MONITORING REPORT

Prepared For Regional Cycle Monitoring Working Group
(Co-ordinated by Auckland Regional Transport Authority)

MANUAL CYCLE MONITORING IN THE AUCKLAND REGION

March 2009

Auckland City

Prepared by Gravitas Research and Strategy Limited

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1.1 Introduction

The Need For Reliable Cycle Trip Data

Monitoring cycle trips and cycle traffic is important to the Auckland Regional Transport Authority (ARTA) and the local councils in the Auckland region, to identify where investment may be needed to improve infrastructure for cycling. Cycle traffic data will also help ARTA prioritise future funding through the Auckland Land Transport Programme[1].

Cycle traffic data will help inform a major programme of improvements for cycling in the Auckland region – over $100 million is planned to be invested in building over 50% of the Regional Cycle Network over the next nine years. Comprehensive cycle data assists with the development of the region's cycle network and prioritization of projects.

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 councils to track progress against a quality baseline over the coming decade.

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

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. 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 27 sites across the Auckland region following a standardised methodology. Results are presented site-by-site, as well as being aggregated to a TA and region level. For sites also monitored in 2007 and 2008, comparative results are provided.

Important Note: This report provides the results of manual cycle monitoring conducted at 27 pre-determined sites in Auckland city only. Site-by-site results and city/district summaries for all other Auckland region Territorial Authorities 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.

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

1.2 Methodology

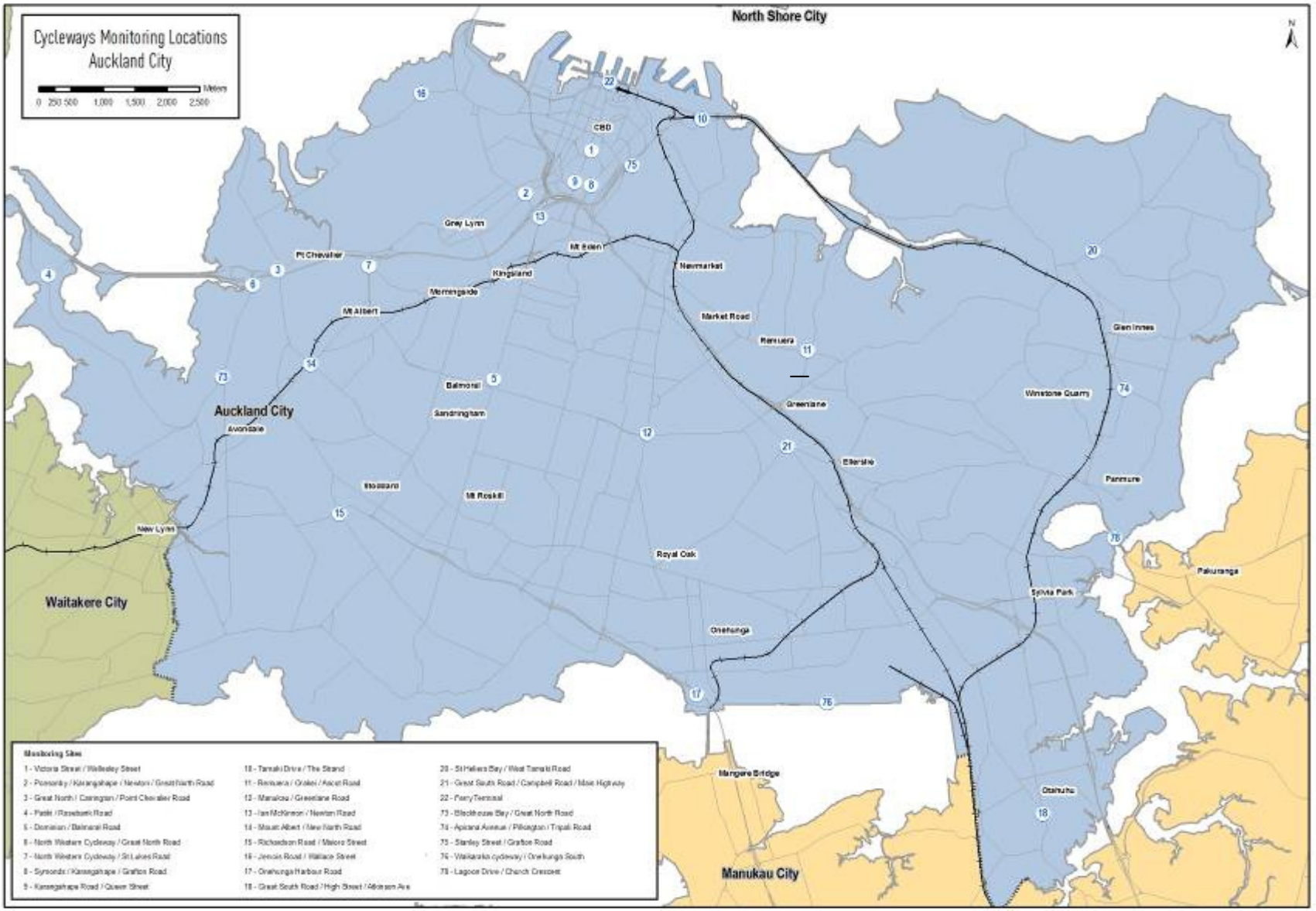
Manual cycle counts have been conducted using a standardised methodology across all sites. This methodology is outlined below. *Note: To ensure the longitudinal comparability of its cycle data, Gravitas have conducted the regional monitoring using a similar approach to that used to collect manual count data for Auckland City Council between 2001 and 2006.*

Choice Of Sites

Decisions as to which sites were chosen for cycle counts were guided by each respective TA, keeping in mind the planned developments for the Regional Cycle Network. In choosing their sites, TAs were strongly recommended to consider sites that could be retained over time as this will allow for the most accurate longitudinal assessment of change in cycle numbers.

Manual counts were undertaken at 83 different sites throughout the region. Sites were distributed throughout the region as follows:

- Auckland City — n=27 sites (12 sites monitored since 2001; 10 sites added in 2007; 5 sites added in 2008; 3 sites relocated, one site dropped and one site added in 2009)
- Manukau City — n=14 sites (12 sites monitored since 2007; 1 site added in 2008; one site relocated, 2 sites dropped and 3 sites added in 2009)
- Waitakere City — n=14 sites (11 sites monitored since 2007; 2 sites added in 2008; 1 site added in 2009)
- North Shore City — n=13
- Rodney District — n=8 (5 sites monitored since 2007; 3 sites added in 2009)
- Franklin District — n=4 (3 sites monitored since 2007; 1 site added in 2009)
- Papakura District — n=3


Cycleways Monitoring Locations
Auckland City
Meters
0 250 500 1,000 1,500 2,000 2,500
North Shore City
CBD
Grey Lynn
Pt Chevalier
Mt Eden
Newmarket
Kingsland
Morningside
Mt Albert
Market Road
Remuera
Glen Innes
Balmoral
Sandringham
Auckland City
Greenlane
Winstone Quarry
Avondale
Ellerslie
Panmure
Mt Roskill
Waitakere City
New Lynn
Royal Oak
Pakuranga
Sylvia Park
Onehunga
Mangere Bridge
Manukau City
Otahuhu
Monitoring Sites
1 - Victoria Street / Wellesley Street
2 - Ponsonby / Karangahape / Newton / Great North Road
3 - Great North / Carrington / Point Chevalier Road
4 - Pasiki / Rosebank Road
5 - Dominion / Balmoral Road
6 - North Western Cycleway / Great North Road
7 - North Western Cycleway / St Lukes Road
8 - Symonds / Karangahape / Grafton Road
9 - Karangahape Road / Queen Street
10 - Tamaki Drive / The Strand
11 - Remuera / Orakei / Ascot Road
12 - Manukau / Greenlane Road
13 - Ian McKinnon / Newton Road
14 - Mount Albert / New North Road
15 - Richardson Road / Melons Street
16 - Jervois Road / Wallace Street
17 - Onehunga Harbour Road
18 - Great South Road / High Street / Albert on Ave
20 - St Heliers Bay / West Tamaki Road
21 - Great South Road / Campbell Road / Main Highway
22 - Ferry Terminal
73 - Blockhouse Bay / Great North Road
74 - Apirana Avenue / Pilkington / Tripoli Road
75 - Stanley Street / Grafton Road
76 - Waikaraka cycleway / Onehunga South
78 - Lagoon Drive / Church Crescent

Monitoring Times

Time Of Day

On the recommendation of the Regional Cycling Monitoring Working Group, manual counts in the morning peak were conducted between **6.30 and 9.00 am.** It should be noted that this is a slightly longer morning peak than was used for manual counts in Auckland City prior to 2007 – 7.00 to 9.00 am. However, to allow for longitudinal comparisons, results for Auckland City have been presented for both 7.00 to 9.00 am and 6.30 to 9.00 am.

Between 2001 and 2006, Gravitas monitored Auckland City evening cycle numbers between 4.00 and 6.00 pm. However, over the last two years, data collected at some sites has shown upwards trends and notable peaks later in the shift (particularly between 5.50 and 6.00pm) which suggested that cycle numbers after 6.00 pm may remain high or even increase. To capture this trend, Gravitas recommended extending the evening peak monitoring period to **4.00 to 7.00 pm**. Once again, to allow for longitudinal comparisons, results for Auckland City have been presented for 4.00 to 6.00 pm as well as 4.00 to 7.00 pm.

Day Of Week

Previous experience conducting cycle and other traffic manual counts on behalf of Auckland City 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 the Regional Cycle Monitoring Working Group. 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 10th of March and be conducted on the first three fine days of the 10th, 11th, 12th, 17th, 18th or 19th of March.

Counting at sites in **North Shore and Waitakere** cities was completed on **Tuesday the 10th of March**. Counting at sites in **Auckland city** was completed on **Wednesday the 11th of March**. Counts in **Manukau, Rodney, Papakura** and **Franklin** were completed on **Thursday the 12th of March**. Note: Counts in the morning and evening peaks took place on the same day for each site.

Weather and Daylight Conditions

Auckland city's 2006 cycle monitor provides a clear example of the impact of weather conditions on the validity of the data collected. During the (fine) morning peak, 1579 cyclists were recorded across the twelve monitoring sites. By comparison, in the (wet) evening peak on the same day, only 1050 cyclists were counted, demonstrating that only 66% of those who cycled during the morning peak were counted again in the evening. Such a significant drop in cycle numbers was not observed in previous years, when weather was comparable in the morning and evening peak.

To reduce the impact of weather conditions on cycle numbers, manual counts were conducted on predominantly fine days (although intermittent drizzle was observed at a small number of sites). 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 2009 was as follows:

Tuesday 10th March

(Waitakere and North Shore city sites monitored)

- Sunrise: 7:15am; Sunset: 7:48pm.
- Average temperature: 18 degrees Celsius.
- Fine weather for all but one site in the morning period.
- Weather fine with some cloud throughout the evening shift. Most Waitakere sites and one North Shore site experienced very light drizzle intermittently between 6:30pm and 7:00pm.

Wednesday 11th March

(Auckland city sites monitored)

- Sunrise: 7:15am; Sunset: 7:46pm.
- Average temperature: 17 degrees Celsius.
- Fine weather at most sites in the morning period. Light drizzle and/or showers reported at six of the 27 sites.
- All but three sites experienced intermittent light drizzle and/or showers throughout the evening period.

Thursday 12th March

(Manukau city and Rodney, Papakura and Franklin district sites monitored)

- Sunrise: 7:16am; Sunset: 7:45pm.
- Average temperature: 16 degrees Celsius.
- Almost all sites had fine weather in the morning period apart from light drizzle at the Rodney sites which cleared by 7am; four sites experienced intermittent light showers throughout the morning period (these sites predominantly in Manukau).
- Weather in the evening period was overcast, with intermittent drizzle throughout the period. Brief, but often heavy, showers were reported at some sites in Manukau and Papakura.

Conducting The Manual Counts

Scoping Visit

Gravitas visited each of the selected 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 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; Auckland city);
- Ferry terminal (Site 22; Auckland city); and
- Beach Road/Browns Bay Road, Mairangi Bay (Site 45; North Shore city).

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].

For consistency with the Auckland city cycle data collected since 2001, 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; and
- Whether cyclists are riding on the road, footpath or designated off- road cycleway[5].

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

In addition, 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.

[3] This letter also contained contact details for the client organisation 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 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 disgnated 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 marketd on the road).

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].

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].

[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.

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

School Bike Shed Counts

As stated above, manual cycle counts were undertaken during the morning (6.30 am to 9 am) and evening (4 pm to 7 pm) 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).

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.

Methodology

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

1. Gravitas designed a fax information sheet that was distributed to most intermediate, secondary and composite (Years 1 to 13) schools in the Auckland region (note a small number of schools were omitted due to the special nature of the students eg special needs schools). This sheet was designed in consultation with the Regional Cycle Monitoring Working Group to ensure all necessary information was collected. A copy of the information sheet is provided in Appendix Three.

2. Gravitas contacted all intermediate, secondary and composite schools in Auckland region (n=156) to notify them of the bike shed count and to let them know what they would be required to do. Gravitas then sent out the information sheet to all schools that agreed to take part in the bike shed count, along with a cover letter explaining the purpose of the research and providing detail on how to complete and submit the form. A copy of this letter is provided in Appendix Three.

3. To enhance the comparability of the school bike shed data with that of the regional cycle monitor, Tuesday 10th 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 were requested to fax or (free) post the information sheets back to Gravitas. Gravitas contacted all participating schools who had not returned their sheets after five working days. All information sheets were checked for completeness before being data-entered into Excel. One hundred and twenty-four response were received, a response rate of 79 per cent.

Reporting

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

Manual Counts - Site Level Reporting

For consistency with Auckland city's cycle monitor, 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
  - 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 city/district 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 TA and regional level. Raw cycle numbers and a "cyclists as a share of total school roll" figure have both been provided.

1.3 Summary Of Results

This summary contains the aggregated results of the 27 sites surveyed in Auckland city. 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 Auckland city, 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 Twenty-Eight of this report.

Note: Surveying in Auckland city was undertaken on Wednesday 11th March, 2009. Sunrise was at 7:15am and sunset was at 7:46pm. The average temperature was 17 degrees Celsius.

Note: To enable comparisons of sites within Auckland city, cyclist volumes at each Auckland city site are considered as:

- "high/heavy" when 137 or more cycle movements are reported;
- "moderate" when between 57 and 111 cycle movements are reported;
- "low/light" when between 0 and 51 cycle movements are reported;
- having "notably" increased/decreased if the change is more than 15% of the data being compared with;
- having "slightly" increased/decreased if the change is less than 5% of the data being compared with;
- being "stable" since last year if the change is less or equal to 3 cycle movements/percentages.

1.4 Morning Peak Summary Results

Environmental Conditions

- Most sites monitored in Auckland city had fine weather in the morning, apart from light drizzle and/or showers for:
  - Patiki/Rosebank Road
  - Remuera/Orakei/Ascot
  - Onehunga Harbour Road
  - Great South/Campbell Road
  - Apirana Avenue/Pilkington Road/Tripoli Road
  - Lagoon Drive/Church Crescent
- All but two sites had no road works or accidents that may have affected cycle counts. The exceptions were at Richardson Road/Maioro Street and at Symonds/Karangahape/Grafton where Grafton Bridge was closed to motorised vehicles.

Key Points

- A total of 1,537 cyclist movements were recorded across the 12 previously-monitored sites in the morning peak period (between 7:00am and 9:00am) in 2009. This represents a 5 per cent decrease on the result for 2008 (1,611 movements) but a 3 per cent increase on the result for 2005 (1,493 movements). However, none of these changes are statistically significant – that is, the decline and increase fall within the margin of error at the 95% confidence interval.
- As in 2007 and 2008, the busiest site out of the 12 this year is the intersection of Tamaki Drive and The Strand (253 movements, down from 313 movements in 2008 – a 19 per cent decrease), while the lowest level of morning cyclist traffic is observed at the Patiki/Rosebank Road intersection (32 movements).
- Six sites recorded declines this year compared to 2008. The most notable decreases are at:
  - Tamaki/The Strand – down 19 per cent; and
  - Symonds/Karangahape/Grafton – down 15 per cent.
- In contrast, five sites recorded increases. The most notable increases are at:
  - Remuera/Orakei/Ascot – up 34 per cent;
  - Patiki/Rosebank – up 23 per cent; and
  - Karangahape/Queen – up 15 per cent.

Table 1.1: Summary Of Morning Cyclist Movements (12 Previous Sites)

2001 -2009 (n) – 7.00 to 9.00 am

Locations	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09	Change 01-09
Tamaki/The Strand	150	157	224	125*	261	282	351	313	**253**	**-19%**	69%
Symonds/K/Grafton	253	259	258	202	231	271	255	258	**220**	**-15%**	-13%
Karangahape/Queen	200	197	221	209	203	211	220	189	**218**	**15%**	9%
Ponsonby/K/Newton/Great North	138	113	144	177	155	140	200	180	**161**	**-11%**	17%
North Western Cycleway/St Lukes	70	75	88	95	130	133	139	144	**143**	**-1%**	104%
North Western Cycleway/Great North Road^	-	-	-	-	109	127	86	143	**129**	**-10%**	18%
Dominion/Balmoral	93	75	75	76	94	92	104	84	**78**	**-7%**	-16%
Great North/Carrington/Pt Chevalier	109	83	86	70	57	76	101	84	**84**	**0%**	-23%
Manukau Road/Greenlane West	81	52	79	66	92	89	80	73	**75**	**3%**	-7%
Remuera/Orakei/Ascot	71	47	64	46	78	73	62	67	**90**	**34%**	27%
Victoria/Wellesley/Halsey	60	55	53	33	56	51	60	50	**54**	**8%**	-10%
Patiki/Rosebank	27	27	25	17	27	34	29	26	**32**	**23%**	19%
Total	**1252**	**1140**	**1317**	**1116**	**1493**	**1579**	**1687**	**1611**	**1537**	**-5%**	23%

Note: In 2004, monitoring at Tamaki/The Strand was undertaken on April 15th – three weeks after the other sites. This timing coincided with the University holidays and may have had a strong influence on the results.

^ Note: North Western Cycleway/Great North Road was firstly monitored in 2005.

- A total of 2,598 cyclist movements were recorded across the 27 sites in the morning peak period (between 6:30am and 9:00am) in 2009. Three per cent (n=88) of the total cycle movements in the morning peak were observed made by those cycling in groups.
- Of the 27 sites monitored, the busiest site in the morning peak continues to be the intersection of Tamaki Drive and The Strand (321 cycle movements, down from 416 movements in 2008), whereas the Richardson Road/Maioro Street site has the lowest volume of morning cyclists (8 movements).
- Fourteen sites recorded declines this year compared to 2008. The most notable decreases are at:
  - Apirana Ave/Pilkington/Tripoli Road – down 45 per cent;
  - St Heliers Bay/West Tamaki Road – down 43 per cent;
  - Great South Road/ High Street/Atkinson/Park Ave – down 30 per cent; and
  - Ellerslie Panmure Highway/Lunn Ave – down 26 per cent.
- In contrast, eight sites recorded increases. The most notable increases are at:
  - Waikaraka Cycle Way – up 38 per cent;
  - Stanley Street/Grafton Road – up 36 per cent; and
  - Great South Road/Campbell Road/Main Highway – up 21 per cent.
- Of the 19 Auckland city sites monitored in 2007, 2008 and 2009, the total volume of morning peak cyclists has declined, from 2,438 in 2008 to 2,198 in 2009 – a 10 per cent decrease. However, this decline is not statistically significant at the 95% confidence interval.
- The average volume of morning cyclists across the 19 sites in Auckland city is 116 cycle movements. This compares with 128 movements in 2008.

Table 1.2: Summary Of Morning Cyclist Movements (27 Auckland city sites) 2007-2009 (n) – 6.30 to 9.00 am

Site Number	Locations	2007	2008	2009	Change 08-09	Change 07-09
10	Tamaki Drive/The Strand	480	416	321	-23%	-33%
8	Symonds Street/Karangahape Road	290	285	246	-14%	-15%
9	Karangahape Road/Queen Street	246	212	238	12%	-3%
2	Ponsonby/Karangahape Road	226	199	176	-12%	-22%
7	North Western Cycleway/St Lukes	152	156	155	-1%	2%
6	North Western Cycleway/Great North Road	98	156	145	-7%	48%
13	Ian McKinnon/Newton Road	-	-	139	*	*
22	Ferry Terminal	195	158	137	-13%	-30%
11	Remuera/Orakei Road	86	100	107	7%	24%
3	Great North/Carrington Road	114	95	97	2%	-15%
5	Dominion/Balmoral Road	114	90	85	-6%	-25%
12	Manukau Road/Greenlane West	103	92	84	-9%	-18%
17	Onehunga Harbour Road	93	88	74	-16%	-20%
21	Great South Road/Campbell Road/Main Highway	89	53	64	21%	-28%
20	St Heliers Bay/West Tamaki Road	139	107	61	-43%	-56%
16	Jervois Road/Wallace Street	-	-	60	*	*
1	Victoria/Wellesley Street	70	57	59	4%	-16%
14	Mount Albert/New North Road	75	68	59	-13%	-21%
73	Blockhouse Bay/Great North Road	-	57	57	0%	*
78	Lagoon Drive/Church Crescent	-	-	57	*	*
75	Stanley Street/Grafton Road	-	36	49	36%	*
4	Patiki/Rosebank Road	37	34	38	12%	3%
19	Ellerslie Panmure Highway/Lunn Ave	52	42	31	-26%	-40%
18	Great South Road/High St/Atkinson/Park Ave	38	30	21	-30%	-45%
76	Waikaraka Cycle Way	-	13	18	38%	*
74	Apirana Avenue/Pilkington/Tripoli Road	-	22	12	-45%	*
15	Richardson/Maioro Street	-	-	8	*	*
	Average per site (19 sites since 2007)	**142**	**128**	**116**	**-9%**	**-18%**
	Total (19 sites since 2007)	**2697**	**2438**	**2198**	**-10%**	**-19%**
	Average per site (27 sites)	**-**	**100**	**96**	*	*
	Total (27 sites)	**-**	**2710**	**2598**	*	*

- Morning cyclist characteristics this year are similar to those reported in 2008. In particular, 94 per cent of cyclists this year are adults (stable from 92 per cent in 2008). Of the 27 locations monitored, the Blockhouse Bay/Great North Road site has the greatest share of morning cyclists who are school children (35 per cent).
- Almost all cyclists are wearing a helmet (94 per cent in 2009, compared with 93 per cent in 2008). Helmet wearing is least likely to occur at the Ferry Terminal (80 per cent).
- Riding on the road is still most common (69 per cent). *Note that this year riding on the road has been split into riding on the road and riding on the off-road cycleway for some sites; therefore results with previous years are not directly comparable.* The Stanley Street site has the highest incidence of morning cyclists riding on the footpath (39 per cent).

Table 1.3: Summary of Morning Cyclist Characteristics 2005 -2009 (%)

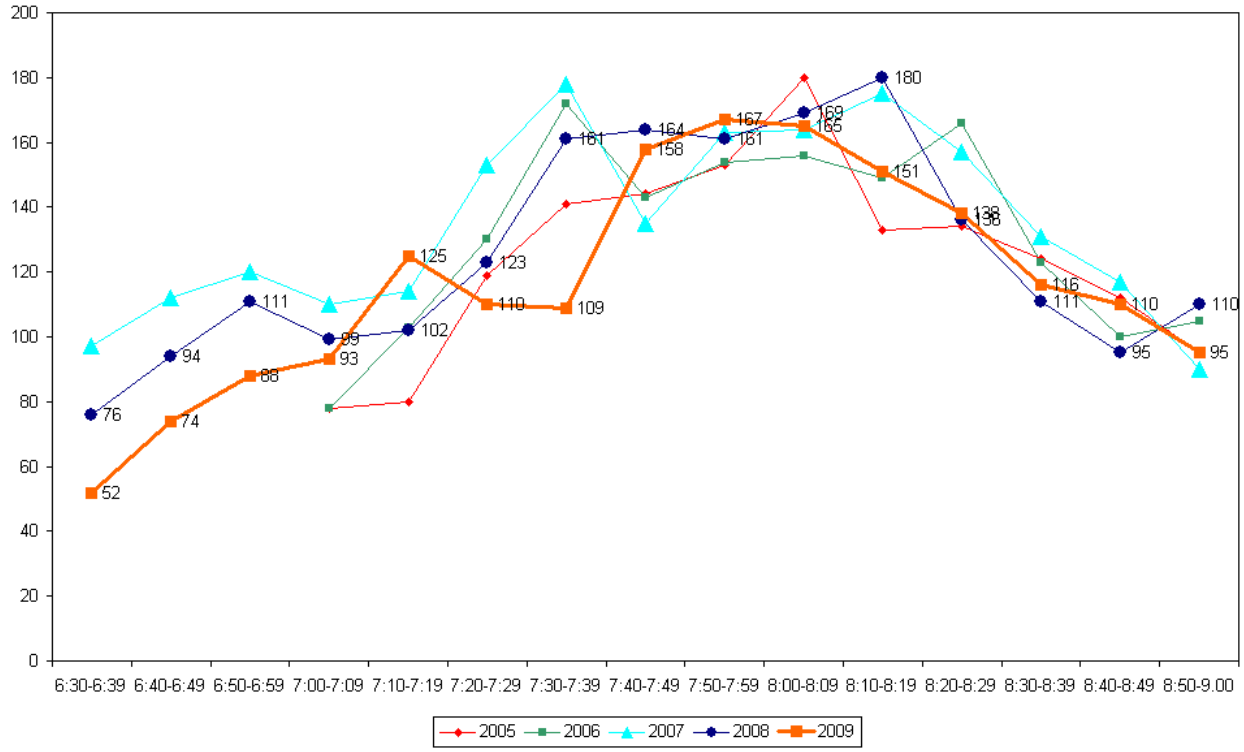
	2005	***2006***	***2007***	***2008***	***2009***	**Change 08-09**
Cyclist Type						
Adult	95%	96%	93%	92%	94%	2%
School child	5%	4%	7%	8%	6%	-2%
Helmet Wearing						
Helmet on head	95%	94%	95%	93%	94%	1%
No helmet	5%	6%	5%	7%	6%	-1%
Where Riding*						
Road	82%	80%	86%	88%	69%	-
Footpath	18%	20%	14%	12%	12%	0%
Off-road cycleway[9]	-	-	-	-	19%	-
Base:	***1493***	***1579***	***2867***	***2710***	***2598***	

** 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.*

[9] *In 2009, surveyors were asked to distinguish between cyclists riding on the road and cyclists riding on off-road cycleways. In previous years, all cyclists riding on both off-road cycleway and road were classified as road riders. Thus, no comparable results are provided with previous years.*

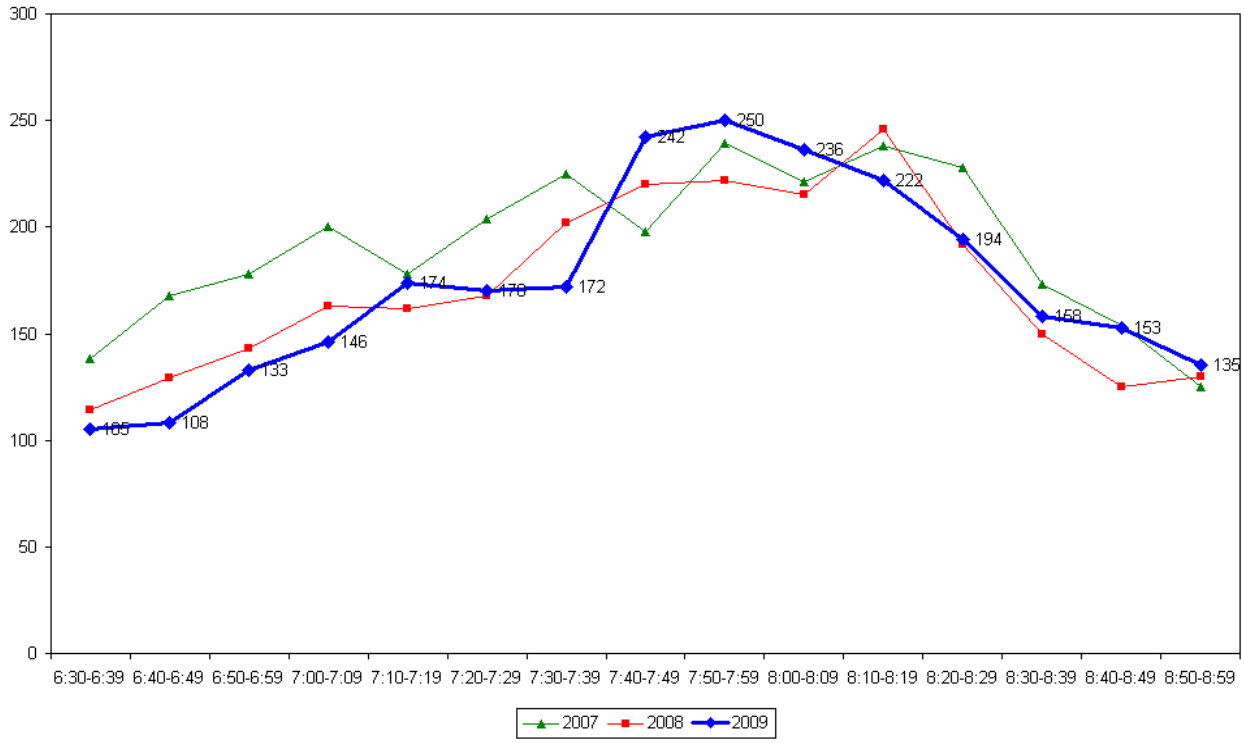
- Figure 1.1 illustrates the total number of morning cyclists by time of trip at the 12 sites monitored since 2005. The graph shows a peak in cycle volumes between 7:40am and 8:09am, with 158, 167 and 165 movements reported in each ten minute interval respectively. This is fairly consistent with the overall patterns reported in previous years.

Figure 1.1: Total Cyclist Frequency Of 12 Sites – Morning Peak 2005 - 2009



- Figure 1.2 shows the overall pattern of morning cyclist volumes recorded from the 27 sites monitored in 2009. Morning cyclist numbers follow a steady increasing trend from 6:30am to a peak between 7:40am and 7:59am (242 cyclists and 250 cyclists recorded over each ten minute period respectively) after which the numbers of movements decline gradually over the remainder of the morning period. *Note this year there are four sites being replaced with new sites.*

Figure 1.2: Total Cyclist Frequency Of 27 Sites – Morning Peak 2007-2009



1.5 Evening Peak Summary Results

Environmental Conditions

- All but three sites had overcast weather with intermittent drizzle or showers. The three sites with fine weather were:
  - Ferry Terminal
  - Symonds/Karangahape/Grafton
  - Great North/Carrington/Pt Chevalier
- All but two sites had no road works or accidents that may have affected cycle counts. The exceptions were at Richardson Road/Maioro Street and at Symonds/Karangahape/Grafton where Grafton Bridge was closed to motorised vehicles.

Key Points

- A total of 1,281 cyclist movements were recorded across the 12 previously monitored sites in the evening peak period (between 4:00pm and 6:00pm) in 2009. This represents an 8 per cent decrease on the 2008 result (1,388 movements) but remains stable when compared with 2005 (1,267). However, this decline is not statistically significant – that is, the decline falls within the margin of error at the 95% confidence interval.
- Nine out of the twelve sites have recorded declines in cyclist numbers this year compared with 2008. The most notable decrease is reported at North Western Cycleway/Great North Road (down 24 per cent) while the most notable increase is at the intersection of Karangahape Road and Queen Street (up 8 per cent).

Table 1.4: Summary Of Evening Cyclist Movements 2001 -2009 (n) – 4.00 to 6.00 pm

Locations	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	**Change 08-09**	**Change 01-09**
Symonds/K/Grafton	242	221	256	205	202	258	248	255	**216**	**-15%**	-11%
Tamaki/The Strand	175	157	235	116	199	120	260	215	**203**	**-6%**	16%
Karangahape/Queen	156	143	177	168	142	120	180	145	**156**	**8%**	0%
Ponsonby/K/Newton/Great North	154	122	175	154	136	117	172	140	**139**	**-1%**	-10%
North Western Cycleway/ St Lukes	79	58	66	87	108	80	122	115	**117**	**2%**	48%
North Western Cycleway/Great North Road^	-	-	-	-	112	94	86	141	**107**	**-24%**	-4%
Great North/Carrington/ Pt Chevalier	92	93	104	43	65	45	84	83	**77**	**-7%**	-16%
Manukau Road/Greenlane West	65	48	66	60	55	56	87	68	**71**	**4%**	9%
Dominion/Balmoral	82	58	75	73	74	64	88	83	**68**	**-18%**	-17%
Remuera/Orakei/Ascot	72	53	51	49	73	32	58	56	**55**	**-2%**	-24%
Victoria/Wellesley/Halsey	51	63	49	36	63	33	60	52	**41**	**-21%**	-20%
Patiki/Rosebank	36	21	19	20	38	31	34	35	**31**	**-11%**	-14%
Total	**1204**	**1037**	**1273**	**1011**	**1267**	**1050**	**1479**	**1388**	**1281**	**-8%**	6%

^ Note: North Western Cycleway/Great North Road was firstly monitored in 2005.

- A total of 2,703 cyclist movements were recorded across the 27 sites in the evening peak period (between 4:00pm and 7:00pm) in 2009. Two per cent (n=47) of the total cycle movements in the evening peak were made by those cycling in groups.
- Of the 27 Auckland city sites, the volume of cyclists is lowest at Richardson/Maioro Street in the evening (13 cycle movements recorded), whereas the Tamaki Drive/The Strand and Symonds Street/Karangahape Road intersections continue to be the busiest in terms of evening cyclists' activity, with 282 movements recorded at each site.
- Nineteen sites recorded declines this year compared to 2008. The most notable decreases are at:
  - Apirana Avenue/Pilkington/Tripoli Road – down 49 per cent;
  - Onehunga Harbour Road – down 48 per cent;
  - North Western Cycleway/Great North Road – down 34 per cent;
  - Ferry Terminal – down 30 per cent; and
  - Great North/Carrington Road – down 29 per cent.
- In contrast, four sites recorded increases. The most notable increases are at:
  - Stanley Street/Grafton Road – up 62 per cent; and
  - Great South Road/Campbell Road/Main Highway – up 43 per cent.
- Of the 19 Auckland city sites monitored in 2007, 2008 and 2009, the total volume of evening cyclists has declined – from 2,684 in 2008 to 2,253 in 2009, a decrease of 16 per cent. This decline is statistically significant – that is, the decline falls outside the margin of error at the 95% confidence interval.
- The average volume of evening cyclist movements across the 19 sites in Auckland city is 119 cycle movements. This compares with 141 movements in 2008. The average volume of evening cycle movements across all 27 sites monitored in 2009 is 100.

Table 1.5: Summary Of Evening Cyclist Movements (27 Auckland city sites) 2007-2009 (n) – 4.00 to 7.00 pm

Site Number	Locations	2007	2008	2009	Change 08-09	Change 07-09
8	Symonds Street/Karangahape Road	349	336	282	-16%	-19%
10	Tamaki Drive/The Strand	420	370	282	-24%	-33%
9	Karangahape Road/Queen Street	261	212	221	4%	-15%
2	Ponsonby/Karangahape Road	261	216	194	-10%	-26%
7	North Western Cycleway/St Lukes	172	175	155	-11%	-10%
13	Ian McKinnon/Newton Road	-	-	152	*	*
6	North Western Cycleway/Great North Road	134	213	141	-34%	5%
22	Ferry Terminal	185	158	111	-30%	-40%
17	Onehunga Harbour Road	156	132	106	-20%	-32%
5	Dominion/Balmoral Road	123	111	98	-12%	-20%
3	Great North/Carrington Road	121	136	96	-29%	-21%
12	Manukau Road/Greenlane West	122	113	92	-19%	-25%
21	Great South Road/Campbell Road/Main Highway	85	61	87	43%	2%
14	Mount Albert/New North Road	81	96	83	-14%	2%
11	Remuera/Orakei Road	109	89	80	-10%	-27%
78	Lagoon Drive/Church Crescent	-	-	72	*	*
1	Victoria/Wellesley Street	90	79	65	-18%	-28%
73	Blockhouse Bay/Great North Road	-	60	62	3%	*
16	Jervois Road/Wallace Street	-	-	51	*	*
19	Ellerslie Panmure Highway/Lunn Ave	66	52	51	-2%	-23%
20	St Heliers Bay/West Tamaki Road	69	60	47	-22%	-32%
75	Stanley Street/Grafton Road	-	29	47	62%	*
4	Patiki/Rosebank Road	45	45	34	-24%	-24%
76	Waikaraka Cycle Way	-	41	33	-20%	*
18	Great South Road/High St/Atkinson/Park Ave	46	30	28	-7%	-39%
74	Apirana Avenue/Pilkington/Tripoli Road	-	39	20	-49%	*
15	Richardson/Maioro Street	-	-	13	*	*
	Average per site (19 sites since 2007)	**152**	**141**	**119**	**-16%**	**-22%**
	Total (19 sites since 2007)	**2895**	**2684**	**2253**	**-16%**	**-22%**
	Average per site (27 sites)	**-**	**113**	**100**	*	*
	Total (27 sites)	**-**	**3059**	**2703**	*	*

Table 1.6 shows the percentage change in cyclist movements from morning to evening at each site monitored in Auckland city.

- Overall, the number of evening cycle movements across the 27 sites decreases by 13 per cent from the number recorded in the morning shift.
- Nine of the sites have the evening cycle volume greater than the morning cycle volume. The most notable increases between the morning and evening peak are reported at:
  - Waikaraka Cycle Way – up 53 per cent;
  - Apirana Avenue/Pilkington Road/Tripoli Road – up 39 per cent;
  - Ellerslie Panmure Highway/Lunn Ave – up 37 per cent; and
  - Richardson/Maioro Street – up 35 per cent.
- In contrast, the number of evening cyclists recorded at 18 sites is lower than in the morning peak. The most notable decrease are:
  - Remuera/Orakei Road – down 38 per cent;
  - St Heliers Bay/West Tamaki Road – down 36 per cent; and
  - Ferry Terminal – down 32 per cent.

Note that there are three hours for the evening monitoring period compared with 2.5 hours in the morning. To enable the morning and evening cyclist volumes to be fairly compared, a scale factor has been applied so that the count numbers for both periods are based on the same length of time (2.5 hours). However, the limitation of this approach is that it does not take into account the variation in cycle movement numbers that exist over the course of a shift (as illustrated in Figures 1.1 and 1.3); rather, the number of cycle movements is assumed to be consistent throughout the monitoring period. Consequently, the results presented in Table 1.6 should be considered indicative only.

Table 1.6: Summary Of Change in Cyclist Movements from Morning to Evening 2009 (%)

Site Number	Locations	AM	PM[10]	Change
76	Waikaraka Cycle Way	18	28	53%
74	Apirana Avenue/Pilkington/Tripoli Road	12	17	39%
19	Ellerslie Panmure Highway/Lunn Ave	31	43	37%
15	Richardson/Maioro Street	8	11	35%
17	Onehunga Harbour Road	74	88	19%
14	Mount Albert/New North Road	59	69	17%
21	Great South Road/Campbell Road/Main Highway	64	73	13%
18	Great South Road/High St/Atkinson/Park Ave	21	23	11%
78	Lagoon Drive/Church Crescent	57	60	5%
8	Symonds Street/Karangahape Road	246	235	-4%
5	Dominion/Balmoral Road	85	82	-4%
2	Ponsonby/Karangahape Road	176	162	-8%
1	Victoria/Wellesley Street	59	54	-8%
13	Ian McKinnon/Newton Road	139	127	-9%
12	Manukau Road/Greenlane West	84	77	-9%
73	Blockhouse Bay/Great North Road	57	52	-9%
7	North Western Cycleway/St Lukes	155	129	-17%
3	Great North/Carrington Road	97	80	-18%
6	North Western Cycleway/Great North Road	145	118	-19%
75	Stanley Street/Grafton Road	49	39	-20%
9	Karangahape Road/Queen Street	238	184	-23%
4	Patiki/Rosebank Road	38	28	-25%
10	Tamaki Drive/The Strand	321	235	-27%
16	Jervois Road/Wallace Street	60	43	-29%
22	Ferry Terminal	137	93	-32%
20	St Heliers Bay/West Tamaki Road	61	39	-36%
11	Remuera/Orakei Road	107	67	-38%
	Total	**2598**	**2256**	**-13%**

[10] A scale factor of 5/6 has been applied to reduce the evening cyclist volumes to a 2.5 hour interval, consistent with the morning monitoring period

- Evening cyclist characteristics this year similar to those reported in 2008. In particular, 96 per cent of evening cyclists this year are adults (stable from 94 per cent in 2008). Of the 27 sites in Auckland city, in the evening, the site at Jervois Road/Wallace Street has the highest proportion of cyclists who are school children (45 per cent).
- Most cyclists are wearing a helmet in the evening (91 per cent, compared with 90 per cent in 2008). The site at Apirana Avenue/Pilkington/Tripoli Road has the highest proportion of cyclists not wearing a helmet (60 per cent).
- The majority of evening cyclists are riding on the road (60 per cent). *Note that this year riding on the road has been split into riding on the road and riding on the off-road cycleway for some sites, therefore results with previous years are not directly comparable.*
- Footpath riders are most common at the intersection of Stanley Street and Grafton Road (64 per cent).

Table 1.7: Summary of Evening Cyclist Characteristics 2005 -2009 (%)

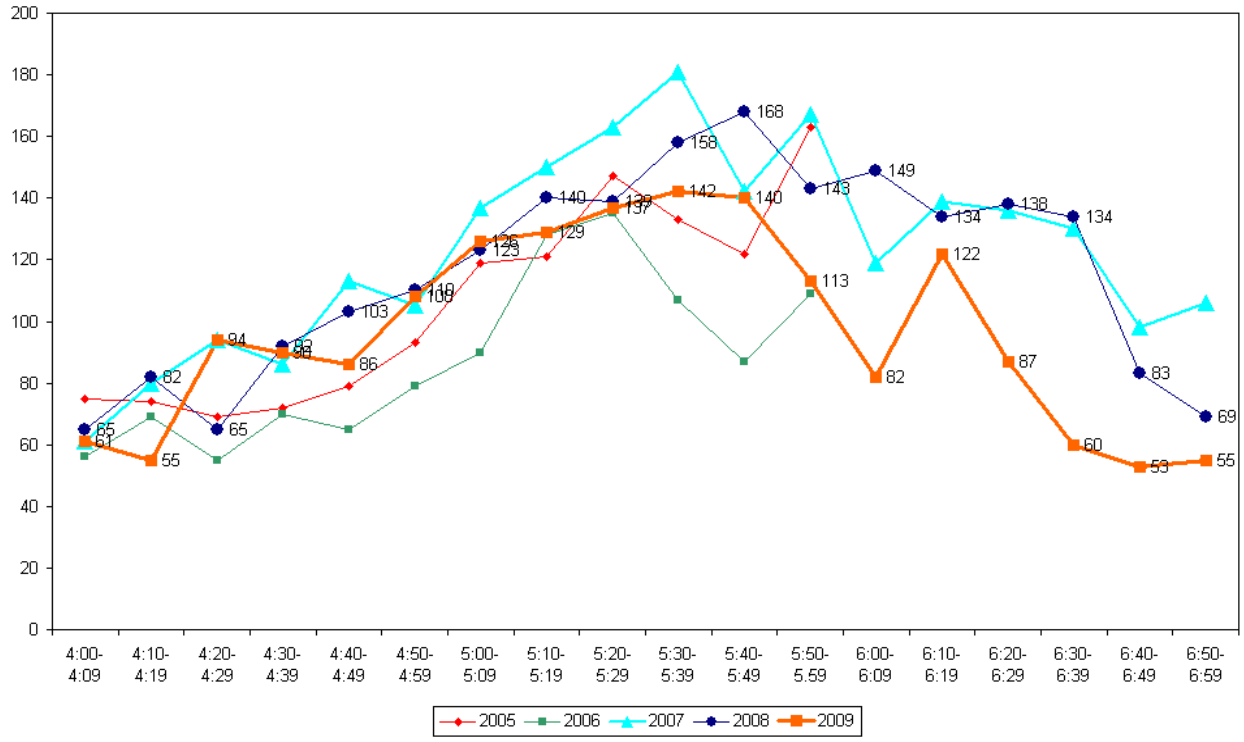
	2005	***2006***	***2007***	***2008***	***2009***	**Change 08-09**
Cyclist Type						
Adult	96%	99%	96%	94%	96%	2%
School child	4%	1%	4%	6%	4%	-2%
Helmet Wearing						
Helmet on head	90%	93%	89%	90%	91%	1%
No helmet	10%	7%	11%	10%	9%	-1%
Where Riding*						
Road	81%	78%	83%	87%	60%	-
Footpath	19%	22%	17%	13%	17%	4%
Off-road cycleway[11]	-	-	-	-	23%	-
Base:	***1267***	***1050***	***3093***	***3059***	***2703***	

- *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.*

[11] *In 2009, surveyors were asked to distinguish between cyclists riding on the road and cyclists riding on off-road cycleways. In previous years, all cyclists riding on both off-road cycleway and road were classified as road riders. Thus, no comparable results are provided with previous years.*

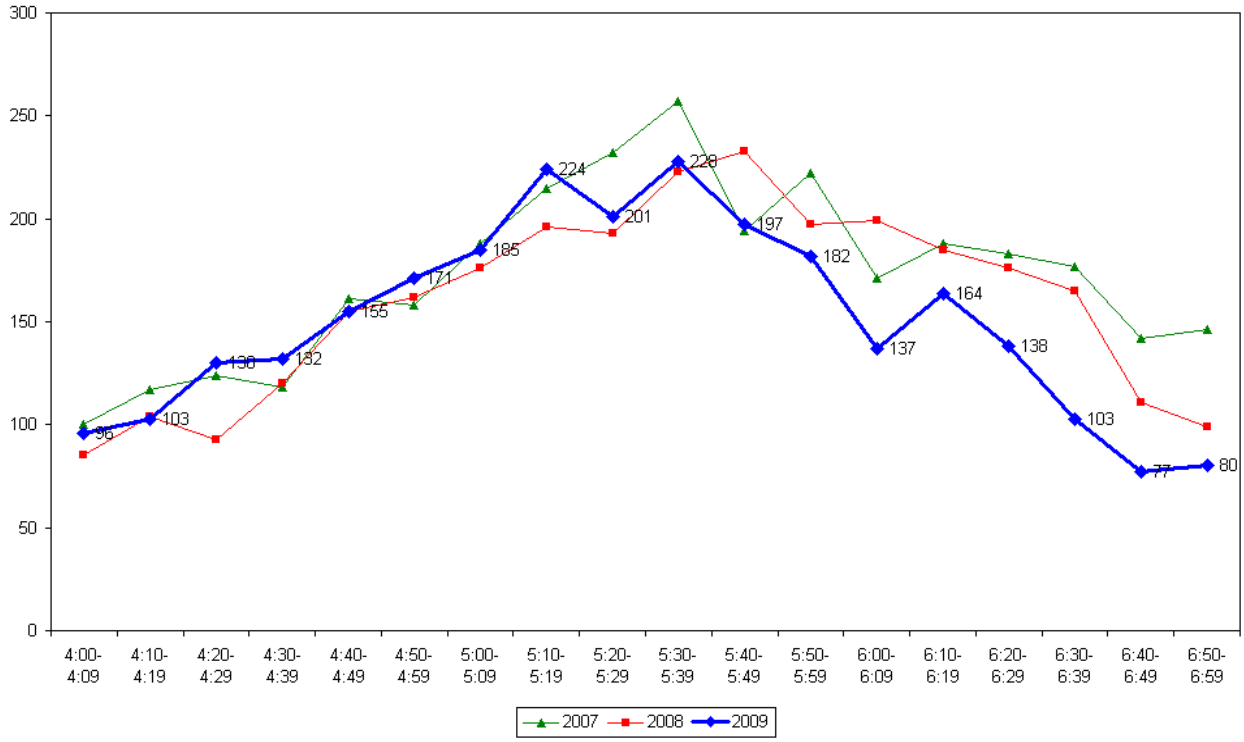
- The overall pattern of cyclist volumes by time of trip in the evening is quite similar to the pattern noted in previous years. Evening cyclist numbers grow steadily over the monitoring period until a peak between 5:30pm and 5:49pm (142 and 140 movements over each ten minute period respectively) after which the number of movements declines. This compares with a peak between 5:40pm and 5:49pm (168 movements) in 2008.

Figure 1.3: Total Cyclist Frequency Of 12 Sites – Evening Peak 2005 - 2009



- The overall pattern of evening cyclist volumes derived from the 27 Auckland sites is illustrated in Figure 1.4. Consistent with the overall trend in the morning peak, evening cyclist numbers start off relatively low, increase gradually to peaks around 5:15pm (224 movements) and 5:35pm (228 movements) and then tail off through to the end. *Note this year there are four sites being replaced with new sites.*

Figure 1.4: Total Cyclist Frequency Of 27 Sites – Evening Peak 2007-2009



1.6 Aggregated Total Summary Results

- A total of 2,818 cyclist movements were recorded across the 12 previously monitored sites in 2009. This represents a six per cent decline when compared with 2008 (2,999 movements) but remains stable when compared with 2005 (2,760). However, this decline is not statistically significant – that is, the decline falls within the margin of error at the 95% confidence interval.
- As has traditionally been the case, more cyclists were recorded over the morning period (1,537 movements) than over the evening period (1,281 movements). This year the difference is slightly more pronounced with 55 per cent of total movements being recorded from the morning compared to 54 per cent in 2008.
- Of the 12 sites, the busiest site this year is the intersection of Tamaki Drive/The Strand with a total of 456 movements (down from 528 movements in 2008).
- Consistent with last year, Patiki/Rosebank Road has the lightest cyclist traffic (63 movements).
- More than half of the sites (7 out of 12) have recorded decreases in total cyclist numbers this year compared with 2008. The intersections with the biggest decreases are:
  - North Western Cycleway/Great North Road – down 17 per cent;
  - Symonds/Karangahape/Grafton – down 15 per cent; and
  - Tamaki/The Strand – down 14 per cent.
- The most notable increase in movements this year is at Remuera/Orakei/Ascot – up 18 per cent.

