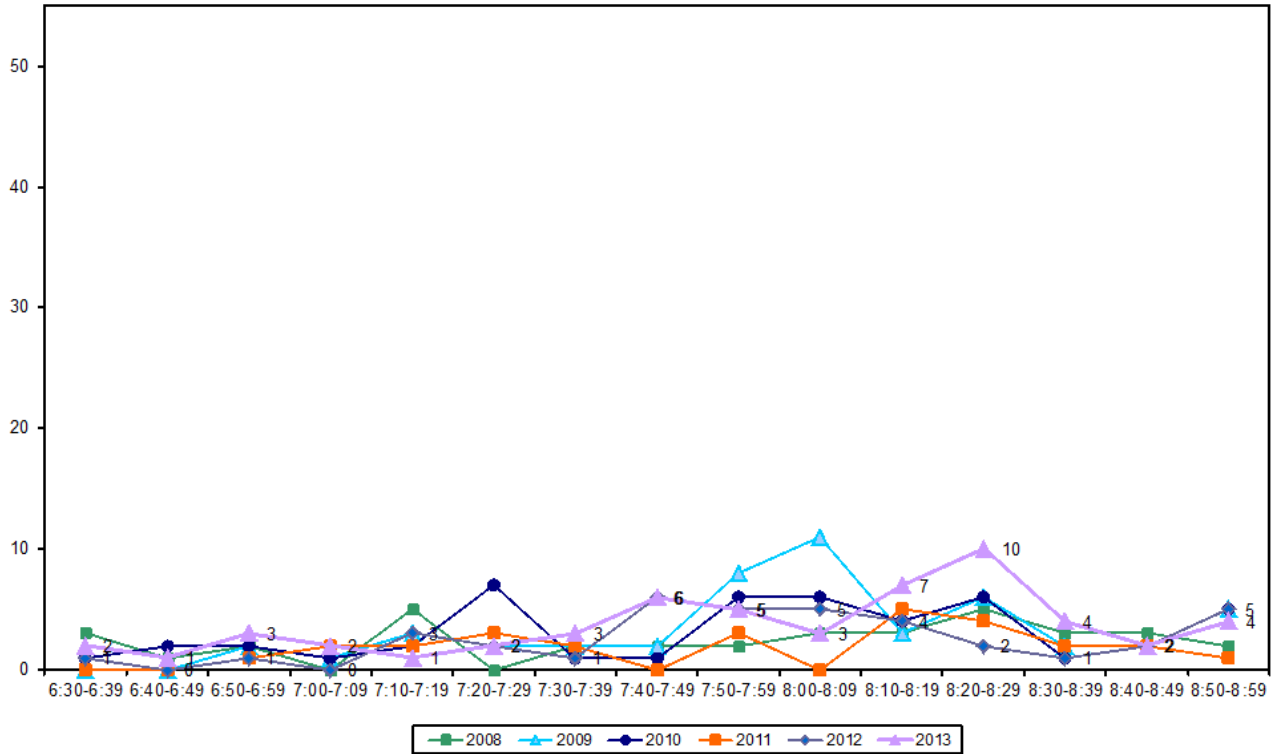
**Table 9.2: Morning Cyclist Characteristics  
Stanley Street/Grafton Road 2008 – 2013 (%)**

	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>							
Adult	100	100	100	100	100	<b>100</b>	<b>0</b>
School child	0	0	0	0	0	<b>0</b>	<b>0</b>
<b>Helmet Wearing</b>							
Helmet on head	92	94	94	100	95	<b>95</b>	<b>0</b>
No helmet	8	6	6	0	5	<b>5</b>	<b>0</b>
<b>Gender</b>							
Male	-	-	-	85	74	<b>76</b>	<b>2</b>
Female	-	-	-	15	24	<b>22</b>	<b>-2</b>
Can't tell	-	-	-	0	2	<b>2</b>	<b>0</b>
<b>Where Riding</b>							
Road	78	61	49	81	42	<b>47</b>	<b>5</b>
Footpath	22	39	51	19	58	<b>53</b>	<b>-5</b>
<b>Base:</b>	<b>36</b>	<b>49</b>	<b>47</b>	<b>27</b>	<b>38</b>	<b>55</b>	



- Morning cyclist movement volumes started low, but gradually increased to a peak of 10 movements between 8:20am and 8:29am.

**Figure 26.2: Morning Peak Cyclist Frequency  
Stanley Street/Grafton Road 2008 – 2013 (n)**







### 9.3 Evening Peak

#### Environmental Conditions

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

#### Key Points

- The total number of cycle movements recorded at the Stanley Street/Grafton Road site has increased from last year (62 movements, up from 56 movements in 2012).
- The key movements in the evening were straight along Stanley Street heading northwest (Movement 8 = 14) and travelling south along Stanley Street (Movement 2 = 10).
- The most noticeable change since 2012 was at Movement 5 (up 5 movements).

**Table 9.3: Evening Cyclist Movements  
Stanley Street/Grafton 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	0	0	0	0	1	0	-1
2	8	13	11	2	14	10	-4
3	3	0	1	2	0	1	1
4	1	1	1	2	3	6	3
5	3	8	7	2	4	9	5
6	4	5	8	10	10	9	-1
7	2	1	1	3	4	4	0
8	2	12	15	11	11	14	3
9	1	2	1	8	7	5	-2
10	4	2	0	4	2	1	-1
11	1	3	1	3	0	3	3
12	0	0	0	0	0	0	0
<b>Total</b>	<b>29</b>	<b>47</b>	<b>46</b>	<b>47</b>	<b>56</b>	<b>62</b>	<b>6</b>



- Over the evening peak, nearly all cyclists using this site were adults (97 per cent, unchanged from 2012).
- Most cyclists at this site were wearing a helmet (95 per cent, up slightly from 91 per cent 12 months ago).
- The majority of cyclists were male (82 per cent, up slightly from 77 per cent last year).
- Fifty-eight per cent of cyclists were riding on the road (stable from 56 per cent in 2012).

