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Research Report Prepared for
Auckland Transport

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2015 Auckland Region Manual Cycle Monitor

- Waitemata and Gulf Ward -

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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[1].

This cycle monitoring gives precise cycle traffic information for a number of locations across the region, which can guide investment in infrastructure and other programmes. It also allows Auckland Transport to track progress against a quality baseline over the coming decade.

Manual Cycle Monitoring

Historically, manual cycle monitoring had been carried out in four of the seven Auckland region Territorial Authorities (TAs). However, each monitor had been undertaken using a different methodology[2]. This variability prevented the possibility of comparing the relative popularity of different sites across TA boundaries. In addition, each monitor programme took place at different times of the year, preventing comparability from location to location since factors such as weather, school/tertiary education holidays, seasonal variations and daylight savings each have an impact on the numbers of cyclists. Even within TAs, inconsistencies as to when counts took place from year to year prevented robust comparability over time.

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

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

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

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

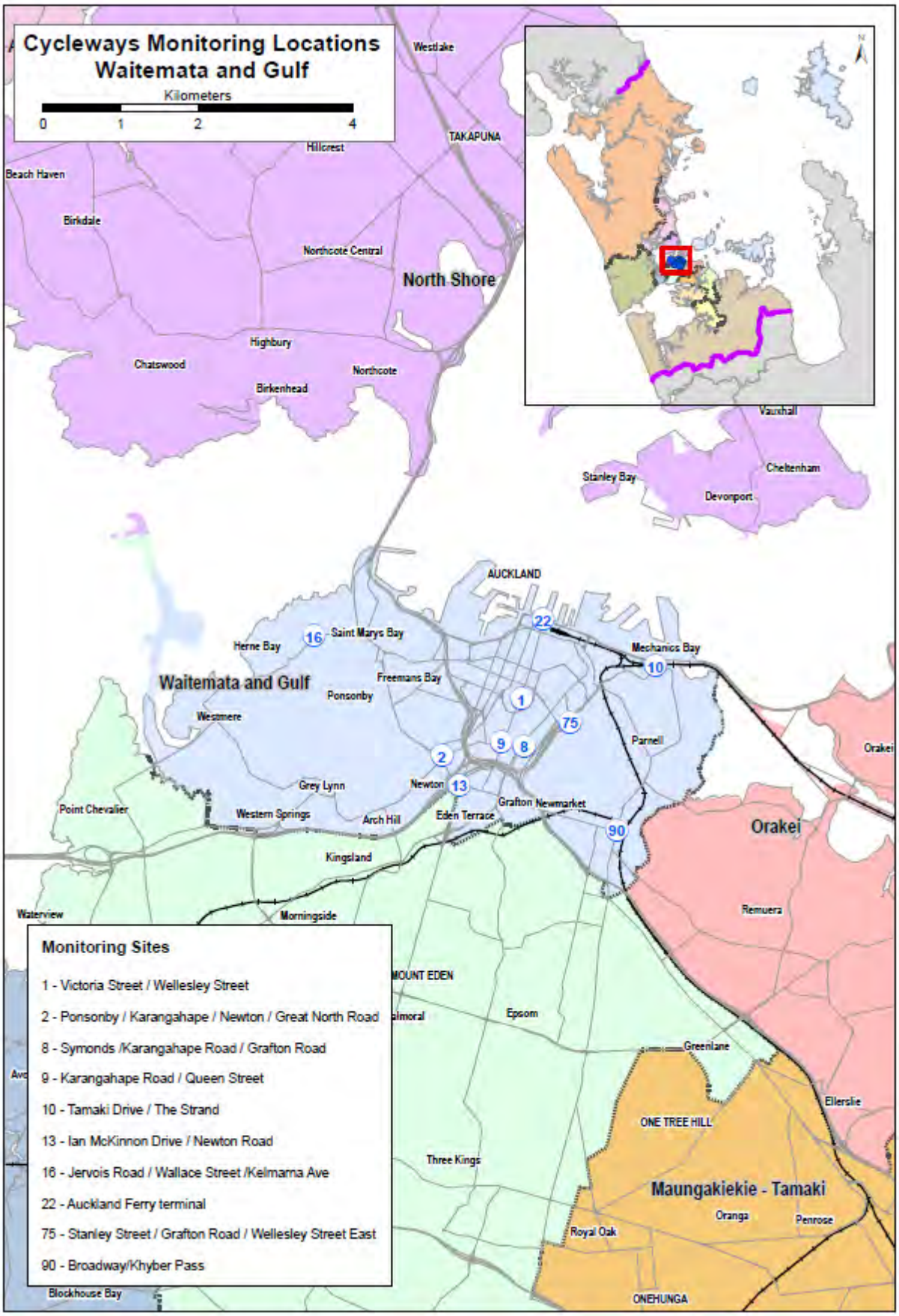
- standard monitoring days are used – that is, school and tertiary holidays, and statutory holidays are excluded and that monitoring preferably takes place at the same time each year to enable reliable year-on-year comparisons to be made. Decisions about whether cycle counts take place on weekdays and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

This report presents results from manual cycle counts conducted at 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: 2015 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 6:30 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 3rd of March and be conducted on the first three fine days of the 3rd, 4th, 5th, 10th, 11thor 12thof March.

Counts were conducted on the following days:

• Tuesday 3rd March	Albert-Eden-Roskill, Orakei, Manurewa-Papakura, Maungakiekie-Tamaki, Whau
• Wednesday 4th March	Howick, Franklin, Manukau, Waitemata & Gulf
• Thursday 5th March	Albany, North Shore, Waitakere

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 2015 was as follows:

Tuesday 3rd March

- Sunrise: 7:08am; Sunset: 7:58pm.
- Highest temperature: 25 degrees Celsius. Lowest temperature: 17 degree Celsius.
- Mostly fine weather with scattered cloud throughout the day.

Wednesday 4th March

- Sunrise: 7:09am; Sunset: 7:57pm.
- Highest temperature: 26 degrees Celsius. Lowest temperature: 19 degree Celsius.
- Fine with cloud throughout the morning shift. Cloudy in the evening with light rain recorded at some sites from 6:00pm.

Thursday 5th March

- Sunrise: 7:09am; Sunset: 7:55pm.
- Highest temperature: 27 degrees Celsius. Lowest temperature: 17 degree Celsius.
- Fine weather in the morning and evening shifts.

Conducting The Manual Counts

Scoping Visit

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

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

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

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

Briefing Session

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

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

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

Conducting The Manual Counts

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

During their shift the surveyor collected data on:

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

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

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

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

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

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

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

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

Data Analysis

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

Annual Average Daily Traffic (AADT) Analysis

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

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

[6] http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/cycle-network/appendix2.html
[7] ViaStrada is a traffic engineering and transport planning consultancy based in Christchurch, New Zealand.

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

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

School Bike Shed Counts

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

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

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

Based on feedback from some schools in 2013, from 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.

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

Methodology

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

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

2. This email was then sent to all eligible schools in Auckland region (n=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 3rd 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 2015, 201 responses were received, a response rate of 64 per cent. (This compares with 88 per cent in 2014).

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 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 4th of March, 2015. Sunrise was at 7:09am and sunset was at 7:57pm. The highest temperature was 26 degrees Celsius.

1.4 Morning Peak Summary Results

Environmental Conditions

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

Key Points

- A total of 2,789 cyclist movements were recorded across the ten sites in the morning peak period in 2015. There has been an increase in morning cycle movements (up 23 per cent) between 2014 (2,271 movements) and 2015 (2,789 movements).
- Two per cent (n=68) of the total cycle movements in the morning peak were made by those cycling in groups. This compares with three per cent (n=62) last year.
- The average volume of morning cyclists across the all ten sites monitored in the Waitemata and Gulf ward was 279. This compares with 227 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 (501 cycle movements), whereas the Stanley Street and Grafton Road site was still the quietest site in the morning (47 cycle movements).
- All but one of the ten sites have recorded increases over the last twelve months, the most notable being:
  - Ian McKinnon/Newton Road – up 95 per cent;
  - Tamaki Drive/The Strand – up 22 per cent; and
  - Symonds Street/Grafton Road – up 21 per cent.

Table 1.1: Summary of Morning Cyclist Movements

2007 – 2015 (n)

Site No.	*Locations*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15	Change 07-15
10	Tamaki Drive/The Strand	480	416	321	498	630	503	507	411	**501**	**22%**	**4%**
8	Symonds Street/ Karangahape Road	290	285	246	283	317	338	410	385	**462**	**20%**	**59%**
9	Karangahape Road/ Queen Street	246	212	238	272	256	266	315	343	**340**	**-1%**	**38%**
2	Ponsonby/ Karangahape Road	226	199	176	242	222	204	253	257	**297**	**16%**	**31%**
22	Ferry Terminal	195	158	137	198	205	189	205	177	**201**	**14%**	**3%**
1	Victoria/Wellesley Street	70	57	59	82	116	82	103	107	**120**	**12%**	**71%**
	Average per site (6 sites since 2007)	**251**	**221**	**196**	**263**	**291**	**264**	**299**	**280**	**320**	**14%**	**27%**
	Total (6 sites since 2007)	**1507**	**1327**	**1177**	**1575**	**1746**	**1582**	**1793**	**1680**	**1921**	**14%**	**27%**
13	Ian McKinnon/Newton Road	-	-	139	190	236	219	303	230	**448**	**95%**	**-**
16	Jervois Road/Wallace Street	-	-	60	88	73	62	70	67	**79**	**18%**	**-**
75	Stanley Street/Grafton Road	-	36	49	47	27	38	55	39	**47**	**21%**	**-**
	Average per site (7 sites since 2008, 9 sites since in 2009)	**-**	**195**	**158**	**211**	**231**	**211**	**247**	**224**	**277**	**24%**	**-**
	Total (7 sites since 2008, 9 sites since 2009)	**-**	**1363**	**1425**	**1900**	**2082**	**1901**	**2221**	**2016**	**2495**	**24%**	**-**
90	Broadway/Khyber Pass Road	-	-	-	-	-	292	322	255	**294**	**15%**	**-**
	Average per site (10 sites since 2012)	**-**	-	-	-	-	**219**	**254**	**227**	**279**	**23%**	**-**
	Total (10 sites since 2012)	**-**	-	-	-	-	**2193**	**2543**	**2271**	**2789**	**23%**	**-**

- Morning cyclist characteristics this year are similar to those reported in 2014. Ninety-nine per cent of cyclists were adults (unchanged since 2010).
- Almost all cyclists were wearing a helmet (95 per cent, unchanged since 2013).
- Over three-quarters of morning cyclists were male (77 per cent, stable from 79 last year).
- Riding on the road remained common (69 per cent). There was a slight increase in the share of cyclists riding on the off-road cycleway (16 per cent, up from 12 per cent in 2014).

Table 1.2: Summary of Morning Cyclist Characteristics

2007 – 2015 (%)

	2007	***2008***	***2009***	***2010***	***2011***	***2012***	***2013***	***2014***	***2015***	**Change 14-15**
Cyclist Type										
Adult	99	96	98	99	99	99	99	99	**99**	**0**
School child	1	4	2	1	1	1	1	1	**1**	**0**
Helmet Wearing										
Helmet on head	95	93	93	92	92	93	95	95	**95**	**0**
No helmet	5	7	7	8	8	7	5	5	**5**	**0**
Gender										
Male	-	-	-	-	74	76	79	79	**77**	**-2**
Female	-	-	-	-	19	16	17	19	**20**	**1**
Can't tell	-	-	-	-	7	8	4	2	**3**	**1**
Where Riding*										
Road	89	94	78	75	74	78	74	74	**69**	**-5**
Footpath	11	6	11	16	15	13	13	13	**14**	**1**
Off-road cycleway	0	0	11	9	11	9	12	12	**16**	**4**
Can't tell	-	-	-	-	-	-	1	1	**1**	**0**
Base:	***1507***	***1363***	***1425***	***1900***	***2082***	***2193***	***2543***	***2271***	***2789***	

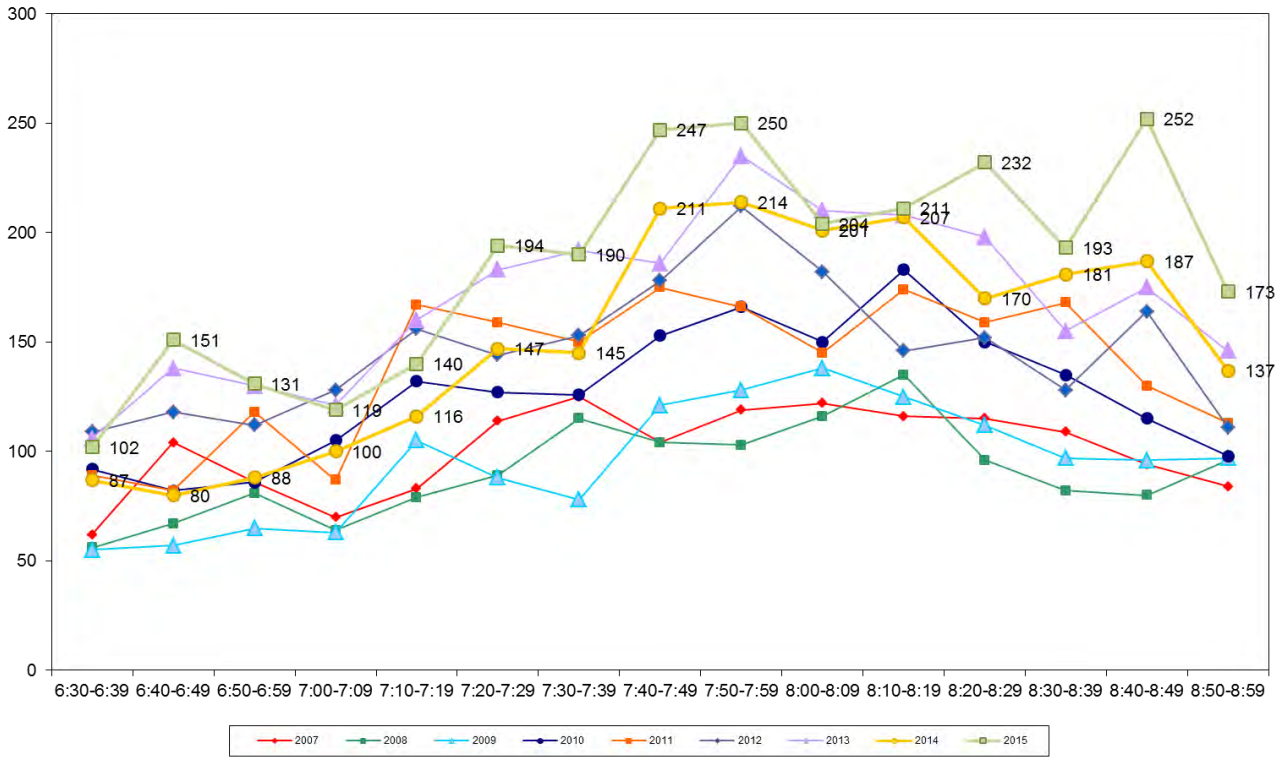
** Note: Prior to 2009, cyclists riding on the North-Western, Waikaraka, Onehunga Harbour Road cycleways, and the designated side of the footpath on Tamaki Drive are categorised as road riders.*

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 2015. Morning cyclist numbers followed an increasing trend to a peak between 7:50am and 7:59am (250 cyclists), after which numbers fluctuated but peaked again between 8:40am and 8:49am (252 cyclists).

Figure 1.2: Total Cyclist Frequency – Morning Peak

2007 – 2015 (n)



1.5 Evening Peak Summary Results

Environmental Conditions

- All sites in the Waitemata and Gulf ward had cloudy weather in the evening monitoring period.
- There were no road works or accidents that may affect cycle counts.

Key Points

- A total of 2,915 cyclist movements were recorded across the ten sites in the evening peak period in 2015, an overall increase of 24 per cent from 2014 (2,353 movements).
- One per cent (n=19) of the total cycle movements in the evening peak were made by those cycling in groups. This compares with one per cent (n=21) last year.
- The average volume of morning cyclists across all ten sites monitored in the Waitemata and Gulf ward was 292 cycle movements. This compares with 235 movements in 2014.
- Of the ten sites monitored, the busiest site in the evening peak was the intersection of Symonds Street/Karangahape Road (531 cycle movements), whereas the Stanley Street/Grafton Road site has the lowest volume of evening cyclists (39 movements)
- Seven out of the ten sites have recorded increases this year. The most notable increases were recorded at:
  - Ian McKinnon Drive/Newton Road – up 81 per cent;
  - Karangahape Road/Queen Street – up 25 per cent; and
  - Ferry Terminal – up 24 per cent.
- Only two sites recorded decreases this year:
  - Stanley Street/Grafton Road – down 26 per cent; and
  - Victoria/Wellesley Streets – down 8 per cent.

Table 1.3: Summary of Evening Cyclist Movements

2007 – 2015 (n)

Site No.	*Locations*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15	Change 07-15
8	Symonds Street/ Karangahape Road	349	336	282	314	373	394	492	447	**531**	**19%**	**52%**
10	Tamaki Drive/The Strand	420	370	282	438	429	441	414	388	**456**	**18%**	**9%**
9	Karangahape Road/ Queen Street	261	212	221	310	298	307	339	270	**338**	**25%**	**30%**
2	Ponsonby/Karangahape Road	261	216	194	317	289	294	342	301	**346**	**15%**	**33%**
22	Ferry Terminal	185	158	111	197	186	200	212	178	**220**	**24%**	**19%**
1	Victoria/Wellesley Street	90	79	65	80	109	110	73	117	**108**	**-8%**	**20%**
	Average per site (6 sites since 2007)	**261**	**229**	**193**	**276**	**281**	**291**	**312**	**284**	**333**	**17%**	**28%**
	Total (6 sites since 2007)	**1566**	**1371**	**1155**	**1656**	**1684**	**1746**	**1872**	**1701**	**1999**	**18%**	**28%**
13	Ian McKinnon/Newton Road	-	-	152	184	324	284	279	266	**481**	**81%**	**-**
16	Jervois Road/Wallace Street	-	-	51	79	75	79	66	65	**65**	**0%**	**-**
75	Stanley Street/Grafton Road	-	29	47	46	47	56	62	53	**39**	**-26%**	**-**
	Average per site (7 sites since 2008, 9 sites since 2009)	**-**	**189**	**156**	**218**	**237**	**241**	**253**	**232**	**287**	**24%**	**-**
	Total (7 sites since 2008, 9 sites since 2009)	**-**	**1321**	**1405**	**1965**	**2130**	**2165**	**2279**	**2085**	**2584**	**24%**	**-**
90	Broadway/Khyber Pass Road	**-**	-	-	-	-	285	315	268	**331**	**24%**	**-**
	Average per site (10 sites since 2012)	**-**	-	-	-	-	**245**	**259**	**235**	**292**	**24%**	**-**
	Total (10 sites since 2012)	**-**	-	-	-	-	**2450**	**2594**	**2353**	**2915**	**24%**	**-**

- Ninety-nine per cent of evening cyclists this year were adults (unchanged from 2014 and stable since 2007).
- Most cyclists were wearing a helmet in the evening (93 per cent, unchanged from 2014).
- Most cyclists were male (78 per cent, stable from 77 per cent last year).
- The majority of evening cyclists were riding on the road (68 per cent, stable from 71 per cent in 2014). For the first time since 2009, there was an increase in the use of the off-road cycleway (18 per cent, up from 12 per cent in 2014).

Table 1.4: Summary of Evening Cyclist Characteristics
2007 – 2015 (%)

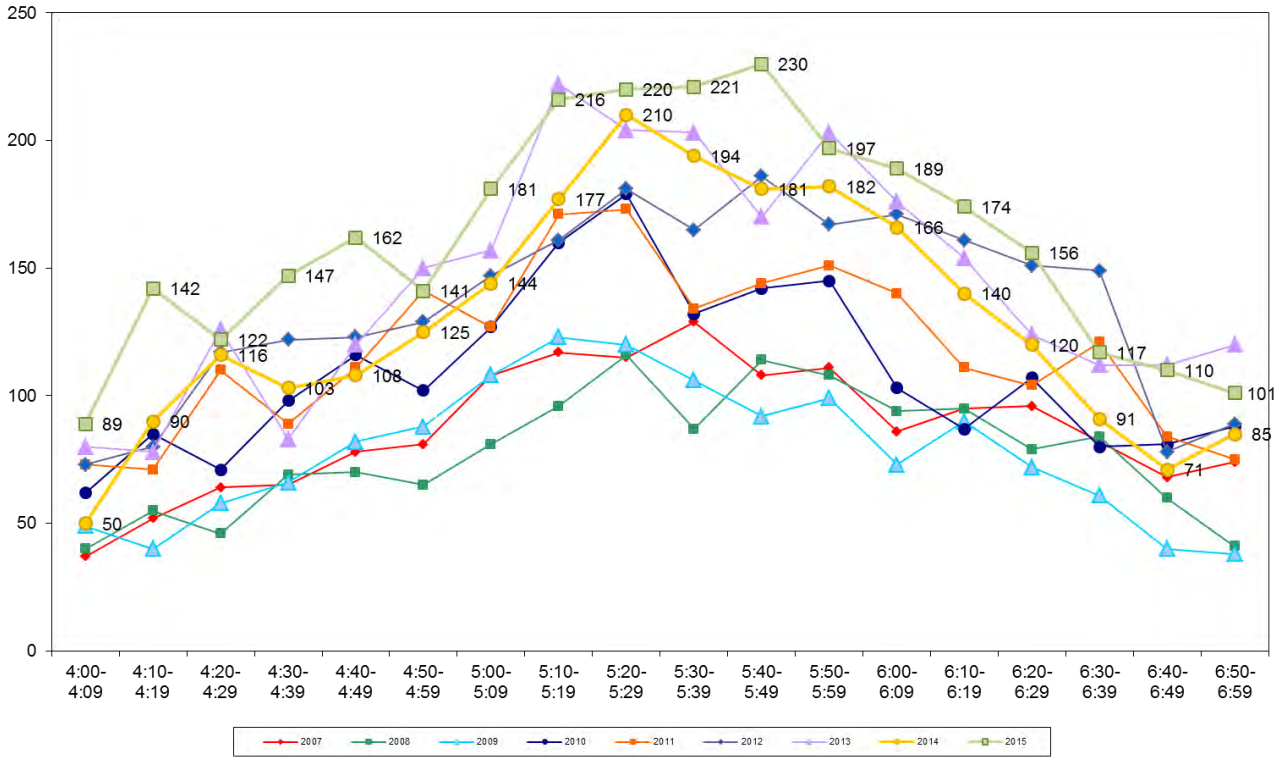
	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type										
Adult	99	99	98	99	99	99	98	99	**99**	**0**
School child	1	1	2	1	1	1	2	1	**1**	**0**
Helmet Wearing										
Helmet on head	89	91	91	89	88	90	91	93	**93**	**0**
No helmet	11	9	9	11	12	10	9	7	**7**	**0**
Gender										
Male	-	-	-	-	74	80	80	77	**78**	**1**
Female	-	-	-	-	19	16	18	20	**20**	**0**
Can't tell	-	-	-	-	7	4	2	3	**2**	**-1**
Where Riding*										
Road	86	93	61	62	64	69	72	71	**68**	**-3**
Footpath	14	7	18	20	21	18	14	16	**14**	**-2**
Off-road cycleway	0	0	21	18	15	13	13	12	**18**	**6**
Can't tell	-	-	-	-	-	-	1	1	**0**	**-1**
Base:	***1566***	***1321***	***1405***	***1965***	***2130***	***2450***	***2594***	***2353***	***2915***	

** 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 fluctuated throughout the first half of the evening monitoring period. Cyclist frequency was steady during the middle of the shift, between the time intervals 5:10pm and 5:49pm. Cyclist frequency peaked between 5:40pm and 5:49pm (230 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 – 2015 (n)



1.6 Aggregated Total Summary Results

- Overall, a total of 5,704 cyclist movements were recorded across the ten sites monitored in 2015. Cycle volumes in this ward have increased 23 per cent over the last 12 months (up from 4,624 movements).
- Three per cent (n=87) were observed as cycling in groups. This compares with two per cent (n=83) in 2014.
- The average volume of morning cyclists across all ten sites monitored in the Waitemata and Gulf ward this year was 570, up from 462 cycle movements last year.
- Of the ten sites monitored, the busiest site was the intersection of Symonds Street and Karangahape Road (993 cycle movements, up from 832 movements last year), whereas the Stanley Street and Grafton Road site has the lowest volume of cyclists (86 movements, down from 92 movements in 2014).
- Nine of the ten sites recorded an increase this year. The most notable being:
  - Ian McKinnon Drive/Newton Road – up 87 per cent;
  - Tamaki Drive/The Strand – up 20 per cent; and
  - Broadway/Khyber Pass Road – up 20 per cent.
- The one site that recorded a decrease in cycle volume was Stanley Street/Grafton Road – down 7 per cent.