Table 1.8: Summary Of Total Cyclist Movements 2001 -2009 (n) – 7.00 to 9.00 am & 4.00 to 6.00 pm

Locations	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09	Change 01-09
Tamaki/The Strand	325	314	459	241	460	402	611	528	**456**	**-14%**	40%
Symonds/K/Grafton	495	480	514	407	433	529	503	513	**436**	**-15%**	-12%
Karangahape/Queen	356	340	398	377	345	331	400	334	**374**	**12%**	5%
Ponsonby/K/Newton/Great North	292	235	319	331	291	257	372	320	**300**	**-6%**	3%
North Westerm Cycleway/St Lukes	149	133	154	182	238	213	261	259	**260**	**0%**	74%
North Western Cycleway/Great North Road	-	-	-	-	221	221	172	284	**236**	**-17%**	7%
Great North/Carrington/Pt Chevalier	201	176	190	113	122	121	185	167	**161**	**-4%**	-20%
Dominion/Balmoral	175	133	150	149	168	156	192	167	**146**	**-13%**	-17%
Manukau Road/Greenlane West	146	100	145	126	147	145	167	141	**146**	**4%**	0%
Remuera/Orakei/Ascot	143	100	115	95	151	105	120	123	**145**	**18%**	1%
Victoria/Wellesley/Halsey	111	118	102	69	119	84	120	102	**95**	**-7%**	-14%
Patiki/Rosebank	63	48	44	37	65	65	63	61	**63**	**3%**	0%
Total	**2456**	**2177**	**2590**	**2127**	**2760**	**2629**	**3166**	**2999**	**2818**	**-6%**	15%

^ Note: North Western Cycleway/Great North Road was firstly monitored in 2005.

- Overall, a total of 5,301 cyclist movements were recorded across the 27 sites monitored in 2009 - 3 per cent (n=135) observed as cycling in groups. The number of evening cyclists comprises a slightly larger share (51 per cent) of the total number of cycle movements than the morning cyclists (49 per cent). *Note that the monitoring period for the evening peak is 30 minutes longer than the morning shift.*
- The average number of cycle movements for the 19 sites recorded in 2007, 2008 and 2009 is 234, a decrease of 13 per cent from last year. This decline is statistically significant at the 95% confidence interval.
- Of the 27 sites in Auckland city, the busiest site continues to be Tamaki/The Strand with a total of 603 movements, while Richardson/Maioro Street has the fewest number of cyclists (21 movements).

Table 1.9: Summary Of Total Cyclist Movements (27 Auckland city sites) 2007-2009 (n) – 6.30 to 9.00 am & 4.00 to 7.00 pm

Site Number	Locations	2007	2008	2009	Change 08-09	Change 07-09
10	Tamaki Drive/The Strand	900	786	603	-23%	-33%
8	Symonds Street/Karangahape Road	639	621	528	-15%	-17%
9	Karangahape Road/Queen Street	507	424	459	8%	-9%
2	Ponsonby/Karangahape Road	487	415	370	-11%	-24%
7	North Western Cycleway/St Lukes	324	331	310	-6%	-4%
13	Ian McKinnon/Newton Road	-	-	291	*	*
6	North Western Cycleway/Great North Road	232	369	286	-22%	23%
22	Ferry Terminal	380	316	248	-22%	-35%
3	Great North/Carrington Road	235	231	193	-16%	-18%
11	Remuera/Orakei Road	195	189	187	-1%	-4%
5	Dominion/Balmoral Road	237	201	183	-9%	-23%
17	Onehunga Harbour Road	249	220	180	-18%	-28%
12	Manukau Road/Greenlane West	225	205	176	-14%	-22%
21	Great South Road/Campbell Road/Main Highway	174	114	151	32%	-13%
14	Mount Albert/New North Road	156	164	142	-13%	-9%
78	Lagoon Drive/Church Crescent	-	-	129	*	*
1	Victoria/Wellesley Street	160	136	124	-9%	-23%
73	Blockhouse Bay/Great North Road	-	117	119	2%	*
16	Jervois Road/Wallace Street	-	-	111	*	*
20	St Heliers Bay/West Tamaki Road	208	167	108	-35%	-48%
75	Stanley Street/Grafton Road	-	65	96	48%	*
19	Ellerslie Panmure Highway/Lunn Ave	118	94	82	-13%	-31%
4	Patiki/Rosebank Road	82	79	72	-9%	-12%
76	Waikaraka Cycle Way	-	54	51	-6%	*
18	Great South Road/High St/Atkinson/Park Ave	84	60	49	-18%	-42%
74	Apirana Avenue/Pilkington/Tripoli Road	-	61	32	-48%	*
15	Richardson/Maioro Street	-	-	21	*	*
	Average per site (19 sites since 2007)	**294**	**270**	**234**	**-13%**	**-20%**
	Total (19 sites since 2007)	**5592**	**5122**	**4451**	**-13%**	**-20%**
	Average per site (27 sites)	**-**	**214**	**196**	*	*
	Total (27 sites)	**-**	**5769**	**5301**	*	*

- Overall, cyclist characteristics this year are similar to those reported in 2008. In particular, 95 per cent of evening cyclists this year are adults (compared with 93 per cent in 2008).
- Most cyclists are wearing a helmet (92 per cent, stable from 91 per cent in 2008).
- The majority of cyclists are riding on the road (64 per cent). *Note that this year riding on the road has been split into riding on the road and riding on the off-road cycleway for some sites, therefore results with previous years are not directly comparable.* Approximately one in five are riding on the off-road cycleways (21 per cent), with the remaining 15 per cent riding on the footpath.

Table 1.10: Summary of Total Cyclist Characteristics 2005 -2009 (%)

	2005	***2006***	***2007***	***2008***	***2009***	**Change 08-09**
Cyclist Type						
Adult	95%	97%	94%	93%	95%	2%
School child	5%	3%	6%	7%	5%	-2%
Helmet Wearing						
Helmet on head	93%	94%	92%	91%	92%	1%
No helmet	7%	6%	8%	9%	8%	-1%
Where Riding*						
Road	81%	80%	84%	87%	64%	-
Footpath	19%	20%	16%	13%	15%	2%
Off-road cycleway[12]	-	-	-	-	21%	-
Base:	***2760***	***2629***	***5960***	***5769***	***5301***	

** 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.*

[12] *In 2009, surveyors were asked to distinguish between cyclists riding on the road and cyclists riding on off-road cycleways. In previous years, all cyclists riding on both off-road cycleway and road were classified as road riders. Thus, no comparable results are provided with previous years.*

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 1.11 provides the comparative AADT estimates for each site, based on the average of morning and evening peak AADT calculations.
- The highest AADT is at Tamaki Drive/The Strand (880 daily trips, down from 1,146 trips in 2008) and the lowest is at Richardson/Maioro Street (30 daily trips).
- More than two-thirds of the sites (19 out of 27) have recorded decreases in total AADT estimates this year compared with 2008. The intersections with the biggest decreases are:
  - Apirana Avenue/Pilkington/Tripoli Road – down 47 per cent;
  - Onehunga Harbour Road – down 39 per cent; and
  - St Heliers Bay/West Tamaki Road – down 36 per cent.
- In contrast, the number of total cyclists recorded at four sites is higher than last year. The most notable increases are at:
  - Stanley Street/Grafton Road – up 47 per cent; and
  - Great South Road/Campbell Road/Main Highway – up 32 per cent.

Table 1.11: Dry Weather Factor AADT Estimates Based on Morning and Evening Cyclist Movements 2007-2009 (n)

Site Number	Locations	2007 AADT	2008 AADT	2009 AADT	08-09 Change	07-09 Change
10	Tamaki Drive/The Strand	1313	1146	**880**	-23%	-33%
8	Symonds Street/Karangahape Road	924	899	**765**	-15%	-17%
9	Karangahape Road/Queen Street	736	616	**669**	9%	-9%
2	Ponsonby/Karangahape Road	705	602	**536**	-11%	-24%
7	North Western Cycleway/St Lukes	469	480	**451**	-6%	-4%
13	Ian McKinnon/Newton Road	-	-	**422**	-	*
6	North Western Cycleway/Great North Road	335	532	**416**	-22%	24%
22	Ferry Terminal	553	459	**363**	-21%	-34%
3	Great North/Carrington Road	341	333	**281**	-16%	-18%
11	Remuera/Orakei Road	282	276	**274**	-1%	-3%
5	Dominion/Balmoral Road	344	291	**265**	-9%	-23%
17	Onehunga Harbour Road	357	316	**259**	-18%	-27%
12	Manukau Road/Greenlane West	326	296	**255**	-14%	-22%
21	Great South Road/Campbell Road/Main Highway	253	165	**218**	32%	-14%
14	Mount Albert/New North Road	226	236	**205**	-13%	-9%
78	Lagoon Drive/Church Crescent	-	-	**186**	-	*
1	Victoria/Wellesley Street	231	201	**180**	-10%	-22%
73	Blockhouse Bay/Great North Road	-	170	**173**	2%	*
16	Jervois Road/Wallace Street	-	-	**162**	-	*
20	St Heliers Bay/West Tamaki Road	308	246	**158**	-36%	-49%
75	Stanley Street/Grafton Road	-	95	**140**	47%	*
19	Ellerslie Panmure Highway/Lunn Ave	170	136	**118**	-13%	-31%
4	Patiki/Rosebank Road	119	114	**105**	-8%	-12%
76	Waikaraka Cycle Way	-	76	**73**	-4%	*
18	Great South Road/High St/Atkinson/Park Ave	121	87	**71**	-18%	-41%
74	Apirana Avenue/Pilkington/Tripoli Road	-	87	**46**	-47%	*
15	Richardson/Maioro Street	-	-	**30**	-	*

Note: Despite evidence of intermittent rain at at least one site during the morning and/or evening monitoring periods, the dry weather factor has been applied in calculating the AADT estimates. For the purpose of comparison, Appendix Two provides comparative 2009 AADT estimates using both the dry and wet weather factors.

1.8 Ferry Terminal Bike Count Summary

Key Points

- In the morning, a total of 21 bikes were recorded at the downtown Ferry Terminal at 6.00am and 14 bikes were counted at 9.10am.
- In the afternoon, a total of 14 bikes were recorded at the downtown Ferry Terminal at 3.30pm and 22 bikes were counted at 7.05pm.

1.9 School Bike Shed Count Summary

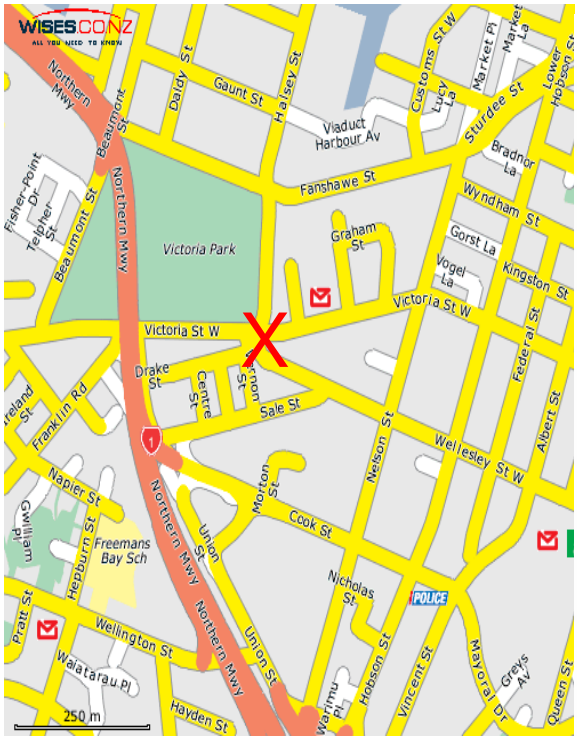
Key Points

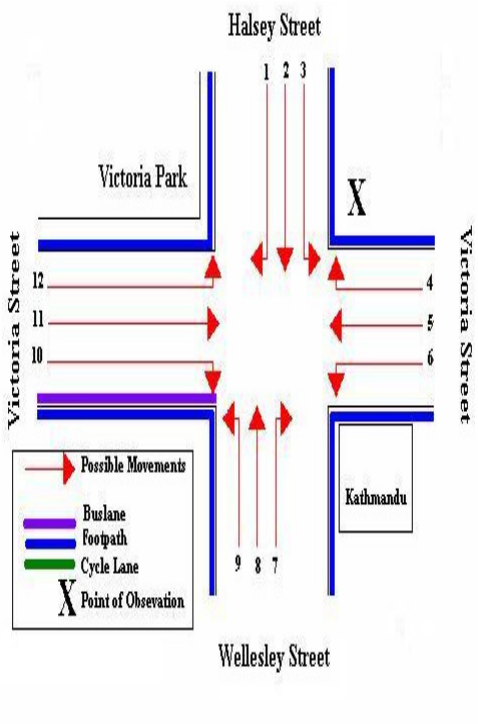
- Of those eligible to cycle at school, on average, two per cent of students are cycling to their schools. This share is unchanged from 2008 and 2007.
- Across the 44 eligible schools that responded, n=634 students were reported to cycle to school.
- As in 2007 and 2008, Pasadena Intermediate reported the highest share of cyclists – 17 per cent of all eligible students currently cycling (up from 12 per cent last year).
- Of the 44 eligible schools that responded, 15 (34 per cent) had no students cycling to school. This compares with 11 (26 per cent) in 2008.
- Rates of cycling to school are highest among intermediate schools (5 per cent, up from 3 per cent in 2008), while other levels of schools have fairly constant cycling rates (1 per cent, unchanged from last year).

2. VICTORIA STREET/WELLESLEY STREET/HALSEY STREET, AUCKLAND CENTRAL (SITE 1)

Figure 2.1 shows the possible cyclist movements at this intersection.

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





- The AADT for this site is 180 cycle movements per day. This compares with:
  - 201 cycle movements in 2008
  - 231 cycle movements in 2007.

2.1 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

- Compared with previous years, the volume of morning peak[13] cyclists recorded at the Victoria/Wellesley/Halsey intersection in 2009 is relatively consistent. The number of cyclists has increased slightly from 2008 (54 movements, up 4 compared with 2008).
- The key route in the morning is east along Victoria Street West turning left into Halsey Street (Movement 12 = 27 cyclists, up 14 cyclists from 2008). Other key routes are continuing towards the city centre (Movement 11 = 10 cyclists) and turning right from Halsey Street to Victoria Street (Movement 1 = 6 cyclists). The findings are consistent with the results from previous years.
- Of the twelve movements possible at this intersection, the most notable decreases since last year are at Movements 1 (down 4 cyclists), 5 (down 3 cyclists) and 8 (also down 3 cyclists).

Table 2.1: Morning Cyclist Movements
Victoria/Wellesley/Halsey 2002-2009 (n) - 7.00 to 9.00 am

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	3	10	4	6	9	13	10	6	-4
2	0	2	5	3	3	0	3	2	-1
3	1	0	1	1	3	1	3	1	-2
4	3	0	0	1	0	1	0	3	3
5	2	1	0	1	1	2	4	1	-3
6	1	0	0	1	0	0	0	1	1
7	0	0	0	2	0	0	0	0	0
8	4	3	0	0	5	1	4	1	-3
9	1	0	1	2	0	0	1	1	0
10	2	1	1	2	4	2	2	1	-1
11	12	14	11	19	13	20	10	10	0
12	25	22	10	18	13	20	13	27	14
Total	**55**	**53**	**33**	**56**	**51**	**60**	**50**	**54**	**4**

[13] For consistency with previous years' monitoring, the morning peak is 7.00 to 9.00am. Data for the full monitored period is provided in Table 2.1A.

- Overall, 59 cycle movements were recorded at the Victoria/Wellesley/Halsey Street intersection during the whole monitoring period (from 6:30am to 9:00am). This compares with 57 movements in 2008.

Table 2.1A: Morning Cyclist Movements
Victoria/Wellesley/Halsey 2007-2009 (n) – 6.30 to 9.00 am

Movement	*2007*	*2008*	*2009*	Change 08-09
1	16	10	6	-4
2	0	4	2	-2
3	2	5	2	-3
4	1	0	3	3
5	3	5	1	-4
6	0	0	1	1
7	0	0	0	0
8	1	4	1	-3
9	0	1	1	0
10	2	2	1	-1
11	22	13	11	-2
12	23	13	30	17
Total	**70**	**57**	**59**	**2**

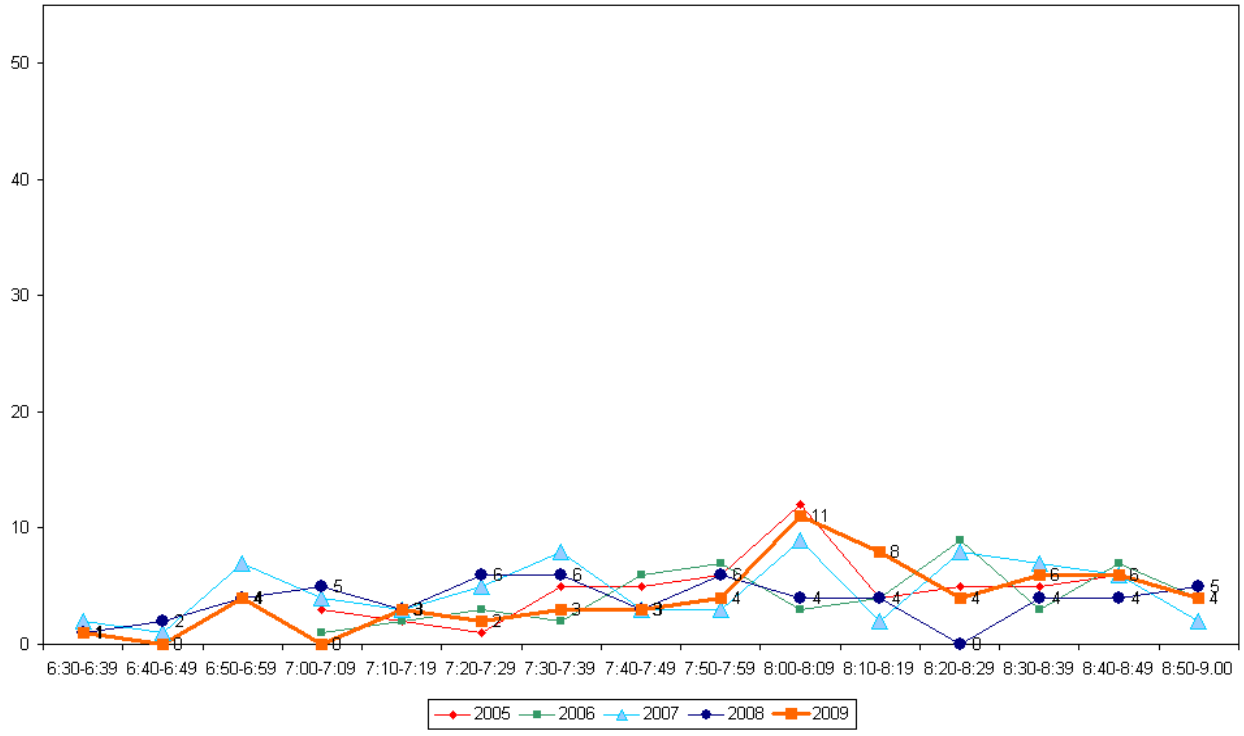
- Eight per cent of cyclists using this site in the morning peak are children (up from no school children over the last three years).
- Most cyclists are wearing a helmet (93 per cent, compared to 98 per cent in 2008).
- The majority (83 per cent) of cyclists are riding on the road (stable compared with 86 per cent recorded in the previous year).

Table 2.2: Morning Cyclist Characteristics
Victoria/Wellesley/Halsey 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	100	89	100	100	100	92	-8
School child	0	11	0	0	0	8	8
Helmet Wearing							
Helmet on head	94	91	96	91	98	93	-5
No helmet	6	9	4	9	2	7	5
Where Riding							
Road	88	88	100	91	86	83	-3
Footpath	12	12	0	9	14	17	3
Base:	***33***	***56***	***51***	***70***	***57***	***59***	

- The volume of morning cycle movements in 2009 peaks slightly between 8:00am and 8:09am (11 moments) – 20 to 40 minutes later than the peak reported last year, but consistent with that recorded in 2007.

Figure 2.2: Victoria/Wellesley/Halsey Cyclist Frequency – Morning Peak



2.2 Evening Peak

Environmental Conditions

- The weather was fine but windy at the beginning of the shift. There was heavy rain between 6:14pm and 6:20pm, and again between 6:47pm and 6:52pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Compared with last year, evening[14] cyclist numbers have declined at this site (41 movements this year compared with 52 in 2008).
- The key movements in the evening are riding west along Victoria Street (Movement 5 = 9 cyclists) and turning right from Halsey Street into Victoria Street (Movement 1 = 8 cyclists).
- Evening cyclist volumes at half (6 out of 12) of the movements have decreased from last year. The most notable decreases are at Movement 12 (down 7 cyclists) and Movement 1 (down 5 cyclists).

Table 2.3: Evening Cyclist Movements
Victoria/Wellesley/Halsey 2002-2009 (n) - 4.00 to 6.00 pm

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	22	11	8	16	9	19	13	8	-5
2	3	3	2	1	3	2	4	4	0
3	4	5	2	4	1	0	1	5	4
4	1	2	1	1	2	4	3	1	-2
5	7	8	6	18	6	15	6	9	3
6	1	1	0	1	0	0	0	0	0
7	1	1	1	1	1	0	2	0	-2
8	3	3	1	3	2	1	8	5	-3
9	4	0	0	4	4	1	1	4	3
10	2	1	0	1	1	2	0	0	0
11	7	6	4	4	0	4	5	3	-2
12	7	8	12	9	4	12	9	2	-7
Total	**63**	**49**	**36**	**63**	**33**	**60**	**52**	**41**	**-11**

[14] For consistency with previous years' monitoring, the evening peak is 4.00 to 6.00am. Data for the full monitored period is provided in Table 2.3A.

- In total, 65 cycle movements were recorded at this intersection during the evening monitoring period (from 4:00pm to 7:00pm). This compares with 79 movements in 2008.

Table 2.3A: Evening Cyclist Movements
Victoria/Wellesley/Halsey 2007-2009 (n) - 4.00 to 7.00 pm

Movement	*2007*	*2008*	*2009*	Change 08-09
1	25	23	15	-8
2	3	6	5	-1
3	0	1	7	6
4	5	3	3	0
5	23	8	11	3
6	1	0	0	0
7	0	2	0	-2
8	2	10	6	-4
9	3	2	4	2
10	4	0	0	0
11	5	7	5	-2
12	19	17	9	-8
Total	**90**	**79**	**65**	**-14**

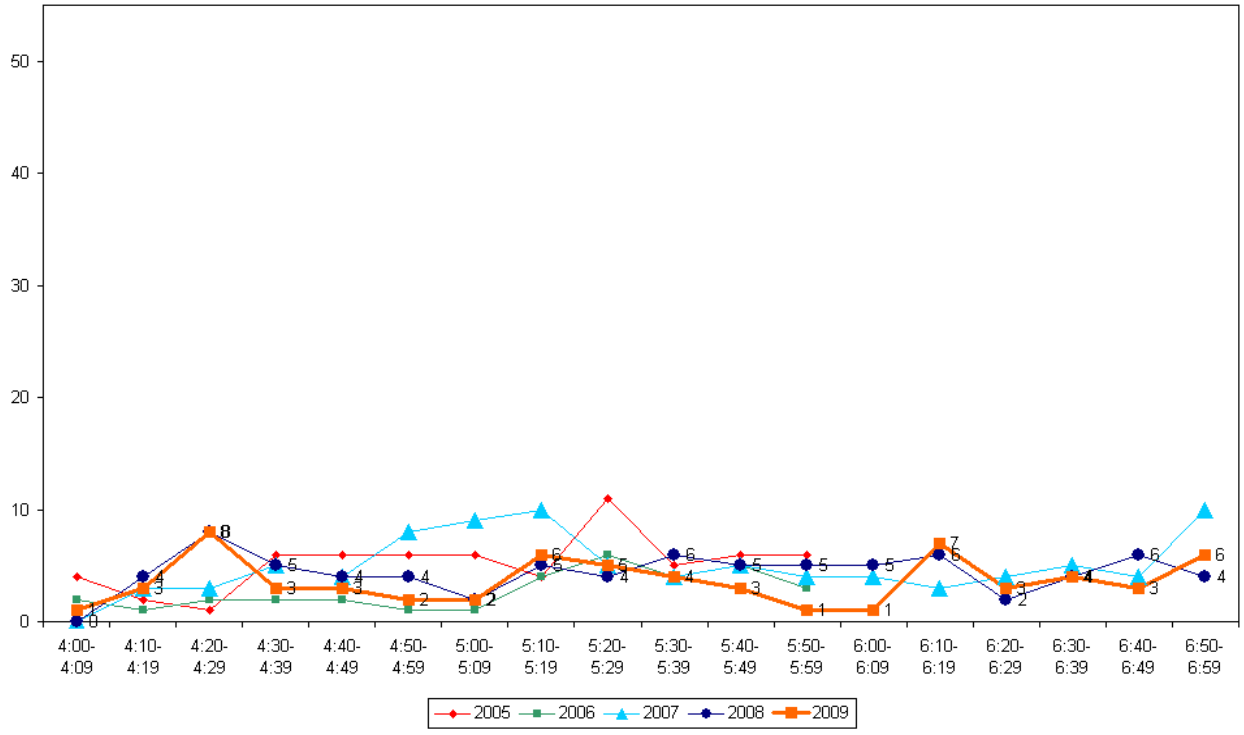
- Over the evening peak, all cyclists using the Victoria/Wellesley/Halsey intersection are adults (100 per cent, stable since 2004).
- Most evening cyclists (83 per cent) at this site are wearing a helmet. However, this share is down by 13 percentage points from the previous year.
- Most cyclists are riding on the road (71 per cent, down from 87 per cent last year).

Table 2.4: Evening Cyclist Characteristics
Victoria/Wellesley/Halsey 2004-2009 (%)

	2004	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type						
Adult	100	97	100	99	100	1
School child	0	3	0	1	0	-1
Helmet Wearing						
Helmet on head	86	91	91	96	83	-13
No helmet	14	9	9	4	17	13
Where Riding						
Road	72	94	87	87	71	-16
Footpath	18	6	13	13	29	16
Base:	***36***	***33***	***90***	***79***	***65***	

- A slight peak (8 cyclists) occurs between 4:20pm and 4:29pm – the same time as the peak reported in 2008 – and another slight peak occurs between 6:10pm and 6:19pm (7 cyclists, consistent with 6 cyclists last year).

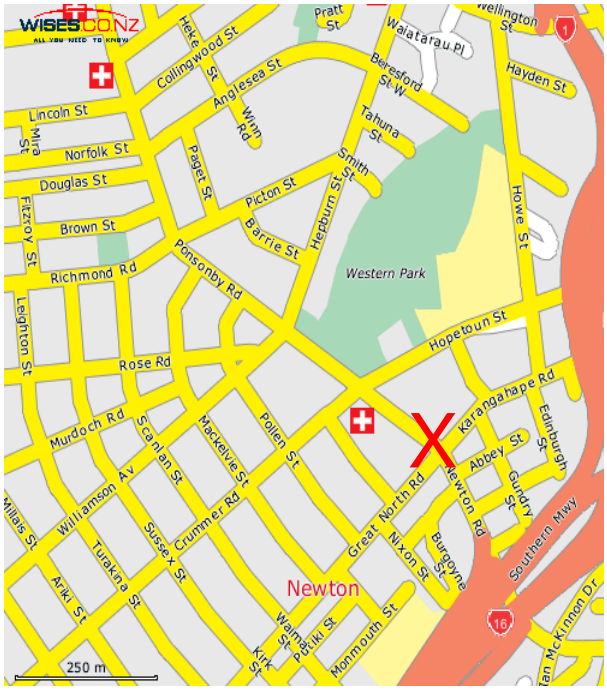
Figure 2.3: Victoria/Wellesley/Halsey Cyclist Frequency – Evening Peak

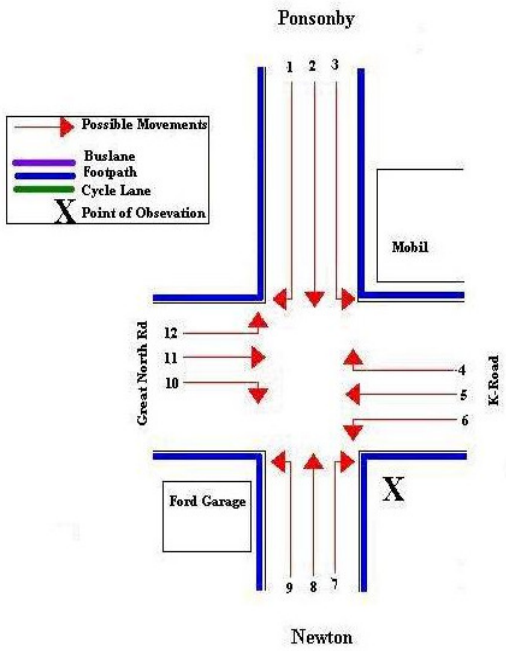


3. PONSONBY/KARANGAHAPE/ NEWTON/GREAT NORTH ROAD, NEWTON (SITE 2)

Figure 3.1 shows the possible cyclist movements at this intersection.

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





AADT Estimate

- The AADT for this site is 536 cycle movements per day. This compares with:
  - 602 movements in 2008
  - 705 movements in 2007.

3.1 Morning Peak

Environmental Conditions

- The weather was initially overcast but became fine over the morning shift.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Compared with previous years, the volume of morning peak cyclists recorded at the Ponsonby/Karangahape/Newton/Great North Road intersection in 2009 has declined slightly, from 180 in 2008 to161 movements this year.
- The most common movement at this intersection continues to be straight through from Great North Road into Karangahape Road (Movement 11 = 78 cyclists).
- Morning cyclist volumes at half of the possible movements at this site have decreased since last year. The most notable declines are at Movement 8 (down 9 cyclists) and Movement 11 (down 8 cyclists).

Table 3.1: Morning Cyclist Movements
Ponsonby/Karangahape/Newton/Great North
2002-2009 (n) – 7.00 to 9.00 am

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	1	2	1	6	1	6	5	7	2
2	6	6	16	3	9	5	6	7	1
3	20	16	22	21	16	23	22	26	4
4	6	4	4	10	8	9	13	7	-6
5	6	3	9	6	7	12	5	4	-1
6	0	0	0	0	1	2	1	1	0
7	3	3	3	6	6	11	5	5	0
8	5	2	7	8	9	11	15	6	-9
9	2	0	2	1	0	0	2	1	-1
10	0	2	0	2	2	5	0	0	0
11	61	102	92	74	65	95	86	78	-8
12	3	4	21	18	16	21	20	19	-1
Total	**113**	**144**	**177**	**155**	**140**	**200**	**180**	**161**	**-19**

- Overall, 176 cycle movements were recorded at the Ponsonby/Karangahape/Newton/ Great North Road intersection during the morning monitoring period (from 6:30am to 9:00am). This compares with 199 movements in 2008.

Table 3.1A: Morning Cyclist Movements
Ponsonby/Karangahape/Newton/Great North
2007-2009 (n) – 6.30 to 9.00 am

Movement	*2007*	*2008*	*2009*	Change 08-09
1	7	6	8	2
2	7	6	7	1
3	24	22	28	6
4	15	15	9	-6
5	16	9	7	-2
6	2	1	1	0
7	11	5	5	0
8	11	15	7	-8
9	0	2	1	-1
10	5	0	0	0
11	105	97	84	-13
12	23	21	19	-2
Total	**226**	**199**	**176**	**-23**

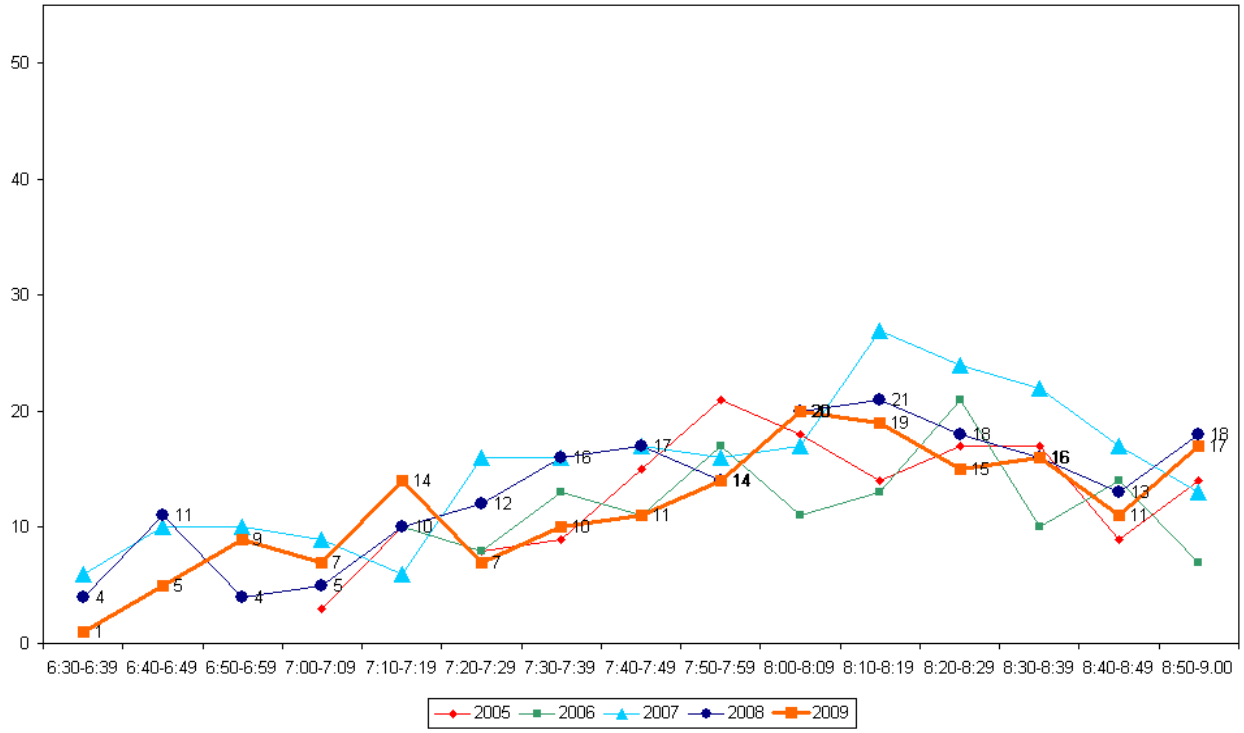
- As in previous years, almost all cyclists using the Ponsonby/Karangahape/Newton/Great North Road intersection are adults (95 per cent).
- Most cyclists are wearing a helmet (91 per cent, compared with 92 per cent in 2008).
- Most cyclists at the site are riding on the road (79 per cent, down by 12 percentage points from last year).

Table 3.2: Morning Cyclist Characteristics
Ponsonby/Karangahape/Newton/Great North 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	96	96	100	98	97	95	-2
School child	4	4	0	2	3	5	2
Helmet Wearing							
Helmet on head	92	92	92	93	92	91	-1
No helmet	8	8	8	7	8	9	1
Where Riding							
Road	40	89	72	68	91	79	-12
Footpath	60	11	28	32	9	21	12
Base:	***177***	***155***	***140***	***226***	***199***	***176***	

- Overall, the pattern of morning cyclist volumes in 2009 follows that of previous years. In particular, morning cycle volumes start off relatively low, peak during the second half of the monitoring period, and then tail off towards the end – although this year, a slight peak is evident between 8:50am and 9:00am. This year the main peak (20 movements) occurs between 8:00am and 8:10am – 10 minutes earlier than in 2007 and 2008.

Figure 3.2: Ponsonby/Karangahape/Newton/Great North Cyclist Frequency – Morning Peak



3.2 Evening Peak

Environmental Conditions

- The weather was overcast with intermittent drizzle. There was rain from 6:45pm; this became heavy at 6:51pm and continued to the end of the shift.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Total evening cyclist volumes at the Ponsonby/Karangahape/Newton/Great North Road intersection continue to be high and have remained unchanged from last year (139 movements in 2009, 140 in 2008).
- The most common movement at this intersection in the evening is straight through from Karangahape Road into Great North Road (Movement 5 = 57 cyclists). This is consistent with previous years.
- Evening cyclist volumes at one-third (4 out of 12) of the movements have decreased from last year. The most notable decrease is at Movement 5 (57 cyclists recorded, down 13 cyclists from last year). The most notable increase is at Movement 4 (22 cyclists recorded, up from 14 last year).

Table 3.3: Evening Cyclist Movements
Ponsonby/Karangahape/Newton/Great North
2002-2009 (n) – 4.00 to 6.00 pm

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	**Change 08-09**
1	4	17	14	14	10	29	10	17	7
2	8	8	10	8	9	11	12	7	-5
3	8	7	12	9	3	9	7	11	4
4	27	32	28	19	22	18	14	22	8
5	57	82	61	64	54	69	70	57	-13
6	4	3	1	0	2	6	1	5	4
7	0	2	0	2	0	1	0	1	1
8	1	9	10	5	3	5	5	6	1
9	1	0	0	2	1	1	0	1	1
10	0	4	0	0	0	0	0	1	1
11	9	9	13	11	11	16	14	6	-8
12	3	2	5	2	2	7	7	5	-2
Total	**122**	**175**	**154**	**136**	**117**	**172**	**140**	**139**	**-1**

- In total, 194 cycle movements were recorded at this intersection during the evening monitoring period (from 4:00pm to 7:00pm). This compares with 216 movements in 2008.

Table 3.3A: Evening Cyclist Movements
Ponsonby/Karangahape/Newton/Great North
2007-2009 (n) – 4.00 to 7.00 pm

Movement	*2007*	*2008*	*2009*	Change 08-09
1	38	18	23	5
2	14	20	7	-13
3	20	12	15	3
4	32	25	31	6
5	106	97	85	-12
6	8	1	9	8
7	1	1	1	0
8	10	6	6	0
9	1	1	3	2
10	0	1	1	0
11	22	22	8	-14
12	9	12	5	-7
Total	**261**	**216**	**194**	**-22**

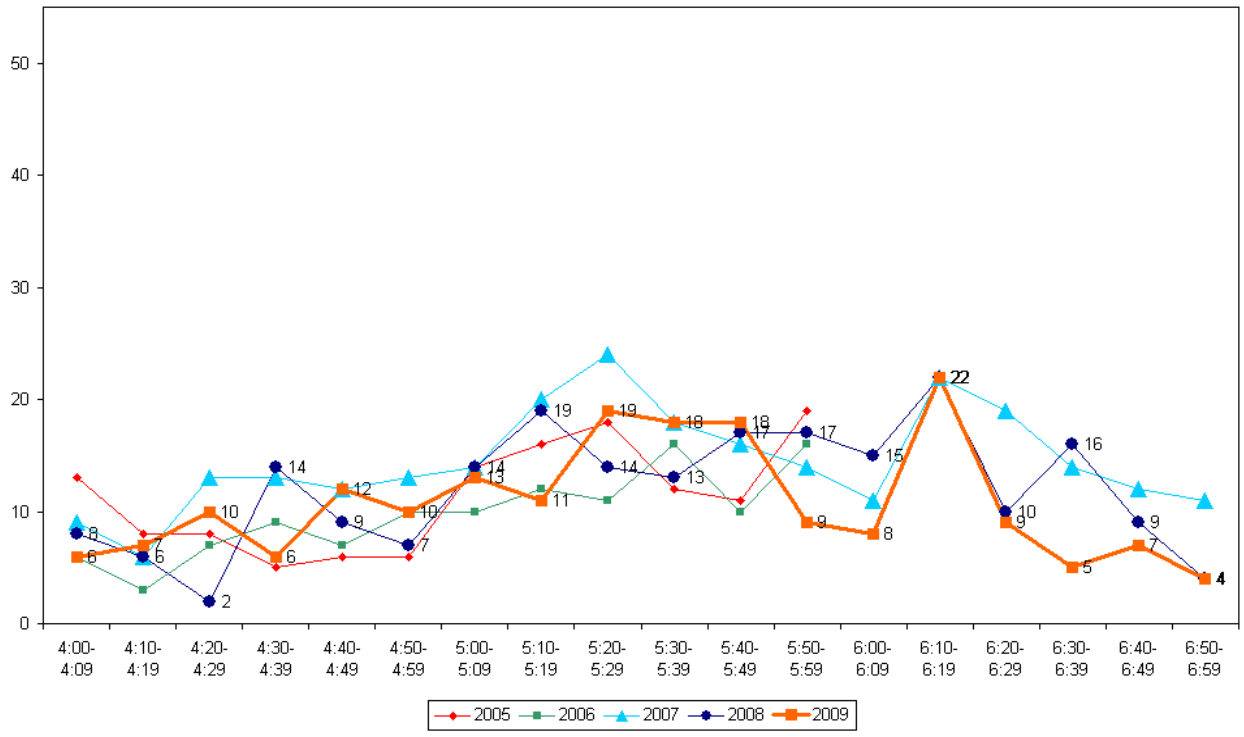
- Over the evening peak, almost all riders at this intersection are adults (97 per cent, compared with 98 per cent in 2008).
- The majority of cyclists are wearing a helmet (88 per cent, stable from 89 per cent in 2008).
- Seventy-five per cent of cyclists are riding on the road, representing a decrease of 15 percentage points since the last measure.

Table 3.4: Evening Cyclist Characteristics
Ponsonby/Karangahape/Newton/Great North 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	94	98	100	99	98	97	-1
School child	6	2	0	1	2	3	1
Helmet Wearing							
Helmet on head	87	90	86	87	89	88	-1
No helmet	13	10	14	13	11	12	1
Where Riding							
Road	65	88	68	74	90	75	-15
Footpath	35	12	32	26	10	25	15
Base:	***154***	***136***	***117***	***261***	***216***	***194***	

- This year, the number of evening cyclists peaks slightly between 6:10pm and 6:19pm (22 cyclists (consistent with 2007 and 2008).

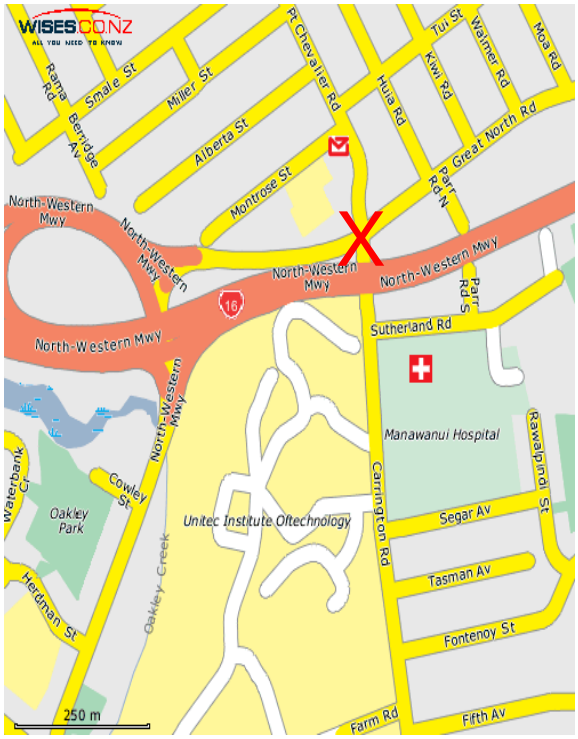
Figure 3.3: Ponsonby/Karangahape/Newton/Great North Cyclist Frequency – Evening Peak

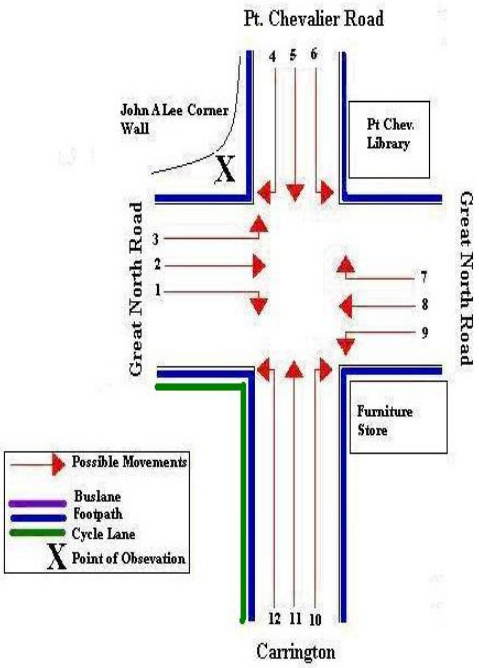


4. GREAT NORTH/CARRINGTON/POINT CHEVALIER ROAD, POINT CHEVALIER (SITE 3)

Figure 4.1 shows the possible cyclist movements at this intersection.

Figure 4.1: Cycle Movements: Great North/Carrington/Point Chevalier





- The AADT for this site is 281 cycle movements per day. This compares with:
  - 333 movements in 2008
  - 341 movements in 2007.

4.1 Morning Peak

Environmental Conditions

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

Key Points

- Morning cyclist numbers recorded at the Great North/Carrington/Point Chevalier Road intersection in 2009 have remained unchanged from 2008 at 84.
- The key movements in the morning at this intersection are right out of Carrington Road onto Great North Road (Movement 10 = 27 cyclists), straight through from Pt Chevalier Road into Carrington Road and the reverse direction (Movements 11 and 5 = 18 cyclists and 17 cyclists respectively).
- Compared with last year, the volume of morning cyclists is most notably lower at Movement 10 (down 8 cyclists).

Table 4.1: Morning Cyclist Movements
Great North/Carrington/Point Chevalier 2002-2009 (n) – 7.00 to 9.00 am

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	19	16	3	0	1	0	0	0	0
2	24	20	10	10	10	10	9	8	-1
3	0	3	1	1	0	0	5	1	-4
4	2	2	0	2	2	3	2	1	-1
5	7	11	19	8	23	20	13	17	4
6	1	0	1	1	0	4	0	0	0
7	0	0	1	0	0	4	2	1	-1
8	3	4	3	2	2	3	1	2	1
9	5	7	7	4	7	12	4	5	1
10	10	9	15	20	21	28	35	27	-8
11	3	5	10	8	9	16	13	18	5
12	9	9	0	1	1	1	0	4	4
Total	**83**	**86**	**70**	**57**	**76**	**101**	**84**	**84**	**0**

- Overall, 97 cycle movements were recorded at the Great North/Carrington/Point Chevalier Road intersection during the morning monitoring period (from 6:30am to 9:00am). This compares with 95 movements in 2008.

Table 4.1A: Morning Cyclist Movements
Great North/Carrington/Point Chevalier 2007-2009 (n) – 6.30 to 9.00 am

Movement	*2007*	*2008*	*2009*	Change 08-09
1	0	0	0	0
2	10	10	9	-1
3	0	5	1	-4
4	4	2	3	1
5	23	15	17	2
6	5	0	0	0
7	4	2	1	-1
8	4	2	2	0
9	14	4	7	3
10	32	36	31	-5
11	17	18	22	4
12	1	1	4	3
Total	**114**	**95**	**97**	**2**

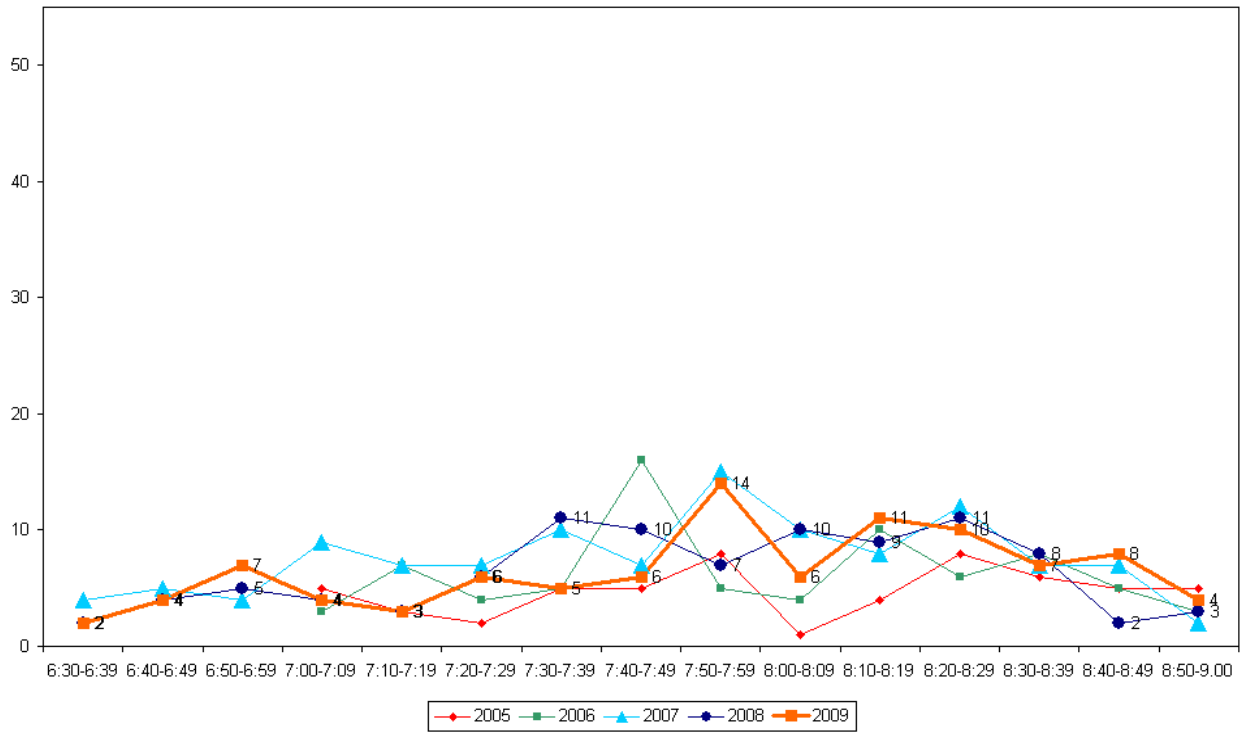
- The majority of cyclists at this intersection are adults (87 per cent, up from 84 per cent last year).
- Most cyclists are wearing a helmet (91 per cent, stable from 93 per cent in 2008).
- Just over two-thirds (68 per cent) of cyclists are riding on the road (down from 73 per cent last year).

Table 4.2: Morning Cyclist Characteristics
Great North/Carrington/Point Chevalier 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	91	84	93	86	84	87	3
School child	9	16	7	14	16	13	-3
Helmet Wearing							
Helmet on head	86	88	88	89	93	91	-2
No helmet	14	12	12	11	7	9	2
Where Riding							
Road	64	68	75	67	73	68	-5
Footpath	36	32	25	33	27	32	5
Base:	***70***	***57***	***76***	***114***	***95***	***97***	

- Morning cycle volumes peak between 7:50am and 7:59am (20 minutes later than the peak reported in 2008, but the same time as in 2007) (14 movements).

Figure 4.2: Great North/Carrington/Point Chevalier Cyclist Frequency – Morning Peak



4.2 Evening Peak

Environmental Conditions

- The weather was fine throughout the evening shift, with the exception of a light shower at 6.10pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Evening cyclist numbers (77 moments) have declined slightly at this intersection since last year (83 movements).
- The two key movements in the evening at this intersection are turning left off Great North Road onto Carrington Road (Movement 9 = 20 cyclists), and straight through from Carrington Road into Pt Chevalier Road (Movement 11 = 16 movements).
- Evening cyclist volumes at five of the 12 movements at this site have decreased slightly from last year. The most notable decrease is at Movement 4 (down 6 cyclists).
- The most notable increase is Movement 5 (up 8 cyclists).