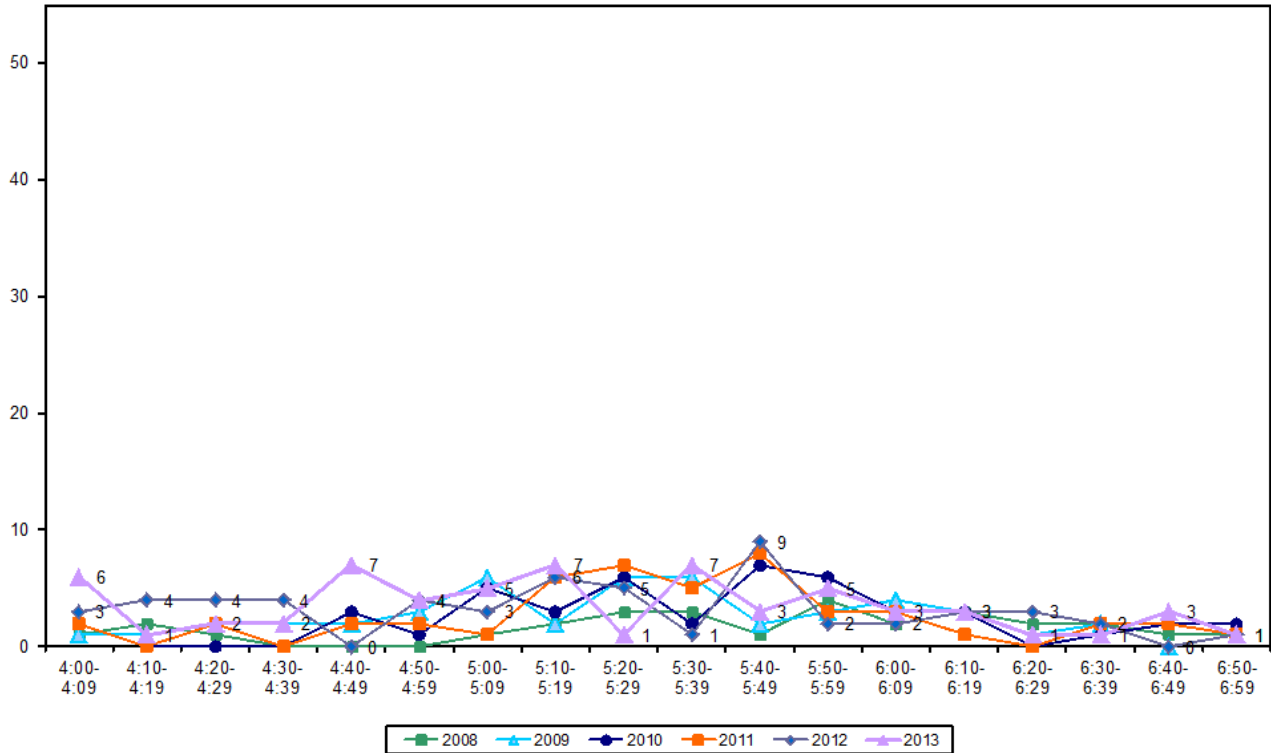
**Table 9.4: Evening Cyclist Characteristics  
Stanley Street/Grafton Road 2008 – 2013 (%)**

	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>							
Adult	100	100	100	100	100	97	-3
School child	0	0	0	0	0	0	0
Can't tell	-	-	-	-	-	3	3
<b>Helmet Wearing</b>							
Helmet on head	93	96	89	91	91	95	4
No helmet	7	4	11	9	9	5	-4
<b>Gender</b>							
Male	-	-	-	85	77	82	5
Female	-	-	-	15	23	16	-7
Can't tell	-	-	-	0	0	2	2
<b>Where Riding</b>							
Road	66	36	57	64	56	58	2
Footpath	34	64	43	36	44	42	-2
<b>Base:</b>	<b>29</b>	<b>47</b>	<b>46</b>	<b>47</b>	<b>56</b>	<b>62</b>	



- Consistent with previous years, evening cyclist volumes were low throughout the shift. This year, cycle traffic has been variable and resulted in four small peaks – 4:00pm to 4:09pm with six movements, 4:40pm to 4:49pm with seven movements, 5:10pm to 5:19pm with seven movements and 5:30pm to 5:39pm with seven movements also.

**Figure 9.3: Evening Peak Cyclist Frequency  
Stanley Street/Grafton Road 2008 – 2013 (n)**



## 10. FERRY TERMINAL, AUCKLAND CENTRAL (SITE 22)

Figure 10.1 shows the possible cyclist movements at this site. *Note: Due to the size of this site, three surveyors were used to conduct the cycle counts. One surveyor counted cycle traffic entering and leaving via the actual ferry terminal (Pier 1). The second surveyor counted cycle traffic using the ferries at Pier 2. The third surveyor counted cycle traffic using ferries at Piers 3 and 4.*

**Figure 10.1: Cycle Movements: Ferry Terminal**



### 10.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2007	195	185	380	553
2008	158	158	316	459
2009	137	111	248	363
2010	198	197	395	574
2011	205	186	391	570
2012	189	200	389	565
<b>2013</b>	<b>205</b>	<b>212</b>	<b>417</b>	<b>606</b>



## 10.2 Morning Peak

### Environmental Conditions

- The weather was fine throughout the morning shift.
- One ferry scheduled to depart from Pier 4 (to Stanley Bay) had changed its departure time and departed from Pier 1.
- There were no other road works or accidents that may affect cycle counts.

### Key Points

- The volume of cyclist movements at the Ferry Terminal site has increased from last year (205 movements, up from 189 movements in 2012).
- Like last year, the key movement in the morning was disembarking the terminal at Pier One, which provides access to ferry services to and from Birkenhead, Northcote Point, Bayswater, Devonport and Half Moon Bay (146 movements, up from 128 in 2012).
- The most noticeable change occurred in cyclist movements disembarking from Pier One (up 18 movements).