Table 1.5: Summary of Total Cyclist Movements

2007 – 2015 (n)

Site No.	*Locations*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15	Change 07-15
8	Symonds Street/ Karangahape Road	639	621	528	597	690	732	902	832	**993**	**19%**	**55%**
10	Tamaki Drive/The Strand	900	786	603	936	1059	944	921	799	**957**	**20%**	**6%**
9	Karangahape Road/ Queen Street	507	424	459	582	554	573	654	613	**678**	**11%**	**34%**
2	Ponsonby/Karangahape Road	487	415	370	559	511	498	595	558	**643**	**15%**	**32%**
22	Ferry Terminal	380	316	248	395	391	389	417	355	**421**	**5%**	**-2%**
1	Victoria/Wellesley Street	160	136	124	162	225	192	176	224	**228**	**2%**	**43%**
	Average per site (6 sites since 2007)	**512**	**450**	**389**	**539**	**572**	**555**	**611**	**564**	**653**	**16%**	**28%**
	Total (6 sites since 2007)	**3073**	**2698**	**2332**	**3231**	**3430**	**3328**	**3665**	**3381**	**3920**	**16%**	**28%**
13	Ian McKinnon/Newton Road	-	-	291	374	560	503	582	496	**929**	**87%**	**-**
16	Jervois Road/Wallace Street	-	-	111	167	148	141	136	132	**144**	**9%**	**-**
75	Stanley Street/Grafton Road	-	65	96	93	74	94	117	92	**86**	**-7%**	**-**
	Average per site (7 sites since 2008, 9 sites since 2009)	**-**	**375**	**314**	**429**	**468**	**452**	**500**	**456**	**564**	**24%**	**-**
	Total (7 sites since 2008, 9 sites since 2009)	**-**	**2627**	**2830**	**3865**	**4212**	**4066**	**4500**	**4101**	**5079**	**24%**	**-**
90	Broadway/Khyber Pass Road						577	637	523	**625**	**20%**	**-**
	Average per site (10 sites since 2012)	**-**	-	-	-	-	**464**	**514**	**462**	**570**	**23%**	**-**
	Total (10 sites since 2012)	**-**	-	-	-	-	**4643**	**5137**	**4624**	**5704**	**23%**	**-**

- Overall, cyclist characteristics this year are similar to those reported in 2014. In particular, 99 per cent of evening cyclists this year are adults (stable since 2007).
- Most cyclists were wearing a helmet (92 per cent, stable from 94 per cent in 2014).
- Seventy-eight per cent of the cyclists were male.
- The majority of cyclists were riding on the road (67 per cent). Nineteen per cent were riding on the off-road cycleway (up from 12 per cent in 2014), the remaining 13 per cent were riding on the footpath.

Table 1.6: Summary of Total Cyclist Characteristics

2007 – 2015 (%)

	2007	***2008***	***2009***	***2010***	***2011***	***2012***	***2013***	***2014***	***2015***	**Change 14-15**
Cyclist Type										
Adult	99	98	98	99	99	99	99	99	**99**	**0**
School child	1	2	2	1	1	1	1	1	**1**	**0**
Helmet Wearing										
Helmet on head	92	92	92	90	90	91	93	94	**92**	**-2**
No helmet	8	8	8	10	10	9	7	6	**7**	**1**
Blank/Don't know	-	-	-	-	-	-	-	-	**1**	**1**
Gender										
Male	-	-	-	-	74	78	80	79	**78**	**-1**
Female	-	-	-	-	19	16	17	19	**21**	**2**
Can't tell	-	-	-	-	7	6	3	2	**1**	**-1**
Where Riding*										
Road	87	93	66	65	69	74	73	73	**67**	**-6**
Footpath	13	7	14	17	18	15	14	14	**13**	**-1**
Off-road cycleway	0	0	20	18	13	11	13	12	**19**	**7**
Don't know	0	0	0	0	0	0	0	1	**1**	**0**
Base:	***3073***	***2627***	***2830***	***3865***	***4212***	***4643***	***5137***	***4624***	***5704***	

** 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.
- Consistent with previous years, the highest AADT is at Symonds Street/Karangahape Road (1,438 daily movements, up from 1,205 movements in 2014) and the lowest is at Stanley Street/Grafton Road (126 daily movements).
- Nine of the ten sites have recorded increases in total AADT estimates this year compared to 2014. The most notable increases were at:
  - Ian McKinnon Drive/Newton Road – up 88 per cent; and
  - Tamaki Drive/The Strand – up 20 per cent;
- One site recorded a decrease in total AADT estimates this year compared to 2014. Stanley Street/Grafton Road recorded a decrease of 5 percentage points to an ADDT value of 126 this year.

Table 1.7: AADT Estimates Based on Morning and Evening Cyclist Movements 2007 – 2015 (n)

Site No.	*Locations*	*2007 AADT*	*2008 AADT*	*2009 AADT*	*2010 AADT*	*2011 AADT*	*2012 AADT*	*2013 AADT*	*2014 AADT*	*2015 AADT*	14-15 Change	07-15 Change
8	Symonds Street/ Karangahape Road	924	899	765	865	999	1060	1305	1205	**1438**	**19%**	**56%**
10	Tamaki Drive/The Strand	1313	1146	880	1365	1555	1377	1346	1163	**1395**	**20%**	**6%**
13	Ian McKinnon/Newton Road	-	-	422	544	807	726	848	718	**1348**	**88%**	**-**
9	Karangahape Road/ Queen Street	736	616	669	843	802	830	949	897	**986**	**10%**	**34%**
2	Ponsonby/Karangahape Road	705	602	536	807	738	717	858	808	**931**	**15%**	**32%**
90	Broadway/Khyber Pass Road	-	-	-	-	-	839	927	759	**906**	**19%**	**-**
22	Ferry Terminal	553	459	363	574	570	565	606	516	**611**	**18%**	**10%**
1	Victoria/Wellesley Street	231	201	180	236	328	277	258	325	**332**	**2%**	**44%**
16	Jervois Road/Wallace Street	-	-	162	243	215	204	200	192	**210**	**9%**	**-**
75	Stanley Street/Grafton Road	-	95	140	135	106	135	170	133	**126**	**-5%**	**-**

1.8 School Bike Shed Count Summary

Cycle Counts

- Of those eligible to cycle, on average one per cent of students are cycling to their schools. This share is down from two per cent in 2014.
- Across the 8 eligible schools that responded, n=32 students were reported to cycle to school.
- Waiheke High School reported the highest share of cyclists, 4 per cent of all eligible students currently cycling.
- Of the 7 schools that participated in the count in both 2014 and 2015, two schools (29 per cent) reported an increase in the share of students cycling to school.

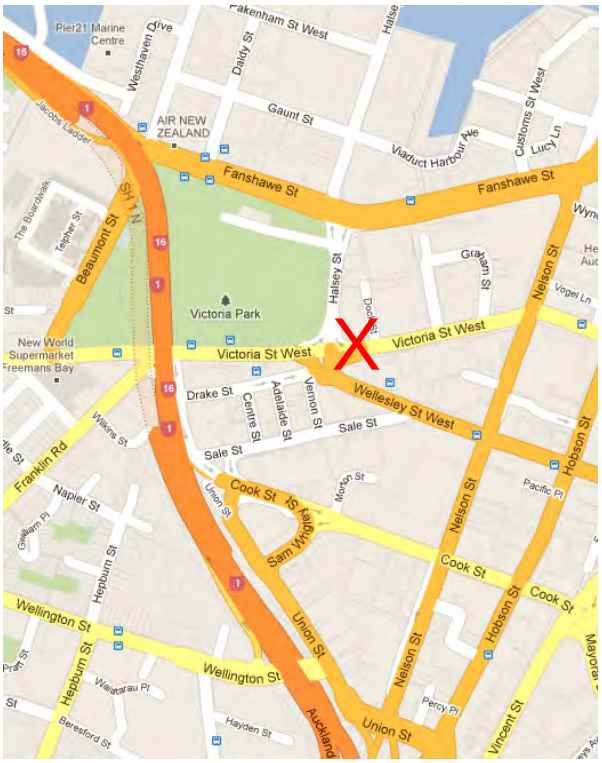
Scooter Counts

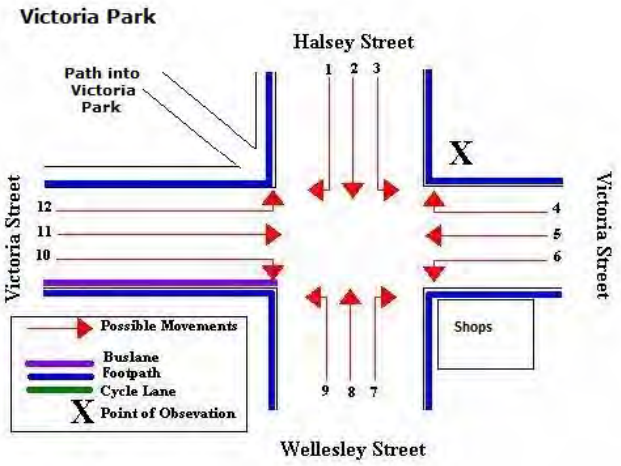
- Among the surveyed schools, of those eligible to scooter, on average, two per cent of students are scooting to their schools. This share is up from less than one per cent in 2014.
- Parnell District School reported the highest share of scooters, eight per cent of all eligible students currently scooting to school. This share has notably increased from two per cent in 2014.
- In total, n=48 students from the responding schools were reported to be scooting to school.

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
2013	103	73	176	258
2014	107	117	224	325
2015	**120**	**108**	**228**	**332**

2.2 Morning Peak

Environmental Conditions

- The weather was cloudy 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 Street/Wellesley Street/Halsey Street intersection has increased (120 movements, up from 107 movements in 2014).
- The key routes in the morning were travelling straight on Victoria Street West heading east (Movement 11 = 29 movements) and turning left from Halsey Street onto Victoria Street (Movement 3 = 27 movements).
- Of the movements possible at this intersection, the most notable change since last year was at Movement 3 (up 12 movements).

Table 2.1: Morning Cyclist Movements

Victoria/Wellesley/Halsey Streets 2007 – 2015 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
1	16	10	6	11	18	12	15	13	**9**	**-4**
2	0	4	2	10	6	9	9	2	**8**	**6**
3	2	5	2	5	23	18	17	15	**27**	**12**
4	1	0	3	3	0	1	1	2	**5**	**3**
5	3	5	1	5	4	3	2	2	**2**	**0**
6	0	0	1	1	3	0	1	1	**0**	**-1**
7	0	0	0	0	2	0	0	1	**1**	**0**
8	1	4	1	4	9	2	2	10	**7**	**-3**
9	0	1	1	0	5	0	0	2	**3**	**1**
10	2	2	1	3	1	2	1 (1V)	4	**4 (1V)**	**0**
11	22	13	11	15	16	18 (1V)	25 (2V)	32 (2V)	**29 (1V)**	**-3**
12	23	13	30	25	29	17	30	23 (1V)	**25**	**2**
Total	**70**	**57**	**59**	**82**	**116**	**82**	**103**	**107**	**120**	**13**

Note: Cyclists entering/exiting Victoria Park are denoted by a V in brackets. These cyclists are included in the preceding total movement counts. The text below describes the movements of cyclists entering/exiting Victoria Park.

Victoria Street (west) → Victoria Park = Movement 12 V
Victoria Street (east) → Victoria Park = Movement 4 V
Halsey Street → Victoria Park = Movement 1 V
Wellesley Street → Victoria Park = Movement 9 V

Victoria Park → Halsey Street = Movement 12 V
Victoria Park → Victoria Street (east) = Movement 11 V
Victoria Park → Wellesley Street = Movement 10 V
Victoria Park → Victoria Street (west) = Movement 5 V

- All cyclists at this site were adults (unchanged since 2013).
- Almost all cyclists were wearing a helmet (90 per cent, stable from 93 per cent last year).
- The majority of cyclists were male (76 per cent, down from 87 per cent in 2014).
- The majority of cyclists were riding on the road (77 per cent, a 9 percentage point decrease from 2014). The share of cyclists riding on the footpath has continued to increase since 2013. This year 23 per cent of cyclists were travelling on the footpath (up from 14 per cent last year).

Table 2.2: Morning Cyclist Characteristics

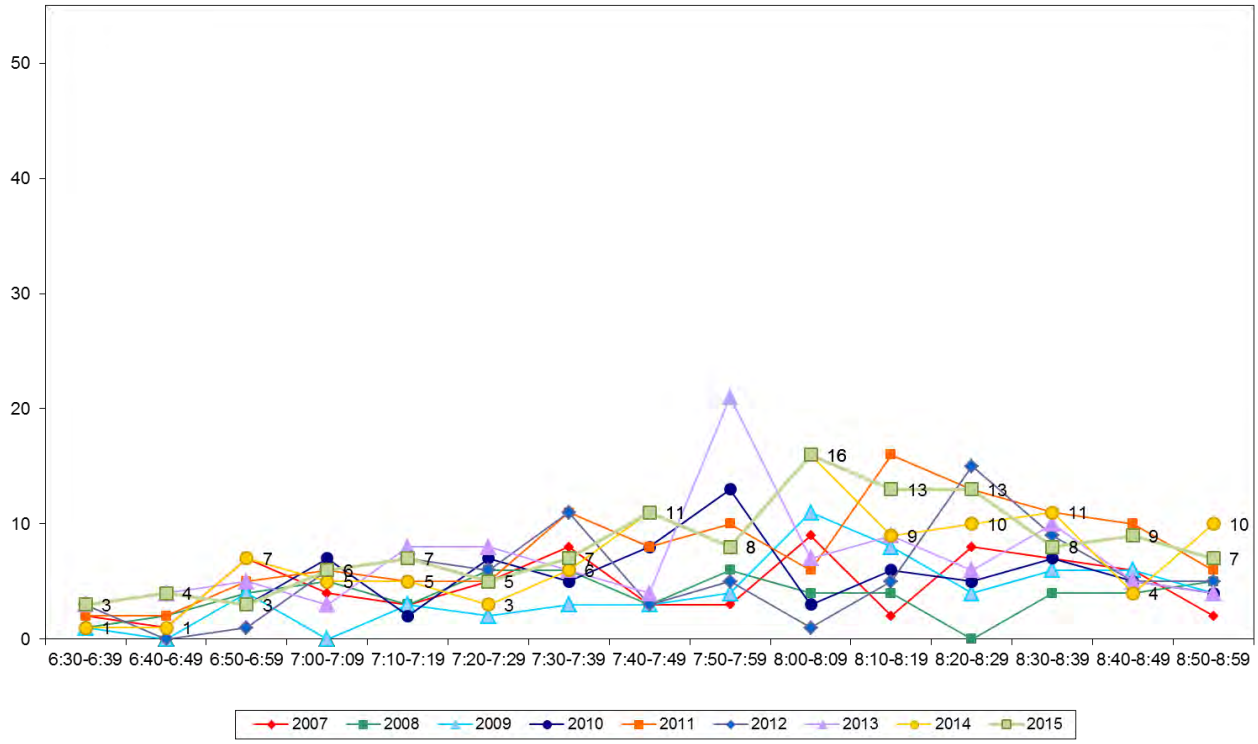
Victoria/Wellesley/Halsey Streets 2007 – 2015 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type										
Adult	100	100	92	99	99	99	100	100	**100**	**0**
School child	0	0	8	1	1	1	0	0	**0**	**0**
Helmet Wearing										
Helmet on head	91	98	93	90	90	93	99	93	**90**	**-3**
No helmet	9	2	7	10	10	7	1	7	**10**	**3**
Gender										
Male	-	-	-	-	85	81	84	87	**76**	**-11**
Female	-	-	-	-	15	19	16	11	**24**	**13**
Can't tell	-	-	-	-	0	0	0	2	**0**	**-2**
Where Riding										
Road	91	86	83	84	81	84	95	86	**77**	**-9**
Footpath	9	14	17	16	19	16	5	14	**23**	**9**
Base:	***70***	***57***	***59***	***82***	***116***	***82***	***103***	***107***	***120***	

- The volume of morning cycle movements in 2015 remained low for most of the monitoring period, with the exception of a peak between 8:00am to 8:09am (16 movements). Cycle volume was heavier throughout the second half of the monitoring period.

Figure 2.2: Morning Peak Cyclist Frequency

Victoria/Wellesley/Halsey Streets 2007 – 2015 (n)



2.3 Evening Peak

Environmental Conditions

- The weather was cloudy throughout the evening monitoring period, with the sun breaking through intermittently.
- 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 Street/Wellesley Street/Halsey Street intersection was down from 117 movements last year to 108 this year.
- The key movements in the evening were turning right from Halsey Street onto Victoria Street travelling west (Movement 1 = 30 cyclists), and travelling west on Victoria Street West (Movement 5 = 25).
- Evening cyclist volumes have decreased most notably at Movement 12 (turning left from Victoria Street onto Halsey Street) (down 5 movements).

Table 2.3: Evening Cyclist Movements

Victoria/Wellesley/Halsey Streets 2007 – 2015 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
1	25	23	15	26	28	21	28	27	**30 (1V)**	**3**
2	3	6	5	2	12	3	1	6	**5**	**-1**
3	0	1	7	1	1	3	3	6	**3**	**-3**
4	5	3	3	3	8	9 (2V)	1 (1V)	8 (2V)	**10 (3V)**	**2**
5	23	8	11	12	21	28	20	23	**25 (1V)**	**2**
6	1	0	0	0	0	0	1	1	**1**	**0**
7	0	2	0	0	1	0	0	2	**2**	**0**
8	2	10	6	11	6	6	4	6	**8**	**2**
9	3	2	4	3	5	10 (2V)	0	9 (1V)	**4**	**-5**
10	4	0	0	0	0	3 (2V)	0	6 (1V)	**1**	**-5**
11	5	7	5	9	1	11 (1V)	4 (1V)	6 (2V)	**7**	**1**
12	19	17	9	13	26	16	11	17 (4V)	**12**	**-5**
Total	**90**	**79**	**65**	**80**	**109**	**110**	**73**	**117**	**108**	**-9**

Note: Cyclists entering/exiting Victoria Park are denoted by a V in brackets. These cyclists are included in the preceding total movement counts. The text below describes the movements of cyclists entering/exiting Victoria Park.

Victoria Street (west) → Victoria Park = Movement 12V
Victoria Street (east) → Victoria Park = Movement 4V
Halsey Street → Victoria Park = Movement 1V
Wellesley Street → Victoria Park = Movement 9V

Victoria Park → Halsey Street = Movement 12V
Victoria Park → Victoria Street (east) = Movement 11V
Victoria Park → Wellesley Street = Movement 10V
Victoria Park → Victoria Street (west) = Movement 5V

- All cyclists using the Victoria Street/Wellesley Street/Halsey Street intersection were adults (up slightly from 96 per cent in 2014).
- Most evening cyclists at this site were wearing a helmet (91 per cent, up from 85 per cent in 2014).
- The majority of cyclists were male (79 per cent, down from 84 per cent last year).
- Seventy-three per cent of cyclists were riding on the road (stable from 70 per cent in 2014).

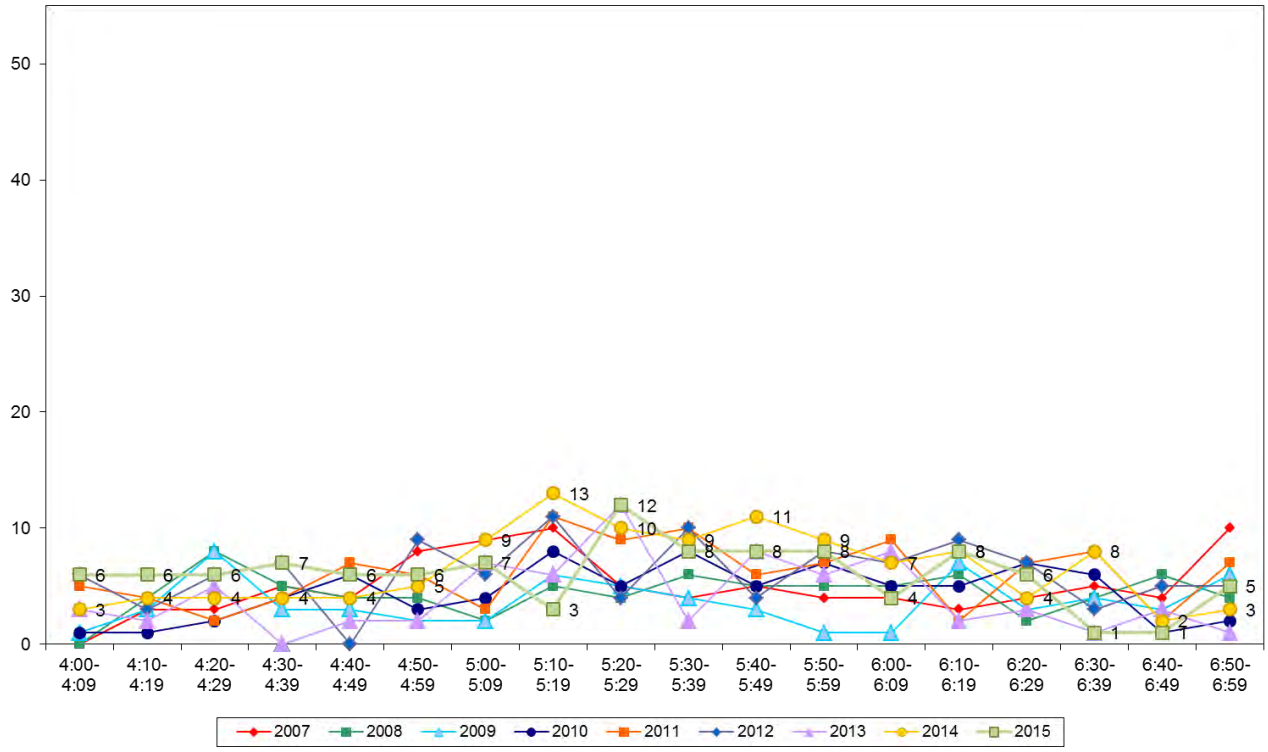
Table 2.4: Evening Cyclist Characteristics

Victoria/Wellesley/Halsey Streets 2007 – 2015 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type										
Adult	100	99	100	100	98	98	99	96	**100**	**4**
School child	0	1	0	0	2	2	1	4	**0**	**-4**
Helmet Wearing										
Helmet on head	91	96	83	81	86	87	95	85	**91**	**6**
No helmet	9	4	17	19	14	13	5	15	**9**	**-6**
Gender										
Male	-	-	-	-	80	84	82	84	**79**	**-5**
Female	-	-	-	-	17	15	18	12	**20**	**8**
Can't tell	-	-	-	-	3	1	0	4	**1**	**-3**
Where Riding										
Road	87	87	71	76	73	76	79	70	**73**	**3**
Footpath	13	13	29	24	27	24	21	30	**27**	**-3**
Base:	***90***	***79***	***65***	***80***	***109***	***110***	***73***	***117***	***108***	

- Evening cycle volumes at this site in 2015 have been low. Traffic was heavier in the middle part 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 Streets 2007 – 2015 (n)

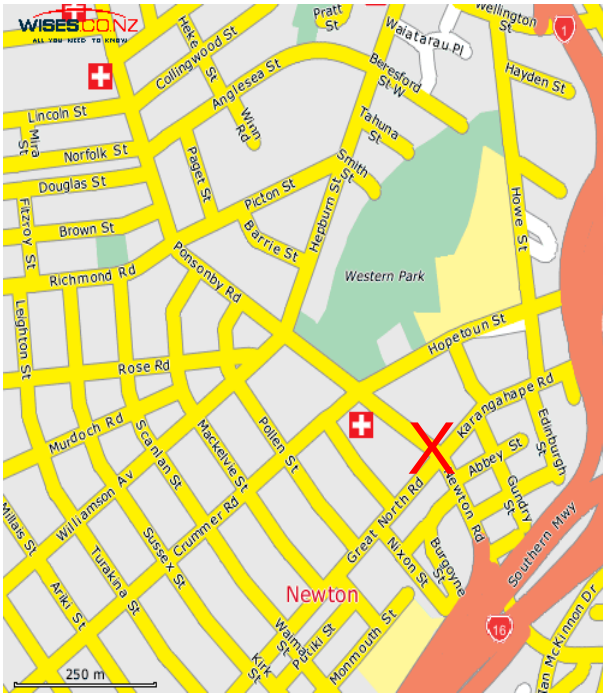


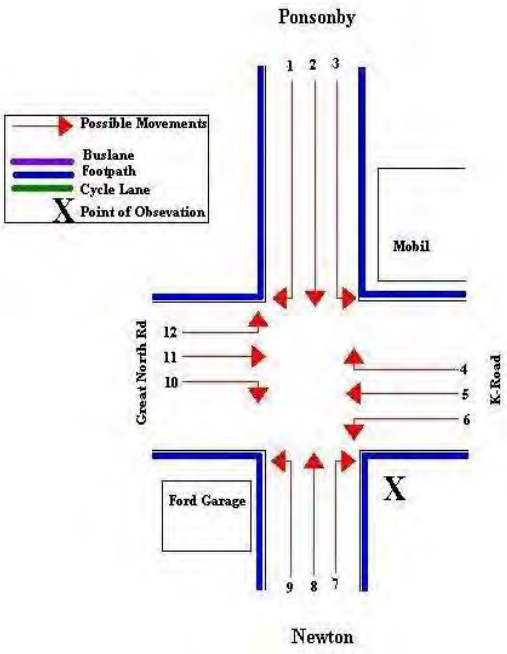
Note: Three cyclists were observed riding past this site at 5:23pm, which accounts for three per cent of this intersection's evening cycle counts.

