

# 2014 Auckland Region Manual Cycle Monitor

- Franklin Ward -





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## APPENDICES

Appendix One:           Annual Average Daily Traffic (AADT) Calculation



# 1. FRANKLIN 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:

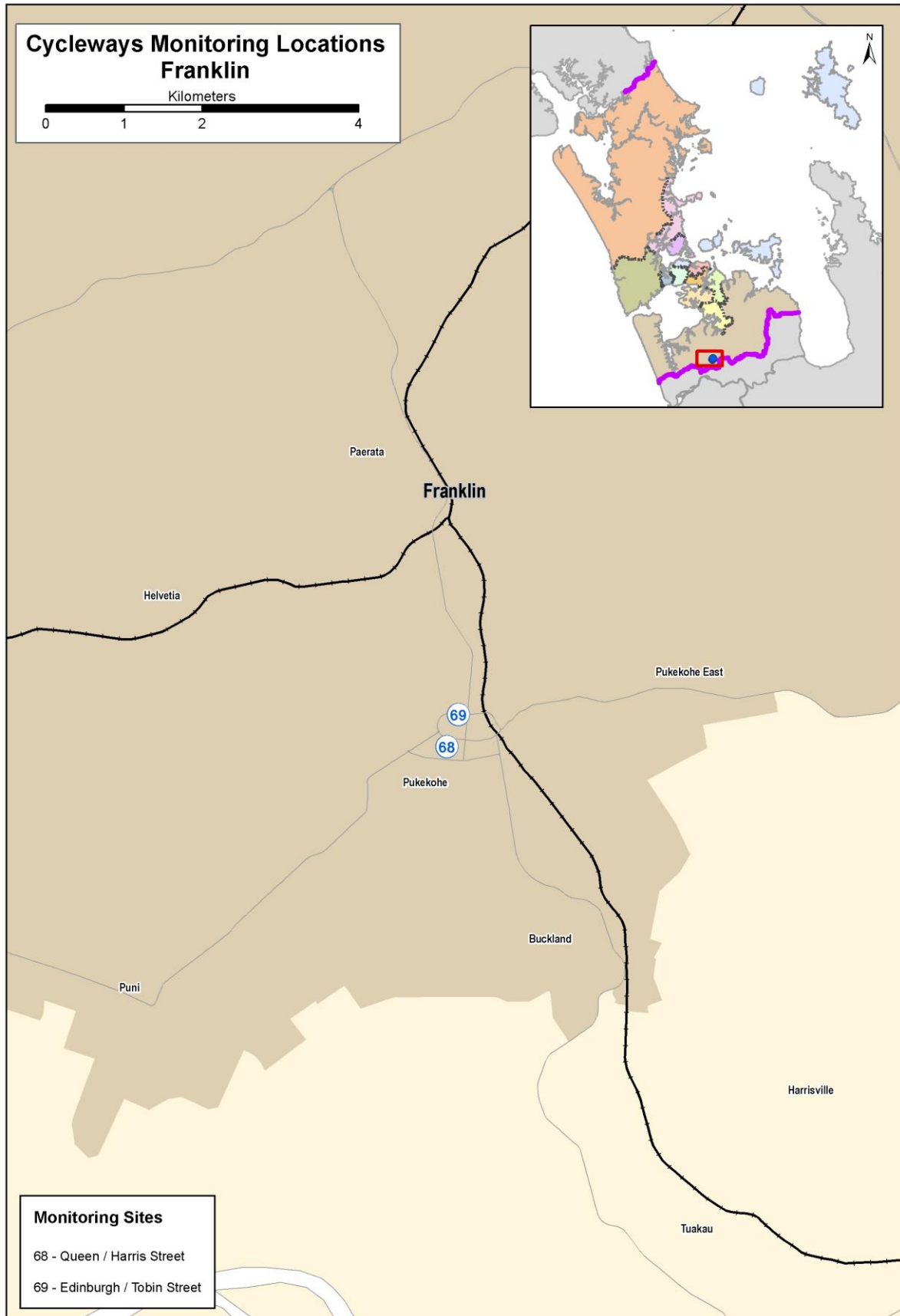
- standard monitoring days are used – that is, school and tertiary holidays, and statutory holidays are excluded and that monitoring preferably takes place at the same time each year to enable reliable year-on-year comparisons to be made. Decisions about whether cycle counts take place on weekdays and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

Figure 1.1: 2014 Cycle Monitoring Locations in Franklin Ward





## 1.2 Methodology

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

### *Choice of Sites*

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

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

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

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

### *Monitoring Times*

#### *Time Of Day*

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

#### *Day Of Week*

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



### *Time Of Year*

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

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

It was agreed that manual counts would commence on Tuesday the 4<sup>th</sup> of March and be conducted on the first three fine days of the 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup>, or 13<sup>th</sup> of March.

Counts were conducted on the following days:

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

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

### *Weather and Daylight Conditions*

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



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

#### **Tuesday 4<sup>th</sup> March**

- Sunrise: 7:09am; Sunset: 7:56pm.
- Highest temperature: 20 degrees Celsius.
- Mostly fine weather with the majority of sites experiencing drizzle in the morning and cloud in the evening.

#### **Wednesday 5<sup>th</sup> March**

- Sunrise: 7:10am; Sunset: 7:55pm.
- Highest temperature: 20 degrees Celsius.
- Cloudy and windy with occasional light drizzle for some sites during the morning shift. Mostly fine weather with clear sky in the evening with light winds for some sites.

#### **Thursday 6<sup>th</sup> March**

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

### ***Conducting The Manual Counts***

#### ***Scoping Visit***

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

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

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





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

### *Briefing Session*

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

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

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

### *Conducting The Manual Counts*

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

During their shift the surveyor collected data on:

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

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

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

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



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

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

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

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

### ***Data Analysis***

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

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

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

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

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

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



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

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

### **School Bike Shed Counts**

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

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

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

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

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



## Methodology

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

1. Gravitas designed an information sheet that was distributed to most full primary, intermediate, secondary and composite (Years 1 to 13) schools in the Auckland region via email (note a small number of schools were omitted due to the special nature of the students e.g. boarding schools, special needs schools). This sheet was designed in consultation with Auckland Transport to ensure all necessary information was collected.
2. This email was then sent to all eligible schools in Auckland region (n=300) 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 4<sup>th</sup> March was designated as the bike shed count day. (Most schools reported that they undertook the count on this day).
4. Once the school bike shed count had been completed, schools completed the online count form and submitted it electronically to Gravitas. Gravitas contacted all participating schools who had not returned their sheets after five working days, first by email (two rounds) and then by telephone. All count forms were checked for completeness before being data-entered into Excel. In 2014, 264 responses were received, a response rate of 88 per cent. (This compares with 92 per cent in 2013).

## Reporting

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

### Manual Counts - Site Level Reporting

The following results have been reported for each site:

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



### *Manual Counts - Aggregated Reporting*

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

### *Bike Shed Counts*

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

## **1.3 Summary of Results**

This summary contains the aggregated results of the two sites surveyed in the Franklin 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 Franklin 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 and Three of this report.

Note: Surveying in the Franklin ward was undertaken on Wednesday 5<sup>th</sup> of March, 2014. Sunrise was at 7:10am and sunset was at 7:55pm. The highest temperature was 20 degrees Celsius.



## 1.4 Morning Peak

### Environmental Conditions

- The weather was fine throughout the morning shift with the exception of a 10 minute light shower at the Edinburgh/Tobin Street site.
- There were no road works or accidents that may affect cycle counts.

### Key Points

- A total of 20 cyclist movements were recorded across the two sites in the morning peak period (between 6:30am and 9:00am) in 2014. This represents a 31 per cent decrease on the result for 2013 (29 movements).
- In line with the decreases at both sites this year, the share of cycle movements recorded at the two sites has declined 52 per cent since monitoring began seven years ago (61 movements recorded in 2007).
- The average volume of morning cyclist movements per site in the Franklin ward was 10 across the two sites monitored this year. This compares with an average of 15 movements in 2013.
- As in previous years, the busiest site in the morning peak is the intersection of Queen Street and Harris Street (15 cycle movements, the volume of movements down by 25 per cent from last year).