**Table 10.1: Morning Cyclist Movements**  
Ferry Terminal 2007 – 2013 (n)

Movement	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Pier One</b>								
Boarding	18	11	10	24	14	15	14	-1
Disembarking	136	127	100	134	141	128	146	18
<b>Pier Two</b>								
Boarding	8	5	1	0	4	2	0	-2
Disembarking	18	10	16	28	32	31	23	-8
<b>Pier Three</b>								
Boarding	0	0	1	0	0	3	0	-3
Disembarking	4	3	3	8	8	5	7	2
<b>Pier Four</b>								
Boarding	0	0	4	0	1	1	2	1
Disembarking	11	2	2	4	5	4	13	9
<b>Total</b>	<b>195</b>	<b>158</b>	<b>137</b>	<b>198</b>	<b>205</b>	<b>189</b>	<b>205</b>	<b>16</b>

*Pier 1 – departs for Birkenhead, Northcote Point, Bayswater, Devonport and Half Moon Bay*

*Pier 2 – departs for Waiheke Island*

*Pier 3 – departs for West Harbour, Pine Harbour and Coromandel*

*Pier 4 – departs for Gulf Harbour, Stanley Bay, Tiritiri Matangi Island and Hobsonville/Beachhaven*

*Note: Prior to 2013, Half Moon Bay ferry services departed from Pier 2. In 2013, these services departed from Pier 1. Also, the Hobsonville/Beachhaven service was first introduced in 2013.*



**Table 10.2A: Morning Cyclist Movements – Which Ferry Boarded (n)**

<i>Ferry</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>Change 12-13</i>
<b>Pier One</b>						
Bayswater	-	-	-	-	7	7
Birkenhead	-	-	-	-	0	0
Devonport	-	-	-	-	5	5
Half Moon Bay	0	0	0	0	0	0
Don't know	-	-	-	-	2	2
<b>Pier Two</b>						
Waiheke	1	0	4	2	0	-2
<b>Pier Three</b>						
Pine Harbour	0	0	0	0	0	0
West Harbour	1	0	0	0	0	0
Coromandel	-	-	-	3	0	-3
<b>Pier Four</b>						
Gulf Harbour	0	0	0	0	0	0
Stanley Bay	4	0	1	1	1	0
Tiritiri Matangi Island	-	-	-	-	1	1
Hobsonville/Beachhaven	-	-	-	-	0	0
<b>Total</b>	<b>6</b>	<b>0</b>	<b>5</b>	<b>6</b>	<b>16</b>	<b>10</b>

*Note: Prior to 2013, it is not possible to identify which ferry cyclists are boarding at Pier 1.*

**Table 10.2B: Morning Cyclist Movements – Which Ferry Disembarked (n)**

<i>Ferry</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>Change 12-13</i>
<b>Pier One</b>						
Bayswater	22	-	35	12	30	18
Birkenhead	34	-	28	14	27	13
Devonport	44	-	78	40	79	39
Half Moon Bay	4	10	7	-	10	10
Don't know	-	-	-	62	-	-62
<b>Pier Two</b>						
Waiheke	12	18	25	-	23	23
<b>Pier Three</b>						
Pine Harbour	2	8	8	5	7	2
West Harbour	1	0	0	0	0	0
<b>Pier Four</b>						
Gulf Harbour	1	1	1	3	6	3
Stanley Bay	1	3	4	1	6	5
Hobsonville/Beachhaven	-	-	-	-	1	1
<b>Total</b>	<b>121</b>	<b>40</b>	<b>186</b>	<b>137</b>	<b>189</b>	<b>52</b>



- All cyclists using this site in the morning were adults (stable from 99 per cent in 2012).
- Seventy-five per cent of cyclists were wearing a helmet (up from 70 per cent last year).
- The majority of cyclists were male (83 per cent, unchanged since 2012).

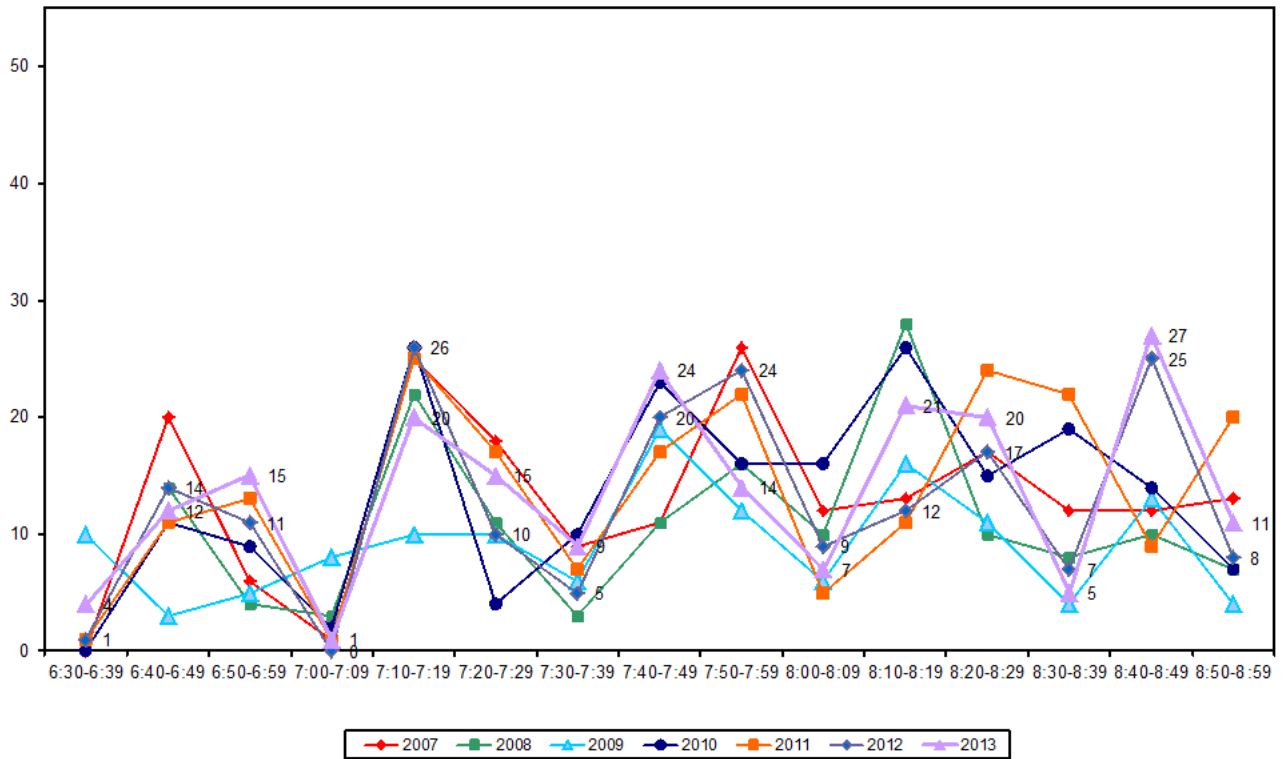
**Table 10.3: Morning Cyclist Characteristics  
Ferry Terminal 2007 – 2013 (%)**