Table 4.3: Evening Cyclist Movements

Great North/Carrington/Point Chevalier 2002-2009 (n) – 4.00 to 6.00 pm

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	**Change 08-09**
1	15	6	0	0	0	0	0	0	0
2	6	3	1	1	1	4	3	3	0
3	1	6	2	1	2	0	0	2	2
4	0	7	1	2	1	3	7	1	-6
5	6	3	8	7	6	13	6	14	8
6	0	0	0	0	0	1	1	1	0
7	0	0	0	1	1	3	4	1	-3
8	17	25	6	12	2	7	9	6	-3
9	6	7	9	11	15	18	18	20	2
10	12	13	7	18	9	20	15	13	-2
11	6	4	9	12	7	15	20	16	-4
12	24	30	0	0	1	0	0	0	0
Total	**93**	**104**	**43**	**65**	**45**	**84**	**83**	**77**	**-6**

- In total, 96 cycle movements were recorded at the Great North/Carrington/Point Chevalier Road intersection during the evening monitoring period (from 4:00pm to 7:00pm). This compares with 136 movements in 2008.

Table 4.3A: Evening Cyclist Movements
Great North/Carrington/Point Chevalier 2007-2009 (n) – 4.00 to 7.00 pm

Movement	*2007*	*2008*	*2009*	Change 08-09
1	1	0	0	0
2	5	5	3	-2
3	0	1	3	2
4	4	10	1	-9
5	18	14	18	4
6	4	1	1	0
7	6	4	2	-2
8	12	12	12	0
9	22	29	22	-7
10	23	25	15	-10
11	26	34	19	-15
12	0	1	0	-1
Total	**121**	**136**	**96**	**-40**

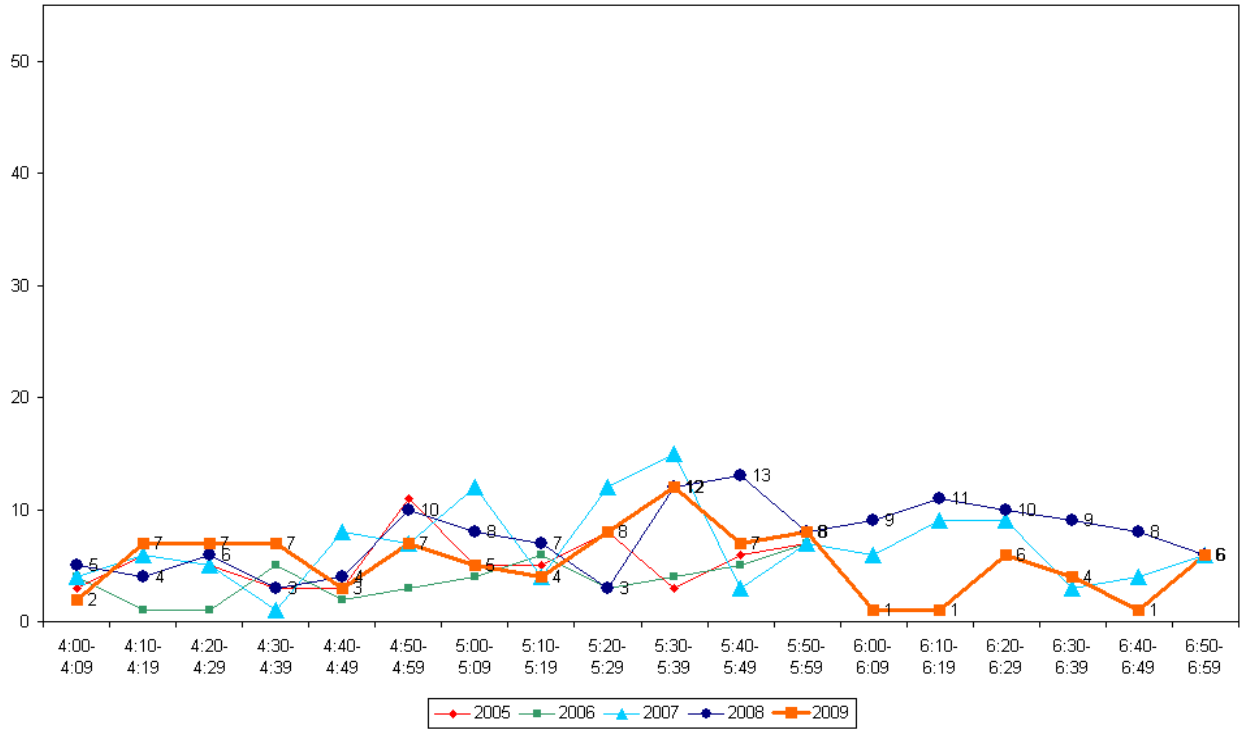
- Over the evening peak, most cyclists using this intersection are adults (95 per cent, stable from 2008).
- Compared with last year, the share of cyclists wearing a helmet is unchanged (91 per cent).
- Just less than two-thirds of cyclists are riding on the road (64 per cent, down from 71 per cent last year).

Table 4.4: Evening Cyclist Characteristics
Great North/Carrington/Point Chevalier 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 07-08
Cyclist Type							
Adult	86	89	100	89	96	95	-1
School child	14	11	0	11	4	5	1
Helmet Wearing							
Helmet on head	81	85	84	85	91	91	0
No helmet	19	15	16	15	9	9	0
Where Riding							
Road	47	66	69	64	71	64	-7
Footpath	53	34	31	36	29	36	7
Base:	***43***	***65***	***45***	***121***	***136***	***96***	

- Evening cycle volumes peak in the middle of the monitoring period (12 cyclists between 5:30pm and 5:39pm) – 10 minutes earlier than last year's peak but consistent with 2007.

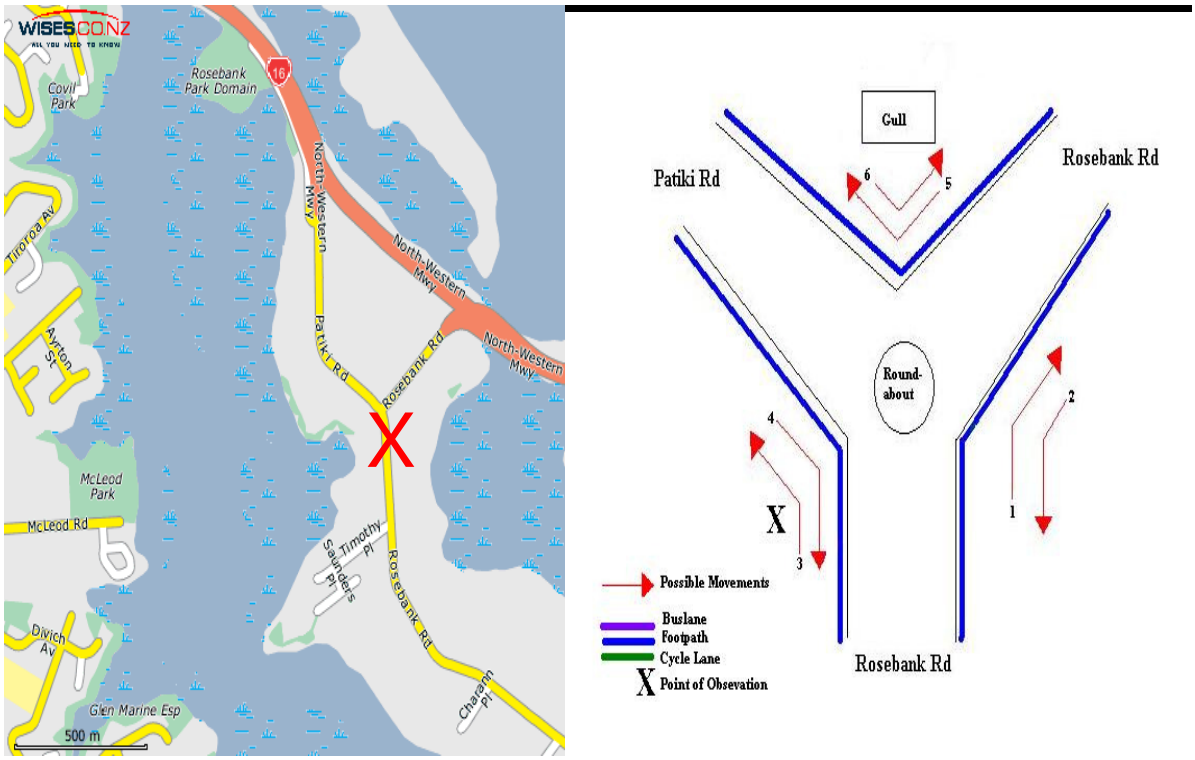
Figure 4.3: Great North/Carrington/Point Chevalier Cyclist Frequency – Evening Peak



5. PATIKI/ROSEBANK ROAD, AVONDALE (SITE 4)

Figure 5.1 shows the possible cyclist movements at this intersection.

Figure 5.1: Cycle Movements: Patiki/Rosebank



AADT Estimate

- The AADT for this site is 105 cycle movements per day. This compares with:
  - 114 movements in 2008
  - 119 movements in 2007.

5.1 Morning Peak

Environmental Conditions

- The weather was fine during the morning shift, apart from light drizzle between 8:03am and 8:10am.
- There were no road works or accidents that may affect cycle counts.

Key Points

- As noted in previous years, the volume of morning cyclists at the Patiki /Rosebank Road intersection is relatively light (32 movements) when compared to other sites in Auckland city. However, the number of morning cyclists this year has increased slightly from last year (26 movements).
- The key movement at this site in the morning is south down Patiki Road into Rosebank Road (Movement 4 = 17 cyclists). This is consistent with the previous monitoring periods.
- Of the six movements possible at this site, the only movement where a decline has occurred is at Movement 6 (down 2 cyclists).

Table 5.1: Morning Cyclist Movements
Patiki/Rosebank 2004-2009 (n) – 7.00 to 9.00 am

Movement	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	1	3	1	2	3	4	1
2	3	9	6	7	5	5	0
3	1	0	7	2	2	6	4
4	8	12	20	17	14	17	3
5	2	1	0	1	0	0	0
6	2	2	0	1	2	0	-2
Total	**17**	**27**	**34**	**30**	**26**	**32**	**6**

- Overall, 38 cycle movements were recorded at the Patiki/Rosebank Road intersection during the morning monitoring period (from 6:30am to 9:00am). This compares with 34 movements in 2008.

Table 5.1A: Morning Cyclist Movements
Patiki/Rosebank 2007-2009 (n) – 6.30 to 9.00 am

Movement	*2007*	*2008*	*2009*	Change 08-09
1	2	4	5	1
2	7	7	5	-2
3	5	4	8	4
4	21	16	20	4
5	1	1	0	-1
6	1	2	0	-2
Total	**37**	**34**	**38**	**4**

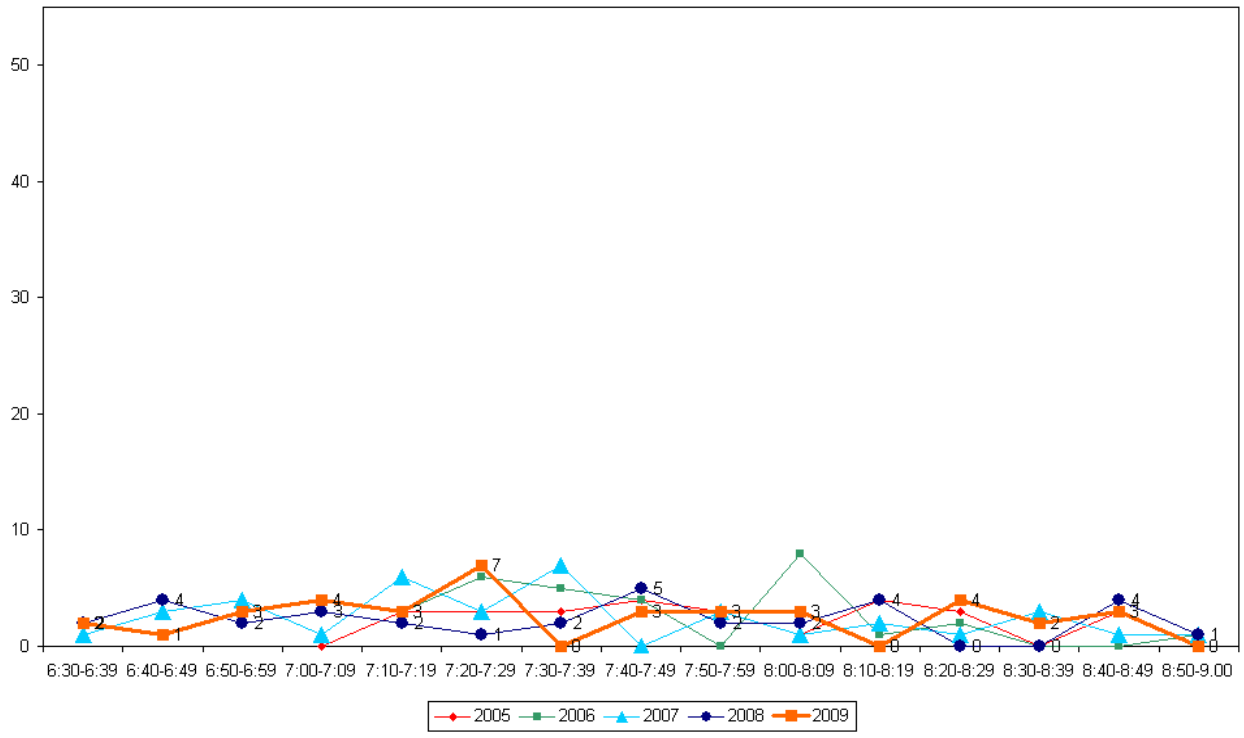
- Over the morning peak, most cyclists are adults (97 per cent, down from all cyclists last year).
- The majority of cyclists are wearing helmets over the morning peak (95 per cent, compared with 88 per cent in 2008). This is the highest proportion since monitoring began.
- Three-quarters (74 per cent) of cyclists were riding on the road, a notable increase from 47 per cent in 2008, and the highest incidence of cyclists riding on the road at this site since monitoring began.

Table 5.2: Morning Cyclist Characteristics
Patiki/Rosebank 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	82	100	76	95	100	97	-3
School child	18	0	24	5	0	3	3
Helmet Wearing							
Helmet on head	82	85	88	81	88	95	7
No helmet	18	15	12	19	12	5	-7
Where Riding							
Road	53	63	59	57	47	74	27
Footpath	47	37	41	43	53	26	-27
Base:	***17***	***27***	***34***	***37***	***34***	***38***	

- This year, the frequency of cyclists in the morning period peaks slightly between 7:20am and 7:29am (7 cyclists) – 20 minutes earlier than the peak reported last year.

Figure 5.2: Patiki/Rosebank Cyclist Frequency – Morning Peak



5.2 Evening Peak

Environmental Conditions

- The weather was overcast throughout the evening shift. There was slight drizzle about 5:30pm and then heavy rain between 6:05pm and 6:10pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The total cyclist volume recorded at the Patiki/Rosebank Road intersection continues to be light in the evening peak (31 movements, down slightly from last year).
- The most common movement at this site in the evening is north up Rosebank Road turning into Patiki Road (Movement 3 = 17 cyclists). This is consistent with last year.
- Evening cyclist volumes at each movement are fairly constant from last year, with the exception of Movement 4 (down 5 cyclists).

Table 5.3: Evening Cyclist Movements
Patiki/Rosebank 2004-2009 (n) – 4.00 to 6.00 pm

Movement	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	2	9	3	7	5	4	-1
2	2	4	1	0	4	6	2
3	13	19	20	17	18	17	-1
4	2	4	5	8	6	1	-5
5	1	1	2	2	1	1	0
6	0	1	0	0	1	2	1
Total	**20**	**38**	**31**	**34**	**35**	**31**	**-4**

- Compared with other sites in Auckland city, total cyclist volumes recorded at this intersection from 4:00pm to 7:00pm are also relatively light (34 movements, down from 45 movements in 2007 and 2008).

Table 5.3A: Evening Cyclist Movements
Patiki/Rosebank 2007-2009 (n) – 4.00 to 7.00 pm

Movement	*2007*	*2008*	*2009*	Change 08-09
1	7	6	4	-2
2	2	8	7	-1
3	18	22	19	-3
4	14	7	1	-6
5	4	1	1	0
6	0	1	2	1
Total	**45**	**45**	**34**	**-11**

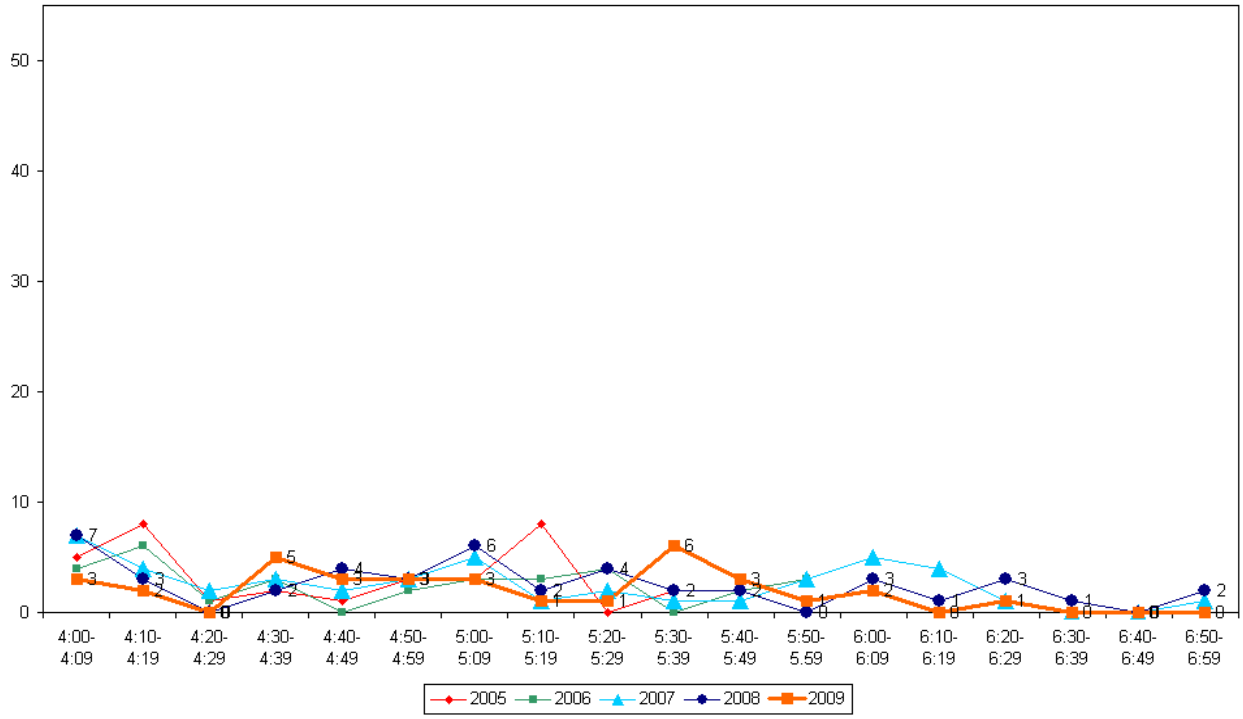
- None of the evening cyclists using this intersection are school children (unchanged from 2008).
- Most cyclists are wearing a helmet in the evening peak (91 per cent, compared with 84 per cent last year).
- The incidence of riding on the footpath has declined notably, from 38 per cent in 2008 to 12 per cent this year.

Table 5.4: Evening Cyclist Characteristics
Patiki/Rosebank 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	**Change 08-09**
Cyclist Type							
Adult	95	100	94	100	100	100	0
School child	5	0	6	0	0	0	0
Helmet Wearing							
Helmet on head	100	87	84	89	84	91	7
No helmet	0	13	16	11	16	9	-7
Where Riding							
Road	95	63	81	53	62	88	26
Footpath	5	37	19	47	38	12	-26
Base:	***20***	***38***	***31***	***45***	***45***	***34***	

- Unlike the previous monitoring periods, the volume of evening cyclists in 2009 peaks in the middle of the monitoring period (6 movements between 5:30pm and 5:39pm).

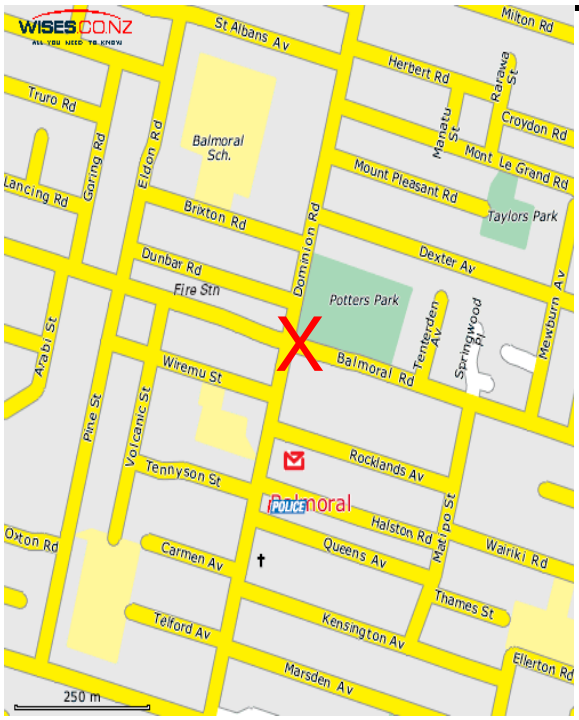
Figure 5.3: Patiki/Rosebank Cyclist Frequency – Evening Peak

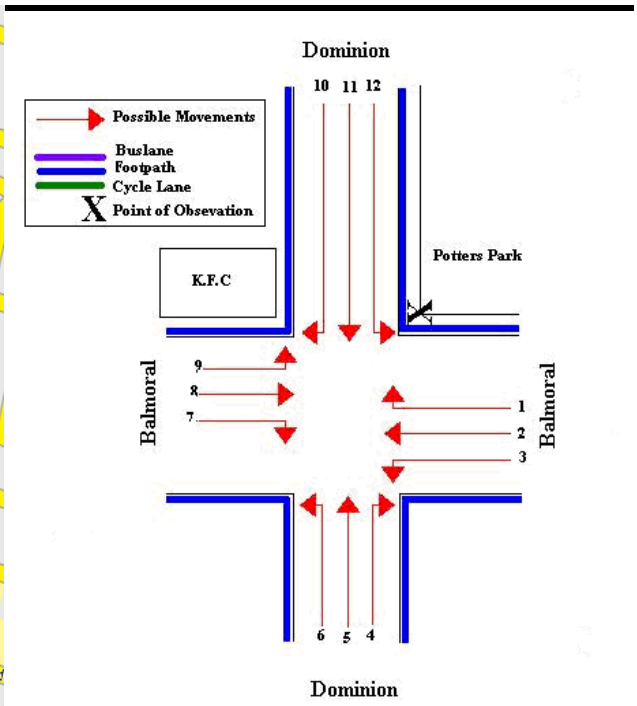


6. DOMINION/BALMORAL ROAD, BALMORAL (SITE 5)

Figure 6.1 shows the possible cyclist movements at this intersection.

Figure 6.1: Cycle Movement: Dominion/Balmoral





- The AADT for this site is 265 cycle movements per day. This compares with:
  - 291 movements in 2008
  - 344 movements in 2007.

6.1 Morning Peak

Environmental Conditions

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

Key Points

- The total number of morning cyclists at the Balmoral/Dominion Road intersection in 2009 has declined slightly from last year's result (78 movements, compared with 84 movements in 2008).
- The key movements at this site are travelling north along Dominion Road towards the city (Movement 5 = 32 cyclists), and straight along Balmoral Road heading east (Movement 8 = 14 cyclists).
- Morning cyclist volumes at six out of twelve of the movements have increased slightly from last year, while decreases were recorded at five of the movements. The most notable decreases are at Movements 1 and 2 (each down 5 cyclists).

Table 6.1: Morning Cyclist Movements

Dominion/Balmoral 2003-2009 (n) – 7.00 to 9.00 am

Movement	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	0	4	13	20	19	15	10	-5
2	7	12	9	5	9	10	5	-5
3	0	1	0	2	1	0	0	0
4	0	1	0	1	1	0	2	2
5	54	43	51	40	49	36	32	-4
6	1	2	2	4	4	0	1	1
7	0	0	2	0	3	0	1	1
8	2	2	10	9	10	12	14	2
9	4	5	1	5	4	4	5	1
10	1	2	0	3	1	1	4	3
11	6	3	6	1	3	4	3	-1
12	0	1	0	2	0	2	1	-1
Total	**75**	**76**	**94**	**92**	**104**	**84**	**78**	**-6**

- Overall, 85 cycle movements were recorded at the Balmoral/Dominion Road intersection during the morning monitoring period (from 6:30am to 9:00am). This compares with 90 movements in 2008.

Table 6.1A: Morning Cyclist Movements
Dominion/Balmoral 2007-2009 (n) – 6.30 to 9.00 am

Movement	*2007*	*2008*	*2009*	Change 08-09
1	20	15	10	-5
2	11	10	6	-4
3	1	0	0	0
4	1	0	2	2
5	52	41	35	-6
6	4	1	1	0
7	3	0	1	1
8	12	12	15	3
9	4	4	6	2
10	1	1	4	3
11	3	4	4	0
12	2	2	1	-1
Total	**114**	**90**	**85**	**-5**

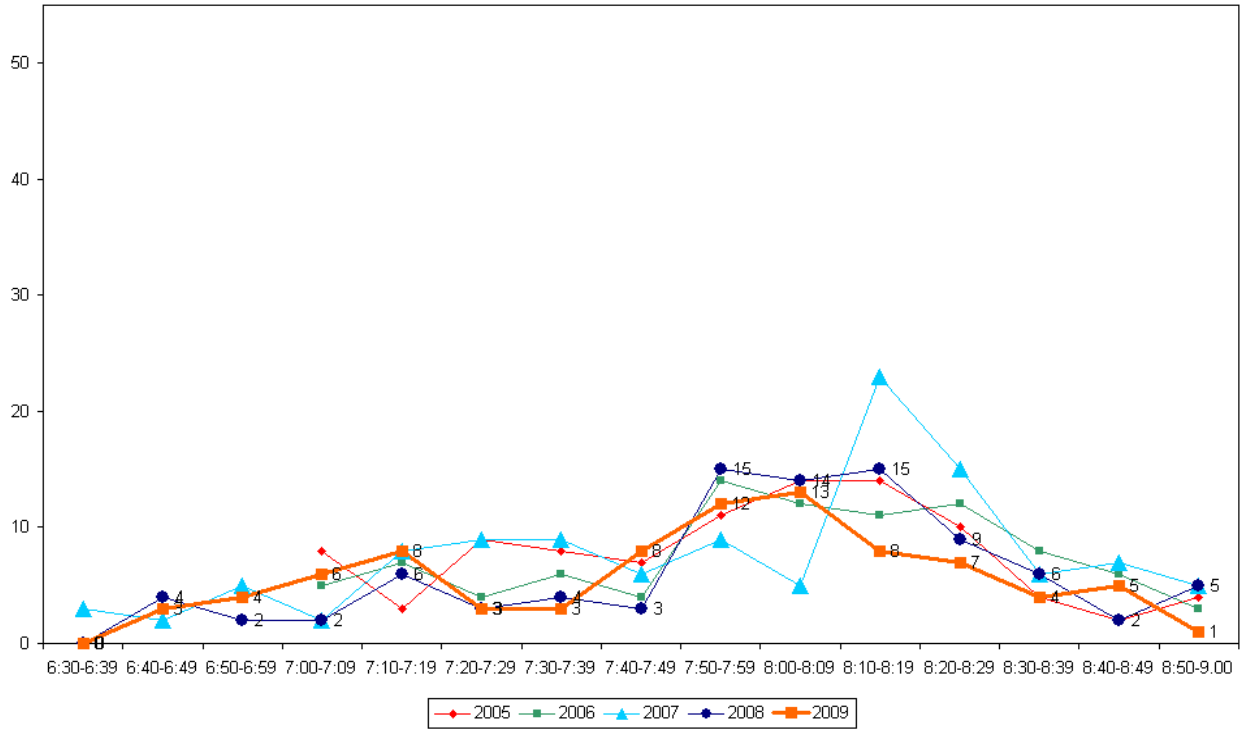
- Most cyclists at this site are adults (87 per cent, compared with 74 per cent last year).
- Consistent with previous years, almost all cyclists using this intersection are wearing a helmet (96 per cent).
- This year, all cyclists were riding on the road, a notable increase from a range of 65 per cent to 69 per cent over the previous measures.

Table 6.2: Morning Cyclist Characteristics
Dominion/Balmoral 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	67	81	75	71	74	87	13
School child	33	19	25	29	26	13	-13
Helmet Wearing							
Helmet on head	93	97	98	96	96	96	0
No helmet	7	3	2	4	4	4	0
Where Riding							
Road	67	69	67	65	67	100	33
Footpath	33	31	33	35	33	0	-33
Base:	***76***	***94***	***92***	***114***	***90***	***85***	

- The volume of morning cyclists in 2009 peaks between 8:00am and 8:09am (13 cyclists). This compares with cyclist numbers peaking between 7:50am and 8:19am last year.

Figure 6.2: Dominion/Balmoral Cyclist Frequency – Morning Peak



6.2 Evening Peak

Environmental Conditions

- The weather was overcast throughout the evening shift. Light drizzle was reported between 5:17pm and 5:28pm, while rain was reported between 6:40pm and 6:45pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Compared with previous years, the volume of evening peak cyclists recorded at the Dominion/Balmoral Road intersection in 2009 is the second lowest since monitoring began (68 movements, compared with 83 movements recorded in 2008).
- The key movements at this site are south down Dominion Road (Movement 11 = 32 cyclists) and west along Balmoral Road (Movement 2 = 14 cyclists).
- Of the twelve movements possible at this intersection, the most notable decrease since last year in terms of evening cyclist volumes is at Movement 8 (down 6 cyclists), while the most notable increase is at Movement 10 (up 6 cyclists).

Table 6.3: Evening Cyclist Movements
Dominion/Balmoral Road 2003-2009 (n) – 4.00 to 6.00 pm

Movement	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	2	3	2	1	3	5	1	-4
2	7	8	20	12	14	15	14	-1
3	3	2	3	1	2	2	1	-1
4	1	2	3	1	0	0	0	0
5	11	9	5	4	7	9	7	-2
6	1	1	1	0	3	3	0	-3
7	1	2	6	1	5	3	1	-2
8	7	9	6	4	7	10	4	-6
9	2	1	1	3	2	0	1	1
10	5	5	3	6	7	0	6	6
11	34	25	21	25	33	34	32	-2
12	1	6	3	6	4	2	1	-1
Total	**75**	**73**	**74**	**64**	**88**	**83**	**68**	**-15**

- In total, 98 cycle movements were recorded at the Balmoral/Dominion Road intersection during the evening monitoring period (from 4:00pm to 7:00pm). This compares with 111 movements in 2008.

Table 6.3A: Evening Cyclist Movements
Dominion/Balmoral Road 2007-2009 (n) – 4.00 to 7.00 pm

Movement	*2007*	*2008*	*2009*	Change 08-09
1	3	7	2	-5
2	23	22	18	-4
3	3	2	1	-1
4	1	0	1	1
5	10	10	9	-1
6	3	4	2	-2
7	5	4	3	-1
8	8	13	4	-9
9	2	0	1	1
10	8	2	7	5
11	51	44	48	4
12	5	3	2	-1
Total	**123**	**111**	**98**	**-13**

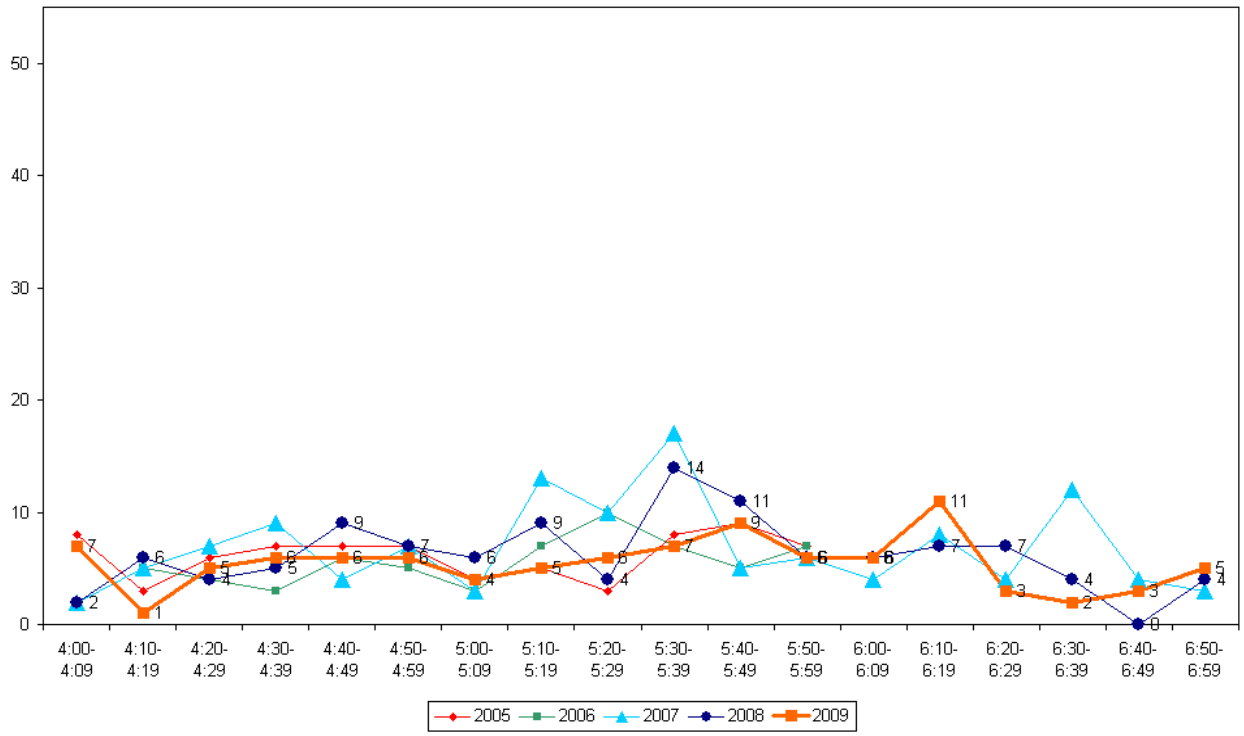
- Almost all cyclists using the Dominion/Balmoral intersection are adults (92 per cent, up from 79 per cent in 2008).
- Since last year, the share of cyclists riding with a helmet has increased notably (up from 86 per cent in 2008 to 96 per cent in 2009).
- Similarly, the share of cyclists riding on the road has increased – up notably by 32 percentage points to 100 per cent this year.

Table 6.4: Evening Cyclist Characteristics
Dominion/Balmoral 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	81	89	100	93	79	92	13
School child	19	11	0	7	21	8	-13
Helmet Wearing							
Helmet on head	82	84	92	89	86	96	10
No helmet	18	16	8	11	14	4	-10
Where Riding							
Road	70	70	92	78	68	100	32
Footpath	30	30	8	22	32	0	-32
Base:	***73***	***74***	***64***	***123***	***111***	***98***	

- Evening cyclist volumes peak between 6:10pm and 6:19pm (11 movements) – 40 minutes later than in 2007 and 2008.

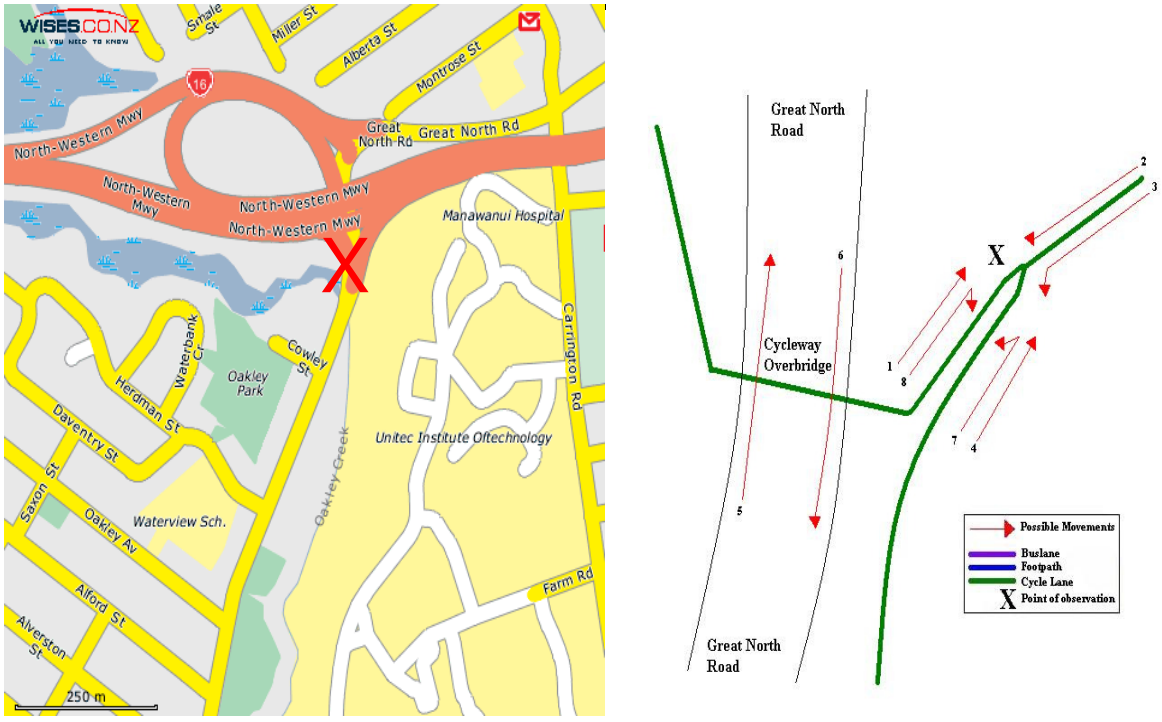
Figure 6.3: Dominion/Balmoral Cyclist Frequency – Evening Peak



7. NORTH WESTERN CYCLEWAY/GREAT NORTH ROAD, WATERVIEW, (SITE 6)

Figure 7.1 shows the possible cyclist movements at this intersection. *Note: A revised map was used for this site in 2008 and 2009. The movements monitored now more accurately reflect what is visible from a single observation point, and focus predominantly on cycle movements on the North Western Cycleway. As a result, movement data collected this year can only be compared with data collected in 2008.*

Figure 7.1: Cycle Movements: Great North Road/North Western Cycleway



AADT Estimate

- The AADT for this site is 416 cycle movements per day. This compares with:
  - 532 movements in 2008
  - 335 movements in 2007.

7.1 Morning Peak

Environmental Conditions

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

Key Points

- Morning cyclist volumes recorded at Great North Road/North Western Cycleway in 2009 have decreased since the previous measure (129 movements recorded this year, down from 143 movements in 2008).
- The key morning movement between 7.00 and 9.00 am is across Great North Road away from the UNITEC overbridge heading north (Movement 1 = 68 movements).

Table 7.1: Morning Cyclist Movements
Great North Road/North Western Cycleway 2007-2009 (n) – 7.00 to 9.00 am

Movement	*2007*	*2008*	*2009*	Change 08 - 09
1	-	75	68	-7
2	-	24	26	2
3	-	5	7	2
4	-	27	12	-15
5	-	10	7	-3
6	-	1	4	3
7	-	1	1	0
8	-	0	4	4
Total	**86**	**143**	**129**	**-14**

- Overall, 145 cycle movements were recorded at Great North Road/North Western cycleway during the morning monitoring period (from 6:30am to 9:00am). This compares with 156 movements in 2008.

Table 7.1A: Morning Cyclist Movements
Great North Road/North Western Cycleway 2007-2009 (n) – 6.30 to 9.00 am

Movement	*2007*	*2008*	*2009*	Change 08 - 09
1	-	82	75	-7
2	-	30	28	-2
3	-	5	9	4
4	-	27	13	-14
5	-	10	9	-1
6	-	1	6	5
7	-	1	1	0
8	-	0	4	4
Total	**98**	**156**	**145**	**-11**

- Consistent with previous years, most cyclists this year are adults (90 per cent, down from 95 per cent last year).
- Almost all cyclists are wearing a helmet (97 per cent, unchanged from last year).

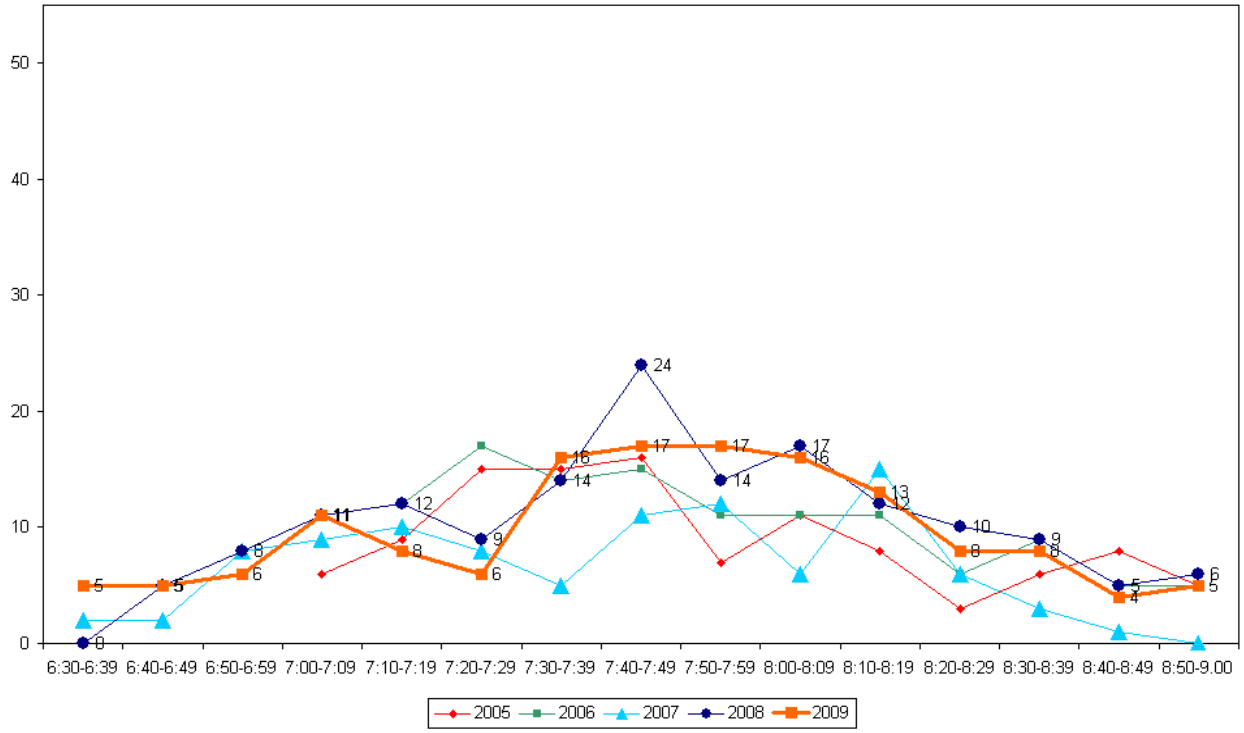
Table 7.2: Morning Cyclist Characteristics
Great North Road/North Western Cycleway 2006-2009 (%)

	2006	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type					
Adult	97	91	95	90	-5
School child	3	9	5	10	5
Helmet Wearing					
Helmet on head	94	99	97	97	0
No helmet	6	1	3	3	0
Where Riding*					
Road	100	100	100	9	-
Off-road cycleway	-	-	-	91	-
Base:	***127***	***98***	***156***	***145***	

** In 2009, riding on the road was split into riding on off road cycleway and road. Therefore, results are not comparable with previous years.*

- Morning cycle volumes peak clearly over the period between 7:30am and 8:09am (between 16 and 17 movements during each ten minute period) and then decline over the rest of the monitoring period. In contrast, last year cycle movements peaked over a shorter time period, between 7:40am and 7:49am (24 movements).

Figure 7.2: Great North Road/North Western Cycleway Cyclist Frequency – Morning Peak



7.2 Evening Peak

Environmental Conditions

- The weather was overcast throughout the evening shift, with patches of intermittent rain. Heavy rain was recorded at 6:10pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Consistent with the morning peak, the number of evening cyclists has also decreased, from 141 in 2008 to 107 movements in 2009.
- The key movements at this site in the evening are straight across Great North Road (via the overbridge) in both directions (Movement 2 = 51 cyclists; including five riding together as a group; Movement 1 = 19 cyclists) and coming from the east on the Cycle Lane and continuing south along Great North Road (Movement 3 = 25 cyclists).

Table 7.3: Evening Cyclist Movements
Great North Road/North Western Cycleway 2009 (n) – 4.00 to 6.00 pm

Movement	*2007*	*2008*	*2009*	Change 08-09
1	-	39	19	-20
2	-	58	51	-7
3	-	30	25	-5
4	-	6	5	-1
5	-	4	4	0
6	-	3	3	0
7	-	1	0	-1
8	-	0	0	0
Total	**88**	**141**	**107**	**-34**

- In total, 141 cycle movements were recorded at the Great North Road/North Western cycleway during the evening monitoring period (from 4:00pm to 7:00pm). This is a notable decline from 213 movements in 2008.

Table 7.3A: Evening Cyclist Movements

Great North Road/North Western Cycleway 2007-009 (n) – 4.00 to 7.00 pm

Movement	*2007*	*2008*	*2009*	Change 08-09
1	-	59	25	-34
2	-	94	70	-24
3	-	40	29	-11
4	-	7	7	0
5	-	6	5	-1
6	-	5	5	0
7	-	1	0	-1
8	-	1	0	-1
Total	**134**	**213**	**141**	**-72**

- Almost all cyclists in the evening peak are adults (97 per cent, down slightly from all cyclists in 2008).
- Almost all cyclists are wearing helmets (95 per cent, stable over the last four years).

Table 7.4: Evening Cyclist Characteristics

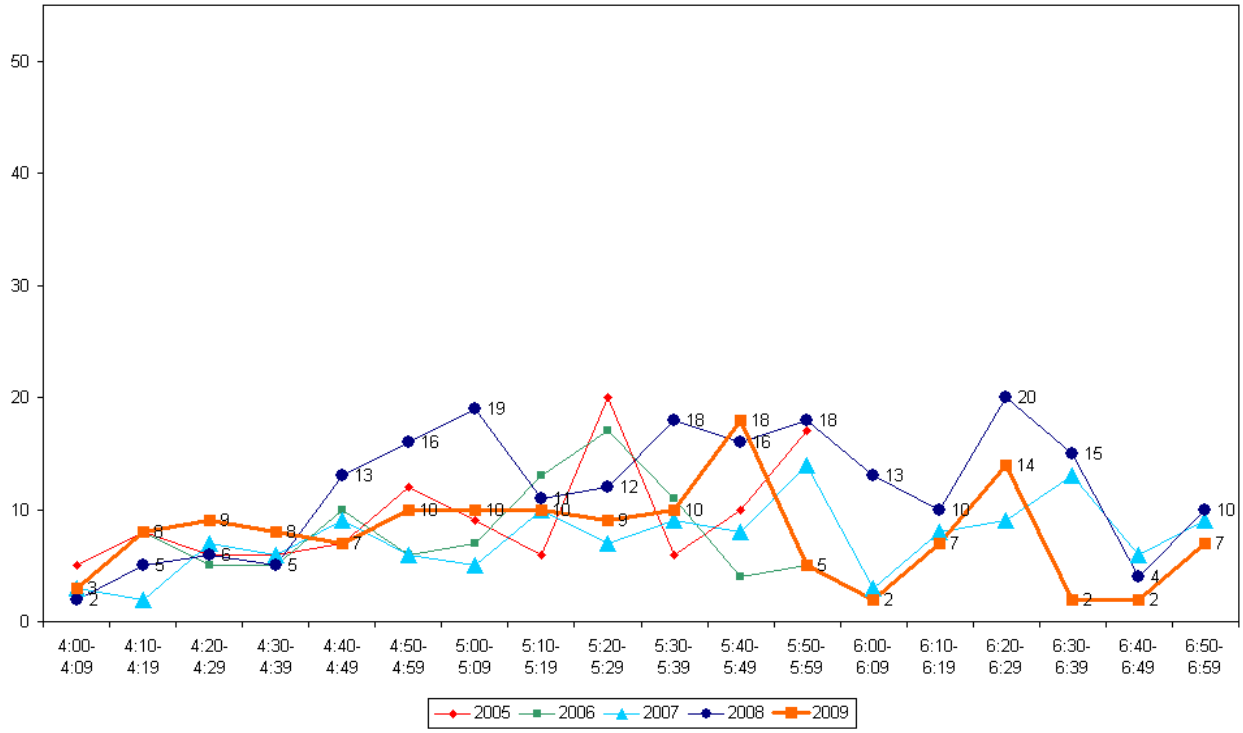
Great North Road/North Western Cycleway 2006-2008 (%)

	2006	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type					
Adult	100	93	100	97	-3
School child	0	7	0	3	3
Helmet Wearing					
Helmet on head	95	98	97	95	-2
No helmet	5	2	3	5	2
Where Riding*					
Road	100	100	100	7	-
Off-road cycleway	-	-	-	93	-
Base:	***94***	***134***	***213***	***141***	

** In 2009, riding on the road was split into riding on off road cycleway and road. Therefore, results are not comparable with previous years.*

- The volume of evening cyclists peaks twice during the shift. The first peak occurs between 5:40pm and 5:49pm (18 movements), followed by another peak at 6:20pm and 6:29pm (14 movements. This includes five cyclists riding as a group at 6.28pm). This differs slightly to 2008, where four peaks were recorded. However, the general trend is similar to that reported in 2007.

Figure 7.3: Great North Road/North Western Cycleway Cyclist Frequency – Evening Peak

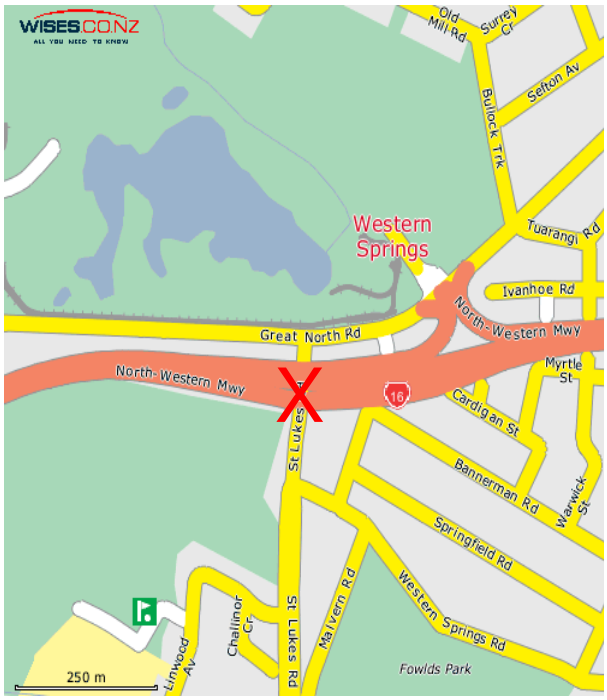


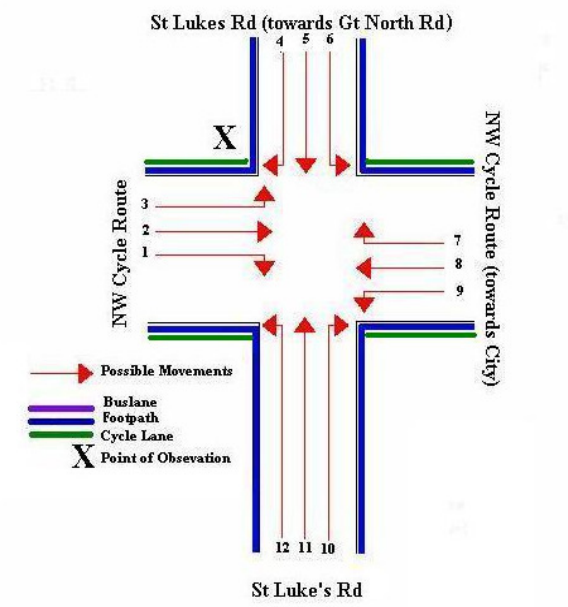
Note: Five cyclists were observed riding together at this site at 6.28pm. This comprises four per cent of the total cycle movements in the evening peak.