**Table 1.1: Summary Of Morning Cyclist Movements**  
2007 – 2014 (n)

Site No.	Locations	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14	Change 07-14
68	Queen/Harris Street	44	31	27	18	14	11	20	15	-25%	-66%
69	Edinburgh/Tobin Street	17	16	15	17	11	7	9	5	-44%	-71%
	<b>Average per site</b>	<b>31</b>	<b>24</b>	<b>21</b>	<b>18</b>	<b>13</b>	<b>9</b>	<b>15</b>	<b>10</b>	<b>-33%</b>	<b>-68%</b>
	<b>Total</b>	<b>61</b>	<b>47</b>	<b>42</b>	<b>35</b>	<b>25</b>	<b>18</b>	<b>29</b>	<b>20</b>	<b>-31%</b>	<b>-52%</b>



- Morning cyclist characteristics are shown in Table 1.2 below. Overall, three in five cyclists (60 per cent) were adults (a 29 percentage point increase since 2013).
- Almost all of the cyclists across the Franklin ward sites were wearing a helmet (95 per cent, up from 90 per cent last year).
- Ninety per cent of morning cyclists were males.
- This year, 60 per cent of the cyclists were riding on the road, up from 21 per cent in 2013.

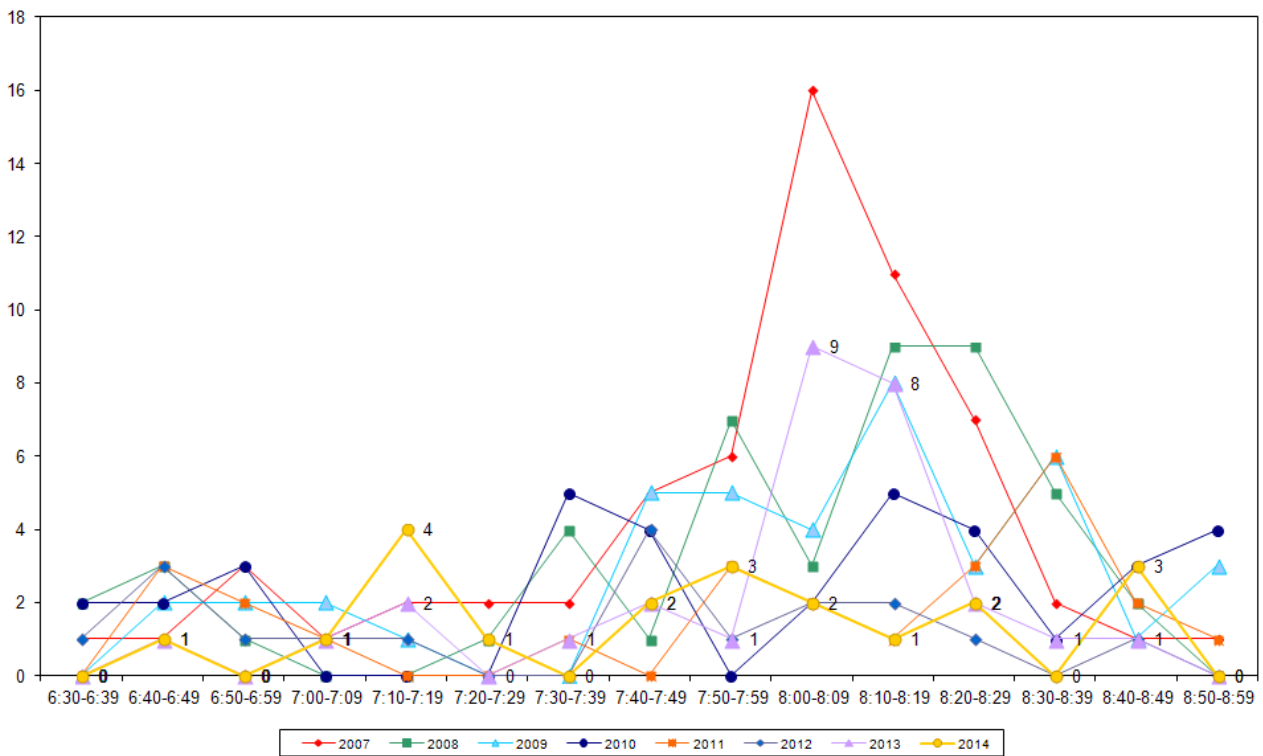
**Table 1.2: Summary of Morning Cyclist Characteristics  
2007 – 2014 (%)**

	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	33	57	40	69	60	83	31	<b>60</b>	<b>29</b>
School child	67	43	60	31	40	17	69	<b>40</b>	<b>-29</b>
<b>Helmet Wearing</b>									
Helmet on head	93	91	79	80	92	50	90	<b>95</b>	<b>5</b>
No helmet	7	9	21	20	8	50	10	<b>5</b>	<b>-5</b>
<b>Gender</b>									
Male	-	-	-	-	80	89	83	<b>90</b>	<b>7</b>
Female	-	-	-	-	20	6	17	<b>10</b>	<b>-7</b>
Can't tell	-	-	-	-	0	5	0	<b>0</b>	<b>0</b>
<b>Where Riding</b>									
Road	31	64	45	63	40	47	21	<b>60</b>	<b>39</b>
Footpath	69	36	55	37	60	53	79	<b>40</b>	<b>-39</b>
<b>Base:</b>	<b>61</b>	<b>47</b>	<b>42</b>	<b>35</b>	<b>25</b>	<b>18</b>	<b>29</b>	<b>20</b>	



- Figure 1.2 illustrates the total number of cyclists in the morning peak by time of movement. The volume of morning cycle movements remained low throughout the morning period, peaking between 7:10am and 7:19am (a total of 4 movements across the 10 minute interval), after which the number of movements remains at three or lower over the rest of the monitoring period. This year's graph differs from most of the previous year's, with no significant peak evident at any time between 7:50am and 8:29am. Last year, cycle volumes peaked between 8:00am and 8:19am (17 movements over the two ten minute periods).

**Figure 1.2: Total Cyclist Frequency  
Morning Peak 2007 – 2014 (n)**







## 1.5 Evening Peak

### Environmental Conditions

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

### Key Points

- A total of 32 cyclist movements were recorded across the two sites monitored in the evening peak period (between 4:00pm and 7:00pm) in 2014. This represents an 18 per cent decrease on the 2013 result.
- The number of cycle movements recorded was down 57 per cent from seven years ago (75 movements recorded in 2007).
- The average volume of evening cyclist movements per site in the Franklin ward was 16 over the two monitored sites. This compares with 20 movements in 2013.
- Consistent with the previous year, the intersection of Queen Street and Harris Street continued to be the busiest in terms of the evening cyclists' activity, with 20 cycle movements recorded (down from 27 movements in 2013).

**Table 1.3: Summary Of Evening Cyclist Movements  
2007 – 2014 (n)**

Site No.	Locations	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14	Change 07-14
68	Queen/Harris Street	57	52	68	39	53	33	27	20	-26%	-65%
69	Edinburgh/Tobin Street	18	24	19	11	17	21	12	12	0	-33%
	<b>Average per site</b>	<b>38</b>	<b>38</b>	<b>44</b>	<b>25</b>	<b>35</b>	<b>27</b>	<b>20</b>	<b>16</b>	<b>-20%</b>	<b>-58%</b>
	<b>Total</b>	<b>75</b>	<b>76</b>	<b>87</b>	<b>50</b>	<b>70</b>	<b>54</b>	<b>39</b>	<b>32</b>	<b>-18%</b>	<b>-57%</b>



- Approximately three in four evening cyclists were adults (73 per cent, up from 62 per cent in 2013).
- Eighty-one per cent of cyclists were wearing a helmet (up from 74 per cent last year).
- The majority of evening cyclists (85 per cent) were male.
- Slightly more than half of the evening cyclists were riding on the footpath (54 per cent, up from 46 per cent in the previous year).