	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>								
Adult	98	96	100	99	98	99	100	1
School child	2	4	0	1	2	1	0	-1
<b>Helmet Wearing</b>								
Helmet on head	87	70	80	69	68	70	75	5
No helmet	13	30	20	31	32	30	22	-8
Unsure	-	-	-	-	-	-	3	3
<b>Gender</b>								
Male	-	-	-	-	83	83	83	0
Female	-	-	-	-	17	13	15	2
Can't tell	-	-	-	-	0	4	2	-2
<b>Base:</b>	<b>195</b>	<b>158</b>	<b>137</b>	<b>198</b>	<b>205</b>	<b>189</b>	<b>205</b>	



- Morning cyclist volumes vary throughout the shift, with peaks at ten past and twenty to the hour across the morning peak. The general trend was consistent with previous years.

**Figure 23.2: Morning Peak Cyclist Frequency**  
**Ferry Terminal 2007 – 2013 (n)**







## 10.3 Evening Peak

### Environmental Conditions

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

### Key Points

- The volume of evening cycle movements at the Ferry Terminal site has increased from last year (212 movements, up from 200 in 2012).
- In contrast to the morning shift, the key movement in the evening was boarding the ferries at Pier One (141 movements, up from 128 in 2012).
- Compared with last year, the most noticeable change was boarding the ferry at Pier One (up 13 movements).

**Table 10.4: Evening Cyclist Movements  
Ferry Terminal 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>
<b>Pier One</b>								
Boarding	131	122	88	137	135	128	<b>141</b>	<b>13</b>
Disembarking	15	13	5	25	15	22	<b>20</b>	<b>-2</b>
<b>Pier Two</b>								
Boarding	7	15	10	21	19	32	<b>27</b>	<b>-5</b>
Disembarking	16	6	0	3	5	4	<b>2</b>	<b>-2</b>
<b>Pier Three</b>								
Boarding	0	2	5	6	6	4	<b>6</b>	<b>2</b>
Disembarking	0	0	0	0	0	1	<b>0</b>	<b>-1</b>
<b>Pier Four</b>								
Boarding	0	0	3	3	5	7	<b>15</b>	<b>8</b>
Disembarking	16	0	0	2	1	2	<b>1</b>	<b>-1</b>
<b>Total</b>	<b>185</b>	<b>158</b>	<b>111</b>	<b>197</b>	<b>186</b>	<b>200</b>	<b>212</b>	<b>12</b>

*Pier 1 – departs for Birkenhead, Northcote Point, Bayswater, Devonport and Half Moon Bay*

*Pier 2 – departs for Waiheke Island*

*Pier 3 – departs for West Harbour, Pine Harbour and Coromandel*

*Pier 4 – departs for Gulf Harbour, Stanley Bay, Tiritiri Matangi Island and Hobsonville/Beachhaven*

*Note: Prior to 2013, Half Moon Bay ferry services departed from Pier 2. In 2013, these services departed from Pier 1. Also, the Hobsonville/Beachhaven service was first introduced in 2013.*



**Table 10.5A: Evening Cyclist Movements – Which Ferry to Board (n)**

<i>Ferry</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>Change 12-13</i>
<b>Pier One</b>						
Bayswater	-	-	-	-	26	26
Birkenhead	-	-	-	-	29	29
Devonport	-	-	-	-	76	76
Half Moon Bay	3	4	6	7	8	1
Don't know	-	-	-	-	2	2
<b>Pier Two</b>						
Waiheke	7	17	13	25	27	2
<b>Pier Three</b>						
Pine Harbour	4	6	6	4	6	2
West Harbour	1	0	0	0	0	0
<b>Pier Four</b>						
Gulf Harbour	0	0	0	5	4	-1
Stanley Bay	3	3	5	2	7	5
Hobsonville/Beachhaven	-	-	-	-	4	4
<b>Total</b>	<b>18</b>	<b>30</b>	<b>30</b>	<b>43</b>	<b>189</b>	<b>146</b>

*Note: At Pier 1 it is not possible to identify which ferry cyclists are boarding*

**Table 10.5B: Evening Cyclist Movements – Which Ferry to Disembark (n)**

<i>Ferry</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>Change 12-13</i>
<b>Pier One</b>						
Bayswater	0	-	0	0	3	3
Birkenhead	0	-	2	0	1	1
Devonport	5	-	13	2	16	14
Half Moon Bay	0	0	0	-	0	0
Don't know	-	-	-	20	0	-20
<b>Pier Two</b>						
Waiheke	0	3	5	-	2	2
<b>Pier Three</b>						
Pine Harbour	0	0	0	1	0	-1
West Harbour	0	0	0	0	0	0
<b>Pier Four</b>						
Gulf Harbour	0	1	0	0	0	0
Stanley Bay	0	1	1	2	1	-1
Tiritiri Matangi Island	-	-	-	-	0	0
Hobsonville/Beachhaven	-	-	-	-	0	0
<b>Total</b>	<b>5</b>	<b>5</b>	<b>21</b>	<b>25</b>	<b>23</b>	<b>-2</b>



- Over the evening peak, all cyclists using this site were adults (100 per cent, stable from previous years).
- Seventy-four per cent of cyclists were wearing a helmet (stable from 72 per cent last year).
- The majority of cyclists were male (85 per cent).