8. NORTH WESTERN CYCLEWAY/ST LUKES ROAD, WESTERN SPRINGS (SITE 7)

Figure 8.1 shows the possible cyclist movements at this intersection.

Figure 8.1: Cycle Movements: North Western Cycleway/St Lukes Road





- The AADT for this site is 451 cycle movements per day. This compares with:
  - 480 movements in 2008
  - 469 movements in 2007.

8.1 Morning Peak

Environmental Conditions

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

Key Points

- Morning cyclist numbers recorded at the North Western Cycleway/St Lukes Road site in 2009 remain stable (143 cyclists, compared with 144 last year).
- The key movement at this site in the morning is straight along the North Western cycleway towards the city (Movement 2 = 57 cyclists).
- Morning cyclist volumes at seven of the twelve movements have increased from 2008. The most notable increase is at Movement 11 (up 6 cyclists), whereas fewer cyclists are turning right off St Luke's Road onto the North Western Cycleway heading towards the city (Movement 10 = 4 cyclists, down 10 from 2008).

Table 8.1: Morning Cyclist Movements

North Western Cycleway/St Lukes Road 2004-2009 (n) – 7.00 to 9.00 am

Movement	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	1	5	4	8	5	7	2
2	6	45	50	60	62	57	-5
3	2	9	13	7	9	7	-2
4	8	3	5	7	2	4	2
5	23	7	6	4	3	5	2
6	5	2	2	3	2	0	-2
7	6	6	9	14	7	4	-3
8	27	2	12	9	11	15	4
9	6	1	0	0	2	4	2
10	1	9	4	6	14	4	-10
11	8	38	23	16	22	28	6
12	2	3	5	5	5	8	3
Total	**95**	**130**	**133**	**139**	**144**	**143**	**-1**

- Overall, 155 cycle movements were recorded at the North Western Cycleway/St Lukes Road site during the morning monitoring period (from 6:30am to 9:00am). This compares with 156 movements in 2008.

Table 8.1A: Morning Cyclist Movements

North Western Cycleway/St Lukes Road 2007-2009 (n) – 6.30 to 9.00 am

Movement	*2007*	*2008*	*2009*	Change 08-09
1	8	6	9	3
2	60	63	59	-4
3	10	10	11	1
4	7	3	5	2
5	6	4	7	3
6	3	2	0	-2
7	15	7	4	-3
8	9	16	15	-1
9	0	2	4	2
10	7	14	4	-10
11	21	23	29	6
12	6	6	8	2
Total	**152**	**156**	**155**	**-1**

- As in 2008, the greatest share of cyclists are adults (89 per cent, up slightly from 85 per cent).
- Most cyclists are wearing a helmet (95 per cent, stable from 94 per cent in 2008).
- The majority of cyclists (70 per cent) were cycling on the off-road cycleway, while 20 per cent were riding on the road.

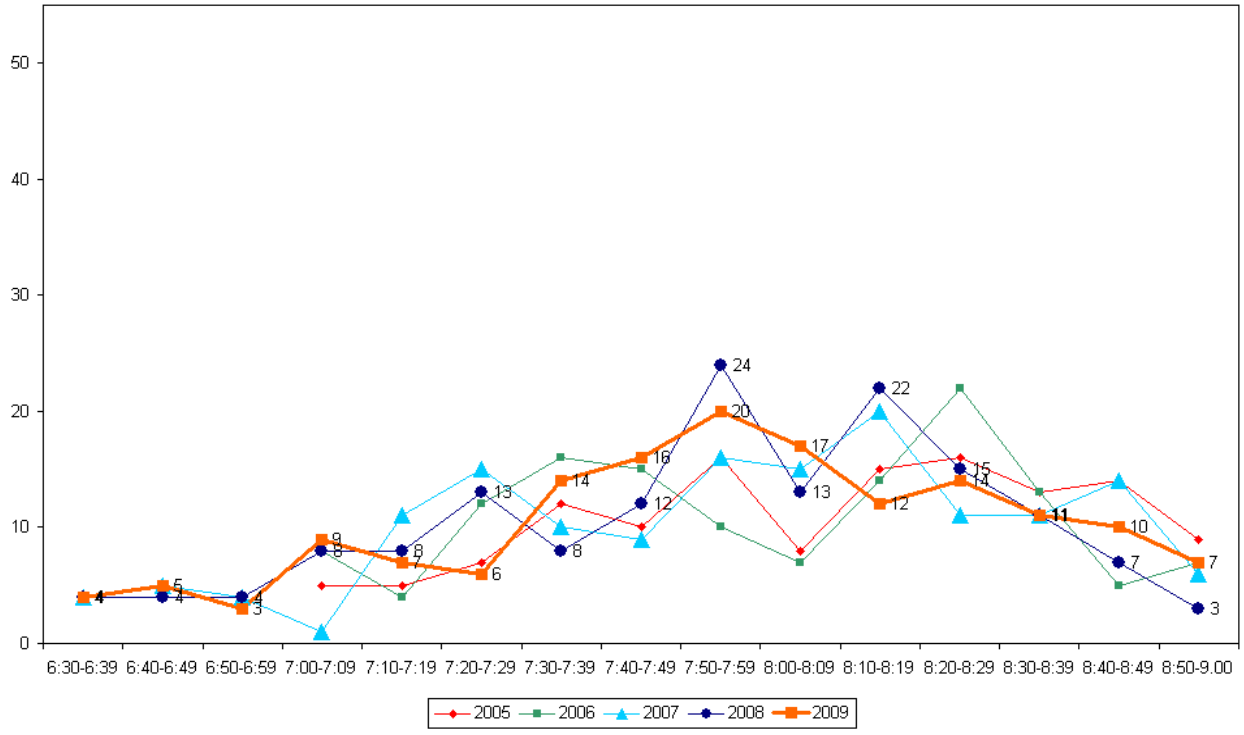
Table 8.2: Morning Cyclist Characteristics
North Western Cycleway/St Lukes Road 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	75	92	97	82	85	89	4
School child	25	8	3	18	15	11	-4
Helmet Wearing							
Helmet on head	99	95	98	97	94	95	1
No helmet	1	5	2	3	6	5	-1
Where Riding							
Road	89	76	78	87	94	20	-74
Footpath	11	24	22	13	6	10	4
Off-road cycleway*	-	-	-	-	-	70	-
Base:	***95***	***130***	***133***	***152***	***156***	***155***	

** In 2009, riding on the road was split into riding on off road cycleway and road. Therefore, results are not comparable with previous years.*

- Morning cycle volumes in 2009 peak between 7:50am and 7:59am (20 movements, the same time as last year). However, this year cycle volumes did not peak again between 8:10am and 8:19am as they did in 2007 and 2008.

Figure 8.2: North Western Cycleway/St Lukes Road Cyclist Frequency – Morning Peak



8.2 Evening Peak

Environmental Conditions

- The weather was overcast throughout the evening shift, with light rain between 4:28pm and 4:32pm and again at 6:40pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Evening cyclist numbers have remained stable since last year (117 movements in 2009 compared to 115 last year), and are the second highest since the monitor began.
- In the evening peak, the key route is along the North Western cycleway away from the city (Movement 8 = 48 cyclists).
- Of the twelve movements possible at this site, the most notable increase since last year in terms of evening cyclist volumes is at Movement 8 (up 8 cyclists).

Table 8.3: Evening Cyclist Movements

North Western Cycleway/St Lukes Road 2004-2009 (n) – 4.00 to 6.00 pm

Movement	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	0	9	8	10	8	9	1
2	28	6	8	7	10	12	2
3	3	5	4	4	6	5	-1
4	0	6	10	8	10	7	-3
5	13	15	3	13	7	13	6
6	11	0	0	3	3	0	-3
7	4	1	1	3	3	2	-1
8	5	34	38	50	40	48	8
9	2	0	2	6	6	1	-5
10	9	2	0	1	1	0	-1
11	6	16	4	14	14	9	-5
12	6	14	2	3	7	11	4
Total	**87**	**108**	**80**	**122**	**115**	**117**	**2**

- In total, 155 cycle movements were recorded at the North Western Cycleway/St Lukes Road site during the evening monitoring period (from 4:00pm to 7:00pm). This compares with 175 movements in 2008.

Table 8.3A: Evening Cyclist Movements

North Western Cycleway/St Lukes Road 2007-2009 (n) – 4.00 to 7.00 pm

Movement	*2007*	*2008*	*2009*	Change 08-09
1	11	13	9	-4
2	8	20	12	39
3	7	7	5	4
4	11	13	13	-8
5	27	7	18	0
6	5	4	1	-4
7	5	4	3	0
8	69	60	64	-45
9	6	11	2	-7
10	1	1	1	3
11	18	22	13	7
12	4	13	14	-5
Total	**172**	**175**	**155**	**-20**

- Consistent with previous years, adults comprise the greatest share of cyclists (all cyclists in 2009, up from 88 per cent in 2008).
- Most cyclists are wearing a helmet (93 per cent, compared with 91 per cent in 2008).
- The greatest share of cyclists (80 per cent) were cycling on the off-road cycle way, while 15 percent were riding on the road.

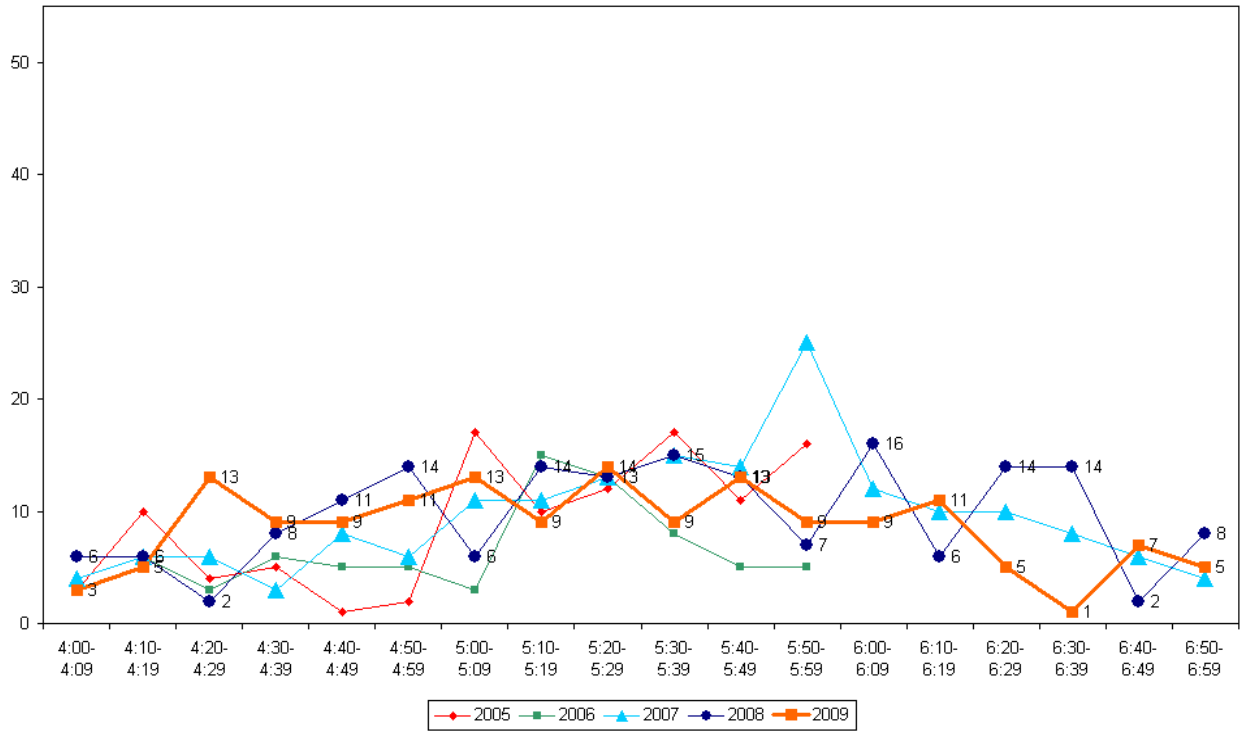
Table 8.2: Evening Cyclist Characteristics
North Western Cycleway/St Lukes Road 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	93	98	100	96	88	100	12
School child	7	2	0	4	12	0	-12
Helmet Wearing							
Helmet on head	97	92	98	97	91	93	2
No helmet	3	8	2	3	9	7	-2
Where Riding*							
Road	98	87	98	85	89	15	-74
Footpath	2	13	2	15	11	5	-6
Off-road cycleway*	-	-	-	-	-	80	-
Base:	***87***	***108***	***80***	***172***	***175***	***155***	

** In 2009, riding on the road was split into riding on off road cycleway and road. Therefore, results are not comparable with previous years.*

- This year cyclist volumes are relatively consistent throughout the evening peak, with volumes peaking between 4:20pm and 4:29pm (13 movements), and then every alternate ten minute interval between 5:00pm and 5:49pm (13 movements between 5:00pm and 5:09pm, 14 movements between 5:20pm and 5:29pm and 13 movements between 5:40pm and 5:49pm). In contrast, last year cyclist volumes peaked between 4:50pm and 4:59pm (14 movements) and then remained relatively stable with no less than 13 cyclists recorded within most ten minute intervals until 5:40pm.

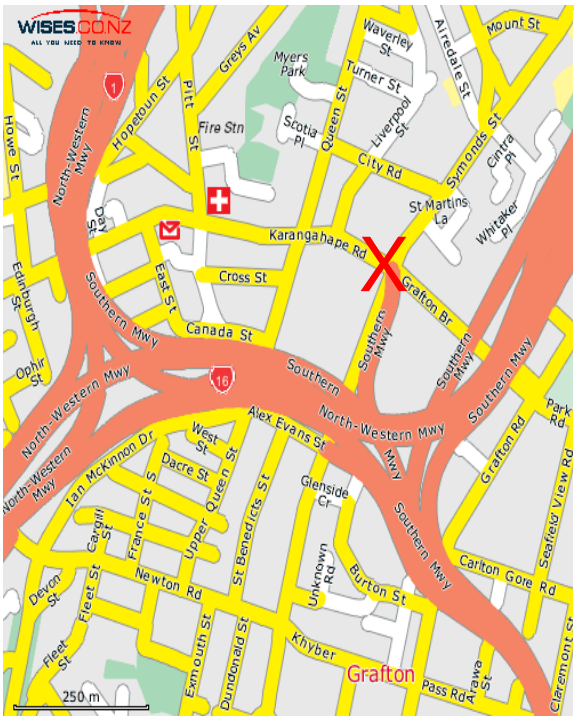
Figure 8.3: North Western Cycleway/St Lukes Road Cyclist Frequency – Evening Peak

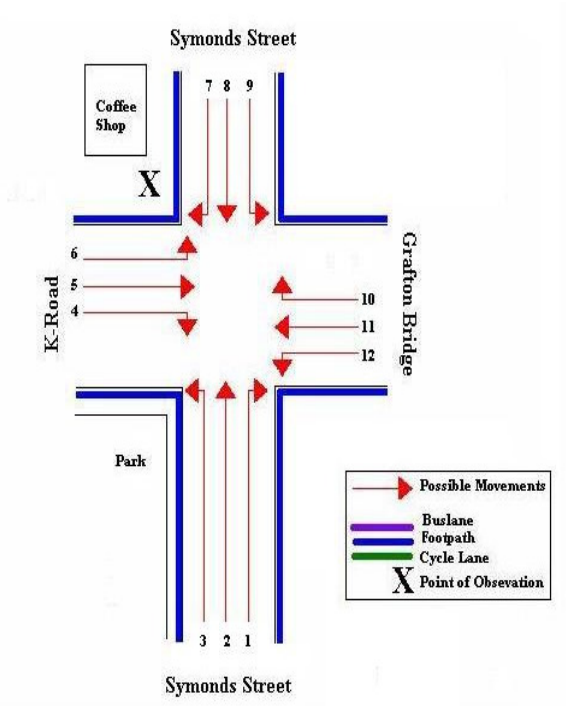


9. SYMONDS/KARANGAHAPE/GRAFTON ROAD, GRAFTON (SITE 8)

Figure 9.1 shows the possible cyclist movements at this intersection.

Figure 9.1: Cycle Movements: Symonds/Karangahape/Grafton





AADT Estimate

- The AADT for this site is 735 cycle movements per day. This compares with:
  - 899 movements in 2008
  - 924 movements in 2007.

9.1 Morning Peak

Environmental Conditions

- The weather was fine throughout the morning shift.
- Grafton Bridge was closed to motorised vehicles during the monitoring period which may affect cycle counts.

Key Points

- The volume of morning peak cyclists recorded at the Symonds/Karangahape/Grafton intersection in 2009 (220 movements) has declined since last year (258 movements).
- This year, key routes in the morning are northbound along Symonds Street (Movement 2 = 71 cyclists), from Karangahape Road onto Grafton Bridge (Movement 5 = 47 cyclists), and straight through from Grafton Bridge into Karangahape Road (Movement 11 = 45 cyclists).
- Cyclist volumes have decreased at ten of the twelve movements possible at this intersection. The most notable decrease since last year is at Movement 10, the right turn from Grafton Bridge into Symonds Street, down 14 cyclists.

Table 9.1: Morning Cyclist Movements

Symonds/Karangahape/Grafton 2002-2009 (n) – 7.00 to 9.00 am

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	0	4	2	2	7	3	9	5	-4
2	69	72	55	72	84	88	76	71	-5
3	20	8	12	6	11	7	18	14	-4
4	5	5	4	2	4	0	6	1	-5
5	45	42	44	37	44	43	46	47	1
6	14	13	14	9	7	12	11	10	-1
7	3	1	0	1	1	3	3	0	-3
8	13	7	3	5	7	9	3	1	-2
9	12	5	2	9	5	8	3	8	5
10	45	64	32	47	40	41	32	18	-14
11	33	37	32	40	58	39	48	45	-3
12	3	0	2	1	3	2	3	0	-3
Total	**259**	**258**	**202**	**231**	**271**	**255**	**258**	**220**	**-38**

- Of the 27 sites monitored in Auckland city this year, this intersection is the second busiest in terms of morning cyclists' activity, with 246 cycle movements recorded from 6:30 to 9:00am. This compares with 285 movements in 2008.

Table 9.1A: Morning Cyclist Movements
Symonds/Karangahape/Grafton 2007-2009 (n) – 6.30 to 9.00 am

Movement	*2007*	*2008*	*2009*	Change 08-09
1	3	10	6	-4
2	92	81	77	-4
3	9	18	18	0
4	2	6	1	-5
5	55	54	51	-3
6	12	11	12	1
7	3	3	0	-3
8	11	8	2	-6
9	8	5	9	4
10	41	33	21	-12
11	51	53	48	-5
12	3	3	1	-2
Total	**290**	**285**	**246**	**-39**

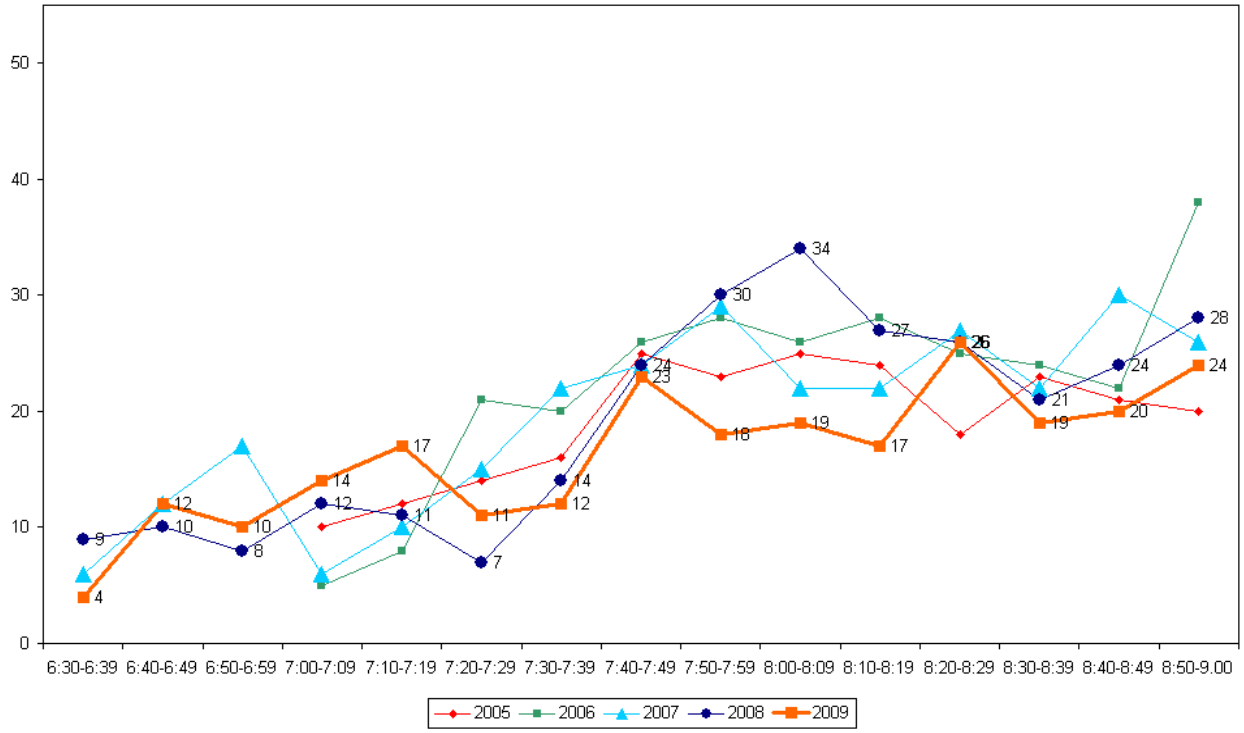
- All morning cyclists continue to be adults (100 per cent).
- Helmet wearing is still the norm (94 per cent, stable from 95 per cent last year)
- Riding on the road is just as common as it was last year (91 per cent).

Table 9.2: Morning Cyclist Characteristics
Symonds/Karangahape/Grafton 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	99	99	99	99	100	100	0
School child	1	1	1	1	0	0	0
Helmet Wearing							
Helmet on head	95	96	94	98	95	94	-1
No helmet	5	4	6	2	5	6	1
Where Riding							
Road	84	92	92	91	92	91	-1
Footpath	16	8	8	9	8	9	1
Base:	***202***	***231***	***271***	***290***	***285***	***246***	

- Morning cyclist volumes peak between 7:40am and 7:49 am (23 cyclists), between 8:20am and 8:29am (26 cyclists) and again between 8:50am and 8:59am (24 cyclists). This compares to a strong peak between 8:00am and 8:09am (34 cyclists) in 2008. As in previous years, cycle traffic is relatively low at the beginning of the monitoring period.

Figure 9.2: Symonds/Karangahape/Grafton Cyclist Frequency – Morning Peak



9.2 Evening Peak

Environmental Conditions

- The weather was fine throughout the evening shift.
- Grafton Bridge was closed to vehicles during the monitoring period which may affect cycle counts.

Key Points

- The number of cyclists at this site has declined notably this year, from 255 in 2008 to 216.
- Consistent with previous years, the key evening movement at this site is straight along Symonds Street heading south (Movement 8 = 62 cyclists).
- The most notable increase since last year in terms of evening cyclist volumes is at Movement 11 (up 16 cyclists), while the most notable decline is at Movement 9 (down 17 cyclists).

Table 9.3: Evening Cyclist Movements
Symonds/Karangahape/Grafton 2002-2009 (n) – 4.00 to 6.00 pm

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	0	1	0	1	1	1	1	0	-1
2	7	18	10	8	16	14	14	6	-8
3	5	5	6	7	6	3	4	6	2
4	9	8	6	10	11	11	17	14	-3
5	24	30	35	30	28	40	39	27	-12
6	1	0	5	4	2	3	5	3	-2
7	17	13	14	13	13	9	11	10	-1
8	75	83	56	51	79	86	74	62	-12
9	40	45	33	38	41	25	44	27	-17
10	5	18	5	12	16	17	10	12	2
11	38	31	32	22	41	29	30	46	16
12	0	4	3	6	4	10	6	3	-3
Total	**221**	**256**	**205**	**202**	**258**	**248**	**255**	**216**	**-39**

- As in 2007 and 2008, this site has the second highest level of evening cyclist traffic, with 282 movements recorded between 4:00pm and 7:00pm. This compares with 336 movements in 2008.

Table 9.3A: Evening Cyclist Movements
Symonds/Karangahape/Grafton 2007-2009 (n) – 4.00 to 7.00 pm

Movement	*2007*	*2008*	*2009*	Change 08-09
1	2	1	0	-1
2	20	17	11	-6
3	4	4	6	2
4	17	24	23	-1
5	56	49	40	-9
6	4	5	3	-2
7	16	16	12	-4
8	117	103	74	-29
9	38	55	33	-22
10	20	11	16	5
11	42	42	60	18
12	13	9	4	-5
Total	**349**	**336**	**282**	**-54**

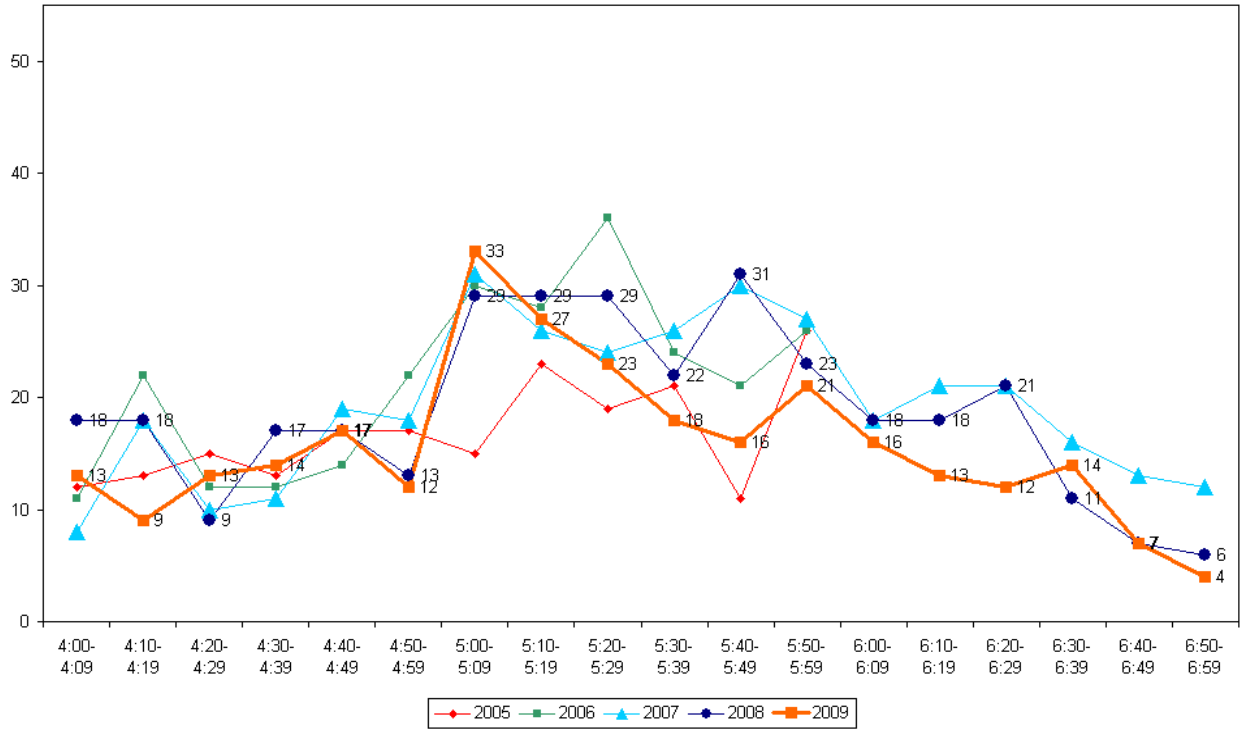
- All evening cyclists at the Symonds/Karangahape/Grafton intersection are adults (100 per cent, stable since the monitor began).
- The majority of cyclists at this site are wearing a helmet (90 per cent, stable from 2008).
- Most cyclists (88 per cent) use the road – a decline from 97 per cent last year.

Table 9.4: Evening Cyclist Characteristics
Symonds/Karangahape/Grafton 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	99	98	99	99	100	100	0
School child	1	2	1	1	0	0	0
Helmet Wearing							
Helmet on head	90	90	94	90	92	90	-2
No helmet	10	10	6	10	8	10	2
Where Riding							
Road	81	88	80	84	97	88	-9
Footpath	19	12	20	16	3	12	9
Base:	***205***	***202***	***258***	***349***	***336***	***282***	

- Evening cycle volumes in 2009 start off relatively low and then peak between 5:00pm and 5:09pm (33 movements). This compares with peaks from 5:00pm through to 5:29pm (29 movements) and between 5:40pm and 5:49pm (31 movements) in the previous year.

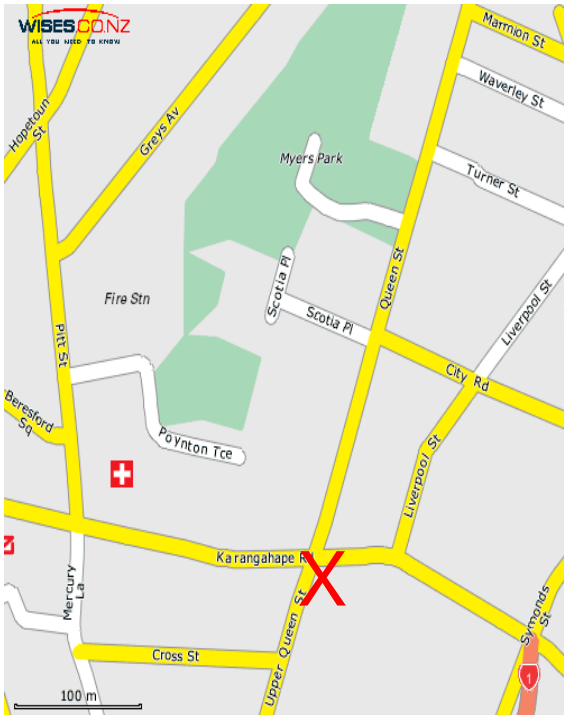
Figure 9.3: Symonds/Karangahape/Grafton Cyclist Frequency – Evening Peak

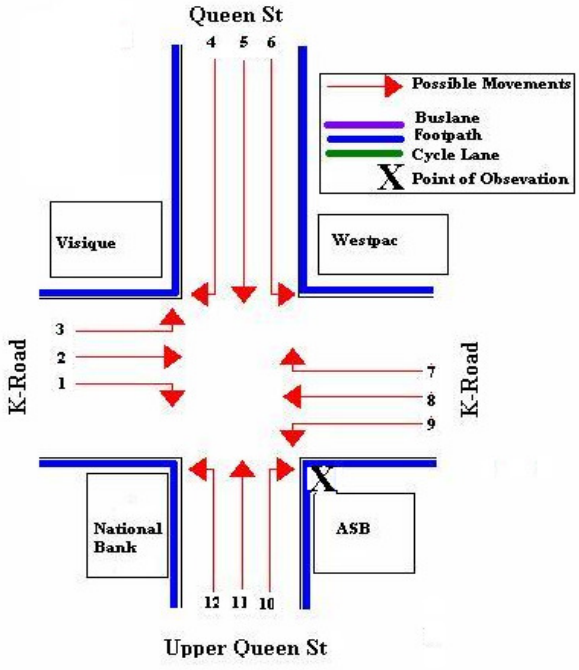


10. KARANGAHAPE ROAD/QUEEN STREET, AUCKLAND CENTRAL (SITE 9)

Figure 10.1 shows the possible cyclist movements at this intersection.

Figure 10.1: Cycle Movements: Karangahape/Queen





- The AADT for this site is 669 cycle movements per day. This compares with:
  - 616 movements in 2008
  - 736 movements in 2007.

10.1 Morning Peak

Environmental Conditions

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

Key Points

- Total morning cyclist volumes recorded at the Karangahape/Queen Street intersection in 2009 have increased notably from last year, and are the third highest since the monitor began (up 29 from last year, to 218 movements). *Note that last year's low cyclist volumes may be attributable to the road works; there were no road works in 2007 or 2009.*
- Key morning movements are straight along Karangahape Road in both directions (Movement 2 = 89 cyclists travelling east; Movement 8 = 66 cyclists travelling west; including six cycling as a group).
- Of the twelve movements possible at this intersection, the most notable increase since last year in terms of morning cyclist volumes is at Movement 2 (up 21 cyclists), while the most notable decline is at Movement 10 (down 6 cyclists).

Table 10.1: Morning Cyclist Movements
Karangahape/Queen 2002-2009 (n) – 7.00 to 9.00 am

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	0	0	0	2	3	0	0	1	1
2	91	81	91	64	73	78	68	89	21
3	11	18	10	6	6	10	6	10	4
4	4	0	2	1	2	8	1	2	1
5	2	1	3	2	3	2	4	2	-2
6	1	2	1	3	3	7	0	3	3
7	12	16	11	5	8	9	10	7	-3
8	29	47	43	55	53	49	62	66	4
9	1	1	0	0	2	0	1	0	-1
10	6	14	8	12	10	8	14	8	-6
11	31	31	25	41	33	37	17	24	7
12	9	10	15	12	15	12	6	6	0
Total	**197**	**221**	**209**	**203**	**211**	**220**	**189**	**218**	**29**

- Overall, 238 cycle movements were recorded at this site during the morning monitoring period (from 6:30am to 9:00am). This compares with 212 movements in 2008.

Table 10.1A: Morning Cyclist Movements
Karangahape/Queen 2007-2009 (n) – 6.30 to 9.00 am

Movement	*2007*	*2008*	*2009*	Change 08-09
1	0	0	1	1
2	85	77	96	19
3	10	6	13	7
4	8	2	2	0
5	2	4	2	-2
6	9	0	3	3
7	9	11	10	-1
8	60	67	69	2
9	0	1	0	-1
10	12	16	8	-8
11	38	20	28	8
12	13	8	6	-2
Total	**246**	**212**	**238**	**26**

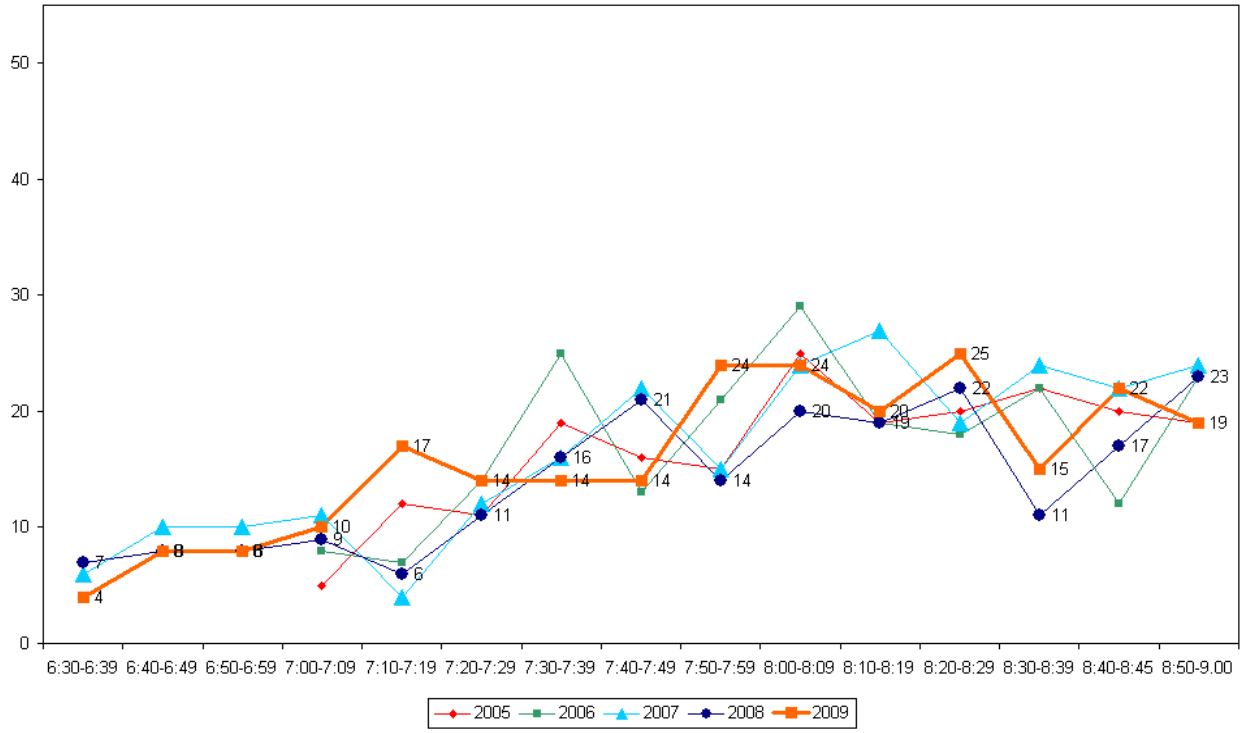
- Almost all cyclists are adults (99 per cent, consistent with results recorded in previous years with the exception of last year – 83 per cent).
- Most of cyclists are wearing a helmet (93 per cent, stable since last year).
- Riding on the road is still most common (92 per cent – unchanged since 2007.

Table 10.2: Morning Cyclist Characteristics
Karangahape/Queen 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	99	99	99	99	83	99	16
School child	1	1	1	1	17	1	-16
Helmet Wearing							
Helmet on head	90	91	91	95	92	93	1
No helmet	10	9	9	5	8	7	-1
Where Riding							
Road	95	93	94	92	92	92	0
Footpath	5	7	6	8	8	8	0
Base:	***209***	***203***	***211***	***246***	***212***	***238***	

- Similar to the pattern noted in previous years, the volume of morning cyclists in 2009 follows an increasing trend. Cyclist volumes peak between 7:50am and 8:09am (24 cyclists in each ten minute interval) and again between 8:20am and 8:29am (25 cyclists). This compares to 2008 where cyclist volumes peaked between 7:40am and 7:49am and remained high between 8:00am and 8:29am.

Figure 10.2: Karangahape/Queen Cyclist Frequency – Morning Peak



Note: Six cyclists were observed riding as a group at 7.20am. This comprises three per cent of the total cycle movements in the morning peak.

10.2 Evening Peak

Environmental Conditions

- The weather was variable throughout the evening shift, with intermittent drizzle between 5:19pm and 6:20pm and rain between 6:26pm and 6:58pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The total number of evening peak cyclists recorded at the Karangahape Road/Queen Street intersection in 2009 has increased slightly, from 145 in 2008 to 156 movements this year. *Note that last year's decrease may be attributable to the road works; there were no road works in 2007 or 2009.*
- The key routes through this intersection are west and east along Karangahape Road heading both directions (Movement 8 = 71 cyclists; Movement 2 = 51 cyclists).
- Compared with last year, the number of cycle movements in an easterly direction along Karangahape Road (Movement 2, up 11) and westerly direction along Karangahape Road (Movement 8, up 13 to 71) have increased notably this year.

Table 10.3: Evening Cyclist Movements

Karangahape/Queen 2002-2009 (n) – 4.00 to 6.00 pm

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	3	5	8	1	9	3	3	1	-2
2	23	42	43	42	23	54	40	51	11
3	4	4	4	2	2	1	7	3	-4
4	8	16	12	7	11	5	1	9	8
5	21	16	15	19	10	20	13	8	-5
6	3	7	6	4	1	13	3	3	0
7	2	6	3	2	3	5	2	4	2
8	71	70	64	54	53	58	58	71	13
9	2	7	3	3	5	4	7	4	-3
10	0	1	1	1	0	2	3	0	-3
11	4	1	3	6	2	10	7	2	-5
12	2	2	6	1	1	5	1	0	-1
Total	**143**	**177**	**168**	**142**	**120**	**180**	**145**	**156**	**11**

- In total, 221 cycle movements were recorded at this site during the evening monitoring period (from 4:00am to 7:00pm). This compares with 212 movements in 2008.

Table 10.3A: Evening Cyclist Movements
Karangahape/Queen 2007-2009 (n) – 4.00 to 7.00 pm

Movement	*2007*	*2008*	*2009*	Change 08-09
1	4	3	3	0
2	85	63	70	7
3	2	8	5	-3
4	6	4	14	10
5	24	17	10	-7
6	16	4	5	1
7	6	5	5	0
8	94	84	101	17
9	5	11	4	-7
10	2	3	0	-3
11	11	9	3	-6
12	6	1	1	0
Total	**261**	**212**	**221**	**9**

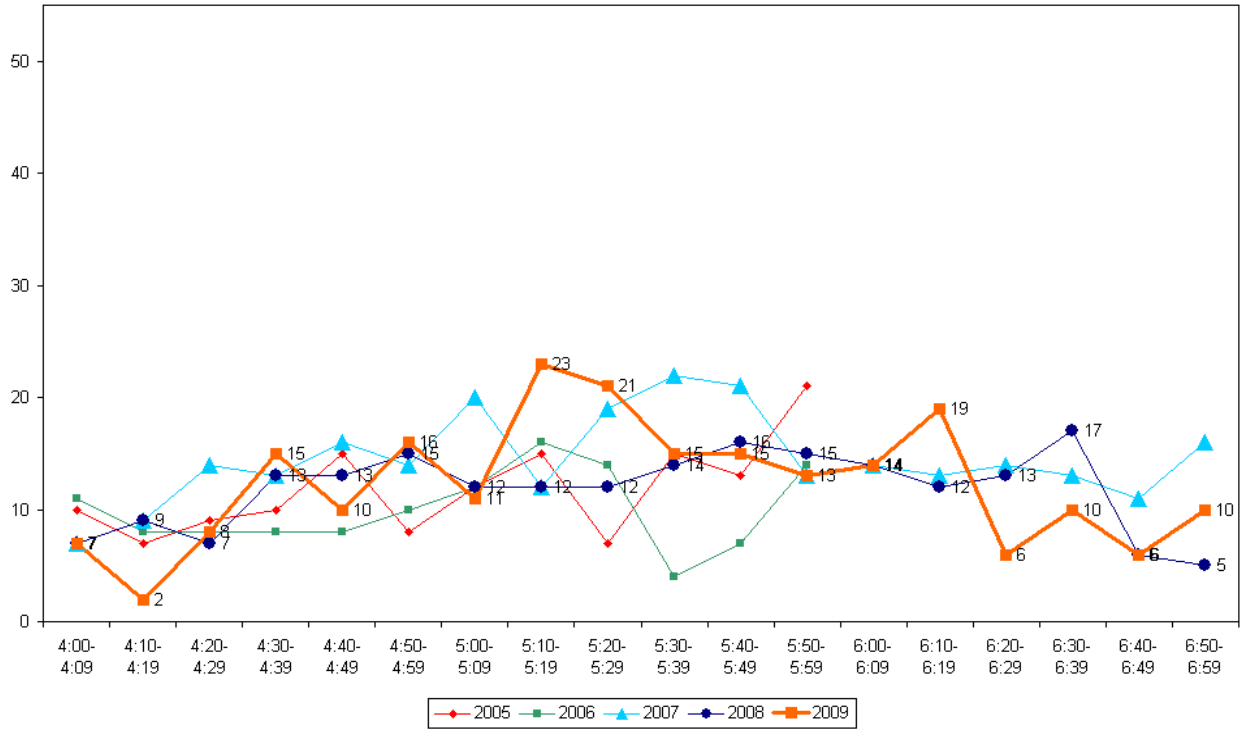
- This year all riders at this intersection are adults (100 per cent, consistent with previous years, and up from 94 per cent last year).
- Since 2008, the share of cyclists wearing a helmet has remained stable (86 per cent, compared with 88 per cent last year).
- Most cyclists (77 per cent) are riding on the road (down from 86 per cent in 2008).

Table 10.4: Evening Cyclist Characteristics
Karangahape/Queen 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	98	99	100	99	94	100	6
School child	2	1	0	1	6	0	-6
Helmet Wearing							
Helmet on head	80	77	88	78	88	86	-2
No helmet	20	23	12	22	12	14	2
Where Riding							
Road	81	75	78	80	86	77	-9
Footpath	19	25	22	20	14	23	9
Base:	***168***	***142***	***120***	***261***	***212***	***221***	

- In contrast to last year, the volume of evening cyclists in 2009 peaks between 5:10pm and 5:29pm (23 cyclists in the first ten minute interval, 21 cyclists in the second ten minute interval). Another slight peak occurs between 6:10pm and 6:19pm (19 movements). This compares to a slight peak of 17 movements recorded between 6:30pm and 6:39pm in 2008.

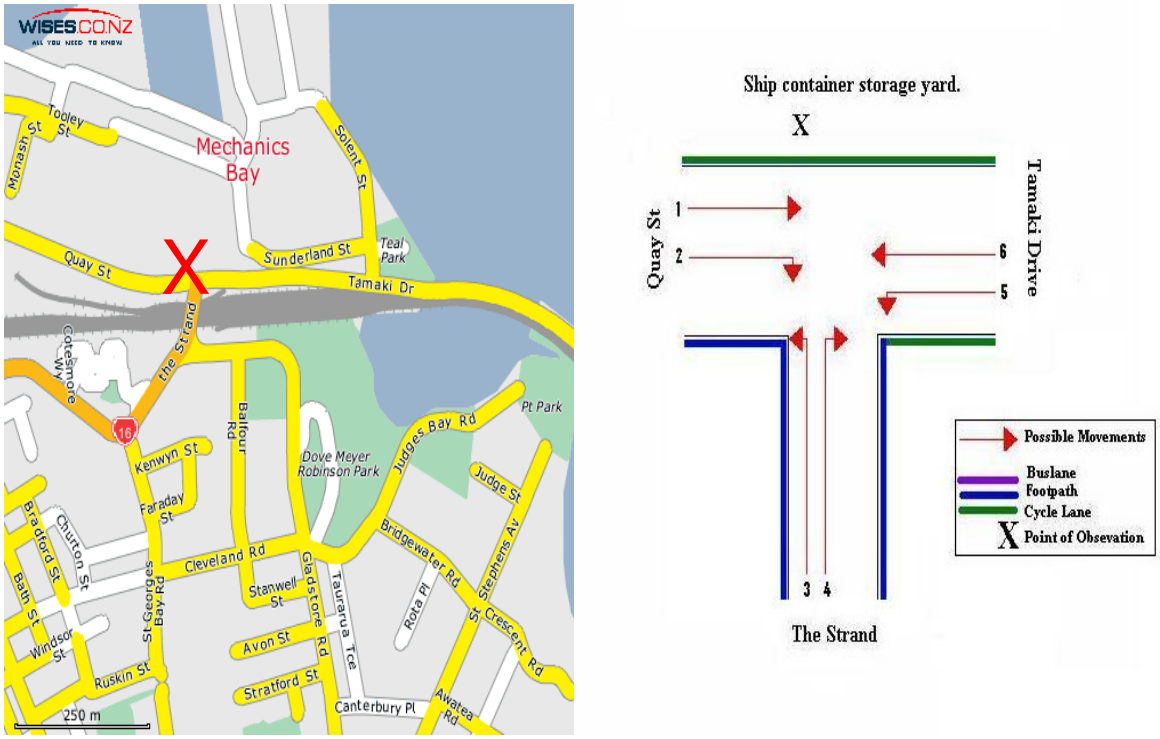
Figure 10.3: Karangahape/Queen Cyclist Frequency – Evening Peak



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

Figure 11.1 shows the possible cyclist movements at this intersection.

Figure 11.1: Cycle Movements: Tamaki/The Strand



AADT Estimate

- The AADT for this site is 880 cycle movements per day. This compares with:
  - 1146 movements in 2008
  - 1313 movements in 2007.

11.1 Morning Peak

Environmental Conditions

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

Key Points

- Morning cyclist numbers at the Tamaki Drive/The Strand/Quay Street intersection in 2009 have decreased from last year but still remain high (253 movements).
- Three in five of the cycle movements at this site are west along Tamaki Drive towards the city centre (Movement 6 = 153 cyclists).
- Of the six movements possible at this site, cyclist volumes at four have declined since last year. The most notable decrease is at Movement 5 (down 31 cyclists).

Table 11.1: Morning Cyclist Movements
Tamaki/The Strand 2002-2009 (n) – 7.00 to 9.00 am

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	12	19	8	26	23	25	33	19	-14
2	10	18	12	18	13	23	32	25	-7
3	9	13	9	17	27	10	7	10	3
4	7	9	9	14	7	16	18	6	-12
5	39	42	24	59	66	89	71	40	-31
6	80	123	63	127	146	188	152	153	1
Total	**157**	**224**	**125***	**261**	**282**	**351**	**313**	**253**	**-60**

** Note: In 2004, monitoring at this site was undertaken on April 15th – three weeks after the other sites. This timing coincided with the University holidays and may have had a strong influence on the results.*

- Of the 27 sites monitored in Auckland city this year, the Tamaki/The Strand site is the busiest in terms of morning cyclists' activity, with a total of 321 cycle movements recorded from 6:30am to 9:00am. This compares with 416 movements in 2008.

Table 11.1A: Morning Cyclist Movements
Tamaki/The Strand 2007-2009 (n) – 6.30 to 9.00 am

Movement	*2007*	*2008*	*2009*	Change 08-09
1	55	58	47	-11
2	31	36	29	-7
3	14	9	14	5
4	26	25	8	-17
5	147	112	50	-62
6	207	176	173	-3
Total	**480**	**416**	**321**	**-95**

- As was the case last year, no school children are using this site in the morning.
- Almost all riders are wearing a helmet at this site (99 per cent, stable since previous years).
- This year, road riding was split into riding on the off-road cycleway (designated side of the footpath) and the road. One in four cyclists (24 per cent) are riding on the off-road cycleway.