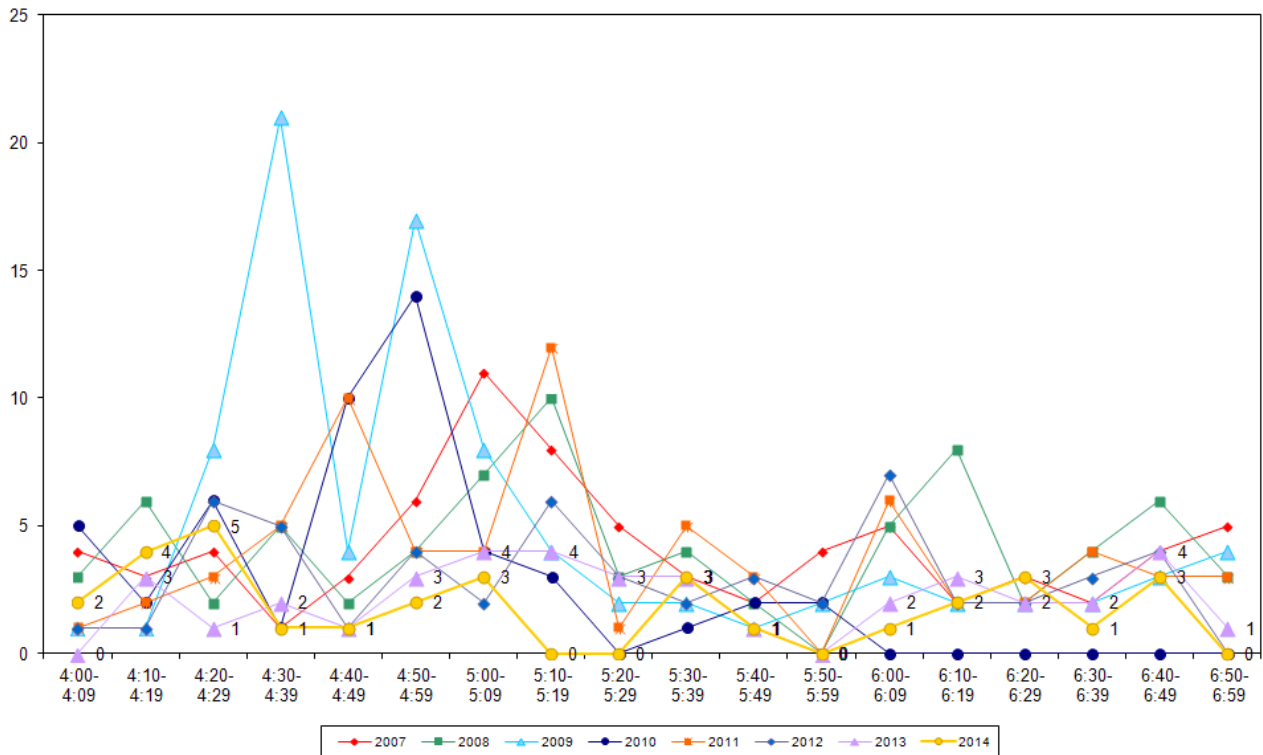
**Table 1.4: Summary of Evening Cyclist Characteristics  
2007 – 2014 (%)**

	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	55	51	33	50	48	80	62	<b>73</b>	<b>11</b>
School child	45	49	67	50	52	20	38	<b>27</b>	<b>-11</b>
<b>Helmet Wearing</b>									
Helmet on head	64	63	85	78	77	67	74	<b>81</b>	<b>7</b>
No helmet	36	37	15	22	23	33	26	<b>19</b>	<b>-7</b>
<b>Gender</b>									
Male	-	-	-	-	90	81	97	<b>85</b>	<b>-12</b>
Female	-	-	-	-	10	15	3	<b>10</b>	<b>7</b>
Can't tell	-	-	-	-	0	4	0	<b>5</b>	<b>5</b>
<b>Where Riding</b>									
Road	40	43	24	38	31	50	54	<b>44</b>	<b>-10</b>
Footpath	60	57	76	62	69	50	46	<b>54</b>	<b>8</b>
Don't know	0	0	0	0	0	0	0	<b>2</b>	<b>2</b>
<b>Base:</b>	<b>75</b>	<b>76</b>	<b>87</b>	<b>50</b>	<b>70</b>	<b>54</b>	<b>39</b>	<b>32</b>	



- The overall pattern of cyclist volumes by time of movement in the evening has been illustrated in Figure 1.3. Evening cyclist volume was relatively stable, with the maximum of five cyclists recorded during any ten minute interval.

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





## 1.6 Aggregated Total

- A total of 52 cyclist movements were recorded across the two monitored sites in 2014. This represents a 24 per cent decrease when compared with the 2013 result. Cyclist volumes have decreased by nearly two-thirds (62 per cent) when compared with 2007.
- Consistent with last year, the busiest site was the intersection of Queen Street and Harris Street with a total of 35 movements recorded (the number of movements down 26 per cent from 2013).

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

Site No.	Locations	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14	Change 07-14
68	Queen/Harris/Wesley Street	101	83	95	57	67	44	47	35	-26%	-65%
69	Edinburgh/Tobin Street	35	40	34	28	28	28	21	17	-19%	-51%
	<b>Average per site</b>	<b>68</b>	<b>62</b>	<b>65</b>	<b>43</b>	<b>48</b>	<b>36</b>	<b>34</b>	<b>26</b>	<b>-24%</b>	<b>-62%</b>
	<b>Total</b>	<b>136</b>	<b>123</b>	<b>129</b>	<b>85</b>	<b>95</b>	<b>72</b>	<b>68</b>	<b>52</b>	<b>-24%</b>	<b>-62%</b>



- Overall cyclist characteristics have been illustrated in Table 1.6. In total, 71 per cent of cyclists were adults (a notable 22 percentage point increase since 2013).
- Eighty-four per cent of cyclists were wearing a helmet (up from 81 per cent in 2013).
- Almost all cyclists observed in the Franklin ward were male (86 per cent, down 5 percentage points from 2013).
- Forty-seven per cent of the cyclists were riding on the road (up 7 percentage points from last year).

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

	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	45	54	36	58	51	81	49	<b>71</b>	<b>22</b>
School child	55	46	64	42	49	19	51	<b>29</b>	<b>-22</b>
<b>Helmet Wearing</b>									
Helmet on head	77	74	83	79	81	62	81	<b>84</b>	<b>3</b>
No helmet	23	26	17	21	19	38	19	<b>16</b>	<b>-3</b>
<b>Gender</b>									
Male	-	-	-	-	87	83	91	<b>86</b>	<b>-5</b>
Female	-	-	-	-	13	13	9	<b>10</b>	<b>1</b>
Can't tell	-	-	-	-	0	4	0	<b>4</b>	<b>4</b>
<b>Where Riding</b>									
Road	36	51	31	48	33	49	40	<b>47</b>	<b>7</b>
Footpath	64	49	69	52	67	51	60	<b>52</b>	<b>-8</b>
Don't know	0	0	0	0	0	0	0	<b>1</b>	<b>1</b>
<b>Base:</b>	<b>136</b>	<b>123</b>	<b>129</b>	<b>85</b>	<b>95</b>	<b>72</b>	<b>68</b>	<b>52</b>	



### 1.7 Average Annual Daily Traffic (AADT) Estimate

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

- Table 1.7 provides the comparative AADT estimates for each site, based on the average of morning and evening peak AADT calculations.
- The highest AADT is at Queen/Harris/Wesley Street (50 daily movements, a decrease from 68 movements in 2013, but down significantly - by 66 per cent - since monitoring began in 2007).

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

Site No.	Locations	2007 AADT	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2014 AADT	Change 13-14	Change 07-14
68	Queen/Harris Street	146	119	135	81	94	62	68	50	-26%	-66%
69	Edinburgh/Tobin Street	51	58	49	41	40	40	30	24	-20%	-53%



## 1.8 Ferry Wharf Bike Count Summary

### *Key Points*

- No cycles were observed at the Pine Harbour Ferry Wharf in the morning or in the evening.

## 1.9 School Bike Shed Count Summary

### *Cycle Counts*

- Among the surveyed schools, of those eligible to cycle, on average two per cent of students are cycling to their schools. This compares with 3 per cent in 2013.
- Te Kura Kaupapa Maori o Waiuku reported the highest share of cyclists – 18 per cent of all eligible students currently cycling to school, up from 0 per cent last year.
- In total, n=115 students from the responding schools were reported to be cycling to school.
- Of the 24 schools that responded, 14 (58 per cent) had no students cycling to school.
- Rates of cycling to school are highest for the full primary schools and intermediate schools (3 per cent), unchanged from 2013.