3. PONSONBY/KARANGAHAPE ROAD/ 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 Road





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
2013	253	342	595	858
2014	257	301	558	808
2015	**297**	**346**	**643**	**931**

3.2 Morning Peak

Environmental Conditions

- The weather was fine throughout the morning monitoring period.
- 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 2015 has increased (297 movements, up from 257 movements in 2014).
- 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 = 107 cyclists).
- Morning cyclist volumes increased most notably at Movement 8 (up 13 movements) and Movement 11 (up 12 movements) while the most notable decrease occurred at Movement 3 (down 9 movements).

Table 3.1: Morning Cyclist Movements

Ponsonby/Karangahape/Newton/Great North Roads 2007 – 2015 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
1	7	6	8	10	5	8	12	7	**11**	**4**
2	7	6	7	12	6	8	6	8	**16**	**8**
3	24	22	28	36	43	21	30	53	**44**	**-9**
4	15	15	9	14	18	10	17	16	**13**	**-3**
5	16	9	7	10	9	14	9	13	**18**	**5**
6	2	1	1	2	1	1	3	2	**3**	**1**
7	11	5	5	4	8	7	11	13	**13**	**0**
8	11	15	7	19	15	21	29	20	**33**	**13**
9	0	2	1	2	1	2	1	2	**0**	**-2**
10	5	0	0	1	4	1	2	3	**8**	**5**
11	105	97	84	97	79	84	110	95	**107**	**12**
12	23	21	19	35	33	27	23	25	**31**	**6**
Total	**226**	**199**	**176**	**242**	**222**	**204**	**253**	**257**	**297**	**40**

- Almost all cyclists using the Ponsonby/Karangahape/Newton/Great North Road intersection were adults (97 per cent, stable since 2007).
- Most cyclists were wearing a helmet (92 per cent, stable from 91 per cent last year).
- Three-quarters of cyclists were male (77 per cent, stable since 2011).
- Three out of four cyclists at this site were riding on the road (75 per cent, up from 65 per cent in 2014).

Table 3.2: Morning Cyclist Characteristics

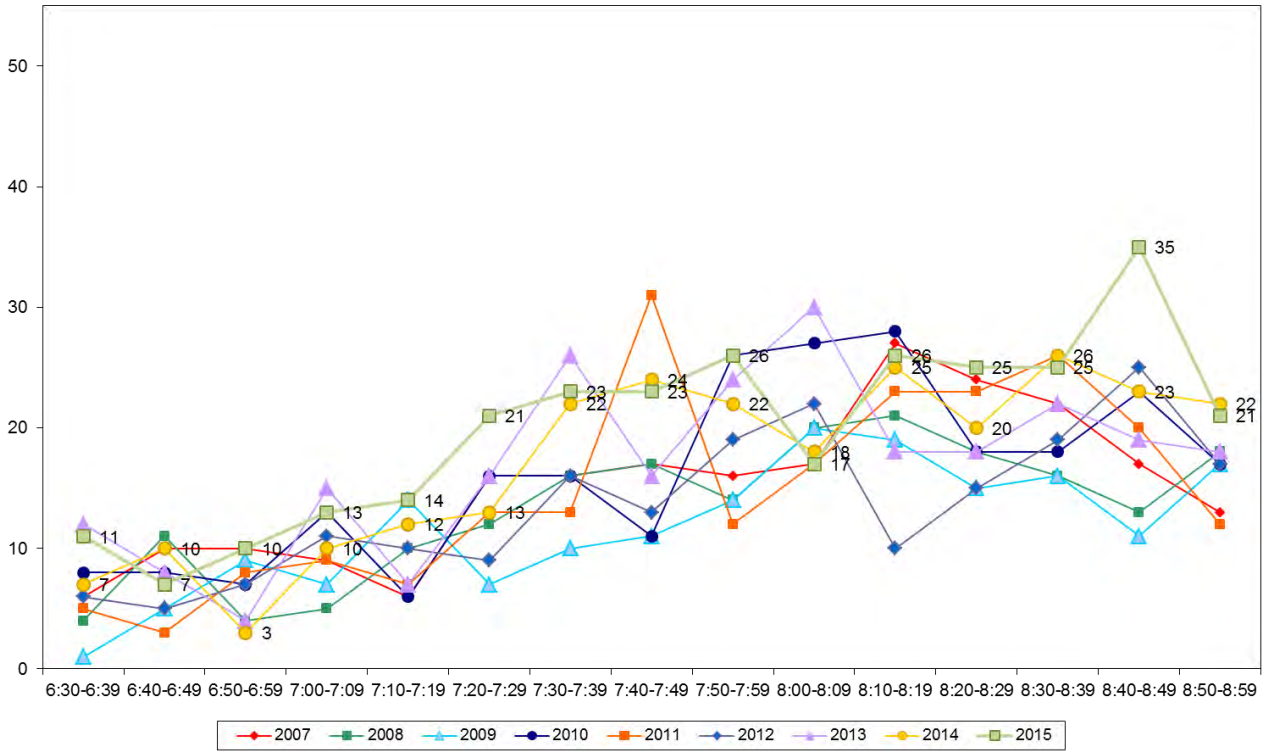
Ponsonby/Karangahape/Newton/Great North Roads 2007 – 2015 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type										
Adult	98	97	95	99	100	96	100	99	**97**	**-2**
School child	2	3	5	1	0	4	0	1	**2**	**1**
Blank/Don't know	-	-	-	-	-	-	-	-	**1**	**1**
Helmet Wearing										
Helmet on head	93	92	91	89	89	87	89	91	**92**	**1**
No helmet	7	8	9	11	11	13	10	9	**8**	**-1**
Can't tell	-	-	-	-	-	-	1	0	**0**	**0**
Gender										
Male	-	-	-	-	75	73	76	76	**77**	**1**
Female	-	-	-	-	18	24	21	24	**23**	**-1**
Can't tell	-	-	-	-	6	3	3	0	**0**	**0**
Where Riding										
Road	68	91	79	64	66	70	75	65	**75**	**10**
Footpath	32	9	21	36	34	30	25	35	**25**	**-10**
Base:	***226***	***199***	***176***	***242***	***222***	***204***	***253***	***257***	***297***	

- Morning cyclist movements followed an increasing trend throughout most of the morning shift. There was a sharp drop in cycle volumes between 8:00am and 8:10am (17 cyclists). Volumes then increased, reaching a sharp peak of 35 cyclists between 8:40am and 8:49am.

Figure 3.2: Morning Peak Cyclist Frequency

Ponsonby/Karangahape/Newton/Great North Roads 2007 – 2015 (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

- Total cyclist volume at the Ponsonby/Karangahape/Newton/Great North Roads intersection has increased by 45 movements over the last 12 months, to 346 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 = 147 movements).
- The most notable increase in evening cyclist volumes was at Movement 5 (up 21 movements from 2014). The most notable decrease was at Movement 8, travelling straight along Newton towards Ponsonby (down 4 movements from 2014).

Table 3.3: Evening Cyclist Movements

Ponsonby/Karangahape/Newton/Great North Roads 2007 – 2015 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	2014	2015	Change 14-15
1	38	18	23	19	27	26	30	20	**27**	**7**
2	14	20	7	21	18	23	31	27	**37**	**10**
3	20	12	15	19	24	14	22	13	**19**	**6**
4	32	25	31	45	40	40	41	49	**53**	**4**
5	106	97	85	139	110	119	146	126	**147**	**21**
6	8	1	9	15	15	8	18	11	**14**	**3**
7	1	1	1	2	2	1	9	4	**1**	**-3**
8	10	6	6	16	11	15	9	15	**11**	**-4**
9	1	1	3	0	2	2	4	0	**2**	**2**
10	0	1	1	0	1	0	1	1	**2**	**1**
11	22	22	8	31	30	34	21	24	**22**	**-2**
12	9	12	5	10	9	12	10	11	**11**	**0**
Total	**261**	**216**	**194**	**317**	**289**	**294**	**342**	**301**	**346**	**45**

- Over the evening peak, almost all cyclists at this intersection were adults (98 per cent, stable since 2007).
- The majority of cyclists were wearing a helmet (89 per cent, unchanged from last year).
- Approximately three-quarters of cyclists were male (77 per cent, up from 72 per cent 12 months ago).
- The majority of cyclists were riding on the road (84 per cent, up from 75 per cent in 2014).

Table 3.4: Evening Cyclist Characteristics

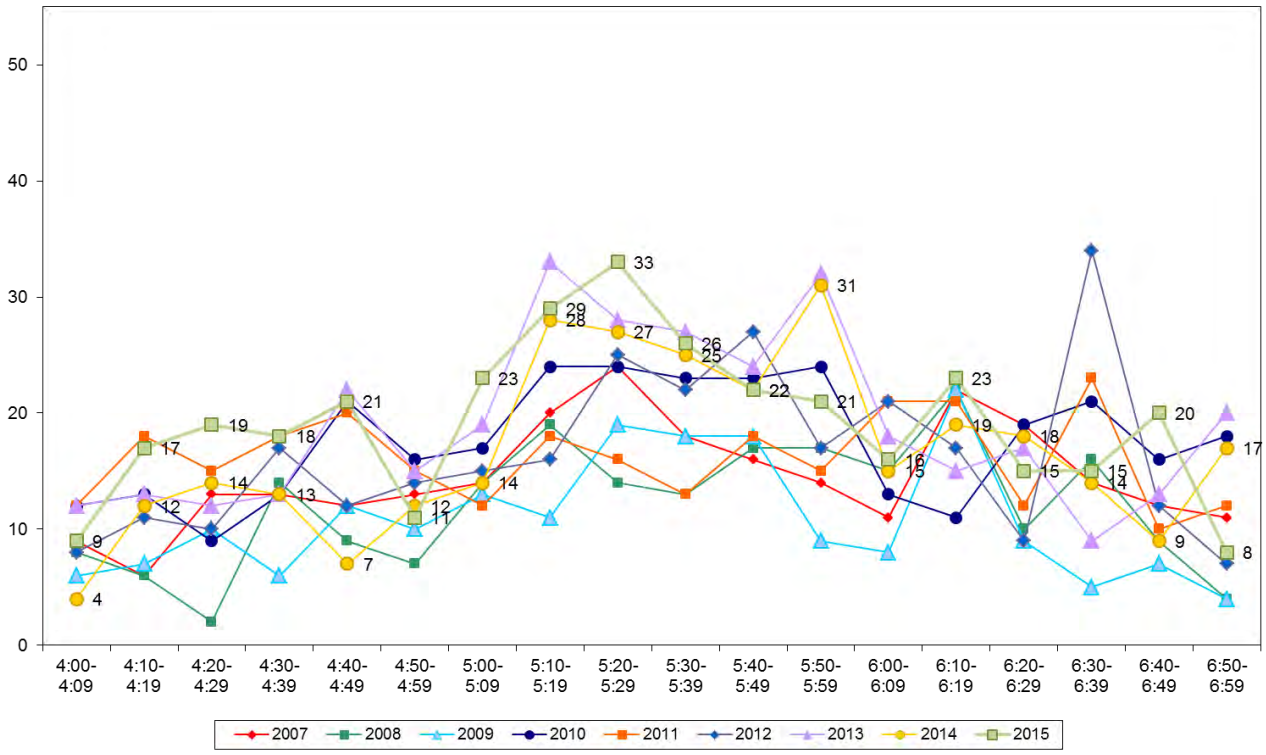
Ponsonby/Karangahape/Newton/Great North Roads 2007 – 2015 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type										
Adult	99	98	97	99	100	99	100	97	**98**	**1**
School child	1	2	3	1	0	1	0	2	**2**	**0**
Don't know	0	0	0	0	0	0	0	1	**0**	**-1**
Helmet Wearing										
Helmet on head	87	89	88	85	85	86	88	89	**89**	**0**
No helmet	13	11	12	15	15	14	12	8	**10**	**2**
Don't know	0	0	0	0	0	0	0	3	**1**	**-2**
Gender										
Male	-	-	-	-	78	81	80	72	**77**	**5**
Female	-	-	-	-	20	18	20	21	**23**	**2**
Can't tell	-	-	-	-	2	1	0	7	**0**	**-7**
Where Riding										
Road	74	90	75	68	72	78	81	75	**84**	**9**
Footpath	26	10	25	32	28	22	19	18	**16**	**-2**
Don't know	0	0	0	0	0	0	0	7	**0**	**-7**
Base:	***261***	***216***	***194***	***317***	***289***	***294***	***342***	***301***	***346***	

- Cycle volumes fluctuated throughout the evening monitoring period. The volume of cyclist movements were heaviest in the hour from 5:00pm to 6:00pm. One notable peak occurred during this time, between 5:20pm to 5:29pm (33 movements).

Figure 3.3: Evening Peak Cyclist Frequency

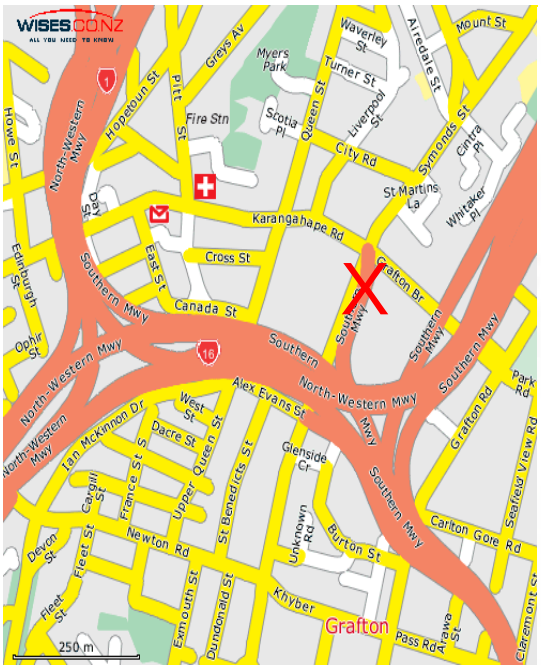
Ponsonby/Karangahape/Newton/Great North Roads 2007 – 2015 (n)

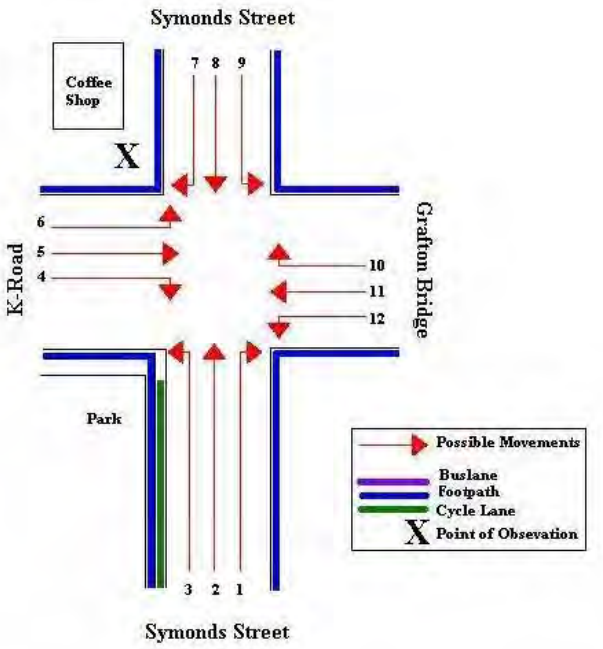


4. SYMONDS STREET/KARANGAHAPE ROAD/ GRAFTON ROAD, GRAFTON (SITE 8)

Figure 4.1 shows the possible cyclist movements at this intersection.

Figure 4.1: Cycle Movements: Symonds Street/Karangahape Road/Grafton Bridge





When recording where cyclists are riding, surveyors can only select one option from road, footpath or cycleway. Where cyclists ride in multiple places, e.g. footpath and cycleway, surveyors are instructed to record where cyclists are riding when they exited the site. As no cyclists exited this site on the cycleway in the morning peak, no cycleway riders have been recorded.

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
2013	410	492	902	1305
2014	385	447	832	1205
2015	**462**	**531**	**993**	**1438**

4.2 Morning Peak

Environmental Conditions

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

Key Points

- The volume of morning peak cyclists recorded at the Symonds Street/Karangahape Road/Grafton Bridge intersection in 2015 has increased since last year (462 movements, up from 385 movements in 2014).
- This year, key movements in the morning were northbound along Symonds Street (Movement 2 = 145 cyclists), turning right from Grafton Bridge onto Symonds Street (Movement 10 = 75 cyclists) and travelling from Karangahape Road onto Grafton Bridge (Movement 5 = 69 cyclists).
- Morning cyclist volumes increased most notably at Movement 10 (up 31 movements) and at Movements 2 (up 21 movements). The most notable decrease was at Movement 5 (down 17 cyclists).

Table 4.1: Morning Cyclist Movements

Symonds Street/Karangahape Road/Grafton Bridge 2007 – 2015 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
1	3	10	6	4	17	19	14	21	**37**	**16**
2	92	81	77	87	75	107	118	126	**145**	**21**
3	9	18	18	22	9	11	26	14	**11**	**-3**
4	2	6	1	1	6	2	4	3	**5**	**2**
5	55	54	51	51	57	54	69	86	**69**	**-17**
6	12	11	12	7	26	21	30	21	**19**	**-2**
7	3	3	0	1	6	0	2	2	**4**	**2**
8	11	8	2	19	17	19	18	6	**15**	**9**
9	8	5	9	7	8	13	16	9	**11**	**2**
10	41	33	21	31	38	35	48	44	**75**	**31**
11	51	53	48	48	55	55	61	51	**67**	**16**
12	3	3	1	5	3	2	4	2	**2**	**0**
DK	-	-	-	-	-	-	-	-	**2**	**2**
Total	***290***	***285***	***246***	***283***	***317***	***338***	***410***	***385***	***462***	**77**

- Similar to previous years, almost all of the cyclists at this site were adults (99 per cent, stable since 2007).
- Ninety-eight per cent of cyclists at this site were wearing a helmet (stable since 2011)
- The greatest share of cyclists continued to be males (73 per cent).
- The share of cyclists riding on the road has unchanged from last year (96 per cent).

Table 4.2: Morning Cyclist Characteristics

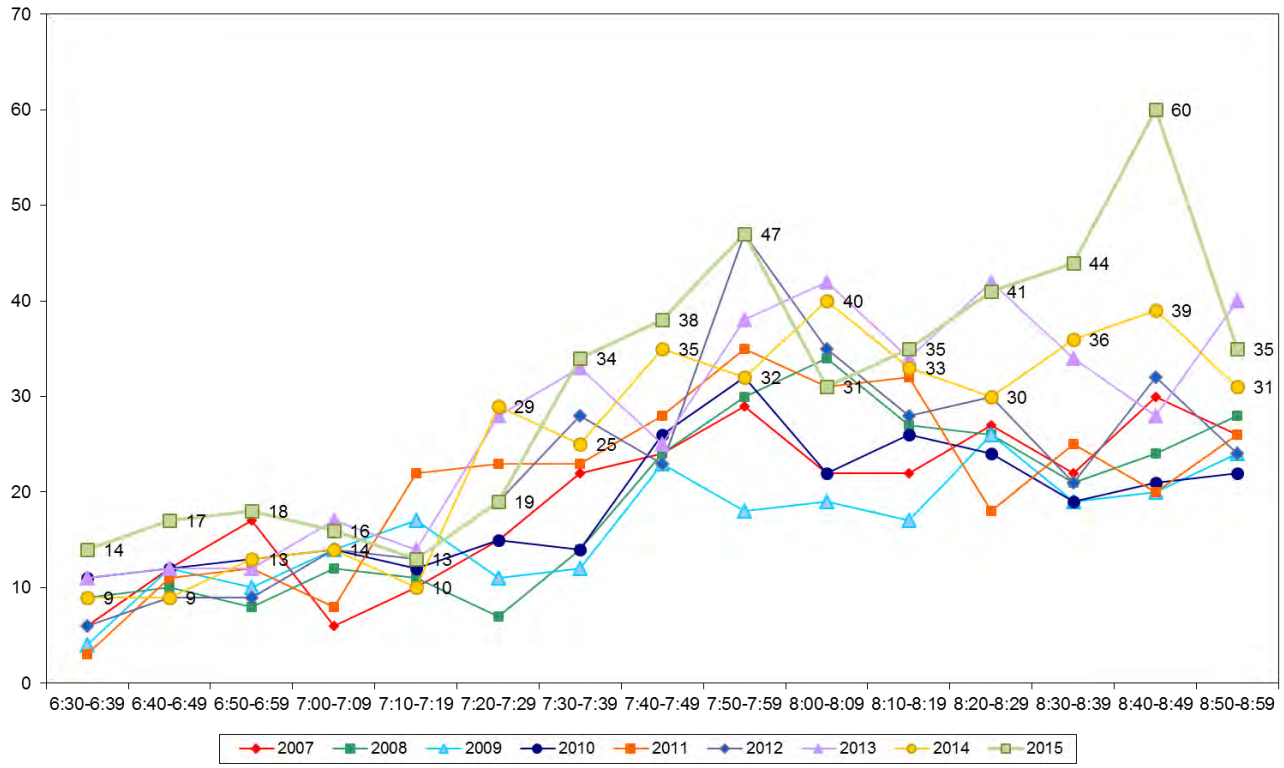
Symonds Street/Karangahape Road/Grafton Bridge 2007 – 2015 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type										
Adult	99	100	100	99	99	99	100	100	**99**	**-1**
School child	1	0	0	1	1	1	0	0	**1**	**1**
Helmet Wearing										
Helmet on head	98	95	94	94	95	96	97	97	**98**	**1**
No helmet	2	5	6	6	5	4	3	3	**2**	**-1**
Gender										
Male	-	-	-	-	68	75	79	74	**73**	**-1**
Female	-	-	-	-	18	18	20	25	**24**	**-1**
Can't tell	-	-	-	-	14	7	1	1	**3**	**2**
Where Riding										
Road	91	92	91	87	93	91	94	96	**96**	**0**
Footpath	9	8	9	13	7	9	6	3	**3**	**0**
Don't know	0	0	0	0	0	0	0	1	**1**	**0**
Base:	***290***	***285***	***246***	***283***	***317***	***338***	***410***	***385***	***462***	

- At the start of the shift, cycle volumes were stable. Volumes increased from 7:20am with a peak evident between 7:50am and 7:59am (47 movements). Volumes dropped sharply following this peak, but then continued to increase, reaching a large peak between 8:40am and 8:49am (60 movements).

Figure 4.2: Morning Peak Cyclist Frequency

Symonds Street/Karangahape Road/Grafton Bridge 2007 – 2015 (n)



Note: In 2015, no group cyclists or pelotons were observed riding past the site. This compares to three cyclists (1 per cent of all morning peak cycle movements at this site) in 2014 and in 2013.

4.3 Evening Peak

Environmental Conditions

- The weather was fine and windy 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 (531 movements, up from 447 in 2014).
- The key evening movements at this site were straight along Symonds Street travelling south (Movement 8 = 166 movements), straight from Grafton Bridge into Karangahape Road (Movement 11 = 112 movements) and the return route (Movement 5 = 66 movements).
- The most notable increase this year was at Movement 11 (41 cyclists) and the most notable decrease was at Movement 7 (down 18 movements).

Table 4.3: Evening Cyclist Movements

Symonds Street/Karangahape Road/Grafton Bridge 2007 – 2015 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
1	2	1	0	2	2	1	1	0	**2**	**2**
2	20	17	11	24	15	22	38	20	**16**	**-4**
3	4	4	6	3	3	4	8	8	**6**	**-2**
4	17	24	23	20	21	24	25	29	**23**	**-6**
5	56	49	40	41	58	62	88	61	**66**	**5**
6	4	5	3	8	10	10	9	10	**8**	**-2**
7	16	16	12	7	29	12	23	41	**23**	**-18**
8	117	103	74	85	89	121	129	128	**166**	**38**
9	38	55	33	27	30	51	37	41	**57**	**16**
10	20	11	16	15	9	16	17	17	**31**	**14**
11	42	42	60	74	89	54	94	71	**112**	**41**
12	13	9	4	8	18	17	23	21	**19**	**-2**
Total	**349**	**336**	**282**	**314**	**373**	**394**	**492**	**447**	**531**	**84**

- Almost all evening cyclists at the Symonds Street/Karangahape Road/Grafton Bridge intersection were adults (96 per cent, stable since monitoring began).
- The majority of cyclists at this site were wearing a helmet (94 per cent, relatively stable since the monitor began).
- The majority of cyclists continue to be male (76 per cent, stable from 78 per cent last year).
- Most cyclists were riding on the road (83 per cent, stable from 82 per cent last year). Twelve per cent of evening cyclists made use of the cycleway this year.