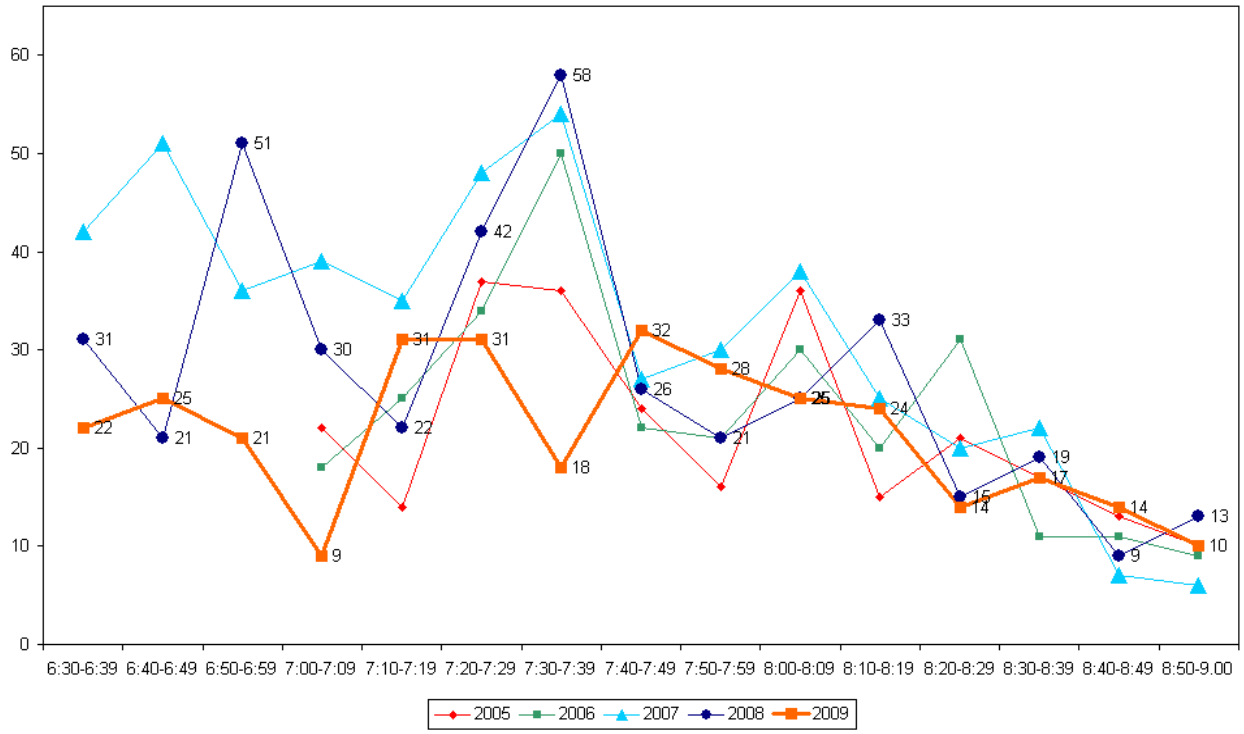
Table 11.2: Morning Cyclist Characteristics
Tamaki/The Strand 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	98	100	100	100	100	100	0
School child	2	0	0	0	0	0	0
Helmet Wearing							
Helmet on head	97	98	98	99	100	99	-1
No helmet	3	2	2	1	0	1	1
Where Riding*							
Road	83	71	70	95	99	74	-25
Footpath	17	29	30	5	1	2	1
Off-road cycleway	-	-	-	-	-	24	-
Base:	***125***	***261***	***282***	***480***	***416***	***321***	

** 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. In 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 contrast to previous years, there is no early morning peak evident this year. Instead, peaks were recorded between 7:10am and 7:29am (with 31 cyclists in each ten minute period) and again between 7:40am and 7:49am (32 cyclists) before declining steadily to the end of the monitoring period. This compares with a notable peak between 6:50am and 6:59am, and a sharp increase between 7:10am and 7:39am in 2008. However, cyclist training groups at this site are likely to have contributed to the sharp increase between 7:10am and 7:39am last year.

Figure 11.2: Tamaki/The Strand Cyclist Frequency – Morning Peak



Note: Fourteen per cent of the total cycle movements 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:

- *Three cyclists at 6.43am*
- *Eleven cyclists at 6.55am*
- *Three cyclists at 7.10am*
- *Seven cyclists at 7.11am*
- *Four cyclists at 7.25am*
- *Twelve cyclists at 7.27am*
- *Four cyclists at 7.55am.*

11.2 Evening Peak

Environmental Conditions

- The weather was overcast throughout the evening shift, with intermittent light, rain and heavy rain at 6:50pm. This was followed by light drizzle to the end of the monitoring period.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Evening cycle volumes recorded at this intersection in 2009 have declined from last year (down from 215 movements in 2008 to 203 movements this year).
- Key movements in the evening are dominated by those travelling east along Tamaki Drive away from the city (Movement 1 = 105 cyclists), and also by those travelling right into Tamaki Drive from The Strand (Movement 4 = 41 cyclists).
- While cyclist volumes are reasonably consistent with 2008, the most notable decreases are at Movement 5 (down 14 cyclists) and Movement 6 (also down 14 cyclists).

Table 11.3: Evening Cyclist Movements
Tamaki/The Strand 2002-2009 (n) – 4.00 to 6.00 pm

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	43	99	43	97	62	113	93	105	12
2	4	17	9	12	16	16	7	9	2
3	4	14	12	14	9	20	21	21	0
4	53	41	27	35	21	57	39	41	2
5	33	33	5	21	4	19	22	8	-14
6	20	31	20	20	8	35	33	19	-14
Total	**157**	**235**	**116**	**199**	**120**	**260**	**215**	**203**	**-12**

- Consistent with the morning peak, the Tamaki/The Strand site continues to be the busiest in terms of evening cyclists' activity, with a total of 282 cycle movements recorded from 4:00pm to 7:00pm. This compares with 370 movements in 2008.

Table 11.3A: Evening Cyclist Movements
Tamaki/The Strand 2007-2009 (n) – 4.00 to 7.00 pm

Movement	*2007*	*2008*	*2009*	Change 08-09
1	182	150	152	2
2	24	12	15	3
3	21	25	24	-1
4	98	78	51	-27
5	38	30	13	-17
6	57	75	27	-48
Total	**420**	**370**	**282**	**-88**

- Consistent with last year, no school children are using the Tamaki/Strand intersection this year.
- Almost all cyclists are wearing a helmet (99 per cent, consistent with previous years).
- This year, riding on the road was split into riding on the off-road cycleway (designated side of the footpath) and the road. The proportion of those riding on the off-road cycleway is 39 per cent.

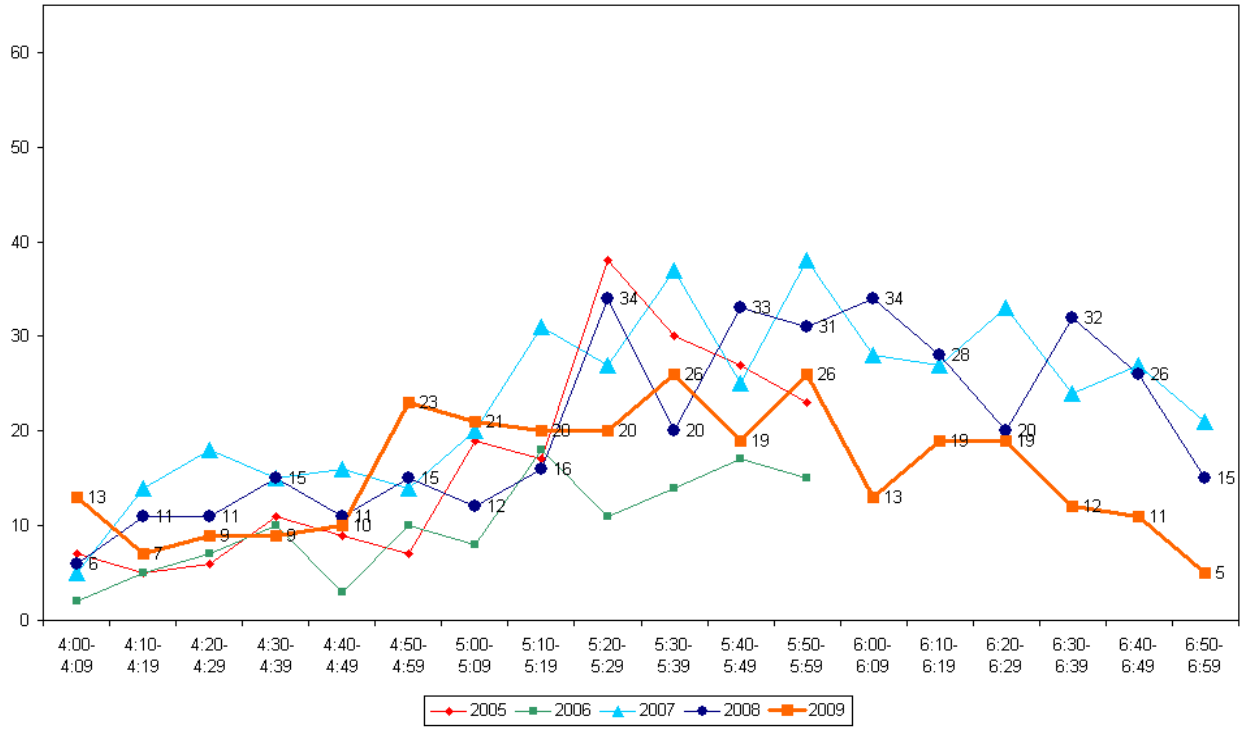
Table 11.4: Evening Cyclist Characteristics
Tamaki/The Strand 2002-2008 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	94	98	100	100	100	100	0
School child	6	2	0	0	0	0	0
Helmet Wearing							
Helmet on head	91	98	98	96	100	99	-1
No helmet	9	2	2	4	0	1	1
Where Riding*							
Road	54	78	61	97	99	57	-42
Footpath	46	22	39	3	1	4	3
Off-road cycleway	-	-	-	-	-	39	-
Base:	***116***	***199***	***120***	***420***	***370***	***282***	

** 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. In 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 volumes tend to increase over the period of monitoring until the peaks between 5:30pm and 5:39pm and between 5:50pm and 5:59pm (26 movements over each ten minute period). This pattern is somewhat consistent with previous years, with peaks at 5:20pm to 5:29pm, 5:40pm to 5:59pm and at 6:30pm to 6:39pm in 2008.

Figure 11.3: Tamaki/The Strand Cyclist Frequency – Evening Peak

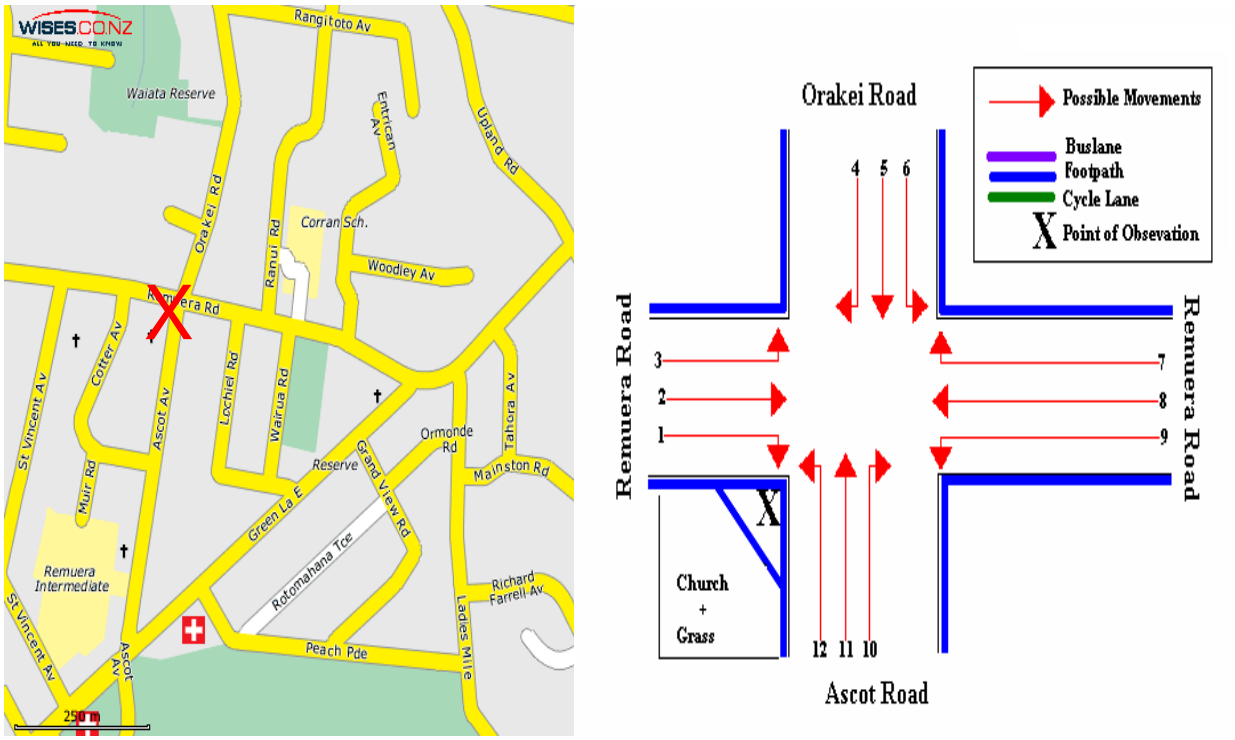


Note: Three cyclists were observed riding together at this site at 6.15pm. This comprises one per cent of the total cycle movements recorded in the evening peak.

12. REMUERA/ORAKEI/ASCOT ROAD, REMUERA (SITE 11)

Figure 12.1 shows the possible cyclist movements at this intersection.

Figure 12.1: Cycle Movements: Remuera/Orakei/Ascot



AADT Estimate

- The AADT for this site is 274 cycle movements per day. This compares with:
  - 276 movements in 2008
  - 282 movements in 2007.

12.1 Morning Peak

Environmental Conditions

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

Key Points

- Morning cyclist numbers recorded at the Remuera/Orakei/Ascot intersection in 2009 have increased since last year (90 movements, compared with 67 movements in 2008).
- Consistent with previous years, the most common movement at this site continues to be west along Remuera Road (Movement 8 = 52 cyclists).
- Morning cyclist volumes at most movements have remained relatively stable since last year. The main exception is Movement 8 (up notably by 19 cyclists).

Table 12.1: Morning Cyclist Movements
Remuera/Orakei/Ascot 2002-2009 (n) – 7.00 to 9.00 am

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	0	0	1	1	0	0	0	0	0
2	5	18	15	10	9	4	13	14	1
3	0	3	0	3	1	2	0	3	3
4	4	5	4	8	5	1	3	10	7
5	2	1	1	7	4	2	4	3	-1
6	0	1	3	1	2	3	7	0	-7
7	0	0	1	2	1	0	0	4	4
8	30	35	19	43	49	47	33	52	19
9	3	0	0	1	0	0	0	0	0
10	0	0	1	0	0	0	1	0	-1
11	1	0	1	0	0	1	2	1	-1
12	2	1	0	2	2	2	4	3	-1
Total	**47**	**64**	**46**	**78**	**73**	**62**	**67**	**90**	**23**

- Overall, 107 cycle movements were recorded at this site during the morning monitoring period (from 6:30am to 9:00am). This compares with 100 movements in 2008.

Table 12.1A: Morning Cyclist Movements
Remuera/Orakei/Ascot 2007-2009 (n) – 6.30 to 9.00 am

Movement	*2007*	*2008*	*2009*	Change 08-09
1	0	0	0	0
2	19	25	24	-1
3	4	1	3	2
4	3	9	12	3
5	2	4	3	-1
6	3	9	1	-8
7	0	0	4	4
8	52	45	56	11
9	0	0	0	0
10	0	1	0	-1
11	1	2	1	-1
12	2	4	3	-1
Total	**86**	**100**	**107**	**7**

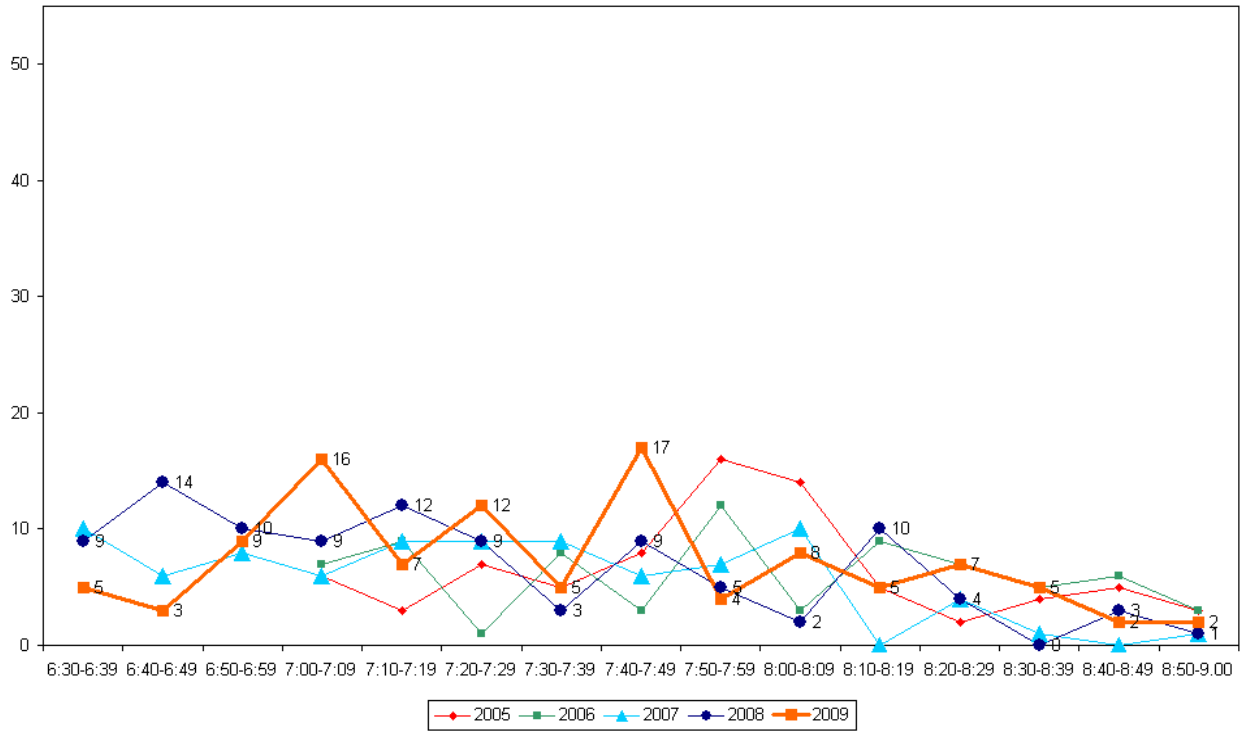
- Ninety-four per cent of cyclists in the morning at this site are adults (down slightly from 97 per cent last year).
- Helmet wearing continues to be widespread (98 per cent, unchanged from last year)
- Riding on the road continues to be common this year (94 per cent, stable since the 2008 measure).

Table 12.2: Morning Cyclist Characteristics
Remuera/Orakei/Ascot 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	89	85	89	91	97	94	-3
School child	11	15	11	9	3	6	3
Helmet Wearing							
Helmet on head	98	97	99	98	98	98	0
No helmet	2	3	1	2	2	2	0
Where Riding							
Road	83	79	86	90	92	94	2
Footpath	17	21	14	10	8	6	-2
Base:	***46***	***78***	***73***	***86***	***100***	***107***	

- This year, morning cyclist volumes peak between 7:00am and 7:09am (16 cyclists. This includes six riding as a group) and then remain relatively stable until the second peak at around 7:40am (17 cyclists). This contrasts with an earlier peak around 6:40am, and a slightly later peak between 8:10am and 8:19am, in 2008.

Figure 12.2: Remuera/Orakei/Ascot Cyclist Frequency – Morning Peak



Note: Eight per cent of the total cycle movements in the morning peak were identified as cycling in groups. Three cyclists were observed riding together at this site at 6.52am. Six cyclists were observed riding as a group at 7.05am.

12.2 Evening Peak

Environmental Conditions

- The weather was overcast with heavy showers reported between 5:20pm and 5:30pm, and again between 6:40pm and 6:55pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The volume of cyclists recorded between 4:00pm and 6:00pm at this site in 2008 (55 movements) is consistent with that recorded last year (56 movements).
- The key movement in the evening at this site is east along Remuera Road (Movement 2 = 28 cyclists).
- Compared with last year, evening cyclist volumes at all movements have remained stable. The only change of note is at Movement 8 (up 5 cyclists).

Table 12.3: Evening Cyclist Movements
Remuera/Orakei/Ascot 2002-2009 (n) – 4.00 to 6.00 pm

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	**Change 08-09**
1	1	0	0	1	0	0	1	0	-1
2	29	34	22	44	21	30	29	28	-1
3	4	2	7	12	1	4	4	3	-1
4	0	3	0	2	0	2	0	0	0
5	2	1	3	1	0	3	0	1	1
6	0	0	2	3	1	0	3	1	-2
7	2	0	2	3	0	0	3	1	-2
8	15	8	12	7	6	14	10	15	5
9	0	1	0	0	0	0	0	1	1
10	0	2	0	0	1	1	1	0	-1
11	0	0	1	0	2	4	5	5	0
12	0	0	0	0	0	0	0	0	0
Total	**53**	**51**	**49**	**73**	**32**	**58**	**56**	**55**	**-1**

- In total, 80 cycle movements were recorded at this site during the evening monitoring period (from 4:00pm to 7:00pm). This compares with 89 movements in 2008.

Table 12.3A: Evening Cyclist Movements
Remuera/Orakei/Ascot 2007-2009 (n) – 4.00 to 7.00 pm

Movement	*2007*	*2008*	*2009*	Change 08-09
1	3	3	2	-1
2	60	49	41	-8
3	6	4	6	2
4	4	0	2	2
5	4	0	1	1
6	1	5	2	-3
7	2	5	1	-4
8	22	16	19	3
9	0	0	1	1
10	1	1	0	-1
11	5	6	5	-1
12	1	0	0	0
Total	**109**	**89**	**80**	**-9**

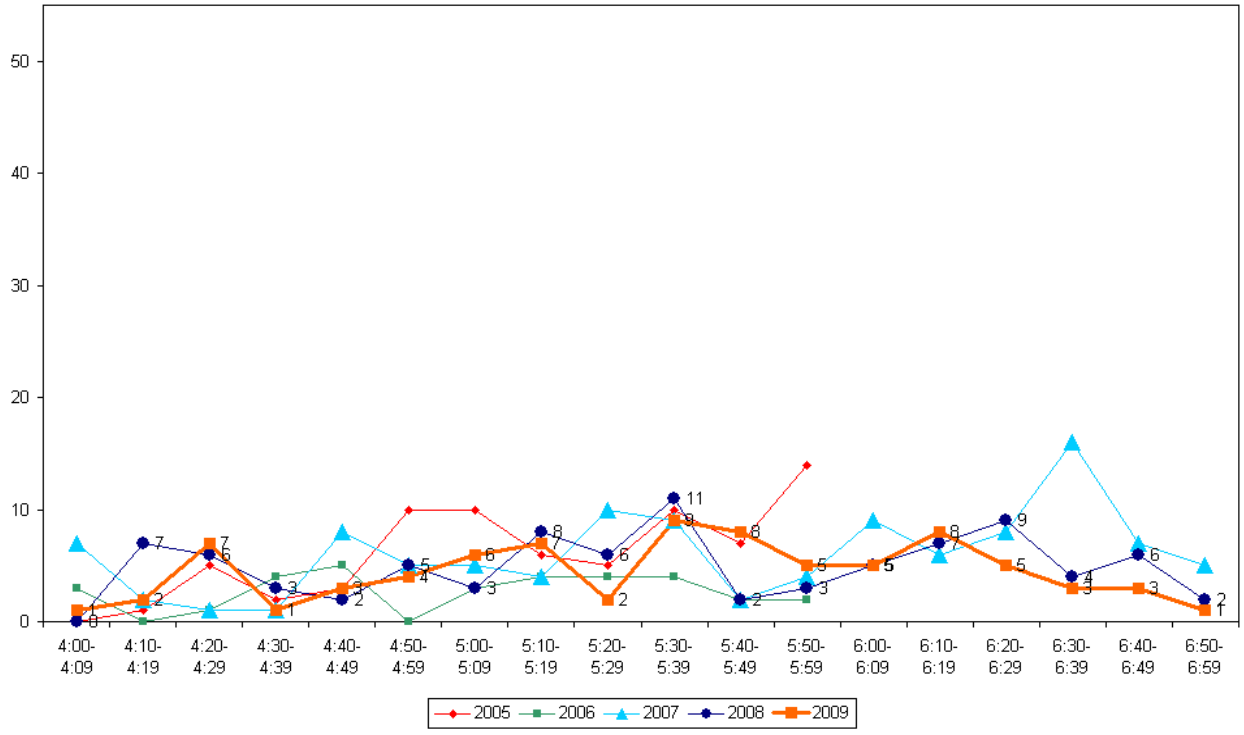
- Almost all cyclists in the evening are adults (98 per cent, up from 89 per cent last year).
- Almost all cyclists are wearing a helmet (98 per cent, compared with 96 per cent in 2008).
- Compared with last year, the incidence of riding on the road is stable at 90 per cent.

Table 12.4: Evening Cyclist Characteristics
Remuera/Orakei/Ascot 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	73	99	97	94	89	98	9
School child	27	1	3	6	11	2	-9
Helmet Wearing							
Helmet on head	94	100	100	98	96	98	2
No helmet	6	0	0	2	4	2	-2
Where Riding							
Road	86	75	84	92	89	90	1
Footpath	14	25	16	8	11	10	-1
Base:	***49***	***73***	***32***	***109***	***89***	***80***	

- This year, evening cyclist volumes peak slightly between 5:30pm and 5:39pm (9 cyclists) – the same time as last year.

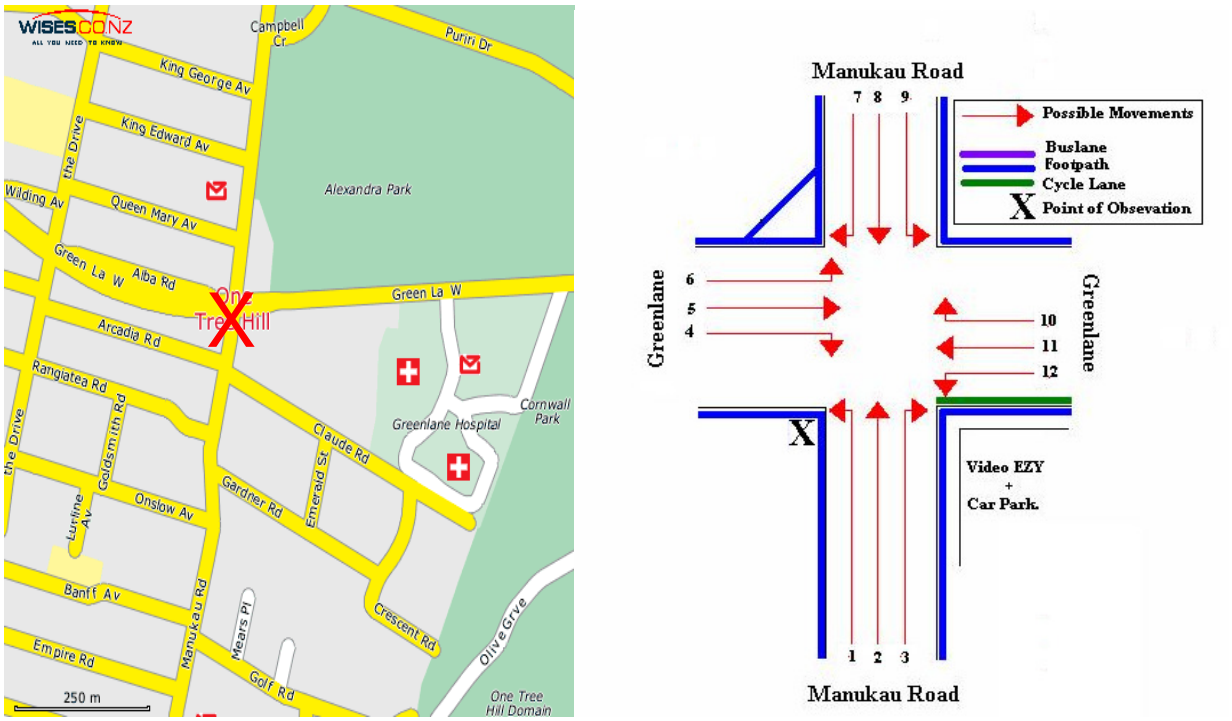
Figure 12.3: Remuera/Orakei/Ascot Cyclist Frequency – Evening Peak



13. MANUKAU/GREENLANE ROAD, EPSOM (SITE 12)

Figure 13.1 shows the possible cyclist movements at this intersection.

Figure 13.1: Cycle Movements: Manukau/Greenlane West



AADT Estimate

- The AADT for this site is 255 cycle movements per day. This compares with:
  - 296 movements in 2008
  - 326 movements in 2007.

13.1 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

- After a notable increase in 2005 (up from 66 in 2004 to 92 movements), morning cyclist volumes recorded at the Manukau/Greenlane West intersection in 2009 remain moderate (75 movements, stable from 73 movements last year).
- As in previous years, the most common morning movement at this intersection is north along Manukau Road towards the city (Movement 2 = 26 cyclists).
- Of the twelve movements possible at this site, there have been no notable changes in cyclist numbers from 2008.

Table 13.1: Morning Cyclist Movements
Manukau/Greenlane West 2002-2009 (n) – 7.00 to 9.00 am

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	0	0	3	5	2	2	4	1	-3
2	10	18	7	35	31	24	22	26	4
3	2	4	2	8	5	1	2	4	2
4	3	4	0	2	5	1	5	2	-3
5	3	7	4	17	15	17	12	13	1
6	0	0	5	2	7	1	4	4	0
7	4	3	1	1	2	4	4	1	-3
8	20	28	25	13	10	17	8	12	4
9	1	3	3	2	4	4	3	1	-2
10	0	1	2	2	1	2	2	2	0
11	7	6	9	3	5	6	7	9	2
12	22	5	5	2	2	1	0	0	0
Total	**52**	**79**	**66**	**92**	**89**	**80**	**73**	**75**	**2**

- Overall, 84 cycle movements were recorded at this site during the morning monitoring period (from 6:30am to 9:00am). This compares with 92 movements in 2008.

Table 13.1A: Morning Cyclist Movements
Manukau/Greenlane West 2007-2009 (n) – 6.30 to 9.00 am

Movement	*2007*	*2008*	*2009*	Change 08-09
1	4	6	1	-5
2	27	26	30	4
3	4	2	4	2
4	1	5	2	-3
5	20	15	16	1
6	1	6	4	-2
7	4	4	1	-3
8	22	14	14	0
9	9	4	1	-3
10	2	2	2	0
11	7	7	9	2
12	2	1	0	-1
Total	**103**	**92**	**84**	**-8**

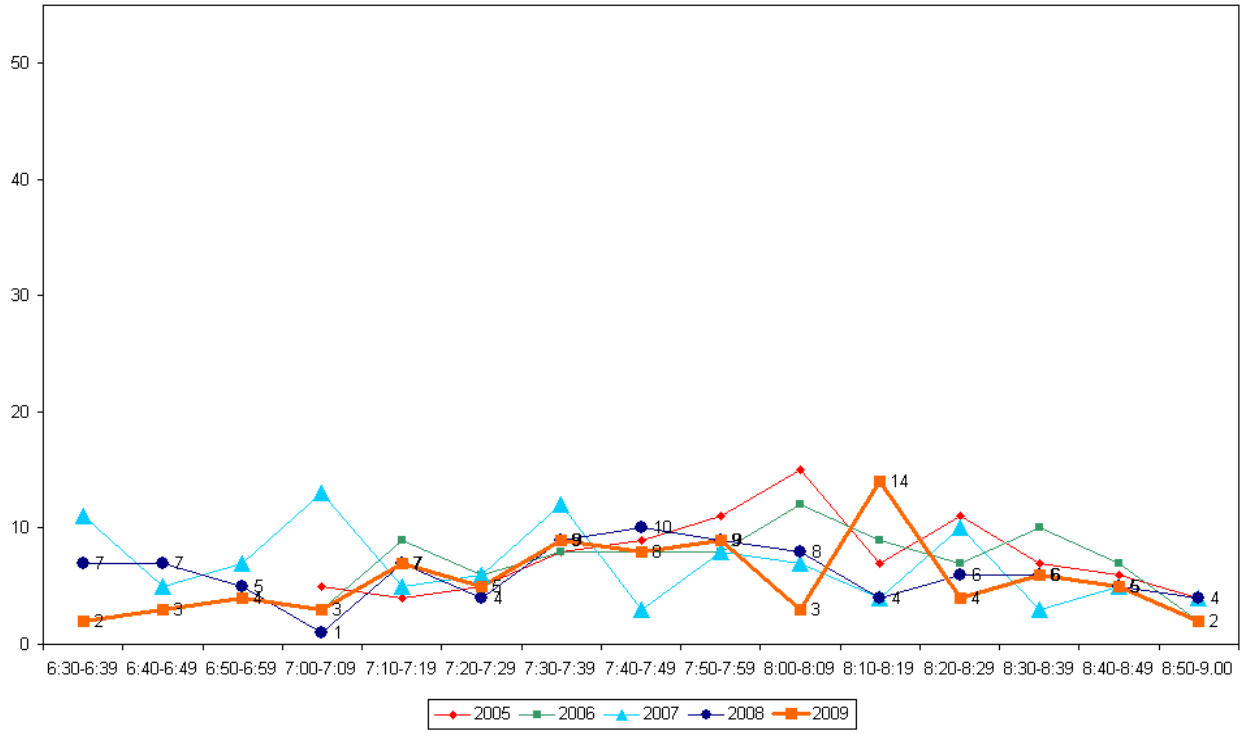
- The majority of morning cyclists at the Manukau/Greenlane West intersection are adults (87 per cent, stable from last year).
- Almost all cyclists are wearing a helmet (95 per cent, down from 99 per cent in 2008).
- The proportion of cyclists riding on the road has declined slightly since last year to 73 per cent in 2009.

Table 13.2: Morning Cyclist Characteristics
Manukau/Greenlane West 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	71	89	87	95	87	87	0
School child	29	11	13	5	13	13	0
Helmet Wearing							
Helmet on head	92	99	93	95	99	95	-4
No helmet	8	1	7	5	1	5	4
Where Riding							
Road	71	71	74	78	79	73	6
Footpath	29	29	26	22	21	27	6
Base:	***66***	***92***	***89***	***103***	***92***	***84***	

- The volume of morning cyclists remains relatively stable over the entire monitoring period, with a peak between 8:10am and 8:19am (14 movements), half an hour later than the peak last year between 7:40am and 7:49am (10 movements).

Figure 13.2: Manukau/Greenlane West Cyclist Frequency – Morning Peak



13.2 Evening Peak

Environmental Conditions

- The weather was variable throughout the evening shift. Light drizzle was reported between 5:19pm and 5:24pm, with a shower at 5:34pm. Heavy rain was reported at 6:40pm which continued to the end of the monitoring period.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Compared with previous years, evening cyclist numbers recorded at the Manukau/Greenlane West intersection are the second highest since monitoring began (71 movements, up slightly from 68 movements in 2008).
- The two key movements in the evening at this intersection are straight along Manukau Road heading south (Movement 8 = 25 cyclists) and west along Greenlane West (Movement 11 = 13 cyclists).
- The most notable increase in cycle volumes is at Movement 8 (up 11 cyclists to 25), while the most notable decrease is at Movement 2 (down 9 cyclists to 5).

Table 13.3: Evening Cyclist Movements
Manukau/Greenlane West 2002-2009 (n) – 4.00 to 6.00 pm

Movement	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
1	2	2	7	0	0	2	1	2	1
2	13	18	12	10	8	11	14	5	-9
3	1	0	2	2	2	4	3	2	-1
4	5	7	6	3	4	1	5	3	-2
5	9	11	11	3	5	7	9	6	-3
6	4	2	1	2	0	1	0	3	3
7	2	2	0	3	5	3	1	1	0
8	3	7	7	10	14	20	14	25	11
9	1	1	1	3	1	4	0	2	2
10	3	5	7	3	7	8	3	3	0
11	5	10	3	15	10	23	15	13	-2
12	0	1	3	1	0	3	3	6	3
Total	**48**	**66**	**60**	**55**	**56**	**87**	**68**	**71**	**3**

- Over the entire evening peak, 92 cycle movements were recorded at this site (from 4:00pm to 7:00pm). This compares with 113 movements in 2008.

Table 13.3A: Evening Cyclist Movements
Manukau/Greenlane West 2007-2009 (n) – 4.00 to 7.00 pm

Movement	*2007*	*2008*	*2009*	Change 08-09
1	4	1	2	1
2	16	17	5	-12
3	4	4	3	-1
4	6	7	5	-2
5	9	11	8	-3
6	1	1	5	4
7	5	3	3	0
8	26	37	33	-4
9	6	0	2	2
10	11	4	3	-1
11	30	25	17	-8
12	4	3	6	3
Total	**122**	**113**	**92**	**-21**

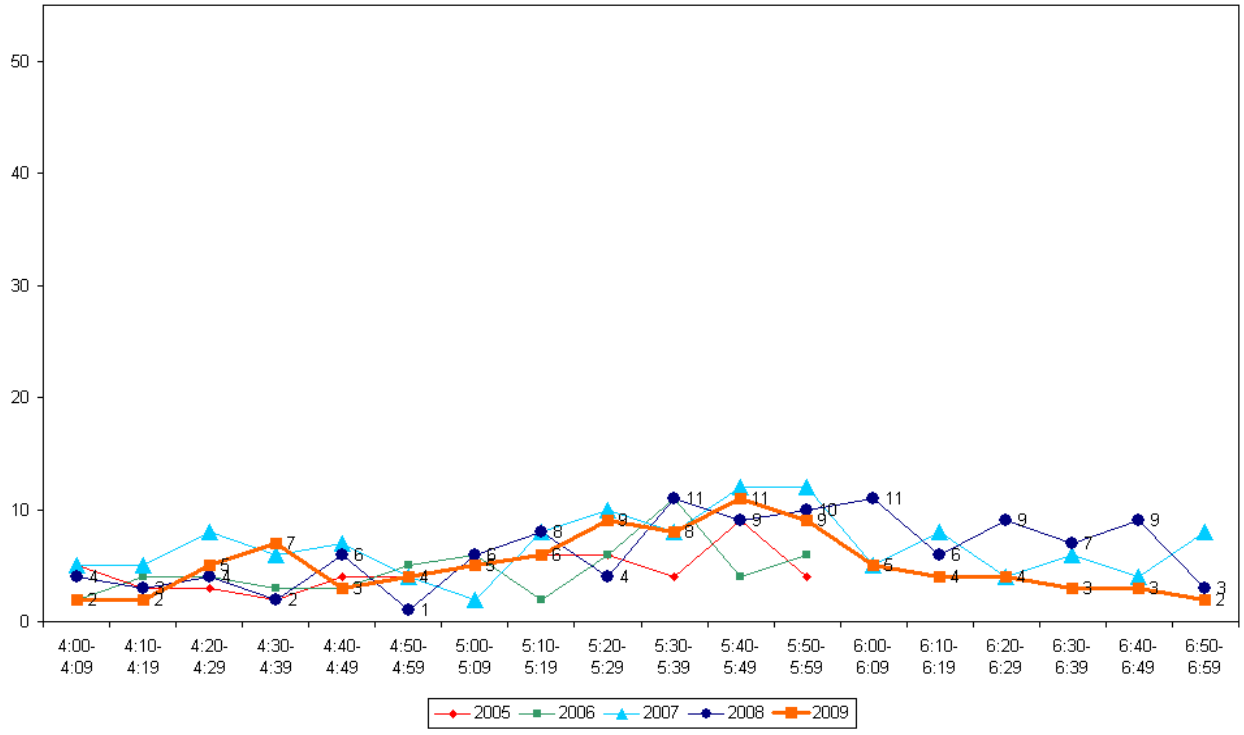
- As in previous years, the share of adult cyclists remains high (91 per cent, up from 81 per cent last year).
- The share wearing a helmet continues to be high (93 per cent, consistent with the 2008 measure).
- Most cyclists continue to ride on the road (84 per cent, up from 78 per cent last year).

Table 13.4: Evening Cyclist Characteristics
Manukau/Greenlane West 2004-2009 (%)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	Change 08-09
Cyclist Type							
Adult	78	96	95	88	81	91	10
School child	22	4	5	12	19	9	-10
Helmet Wearing							
Helmet on head	90	98	98	95	94	93	-1
No helmet	10	2	2	5	6	7	1
Where Riding							
Road	73	87	86	76	78	84	6
Footpath	27	13	14	24	22	16	-6
Base:	***60***	***55***	***56***	***122***	***113***	***92***	

- In the evening, cyclist volumes peak slightly at around 5:40pm (11 cyclists) and then taper off to the end of the monitoring period. This compares to a slight peak of 11 cyclists at 5:30pm and again at 6:05pm in 2008 (11 movements each).

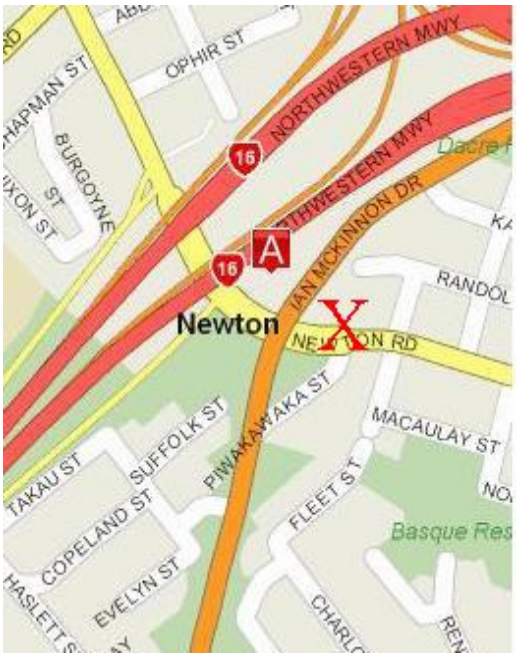
Figure 13.3: Manukau/Greenlane West Cyclist Frequency – Evening Peak

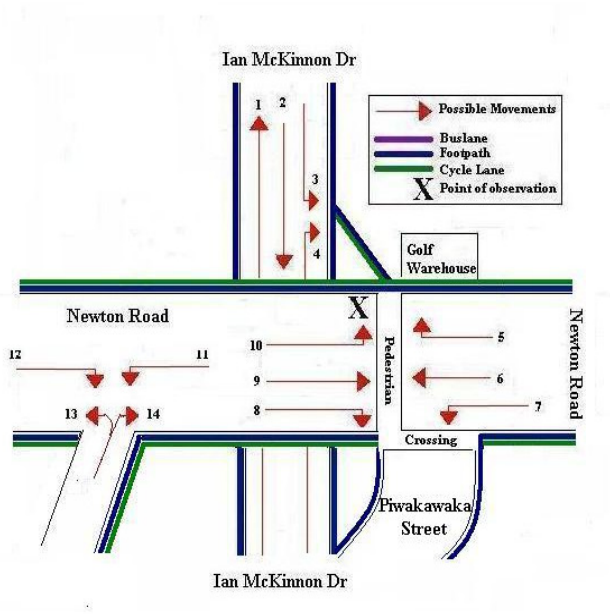


14. IAN MCKINNON DRIVE/NEWTON ROAD, NEWTON (SITE 13)

Figure 14.1 shows the possible cyclist movements at this intersection.

Figure 14.1: Cycle Movements: Ian McKinnon Drive/Newton Road





Note: This site was monitored for the first time in 2009. Consequently no comparative results are available.

AADT Estimate

- The AADT for this site is 422 cycle movements per day.

14.1 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 volume of morning cyclists at the Ian McKinnon Drive Newton Road site was 139.
- The key morning movements at this intersection are straight along Ian McKinnon Drive heading north towards the city (Movement 1 = 51 cyclists), and turning right off the North Western Cycleway onto Newton Road (Movement 14 = 41 cyclists).
- As this is a new site, no comparisons with previous years can be made.

Table 14.1: Morning Cyclist Movements
Ian McKinnon Drive/Newton Road 2009 (n)

Movement	2009
1	51
2	1
3	0
4	0
5	1
6	9
7	1
8	6
9	10
10	7
11	2
12	1
13	9
14	41
Total	**139**

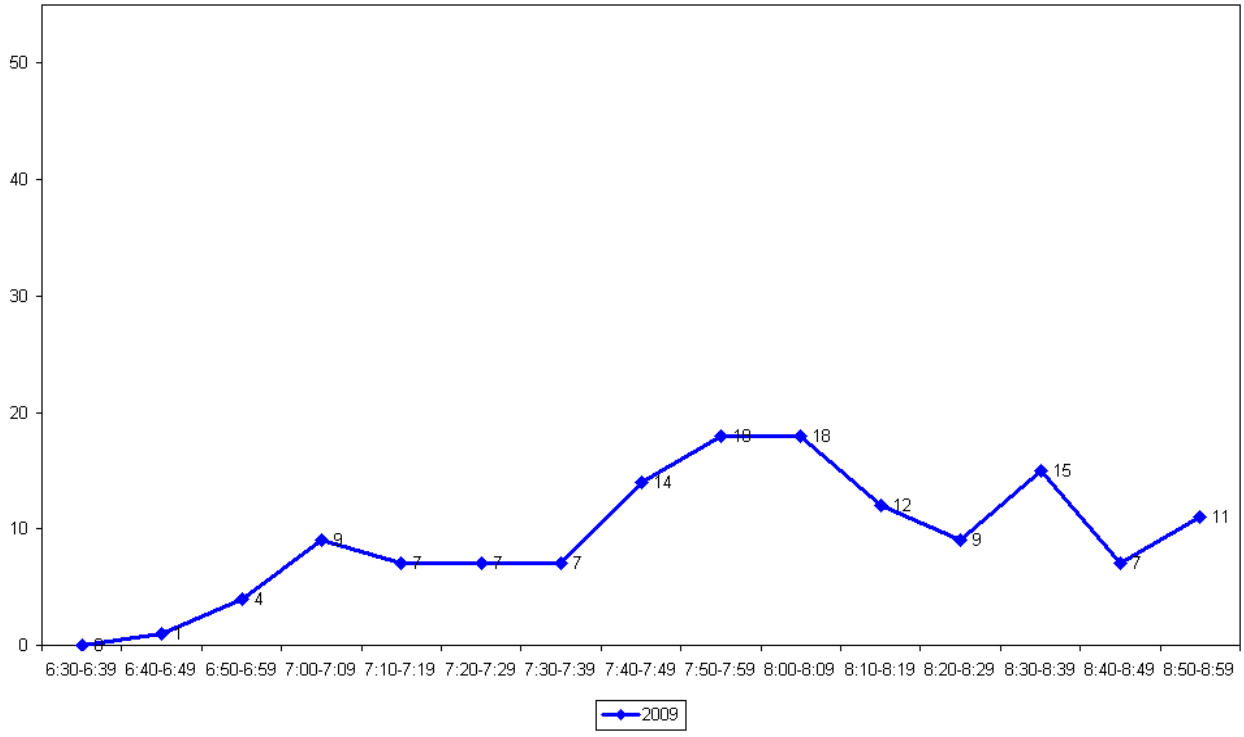
- Almost all cyclists are adults (99 per cent).
- Most cyclists are wearing a helmet (90 per cent).
- Just less than half of cyclists are riding on the off-road cycleway (45 per cent), while forty per cent are riding on the road. The remaining 15 per cent are riding on the footpath.

Table 14.2: Morning Cyclist Characteristics
Ian McKinnon Drive/Newton Road 2009 (%)

	2009
Cyclist Type	
Adult	99
School child	1
Helmet Wearing	
Helmet on head	90
No helmet	10
Where Riding	
Road	40
Footpath	15
Off-road cycleway	45
Base:	***139***

- Morning cyclist volumes start off low, but peak between 7:50am and 8:09am (18 cyclists in each ten minute period). There is another slight peak of 15 movements between 8:30am and 8:39am.

Figure 14.2: Ian McKinnon Drive/Newton Road Cyclist Frequency – Morning Peak



14.2 Evening Peak

- The weather was mostly fine throughout the evening shift, apart from a light shower at 5:30pm and heavy rain between 6:20pm and 6:35pm.
- 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 152.
- The key evening movements at this intersection are straight along Ian McKinnon Drive heading south away from the city (Movement 2 = 48 cyclists), and turning left from Newton Road into the North Western Cycleway (Movement 11 = 45 cyclists).
- As this is a new site, no comparisons with previous years can be made.

Table 14.3: Evening Cyclist Movements
Ian McKinnon Drive/Newton Road 2009 (n)

Movement	2009
1	4
2	48
3	7
4	1
5	0
6	11
7	4
8	0
9	22
10	0
11	45
12	2
13	5
14	3
Total	**152**

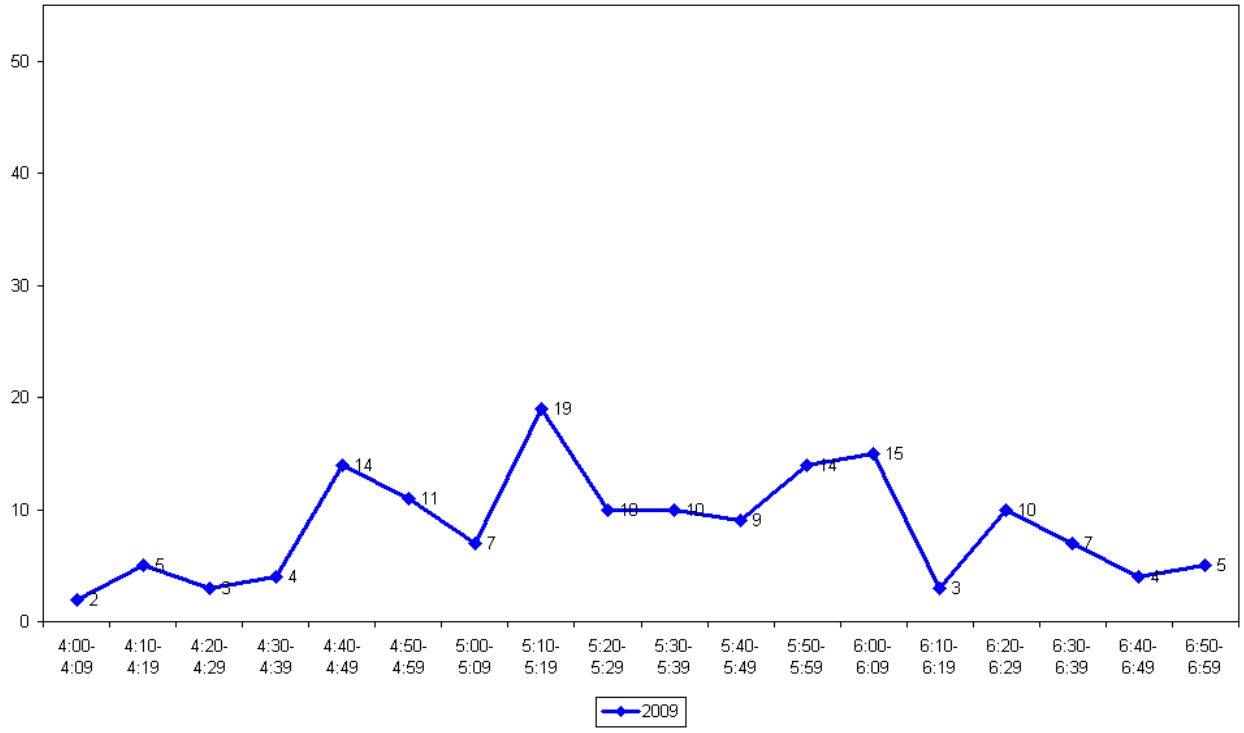
- Over the evening peak, almost all cyclists using this site are adults (98 per cent).
- The greatest share of cyclists at this site are wearing a helmet (95 per cent).
- The greatest single share of respondents are riding on the off-road cycleway (44 per cent). A further 31 per cent are riding on the road, while one quarter (25 per cent) are riding on the footpath.