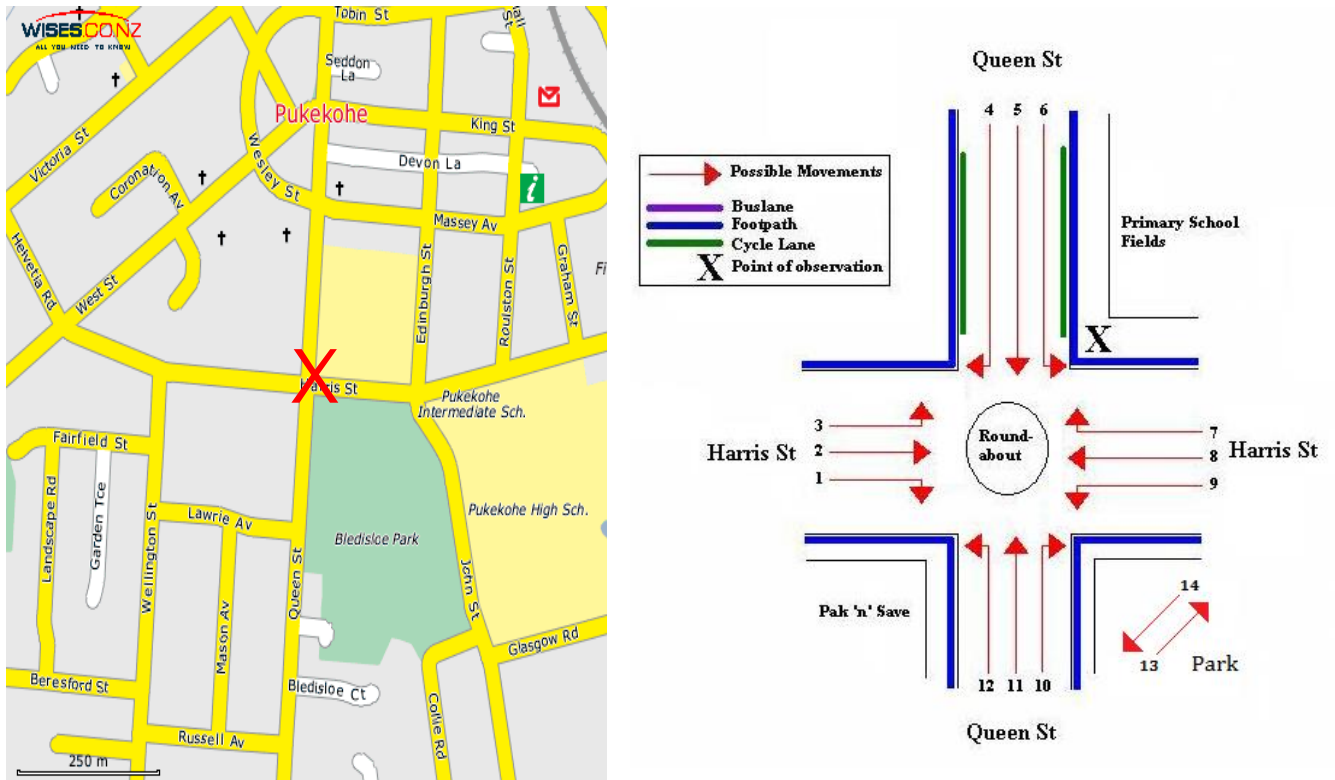
### *Scooter Counts*

- Among the surveyed schools, of those eligible to scooter, on average, four per cent of students are scootering to their schools.
- Beachlands School reported the highest share of scooters – 40 per cent of all eligible students currently scootering to school.
- In total, n=244 students from the responding schools were reported to be scootering to school.
- Of the 24 schools that responded, 14 (58 per cent) had no students scootering to school.

## 2. QUEEN STREET/HARRIS STREET, PUKEKOHE (SITE 68)

Figure 2.1 shows the possible cyclist movements at this intersection.

**Figure 2.1: Cycle Movements: Queen/Harris Street**



Note: Movements 13 and 14 were added in 2014 to take account of cyclists riding through Bledisloe Park.

### 2.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2007	44	57	101	146
2008	31	52	83	119
2009	27	68	95	135
2010	18	39	57	81
2011	14	53	67	94
2012	11	33	44	62
2013	20	27	47	68
<b>2014</b>	<b>15</b>	<b>20</b>	<b>35</b>	<b>50</b>





## 2.2 Morning Peak

### Environmental Conditions

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

### Key Points

- Fifteen cycle movements were recorded in the morning peak, down from 20 movements last year.
- The most common movement in the morning was turning left from Harris Street into Queen Street and heading north (Movement 3 = 4 cyclists).
- The most noticeable decrease in cycle movements since 2013 is at Movement 10 (down 5 cyclists).

**Table 2.1: Morning Cyclist Movements  
Queen/Harris Street 2007 – 2014 (n)**

Movement	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
1	0	0	0	0	1	1	0	0	0
2	16	7	13	7	2	2	2	2	0
3	12	7	2	2	3	2	3	4	1
4	2	0	0	0	0	0	3	0	-3
5	1	0	1	1	1	3	3	0	-3
6	1	1	1	0	0	1	1	3	2
7	0	1	0	0	1	1	0	1	1
8	3	2	0	1	0	0	0	1	1
9	0	1	0	0	0	0	0	0	0
10	3	5	5	6	3	1	5	0	-5
11	4	7	5	1	3	0	3	3	0
12	2	0	0	0	0	0	0	0	0
13	-	-	-	-	-	-	-	1	1
14	-	-	-	-	-	-	-	0	0
<b>Total</b>	<b>44</b>	<b>31</b>	<b>27</b>	<b>18</b>	<b>14</b>	<b>11</b>	<b>20</b>	<b>15</b>	<b>-5</b>



- Over the morning peak, the number of adults cycling at this site has increased (53 per cent, up from 20 per cent last year).
- Ninety-three per cent of the cyclists were wearing a helmet (a slight increase from 90 per cent in 2013).
- Eighty-seven percent of the cyclists at this site were male (down from 90 per cent last year).
- In contrast to last year, cyclists riding on the road have increased notably (53 per cent, up 38 percentage points since 2013).

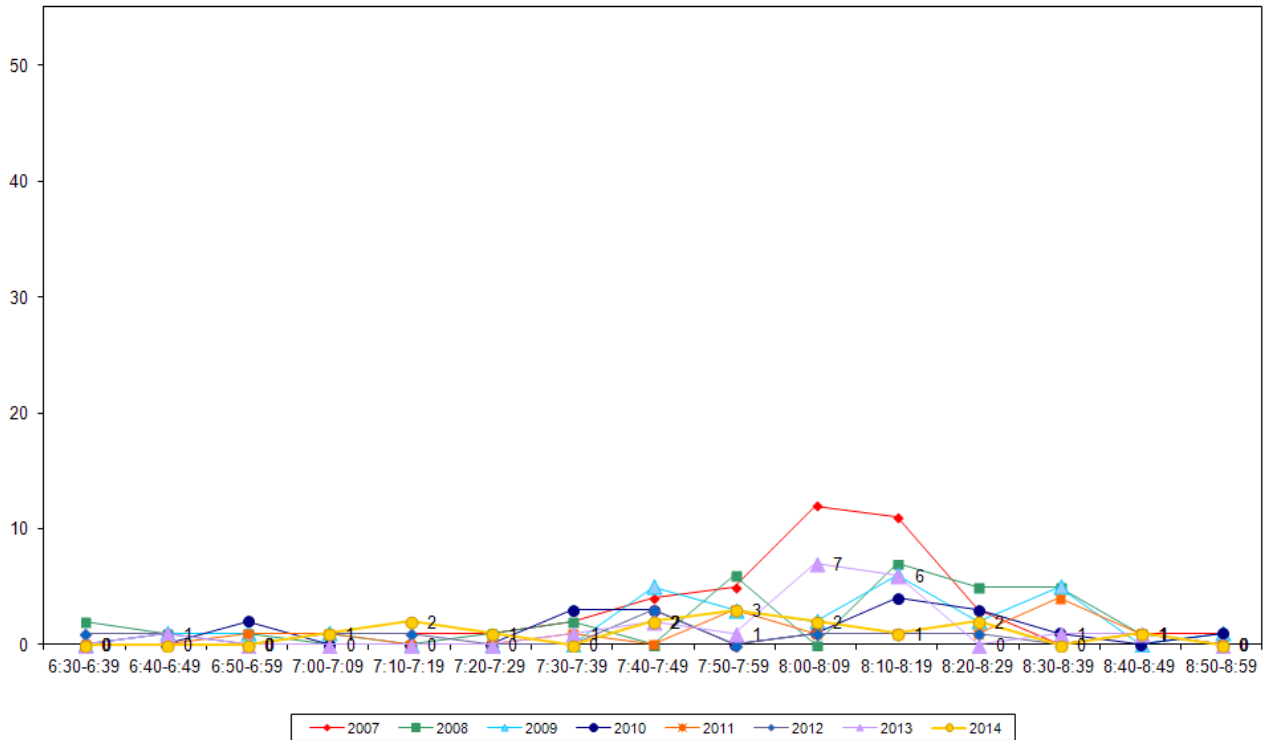
**Table 2.2: Morning Cyclist Characteristics  
Queen/Harris Street 2007 – 2014 (%)**

	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	27	58	37	61	43	82	20	<b>53</b>	<b>33</b>
School child	73	42	63	39	57	18	80	<b>47</b>	<b>-33</b>
<b>Helmet Wearing</b>									
Helmet on head	93	94	74	72	100	36	90	<b>93</b>	<b>3</b>
No helmet	7	6	26	28	0	64	10	<b>7</b>	<b>-3</b>
<b>Gender</b>									
Male	-	-	-	-	86	91	90	<b>87</b>	<b>-3</b>
Female	-	-	-	-	14	9	10	<b>13</b>	<b>3</b>
Can't tell	-	-	-	-	0	0	0	<b>0</b>	
<b>Where Riding</b>									
Road	25	58	48	61	36	50	15	<b>53</b>	<b>38</b>
Footpath	75	42	52	39	64	50	85	<b>47</b>	<b>-38</b>
<b>Base:</b>	<b>44</b>	<b>31</b>	<b>27</b>	<b>18</b>	<b>14</b>	<b>11</b>	<b>20</b>	<b>15</b>	



- The volume of morning cycle movements remained low and stable throughout the shift.