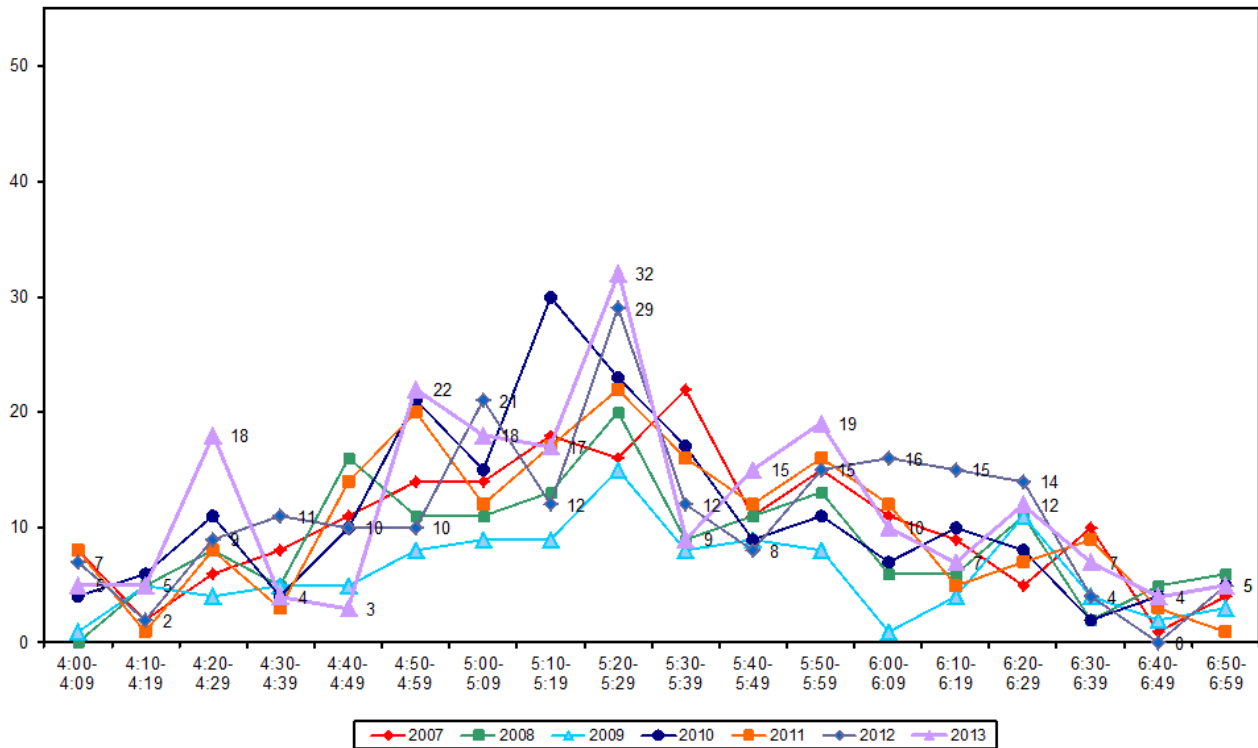
**Table 10.6: Evening Cyclist Characteristics  
Ferry Terminal 2007 – 2013 (%)**

	2007	2008	2009	2010	2011	2012	2013	Change 12-13
<b>Cyclist Type</b>								
Adult	99	98	100	100	98	99	100	1
School child	1	2	0	0	2	1	0	-1
<b>Helmet Wearing</b>								
Helmet on head	85	69	80	71	68	72	74	2
No helmet	15	31	20	29	32	28	26	-2
<b>Gender</b>								
Male	-	-	-	-	83	87	85	-2
Female	-	-	-	-	17	13	15	2
Can't tell	-	-	-	-	0	0	0	0
<b>Base:</b>	<b>185</b>	<b>158</b>	<b>111</b>	<b>198</b>	<b>186</b>	<b>200</b>	<b>212</b>	



- Evening cyclist movement volumes vary throughout the shift, increasing from the beginning of the shift and peaking between 5:20 and 5:29 (32 movements). This pattern was consistent with previous years.

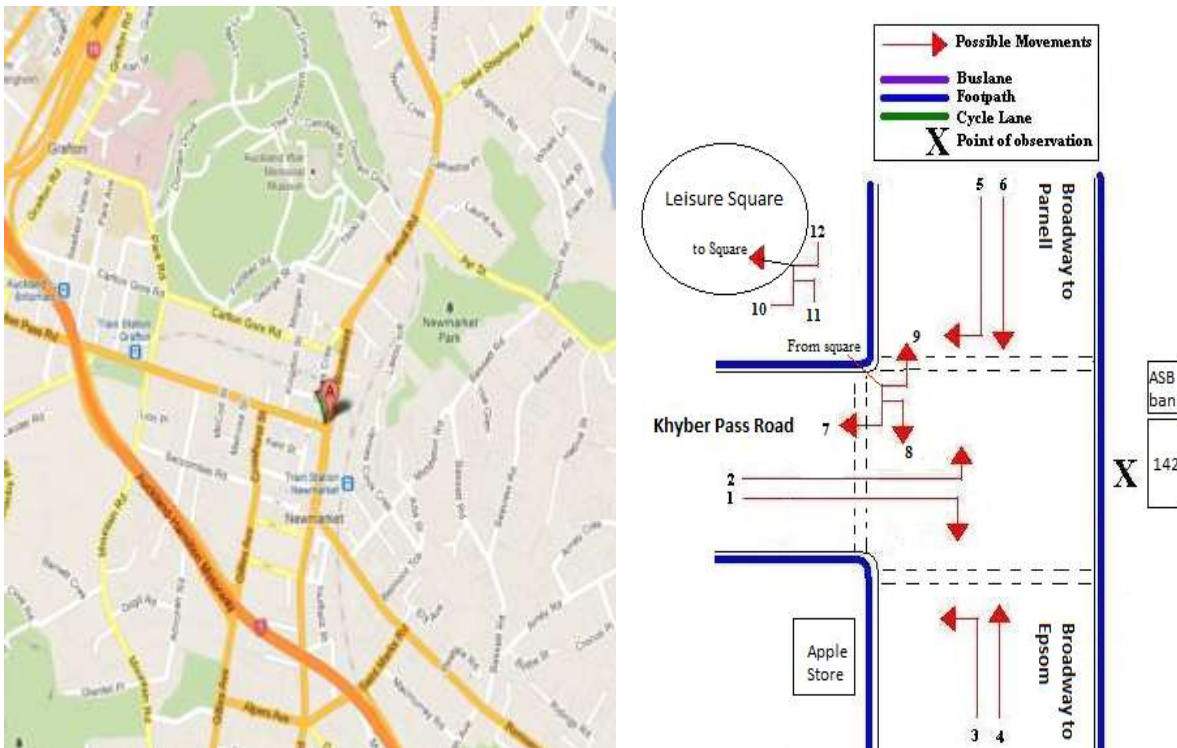
**Figure 10.6: Evening Peak Cyclist Frequency**  
**Ferry Terminal 2007 – 2013 (n)**



# 11. BROADWAY/KHYBER PASS ROAD, NEWMARKET (SITE 90)

Figure 11.1 shows the possible cyclist movements at this intersection.