Table 14.4: Evening Cyclist Characteristics
Ian McKinnon Drive/Newton Road 2009 (%)

	2009
Cyclist Type	
Adult	98
School child	2
Helmet Wearing	
Helmet on head	95
No helmet	5
Where Riding	
Road	31
Footpath	25
Off-road cycleway	44
Base:	***152***

- Evening cyclist numbers peak between slightly between 4:40pm and 4:49pm (14 movements), then peak between 5:10pm and 5:19pm (19 cyclists), with a final slight peak between 5:50pm and 6:09pm (14 and 15 cyclists per ten minute interval respectively).

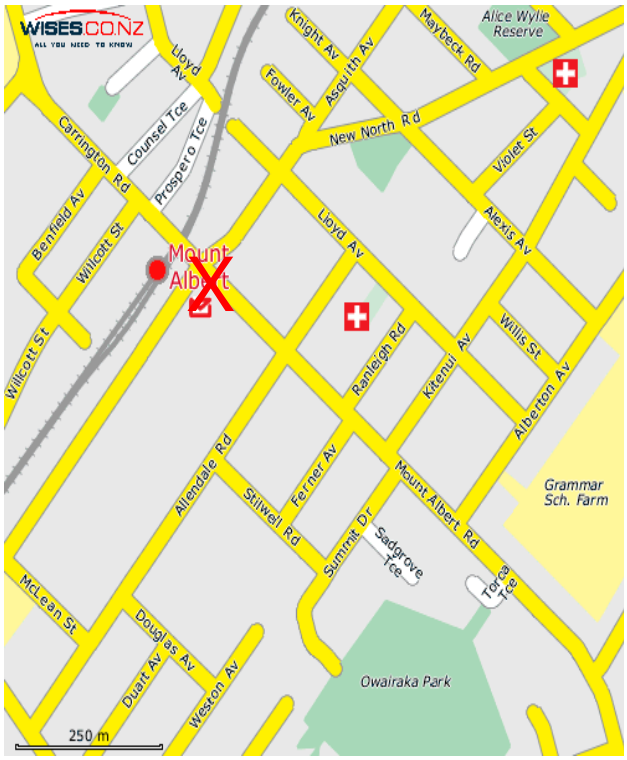
Figure 14.3: Ian McKinnon Drive/Newton Road Cyclist Frequency – Evening Peak

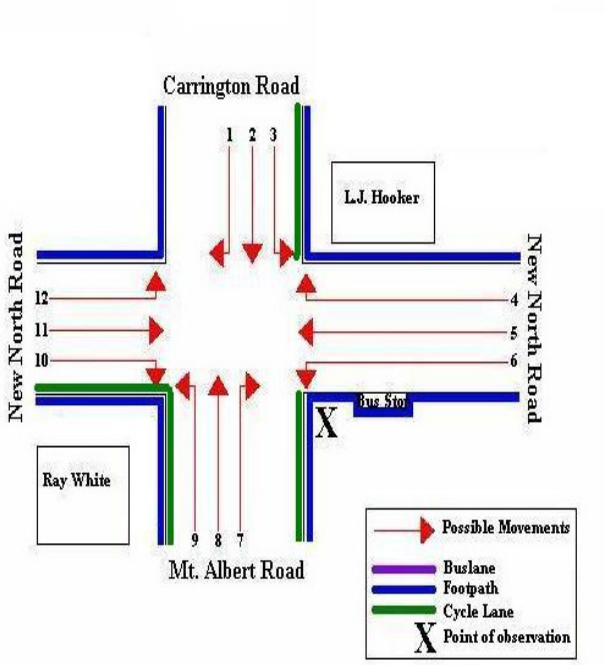


15. MOUNT ALBERT/NEW NORTH/ CARRINGTON ROAD, MT ALBERT (SITE 14)

Figure 15.1 shows the possible cyclist movements at this intersection.

Figure 15.1: Cycle Movements: Mount Albert/New North Road





AADT Estimate

- The AADT for this site is 205 cycle movements per day. This compares with:
  - 236 movements in 2008
  - 226 movements in 2007.

15.1 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

- Compared with last year, the volume of morning cyclists at the Mount Albert/New North Road intersection has declined (59 cycle movements, down from 68 movements in 2008).
- The most common movement in the morning is straight along New North Road heading northeast (Movement 11 = 25 cyclists).
- Morning cyclist volumes at all movements have remained fairly consistent with last year, with the most notable change at Movement 8 (down 8 cyclists).

Table 15.1: Morning Cyclist Movements
Mount Albert/New North Road 2007-2009 (n)

Movement	*2007*	*2008*	*2009*	Change 08-09
1	1	3	1	-2
2	11	10	11	1
3	3	2	2	0
4	3	3	1	-2
5	5	3	5	2
6	0	0	0	0
7	2	3	2	-1
8	14	14	6	-8
9	1	3	1	-2
10	6	4	3	-1
11	25	23	25	2
12	4	0	2	2
Total	**75**	**68**	**59**	**-9**

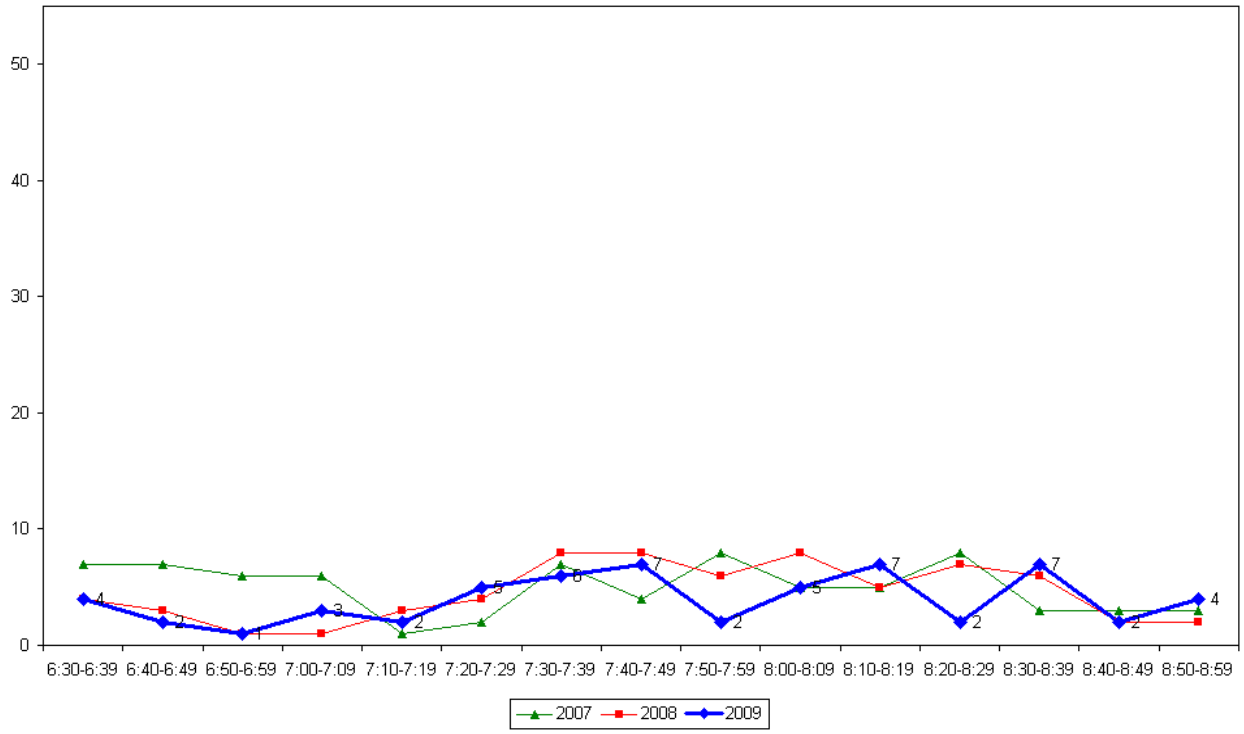
- Over the morning peak, most cyclists using the Mount Albert/New North Road intersection are adults (92 per cent, stable from last year).
- Most cyclists are wearing a helmet (86 per cent, down from 91 per cent in 2008).
- The greatest share of morning peak cyclists continue to ride on the road (90 per cent, up from 85 per cent last year).

Table 15.2: Morning Cyclist Characteristics
Mount Albert/New North Road 2007-2009 (%)

	2007	*2008*	*2009*	Change 08-09
Cyclist Type				
Adult	95	91	92	1
School child	5	9	8	-1
Helmet Wearing				
Helmet on head	91	91	86	-5
No helmet	9	9	14	5
Where Riding				
Road	84	85	90	5
Footpath	16	15	10	-5
Base:	***75***	***68***	***59***	

- The volume of morning cycle movements starts off low, and increases to peak slightly at around 7:40am, 8:10am and 8:30am (7 cyclists for each ten minute interval). This compares with the slight peak observed between 7:40am and 8:09am in 2008.

Figure 15.2: Mount Albert/New North Road Cyclist Frequency – Morning Peak



15.2 Evening Peak

Environmental Conditions

- The weather was fine throughout the evening shift, apart from light rain between 6:45pm and 6:54pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The total number of evening cycle movements recorded at the Mount Albert/New North Road intersection has decreased, from 96 in 2008 to 83 movements in 2009.
- In contrast to the morning shift, the key evening movement is straight along New North Road in a south-westerly direction (Movement 5 = 34 cyclists).
- Evening cyclist volumes continue to be stable for all movements at this site since last year, with the most notable change at Movement 12 (down 6 cyclists).

Table 15.3: Evening Cyclist Movements
Mount Albert/New North Road 2007-2009 (n)

Movement	*2007*	*2008*	*2009*	Change 08-09
1	3	5	2	-3
2	13	16	17	1
3	3	5	1	-4
4	5	3	4	1
5	28	31	34	3
6	2	2	3	1
7	3	1	3	2
8	9	8	9	1
9	1	2	0	-2
10	3	4	1	-3
11	7	10	6	-4
12	4	9	3	-6
Total	**81**	**96**	**83**	**-13**

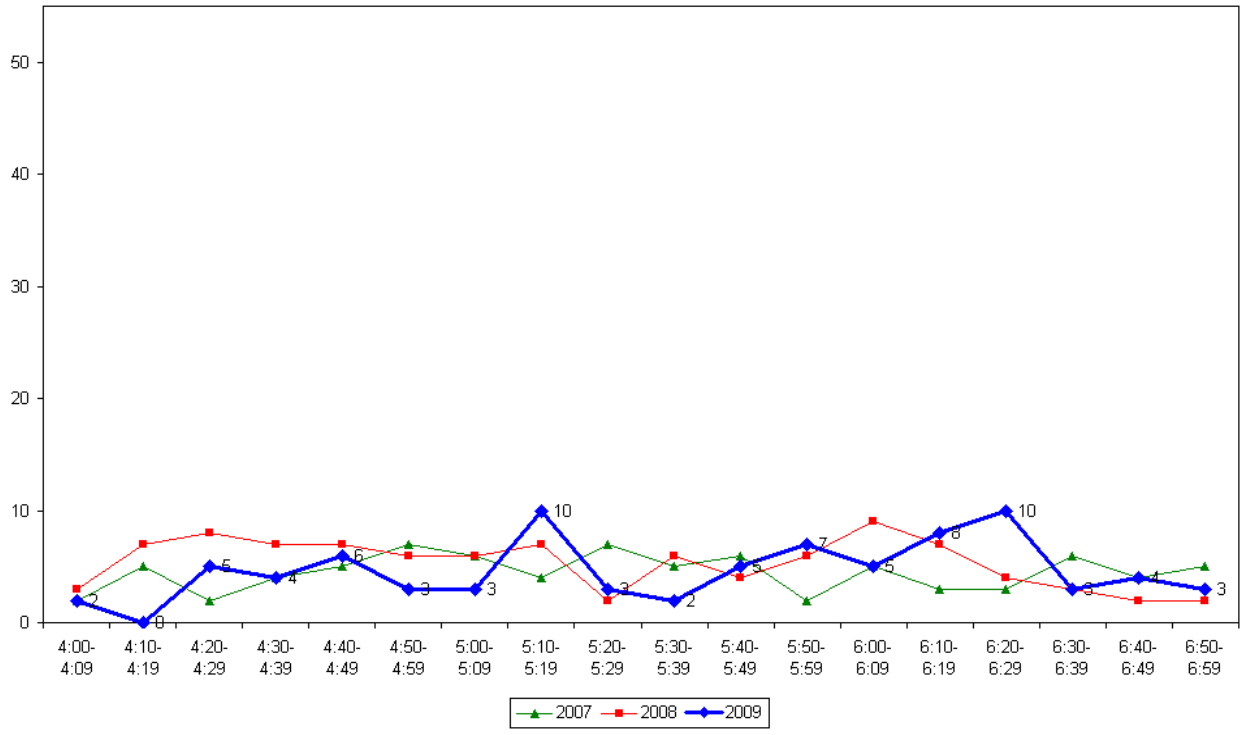
- The majority of cyclists using this intersection are adults (98 per cent, up from 85 per cent in 2008).
- The majority of cyclists at this site are wearing a helmet (86 per cent, down from 90 per cent last year).
- Three quarters of evening peak cyclists ride on the road (75 per cent, compared with 78 per cent in 2008).

Table 15.4: Evening Cyclist Characteristics
Mount Albert/New North Road 2009 (%)

	2007	*2008*	*2009*	Change 08-09
Cyclist Type				
Adult	94	85	98	13
School child	6	15	2	-13
Helmet Wearing				
Helmet on head	90	90	86	-4
No helmet	10	10	14	4
Where Riding				
Road	63	78	75	-3
Footpath	37	22	25	3
Base:	***81***	***96***	***83***	

- The volume of cycle movements is fairly consistent during the evening shift. A slight peak occurs between 5:10pm and 5:19pm (10 cyclists) and another between 6:20pm and 6:29pm (also 10 cyclists). This contrasts with a slightly earlier peak of 9 cyclists between 6:00pm and 6:09pm in 2008.

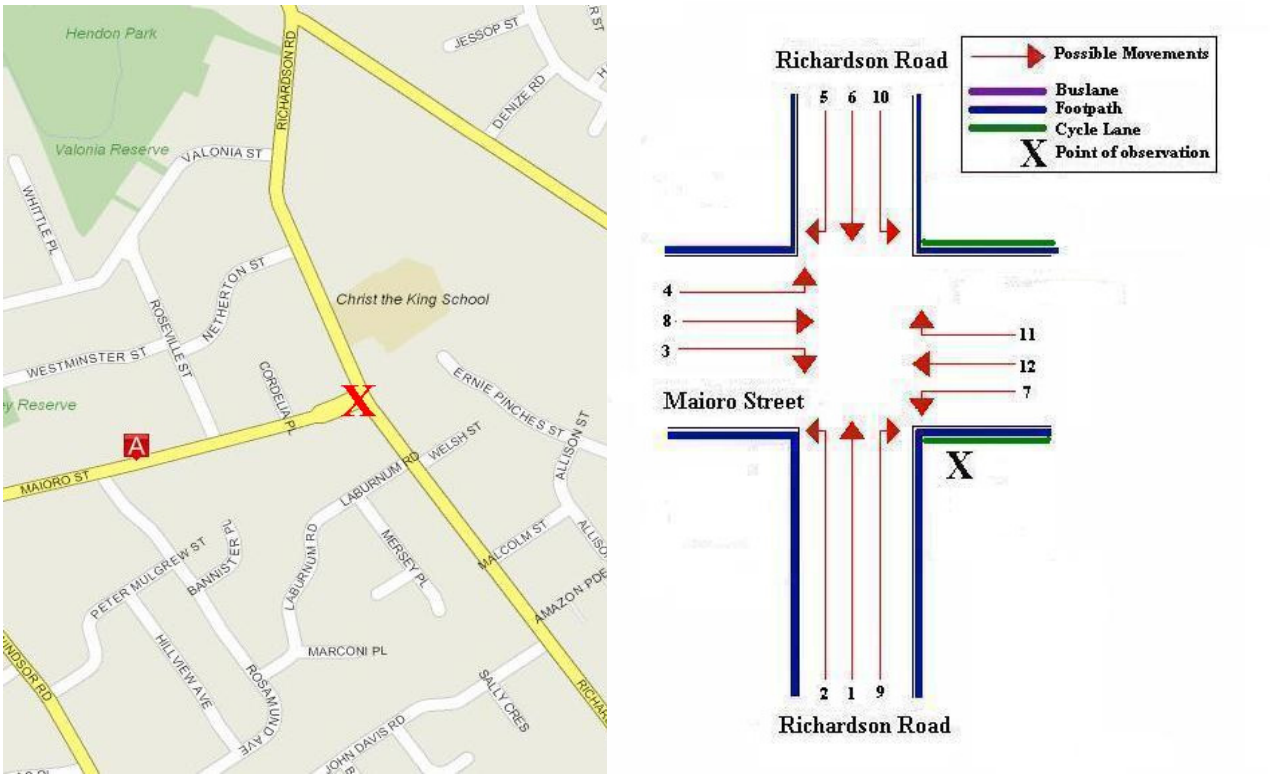
Figure 15.3: Mount Albert/New North Road Cyclist Frequency – Evening Peak



16. RICHARDSON ROAD/MAIORO STREET, MT ROSKILL (SITE 15)

Figure 16.1 shows the possible cyclist movements at this intersection.

Figure 16.1: Cycle Movement: Richardson Road/Mairoro Street



Note: This site was monitored for the first time in 2009. Consequently, no comparative results are available.

AADT Estimate

- The AADT for this site is 30 cycle movements per day.

16.1 Morning Peak

Environmental Conditions

- The weather was overcast throughout the morning shift.
- There were road works on Maioro Street during the monitoring period that may affect cycle counts.

Key Points

- Of the 27 sites monitored in Auckland city, the volume of cycle movements at the Richardson/Maioro intersection is the lightest, with 8 cycle movements recorded.
- The key movements are Movement 1, Movement 3 and Movement 6, each with 2 cyclists.
- As this site is new in 2009, no comparison can be made with previous years.

Table 16.1: Morning Cyclist Movements
Richardson/Maioro Street 2009 (n)

Movement	2009
1	2
2	1
3	2
4	0
5	1
6	2
7	0
8	0
Total	**8**

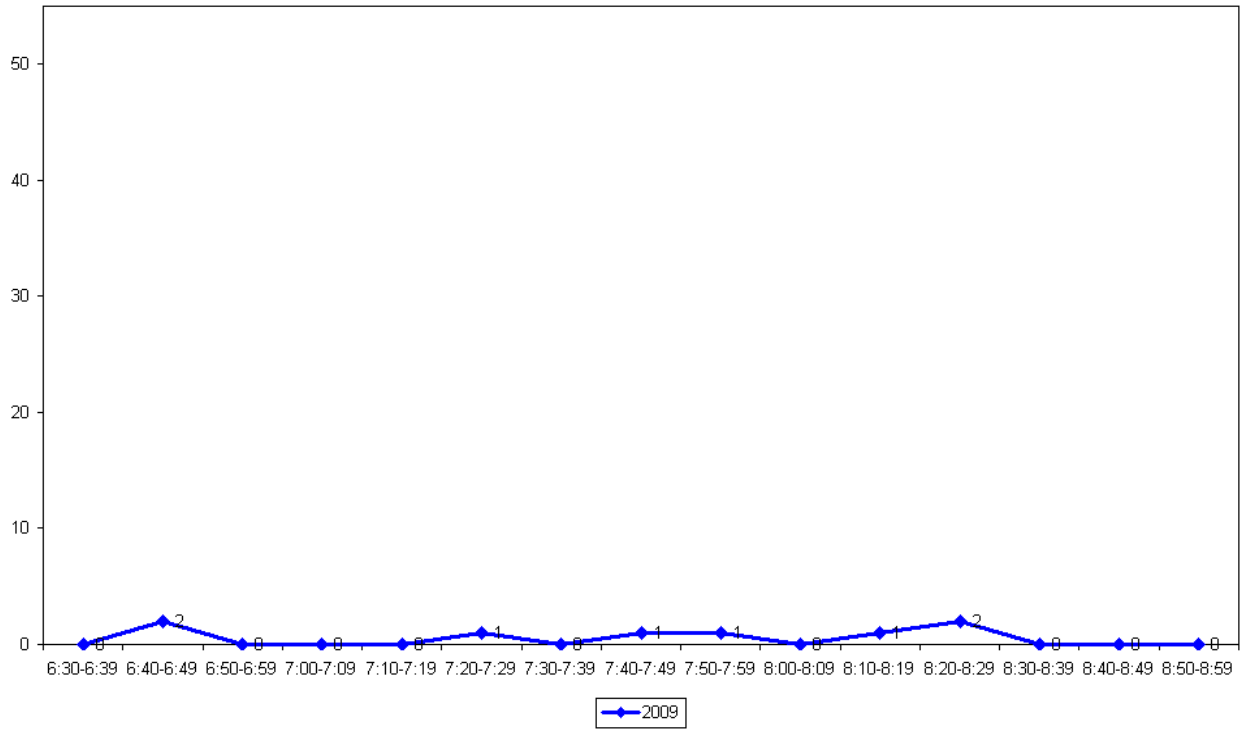
- Over the morning peak, all cyclists are adults (100 per cent).
- All cyclists are wearing helmets (100 per cent).
- Most of the cyclists are riding on the road (88 per cent).

Table 16.2: Morning Cyclist Characteristics
Richardson/Maioro Street 2009 (%)

	2009
Cyclist Type	
Adult	100
School child	0
Helmet Wearing	
Helmet on head	100
No helmet	0
Where Riding	
Road	88
Footpath	12
Base:	***8***

- Morning cycle volumes are very low over the entire monitoring period; no more than two cyclists were recorded passing over all ten minute intervals.

Figure 16.2: Richardson/Maioro Street Cyclist Frequency – Morning Peak



16.2 Evening Peak

Environmental Conditions

- The weather was overcast throughout the evening shift, with rain at 5:40pm and 6:20pm.
- There were road works on Maioro Street that may affect cycle counts.

Key Points

- The total number of evening cycle movements recorded at the Richardson/Maioro Street intersection is 13.
- The two key movements in the evening are turning left from Richardson Road into Maioro Street (Movement 2=4 cyclists) and south down Richardson Road (Movement 6=4 cyclists).
- As this is a new site, no comparisons with previous years can be made.

Table 16.3: Evening Cyclist Movements
Richardson/Maioro Street 2009 (n)

Movement	2009
1	0
2	4
3	1
4	1
5	1
6	4
7	1
8	1
Total	**13**

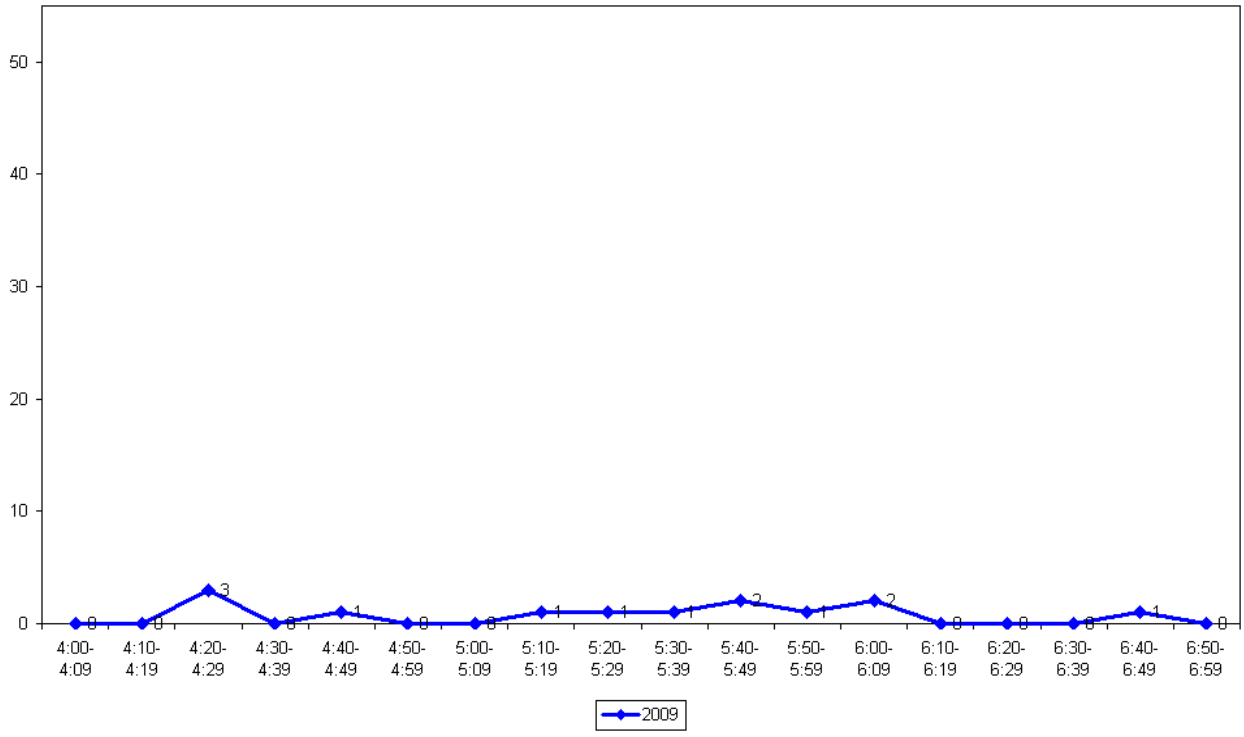
- All cyclists at this intersection are adults (100 per cent).
- Most cyclists are wearing a helmet (85 per cent).
- More than half of the cyclists at this intersection are riding on the footpath (54 per cent).

Table 16.4: Evening Cyclist Characteristics
Richardson/Maioro Street 2009 (%)

	2009
Cyclist Type	
Adult	100
School child	0
Helmet Wearing	
Helmet on head	85
No helmet	15
Where Riding	
Road	46
Footpath	54
Base:	***13***

- The volume of cycle movements remains relatively low over the entire evening peak, with no more than two cyclists recorded during most ten minute intervals. A slight peak occurs between 4:20pm and 4:29pm (3 movements).

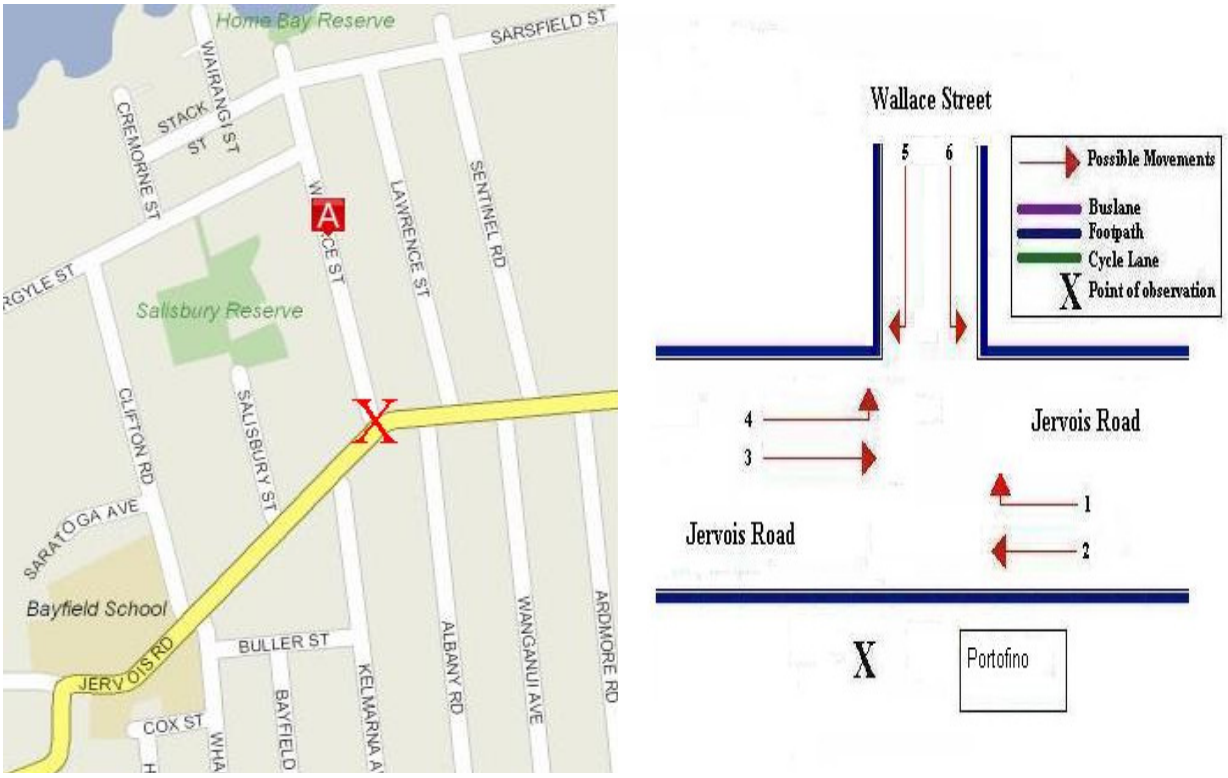
Figure 16.3: Richardson/Maioro Street Cyclist Frequency - Evening



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

Figure 17.1 shows the possible cyclist movements at this intersection.

Figure 17.1: Cycle Movements: Jervois Road/Wallace Street



Note: This site was monitored for the first time in 2009. Consequently, no comparative results are available.

AADT Estimate

- The AADT for this site is 162 cycle movements per day.

17.1 Morning Peak

Environmental Conditions

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

Key Points

- The total number of cyclists recorded at this site in the morning peak is 60.
- The most common movements in the morning are straight along Jervois Road in both directions (Movement 2 heading southwest = 30 cyclists including 13 and 4 riding together as groups; Movement 3 heading northeast = 24 cyclists).
- As this is a new site, comparisons over time cannot be made.

Table 17.1: Morning Cyclist Movements
Jervois Road/Wallace Street 2009 (n)

Movement	2009
1	0
2	30
3	24
4	2
5	1
6	3
Total	**60**

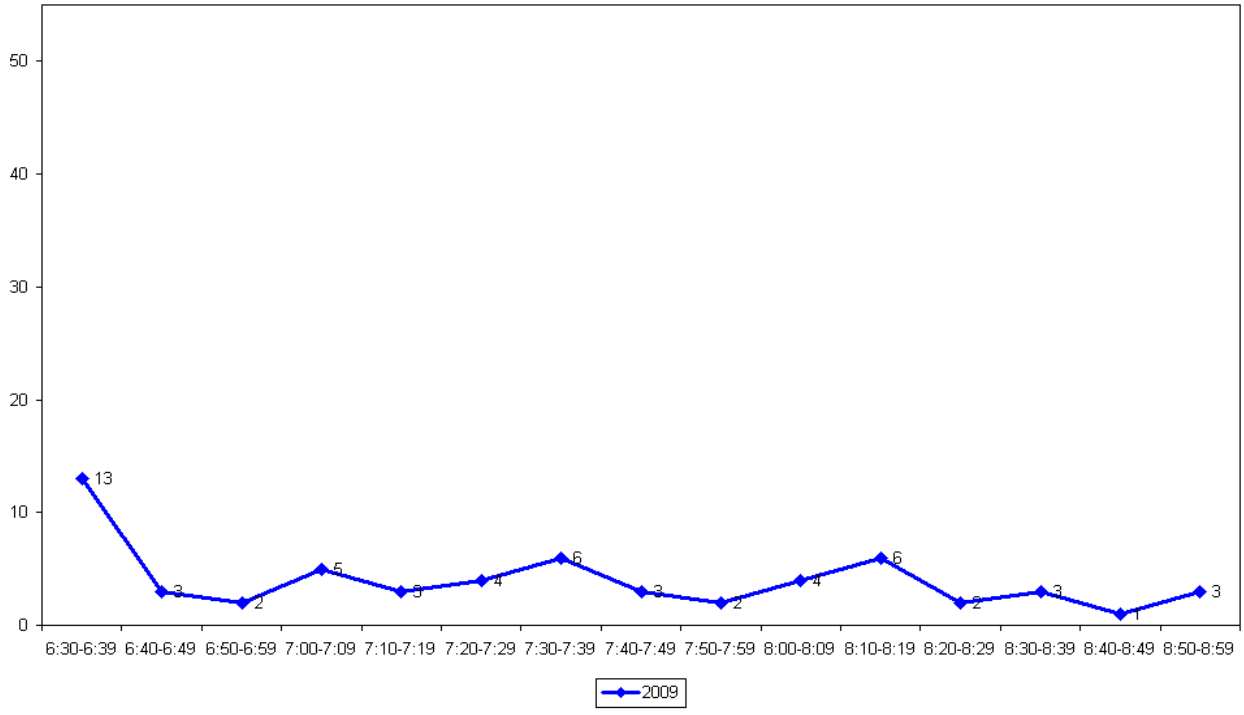
- Over the morning peak, most cyclists using this site are adults (90 per cent).
- Helmet wearing is widespread (98 per cent).
- The majority of cyclists are riding on the road (85 per cent).

Table 17.2: Morning Cyclist Characteristics
Jervois Road/Wallace Street 2009 (%)

	2009
Cyclist Type	
Adult	90
School child	10
Helmet Wearing	
Helmet on head	98
No helmet	2
Where Riding	
Road	85
Footpath	15
Base:	***60***

- Morning cycle volumes are relatively low over the entire monitoring period, with no more than six cyclists recorded passing during all ten minute intervals. A notable peak occurs at the beginning of the monitoring period, with 13 cyclists recorded between 6:30am and 6:39am (all riding together as a group).

Figure 17.2: Jervois Road/Wallace Street Cyclist Frequency – Morning Peak



Note: Twenty-eight per cent of the total cycle movements in the morning peak were identified as cycling in groups. Thirteen cyclists were observed riding together at this site at 6.33am with a further group of four observed at 7.03am.

17.2 Evening Peak

Environmental Conditions

- The weather was fine throughout the evening shift, apart from light drizzle between 4:30pm and 4:32pm, and again between 5:45pm and 5:47pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Evening cyclist numbers are slightly lower than morning cyclist numbers at this site, with 51 movements recorded over the evening peak.
- Consistent with the morning peak, the key movements in the evening are straight along Jervois Road in both directions (Movement 2 heading southwest = 22 cyclists; Movement 3 heading northeast = 17 cyclists).
- As this is a new site, no comparisons with previous years can be made.

Table 17.3: Evening Cyclist Movements
Jervois Road/Wallace Street 2009 (n)

Movement	2009
1	1
2	22
3	17
4	3
5	3
6	5
Total	**51**

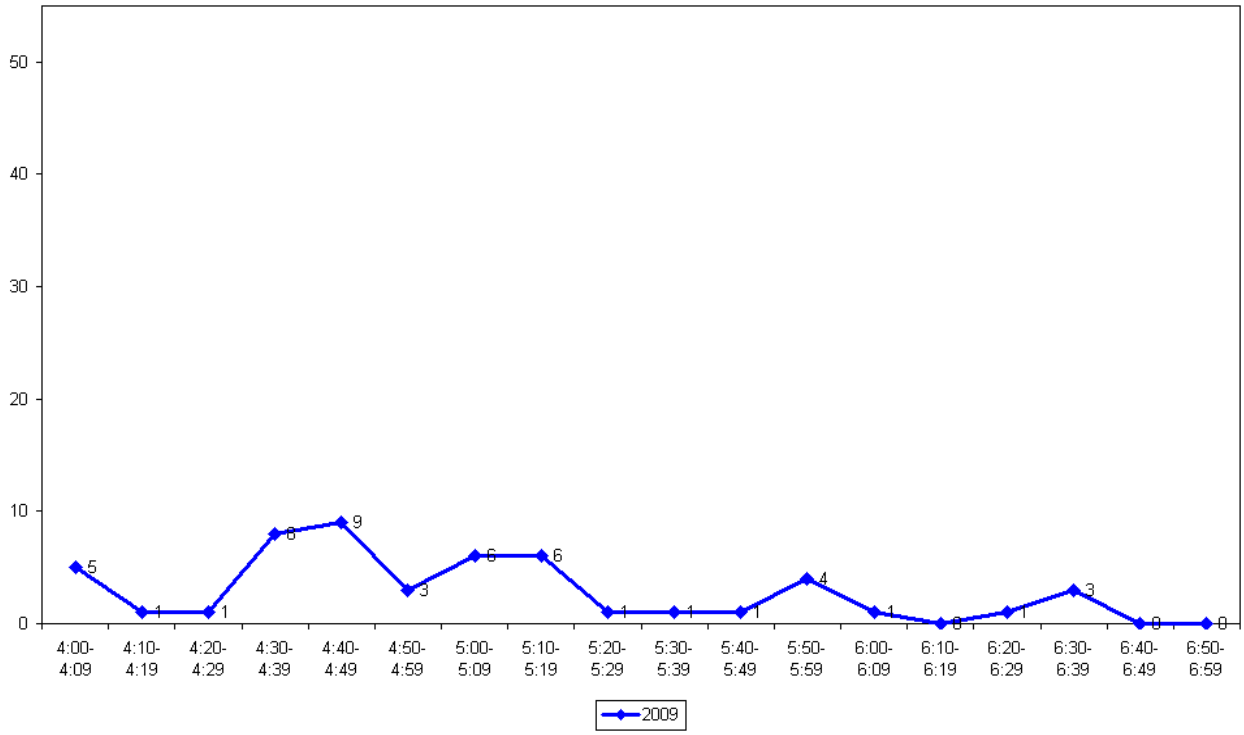
- Over the evening peak, adults comprise just over half of all cyclists recorded (55 per cent).
- Almost all cyclists are wearing a helmet (98 per cent).
- Just over half of all cyclists are riding on the road (55 per cent).

Table 17.4: Evening Cyclist Characteristics
Jervois Road/Wallace Street 2009 (%)

	2009
Cyclist Type	
Adult	55
School child	45
Helmet Wearing	
Helmet on head	98
No helmet	2
Where Riding	
Road	55
Footpath	45
Base:	***51***

- Evening cycle volumes remain low over the entire monitoring period, with no more than six cyclists recorded during most ten minute intervals. A slight peak occurs between 4:30pm and 4:49pm (8 cyclists and 9 cyclists reported in each ten minute interval respectively).

Figure 17.3: Jervois Road/Wallace Street Cyclist Frequency – Evening Peak



Note: Twelve per cent of the total cycle movements in the evening peak were identified as cycling in groups. Three cyclists were observed riding together at this site at 4.42pm, with a further group of three observed at 5.02pm.

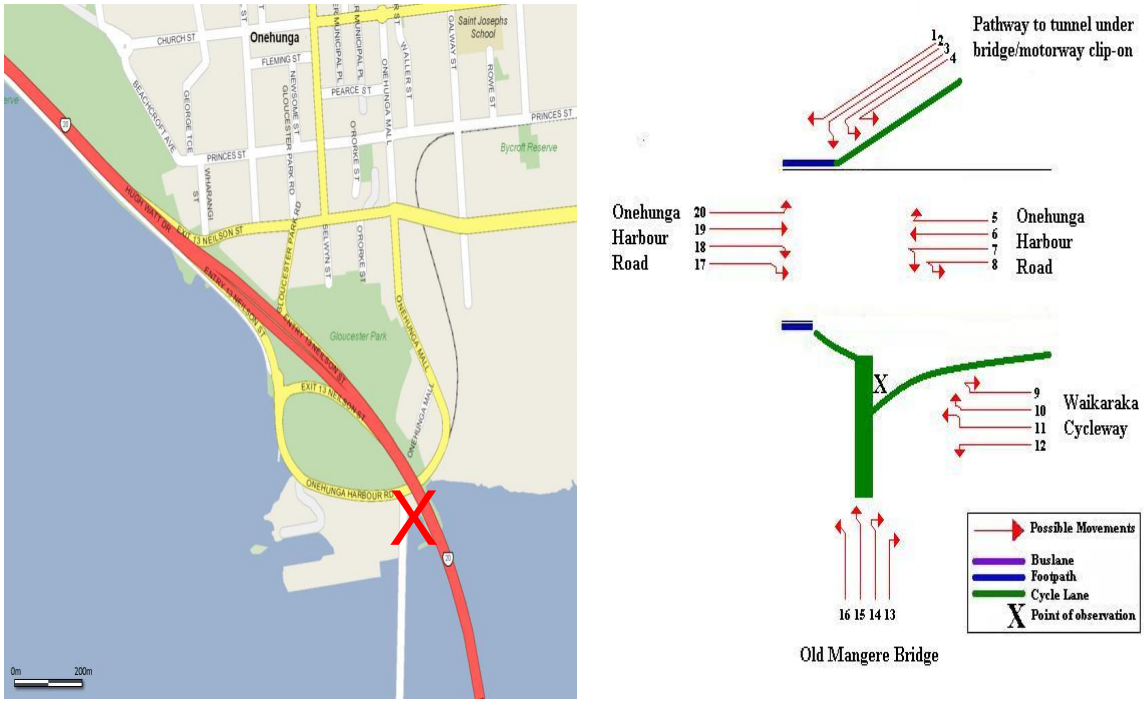
18. ONEHUNGA HARBOUR ROAD, ONEHUNGA (SITE 17)

Figure 18.1 shows the possible cyclist movements at this site. *Note: A revised map was used for this site in 2008 to incorporate use of the Waikaraka cycleway, which was under construction in 2007. As a result, movement data collected in 2008 and 2009 cannot be compared with 2007.*

Note: Due to errors in counting at this site on the designated count day, the count was re-done on Thursday 30th April.

In 2009, there was construction work (Manukau Harbour crossing) at this site from the Waikaraka cycleway to Mangere Bridge. However, the surveyor noted that movements 9 to 12 were still possible.

Figure 18.1: Cycle Movements: Onehunga Harbour Road



AADT Estimate

- The AADT for this site is 259 cycle movements per day. This compares with:
  - 316 movements in 2008
  - 357 movements in 2007.

18.1 Morning Peak

Environmental Conditions

- The weather was overcast with fine patches throughout the morning shift, apart from light drizzle between 7:45am and 7:55am, and between 8:01am and 8:06am.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Compared with the previous year, the volume of morning cyclists at Onehunga Harbour Road has declined (74 movements, down from 88 cycle movements recorded in 2008).
- The most common movement in the morning is turning right off Onehunga Harbour Road onto Old Mangere Bridge (Movement 18 = 22 cyclists).
- The most notable decline in cycle volumes has occurred at Movement 7 (heading west along Onehunga Harbour Road and turning south onto old Mangere Bridge – down from 17 cyclists in 2008 to no cyclists in 2009).

Table 18.1: Morning Cyclist Movements
Onehunga Harbour Road 2009 (n)

Movement	*2007*	*2008*	*2009*	Change 08-09
1	-	0	0	0
2	-	1	0	-1
3	-	0	1	1
4	-	0	0	0
5	-	0	0	0
6	-	1	0	-1
7	-	17	0	-17
8	-	2	0	-2
9	-	1	0	-1
10	-	1	1	0
11	-	1	0	-1
12	-	2	12	10
13	-	6	11	5
14	-	6	0	-6
15	-	4	11	7
16	-	27	13	-14
17	-	2	3	1
18	-	17	22	5
19	-	0	0	0
20	-	0	0	0
Total	**93**	**88**	**74**	**-14**

**Note: The map and movement directions at this site had been re-designed in 2008, so results for movement numbers are not directly comparable with 2007.*

- Eighty per cent of cyclists using this site are adults (up slightly from 77 per cent recorded last year).
- Almost all cyclists are wearing a helmet (95 per cent, up notably from 84 per cent 2008).
- Most cyclists do not cross the Onehunga Harbour Road (81 per cent, down 5 percentage points from 2008).

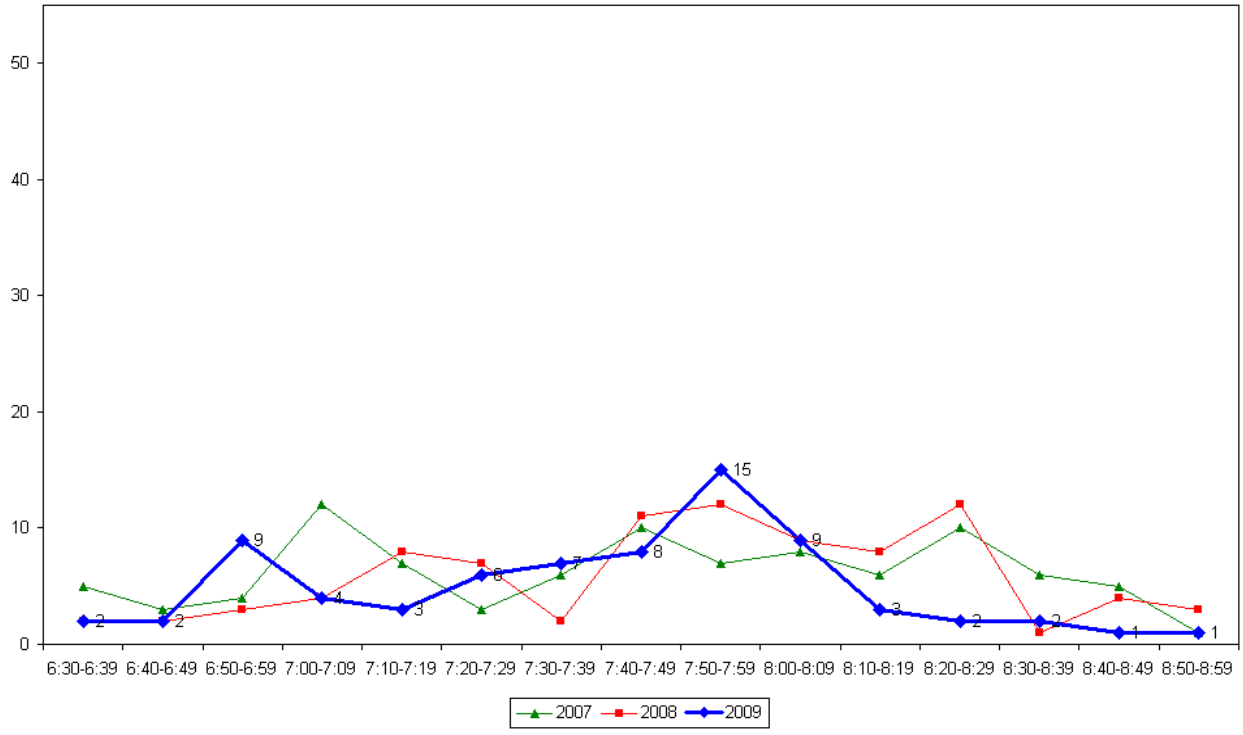
Table 18.2: Morning Cyclist Characteristics
Onehunga Harbour Road 2009 (%)

	2007	*2008*	*2009*	Change 08-09
Cyclist Type				
Adult	83	77	80	3
School child	17	23	20	-3
Helmet Wearing				
Helmet on head	84	84	95	11
No helmet	16	16	5	-11
Crossing*				
Yes	-	14	19	5
No	-	86	81	-5
Base:	***93***	***88***	***74***	

**Note: In 2008 and 2009, information was collected on whether or not cyclists at this site cross Onehunga Harbour Road.*

- The volume of morning cycle movements peaks between 7:50am and 7:59am (15 cyclists), including seven riding together as a group half an hour earlier than the peak recorded last year (12 movements). Cycle movements then drop off towards the end of the monitoring period.

Figure 18.2: Onehunga Harbour Road Cyclist Frequency – Morning Peak



Note: Sixteen per cent of the total cycle movements in the morning peak were identified as cycling in groups. Seven cyclists were observed riding together as a group at this site at 7.54am. Five cyclists were observed riding together as a group at 8:01am.

18.2 Evening Peak

Environmental Conditions

- The weather was fine throughout the evening shift, apart from a light shower between 5:26pm and 5:30pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Compared with last year, the volume of evening cyclists at Onehunga Harbour Road has declined notably, from132 in 2008 to 106 movements in 2009.
- The key movements in the evening are turning left from the Waikaraka Cycleway onto Old Mangere Bridge (Movement 12 = 33 cyclists) and turning left from Old Mangere Bridge into Onehunga Harbour Road (Movement 16 = 28 cyclists).
- The most notable declines in cyclist numbers have occurred at Movement 7 (down from 22 cyclists in 2008 to 4 cyclists in 2009) and at Movement 14 (down from 24 cyclists to 6 cyclists).

Table 18.3: Evening Cyclist Movements
Onehunga Harbour Road 2007-2009 (n)

Movement	*2007*	*2008*	*2009*	Change 08-09
1	-	0	0	0
2	-	2	2	0
3	-	0	0	0
4	-	0	0	0
5	-	0	0	0
6	-	3	1	-2
7	-	22	4	-18
8	-	1	0	-1
9	-	0	0	0
10	-	0	0	0
11	-	2	2	0
12	-	17	33	16
13	-	11	9	-2
14	-	24	6	-18
15	-	11	7	-4
16	-	21	28	7
17	-	3	0	-3
18	-	15	13	-2
19	-	0	1	1
20	-	0	0	0
Total	**156**	**132**	**106**	**-26**

**Note: The map and movement directions at this site had been re-designed in 2008, so results for movement numbers are not directly comparable with 2007.*

- Over the evening shift, almost all cyclists using this site are adults (92 per cent, stable from 93 per cent in 2008).
- The majority of cyclists are wearing a helmet (97 per cent, up from 91 per cent last year).
- Most cyclists do not cross the Onehunga Harbour Road (92 per cent, up notably from 73 per cent in 2008).