**Figure 2.2: Morning Peak Cyclist Frequency**  
**Queen/Harris Street 2007 – 2014 (n)**





## 2.3 Evening Peak

### Environmental Conditions

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

### Key Points

- The total number of cycle movements recorded at the Queen/Harris Street intersection in the evening has decreased from 27 movements in 2013 to 20 movements this year.
- The most common movements in the evening were travelling south along Queen Street (Movement 5 = 4 cyclists) and turning left from Harris Street into Queen Street heading southwards (Movement 9 = 4 cyclists).
- The most noticeable change in terms of evening cyclist movements was reported for Movement 1 – turning right from Harris Street into Queen Street heading southwards (down 4 cyclists).

**Table 2.3: Evening Cyclist Movements  
Queen/Harris Street 2007 – 2014 (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>2014</b>	<b>Change 13-14</b>
1	0	2	0	0	7	0	4	0	-4
2	1	3	1	0	4	7	4	1	-3
3	6	4	3	0	0	3	1	0	-1
4	6	4	2	0	3	3	0	0	0
5	17	8	4	6	8	4	1	4	3
6	0	2	0	1	0	1	2	0	-2
7	0	2	0	4	0	0	0	1	1
8	16	8	6	7	3	3	6	3	-3
9	0	5	50	13	5	5	3	4	1
10	2	1	0	3	0	1	2	1	-1
11	8	8	2	5	11	6	1	2	1
12	1	5	0	0	12	0	3	0	-3
13	-	-	-	-	-	-	-	0	0
14	-	-	-	-	-	-	-	3	3
Don't know	0	0	0	0	0	0	0	1	1
<b>Total</b>	<b>57</b>	<b>52</b>	<b>68</b>	<b>39</b>	<b>53</b>	<b>33</b>	<b>27</b>	<b>20</b>	<b>-7</b>



- The majority of cyclists using the Queen/Harris Street intersection were adults (85 per cent, compared with 56 per cent last year).
- Seventy per cent of cyclists at this site were wearing a helmet (up from 63 per cent in 2013).
- Nearly all cyclists were male (85 per cent, compared with 96 per cent last year).
- Footpath riding continued to be more common than riding on the road (70 per cent, up from 59 per cent last year).

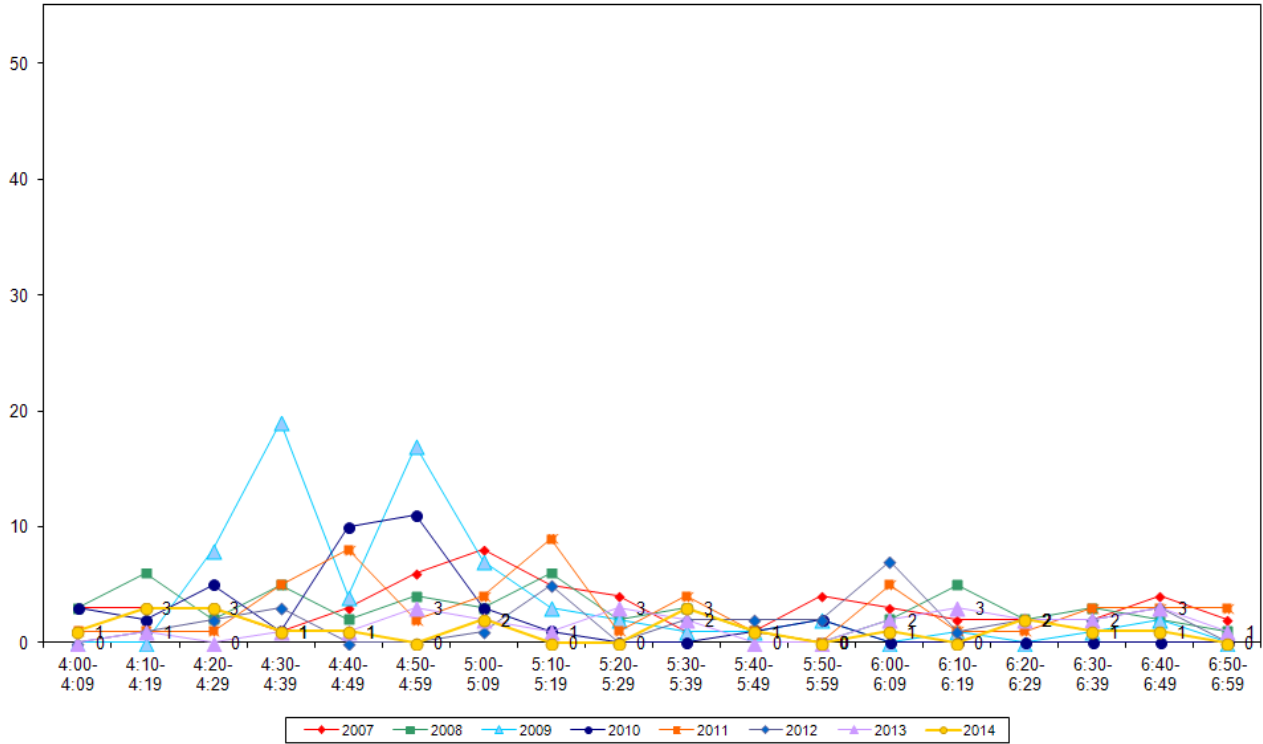
**Table 2.4: Evening Cyclist Characteristics  
Queen/Harris Street 2007 – 2014 (%)**

	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	47	50	26	38	45	73	56	<b>85</b>	<b>29</b>
School child	53	50	74	62	55	27	44	<b>15</b>	<b>-29</b>
<b>Helmet Wearing</b>									
Helmet on head	60	67	93	77	72	67	63	<b>70</b>	<b>7</b>
No helmet	40	33	7	23	28	33	37	<b>30</b>	<b>-7</b>
<b>Gender</b>									
Male	-	-	-	-	94	79	96	<b>85</b>	<b>-11</b>
Female	-	-	-	-	6	21	4	<b>0</b>	<b>-4</b>
Can't tell	-	-	-	-	0	0	0	<b>15</b>	<b>15</b>
<b>Where Riding</b>									
Road	35	42	15	26	26	39	41	<b>25</b>	<b>-16</b>
Footpath	65	58	85	74	74	61	59	<b>70</b>	<b>11</b>
Don't know	0	0	0	0	0	0	0	<b>5</b>	<b>5</b>
<b>Base:</b>	<b>57</b>	<b>52</b>	<b>68</b>	<b>39</b>	<b>53</b>	<b>33</b>	<b>27</b>	<b>20</b>	



- The volume of cycle movements in the evening remained relatively low and stable throughout the shift.

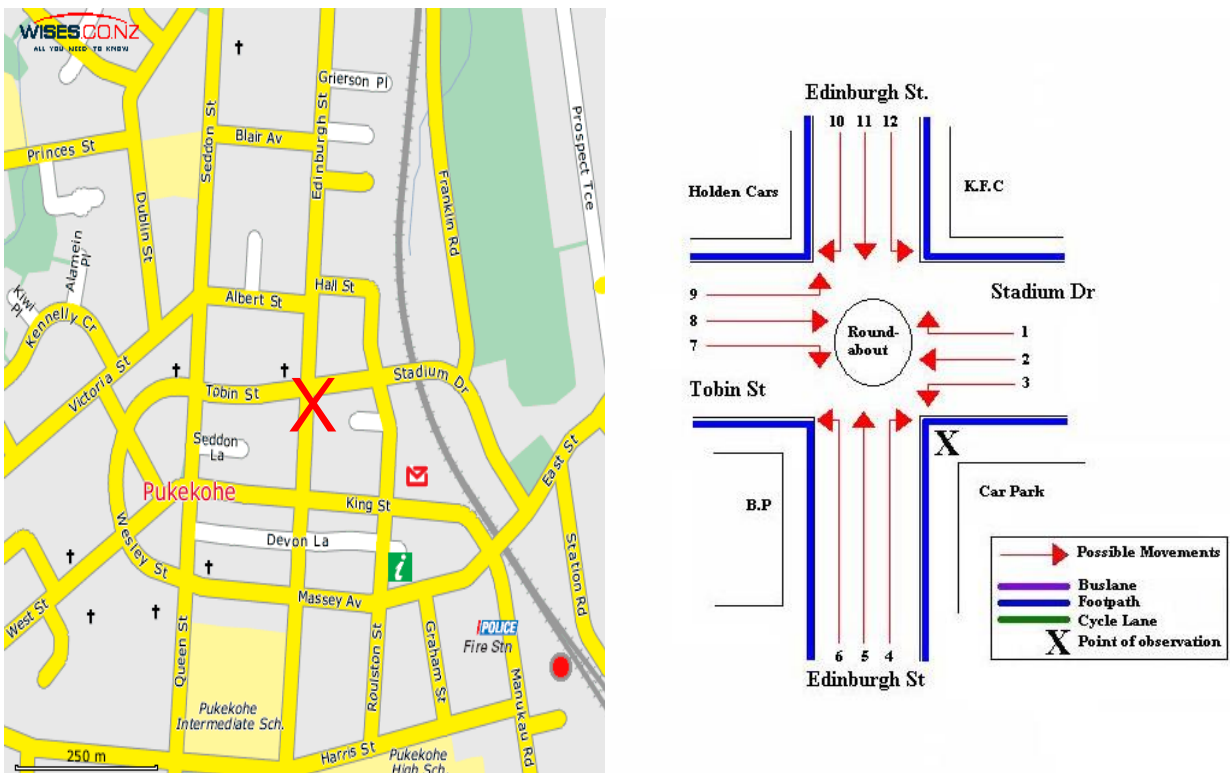
**Figure 2.3: Evening Peak Cyclist Frequency**  
**Queen/Harris Street 2007 – 2014 (n)**