**Figure 11.1: Cycle Movements: Broadway/Khyber Pass Road**



*Note: This site was monitored for the first time in 2012.*

## 11.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2012	292	285	577	839
<b>2013</b>	<b>322</b>	<b>315</b>	<b>637</b>	<b>927</b>



## 11.2 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

- There has been an increase in cyclist movements at the Broadway/Khyber Pass Road site (292 movements in 2012 to 322 this year).
- The key morning movements were heading north on Broadway (Movement 4 = 105 movements) and going in the opposite direction (Movement 6 = 91 movements).
- Cyclist traffic from Khyber Pass Road heading towards Epsom has almost halved from last year (Movement 1 = 33 movements, compared with 64 last year).

**Table 11.1: Morning Cyclist Movements  
Broadway/Khyber Pass Road 2012 – 2013 (n)**

<b>Movement</b>	<b>2012</b>	<b>2013</b>	<b>Change 12-13</b>
1	64	33	-31
2	2	6	4
3	23	32	9
4	81	105	24
5	4	3	-1
6	76	91	15
7	0	0	0
8	1	8	7
9	1	1	0
10	1	1	0
11	36	42	6
12	3	0	-3
<b>Total</b>	<b>292</b>	<b>322</b>	<b>30</b>



- Over the morning peak, the majority of cyclists were adults (95 per cent, stable from 98 per cent in 2012).
- Almost all cyclists were wearing a helmet (98 per cent, same as in 2012).
- Four out of five cyclists were male (80 per cent, up from 67 per cent in 2012, although noting that gender could not be identified for 22 per cent of the cyclists in 2012).
- Almost all cyclists were riding on the road (93 per cent, stable from 95 per cent from 2012).

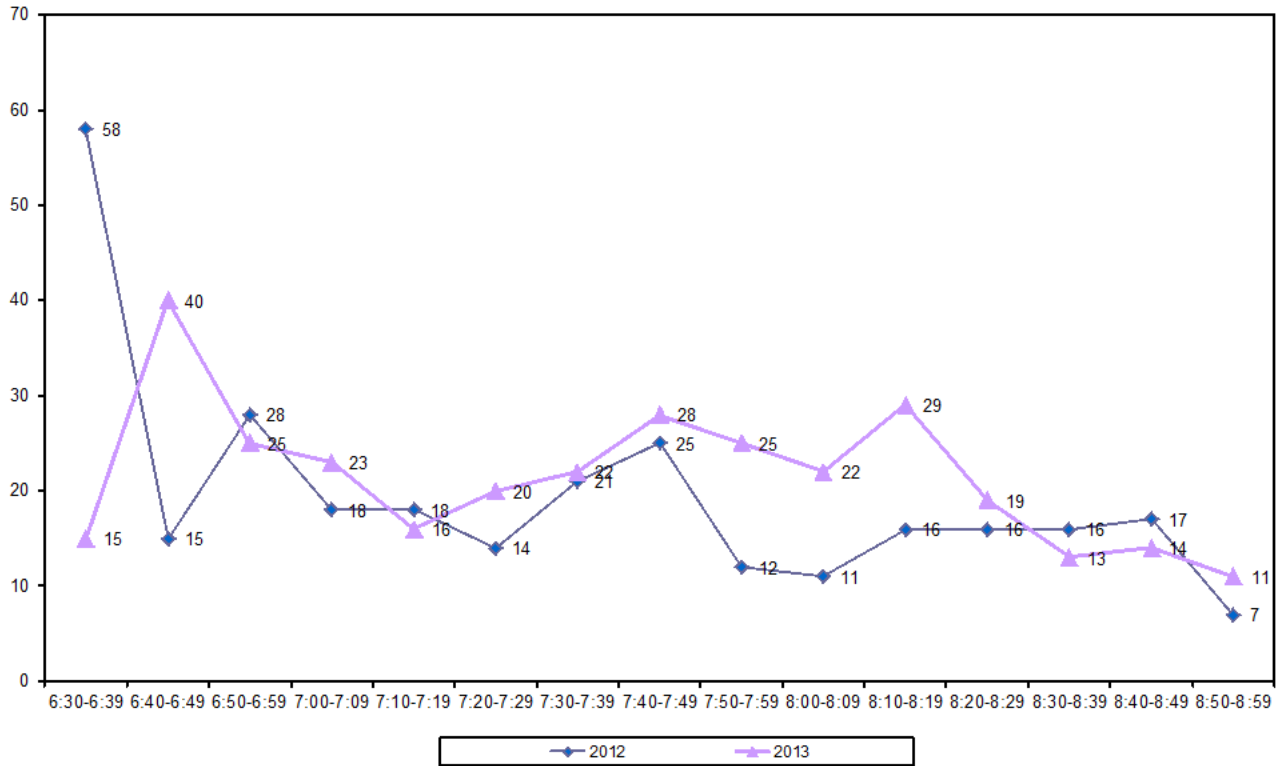
**Table 11.2: Morning Cyclist Characteristics  
Broadway/Khyber Pass Road 2012 – 2013 (%)**

	2012	2013	Change 12-13
<b>Cyclist Type</b>			
Adult	98	95	-3
School child	2	5	3
<b>Helmet Wearing</b>			
Helmet on head	98	98	0
No helmet	2	2	0
<b>Gender</b>			
Male	67	80	13
Female	11	19	8
Can't tell	22	1	-21
<b>Where Riding</b>			
Road	95	93	2
Footpath	5	7	-2
<b>Base:</b>	<b>292</b>	<b>322</b>	



- Morning cyclist volumes peaked at 40 movements between 6:40am and 6:49am, with a second period of increased volume between 7:40am and 8:19am.