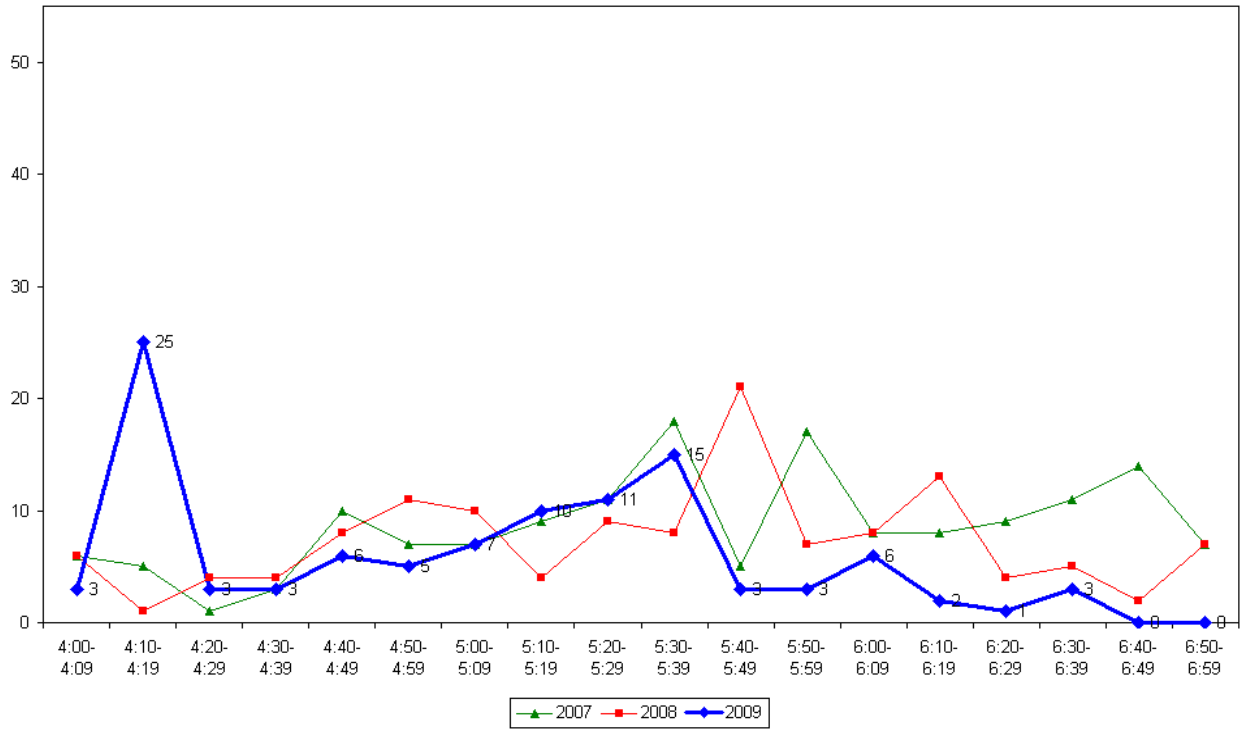
Table 18.4: Morning Cyclist Characteristics
Onehunga Harbour Road 2007-2009 (%)

	2007	*2008*	*2009*	Change 08-09
Cyclist Type				
Adult	96	93	92	-1
School child	4	7	8	1
Helmet Wearing				
Helmet on head	83	91	97	6
No helmet	17	9	3	-6
Crossing*				
Yes	-	27	8	-19
No	-	73	92	19
Base:	***156***	***132***	***68***	

**Note: In 2008 and 2009, information was collected on whether or not cyclists at this site cross Onehunga Harbour Road*

- Evening cyclist numbers peak notably between 4:10pm and 4:19pm, with 25 movements recorded over this interval (including 12 cyclists riding as a group). Cycle volumes then drop down and increase gradually to peak again between 5:30pm and 5:39pm (15 movements) before tailing off to the end of the monitoring period.

Figure 18.3: Onehunga Harbour Road Cyclist Frequency – Evening Peak



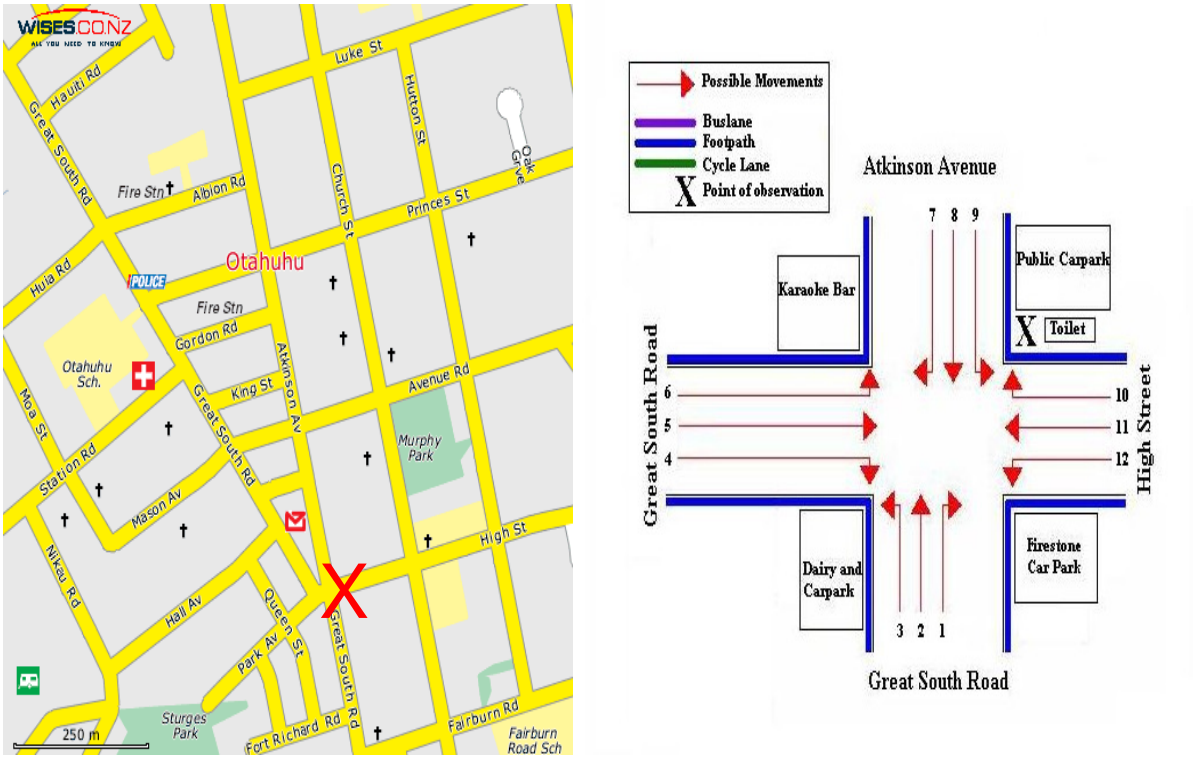
Note: Thirty-seven per cent of the total cycle movements in the evening peak were identified as cycling in groups. The following groups of three or more cyclists were observed riding together as a group over the evening monitoring period:

- *Twelve cyclists at 4:11pm;*
- *Six cyclists at 4:17pm; and*
- *Seven cyclists at 5:30pm.*

19. GREAT SOUTH ROAD/HIGH STREET/ATKINSON AVENUE, OTAHUHU (SITE 18)

Figure 19.1 shows the possible cyclist movements at this intersection.

Figure 19.1: Cycle Movements: Great South Road/High Street



AADT Estimate

- The AADT for this site is 71 cycle movements per day. This compares with:
  - 87 movements in 2008
  - 121 movements in 2007.

19.1 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

- Consistent with last year, the morning cyclist traffic at the Great South Road/High Street intersection remains low, with 21 cycle movements recorded (down from 30 movements in 2008).
- The most common movement is heading north going straight through from Great South Road into Atkinson Avenue (Movement 2 = 6 cyclists).
- Compared with last year, the volume of morning cyclists is most notably lower at Movement 3 (down 7 cyclists).

Table 19.1: Morning Cyclist Movements
Great South Road/High Street 2007-2009 (n)

Movement	*2007*	*2008*	*2009*	Change 08-09
1	0	0	2	2
2	7	8	6	-2
3	11	11	4	-7
4	7	7	3	-4
5	0	1	2	1
6	1	0	0	0
7	1	0	0	0
8	11	2	3	1
9	0	0	1	1
10	0	0	0	0
11	0	1	0	-1
12	0	0	0	0
Total	**38**	**30**	**21**	**-9**

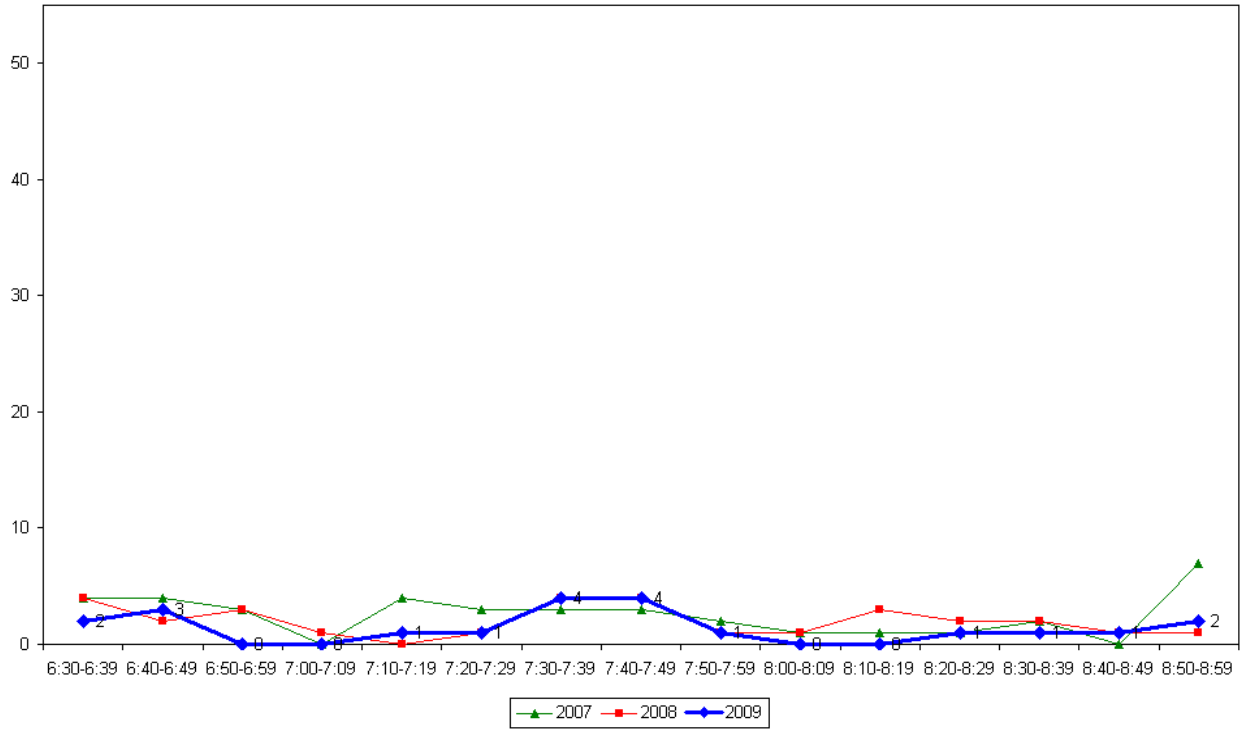
- Over the morning peak in 2009, most cyclists are adults (95 per cent, down from 100 per cent in 2008).
- Almost all cyclists are wearing a helmet (95 per cent, up notably from 77 per cent recorded last year).
- On average, 86 per cent of cyclists are riding on the road (up notably from 70 per cent at the previous measure).

Table 19.2: Morning Cyclist Characteristics
Great South Road/High Street 2009 (%)

	2007	*2008*	*2009*	Change 08-09
Cyclist Type				
Adult	97	100	95	-5
School child	3	0	5	5
Helmet Wearing				
Helmet on head	89	77	95	18
No helmet	11	23	5	-18
Where Riding				
Road	89	70	86	16
Footpath	11	30	14	-16
Base:	***38***	***30***	***21***	

- The volume of morning cycle movements is low during the entire morning shift, with a slight peak of 4 cyclists recorded each ten minute interval over the period from 7:30am to 7:49am. This is somewhat consistent with last year, although no peak was evident.

Figure 19.2: Great South Road/High Street Cyclist Frequency – Morning Peak



19.2 Evening Peak

Environmental Conditions

- The weather was overcast throughout the evening shift, with light drizzle between 5:00pm and 5:10pm, which then developed into a shower between 5:10pm and 5:25pm. Heavy rain was reported between 6:30pm and 6:45pm, after which intermittent drizzle continued to the end of the monitoring period.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The total number of evening cycle movements recorded at Great South Road/High Street intersection in 2009 (28 movements) is stable from last year's result (30 movements).
- The key movements are straight through Atkinson Avenue into Great South Road heading south (Movement 8 = 9 cyclists) and travelling along Great South Road in a southeasterly direction (Movement 4 = 7 cyclists).

Table 19.3: Evening Cyclist Movements
Great South Road/High Street 2007-2009 (n)

Movement	*2007*	*2008*	*2009*	Change 08-09
1	0	2	1	-1
2	8	4	3	-1
3	6	7	4	-3
4	13	3	7	4
5	1	4	2	-2
6	0	0	0	0
7	1	0	1	1
8	13	8	9	1
9	2	1	0	-1
10	1	0	0	0
11	1	1	1	0
12	0	2	0	-2
Total	**46**	**30**	**28**	**-2**

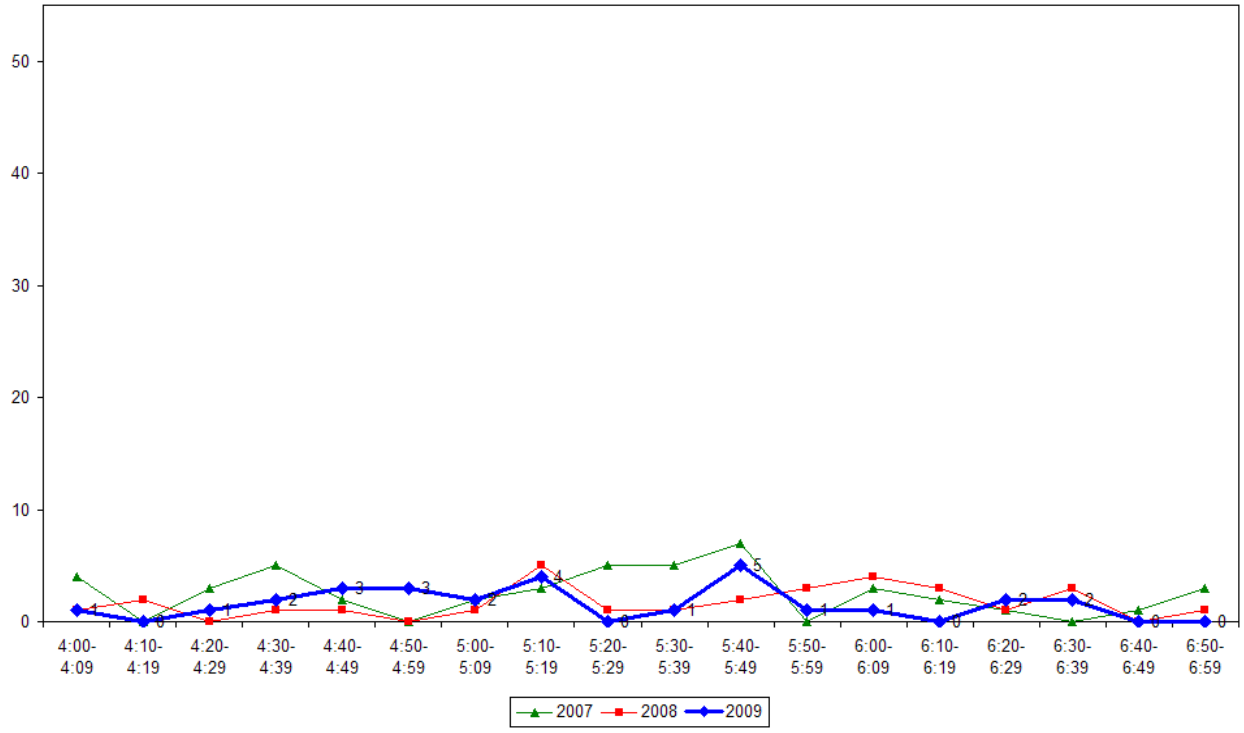
- Over the evening peak, all cyclists are adults (100 per cent, up from 87 per cent last year).
- Three-quarters of cyclists are wearing a helmet (75 per cent, compared with 77 per cent in 2008).
- A notably larger proportion of cyclists are riding on the road (75 per cent, up from 53 per cent in 2008).

Table 19.4: Evening Cyclist Characteristics
Great South Road/High Street 2007-2009 (%)

	2007	*2008*	*2009*	**Change 08-09**
Cyclist Type				
Adult	83	87	100	13
School child	17	13	0	-13
Helmet Wearing				
Helmet on head	74	77	75	-2
No helmet	26	23	25	2
Where Riding				
Road	57	53	75	22
Footpath	43	47	25	-22
Base:	***46***	***30***	***28***	

- The volume of cycle movements peaks slightly between 5:40pm and 5:49pm (4 movements) – half an hour later than the peak reported in 2008 but consistent with that in 2007.

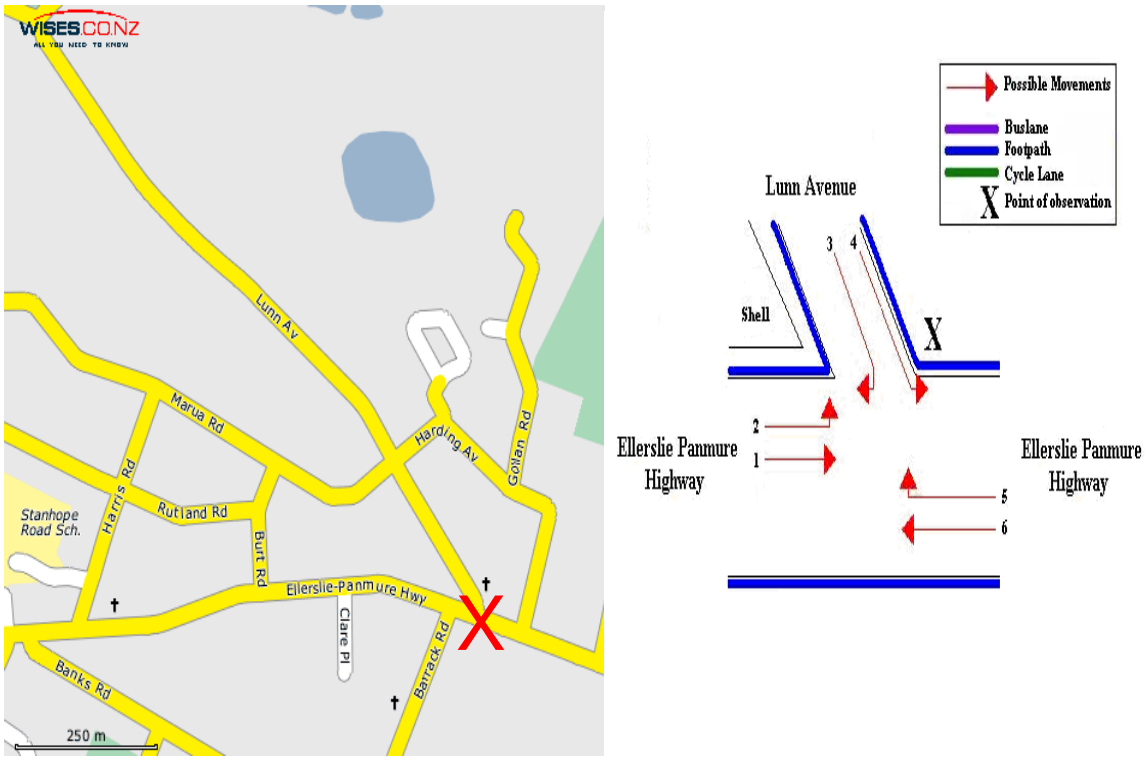
Figure 19.3: Great South Road/High Street Cyclist Frequency – Evening Peak



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

Figure 20.1 shows the possible cyclist movements at this intersection.

Figure 20.1: Cycle Movements: Ellerslie Panmure Highway/Lunn Avenue



AADT Estimate

- The AADT for this site is 118 cycle movements per day. This compares with:
  - 136 movements in 2008
  - 170 movements in 2007.

20.1 Morning Peak

Environmental Conditions

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

Key Points

- Morning cyclist volumes recorded at the Ellerslie Panmure Highway/Lunn Avenue intersection are down, from 42 in 2008 to 31 cycle movements in 2009.
- The most common morning movements are straight along the Ellerslie Panmure Highway heading east (Movement 1 = 8 cyclists), turning left out of Lunn Avenue into the Ellerslie Panure Highway (Movement 4 = 8 cyclists) and turning right from the Ellerslie Panmure Highway into Lunn Avenue (Movement 5 = 8 cyclists).
- The most notable decline is at Movement 6 (down 9 cyclists).

Table 20.1: Morning Cyclist Movements
Ellerslie Panmure Highway/Lunn Avenue 2007-2009 (n)

Movement	*2007*	*2008*	*2009*	Change 08-09
1	15	7	8	1
2	1	3	1	-2
3	2	8	2	-6
4	12	8	8	0
5	3	3	8	5
6	19	13	4	-9
Total	**52**	**42**	**31**	**-11**

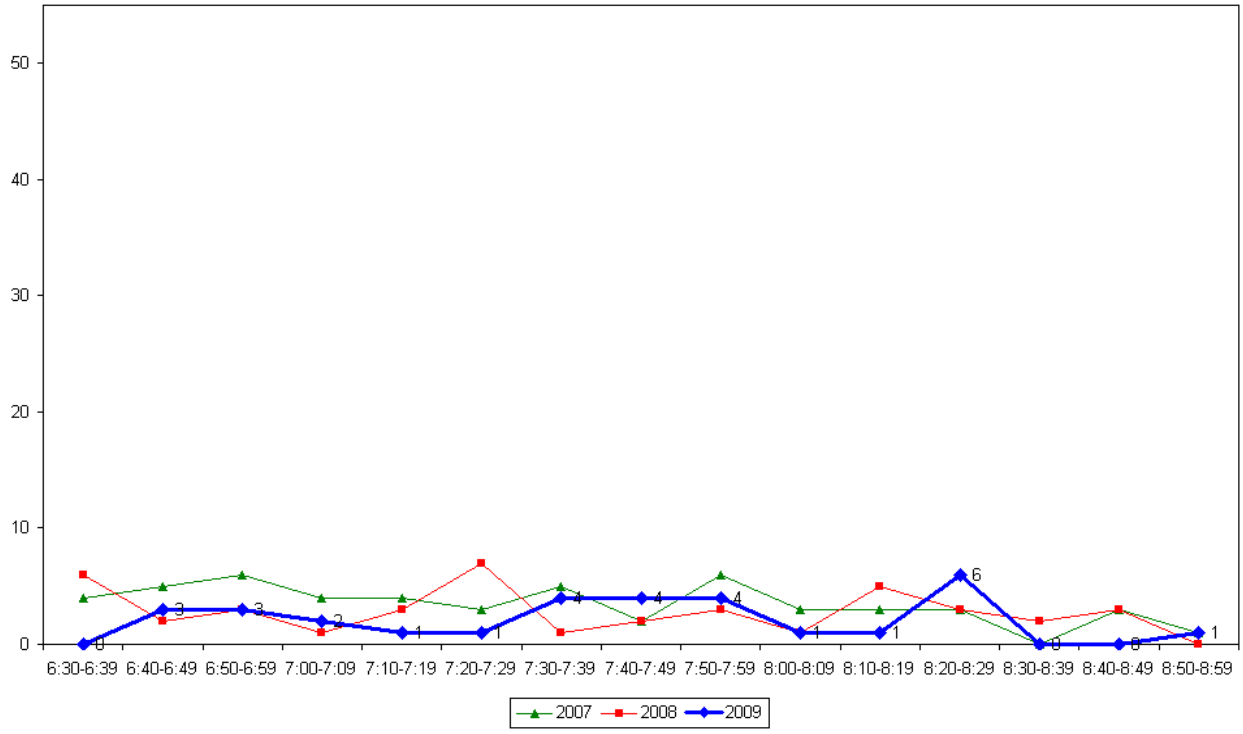
- Over the morning peak, adults comprise all cycle movements (100 per cent, up from 90 per cent last measure).
- Almost all cyclists are wearing a helmet (97 per cent, stable from 98 per cent in 2008).
- On average, four in five cyclists are riding on the road (81 per cent, stable since last year).

Table 20.2: Morning Cyclist Characteristics
Ellerslie Panmure Highway/Lunn Avenue 2007-2009 (%)

	2007	*2008*	*2009*	Change 08-09
Cyclist Type				
Adult	88	90	100	10
School child	12	10	0	-10
Helmet Wearing				
Helmet on head	94	98	97	-1
No helmet	6	2	3	1
Where Riding				
Road	77	79	81	2
Footpath	23	21	19	-2
Base:	***52***	***42***	***31***	

- Morning cycle volumes are relatively low over the entire monitoring period; no more than three cyclists were recorded within most ten minute intervals. A slight peak occurs between 8:20am and 8:29am (6 movements), one hour later than in 2008.

Figure 20.2: Ellerslie Panmure Highway/Lunn Avenue Cyclist Frequency – Morning Peak



20.2 Evening Peak

Environmental Conditions

- There were intermittent showers from 5:10pm onwards, with some heavier rain between 5:25pm and 5:35pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The number of evening cycle movements at the Ellerslie Panmure Highway/Lunn Avenue intersection has remained stable, with 51 movements recorded in 2009 compared with 52 in 2008.
- The key evening movements are straight along Ellerslie Panmure Highway heading east (Movement 1 = 24 cyclists) and straight along Ellerslie Panmure Highway heading west (Movement 6 = 12 cyclists).
- The most notable increase is at Movement 1 (up 10 cyclists).

Table 20.3: Evening Cyclist Movements
Ellerslie Panmure Highway/Lunn Avenue 2007-2009 (n)

Movement	*2007*	*2008*	*2009*	Change 08-09
1	16	14	24	10
2	5	4	1	-3
3	6	5	1	-4
4	14	12	7	-5
5	4	8	6	-2
6	21	9	12	3
Total	**66**	**52**	**51**	**-1**

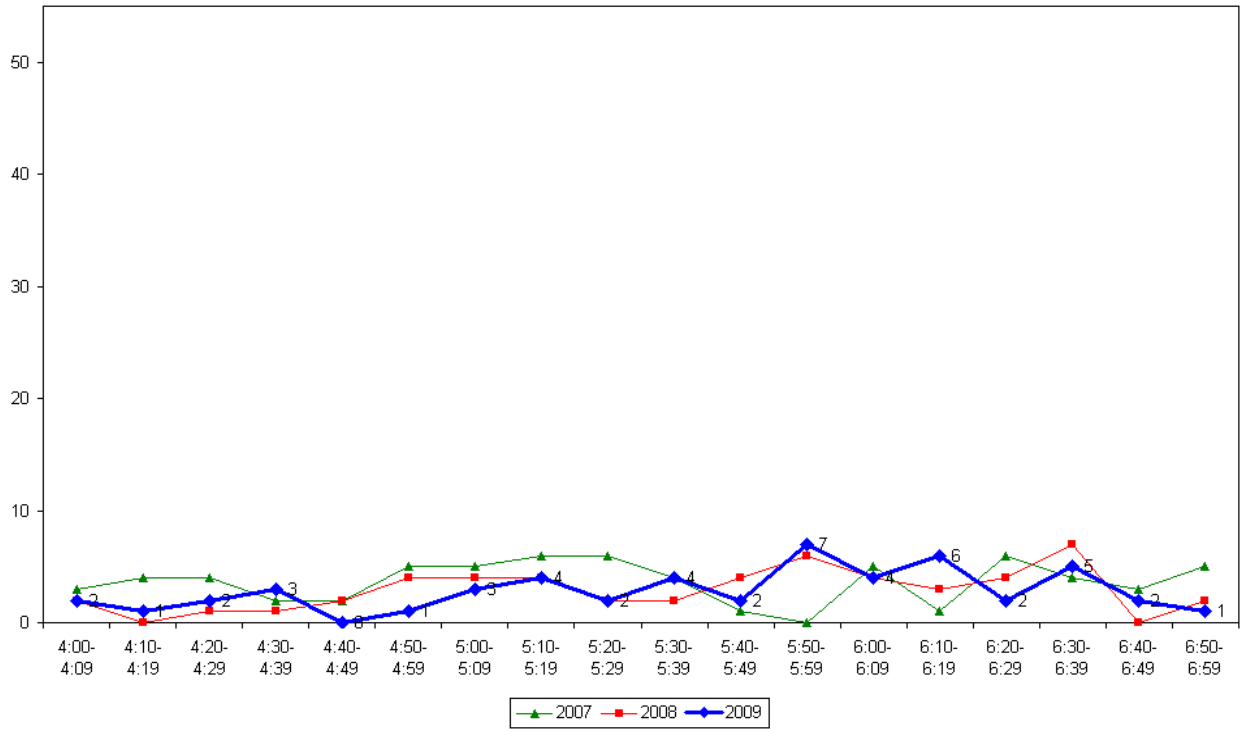
- The majority of cyclists using this intersection are adults (98 per cent, up from 88 per cent last year).
- Helmet wearing is still common over the evening peak (88 per cent, compared with 92 per cent in 2008).
- On average, just over three in four cyclists are riding on the road (78 per cent, up from 73 per cent at the previous measure).

Table 20.4: Evening Cyclist Characteristics
Ellerslie Panmure Highway/Lunn Avenue 2007-2009 (%)

	2007	*2008*	*2009*	Change 08-09
Cyclist Type				
Adult	86	88	98	10
School child	14	12	2	-10
Helmet Wearing				
Helmet on head	95	92	88	-4
No helmet	5	8	12	4
Where Riding				
Road	73	73	78	5
Footpath	27	27	22	-5
Base:	***66***	***52***	***51***	

- The volume of evening cycle movements peaks between 5:50pm and 5:59pm (7 cyclists) and again between 6:10pm and 6:19pm (6 cyclists).

Figure 20.3: Ellerslie Panmure Highway/Lunn Avenue Cyclist Frequency – Evening Peak

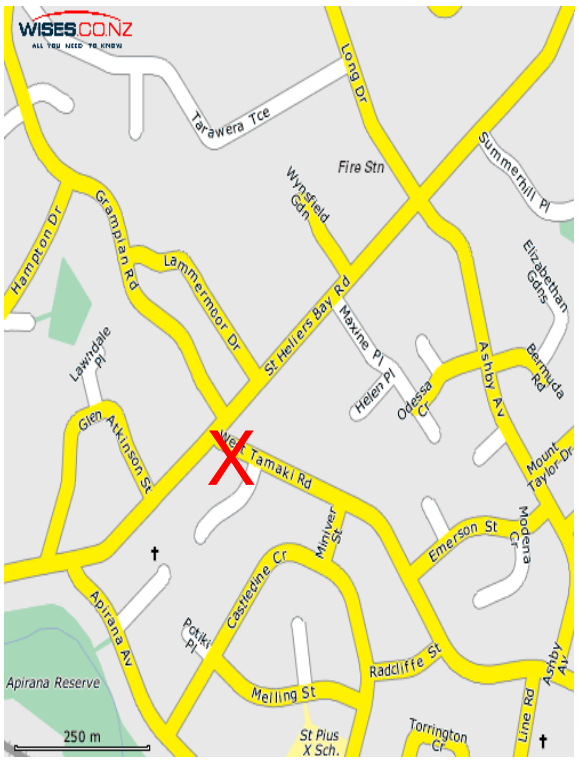


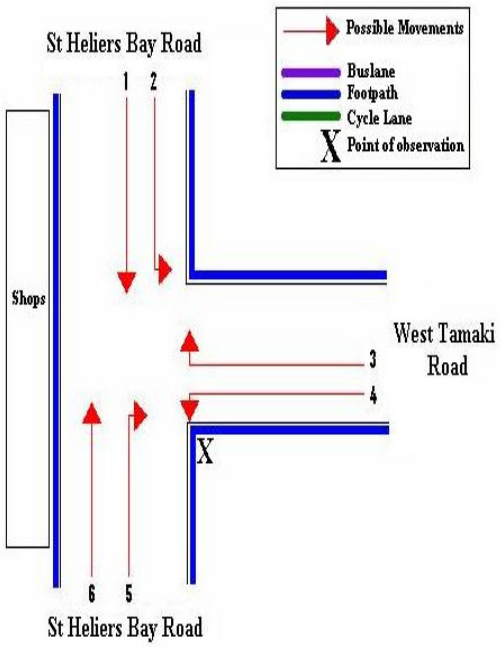
Note: Three cyclists were observed riding together at this site at 6.39pm. This comprises six per cent of total cycle movements recorded in the evening peak.

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

Figure 21.1 shows the possible cyclist movements at this intersection.

Figure 21.1: Cycle Movements: St Heliers Bay/West Tamaki Road





AADT Estimate

- The AADT for this site is 158 cycle movements per day. This compares with:
  - 246 movements in 2008
  - 308 movements in 2007.

21.1 Morning Peak

Environmental Conditions

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

Key Points

- The volume of morning peak cyclists at the St Heliers Bay/West Tamaki Road intersection has declined notably from last year – down from 107 to 61 movements this year.
- The key morning movement is riding straight along St Heliers Bay Road in a north-easterly direction (Movement 6 = 20 cyclists).
- The most notable decrease is at Movement 5 - down 46 cyclists from 53 in 2008 to 7 in 2009. *Note: Cyclists training groups were observed at this site during the monitoring period in 2007 and 2008 but not in 2009. This could account for the notable decline in cyclist numbers in 2009, particularly at Movement 5.*

Table 21.1: Morning Cyclist Movements
St Heliers Bay/West Tamaki Road 2007-2009 (n)

Movement	*2007*	*2008*	*2009*	Change 08-09
1	17	14	16	2
2	4	4	1	-3
3	21	7	5	-2
4	5	14	12	-2
5	69	53	7	-46
6	23	15	20	5
Total	**139**	**107**	**61**	**-46**

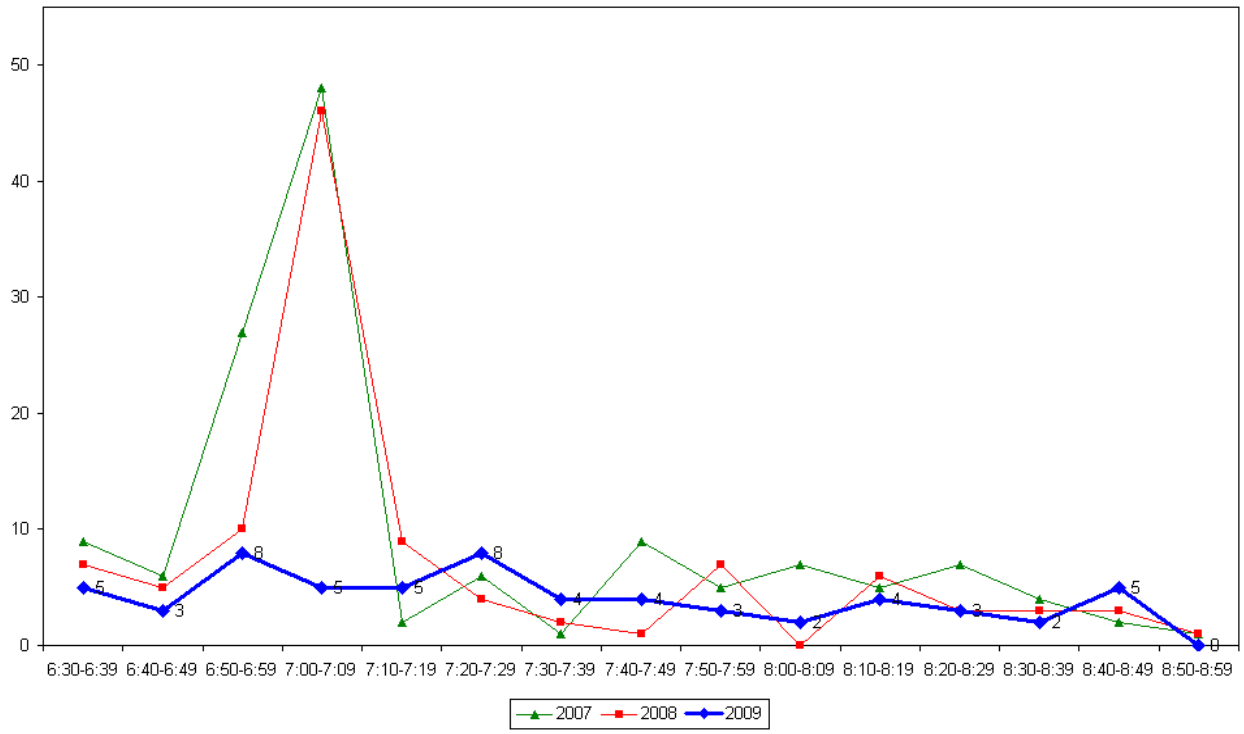
- Over the morning peak, adults comprise the greatest share of cycle movements (92 per cent, stable from the previous year).
- Almost all cyclists are wearing a helmet (98 per cent, compared with 97 per cent last year).
- Riding on the road continues to be much more common than riding on the footpath (93 per cent, stable from 92 per cent at last measure).

Table 21.2: Morning Cyclist Characteristics
St Heliers Bay/West Tamaki Road 2007-2009 (%)

	2007	*2008*	*2009*	**Change 08-09**
Cyclist Type				
Adult	87	93	92	-1
School child	13	7	8	1
Helmet Wearing				0
Helmet on head	100	97	98	1
No helmet	0	3	2	-1
Where Riding				0
Road	87	92	93	1
Footpath	13	8	7	-1
Base:	***139***	***107***	***61***	

- There are two slight peaks - between 6:50am and 6:59am and between 7:20am and 7:29am. This compares to the last two years, where there was a strong peak between 7:00am and 7:09am, *Note that cyclist training groups observed at this site will have contributed to this sharp peak in the first half of the morning monitoring period in 2007 and 2008.*

Figure 21.2: St Heliers Bay/West Tamaki Road Cyclist Frequency – Morning Peak



21.2 Evening Peak

Environmental Conditions

- The weather was overcast throughout the evening shift, with two periods of heavy rain at 5:30pm and 6:45pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The total number of evening cycle movements recorded at the St Heliers Bay/West Tamaki Road intersection has declined, from 60 last year to 47 movements in 2009.
- The key movement at this site in the evening is southeast along St Heliers Bay Road (Movement 1 = 15 cyclists).
- The most notable decrease is at Movement 5 (down 5 cyclists).

Table 21.3: Evening Cyclist Movements
St Heliers Bay/West Tamaki Road 2007-2009 (n)

Movement	*2007*	*2008*	*2009*	Change 08-09
1	22	19	15	-4
2	6	6	7	1
3	4	8	6	-2
4	5	5	5	0
5	3	12	7	-5
6	29	10	7	-3
Total	**69**	**60**	**47**	**-13**

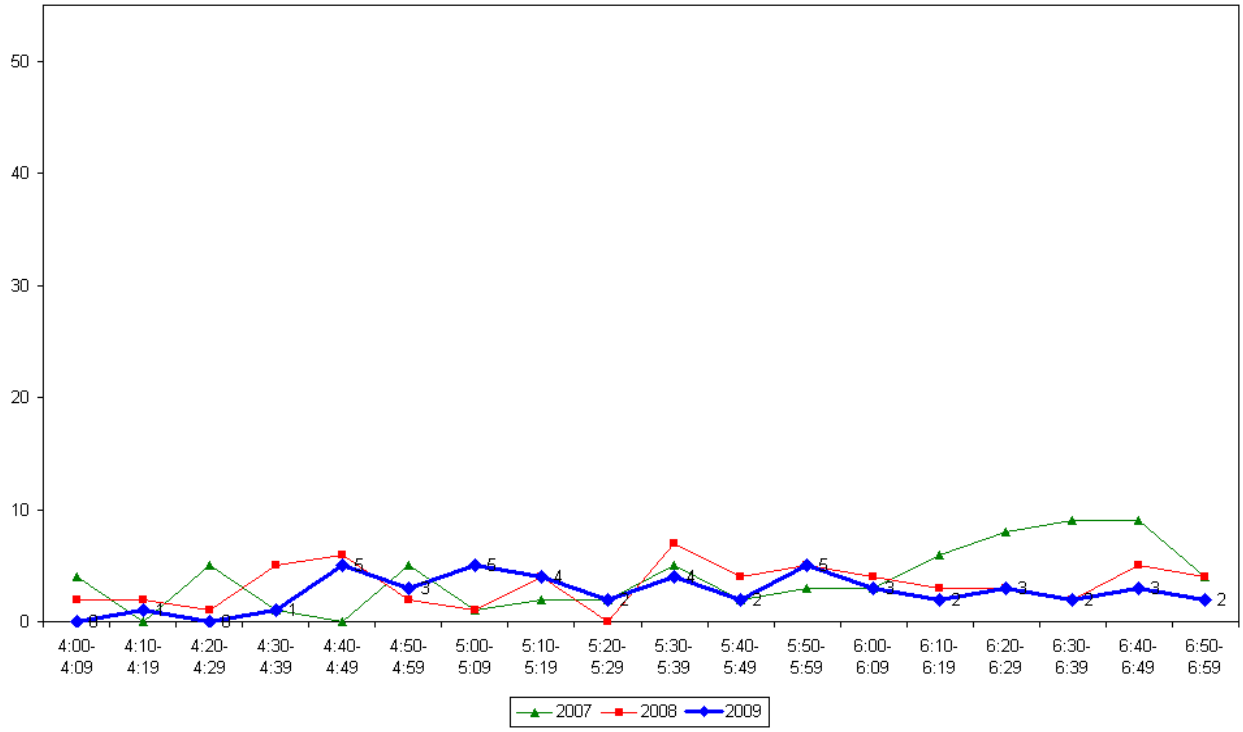
- Consistent with the morning peak, the greatest share of cyclists using this intersection are adults (89 per cent, stable from last year).
- Most cyclists at this site are wearing a helmet (94 per cent, up slightly from 92 per cent last year).
- The majority of cyclists are riding on the road (87 per cent, unchanged from the previous measure).

Table 21.4: Evening Cyclist Characteristics
St Heliers Bay/West Tamaki Road 2007-2009 (%)

	2007	*2008*	*2009*	Change 08-09
Cyclist Type				
Adult	93	88	89	1
School child	7	12	11	-1
Helmet Wearing				
Helmet on head	99	92	94	2
No helmet	1	8	6	-2
Where Riding				
Road	88	87	87	0
Footpath	12	13	13	0
Base:	***69***	***60***	***47***	

- Evening cycle volumes are mostly stable throughout the monitoring period, with no more than 5 cyclists recorded over any ten minute interval, whereas last year a slight peak occurred between 5:30pm and 5:39pm.

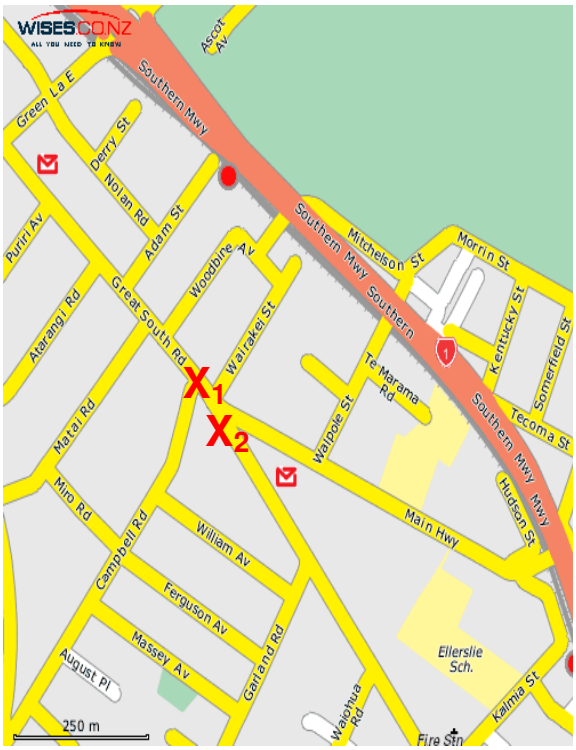
Figure 21.3: St Heliers Bay/West Tamaki Road Cyclist Frequency – Evening Peak

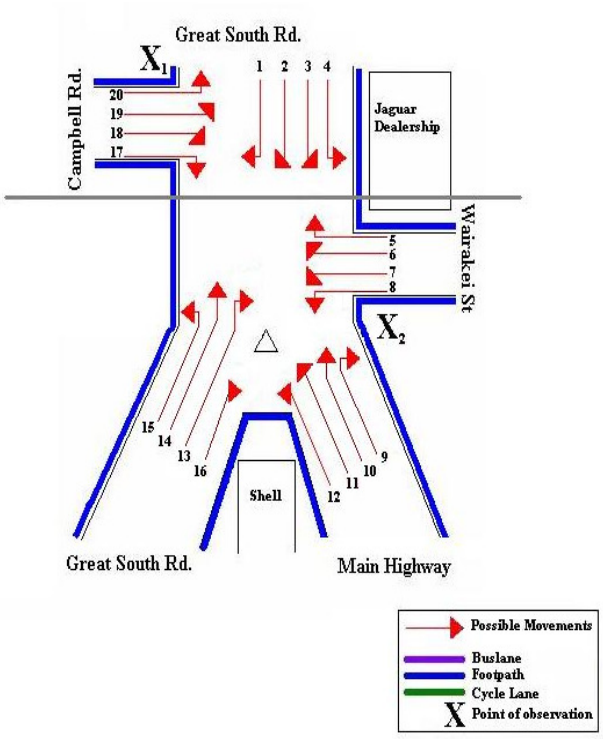


22. GREAT SOUTH ROAD/CAMPBELL ROAD/MAIN HIGHWAY, GREENLANE (SITE 21)

Figure 22.1 shows the possible cyclist movements at this intersection. *Note: Due to the size of this intersection, two surveyors were used to conduct the cycle counts.*

Figure 22.1: Cycle Movements: Great South/Campbell Road





AADT Estimate

- The AADT for this site is 218 cycle movements per day. This compares with:
  - 165 movements in 2008
  - 253 movements in 2007.

22.1 Morning Peak

Environmental Conditions

- The weather was overcast throughout the morning shift, with some patches of heavy rain towards the end of the monitoring period.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The volume of morning cyclists at the Great South/Campbell Road intersection has increased from last year – up by 11 to 64 movements this year.
- Key morning movements are straight along Great South Road heading south (Movement 2 = 19 cyclists) and straight along Great South Road heading north (Movement 14 = 12 cyclists).
- The most notable increase has been at Movement 2, an increase of 10 cyclists this year from 9 cyclists recorded in 2008.

Table 22.1: Morning Cyclist Movements
Great South/Campbell Road 2007-2009 (n)

Movement	*2007*	*2008*	*2009*	Change 08-09
1	3	1	2	1
2	20	9	19	10
3	14	7	9	2
4	2	0	0	0
5	2	0	1	1
6	0	0	0	0
7	0	0	0	0
8	1	0	0	0
9	0	0	0	0
10	15	12	8	-4
11	1	0	0	0
12	1	0	2	2
13	0	0	0	0
14	15	9	12	3
15	2	4	0	-4
16	2	0	0	0
17	1	1	1	0
18	5	1	2	1
19	3	4	2	-2
20	2	5	6	1
Total	**89**	**53**	**64**	**11**

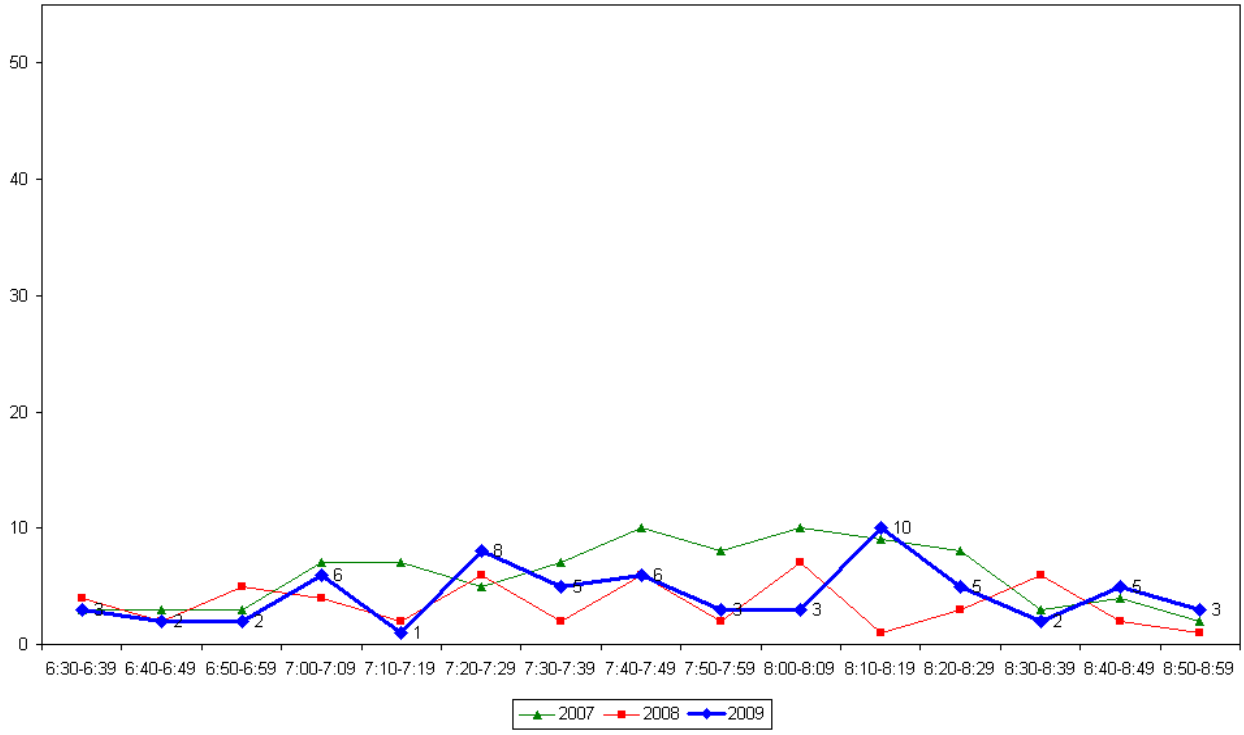
- Over the morning peak, adults comprise the greatest share of cycle movements (88 per cent, down slightly from 92 per cent in the previous year).
- Most cyclists are wearing a helmet (95 per cent, stable from 2008).
- The majority of cyclists are riding on the road (84 per cent, up notably from 68 per cent last year).

Table 22.2: Morning Cyclist Characteristics
Great South/Campbell Road 2007-2009 (%)

	2007	*2008*	*2009*	Change 08-09
Cyclist Type				
Adult	94	92	88	-4
School child	6	8	12	4
Helmet Wearing				
Helmet on head	97	94	95	1
No helmet	3	6	5	-1
Where Riding				
Road	87	68	84	16
Footpath	13	32	16	-16
Base:	***89***	***53***	***64***	

- Morning cyclist volumes peak between 8:10am and 8:19am (10 cyclists), ten minutes earlier than the peak recorded last year.

Figure 22.2: Great South/Campbell Road Cyclist Frequency – Morning Peak



22.2 Evening Peak

Environmental Conditions

- The weather was variable throughout the evening shift, with rain between 5:16pm and 5:42pm, and heavy rain recorded from 6:57pm to the end of the monitoring period.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Consistent with the morning peak, the volume of evening cyclists at the Great South/Campbell Road intersection has also increased – up from 61 in 2008 to 87 cycle movements this year.
- The most common movement in the evening is straight along Great South Road heading in a northerly direction (Movement 14 = 28 cyclists).
- Of the 20 movements recorded at this site, the most notable increase is at Movement 14 (up 15 cyclists).