### 3. EDINBURGH STREET/TOBIN STREET, PUKEKOHE (SITE 69)

Figure 3.1 shows the possible cyclist movements at this intersection.

**Figure 3.1: Cycle Movements: Edinburgh/Tobin Street**



### 3.1 Site Summary

	Raw Counts			AADT
	Morning Peak	Evening Peak	Total	Total
2007	17	18	35	51
2008	16	24	40	58
2009	15	19	34	49
2010	17	11	28	41
2011	11	17	28	40
2012	7	21	28	40
2013	9	12	21	30
<b>2014</b>	<b>5</b>	<b>12</b>	<b>17</b>	<b>24</b>



### 3.2 Morning Peak

#### Environmental Conditions

- The weather was fine but overcast throughout the morning shift, with the exception of a 10 minute light shower.
- There were no road works or accidents that may affect cycle counts.

#### Key Points

- The volume of morning cyclists at the Edinburgh/Tobin Street intersection has decreased, from 9 movements recorded in 2013 to 5 movements this year.
- Morning cyclist volumes at all movements were stable or down slightly compared with last year.

**Table 3.1: Morning Cyclist Movements  
Edinburgh/Tobin Street 2007 – 2014 (n)**

<i>Movement</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>Change 13-14</i>
1	0	1	0	0	1	0	0	0	0
2	1	2	2	2	0	1	0	0	0
3	1	1	0	0	0	0	2	1	-1
4	0	0	1	1	0	0	0	0	0
5	3	1	2	2	2	1	1	1	0
6	0	0	0	0	0	0	1	0	-1
7	0	1	1	0	1	0	0	0	0
8	0	4	1	2	0	1	2	0	-2
9	0	0	0	1	2	1	0	1	1
10	0	1	2	0	0	1	0	0	0
11	10	3	6	6	3	0	0	1	1
12	2	2	0	3	2	2	3	1	-2
<b>Total</b>	<b>17</b>	<b>16</b>	<b>15</b>	<b>17</b>	<b>11</b>	<b>7</b>	<b>9</b>	<b>5</b>	<b>-4</b>





- The majority of the cyclists at this site were adults (80 per cent, up from 56 per cent last year).
- All cyclists were wearing a helmet (up from 89 per cent in 2013).
- All recorded cyclists at this intersection in the morning peak were male.
- Notable changes to the riding location of cyclists occurred this year, with the greatest share of cyclists (80 per cent) now riding on the road (compared with 33 per cent last year).

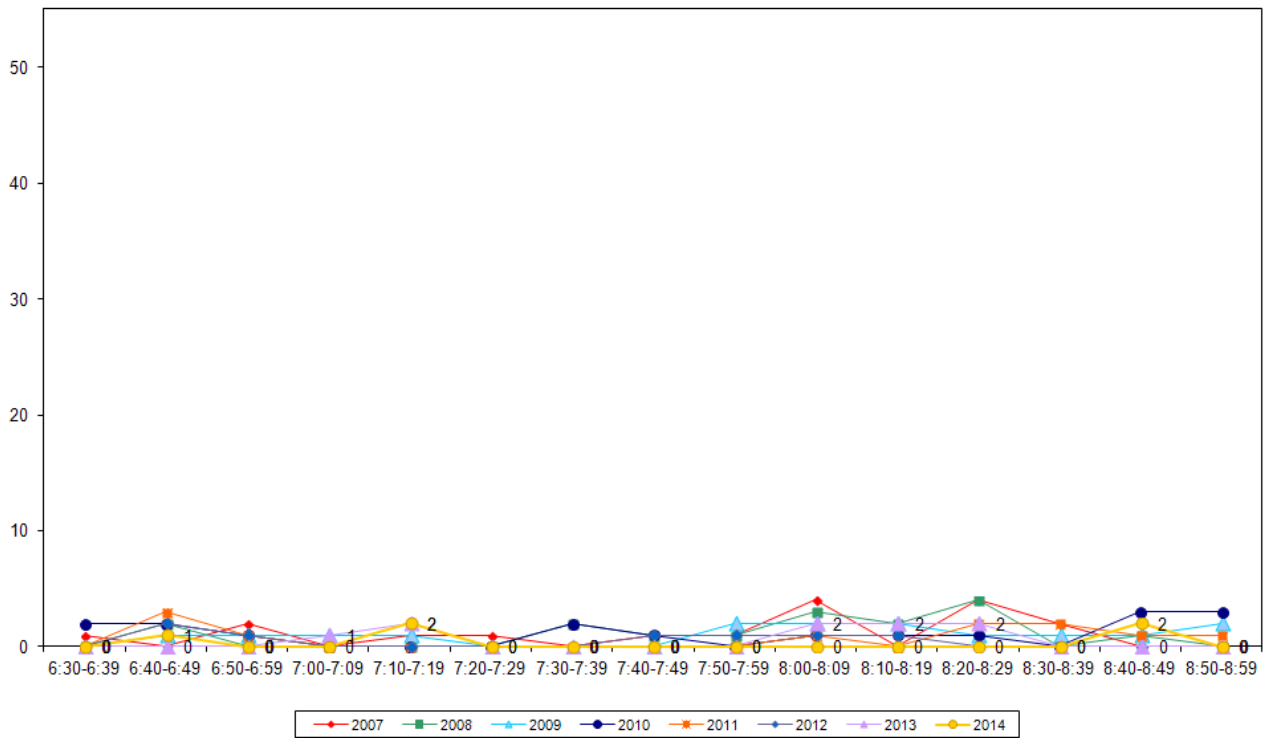
**Table 3.2: Morning Cyclist Characteristics  
Edinburgh/Tobin Street 2007 – 2014 (%)**

	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	47	56	47	76	82	86	56	<b>80</b>	<b>24</b>
School child	53	44	53	24	18	14	44	<b>20</b>	<b>-24</b>
<b>Helmet Wearing</b>									
Helmet on head	94	88	87	88	82	71	89	<b>100</b>	<b>11</b>
No helmet	6	12	13	12	18	29	11	<b>0</b>	<b>-11</b>
<b>Gender</b>									
Male	-	-	-	-	73	86	67	<b>100</b>	<b>33</b>
Female	-	-	-	-	27	0	33	<b>0</b>	<b>-33</b>
Can't tell	-	-	-	-	0	14	0	<b>0</b>	<b>0</b>
<b>Where Riding</b>									
Road	47	75	40	65	45	43	33	<b>80</b>	<b>47</b>
Footpath	53	25	60	35	55	57	67	<b>20</b>	<b>-47</b>
<b>Base:</b>	<b>17</b>	<b>16</b>	<b>15</b>	<b>17</b>	<b>11</b>	<b>7</b>	<b>9</b>	<b>5</b>	



- Morning cycle volume was low throughout the monitoring period, with no more than two cyclists recorded during any ten minute interval. This pattern is consistent with that observed in previous years.

**Figure 3.2: Morning Peak Cyclist Frequency  
Edinburgh/Tobin Street 2007 – 2014 (n)**





### 3.3 Evening Peak

#### Environmental Conditions

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

#### Key Points

- The total number of cycle movements recorded in the evening at the Edinburgh/Tobin Street intersection has remained unchanged at 12 movements.
- The key movements in the evening were straight along Edinburgh Street heading south (Movement 11 = 3 cyclists) and straight along Edinburgh Street heading north (Movement 5 = 4 cyclists).