Table 4.4: Evening Cyclist Characteristics

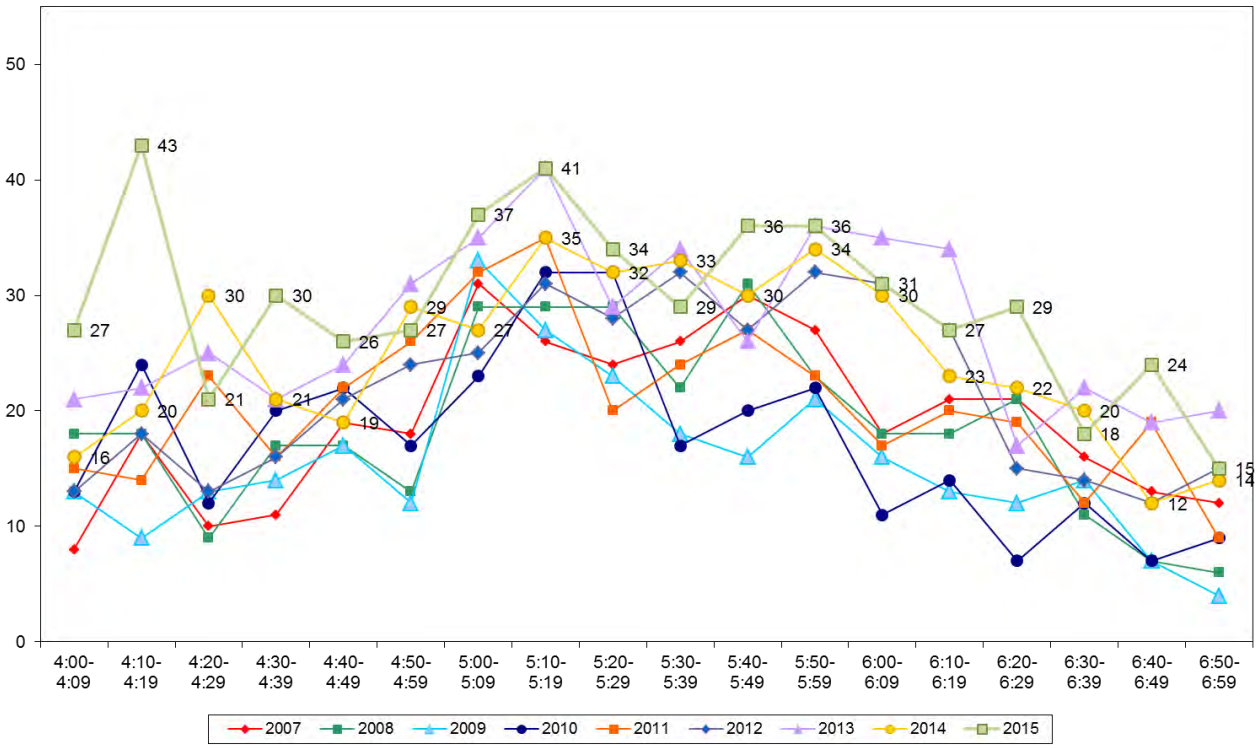
Symonds Street/Karangahape Road/Grafton Bridge 2007 – 2015 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type										
Adult	99	100	100	99	99	100	100	99	**96**	**-3**
School child	1	0	0	1	1	0	0	1	**4**	**3**
Helmet Wearing										
Helmet on head	90	92	90	92	90	93	92	95	**94**	**-1**
No helmet	10	8	10	8	10	7	8	5	**4**	**-1**
Blank/Don't know	-	-	-	-	-	-	-	-	**2**	**2**
Gender										
Male	-	-	-	-	69	80	80	78	**76**	**-2**
Female	-	-	-	-	22	16	20	21	**23**	**2**
Can't tell	-	-	-	-	9	4	0	1	**1**	**0**
Where Riding										
Road	84	97	88	79	82	80	86	82	**83**	**1**
Footpath	16	3	12	21	18	20	13	5	**4**	**-1**
Cycleway	-	-	-	-	-	-	-	13	**12**	**-1**
Can't tell	-	-	-	-	-	-	1	0	**1**	**1**
Base:	***349***	***336***	***282***	***314***	***373***	***394***	***492***	***447***	***531***	

- Evening cycle volumes in 2015 at this site started with a peak between 4:10pm and 4:19pm (43 movements). Another peak occurred an hour later between 5:10pm and 5:19pm (41 movements). Volumes fluctuated for the remainder of the shift. The overall trend is similar to that of previous years.

Figure 4.3: Evening Peak Cyclist Frequency

Symonds Streets/Karangahape Road/Grafton Bridge 2007 – 2015 (n)

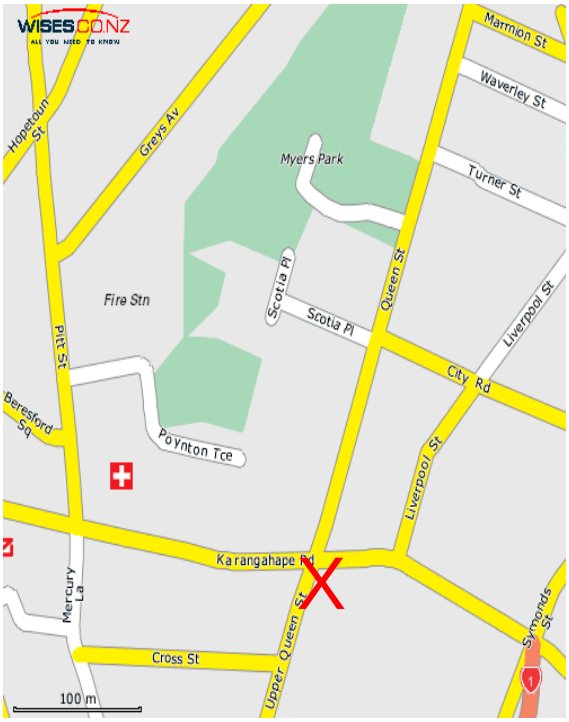


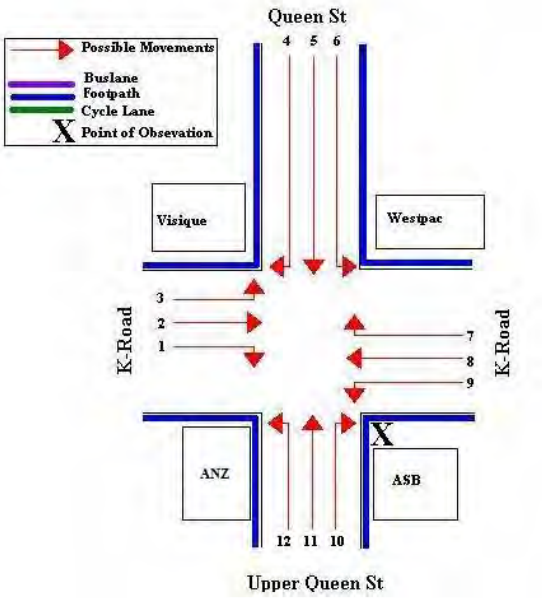
Note: In 2015, a peloton of 19 cyclists rode past at 4:12pm, which accounts for four per cent of the total cycle movements in the evening peak at this intersection. This compares three per cent (n=12) in 2014 and none in 2013.

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 Road/Queen Street





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
2013	315	339	654	949
2014	343	270	613	897
2015	**340**	**338**	**678**	**986**

5.2 Morning Peak

Environmental Conditions

- The weather was cloudy 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 Road/Queen Street intersection in 2015 have remained stable from last year (340 movements, stable from 343 movements in 2014).
- Key morning movements were straight along Karangahape Road in both directions (Movement 2 = 124 movements travelling east; Movement 8 = 76 movements travelling west).
- Of the twelve movements possible at this intersection, the most notable increase occurred at Movement 8 (up 17 movements). The most notable decrease occurred at Movement 10, turning right from Upper Queen Street onto Karangahape Road (down 20 movements).

Table 5.1: Morning Cyclist Movements

Karangahape Road/Queen Street 2007 – 2015 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
1	0	0	1	0	0	1	4	2	**2**	**0**
2	85	77	96	99	93	95	93	126	**124**	**-2**
3	10	6	13	8	6	11	9	7	**9**	**2**
4	8	2	2	2	2	2	1	0	**2**	**2**
5	2	4	2	3	4	2	0	4	**5**	**1**
6	9	0	3	2	6	0	2	2	**4**	**2**
7	9	11	10	15	12	13	11	12	**10**	**-2**
8	60	67	69	74	69	66	98	59	**76**	**17**
9	0	1	0	0	4	1	4	5	**2**	**-3**
10	12	16	8	13	13	14	29	38	**18**	**-20**
11	38	20	28	46	30	48	55	55	**52**	**-3**
12	13	8	6	10	17	13	9	32	**34**	**2**
Don't know	0	0	0	0	0	0	0	1	**2**	**1**
Total	**246**	**212**	**238**	**272**	**256**	**266**	**315**	**343**	**340**	**-3**

- All cyclists were adults (stable since 2009).
- Most of the cyclists were wearing a helmet (96 per cent, stable from 93 per cent in 2014).
- The majority of cyclists continued to be male (78 per cent).
- The percentage of cyclists riding on the road continued to be high (91 per cent, down slightly from 95 per cent in 2014).

Table 5.2: Morning Cyclist Characteristics

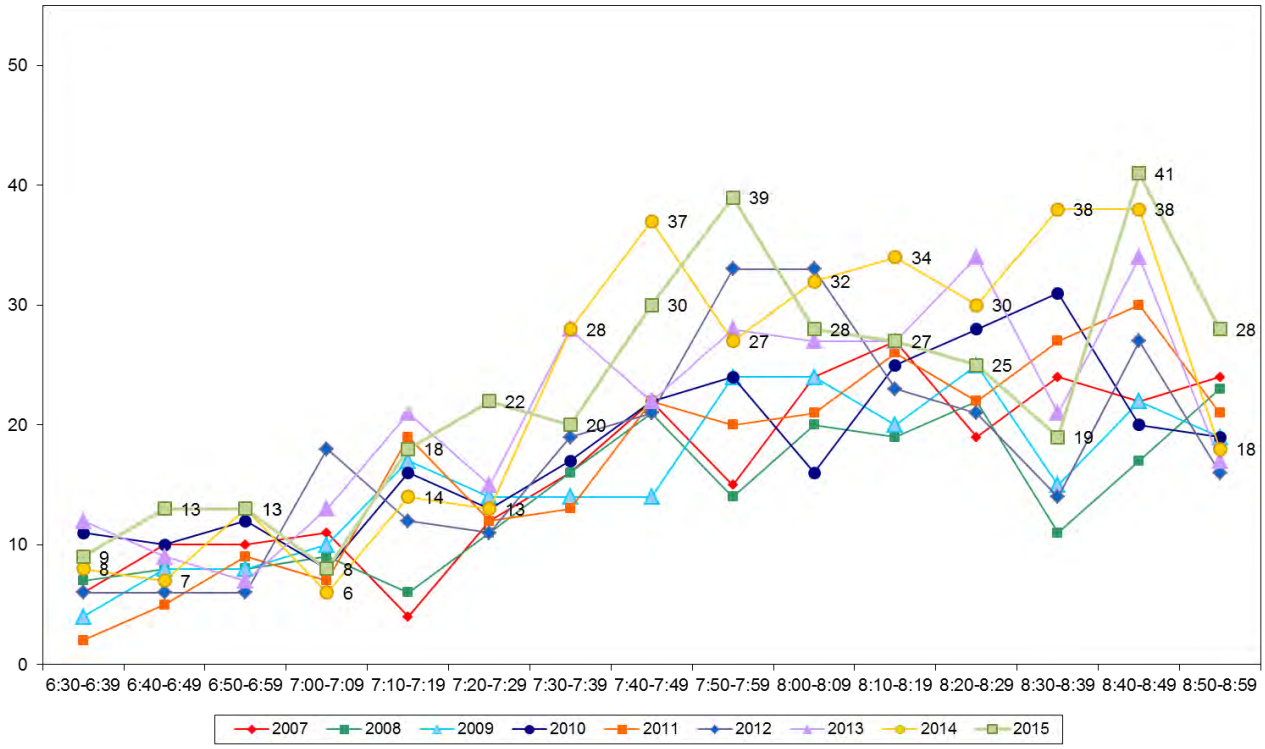
Karangahape Road/Queen Street 2007 – 2015 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type										
Adult	99	83	99	100	99	100	100	99	**100**	**1**
School child	1	17	1	0	1	0	0	0	**0**	**0**
Don't know	0	0	0	0	0	0	0	1	**0**	**-1**
Helmet Wearing										
Helmet on head	95	92	93	97	92	91	95	93	**96**	**3**
No helmet	5	8	7	3	8	9	5	6	**4**	**-2**
Don't know	0	0	0	0	0	0	0	1	**0**	**-1**
Gender										
Male	-	-	-	-	78	79	78	79	**78**	**-1**
Female	-	-	-	-	18	21	15	20	**21**	**1**
Can't tell	-	-	-	-	4	0	7	1	**1**	**0**
Where Riding										
Road	92	92	92	94	86	88	91	95	**91**	**-4**
Footpath	8	8	8	6	14	12	9	4	**9**	**5**
Don't know	0	0	0	0	0	0	0	1	**0**	**-1**
Base:	***246***	***212***	***238***	***272***	***256***	***266***	***315***	***343***	***340***	

- Morning cyclist volumes increased for the majority of the monitoring period. Similar to last year, a peak is evident near the middle of the monitoring period (between 7:50am and 7:59am; 39 cycle movements). Cycle volumes reached another peak towards the end of the monitoring period, between 8:40am and 8:49am (41 cycle movements). The overall trend is similar to that of previous years.

Figure 10.2: Morning Peak Cyclist Frequency

Karangahape Road/Queen Street 2007 – 2015 (n)



5.3 Evening Peak

Environmental Conditions

- The weather was overcast but warm throughout the evening 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 (338 movements, up from 270 in 2014).
- Key evening movements were straight along Karangahape Road in both directions (Movement 8 = 142 movements travelling west; Movement 2 = 88 movements travelling east).
- The most notable change was an increase in cycle volume at Movement 8 (up 33 movements).

Table 5.3: Evening Cyclist Movements

Karangahape Road/Queen Street 2007 – 2015 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
1	4	3	3	6	6	1	7	5	**14**	**9**
2	85	63	70	104	83	112	115	84	**88**	**4**
3	2	8	5	4	3	8	5	4	**7**	**3**
4	6	4	14	15	10	9	9	12	**18**	**6**
5	24	17	10	15	21	39	35	13	**23**	**10**
6	16	4	5	4	5	4	1	6	**3**	**-3**
7	6	5	5	10	9	3	13	11	**15**	**4**
8	94	84	101	137	140	109	132	109	**142**	**33**
9	5	11	4	8	9	5	12	8	**11**	**3**
10	2	3	0	1	3	3	1	5	**5**	**0**
11	11	9	3	4	7	11	9	9	**6**	**-3**
12	6	1	1	2	2	3	0	4	**6**	**2**
Total	**261**	**212**	**221**	**310**	**298**	**307**	**339**	**270**	**338**	**68**

- All riders at this intersection were adults (consistent with previous years).
- Most cyclists were wearing a helmet (93 per cent, up slightly from 90 per cent in 2014).
- The majority of cyclists were male (78 per cent, stable from 80 per cent last year).
- Twelve per cent of cyclist were riding on the footpath. This represents an 11 percentage point increase since 2014.

Table 4.4: Evening Cyclist Characteristics

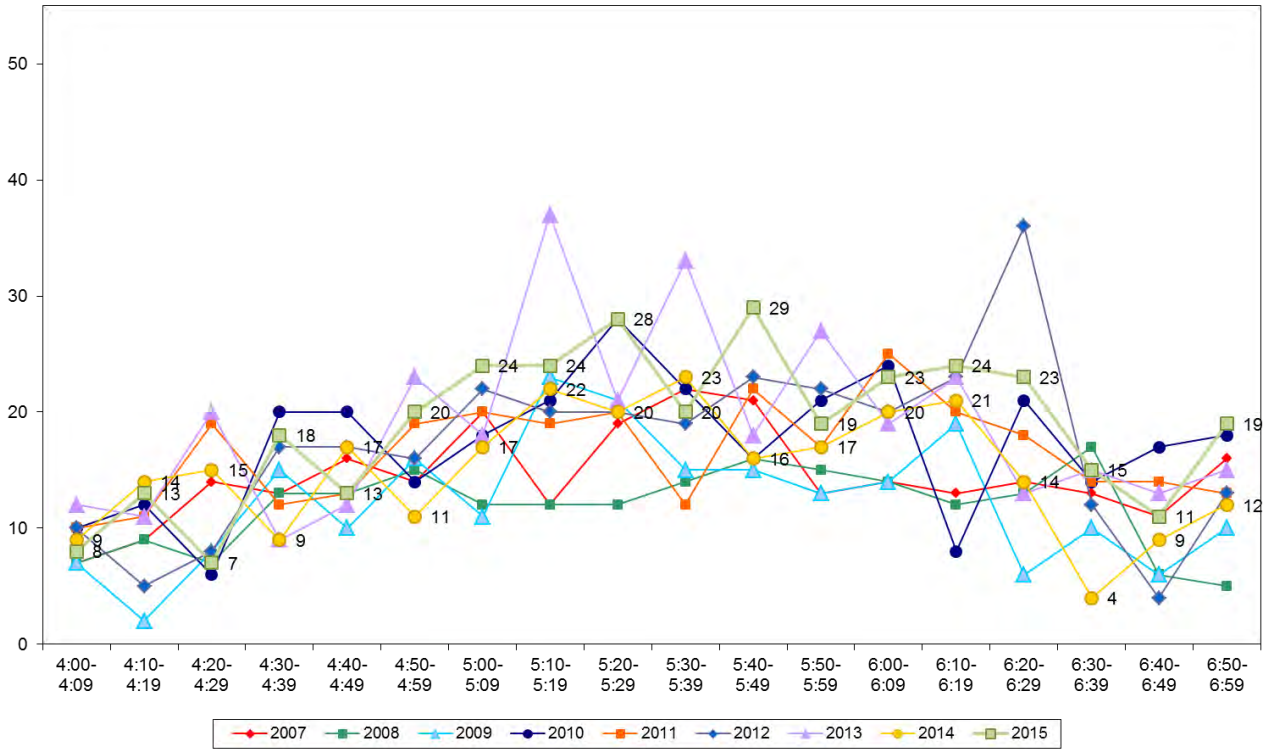
Karangahape Road/Queen Street 2007 – 2015 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type										
Adult	99	94	100	100	99	99	100	100	**100**	**0**
School child	1	6	0	0	1	1	0	0	**0**	**0**
Helmet Wearing										
Helmet on head	78	88	86	91	82	87	86	90	**93**	**3**
No helmet	22	12	14	9	18	13	14	10	**7**	**-3**
Gender										
Male	-	-	-	-	76	80	79	80	**78**	**-2**
Female	-	-	-	-	23	20	18	20	**21**	**1**
Can't tell	-	-	-	-	1	0	3	0	**1**	**1**
Where Riding										
Road	80	86	77	86	74	81	83	99	**88**	**-11**
Footpath	20	14	23	14	26	19	17	1	**12**	**11**
Base:	***261***	***212***	***221***	***310***	***298***	***307***	***339***	***270***	***338***	

- Cyclist movement volumes fluctuated throughout the monitoring period. The highest volume of cyclists was recorded between 5:20pm and 5:29pm with 28 cycle movements and between 5:40pm and 5:49pm with 29 cycle movements.

Figure 5.3: Evening Peak Cyclist Frequency

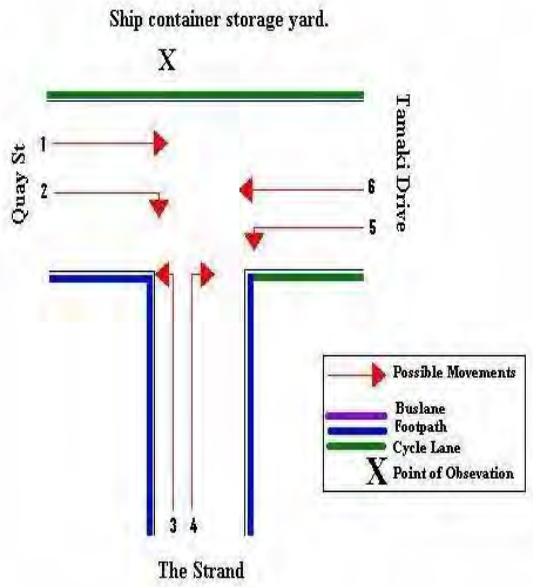
Karangahape Road/Queen Street 2007 – 2015 (n)



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 Drive/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
2013	507	414	921	1346
2014	411	388	799	1163
2015	**501**	**456**	**957**	**1395**

6.2 Morning Peak

Environmental Conditions

- The weather was fine at the start but turned cloudy over the course of 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 2015 have increased notably from last year (501 movements, compared with 411 in 2014).
- The most common movements were heading straight along Tamaki Drive onto Quay Street (Movement 6 = 260 movements) and turning left from Tamaki Drive onto The Strand (Movement 5 = 110).
- Of the six movements possible at this site, the most notable change occurred at Movement 6 (up 61 movements).

Table 6.1: Morning Cyclist Movements

Tamaki Drive/The Strand 2007 – 2015 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
1	55	58	47	92	57	44	49	43	**48**	**5**
2	31	36	29	37	43	38	37	28	**36**	**8**
3	14	9	14	29	19	22	34	25	**33**	**8**
4	26	25	8	17	37	18	22	13	**12**	**-1**
5	147	112	50	106	221	170	114	103	**110**	**7**
6	207	176	173	217	253	211	251	199	**260**	**61**
DK	-	-	-		-	-	-	-	**2**	**2**
Total	**480**	**416**	**321**	**498**	**630**	**503**	**507**	**411**	**501**	**90**

- All cyclists at this intersection were adults (stable since 2007).
- Nearly all riders were wearing a helmet (98 per cent, stable since 2007).
- The majority of riders were male (72 per cent, down from 88 per cent in 2014).
- Thirty-three per cent of cyclists were riding on the off-road cycleway, up from 25 per cent in 2014. However, most of the cyclists were travelling on the road (59 per cent).

Table 6.2: Morning Cyclist Characteristics

Tamaki Drive/The Strand 2007 – 2015 (%)

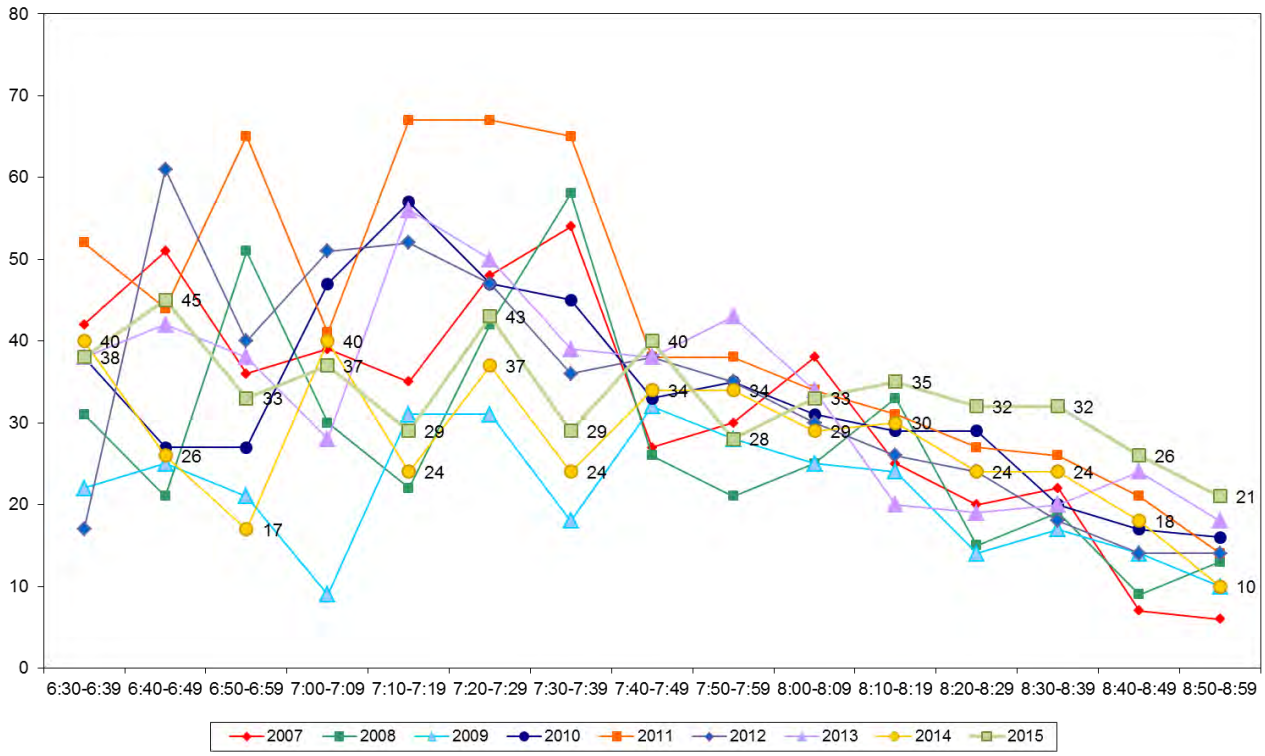
	2007	***2008***	***2009***	***2010***	***2011***	***2012***	***2013***	***2014***	***2015***	**Change 14-15**
Cyclist Type										
Adult	100	100	100	100	99	99	99	100	**100**	**0**
School child	0	0	0	0	1	1	1	0	**0**	**0**
Helmet Wearing										
Helmet on head	99	100	99	97	97	99	98	99	**98**	**-1**
No helmet	1	0	1	3	3	1	2	1	**2**	**1**
Gender										
Male	-	-	-	-	77	87	83	88	**72**	**-16**
Female	-	-	-	-	23	13	17	12	**18**	**6**
Can't tell	-	-	-	-	0	0	0	0	**10**	**10**
Where Riding*										
Road	95	99	74	78	77	79	70	65	**59**	**-6**
Footpath	5	1	2	7	9	6	8	10	**6**	**-4**
Off-road cycleway	-	-	24	15	14	15	22	25	**33**	**8**
Blank/Don't know	-	-	-	-	-	-	-	-	**2**	**2**
Base:	***480***	***416***	***321***	***498***	***630***	***503***	***507***	***411***	***501***	

** 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.*

- Consistent with previous years, morning cyclist volumes experienced a high level of variation in the first hour of the monitoring period. The largest peak occurred between 6:40am and 6:49am (45 movements). Similar to previous years, cycle volumes stabilised between 7:50am to 7:59am (28 cycle movements) then decreased slowly for the remainder of the monitoring period.