**Figure 11.2: Morning Peak Cyclist Frequency  
Broadway/Khyber Pass Road 2012 – 2013 (n)**



*Note: A group of 15 cyclists rode past at 6:41am, accounting for five per cent of the morning cycle volumes at this site.*





### 11.3 Evening Peak

#### Environmental Conditions

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

#### Key Points

- There has been an increase in cyclist movements from 2012 (315 movements this year compared with 285 last year).
- The key morning movements were heading south on Broadway (Movement 6 = 123 movements), turning right from Khyber Pass onto Broadway (Movement 1 = 75 movements) and north along Broadway (Movement 4 = 52 movements).
- Movement 6 and Movement 1 also recorded the biggest increase over the last twelve months (up 23 movements and up 20 movements respectively).
- The most noticeable decrease occurred at Movement 8 (down by 10 movements).

**Table 11.3: Evening Cyclist Movements  
Broadway/Khyber Pass Road 2012 – 2013 (n)**

<i>Movement</i>	<i>2012</i>	<i>2013</i>	<i>Change 12-13</i>
1	55	75	20
2	12	11	-1
3	11	12	1
4	53	52	-1
5	8	3	-5
6	100	123	23
7	1	0	-1
8	36	26	-10
9	0	0	0
10	2	1	-1
11	7	10	3
12	0	0	0
Don't know	0	2	2
<b>Total</b>	<b>285</b>	<b>315</b>	<b>30</b>



- Over the morning peak, the majority of cyclists were adults (93 per cent, stable from 95 per cent last year).
- Almost all cyclists were wearing a helmet (95 per cent, unchanged from last year).
- Eighty per cent of the cyclists were male.
- Almost all cyclists were riding on the road (91 per cent, stable from last year).

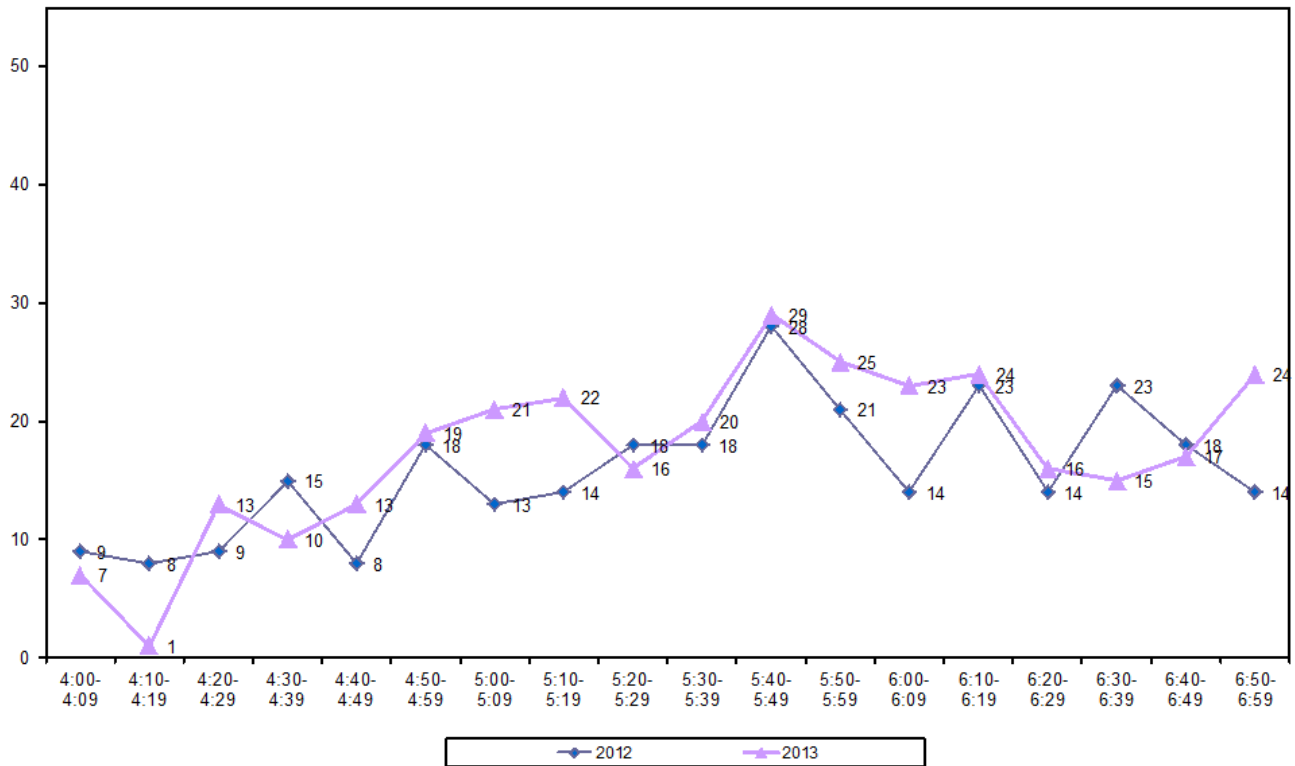
**Table 11.4: Evening Cyclist Characteristics  
Broadway/Khyber Pass Road 2012 – 2013 (%)**

	<b>2012</b>	<b>2013</b>	<b>Change 12-13</b>
<b>Cyclist Type</b>			
Adult	95	<b>93</b>	<b>-2</b>
School child	5	<b>7</b>	<b>2</b>
<b>Helmet Wearing</b>			
Helmet on head	95	<b>95</b>	<b>0</b>
No helmet	5	<b>5</b>	<b>0</b>
<b>Gender</b>			
Male	81	<b>80</b>	<b>-1</b>
Female	14	<b>19</b>	<b>5</b>
Can't tell	5	<b>1</b>	<b>-4</b>
<b>Where Riding</b>			
Road	93	<b>91</b>	<b>-2</b>
Footpath	7	<b>8</b>	<b>1</b>
Can't tell	-	<b>1</b>	<b>1</b>
<b>Base:</b>	<b>285</b>	<b>315</b>	



- Evening cyclist volumes generally increased throughout the shift, peaking between 5:40pm and 5:49pm (29 movements). This compares with last year – a peak of 28 movements between 5:40pm and 5:49pm.