**Table 3.3: Evening Cyclist Movements  
Edinburgh/Tobin Street 2007 – 2014 (n)**

<i>Movement</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>Change 13-14</i>
1	0	2	0	0	2	1	3	0	-3
2	0	4	4	1	0	4	1	0	-1
3	4	0	3	0	0	1	0	0	0
4	0	0	1	0	0	1	0	0	0
5	2	2	1	2	5	4	1	4	3
6	1	4	0	2	0	3	0	0	0
7	1	0	1	1	1	1	0	0	0
8	1	5	0	0	3	0	0	1	1
9	2	1	2	2	2	2	2	1	-1
10	1	1	2	0	1	1	0	1	1
11	3	3	5	3	1	2	3	3	0
12	3	2	0	0	2	1	2	1	-1
Don't know	0	0	0	0	0	0	0	1	1
<b>Total</b>	<b>18</b>	<b>24</b>	<b>19</b>	<b>11</b>	<b>17</b>	<b>21</b>	<b>12</b>	<b>12</b>	<b>0</b>



- The share of cyclists using this intersection in the evening who are children has remained unchanged since last year, at 25 per cent.
- Three in four cyclists at this site were wearing a helmet (down from 100 per cent last year).
- The majority of cyclists at this site were male (75 per cent).
- Fifty per cent of cyclists were riding on the footpath (an increase of 33 percentage points on last year).

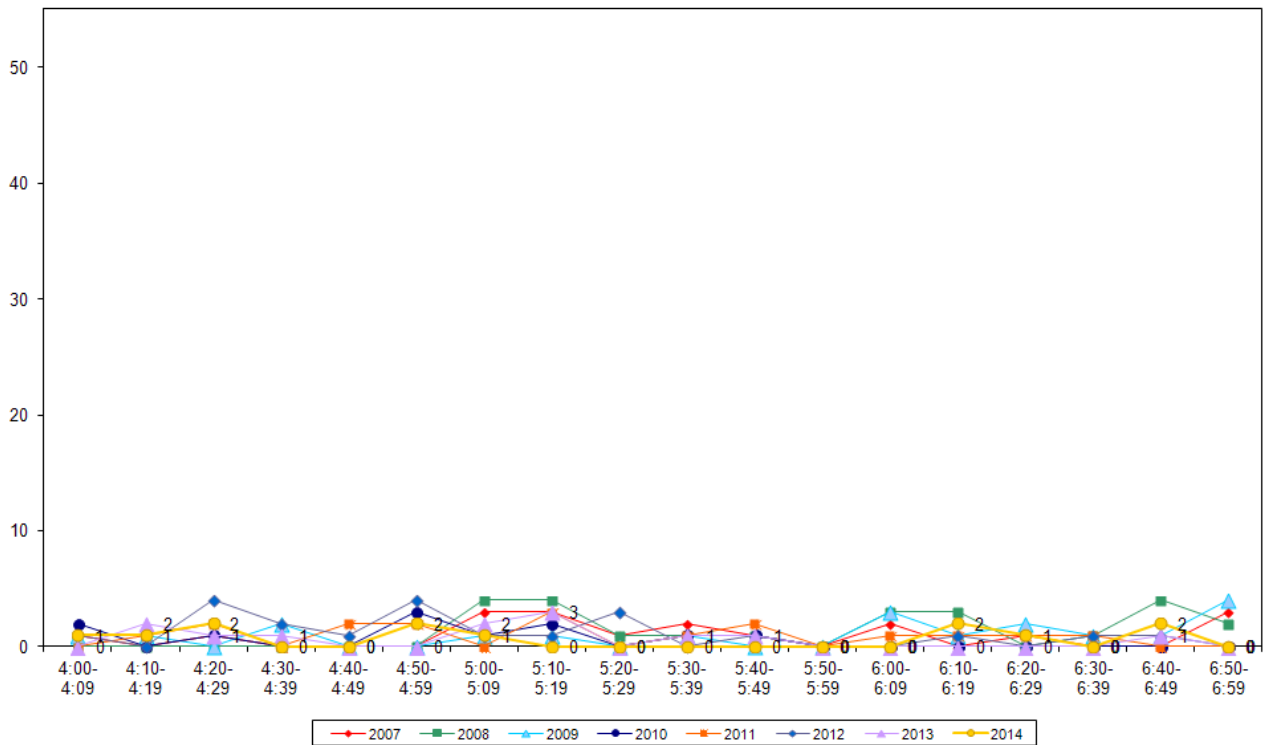
**Table 3.4: Evening Cyclist Characteristics  
Edinburgh/Tobin Street 2007 – 2014 (%)**

	2007	2008	2009	2010	2011	2012	2013	2014	Change 13-14
<b>Cyclist Type</b>									
Adult	78	54	58	91	59	90	75	75	0
School child	22	46	42	9	41	10	25	25	0
<b>Helmet Wearing</b>									
Helmet on head	78	54	58	82	94	67	100	75	-25
No helmet	22	46	42	18	6	33	0	25	25
<b>Gender</b>									
Male	-	-	-	-	76	86	100	75	-25
Female	-	-	-	-	24	5	0	25	25
Can't tell	-	-	-	-	0	9	0	0	0
<b>Where Riding</b>									
Road	56	46	58	82	47	67	83	50	-33
Footpath	44	54	42	18	53	33	17	50	33
<b>Base:</b>	<b>18</b>	<b>24</b>	<b>19</b>	<b>11</b>	<b>17</b>	<b>21</b>	<b>12</b>	<b>12</b>	



- Evening cycle volume was low throughout the monitoring period, with no more than two cyclists recorded during any ten minute interval. This pattern is consistent with that observed in previous years.

**Figure 3.3: Evening Peak Cyclist Frequency**  
**Edinburgh/Tobin Street 2007 – 2014 (n)**



## 4. PINE HARBOUR FERRY WHARF

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### Key Points

- Seven cycles were observed parked at the Pine Harbour ferry wharf at Beachlands at the end of the morning peak in 2014<sup>9</sup>. Cycle volumes have remained unchanged compared to 2012, when the wharf was last monitored.

**Table 4.1: Cycles Observed At Pine Harbour Ferry Wharf  
2010 – 2012, 2014 (n)**

	<i>Number of Cycles Observed</i>
2010	4
2011	12
2012	7
<b>2014</b>	<b>7</b>

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<sup>9</sup> Count undertaken on Thursday 6<sup>th</sup> March.



## 5. SCHOOL BIKE SHED COUNT

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### 5.1 Cycle Count Background Information

- A total of 24 schools in the Franklin ward participated in the school bike shed count. Of the schools that responded to the survey, most had no policies that restrict students cycling to school<sup>10</sup>.
- No schools surveyed reported any events or issues that may affect the cycle counts.
- The designated count day was Tuesday 4<sup>th</sup> of March 2014<sup>11</sup>.

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

### 5.2 Cycle Count Key Points

- Among the surveyed schools, of those eligible to cycle to school, on average, two per cent of students are cycling to their schools, down from 3 per cent in 2013.
- Te Kura Kaupapa Maori o Waiuku reported the highest share of cyclists – 18 per cent of all eligible students currently cycling to school, up from 0 per cent last year.
- In total, n=126 students from the responding schools were reported to be cycling to school.
- Of the 24 schools that responded, 14 (58 per cent) had no students cycling to school.

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<sup>10</sup> The following schools have policies surrounding cycling to school:

- Beachlands School *“Students must be 10 years or older to cycle to school”*
- Ramarama School *“Recommend that no child under the age of ten should cycle to school unless accompanied by an adult”*
- St Joseph’s School Pukekohe *“Only Year 3 and up are allowed to ride”*
- Waiau Pa School *“Must be 10 years or over and a written letter to the principal to cycle to school”*

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

- Ararimu School – 12<sup>th</sup> March 2014
- Ardmore School – 12<sup>th</sup> March 2014
- Awhitu District School – 27<sup>th</sup> March 2014
- Beachlands School – 12<sup>th</sup> March 2014
- Bombay School – 27<sup>th</sup> March 2014
- Glenbrook School – 27<sup>th</sup> March 2014
- Hunua School – 13<sup>th</sup> March 2014
- Paerata School – 27<sup>th</sup> March 2014
- Pukekohe High School – 27<sup>th</sup> March 2014
- Pukekohe North School – 27<sup>th</sup> March 2014
- Te Kura Kaupapa Māori o Waiuku – 27<sup>th</sup> March 2014
- Waiau Pa School – 27<sup>th</sup> March 2014
- Waipipi School – 27<sup>th</sup> March 2014
- Wesley College – 27<sup>th</sup> March 2014
- Westmount School – 18<sup>th</sup> March 2014



- Of the 20 schools that participated in the count in both 2013 and 2014, 5 (21 per cent) reported an increase in the share of students cycling, the most notable increases being:
  - Te Kura Kaupapa Maori o Waiuku (18 per cent, up from 0 per cent)
  - Ramarama School (3 per cent, up from 0 per cent).
  - Waiau Pa School (3 per cent, up from 0 per cent).
- Of the 20 schools that participated in the count in both 2013 and 2014, 5 (21 per cent) reported a decrease in the share of students cycling.