Figure 6.2: Morning Peak Cyclist Frequency

Tamaki Drive/The Strand 2007 – 2015 (n)



Note: In 2015, eight per cent of the morning peak cycle movements (n=40) at this site were identified as cycling in groups. Three or more cyclists were observed travelling in groups at this site at the following times:

- *5 cyclists at 6:33am*
- *13 cyclists at 6:36am*
- *4 cyclists at 6:41am*
- *4 cyclists at 6:58am*
- *5 cyclists at 7:05am*
- *6 cyclists at 7:06am*
- *3 cyclists at 7:10am.*

(The surveyor also noted a peloton of eight rode past at 6:29am, just before the commencement of the morning shift.). This compares with 11 per cent of cyclists (n=44) riding as groups in 2014 (and nine per cent; n=44 in 2013).

6.3 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

- Evening cycle movement volumes have increased from last year by 68 movements, to a total of 456 this year.
- Movements made in the evening were dominated by those travelling east along Tamaki Drive away from the city (Movement 1 = 237 cyclists), and also to a lesser extent, by those travelling right onto Tamaki Drive from The Strand (Movement 4 = 60 cyclists).
- Cyclist volumes have increased most notably at Movement 1 (up 44 cyclists).

Table 6.3: Evening Cyclist Movements

Tamaki/The Strand 2007 – 2015 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
1	182	150	152	170	200	198	196	193	237	**44**
2	24	12	15	29	28	31	40	37	43	**6**
3	21	25	24	28	38	32	28	24	39	**15**
4	98	78	51	102	73	77	75	68	60	**-8**
5	38	30	13	36	49	44	29	19	19	**0**
6	57	75	27	73	41	59	46	47	58	**11**
Total	**420**	**370**	**282**	**438**	**429**	**441**	**414**	**388**	**456**	**68**

- All cyclists using this intersection were adults (unchanged from last year and stable since 2007).
- Almost all cyclists were wearing a helmet (97 per cent, stable from 96 per cent last year).
- The greatest share of evening cyclists were male (76 per cent, down from 83 per cent in 2014).
- Over half of the cyclists were riding on the off-road cycleway (53 per cent, up notably from 34 per cent in 2014). This is the first time since 2009 (when monitoring began on the off-road cycleway) that the largest share of cyclists were riding there. Forty per cent where riding on the road (down from 53 per cent last year).

Table 6.4: Evening Cyclist Characteristics

Tamaki/The Strand 2007 – 2015 (%)

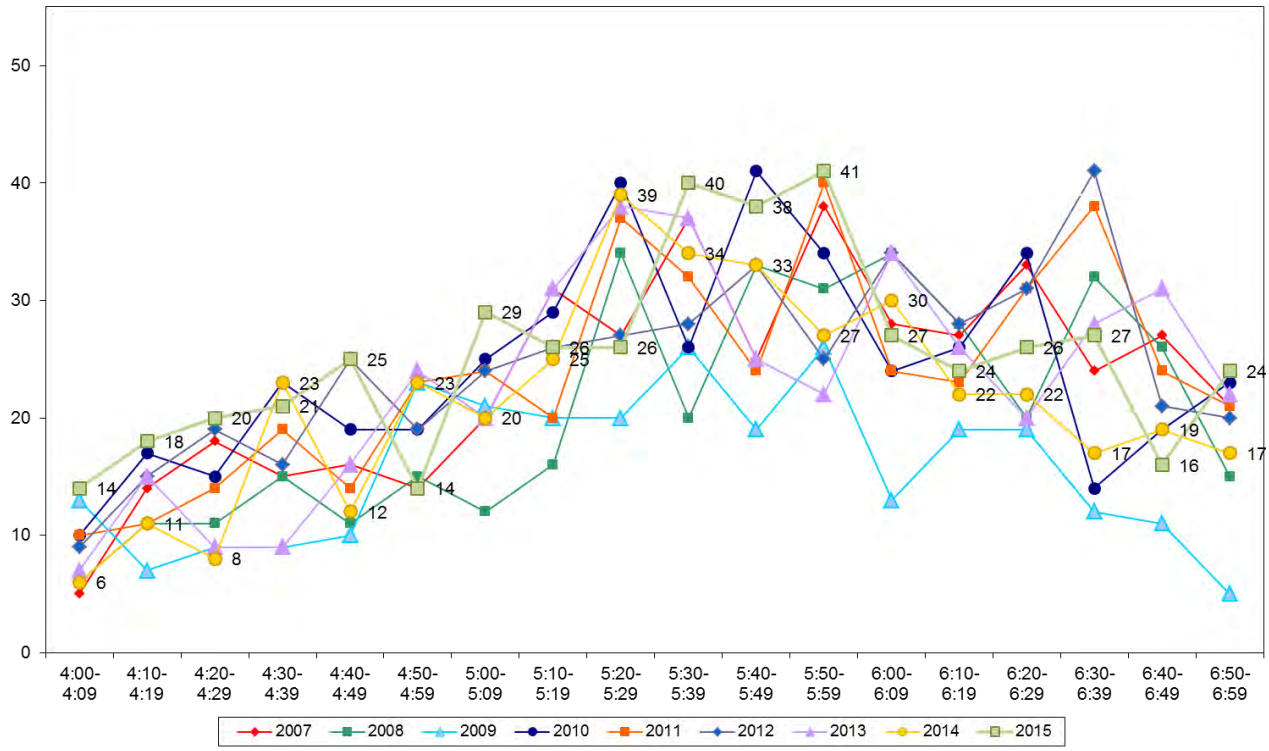
	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type										
Adult	100	100	100	99	100	100	99	100	**100**	**0**
School child	0	0	0	1	0	0	1	0	**0**	**0**
Helmet Wearing										
Helmet on head	96	100	99	96	93	94	96	96	**97**	**1**
No helmet	4	0	1	4	7	6	4	4	**3**	**-1**
Gender										
Male	-	-	-	-	82	84	83	83	**76**	**-7**
Female	-	-	-	-	18	16	17	17	**21**	**4**
Can't tell	-	-	-	-	0	0	0	0	**3**	**3**
Where Riding*										
Road	97	99	57	63	61	58	56	53	**40**	**-13**
Footpath	3	1	4	12	16	14	7	13	**5**	**-8**
Off-road cycleway	-	-	39	25	23	28	37	34	**53**	**19**
Blank/Don't know	-	-	-	-	-	-	-	-	**2**	**2**
Base:	***420***	***370***	***282***	***438***	***429***	***441***	***414***	***388***	***456***	

** 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 monitoring period to a peak between 5:30pm and 5:39pm (40 movements) and between 5:50pm and 5:59pm (41 movements). Cycle volumes steadily declined over the remainder of the monitoring period. The 2015 trend is similar to those of previous years.

Figure 6.3: Evening Peak Cyclist Frequency

Tamaki/The Strand 2007 – 2015 (n)



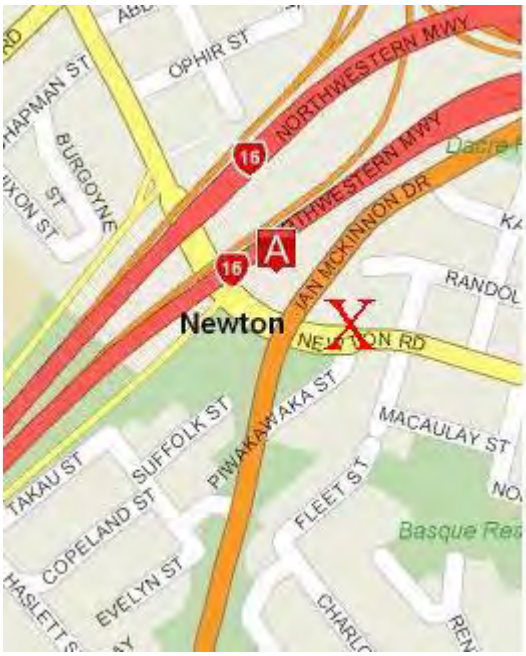
Note: No cyclists were observed riding past in groups this year. This compares with no cyclists in 2014 and three per cent (n=11) in 2013.

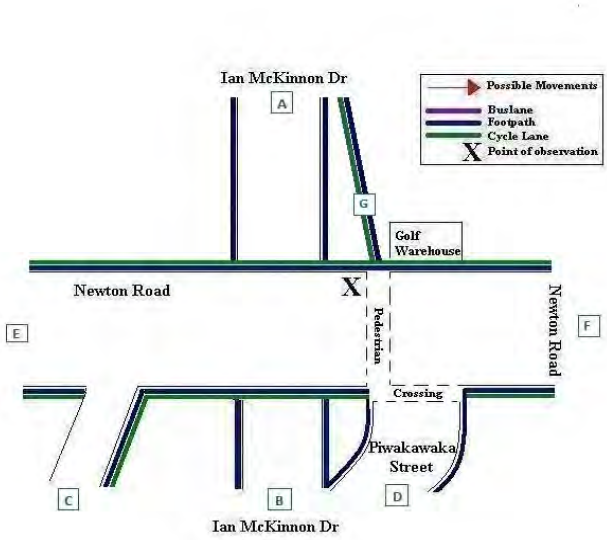
7. IAN MCKINNON DRIVE/NEWTON ROAD, NEWTON (SITE 13)

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 in 2013 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 from 2013 onwards 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
2013	303	279	582	848
2014	230	266	496	718
2015	**448**	**481**	**929**	**1348**

7.2 Morning Peak

Environmental Conditions

- The weather was cloudy 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 notably, from 230 movements in 2014 to 448 this year.
- Cyclists were most likely to enter the site travelling north-east onto Newton Road (Entry C, 218 movements) and were most likely to exit travelling north along the footpath of Ian McKinnon Drive (Exit A, 155 movements).
- The key morning movement at this intersection was travelling north along Ian Mckinnon Drive (Entry B and Exit A, 155 movements)

Table 7.1A: Morning Cyclist Movements

Ian McKinnon Drive/Newton Road 2015 (n)

Entry	*Exit*								*Total*
	A	**B**	**C**	**D**	**E**	**F**	**G**	**DK**	
A	0	15	0	0	0	0	0	0	**15**
B	155	0	0	0	1	0	1	0	**157**
C	0	0	0	86	43	30	59	0	**218**
D	0	0	8	0	7	3	3	0	**21**
E	0	0	3	6	0	12	2	0	**23**
F	0	0	1	0	10	0	0	0	**11**
G	0	0	2	0	1	0	0	0	**3**
DK	0	0	0	0	0	0	0	0	**0**
Total	**155**	**15**	**14**	**92**	**62**	**45**	**65**	**0**	**448**

Table 7.1B: Morning Cyclist Movements

Ian McKinnon Drive/Newton Road 2009 – 2015 (n)

	2009	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Total Movements	139	190	236	219	303	230	**448**	**218**

- All cyclists at this site were adults (unchanged since 2013).
- Ninety-nine per cent of the cyclists were wearing a helmet (unchanged from last year).
- The majority of the cyclists were identified as male (82 per cent, a notable increase from 65 per cent in 2014).
- Fifty-six per cent of the cyclists were riding on the off-road cycleway (a notable decrease from 73 per cent last year). Thirty-two per cent of cyclists were riding on the footpath (up from 20 per cent in 2014).

Table 7.2: Morning Cyclist Characteristics

Ian McKinnon Drive/Newton Road 2009 – 2015 (%)

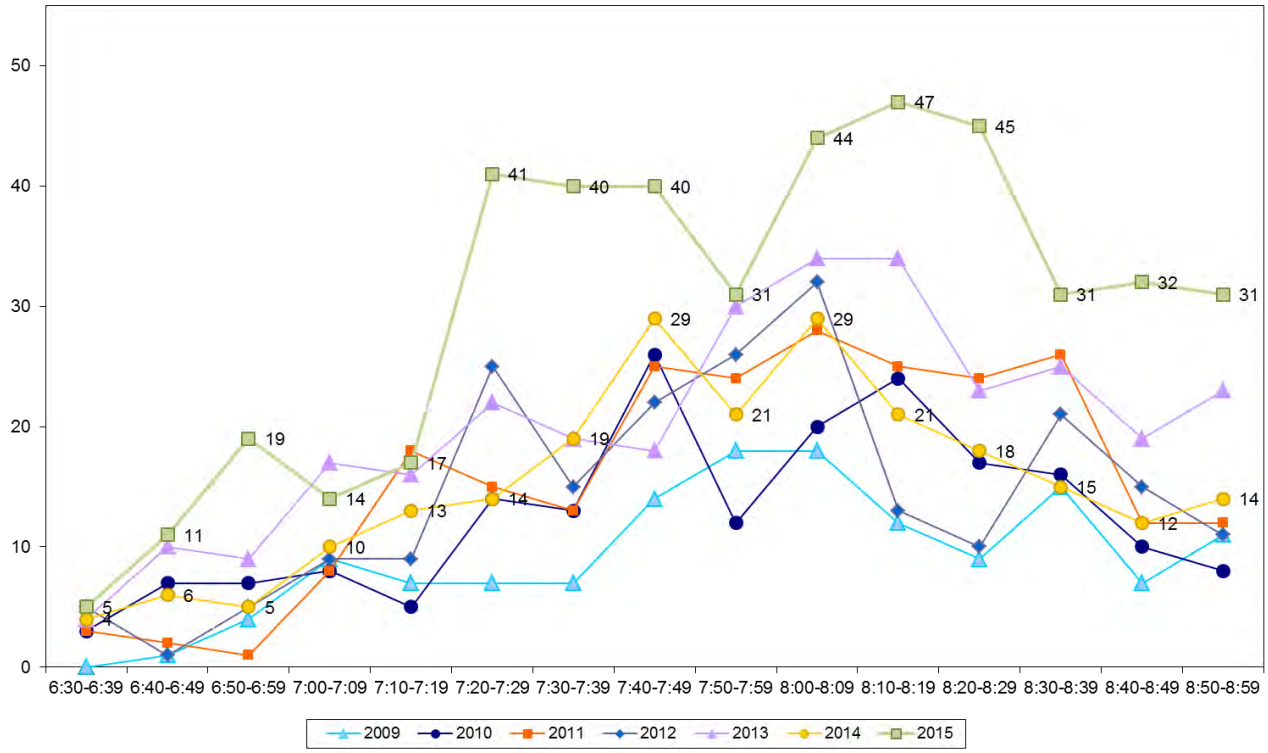
	2009	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type								
Adult	99	99	100	99	100	100	**100**	**0**
School child	1	1	0	1	0	0	**0**	**0**
Helmet Wearing								
Helmet on head	90	93	98	95	100	99	**99**	**0**
No helmet	10	7	2	5	0	1	**1**	**0**
Gender								
Male	-	-	53	57	69	65	**82**	**17**
Female	-	-	15	14	11	27	**17**	**-10**
Can't tell	-	-	32	29	20	8	**1**	**-7**
Where Riding								
Road	40	43	25	18	18	6	**11**	**5**
Footpath	15	19	22	24	25	20	**32**	**12**
Off-road cycleway	45	38	53	58	56	73	**56**	**-17**
Unsure	-	-	-	-	1	1	**1**	**0**
Base:	***139***	***190***	***236***	***219***	***303***	***230***	***448***	

Note: Any cyclists that have been observed riding on the off-road cycleway at all (so they may not be on the cycleway all the time eg. when they cross the traffic lights) is recorded as "Off-road cycleway" under Where Riding.

- As in previous years, morning cyclist movement volumes started off low, but followed a general increasing trend. There was a sharp increase in volume towards the middle of the shift and volumes stayed high for the remainder. The largest peak occurred between 8:10am and 8:19am (47 movements).

Figure 7.2: Morning Peak Cyclist Frequency

Ian McKinnon Drive/Newton Road 2009 – 2015 (n)



7.3 Evening Peak

Environmental Conditions

- The weather was overcast with light winds 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 481, up notably from 266 movements in 2014.
- Looking at entries only, Entry A (northern end of Ian McKinnon Drive) and Entry D (travelling on Piwakawaka Street) experienced the most cycle traffic in the evening (177 and 108 cycle movements respectively).
- In regards to exits, Exit C (North-Western Cycleway) and Exit B (southern end of Ian McKinnon Drive) had the most evening cycle traffic (222 and 177 movements respectively).
- The key evening movement at this intersection was straight along Ian McKinnon Drive heading south (Entry A, Exit B = 177 cyclist movements).

Table 7.3A: Evening Cyclist Movements

Ian McKinnon Drive/Newton Road 2015 (n)

Entry	*Exit*								*Total*
	A	**B**	**C**	**D**	**E**	**F**	**G**	**DK**	
A	0	177	0	0	0	0	0	0	**177**
B	17	0	0	0	0	0	0	0	**17**
C	0	0	0	8	2	3	4	0	**17**
D	0	0	104	1	2	1	0	0	**108**
E	0	0	61	7	0	13	8	0	**89**
F	0	0	23	3	10	0	0	0	**36**
G	0	0	34	2	0	1	0	0	**37**
DK	0	0	0	0	0	0	0	0	**0**
Total	**17**	**177**	**222**	**21**	**14**	**18**	**12**	**0**	**481**

Table 7.3B: Evening Cyclist Movements

Ian McKinnon Drive/Newton Road 2009 – 2015 (n)

	2009	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Total Movements	152	184	324	284	279	266	**481**	**215**

- Over the evening peak, all cyclists using this site were adults (unchanged for three years and stable since 2009).
- The greatest share of cyclists at this site was wearing a helmet (98 per cent, stable from 97 per cent last year).
- Eighty-one per cent of the cyclists were male (a 26 percentage point increase over the last 12 months).
- The share of cyclists travelling on the off-road cycleway has increased (43 per cent, up from 30 per cent last year). As a result, the share riding on the road has declined 9 percentage points to 30 per cent.

Table 7.4: Evening Cyclist Characteristics

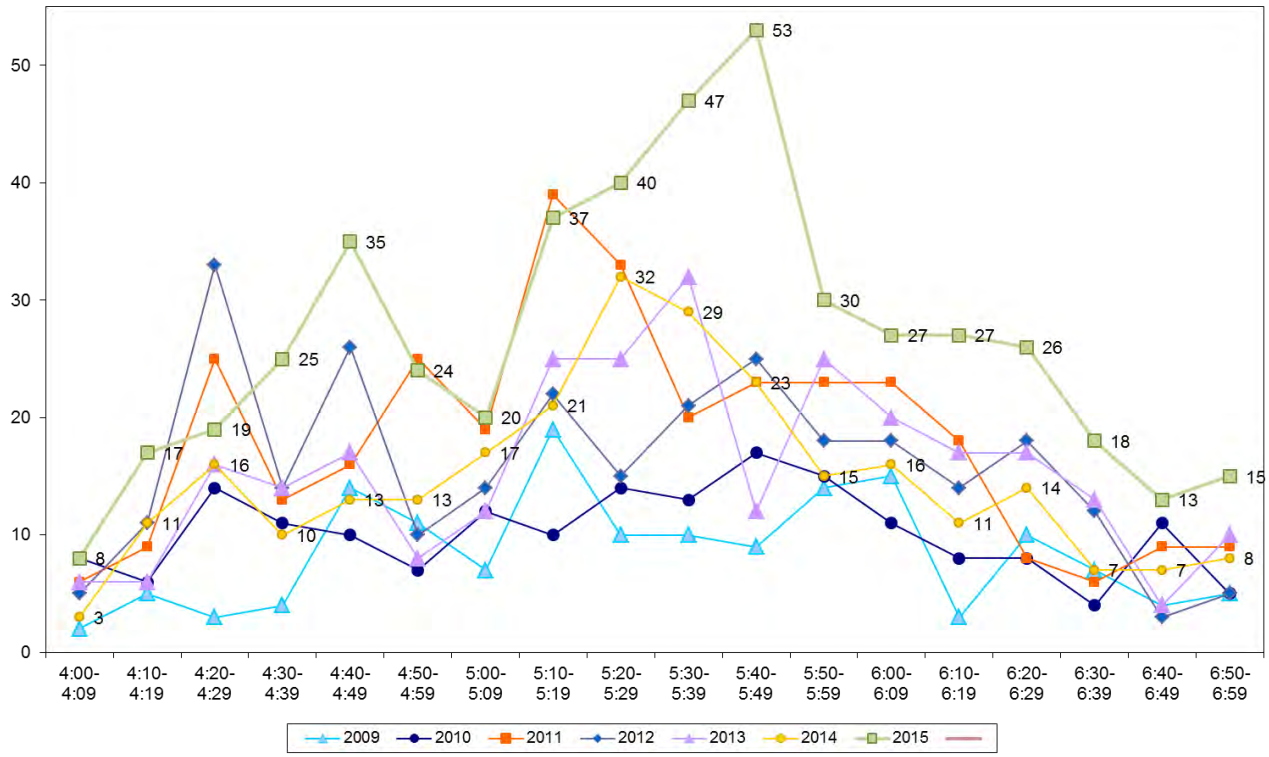
Ian McKinnon Drive/Newton Road 2009 – 2015 (%)

	2009	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type								
Adult	98	99	100	99	100	100	**100**	**0**
School child	2	1	0	1	0	0	**0**	**0**
Helmet Wearing								
Helmet on head	95	96	97	96	99	97	**98**	**1**
No helmet	5	4	3	4	1	3	**2**	**-1**
Gender								
Male	-	-	56	60	75	55	**81**	**26**
Female	-	-	17	11	15	31	**18**	**-13**
Can't tell	-	-	27	29	10	14	**1**	**-13**
Where Riding								
Road	31	39	24	18	29	39	**30**	**-9**
Footpath	25	29	16	19	25	30	**27**	**-3**
Off-road cycleway	44	32	60	63	45	30	**43**	**13**
Unsure	-	-	-	-	1	1	**0**	**-1**
Base:	***152***	***184***	***324***	***284***	***279***	***266***	***481***	

- This year, cycle volumes were variable throughout the evening. Cycle traffic was heaviest during the middle portion of the monitoring period and reached a large peak between 5:40pm and 5:49 pm (53 movements). Cycle volumes dropped following this peak, but remained high compared with previous years.

Figure 7.3: Evening Peak Cyclist Frequency

Ian McKinnon Drive/Newton Road 2009 – 2015 (n)

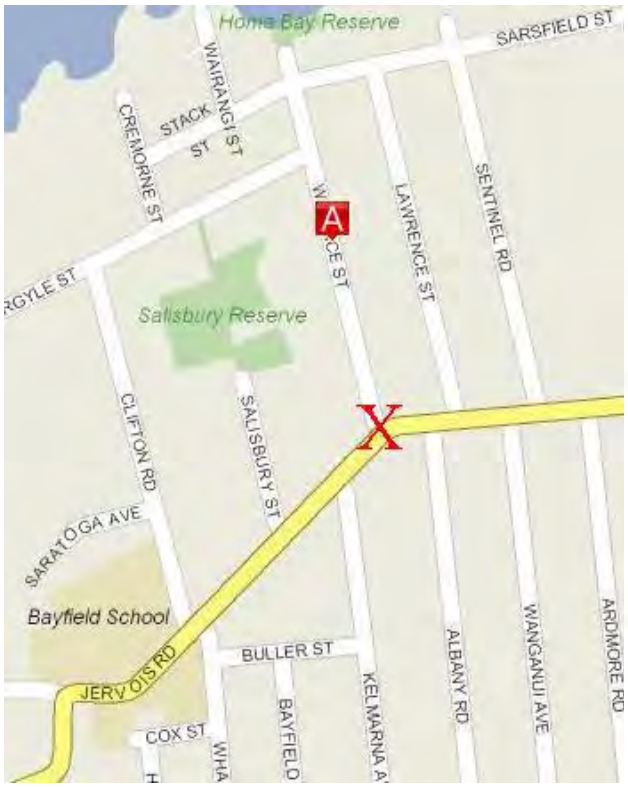


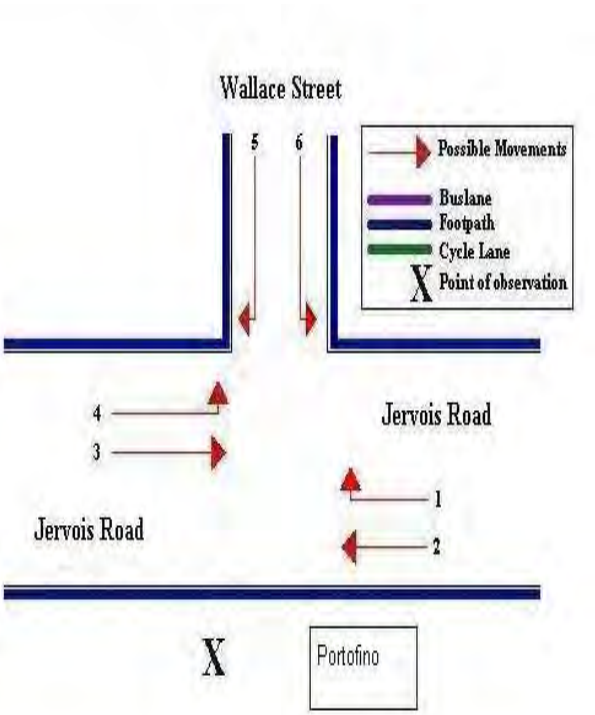
Note: No cyclists were observed riding past as groups in 2015. This compares with three cyclists (1 per cent of the evening peak cycle movements at this site) in 2014.