**Figure 11.3: Evening Peak Cyclist Frequency  
Broadway/Khyber Pass Road 2012 – 2013 (n)**





## 12. SCHOOL BIKE SHED COUNT

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*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 18 schools in the Waitemata and Gulf ward took part in the school bike shed count.
- Of the schools who participated, 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 5<sup>th</sup> of March 2013, most schools in the Waitemata and Gulf ward completed their count on an alternative day<sup>11</sup>.

### **Key Points**

- Of those eligible to cycle, on average two per cent of students are cycling to their schools (unchanged from last year).
- Across the 18 eligible schools that responded, n=215 students were reported to cycle to school.
- Okiwi School reported the highest share of cyclists – 26 per cent of all eligible students currently cycling.
- Of the 11 schools that participated in the count in both 2012 and 2013, three (Mulberry Grove School, Ponsonby Intermediate and Auckland International College) reported an increase in the share of students cycling to school.
- Of the 11 schools that participated in the count in both 2012 and 2013, 6 (55 per cent) reported a decrease in the share of students cycling.
- Five schools (28 per cent) had no students cycling to school.

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

- ACG Parnell College *"Students must be Year 7 and up"*
- Waiheke Primary School *"Students aged 10 years and over may cycle unless accompanied by an adult"*

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

- ACG Parnell College *"Bike club occurs on Tuesday/Friday so unable to determine those having used bike to get to school"*
- Auckland Grammar School *"Approximately 100 students on camp, another 8-10 may have ridden bikes if they were here"*
- Parnell District School *"Year 7-8 away at softball which accounts for a lot less cycles today"*

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

- ACG Senior College – 13<sup>th</sup> March 2013
- Kadimah College – 13<sup>th</sup> March 2013
- Kaitoke School (Claris) – 14<sup>th</sup> March 2013
- Marist College – 28<sup>th</sup> February 2013
- Mulberry Grove School – 13<sup>th</sup> March 2013
- Okiwi School – 14<sup>th</sup> March 2013
- Ponsonby Intermediate – 13<sup>th</sup> March 2013
- St Joseph's School (Grey Lynn) – 13<sup>th</sup> March 2013
- St Paul's College – 13<sup>th</sup> March 2013
- Waiheke Primary School – 13<sup>th</sup> March 2013
- Western Springs College – 14<sup>th</sup> March 2013



Table 12.1 shows the results of the 18 schools surveyed in the Waitemata and Gulf ward.

**Table 12.1: Summary Table of School Bike Count  
2007 – 2013 (n)**

School Name	School Type	School Roll Eligible To Cycle	No. of Cycles Counted	Cyclists as share of those eligible <sup>12</sup>						
				2013	2012	2011	2010	2009	2008	2007
Okiwi School	Full Primary	35	9	26%	-	-	-	-	-	-
Kaitoke School (Claris)	Full Primary	25	2	8%	-	-	-	-	-	-
Mulberry Grove School	Full Primary	39	3	8%	0%	-	-	-	-	-
Ponsonby Intermediate	Intermediate	544	27	5%	4%	5%	6%	5%	4%	6%
Waiheke High School	Intermediate/Secondary	496	19	4%	6%	4%	4%	3%	2%	3%
Western Springs College	Secondary	1350	50	4%	-	-	3%	6%	7%	-
Waiheke Primary School	Full Primary	205	7	3%	-	-	-	-	-	-
Auckland Grammar School	Secondary	2550	82	3%	3%	4%	4%	4%	3%	2%
Parnell District School	Full Primary	450	9	2%	3%	1%	-	-	-	-
Auckland International College	Secondary	385	2	1%	0%	0%	0%	0%	0%	-
Kadimah College	Full Primary	157	1	1%	2%	8%	-	-	-	-
ACG Parnell College	Composite	680	3	<1%	-	1%	1%	-	0%	-
St Marys College	Intermediate/Secondary	898	1	<1%	<1%	0%	0%	0%	-	-
ACG Senior College	Secondary	280	0	0%	4%	0%	1%	-	0%	-
Auckland Girls' Grammar School	Secondary	1420	0	0%	<1%	<1%	0%	0%	0%	<1%
Marist College	Intermediate/Secondary	750	0	0%	<1%	0%	<1%	0%	-	-
St Paul's College	Intermediate/Secondary	252	0	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 Counted	Cyclists as share of those eligible <sup>12</sup>						
				2013	2012	2011	2010	2009	2008	2007
St Joseph's School (Grey Lynn)	Full Primary	90	0	0%	-	0%	-	-	-	-
<b>Total</b>		<b>10606</b>	<b>215</b>	<b>2%</b>	2%	<b>2%</b>	-	-	-	-



Table 12.2 illustrates the rates of cycling to school at different school levels. Rates of cycling to school are highest among intermediate schools (5 per cent, stable from 4 per cent in 2012), while composite schools have the lowest rates in this ward (less than 1 per cent).

**Table 12.2: Summary Table of School Bike Count by School Type  
2007 – 2013 (%)**

<i>Year Levels</i>	<i>Number of Schools Responded in 2013</i>	<i>Cyclists as share of those eligible</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>
Intermediate	1	6%	4%	5%	6%	5%	4%	<b>5%</b>	1%
Full Primary	7	-	-	-	-	2%	3%	<b>3%</b>	0%
Secondary	5	2%	1%	2%	2%	2%	2%	<b>2%</b>	0%
Intermediate/Secondary	4	-	-	0%	0%	0%	2%	<b>1%</b>	1%
Composite	1	-	0%	-	1%	1%	3%	<b>&lt;1%</b>	2%



gravitas

## **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>13</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>14</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>13</sup> Annual average daily traffic

<sup>14</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%