Table 5.1 shows the results of the 24 schools surveyed in the Franklin ward.





**Table 5.1: Summary Table Of School Bike Count  
2007 – 2014 (n)**

School Name	School Type	School Roll Eligible To Cycle	No. of Cycles Counted	Cyclists as share of those eligible <sup>12</sup>							
				2014	2013	2012	2011	2010	2009	2008	2007
Te Kura Kaupapa Maori o Waiuku	Full Primary	17	3	18%	0%	-	-	-	-	-	-
Beachlands School	Full Primary	245	42	17%	24%	6%	7%	-	-	-	-
Sandspit Road School	Full Primary	338	25	7%	13%	5%	10%	-	-	-	-
Pukehoke North School	Full Primary	195	9	5%	3%	-	-	-	-	-	-
Pukekohe Intermediate	Intermediate	635	17	3%	-	1%	2%	-	-	-	-
Ramarama School	Full Primary	40	1	3%	0%	1%	2%	-	-	-	-
Waiau Pa School	Full Primary	70	2	3%	0%	2%	-	-	-	-	-
Clevedon School	Full Primary	341	5	2%	0%	1%	-	-	-	-	-
View Road School	Full Primary	136	2	2%	5%	5%	3%	-	-	-	-
Waiuku College	Secondary	950	17	2%	1%	<1%	-	-	-	-	-
St Joseph's School (Pukekohe)	Full Primary	279	3	1%	1%	0%	2%	-	-	-	-
Ararimu School	Full Primary	128	0	0%	0%	0%	0%	-	-	-	-
Ardmore School	Full Primary	344	0	0%	0%	0%	0%	-	-	-	-
Awhitu District School	Full Primary	108	0	0%	5%	0%	2%	-	-	-	-
Bombay School	Full Primary	361	0	0%	0%	0%	0%	-	-	-	-
Glenbrook School	Full Primary	262	0	0%	0%	0%	0%	-	-	-	-
Hunua School	Full Primary	104	0	0%	0%	0%	-	-	-	-	-
KingsGate School	Full Primary	56	0	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>							
				2014	2013	2012	2011	2010	2009	2008	2007
Paerata School	Full Primary	83	0	0%	0%	-	-	-	-	-	-
Pukehoke High School	Intermediate/ Secondary	1600	0	0%	-	-	-	-	-	-	-
Pukekohe Christian Shool	Composite	162	0	0%	1%	<1%	-	-	-	-	-
Waipipi School	Full Primary	130	0	0%	0%	0%	-	-	-	-	-
Wesley College	Secondary	340	0	0%	-	-	-	-	-	-	-
Westmount School	Composite	159	0	0%	-	-	-	-	-	-	-
<b>Total</b>		<b>7083</b>	<b>126</b>	<b>2%</b>	3%	2%	3%	-	-	-	-



Table 5.2 illustrates the rates of cycling to school at different school levels. Rates of cycling to school are highest for the full primary schools and intermediate schools (3 per cent).

**Table 5.2: Summary Table of School Bike Count by School Type  
2007 – 2014 (%)**

School Type	Number of Schools Responded in 2014 (n)	Cyclists as share of those eligible								Change 13-14
		2007	2008	2009	2010	2011	2012	2013	2014	
Full Primary	18	-	-	-	-	4%	3%	3%	3%	0%
Intermediate	1	5%	7%	3%	-	2%	1%	-	3%	-
Secondary	2	-	-	-	-	-	<1%	1%	1%	0%
Composite	2	1%	1%	1%	2%	1%	<1%	1%	0%	-1%
Intermediate/Secondary	1	-	2%	1%	1%	1%	-	-	0%	-



### 5.3 Scooter Count Background Information

- A total of 24 schools in the Franklin ward participated in the school bike shed scooter count. Of the schools that responded to the survey, most had no policies that restrict students scootering to school<sup>13</sup>.
- No schools surveyed reported any events or issues that may affect the scooter counts.
- The designated count day was Tuesday 4<sup>th</sup> of March 2014<sup>14</sup>.

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

### 5.4 Scooter Count Key Points

- Among the surveyed schools, of those eligible to scooter, on average, four per cent of students are scootering to their schools.
- Beachlands School reported the highest share of scooters – 40 per cent of all eligible students currently scootering to school.
- In total, n=244 students from the responding schools were reported to be scootering to school.
- Of the 24 schools that responded, 14 (58 per cent) had no students scootering to school.

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<sup>13</sup> The following schools have policies surrounding scootering to school:

- Waiau Pa School *“Must be 10 years or over and a written letter to the principal to cycle to school”*
- Waiuku College *“Scooters are now banned from school”*

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

- Ararimu School – 12<sup>th</sup> March 2014
- Ardmore School – 12<sup>th</sup> March 2014
- Awhitu District School – 27<sup>th</sup> March 2014
- Beachlands School – 12<sup>th</sup> March 2014
- Bombay School – 27<sup>th</sup> March 2014
- Glenbrook School – 27<sup>th</sup> March 2014
- Hunua School – 13<sup>th</sup> March 2014
- Paerata School – 27<sup>th</sup> March 2014
- Pukekohe High School – 27<sup>th</sup> March 2014
- Pukekohe North School – 27<sup>th</sup> March 2014
- Te Kura Kaupapa Māori o Waiuku – 27<sup>th</sup> March 2014
- Waiau Pa School – 27<sup>th</sup> March 2014
- Waipipi School – 27<sup>th</sup> March 2014
- Wesley College – 27<sup>th</sup> March 2014
- Westmount School – 18<sup>th</sup> March 2014



Table 5.3 shows the results of the 24 schools surveyed in the Franklin ward.

**Table 5.3: Summary Table Of School Scooter Count  
2007 – 2014 (n)**

School Name	School Type	School Roll Eligible To Scooter	No. of Scooters Counted	Scooters as share of those eligible <sup>15</sup>
				2014
Beachlands School	Full Primary	245	98	40%
Pukekohe Intermediate	Intermediate	635	89	14%
Pukehoke North School	Full Primary	195	16	8%
St Joseph's School (Pukekohe)	Full Primary	279	20	7%
Te Kura Kaupapa Maori o Waiuku	Full Primary	17	1	6%
View Road School	Full Primary	136	5	4%
Ramarama School	Full Primary	40	1	3%
Sandspit Road School	Full Primary	338	10	3%
Paerata School	Full Primary	83	2	2%
Clevedon School	Full Primary	341	2	1%
Ararimu School	Full Primary	128	0	0%
Ardmore School	Full Primary	344	0	0%
Awhitu District School	Full Primary	108	0	0%
Bombay School	Full Primary	361	0	0%
Glenbrook School	Full Primary	262	0	0%
Hunua School	Full Primary	104	0	0%
KingsGate School	Full Primary	56	0	0%
Pukehoke High School	Intermediate/ Secondary	1600	0	0%
Pukekohe Christian Shool	Composite	162	0	0%
Waiau Pa School	Full Primary	70	0	0%
Waipipi School	Full Primary	130	0	0%
Waiuku College	Secondary	950	0	0%
Wesley College	Secondary	340	0	0%
Westmount School	Composite	159	0	0%
<b>Total</b>		<b>6657</b>	<b>244</b>	<b>4%</b>

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



Table 5.4 illustrates the rates of scootering to school at different school levels. Rates of scootering to school are highest for the intermediate schools (14 per cent).

**Table 5.4: Summary Table Of School Scooter Count by School Type  
2007 – 2014 (%)**

<i>School Type</i>	<i>Number of Schools Responded in 2014 (n)</i>	<i>Scooter riders as share of those eligible</i>
		<b>2014</b>
Intermediate	1	14%
Full Primary	18	4%
Composite	2	0%
Secondary	2	0%
Intermediate/Secondary	1	0%



## APPENDIX

Appendix One: Annual Average Daily Traffic (AADT) Calculation



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

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

## Purpose

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

## Method for Estimating AADT

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

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

where *Count* = result of count period

*H* = scale factor for time of day

*D* = scale factor for day of week

*W* = scale factor for week of year

*R* = scale factor for weather conditions on the count day

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

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

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

<sup>17</sup> LTSA, 2004





For the Gravitas counts, the following factors apply:

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

$$D = 14$$

$$W = 0.9$$

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

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.



Appendix 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%