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
2013	70	66	136	200
2014	67	65	132	192
2015	**79**	**65**	**144**	**210**

8.2 Morning Peak

Environmental Conditions

- The weather was cloudy 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 this year (79 movements, up from 67 in 2014).
- The key movements were straight along Jervois Road in both directions (Movement 3 heading northeast = 41 movements; Movement 2 heading southwest = 24 movements).
- The most notable change was the slight increase at Movement 2 (up 6 movements).

Table 8.1: Morning Cyclist Movements

Jervois Road/Wallace Street 2009 – 2015 (n)

Movement	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
1	0	1	1	0	1	0	**0**	**0**
2	30	36	37	17	21	18	**24**	**6**
3	24	37	25	29	37	38	**41**	**3**
4	2	12	8	12	8	6	**9**	**3**
5	1	1	0	2	1	1	**0**	**-1**
6	3	1	2	2	2	4	**4**	**0**
DK	-	-	-	-	-	-	**1**	**1**
Total	**60**	**88**	**73**	**62**	**70**	**67**	**79**	**12**

- The majority of morning cyclists at the Jervois Road/Wallace Street intersection were adults (95 per cent, up from 87 per cent in 2014).
- Helmet wearing continued to be widespread (90 per cent, down from 100 per cent last year).
- The proportion of male cyclists decreased by 4 percentage points – down to 84 per cent this year.
- Eighty-six per cent of cyclists were travelling on the road (up from 73 per cent in 2014).

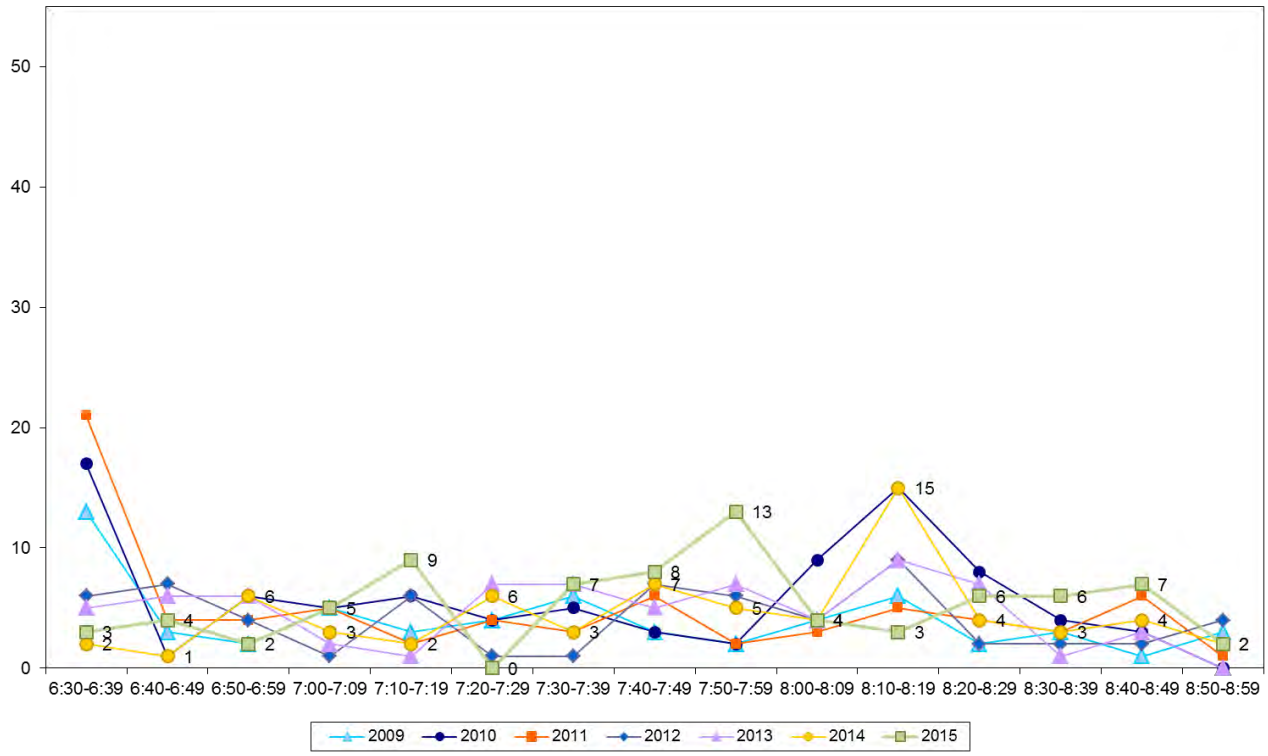
Table 8.2: Morning Cyclist Characteristics

Jervois Road/Wallace Street 2009 – 2015 (%)

	2009	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type								
Adult	90	80	97	100	90	87	**95**	**8**
School child	10	20	3	0	10	13	**5**	**-8**
Helmet Wearing								
Helmet on head	98	97	93	94	97	100	**90**	**-10**
No helmet	2	3	7	6	3	0	**4**	**4**
Blank/Don't know	-	-	-	-	-	-	**6**	**6**
Gender								
Male	-	-	71	79	83	88	**84**	**-4**
Female	-	-	29	21	17	9	**15**	**6**
Can't tell	-	-	0	0	0	3	**1**	**-2**
Where Riding								
Road	85	73	85	93	73	73	**86**	**13**
Footpath	15	27	15	7	27	27	**14**	**-13**
Base:	***60***	***88***	***73***	***62***	***70***	***67***	***79***	

- Morning cycle volumes were relatively low over most of the monitoring period. A peak occurred between 7:50am and 7:59am (13 movements), earlier than in previous years. Over the rest of the monitoring period, cycle volumes did not exceed 9 cycle movements in any other time interval.

Figure 8.2: Morning Peak Cyclist Frequency
Jervois Road/Wallace Street 2009 – 2015 (n)



Note: A group of six cyclists were observed cycling past at 7:14am, accounting for eight per cent of this intersection's morning cycle traffic. This compares with no cyclists in 2014 and four per cent (n=3) in 2013.

8.3 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

- Evening cyclist numbers have stayed the same when compared with last year (65 movements).
- 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). Movement 2 also experienced the most notable increase in cycle volume (up 6 movements).
- Turning right from Wallace Street into Jervois Road (Movement 5) experienced the most notable decrease (down by 6 movements).

Table 8.3: Evening Cyclist Movements

Jervois Road/Wallace Street 2009 – 2015 (n)

Movement	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
1	1	4	1	3	1	3	**2**	**-1**
2	22	50	41	35	38	32	**38**	**6**
3	17	21	19	22	14	15	**15**	**0**
4	3	0	1	3	1	2	**2**	**0**
5	3	4	10	13	7	12	**6**	**-6**
6	5	0	3	3	5	0	**1**	**1**
Don't know	0	0	0	0	0	1	**1**	**0**
Total	**51**	**79**	**75**	**79**	**66**	**65**	**65**	**0**

- Most cyclists at this site in 2015 were adults (98 per cent, stable since 2013).
- Most cyclists were wearing a helmet (89 per cent, down from 98 per cent last year).
- The majority of cyclists were male (89 per cent, up from 82 last year).
- There has been an increase in the number of cyclists riding on the footpath, with the share up from 18 per cent in 2014 to 31 per cent this year.

Table 8.4: Evening Cyclist Characteristics

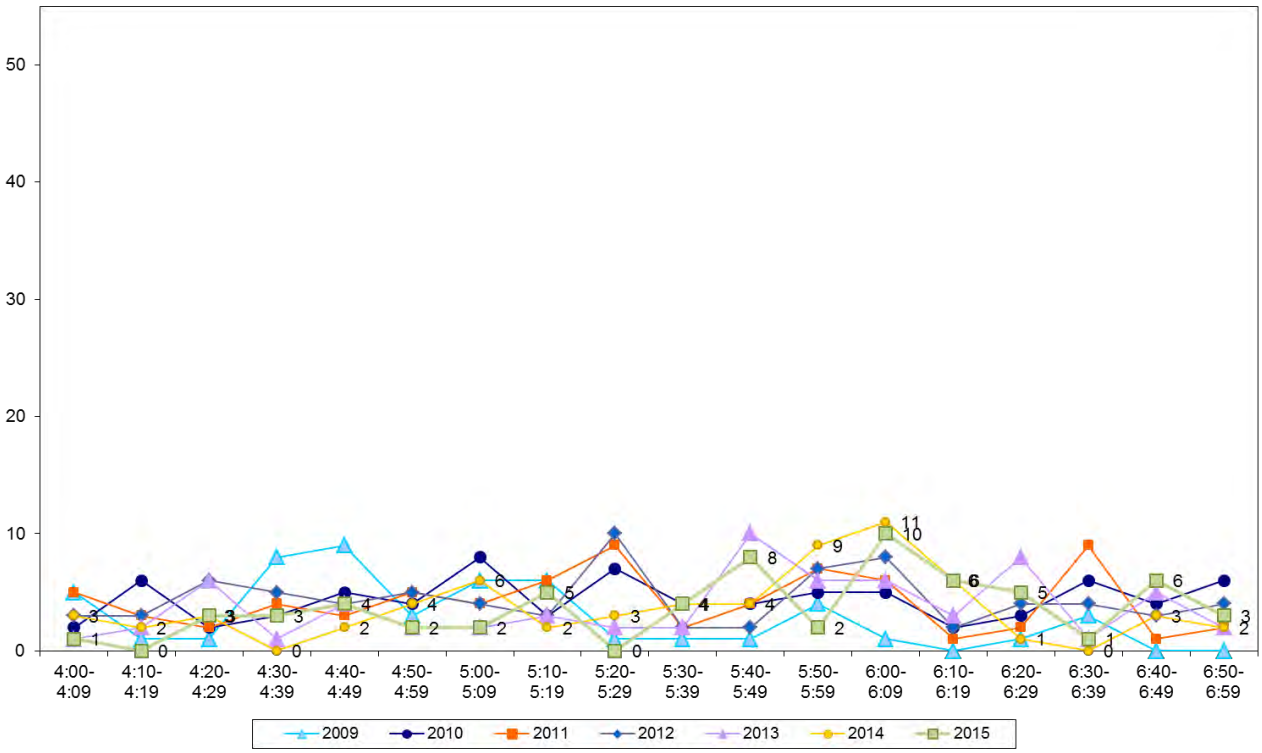
Jervois Road/Wallace Street 2009 – 2015 (%)

	2009	***2010***	***2011***	***2012***	***2013***	***2014***	***2015***	**Change 14-15**
Cyclist Type								
Adult	55	78	92	91	96	97	**98**	**1**
School child	45	22	8	9	4	3	**2**	**-1**
Helmet Wearing								
Helmet on head	98	85	92	89	88	98	**89**	**-9**
No helmet	2	15	8	11	12	2	**11**	**9**
Gender								
Male	-	-	76	89	83	82	**89**	**7**
Female	-	-	24	11	17	18	**11**	**-7**
Can't tell	-	-	0	0	0	0	**0**	**0**
Where Riding								
Road	55	62	76	74	62	82	**69**	**-13**
Footpath	45	38	24	26	38	18	**31**	**13**
Base:	***51***	***79***	***75***	***79***	***66***	***65***	***65***	

- Evening cycle movement volumes were low across the entire monitoring period, with no more than eight cyclists recorded during most ten minute intervals. The exception to this occurred between 6:00pm and 6:09pm where 10 cyclists were recorded. This small peak occurred during the same time interval last year.

Figure 8.3: Evening Peak Cyclist Frequency

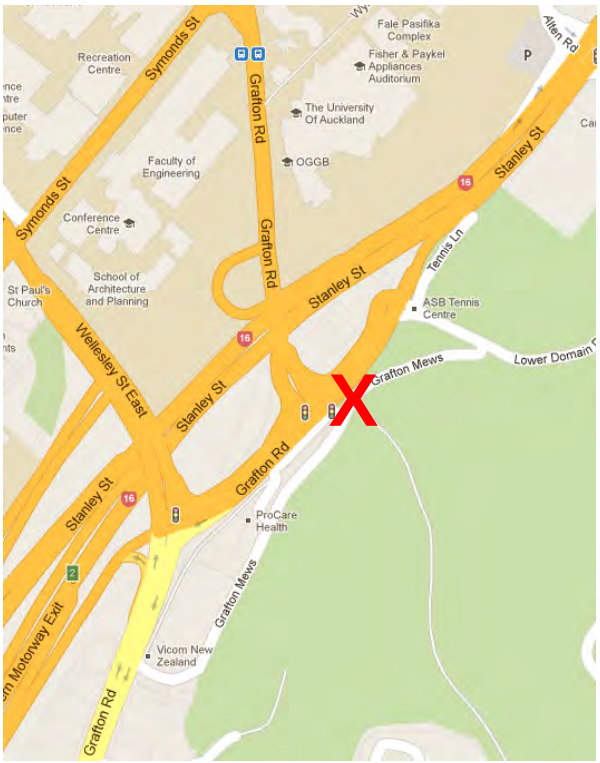
Jervois Road/Wallace Street 2009 – 2015 (n)

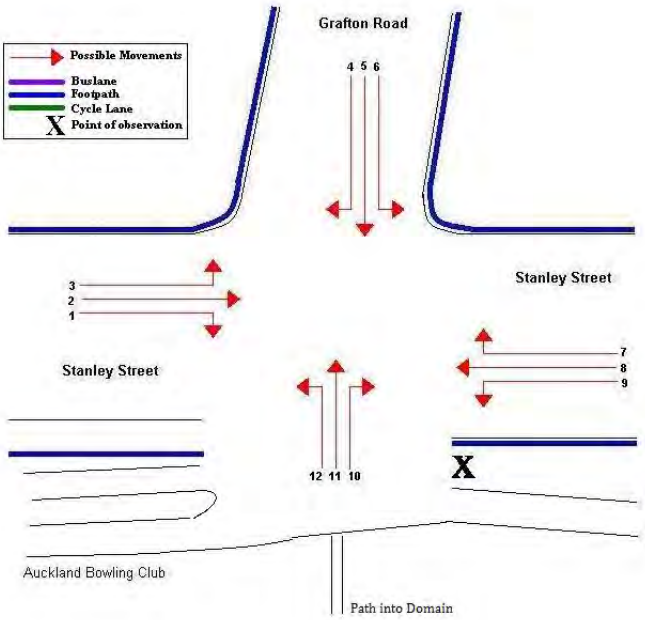


9. STANLEY STREET/GRAFTON ROAD, GRAFTON (SITE 75)

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
2013	55	62	117	170
2014	39	53	92	133
2015	**47**	**39**	**86**	**126**

9.2 Morning Peak

Environmental Conditions

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

Key Points

- The morning peak cycle volumes at the Stanley Street/Grafton Road site have increased this year (47 movements, up from 39 movements 12 months ago).
- The most common morning movements were travelling along Stanley Street towards the hospital (Movement 8 = 11 movements) and turning right from Stanley Street onto Grafton Road (Movement 7 = 10 movements).
- The most notable increase in cyclist volumes from 2014 was Movement 7 (up 7 movements).

Table 9.1: Morning Cyclist Movements

Stanley Street/Grafton Road 2008 – 2015 (n)

Movement	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
1	0	0	0	0	0	1	0	**0**	**0**
2	3	10	9	6	2	17	10	**6**	**-4**
3	1	1	1	1	1	3	0	**0**	**0**
4	0	0	0	0	0	2	2	**4**	**2**
5	0	0	1	0	0	0	0	**2**	**2**
6	1	1	0	1	1	1	2	**5**	**3**
7	8	11	9	8	20	11	3	**10**	**7**
8	9	13	16	5	10	14	11	**11**	**0**
9	2	3	0	4	1	0	2	**1**	**-1**
10	0	0	0	0	0	0	0	**0**	**0**
11	12	9	11	2	3	6	7	**7**	**0**
12	0	1	0	0	0	0	2	**1**	**-1**
Total	**36**	**49**	**47**	**27**	**38**	**55**	**39**	**47**	**8**

- Over the morning peak, all cyclists were adults (100 per cent, unchanged since 2008).
- The majority of cyclists were wearing a helmet (87 per cent, down from 97 per cent last year).
- Approximately 4 out of 5 cyclists were male (83 per cent, down from 72 per cent last year).
- Consistent since 2012, the greatest share of cyclists were travelling on the footpath (60 per cent, up from 54 per cent in 2014).

Table 9.2: Morning Cyclist Characteristics

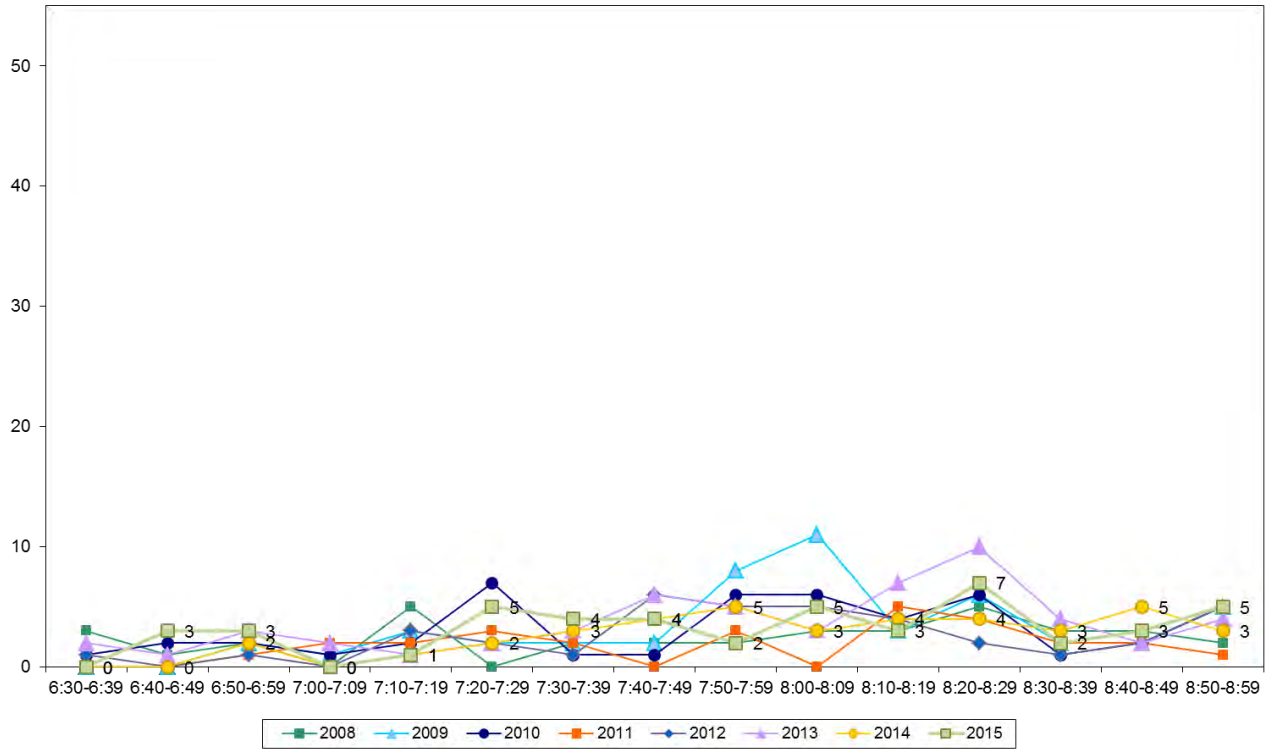
Stanley Street/Grafton Road 2008 – 2015 (%)

	2008	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type									
Adult	100	100	100	100	100	100	100	**100**	**0**
School child	0	0	0	0	0	0	0	**0**	**0**
Helmet Wearing									
Helmet on head	92	94	94	100	95	95	97	**87**	**-10**
No helmet	8	6	6	0	5	5	3	**13**	**10**
Gender									
Male	-	-	-	85	74	76	72	**83**	**11**
Female	-	-	-	15	24	22	28	**17**	**-11**
Can't tell	-	-	-	0	2	2	0	**0**	**0**
Where Riding									
Road	78	61	49	81	42	47	46	**40**	**-6**
Footpath	22	39	51	19	58	53	54	**60**	**6**
Base:	***36***	***49***	***47***	***27***	***38***	***55***	***39***	***47***	

- Morning cyclist movement volumes remained low throughout the morning period. No more than seven cyclists were recorded travelling through the site at any ten minute interval. Seven cyclists were recorded between 8:20am to 8:29am.

Figure 26.2: Morning Peak Cyclist Frequency

Stanley Street/Grafton Road 2008 – 2015 (n)



9.3 Evening Peak

Environmental Conditions

- The weather was sunny with some wind 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 decreased from last year (39 movements, down from 53 movements in 2014).
- The key movements in the evening were straight along Stanley Street in both directions (Movement 2 heading northwest = 9 movements, Movement 8 heading southeast = 8 movements)
- The most notable change in cyclist volume was turning left from Grafton Road onto Stanley Street heading southeast (Movement 6 = down 5 movements).

Table 9.3: Evening Cyclist Movements

Stanley Street/Grafton Road 2008 – 2015 (n)

Movement	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
1	0	0	0	0	1	0	1	**0**	**-1**
2	8	13	11	2	14	10	12	**9**	**-3**
3	3	0	1	2	0	1	0	**2**	**2**
4	1	1	1	2	3	6	0	**0**	**0**
5	3	8	7	2	4	9	6	**7**	**1**
6	4	5	8	10	10	9	12	**7**	**-5**
7	2	1	1	3	4	4	3	**2**	**-1**
8	2	12	15	11	11	14	12	**8**	**-4**
9	1	2	1	8	7	5	2	**0**	**-2**
10	4	2	0	4	2	1	3	**0**	**-3**
11	1	3	1	3	0	3	2	**3**	**1**
12	0	0	0	0	0	0	0	**1**	**1**
Total	**29**	**47**	**46**	**47**	**56**	**62**	**53**	**39**	**-14**

- Over the evening peak, the majority of cyclists using this site were adults (97 per cent, stable since 2008).
- Most cyclists at this site were wearing a helmet (87 per cent, down from 91 per cent 12 months ago).
- The majority of cyclists were male (85 per cent, up from 79 per cent last year).
- Sixty-nine per cent of cyclists were travelling on the footpath, a notable increase from 49 per cent in 2014. Consequently, the share of cyclists travelling on the road declined this year (28 per cent, down from 51 per cent last year).

Table 9.4: Evening Cyclist Characteristics

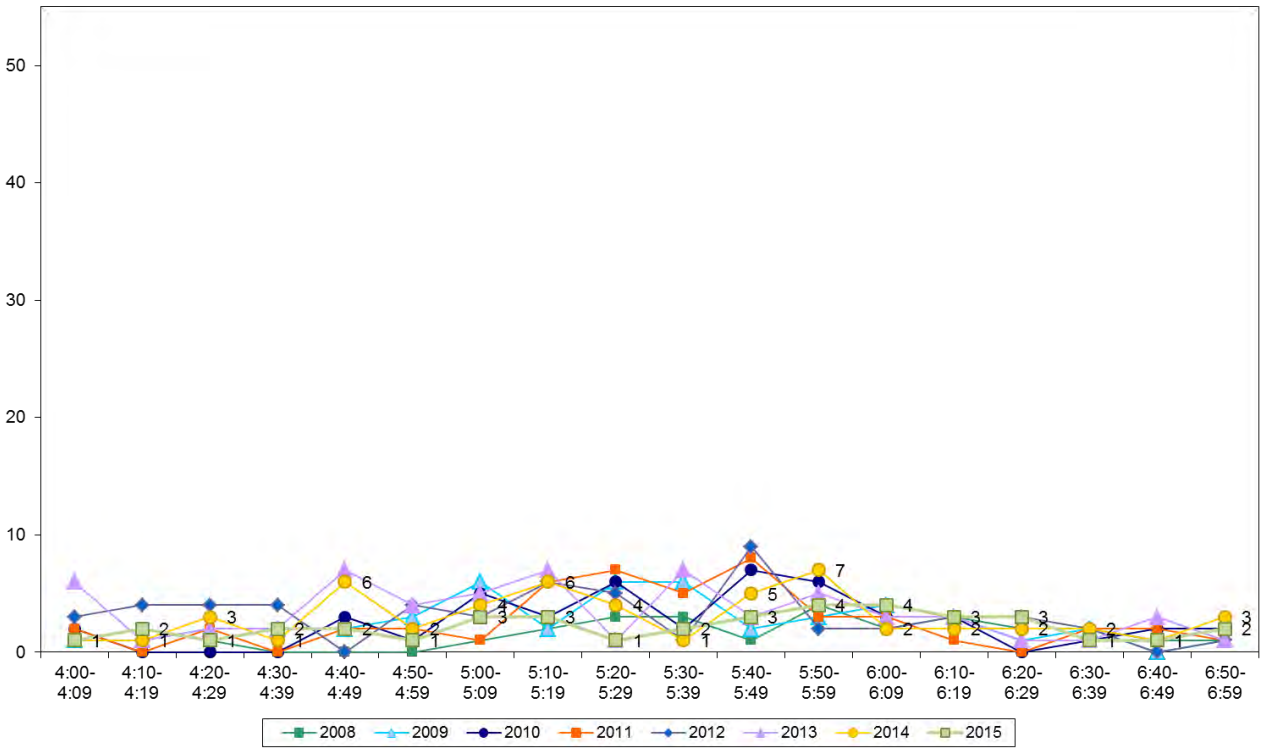
Stanley Street/Grafton Road 2008 – 2015 (%)

	2008	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type									
Adult	100	100	100	100	100	97	100	**97**	**-3**
School child	0	0	0	0	0	0	0	**3**	**3**
Can't tell	-	-	-	-	-	3	0	**0**	**0**
Helmet Wearing									
Helmet on head	93	96	89	91	91	95	91	**87**	**-4**
No helmet	7	4	11	9	9	5	9	**13**	**4**
Gender									
Male	-	-	-	85	77	82	79	**85**	**6**
Female	-	-	-	15	23	16	21	**15**	**-6**
Can't tell	-	-	-	0	0	2	0	**0**	**0**
Where Riding									
Road	66	36	57	64	56	58	51	**28**	**-23**
Footpath	34	64	43	36	44	42	49	**69**	**20**
Blank/Don't know	-	-	-	-	-	-	-	**3**	**3**
Base:	***29***	***47***	***46***	***47***	***56***	***62***	***53***	***39***	

- Consistent with previous years, evening cyclist volumes were low throughout the evening shift. No more than four cyclists were recorded at most ten minute intervals during the shift. Four cyclists were recorded during two consecutive time intervals between 5:50pm and 6:09pm.

Figure 9.3: Evening Peak Cyclist Frequency

Stanley Street/Grafton Road 2008 – 2015 (n)

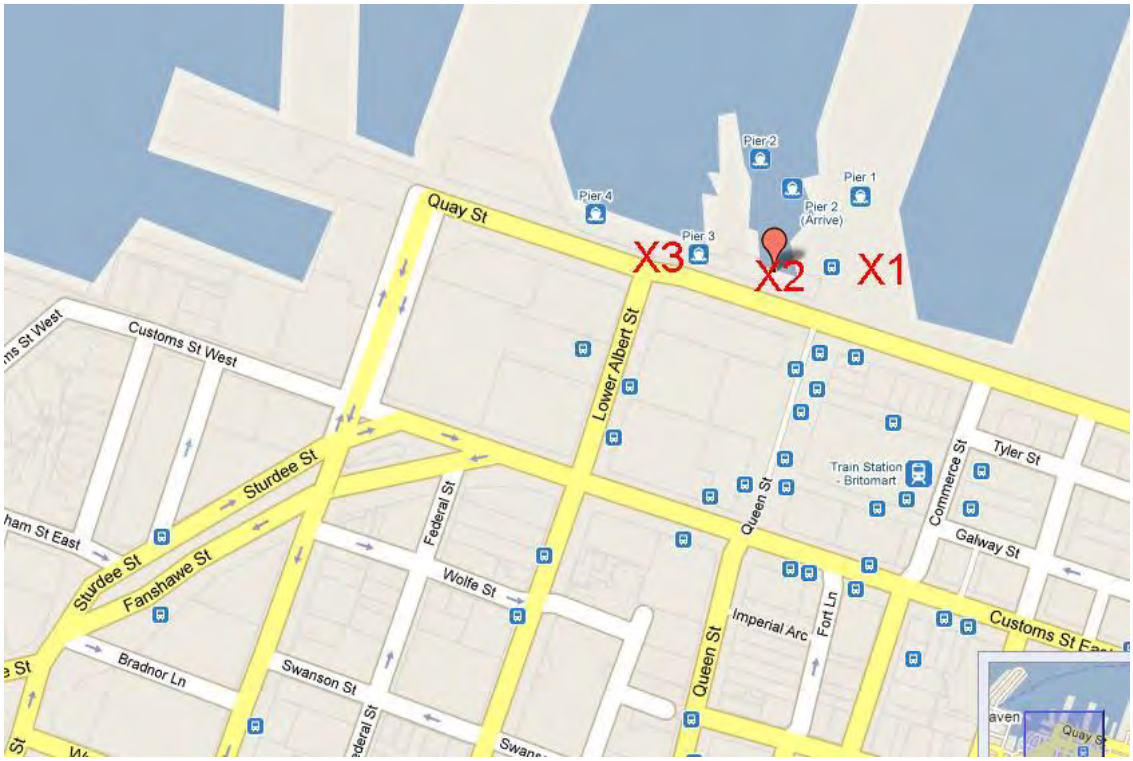


10. FERRY TERMINAL, AUCKLAND CENTRAL (SITE 22)

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
2013	205	212	417	606
2014	177	178	355	516
2015	**201**	**220**	**421**	**611**

10.2 Morning Peak

Environmental Conditions

- The weather was cloudy throughout the morning shift.
- There were no 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 (201 movements, up from 177 movements in 2014).
- Consistent with previous years, 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 (130 movements, up from 119 in 2014).
- The most notable changes occurred in cyclist movements at Pier Three (disembarking has increased by 14 movements) and Pier Two (disembarking has decreased by 7 movements).

Table 10.1: Morning Cyclist Movements

Ferry Terminal 2007 – 2015 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Pier One										
Boarding	18	11	10	24	14	15	14	20	**15**	**-5**
Disembarking	136	127	100	134	141	128	146	119	**130**	**11**
Pier Two										
Boarding	8	5	1	0	4	2	0	1	**2**	**1**
Disembarking	18	10	16	28	32	31	23	19	**12**	**-7**
Pier Three										
Boarding	0	0	1	0	0	3	0	0	**2**	**2**
Disembarking	4	3	3	8	8	5	7	7	**21**	**14**
Pier Four										
Boarding	0	0	4	0	1	1	2	2	**3**	**1**
Disembarking	11	2	2	4	5	4	13	9	**16**	**7**
Total	**195**	**158**	**137**	**198**	**205**	**189**	**205**	**177**	**201**	**24**

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

Pier 2 – departs for Waiheke Island (Fullers)

Pier 3 – departs for West Harbour, Pine Harbour, Coromandel and Waiheke (Explore Waiheke)

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. Since 2013, these services have departed from Pier 1. Also, the Hobsonville/Beachhaven service was first introduced in 2013.

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

Ferry	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Pier One								
Bayswater	-	-	-	-	7	4	**2**	**-2**
Birkenhead	-	-	-	-	0	1	**3**	**2**
Devonport	-	-	-	-	5	15	**10**	**-5**
Half Moon Bay	0	0	0	0	0	0	**0**	**0**
Don't know	-	-	-	-	2	0	**0**	**0**
Pier Two								
Waiheke (Fullers)	1	0	4	2	0	1	**2**	**1**
Pier Three								
Pine Harbour	0	0	0	0	0	0	**2**	**2**
West Harbour	1	0	0	0	0	0	**0**	**0**
Coromandel	-	-	-	3	0	0	-	**0**
Waiheke (Explore Waiheke)	-	-	-	-	-	-	**0**	**0**
Pier Four								
Gulf Harbour	0	0	0	0	0	0	**0**	**0**
Stanley Bay	4	0	1	1	1	1	**3**	**2**
Tiritiri Matangi Island	-	-	-	-	1	0	**0**	**0**
Hobsonville/Beachhaven	-	-	-	-	0	1	**0**	**-1**
Total	**6**	**0**	**5**	**6**	**16**	**23**	**22**	**-1**

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)

Ferry	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Pier One								
Bayswater	22	-	35	12	30	22	**36**	**14**
Birkenhead	34	-	28	14	27	20	**21**	**1**
Devonport	44	-	78	40	79	67	**55**	**-12**
Half Moon Bay	4	10	7	-	10	10	**16**	**6**
Don't know	-	-	-	62	0	0	**2**	**2**
Pier Two								
Waiheke (Fullers)	12	18	25	-	23	19	**12**	**-7**
Pier Three								
Pine Harbour	2	8	8	5	7	5	**5**	**0**
West Harbour	1	0	0	0	0	2	**3**	**1**
Waiheke (Explore Waiheke)	-	-	-	-	-	-	**13**	**13**
Pier Four								
Gulf Harbour	1	1	1	3	6	3	**4**	**1**
Stanley Bay	1	3	4	1	6	5	**11**	**6**
Hobsonville/Beachhaven	-	-	-	-	1	1	**1**	**0**
Total	**121**	**40**	**186**	**137**	**189**	**154**	**179**	**25**

- Almost all of the cyclists using this site in the morning were adults, stable since 2007.
- Sixty-six per cent of cyclists were wearing a helmet (down from 76 in 2014).
- The majority of cyclists were male (82 per cent, down from 87 per cent in 2014).

Table 10.3: Morning Cyclist Characteristics

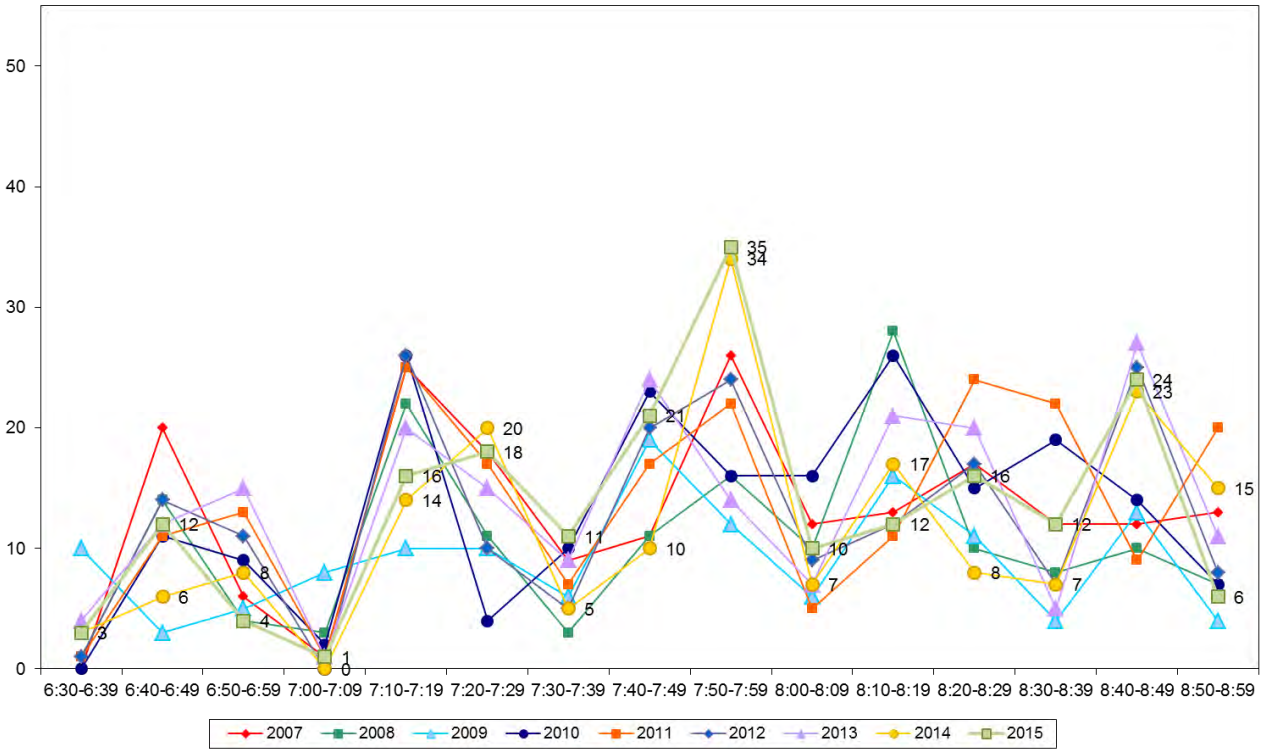
Ferry Terminal 2007 – 2015 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type										
Adult	98	96	100	99	98	99	100	100	**99**	**-1**
School child	2	4	0	1	2	1	0	0	**1**	**1**
Helmet Wearing										
Helmet on head	87	70	80	69	68	70	75	76	**66**	**-10**
No helmet	13	30	20	31	32	30	22	22	**34**	**12**
Unsure	-	-	-	-	-	-	3	2	**0**	**-2**
Gender										
Male	-	-	-	-	83	83	83	87	**82**	**-5**
Female	-	-	-	-	17	13	15	13	**16**	**3**
Can't tell	-	-	-	-	0	4	2	0	**2**	**2**
Base:	***195***	***158***	***137***	***198***	***205***	***189***	***205***	***177***	***201***	

- Morning cyclist volumes varied throughout the shift. The general trends were consistent with previous years. The most notable peak of cycle volume occurred between 7:50am and 7:59am with 35 cyclists recorded. This large peak was observed at the same time interval last year.

Figure 23.2: Morning Peak Cyclist Frequency

Ferry Terminal 2007 – 2015 (n)



10.3 Evening Peak

Environmental Conditions

- The weather was fine but partly cloudy 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 (220 movements, up from 178 in 2014).
- In contrast to the morning shift, the key movement in the evening was boarding the ferries at Pier One (130 movements, up from 120 in 2014).
- Compared with last year, the most notable changes were boarding the ferry at Pier Three (up 17 movements) and boarding at Pier One (up 10 movements).

Table 10.4: Evening Cyclist Movements

Ferry Terminal 2007 – 2015 (n)

Movement	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Pier One										
Boarding	131	122	88	137	135	128	141	120	**130**	**10**
Disembarking	15	13	5	25	15	22	20	19	**21**	**2**
Pier Two										
Boarding	7	15	10	21	19	32	27	21	**13**	**-8**
Disembarking	16	6	0	3	5	4	2	4	**6**	**2**
Pier Three										
Boarding	0	2	5	6	6	4	6	8	**25**	**17**
Disembarking	0	0	0	0	0	1	0	0	**4**	**4**
Pier Four										
Boarding	0	0	3	3	5	7	15	6	**14**	**8**
Disembarking	16	0	0	2	1	2	1	0	**7**	**7**
Total	**185**	**158**	**111**	**197**	**186**	**200**	**212**	**178**	**220**	**42**

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

Pier 2 – departs for Waiheke Island (Fullers)

Pier 3 – departs for West Harbour, Pine Harbour, Coromandel and Waiheke (Explore Waiheke)

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. Since 2013, these services have 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)

Ferry	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Pier One								
Bayswater	-	-	-	-	26	27	**27**	**0**
Birkenhead	-	-	-	-	29	21	**17**	**-4**
Devonport	-	-	-	-	76	64	**75**	**11**
Half Moon Bay	3	4	6	7	8	4	**10**	**6**
Don't know	-	-	-	-	2	4	**1**	**-3**
Pier Two								
Waiheke (Fullers)	7	17	13	25	27	21	**13**	**-8**
Pier Three								
Pine Harbour	4	6	6	4	6	7	**6**	**-1**
West Harbour	1	0	0	0	0	1	**2**	**1**
Waiheke (Explore Waiheke)	-	-	-	-	-	-	**17**	**17**
Pier Four								
Gulf Harbour	0	0	0	5	4	0	**2**	**2**
Stanley Bay	3	3	5	2	7	5	**11**	**6**
Hobsonville/Beachhaven	-	-	-	-	4	0	**1**	**1**
Don't know	-	-	-	-	-	1	**0**	**-1**
Total	**18**	**30**	**30**	**43**	**189**	**155**	**182**	**27**

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

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

Ferry	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Pier One								
Bayswater	0	-	0	0	3	4	**2**	**-2**
Birkenhead	0	-	2	0	1	2	**3**	**1**
Devonport	5	-	13	2	16	12	**11**	**-1**
Half Moon Bay	0	0	0	-	0	0	**0**	**0**
Don't know	-	-	-	20	0	1	**5**	**4**
Pier Two								
Waiheke (Fullers)	0	3	5	-	2	4	**6**	**2**
Pier Three								
Pine Harbour	0	0	0	1	0	0	**0**	**0**
West Harbour	0	0	0	0	0	0	**0**	**0**
Waiheke (Explore Waiheke)	-	-	-	-	-	-	**4**	**4**
Pier Four								
Gulf Harbour	0	1	0	0	0	0	**0**	**0**
Stanley Bay	0	1	1	2	1	0	**7**	**7**
Hobsonville/Beachhaven	-	-	-	-	0	0	**0**	**0**
Total	**5**	**5**	**21**	**25**	**23**	**23**	**38**	**15**

- Over the evening peak, almost all cyclists using this site were adults (99 per cent, stable from 2007).
- Thirty-four per cent of cyclists were not wearing a helmet (a notable 22 percentage point increase from 2014, and the highest proportion recorded since the first monitor in 2007).
- Twenty-seven per cent of cyclists were female, the highest proportion recorded since 2011.

Table 10.6: Evening Cyclist Characteristics

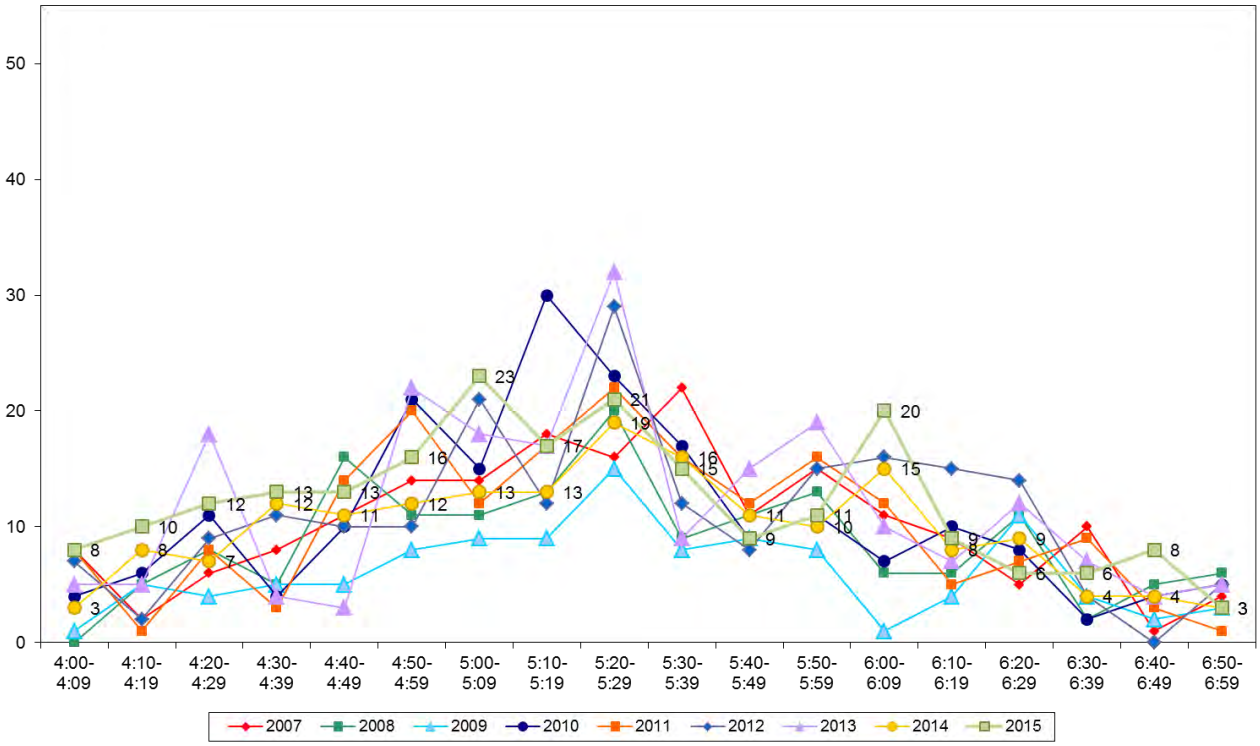
Ferry Terminal 2007 – 2015 (%)

	2007	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type										
Adult	99	98	100	100	98	99	100	99	**99**	**0**
School child	1	2	0	0	2	1	0	1	**0**	**-1**
Blank/Don't know	-	-	-	-	-	-	-	-	**1**	**1**
Helmet Wearing										
Helmet on head	85	69	80	71	68	72	74	88	**66**	**-22**
No helmet	15	31	20	29	32	28	26	12	**34**	**22**
Gender										
Male	-	-	-	-	83	87	85	87	**69**	**-18**
Female	-	-	-	-	17	13	15	13	**27**	**14**
Can't tell	-	-	-	-	0	0	0	0	**4**	**4**
Base:	***185***	***158***	***111***	***198***	***186***	***200***	***212***	***178***	***220***	

- Evening cyclist movement volumes vary throughout the shift, steadily increasing from the beginning of the shift and peaking between 5:00pm and 5:09pm (23 movements). This pattern was consistent with previous years.

Figure 10.6: Evening Peak Cyclist Frequency

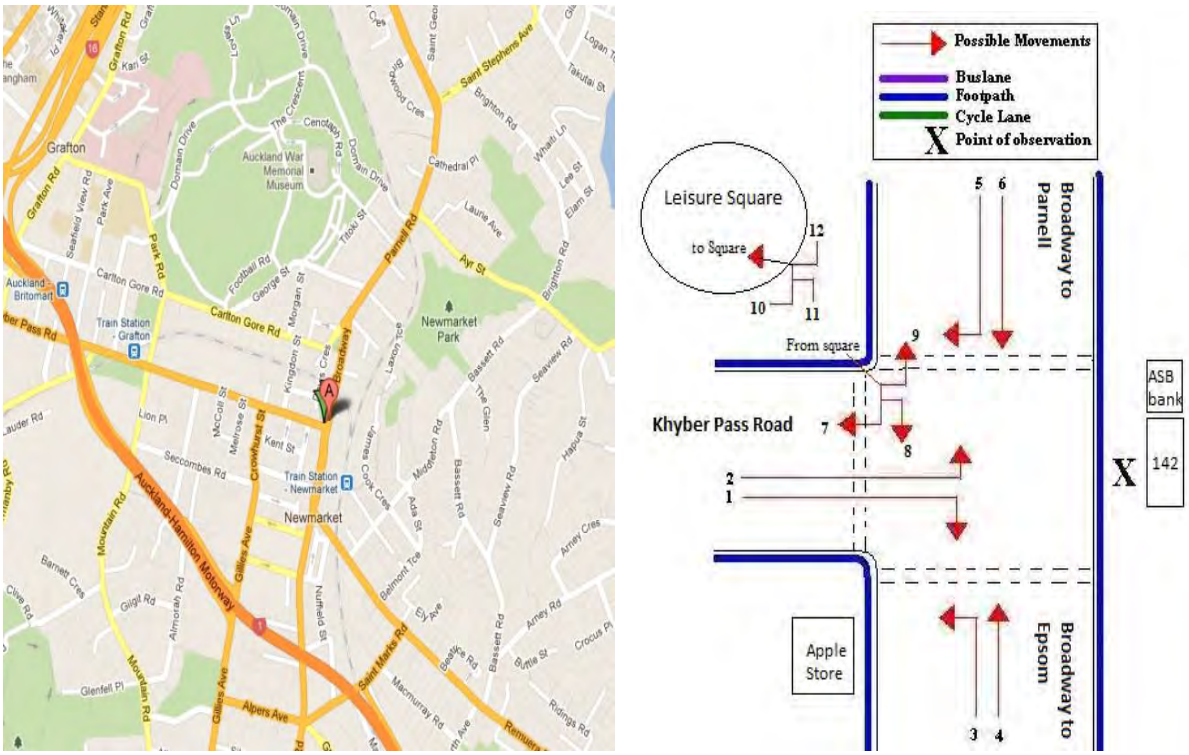
Ferry Terminal 2007 – 2015 (n)



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
2013	322	315	637	927
2014	255	265	523	759
2015	**294**	**331**	**625**	**906**

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 (294 movements, up from 255 last year).
- The key morning movements were heading north on Broadway (Movement 4 = 104 movements) and going in the opposite direction (Movement 6 = 91 movements).
- Cyclist traffic has increased most notably at Movement 4 (travelling straight along Broadway, towards Parnell), 104 movements, up from 78 movements last year, while the most notable decrease was observed at Movement 11 (cyclists exiting Leisure Square and heading towards Epsom; 23 movements, down 27 cyclists from last year).

Table 11.1: Morning Cyclist Movements

Broadway/Khyber Pass Road 2012 – 2015 (n)

Movement	*2012*	*2013*	*2014*	*2015*	Change 14-15
1	64	33	14	**26**	**12**
2	2	6	6	**6**	**0**
3	23	32	35	**32**	**-3**
4	81	105	78	**104**	**26**
5	4	3	1	**8**	**7**
6	76	91	63	**91**	**18**
7	0	0	0	**0**	**0**
8	1	8	4	**3**	**-1**
9	1	1	1	**0**	**-1**
10	1	1	1	**1**	**0**
11	36	42	50	**23**	**-27**
12	3	0	2	**0**	**-2**
Total	**292**	**322**	**255**	**294**	**39**

- Over the morning peak, the majority of cyclists were adults (98 per cent, stable since 2012).
- Almost all cyclists were wearing a helmet (97 per cent, stable since 2012).
- Approximately four out of five cyclists were male (81 per cent, stable from 83 per cent in 2014).
- Almost all cyclists were riding on the road (97 per cent, unchanged from last year).

Table 11.2: Morning Cyclist Characteristics

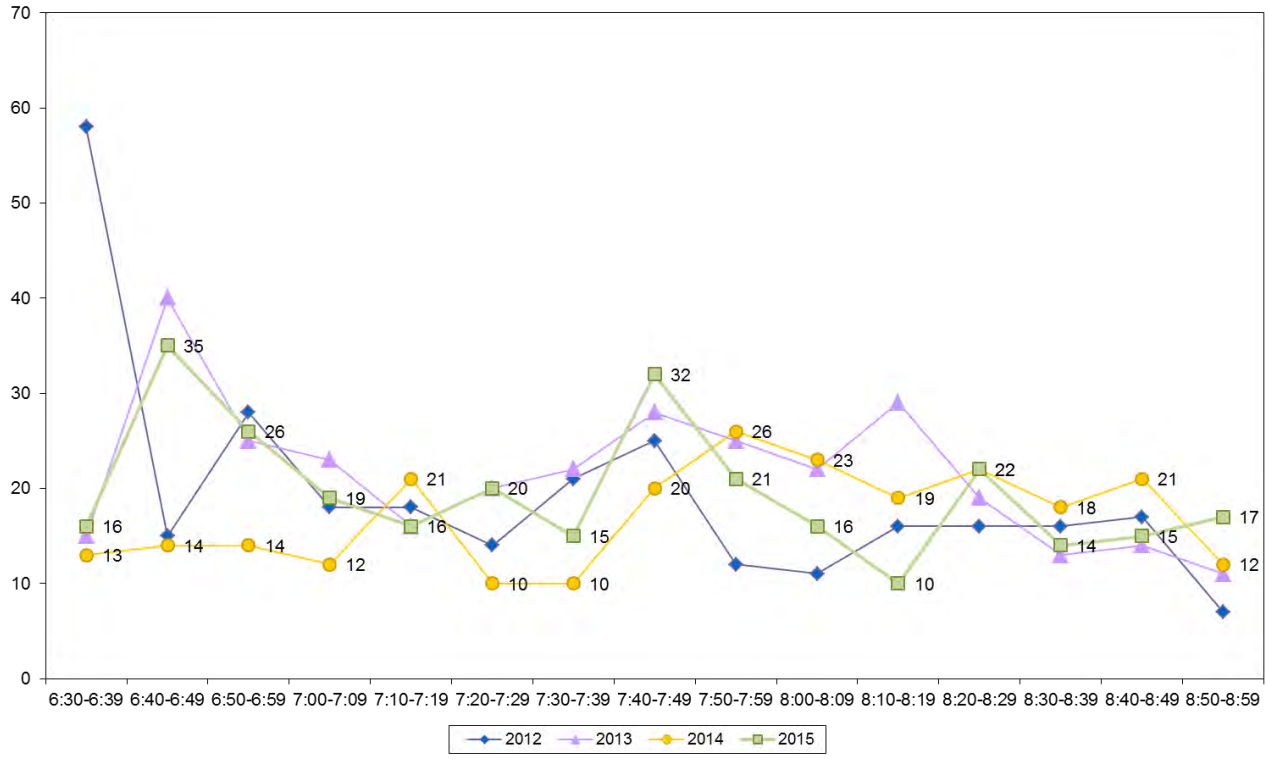
Broadway/Khyber Pass Road 2012 – 2015 (%)

	2012	*2013*	*2014*	*2015*	Change 14-15
Cyclist Type					
Adult	98	95	99	**98**	**-1**
School child	2	5	1	**2**	**1**
Helmet Wearing					
Helmet on head	98	98	96	**97**	**1**
No helmet	2	2	4	**2**	**-2**
Blank/Don't know	-	-	-	**1**	**1**
Gender					
Male	67	80	83	**81**	**-2**
Female	11	19	15	**19**	**4**
Can't tell	22	1	2	**0**	**-2**
Where Riding					
Road	95	93	97	**97**	**0**
Footpath	5	7	3	**3**	**0**
Base:	***292***	***322***	***255***	***294***	

- Morning cyclist volumes reached a sharp peak near the start of the monitoring period, between 6:40am and 6:49am (35 movements). Cycle volumes then declined gradually for the first half of the shift, but did not fall below 15 movements. A second smaller peak was observed between 7:40am and 7:49am (32 movements). Following this peak, volumes declined gradually, reaching this site's lowest volume of 10 movements between 8:10am and 8:19am.

Figure 11.2: Morning Peak Cyclist Frequency

Broadway/Khyber Pass Road 2012 – 2015 (n)



Note: In 2015, seven per cent of the total cycle movements (n=22) in the morning peak were identified as cycling in groups. Three or more cyclists were observed travelling in groups at this site at the following times:

- *10 cyclists at 6:40am*
- *4 cyclists at 6:44am*
- *4 cyclists at 6:48am*
- *4 cyclists at 6:50am.*

This compares with six per cent (n=15) in 2014 and 5 per cent of cyclists (n=15) riding as groups in 2013.

11.3 Evening Peak

Environmental Conditions

- The weather was fine at the start, turning cloudy over the course of 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 this year (331 movements, compared with 268 last year).
- Consistent with previous years, the key morning movements were heading south on Broadway (Movement 6 = 100 movements), turning right from Khyber Pass onto Broadway (Movement 1 = 88 movements) and north along Broadway (Movement 4 = 56 movements).
- Movement 1 and Movement 8 recorded the most notable increases over the last twelve months (up 26 and 22 movements respectively).
- The most notable decrease occurred at Movement 11 (down 7 movements).

Table 11.3: Evening Cyclist Movements

Broadway/Khyber Pass Road 2012 – 2015 (n)

Movement	*2012*	*2013*	*2014*	*2015*	Change 14-15
1	55	75	62	**88**	**26**
2	12	11	4	**9**	**5**
3	11	12	9	**23**	**14**
4	53	52	50	**56**	**6**
5	8	3	7	**5**	**-2**
6	100	123	94	**100**	**6**
7	1	0	2	**0**	**-2**
8	36	26	20	**42**	**22**
9	0	0	0	**0**	**0**
10	2	1	4	**0**	**-4**
11	7	10	15	**8**	**-7**
12	0	0	1	**0**	**-1**
Don't know	0	2	0	**0**	**0**
Total	**285**	**315**	**268**	**331**	**63**

- Over the evening peak, the majority of cyclists were adults (98 per cent, stable from 96 last year).
- Almost all cyclists were wearing a helmet (96 per cent, stable since 2012).
- Eighty-three per cent of the cyclists were male (stable from 2012).
- The majority of cyclists were riding on the road (93 per cent). The share of cyclists travelling on the footpath decreased by 13 percentage points compared to last year (6 per cent this year).

Table 11.4: Evening Cyclist Characteristics

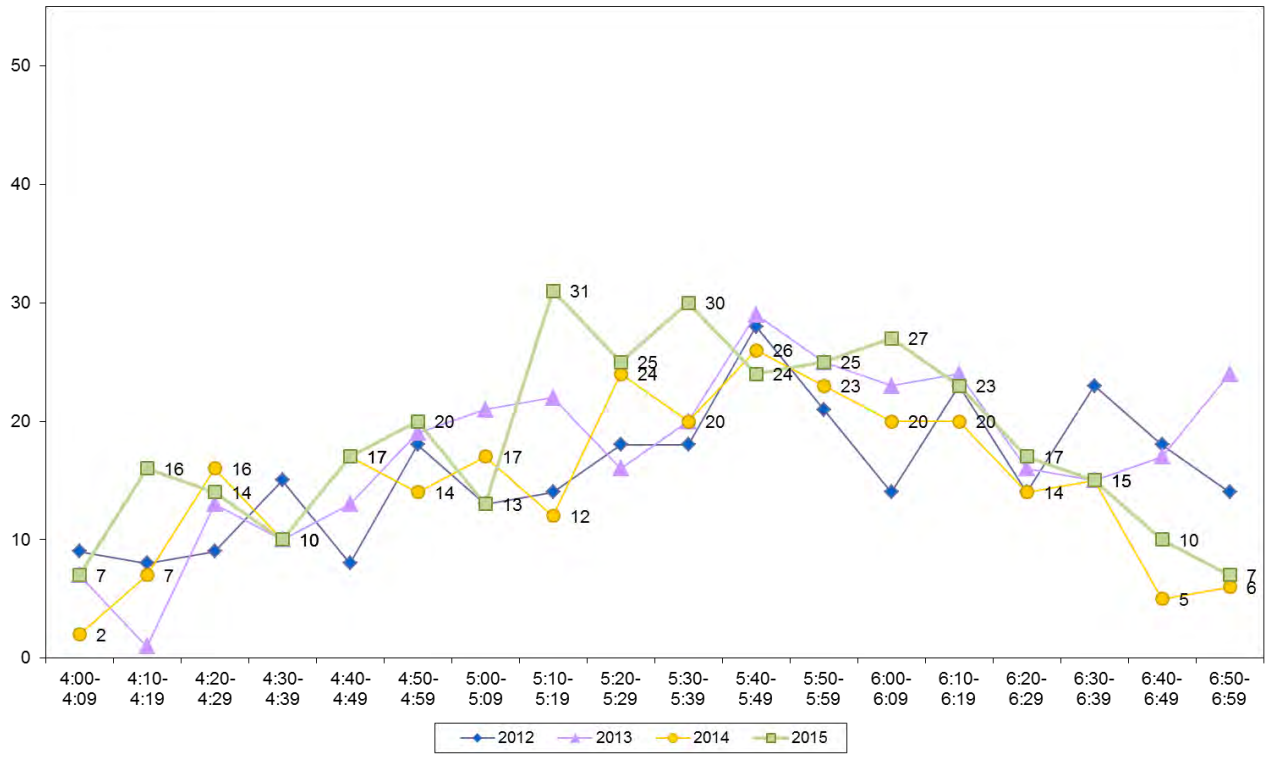
Broadway/Khyber Pass Road 2012 – 2015 (%)

	2012	***2013***	***2014***	***2015***	**Change 14-15**
Cyclist Type					
Adult	95	93	96	**98**	**2**
School child	5	7	4	**2**	**-2**
Helmet Wearing					
Helmet on head	95	95	95	**96**	**1**
No helmet	5	5	4	**4**	**0**
Don't know	0	0	1	**0**	**-1**
Gender					
Male	81	80	82	**83**	**1**
Female	14	19	17	**16**	**-1**
Can't tell	5	1	1	**1**	**0**
Where Riding					
Road	93	91	80	**93**	**13**
Footpath	7	8	19	**6**	**-13**
Can't tell	-	1	1	**1**	**0**
Base:	***285***	***315***	***268***	***331***	

- Evening cyclist volumes increased inconsistently for the majority of the shift. A peak was observed between 5:10pm and 5:19pm (31 movements). Following this peak, cycle volumes declined, but remained high for an hour. Cycle volumes began to drop notably from 6:20pm onward. These trends are similar to those of the past two years.

Figure 11.3: Evening Peak Cyclist Frequency

Broadway/Khyber Pass Road 2012 – 2015 (n)



Note: No cyclists rode past the site in groups this year. This compares with six cyclists (2 per cent of all evening peak cycle movements at this site) in 2014.

12. WAITEMATA AND GULF FERRY WHARVES

Environmental Conditions

- Stationary cycle counts at various ferry wharves were conducted on Wednesday 4th March 2015 (the same day as the cycle counts in the Waitemata and Gulf ward).
- There were no road works or incidents that may affect cycle counts.

Downtown Ferry Terminal - Key Points

- In the morning, 26 cycles were observed at the Downtown Ferry Terminal at 6:10am and at 9:10am.
- In the afternoon, 37 cycles were recorded at the Downtown Ferry Terminal at 3:30pm and 32 were observed at 7:10pm.

Note: Observation of stationary cycles at the Downtown Ferry Terminal was conducted for the first time in 2014.

Table 10.1: Downtown Ferry Terminal Cycle Counts (n)

	2014	*2015*	Change 14-15
Morning Peak			
6:10am	**18**	**26**	**8**
9:10am	**17**	**26**	**9**
Evening Peak			
3:30pm	**19**	**37**	**18**
7:10pm	**23**	**32**	**9**

Matiatia Ferry Terminal - Key Points

- In 2015, 16 bicycles were recorded in the morning at the Matiatia ferry terminal. This suggests 16 passengers cycled to the ferry terminal and parked their cycles there. This compares with six cycles last year.

Note: Observation of stationary cycles at Matiatia Ferry Wharf was conducted for the first time in 2014. In 2015, a single count was undertaken by Auckland Transport some time during the morning peak (6:30am – 9:00am).

Table 10.3: Matiatia Ferry Wharf Cycle Count (n)

	2014	*2015*	Change 14-15
Matiatia	**6**	**16**	**10**

13. SCHOOL BIKE SHED COUNT

13.1 Cycle Count Background Information

- A total of 8 schools in the Waitemata and Gulf ward took part in the school bike shed count.
- Half of the schools in the Waitemata and Gulf ward reported policies that restrict students cycling to school[9].
- Most schools did not report any events or issues that may affect cycle counts[10].
- Although the designated count day was Tuesday 3rd of March 2015, five schools in the Waitemata and Gulf ward completed their count on an alternative day[11].

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

13.2 Cycle Count Key Points

- Of those eligible to cycle, on average one per cent of students are cycling to their schools. This share is down from two per cent in 2014.
- Across the 8 eligible schools that responded, n=32 students were reported to cycle to school.
- Waiheke High School reported the highest share of cyclists, 4 per cent of all eligible students currently cycling.
- Of the 7 schools that participated in the count in both 2014 and 2015, two schools (29 per cent) reported an increase in the share of students cycling to school.
- Of the 7 schools that participated in the count in both 2014 and 2015, 3 (43 per cent) reported a decrease in the share of students cycling.
- Five schools (63 per cent) had no students cycling to school.

Table 13.1 shows the results of the 8 schools surveyed in the Waitemata and Gulf ward.

[9] The following schools had policies surrounding cycling to school:
- ACG Parnell College *"Year 7 to Year 13"*
- Mulberry Grove School *"10 years old and up can cycle. We do a bike safety check with local police and they must wear helmets etc. It's roughly Years 5-8"*
- Okiwi School *"Senior students only (Years 5-8)"*
- Parnell School *"Years 5-8"*

[10] The following school reported an event or issue that had an effect on the cycle count:
- Waiheke High School *"Some senior students away on a camp. Could possibly be down by 1 or 2"*

[11] The following schools undertook counts on alternative days:
- Auckland Girls' Grammar School – 4th March 2015
- Kaitoke School (Claris) – 6th March 2015
- Mulbrery Grove School – 9th March 2015
- Okiwi School – 9th March 2015
- St Joseph's School (Grey Lynn) – 19th March 2015

Table 13.1 shows the results of the 8 schools surveyed in the Waitemata and Gulf ward.

Table 13.1: Summary Table of School Bike Count

2007 – 2015 (n)

School Name	*School Type*	*School Roll Eligible To Cycle*	*No. of Cycles Counted*	*Cyclists as share of those eligible*[12]								
				2015	*2014*	*2013*	*2012*	*2011*	*2010*	*2009*	*2008*	*2007*
Waiheke High School	Intermediate/Secondary	540	23	**4%**	5%	4%	6%	4%	4%	3%	2%	3%
Parnell District School	Full Primary	198	3	**2%**	<1%	2%	3%	1%	-	-	-	-
ACG Parnell College	Composite	750	6	**1%**	<1%	<1%	-	1%	1%	-	0%	-
Auckland Girls' Grammer School	Secondary	1374	0	**0%**	0%	0%	<1%	<1%	0%	0%	0%	<1%
Kaitoke School (Claris)	Full Primary	31	0	**0%**	0%	8%	-	-	-	-	-	-
Mulberry Grove School	Full Primary	10	0	**0%**	-	8%	0%	-	-	-	-	-
Okiwi School	Full Primary	20	0	**0%**	29%	26%	-	-	-	-	-	-
St Joseph's School (Grey Lynn)	Full Primary	252	0	**0%**	2%	0%	-	0%	-	-	-	-
Total		**3175**	**32**	**1%**	**2%**	**2%**	**2%**	**2%**	**-**	**-**	**-**	**-**

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

Table 13.2 illustrates the rates of cycling to school at different school levels. Rates of cycling to school are highest among intermediate/secondary schools (4 per cent, up from 1 per cent in 2014).

Table 13.2: Summary Table of School Bike Count by School Type

2007 – 2015 (%)

Year Levels	***Number of Schools Responded in 2015***	***Cyclists as share of those eligible***									
		2007	***2008***	***2009***	***2010***	***2011***	***2012***	***2013***	***2014***	***2015***	**Change 14-15**
Intermediate/Secondary	1	-	-	0%	0%	0%	2%	1%	1%	**4%**	**3%**
Full Primary	5	-	-	-	-	2%	3%	3%	3%	**1%**	**-2%**
Composite	1	-	0%	-	1%	1%	3%	<1%	<1%	**1%**	**<1%**
Secondary	1	2%	1%	2%	2%	2%	2%	2%	2%	**0%**	**-2%**
Intermediate	-	6%	4%	5%	6%	5%	4%	5%	5%	**-**	**-**

13.3 Scooter Count Background Information

- A total of 7 schools in the Waitemata and Gulf ward participated in the school bike shed scooter count. Of the schools that responded to the survey, no school had any policies that restrict students scooting to school.
- No schools reported an event or issue that may affect the scooter counts.
- The designated count day was Tuesday 3rd of March 2015[13].

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

13.4 Scooter Count Key Points

- Among the surveyed schools, of those eligible to scooter, on average, two per cent of students are scooting to their schools. This share is up from less than one per cent in 2014.
- Parnell District School reported the highest share of scooters, eight per cent of all eligible students currently scooting to school. This share has notably increased from two per cent in 2014.
- In total, n=48 students from the responding schools were reported to be scooting to school.
- Of the 7 schools that responded, 4 (57 per cent) had no students scooting to school.
- Of the 6 schools that participated in the count in both 2014 and 2015, 3 (50 per cent) reported an increase in the share of students scooting to school. The most notable increases were Parnell District School (8%, up from 2% in 2014) and St Joseph's School (Grey Lynn) (4%, up from 0% in 2014).

[13] The following schools undertook counts on alternative days:
- Auckland Girls' Grammar School – 4th March 2015
- Kaitoke School (Claris) – 6th March 2015
- Mulbrery Grove School – 9th March 2015
- Okiwi School – 9th March 2015
- St Joseph's School (Grey Lynn) – 19th March 2015

Table 13.3 shows the results of the 7 schools surveyed in the Waitemata and Gulf ward.

Table 13.3: Summary Table of School Scooter Count

2014 – 2015 (n)

School Name	*School Type*	*School Roll Eligible To Scooter*	*No. of Scooters Counted*	*Scooters as share of those eligible*[14]	
				2015	*2014*
Parnell District School	Full Primary	463	38	**8%**	2%
St Joseph's School (Grey Lynn)	Full Primary	68	3	**4%**	0%
ACG Parnell College	Composite	870	7	**1%**	<1%
Auckland Girls' Grammer School	Secondary	1374	0	**0%**	0%
Kaitoke School (Claris)	Full Primary	31	0	**0%**	0%
Okiwi School	Full Primary	33	0	**0%**	0%
Mulberry Grove School	Full Primary	29	0	**0%**	-
Total		**2868**	**48**	**2%**	<1%

[14] This share is calculated by averaging the number of scooters counted over the total number of students eligible to scooter. The figure obtained is rounded to zero decimal places.

Table 13.4 illustrates the rates of scooting to school at different school levels. Rates of scooting to school are highest for the full primary schools (7 per cent, up from 2 per cent in 2014).

Table 13.4: Summary Table of School Scooter Count by School Type

2014 – 2015 (%)

School Type	*Number of Schools Responded in 2015 (n)*	*Scooter riders as share of those eligible*		Change
		2014	*2015*	14-15
Full Primary	5	**2%**	**7%**	**5%%**
Composite	1	**<1%**	**1%**	**<1%**
Secondary	1	**0%**	**0%**	**0%**
Intermediate	-	**0%**	**-**	**-**
Intermediate/Secondary	-	**<1%**	**-**	**-**

APPENDICES

Appendix One: Annual Average Daily Traffic (AADT) Calculation

APPENDIX ONE: ANNUAL AVERAGE DAILY TRAFFIC (AADT) CALCULATION

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

Purpose

The purpose of this appendix is to document the recommended procedure for estimating a cycling AADT[15] 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)[16], 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.

[15] Annual average daily traffic

[16] LTSA, 2004

For the Gravitas counts, the following factors apply:

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

D = 14%

W = 0.9

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

These can be combined as a single multiplier to convert the manual count to an AADT estimate as follows:

	Morning	Afternoon
Dry weather	**3.06**	**2.78**
Wet weather	**4.78**	**4.35**

Worked Example

If morning and afternoon manual traffic counts are available at a site, the AADT can be calculated using the count summaries for each period. For example, a morning survey of 102 and an afternoon survey of 130 are suggested. It is assumed for this example that the weather was fine in both surveys.

- Thus the AADT from the morning survey is estimated as 3.06 x 102 = 312.
- The AADT from the afternoon survey is estimated as 2.78 x 130 = 359.
- The average of these two estimates is 335; this is the estimate of AADT for this site, based on the two surveys.

Figure 1: Scale Factors for Auckland Region

Period Starting	Period Ending	Interval (hours)	$H_{Weekday}$ Mon to Fri	$H_{Weekend}$ Sat & Sun
0:00	6:30	6.50	5.5%	1.8%
6:30	6:45	0.25	2.3%	0.8%
6:45	7:00	0.25	2.6%	1.5%
7:00	7:15	0.25	3.2%	1.4%
7:15	7:30	0.25	3.7%	2.1%
7:30	7:45	0.25	3.8%	2.8%
7:45	8:00	0.25	4.0%	3.3%
8:00	8:15	0.25	3.9%	3.2%
8:15	8:30	0.25	3.1%	3.8%
8:30	8:45	0.25	2.3%	3.5%
8:45	9:00	0.25	1.3%	3.5%
9:00	10:00	1.00	4.2%	13.6%
10:00	11:00	1.00	3.4%	11.6%
11:00	12:00	1.00	2.6%	9.1%
12:00	13:00	1.00	2.7%	6.6%
13:00	14:00	1.00	2.7%	5.0%
14:00	14:15	0.25	0.7%	1.9%
14:15	14:30	0.25	0.7%	1.3%
14:30	14:45	0.25	0.6%	1.3%
14:45	15:00	0.25	0.6%	1.2%
15:00	15:15	0.25	0.8%	1.1%
15:15	15:30	0.25	1.0%	0.9%
15:30	15:45	0.25	1.3%	1.4%
15:45	16:00	0.25	1.2%	1.3%
16:00	16:15	0.25	2.1%	1.0%
16:15	16:30	0.25	2.3%	1.7%
16:30	16:45	0.25	2.1%	1.0%
16:45	17:00	0.25	2.5%	1.2%
17:00	17:15	0.25	3.3%	1.2%
17:15	17:30	0.25	3.7%	1.2%
17:30	17:45	0.25	4.0%	1.1%
17:45	18:00	0.25	3.2%	1.1%
18:00	18:15	0.25	3.0%	0.9%
18:15	18:30	0.25	2.7%	0.7%
18:30	18:45	0.25	2.4%	0.8%
18:45	19:00	0.25	2.1%	0.6%
19:00	20:00	1.00	5.6%	2.0%
20:00	0:00	4.00	3.0%	1.5%
		24.00	100.0%	100.0%

Day	D
Monday	14%
Tuesday	14%
Wednesday	14%
Thursday	14%
Friday	14%
Saturday	14%
Sunday	16%

Period	W
Summer holidays	1.0
Term 1	0.9
April holidays	1.0
Term 2	1.0
July holidays	1.2
Term 3	1.1
Sep/Oct holidays	1.2
Term 4	1.0

Weather	R
Fine	100%
Rain	64%