Table 22.3: Evening Cyclist Movements
Great South/Campbell Road 2007-2009 (n)

Movement	*2007*	*2008*	*2009*	Change 08-09
1	2	3	5	2
2	14	7	13	6
3	16	8	10	2
4	1	0	4	4
5	0	0	0	0
6	0	0	0	0
7	0	0	2	2
8	0	0	0	0
9	0	0	0	0
10	14	7	8	1
11	4	5	4	-1
12	1	0	0	0
13	0	0	1	1
14	15	13	28	15
15	5	8	2	-6
16	3	1	1	0
17	2	2	1	-1
18	4	1	5	4
19	0	3	0	-3
20	4	3	3	0
Total	**85**	**61**	**87**	**26**

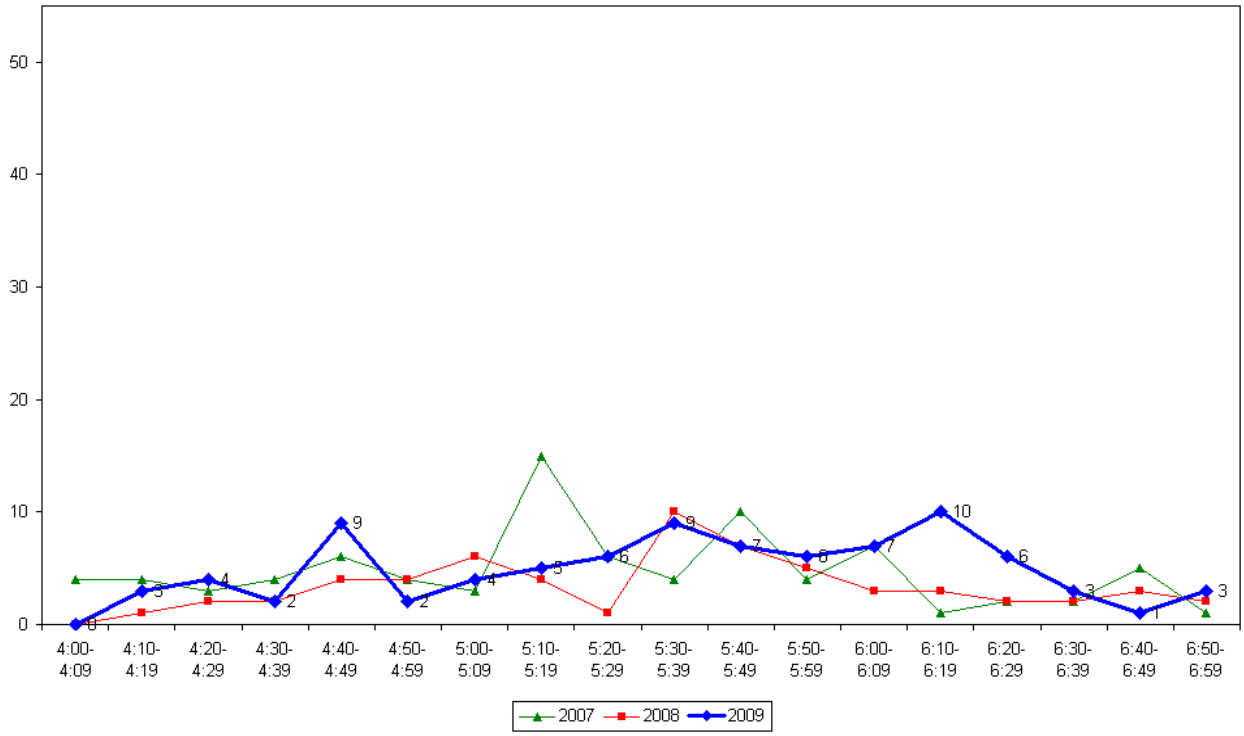
- Over the evening peak, almost all cyclists using this intersection are adults (97 per cent, unchanged from last year).
- Almost all cyclists at this site are wearing a helmet (98 per cent, up from 89 per cent in 2008).
- On average, four in five cyclists are riding on the road (83 per cent, stable from the last measure).

Table 22.4: Evening Cyclist Characteristics
Great South/Campbell Road 2007-2009 (%)

	2007	*2008*	*2009*	Change 08-09
Cyclist Type				
Adult	100	97	97	0
School child	0	3	3	0
Helmet Wearing				
Helmet on head	95	89	98	9
No helmet	5	11	2	-9
Where Riding				
Road	87	82	83	1
Footpath	13	18	17	-1
Base:	***85***	***61***	***87***	

- Evening cycle volumes start off low, increasing to a peak between 4:40pm and 4:49pm (9 cyclists), with another peak between 5:30pm and 5:39pm (9 cyclists), and a final peak between 6:10pm and 6:19pm before tailing off through the rest of the monitoring period. This compares with a peak between 5:30pm and 5:39pm (10 cyclists) in 2008, with cyclist numbers then tailing off through the rest of the monitoring period.

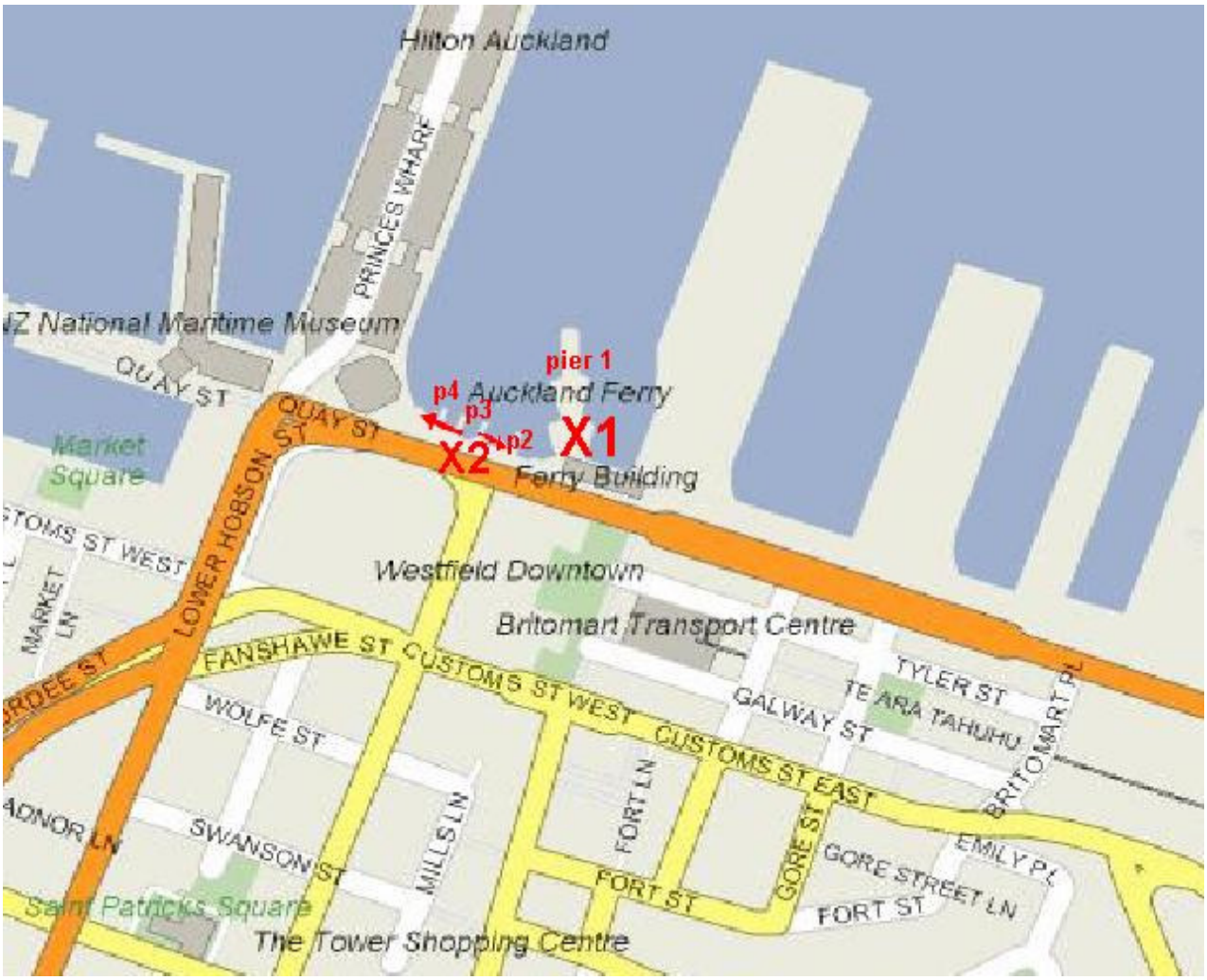
Figure 22.3: Point Great South/Campbell Road Cyclist Frequency – Evening Peak



23. FERRY TERMINAL, AUCKLAND CENTRAL (SITE 22)

Figure 23.1 shows the possible cyclist movements at this site. *Note: Due to the size of this site, two 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 Piers 2, 3, and 4.*

Figure 23.1: Cycle Movements: Ferry Terminal




Fullers
• Waiheke Island
• Harbour Cruise
• Rangitoto Island
• Half Moon Bay
• Birkenhead
• Stanley Bay
• Bayswater
• Devonport
Pier 1
Ferries to
• Bayswater
• Birkenhead
• Devonport
• Northcote Point
Pier 2
Ferries to
• Rangitoto Island
• Waiheke Island
Public Toilets
Pier 3
Ferries to
• Pine Harbour
• West Harbour
Airbus Express
Pier 4
Ferries to
• Gulf Harbour
• Stanley Bay
Maxx
Harbour Information


Pier 1
Ferries to • Bayswater • Birkenhead
• Devonport •
• Northcote Point
Pier 1 - Downtown Ferry Terminal
Ferries to
• Bayswater
• Birkenhead
• Devonport
• Northcote Point


Pier 2
Gates 2b - 2d
Rangitoto Island
Waiheke Island
Public Toilets
Maxx
Fullers
Tickets
Tickets
Tickets
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AADT Estimate

- The AADT for this site is 363 cycle movements per day. This compares with:
  - 459 movements in 2008
  - 553 movements in 2007.

23.1 Morning Peak

Environmental Conditions

- The weather was fine throughout the morning shift.
- Construction was being undertaken at Pier 2, with barriers erected to re-direct ferry passengers.

Key Points

- Compared with last year, the volume of cycle movements at the Ferry Terminal site has declined notably, from 158 in 2008 to 137 this year.
- The key movement in the morning is disembarking the terminal at Pier One, which provides access to ferry services to and from Birkenhead, Northcote Point, Bayswater and Devonport (100 cyclists). Almost half of these (44 cyclists) were disembarking from ferry trips originating in Devonport.
- The most notably decrease is disembarking at Pier One (down 27 cyclists).

Table 23.1: Morning Cyclist Movements
Ferry Terminal 2007-2009 (n)

Movement	*2007*	*2008*	*2009*	Change 08-09
Pier One				
Boarding	18	11	10	-1
Disembarking	136	127	100	-27
Pier Two				
Boarding	8	5	1	-4
Disembarking	18	10	16	6
Pier Three				
Boarding	0	0	1	1
Disembarking	4	3	3	0
Pier Four				
Boarding	0	0	4	4
Disembarking	11	2	2	0
Total	**195**	**158**	**137**	**-21**

Pier 1 – departs for Birkenhead, Northcote Point, Bayswater and Devonport
Pier 2 – departs for Waiheke Island and Half Moon Bay
Pier 3 – departs for West Harbour and Pine Harbour
Pier 4 – departs for Gulf Harbour and Stanley Bay

Table 23.1a: Morning Cyclist Movements – Which Ferry Boarded (n)

Ferry	2009
Pier Two	
Half Moon Bay	0
Waiheke	1
Pier Three	
Pine Harbour	0
West Harbour	1
Pier Four	
Gulf Harbour	0
Stanley Bay	4
Total	**6**

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

Table 23.1b: Morning Cyclist Movements – Which Ferry Disembarked (n)

Ferry	2009
Pier One	
Bayswater	22
Birkenhead	34
Devonport	44
Pier Two	
Half Moon Bay	4
Waiheke	12
Pier Three	
Pine Harbour	2
West Harbour	1
Pier Four	
Gulf Harbour	1
Stanley Bay	1
Total	**121**

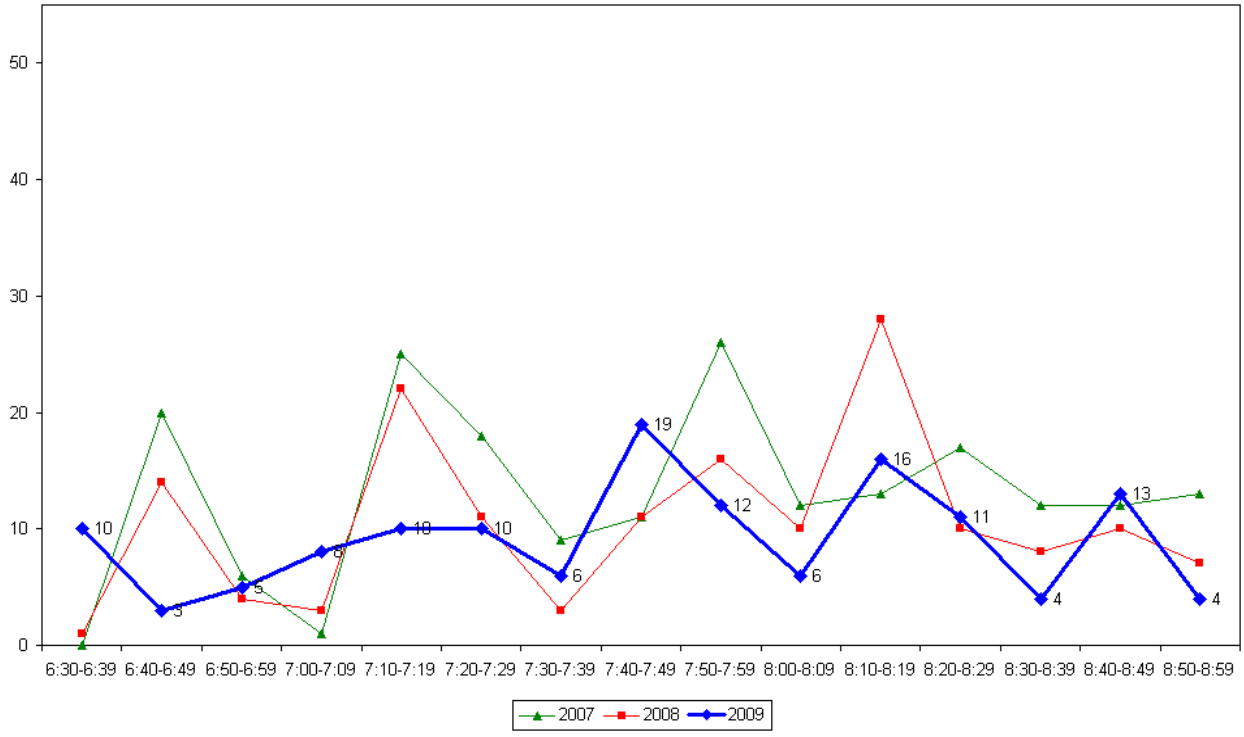
- All cyclists using this site in the morning are adults (a slightly increase from 96 per cent last year).
- On average, four in five cyclists are wearing a helmet (80 per cent, up from 70 per cent in 2008).

Table 23.2: Morning Cyclist Characteristics
Ferry Terminal 2007-2009 (%)

	2007	*2008*	*2009*	Change 08-09
Cyclist Type				
Adult	98	96	100	4
School child	2	4	0	-4
Helmet Wearing				
Helmet on head	87	70	80	10
No helmet	13	30	20	-10
Base:	***195***	***158***	***137***	

- Morning cyclist volumes peak twice – 19 cyclists at around 7:45pm (half an hour later than the first peak last year) and 16 cyclists at around 8:15pm (the same time as the second peak in 2008).

Figure 23.2: Ferry Terminal Cyclist Frequency – Morning Peak



23.2 Evening Peak

Environmental Conditions

- The weather was variable throughout the evening shift with light showers between 4.28pm and 4.40pm and again at 5.31pm. Heavy rain was reported between 6.30 and 6.45pm.
- Construction was being undertaken at Pier 2 with barriers erected to re-direct passengers.

Key Points

- The volume of evening cycle movements at the Ferry Terminal site has declined from last year – down by 47 to 11 movements in 2009.
- In contrast to the morning shift, the key movement in the evening is boarding the ferries at Pier One (88 cyclists).
- Compared with last year, the most notable decrease is boarding the terminal at Pier One (down 34 cyclists).

Table 23.3: Evening Cyclist Movements
Ferry Terminal 2007-2009 (n)

Movement	*2007*	*2008*	*2009*	Change 08-09
Pier One				
Boarding	131	122	88	-34
Disembarking	15	13	5	-8
Pier Two				
Boarding	7	15	10	-5
Disembarking	16	6	0	-6
Pier Three				
Boarding	0	2	5	3
Disembarking	0	0	0	0
Pier Four				
Boarding	0	0	3	3
Disembarking	16	0	0	0
Total	**185**	**158**	**111**	**-47**

Pier 1 – departs for Birkenhead, Northcote Point, Bayswater and Devonport
Pier 2 – departs for Waiheke Island and Half Moon Bay
Pier 3 – departs for West Harbour and Pine Harbour
Pier 4 – departs for Gulf Harbour and Stanley Bay

Table 23.3a: Evening Cyclist Movements – Which Ferry to Board (n)

Ferry	2009
Pier Two	
Half Moon Bay	3
Waiheke	7
Pier Three	
Pine Harbour	4
West Harbour	1
Pier Four	
Gulf Harbour	0
Stanley Bay	3
Total	**18**

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

Table 23.3b: Evening Cyclist Movements – Which Ferry to Disembark (n)

Ferry	2009
Pier One	
Bayswater	0
Birkenhead	0
Devonport	5
Pier Two	
Half Moon Bay	0
Waiheke	0
Pier Three	
Pine Harbour	0
West Harbour	0
Pier Four	
Gulf Harbour	0
Stanley Bay	0
Total	**5**

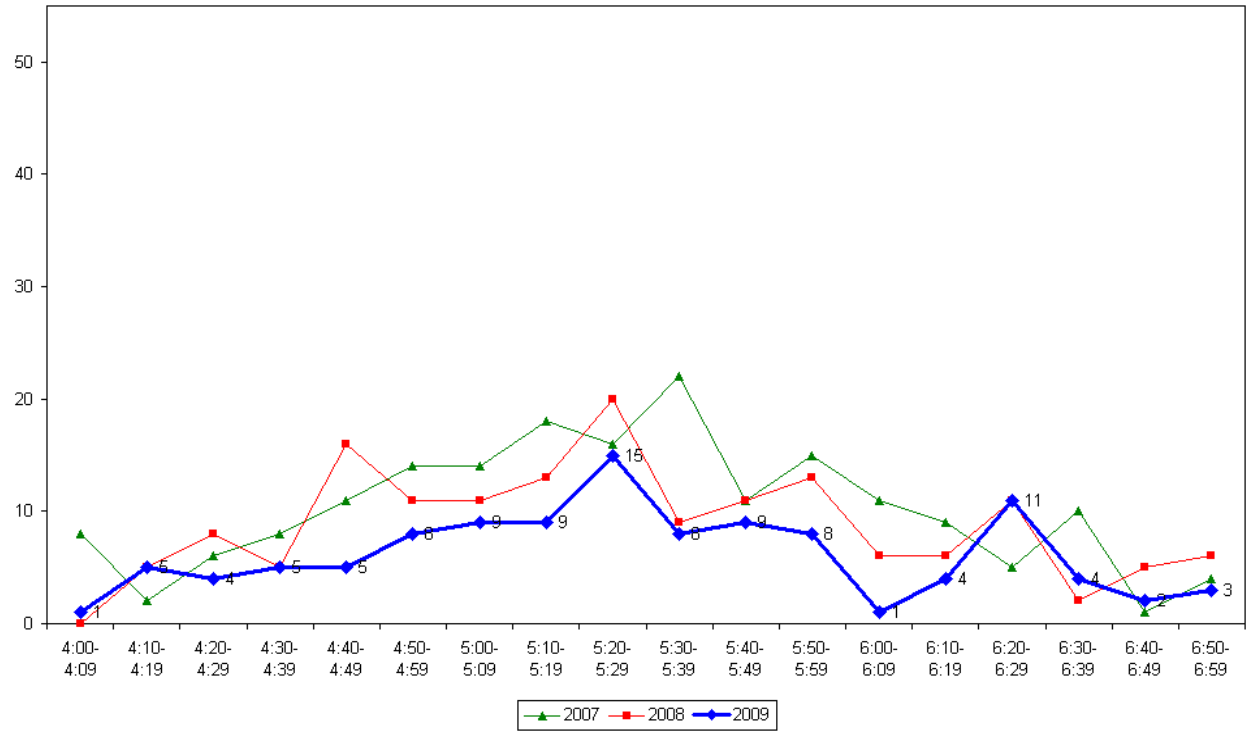
- Over the evening peak, all cyclists using this site are adults (100 per cent, up from 98 per cent at the previous measure).
- Approximately four in five cyclists are wearing a helmet (80 per cent, up from 69 per cent recorded in 2008).

Table 23.4: Evening Cyclist Characteristics
Ferry Terminal 2007-2009 (%)

	2007	*2008*	*2009*	Change 08-09
Cyclist Type				
Adult	99	98	100	2
School child	1	2	0	-2
Helmet Wearing				
Helmet on head	85	69	80	11
No helmet	15	31	20	-11
Base:	***185***	***158***	***111***	

- Evening cyclist numbers start off low, increase gradually to a peak between 5:20pm and 5:29pm (15 cyclists) and again between 6:20pm and 6:29pm (11 cyclists), and then tail off towards the end of the monitoring period. This compares to peaks between 4:40pm and 4:49pm, and again between 5:20pm and 5:29pm, in 2008.

Figure 23.3: Ferry Terminal Cyclist Frequency
– Evening Peak



23.3 Ferry Terminal – Count of Parked Cycles

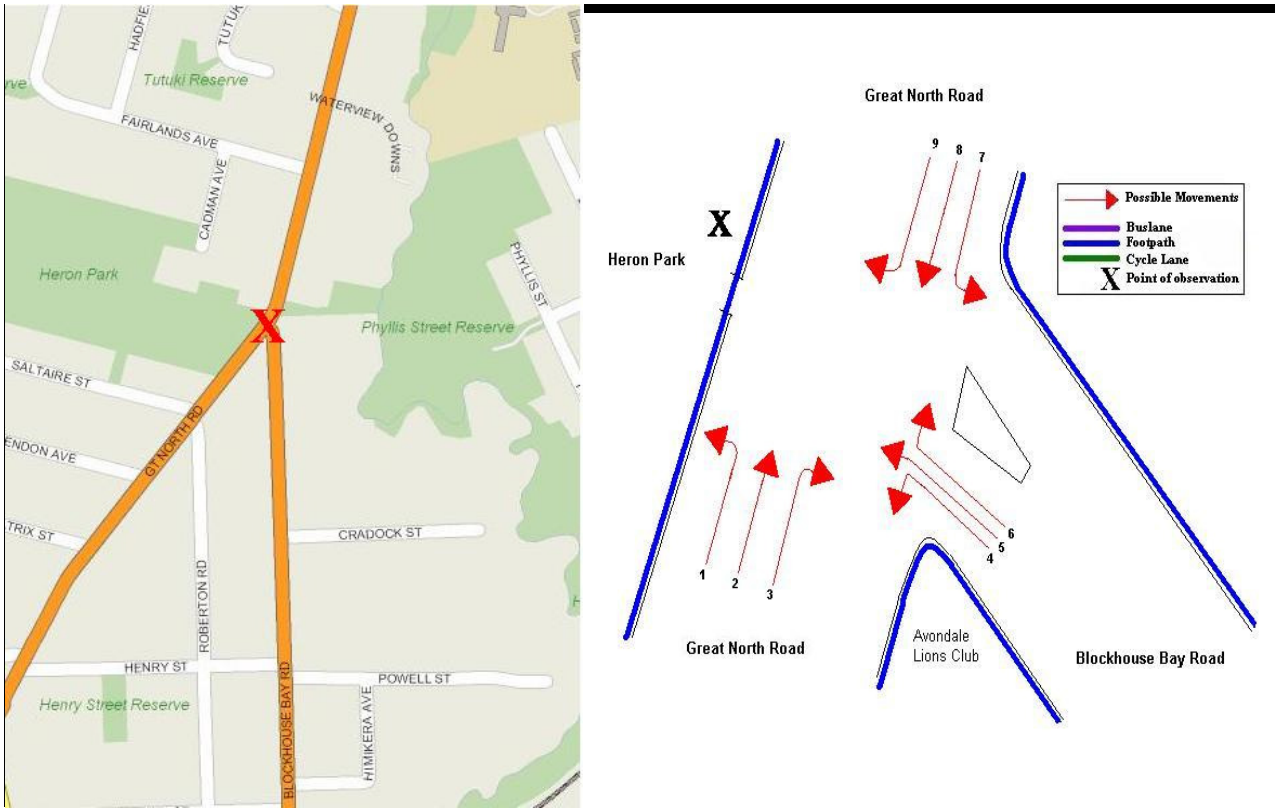
Key Points

- In the morning, a total of 21 bikes were recorded at the downtown Ferry Terminal at 6.00am and 14 bikes were counted at 9.10am.
- In the afternoon, a total of 14 bikes were recorded at the downtown Ferry Terminal at 3.30pm and 22 bikes were counted at 7.05pm.

24. BLOCKHOUSE BAY/GREAT NORTH ROAD, AVONDALE (SITE 73)

Figure 24.1 shows the possible cyclist movements at this intersection.

Figure 24.1: Cycle Movements: Blockhouse Bay/Great North Road



AADT Estimate

- The AADT for this site is 173 cycle movements per day. This compares with 170 movements in 2008.

24.1 Morning Peak

Environmental Conditions

- The weather was fine throughout the morning shift.
- Heavy traffic congestion was observed at this site between 7:15am and 8:30am.

Key Points

- Compared with other sites in Auckland city, the cycle volumes at the Blockhouse Bay/Great North Road site are relatively low, with 57 cycle movements recorded unchanged from 2008.
- The key morning movements are straight through from Ash Street to Great North Road (Movement 2 = 28 cyclists) and the right turn out of Blockhouse Bay Road into Great North Road (Movement 6 = 14 cyclists).
- There have been no notable changes in cyclist movements in the morning at this site since 2008.

Table 24.1: Morning Cyclist Movements
Blockhouse Bay/Great North Road 2008-2009 (n)

Movement	*2008*	*2009*	Change 08-09
1	0	0	0
2	29	28	-1
3	0	0	0
4	0	1	1
5	0	0	0
6	16	14	-2
7	3	4	1
8	9	10	1
9	0	0	0
Total	**57**	**57**	**0**

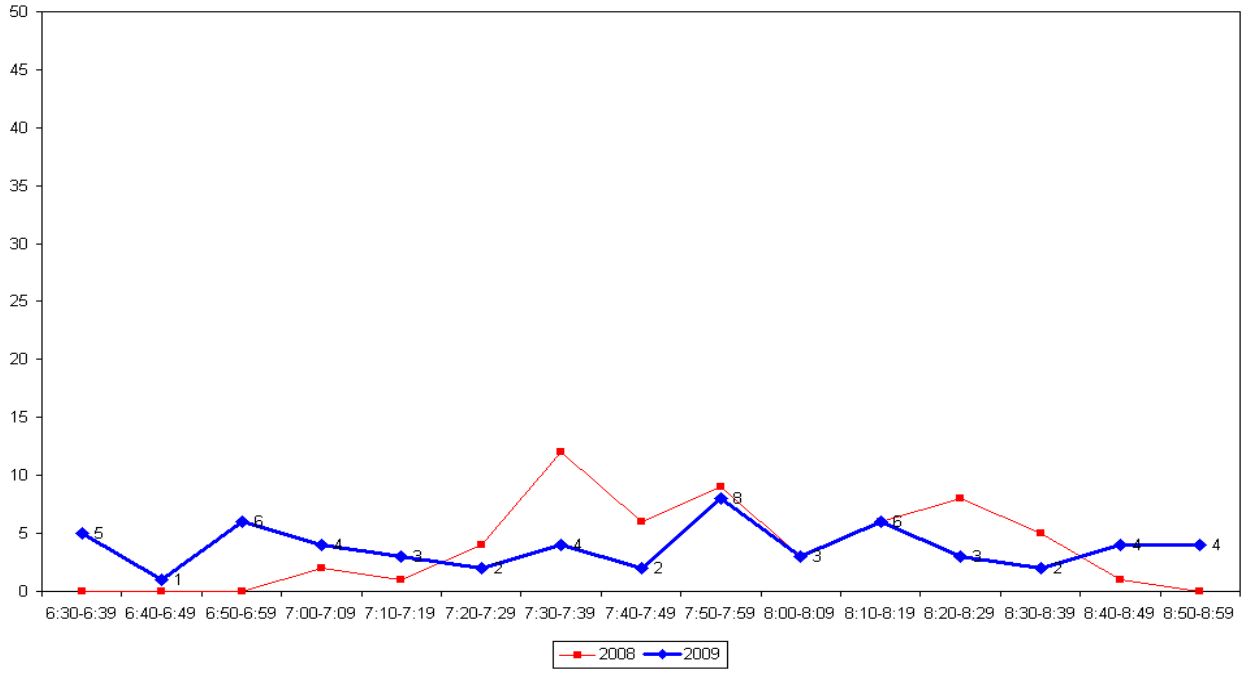
- Over the morning peak, approximately two-thirds of cyclists are adults (65 per cent, a notable decrease from 89 per cent in 2008).
- Almost all cyclists are wearing a helmet (88 per cent, down from 93 per cent at the previous measure).
- Sixty-five per cent of cyclists are riding on the road, a notable increase from 44 per cent last year.

Table 24.2: Morning Cyclist Characteristics
Blockhouse Bay/Great North Road 2008-2009 (%)

	2008	*2009*	Change 08-09
Cyclist Type			
Adult	89	65	-24
School child	11	35	24
Helmet Wearing			
Helmet on head	93	88	-5
No helmet	7	12	5
Where Riding			
Road	44	65	21
Footpath	56	35	-21
Base:	***57***	***57***	

- Morning cycle volumes peak slightly between 7:50am and 7:59am (8 cyclists), twenty minutes later than the peak recorded last year.

Figure 24.2: Blockhouse Bay/Great North Road Cyclist Frequency – Morning Peak



24.2 Evening Peak

Environmental Conditions

- The weather was variable throughout the evening shift, with light showers between 5:20pm and 5:35pm, and between 6:43pm and 6:45pm, and heavy rain between 6:45pm and 6:51pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The total number of evening peak cycle movements recorded at the Blockhouse Bay/Great North Road site is 62, stable from 2008 (60 movements).
- The most common movement in the evening is straight through Great North Road onto Ash Street in a southwesterly direction (Movement 8 = 28 cyclists).

Table 24.3: Evening Cyclist Movements
Blockhouse Bay/Great North Road 2008-2009 (n)

Movement	*2008*	*2009*	Change 08-09
1	0	0	0
2	14	15	1
3	0	0	0
4	0	1	1
5	0	2	2
6	1	2	1
7	15	13	-2
8	30	28	-2
9	0	1	1
Total	**60**	**62**	**2**

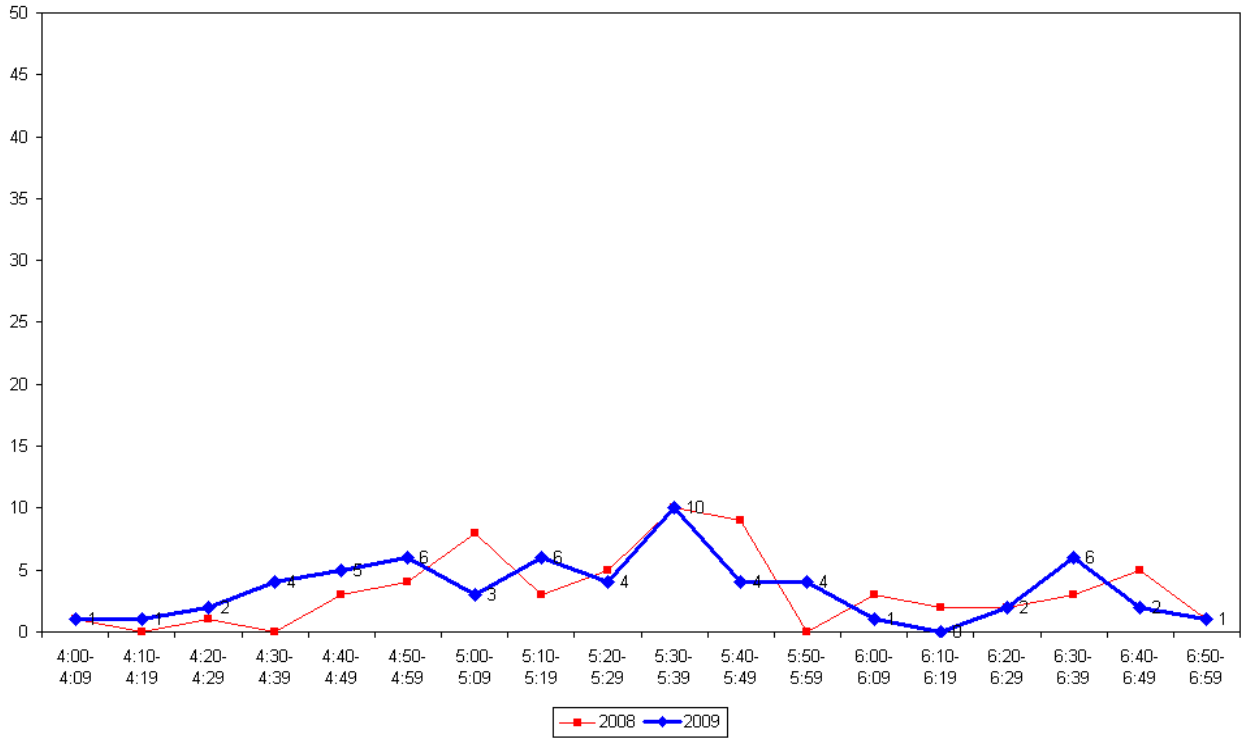
- Over the evening peak, approximately three-quarters of cyclists at this site are adults (76 per cent, down notably from 90 per cent last year).
- Most cyclists at this site are wearing a helmet (81 per cent, down from 87 per cent at the previous measure).
- Fifty-six per cent of cyclists are riding on the road, down notably from 67 per cent in 2008.

Table 24.4: Evening Cyclist Characteristics
Blockhouse Bay/Great North Road 2008-2009 (%)

	2008	*2009*	Change 08-09
Cyclist Type			
Adult	90	76	-14
School child	10	24	14
Helmet Wearing			
Helmet on head	87	81	-6
No helmet	13	19	6
Where Riding			
Road	67	56	-11
Footpath	33	44	11
Base:	***60***	***62***	

- Evening cycle volumes are relatively low throughout the shift, with no more than four cyclists recorded during most ten minute intervals. The peak occurs between 5:30pm and 5:39pm (10 cyclists), the same time as last year.

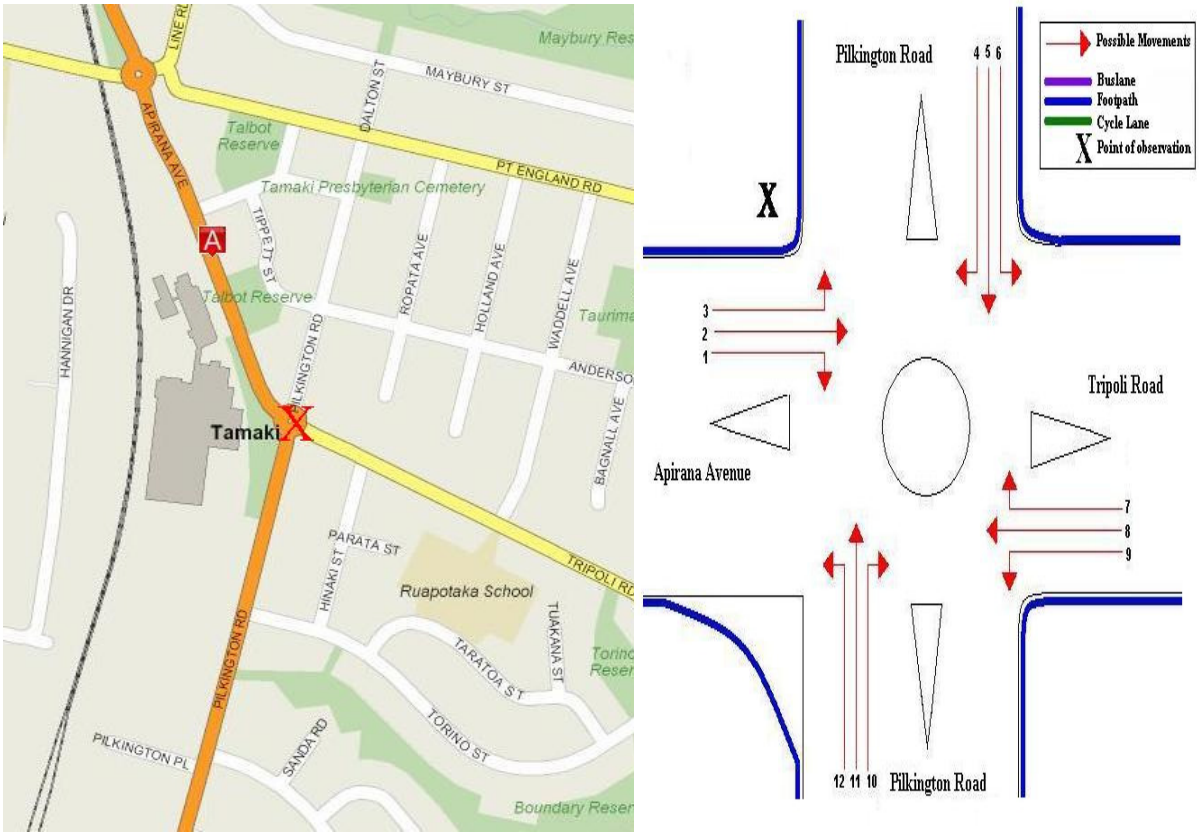
Figure 24.3: Blockhouse Bay/Great North Road Cyclist Frequency – Evening Peak



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

Figure 25.1 shows the possible cyclist movements at this intersection.

Figure 25.1: Cycle Movements: Apirana Avenue/Pilkington Road/Tripoli Road



AADT Estimate

- The AADT for this site is 46 cycle movements per day, compared with 87 movements in 2008.

25.1 Morning Peak

Environmental Conditions

- The weather was fine throughout the morning shift, apart from light drizzle between 7:36am and 7:44am.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Compared with other sites in Auckland city, the volume of morning cyclists at the Apirana Avenue/Pilkington Road/Tripoli Road site is low, with 12 cycle movements recorded (down from 22 movements in 2008).
- The most common morning movement is turning left from Pilkington Road into Apirana Avenue (Movement 12 = 4 cyclists).
- Compared with last year, the most notable decline is at Movement 8 (down 9 cyclists to no cyclists recorded this measure).

Table 25.1: Morning Cyclist Movements
Apirana Avenue/Pilkington Road/Tripoli Road 2008-2009 (n)

Movement	*2008*	*2009*	Change 08-09
1	6	3	-3
2	0	0	0
3	1	0	-1
4	0	0	0
5	0	2	2
6	0	0	0
7	1	1	0
8	9	0	-9
9	1	0	-1
10	1	0	-1
11	0	2	2
12	3	4	1
Total	**22**	**12**	**-10**

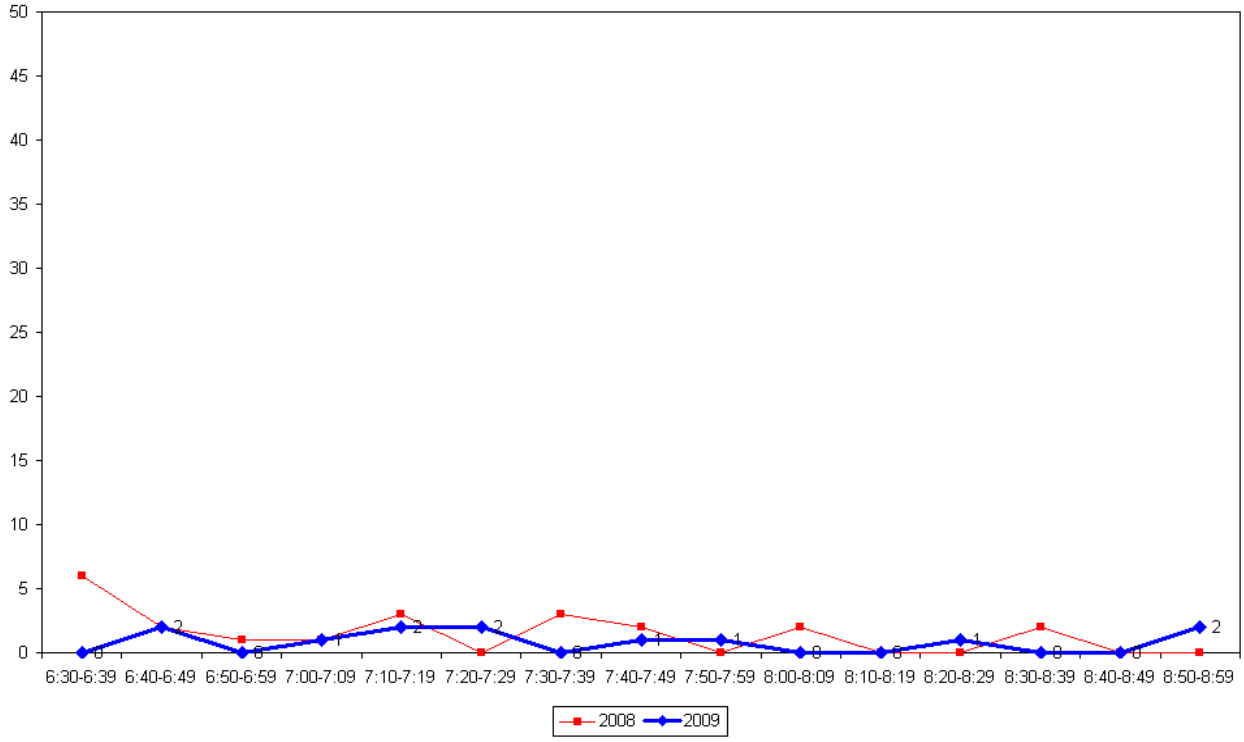
- Over the morning peak, almost all cyclists are adults (92 per cent), down slightly from 95 per cent last year.
- Approximately four in five cyclists (83 per cent) are wearing a helmet, down notably from 2008 (100 per cent).
- Sixty-seven per cent of cyclists are riding on the road (down from 73 per cent at the previous measure).

Table 25.2: Morning Cyclist Characteristics
Apirana Avenue/Pilkington Road/Tripoli Road 2008-2009 (%)

	2008	*2009*	Change 08-09
Cyclist Type			
Adult	95	92	-3
School child	5	8	3
Helmet Wearing			
Helmet on head	100	83	-17
No helmet	0	17	17
Where Riding			
Road	73	67	-6
Footpath	27	33	6
Base:	***22***	***12***	

- Morning cycle volumes are low throughout the shift, with no more than two cyclists recorded during all ten minute intervals. This compares with a slight peak at the start of the morning shift (5 cyclists recorded between 6:30am and 6:39am) in 2008.

Figure 25.2: Apirana Avenue/Pilkington Road/Tripoli Road Cyclist Frequency – Morning Peak



25.2 Evening Peak

Environmental Conditions

- The weather was variable throughout the evening shift, with light rain reported between 5:10pm and 5:29pm. Heavy rain was reported between 6.45pm and 6.55pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The total number of cycle movements recorded at the Apirana Avenue/Pilkington Road/Tripoli Road continues to be low, with 20 movements evident in the evening, a notable drop from 39 movements in 2008.
- The most common movements in the evening are turning right off Apirana Avenue onto Pilkington Road (Movement 1 = 5 cyclists) and riding straight along Pilkington Road heading north (Movement 11 = 5 cyclists).
- Compared with 2008, the most notable drop in cyclist numbers is at Movement 1 (down 7 cyclists).

Table 25.3: Evening Cyclist Movements
Apirana Avenue/Pilkington Road/Tripoli Road 2008-2009 (n)

Movement	*2008*	*2009*	Change 08-09
1	12	5	-7
2	7	2	-5
3	1	0	-1
4	0	0	0
5	0	1	1
6	1	1	0
7	1	1	0
8	5	0	-5
9	1	3	2
10	2	0	-2
11	2	5	3
12	7	2	-5
Total	**39**	**20**	**-19**

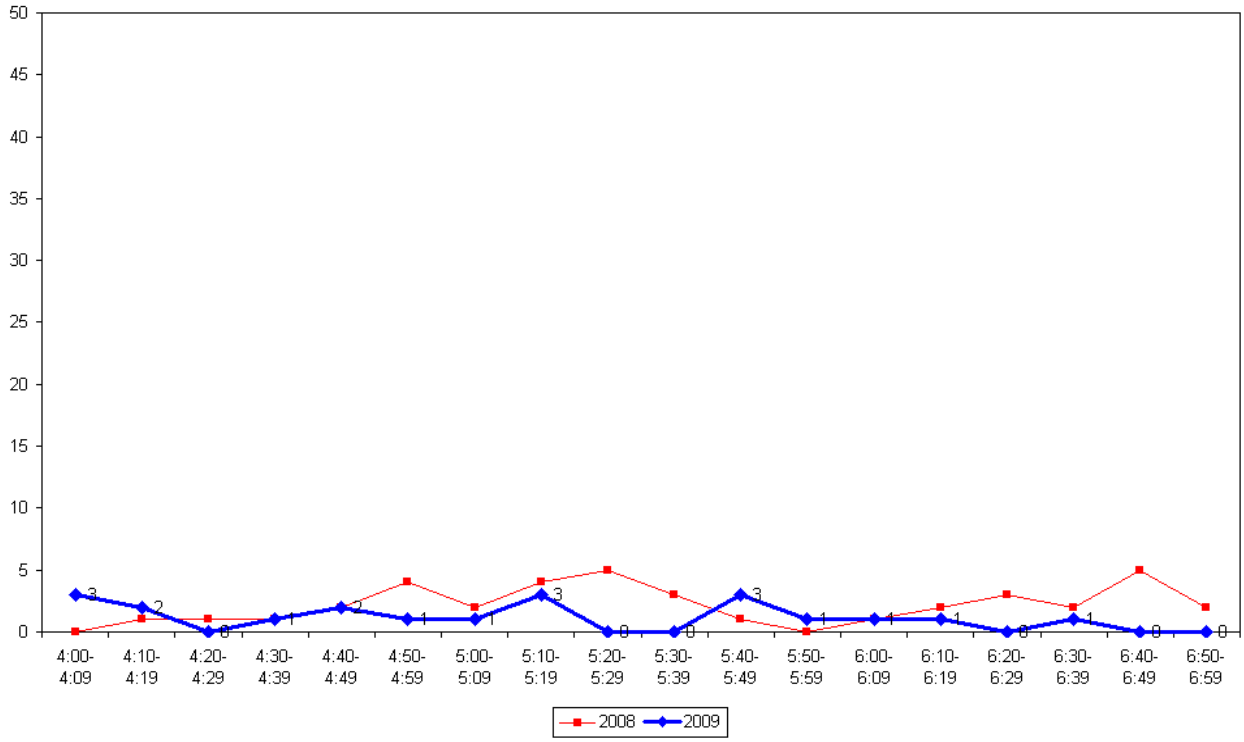
- Over the evening peak, three-quarters of cyclists using this site are adults (75 per cent, down notably from 92 per cent in 2008).
- On average, two in five cyclists at this site are wearing a helmet (down notably from 72 per cent at the previous measure).
- More than half of cyclists at this site in the evening are riding on the footpath (60 per cent, compared with only 26 per cent last year).

Table 25.4: Evening Cyclist Characteristics
Apirana Avenue/Pilkington Road/Tripoli Road 2008-2009 (%)

	2008	*2009*	Change 08-09
Cyclist Type			
Adult	92	75	-17
School child	8	25	17
Helmet Wearing			
Helmet on head	72	40	-32
No helmet	28	60	32
Where Riding			
Road	74	40	-34
Footpath	26	60	34
Base:	***39***	***20***	

- Evening cycle volumes are low throughout the shift, with no more than three cyclists recorded during all ten minute intervals. This compares with 2008 in which two slight peaks occurred between 5:20pm and 5:29pm and again between 6:40pm and 6:49pm (5 cyclists each).

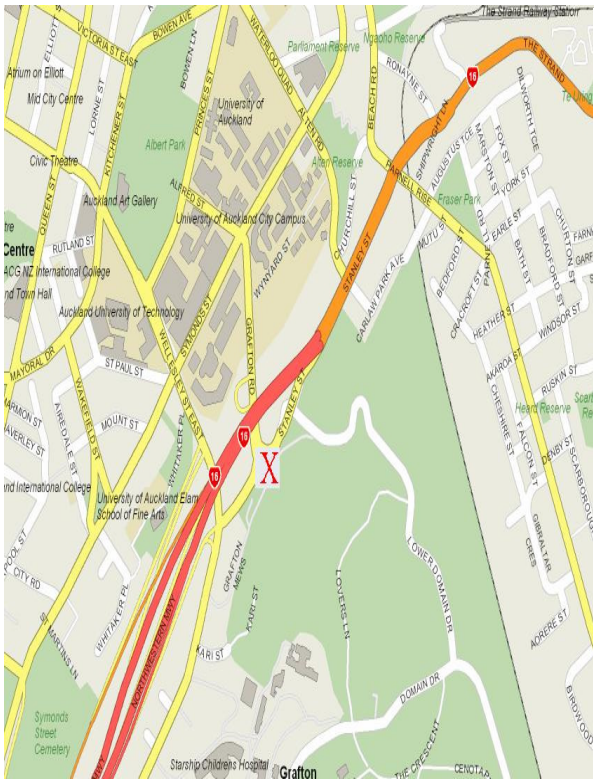
Figure 25.3: Apirana Avenue/Pilkington Road/Tripoli Road Cyclist Frequency – Evening Peak



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

Figure 26.1 shows the possible cyclist movements at this intersection.

Figure 26.1: Cycle Movements: Stanley Street/Grafton Road



AADT Estimate

- The AADT for this site is 140 cycle movements per day. This compares with 95 movements in 2008.

26.1 Morning Peak

Environmental Conditions

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

Key Points

- The cycle volumes at the Stanley Street/Grafton Road site have increased this year, from 36 cycle movements in 2008 to 49 movements.
- The most common morning movement is heading straight along Stanley Street in a south-easterly direction (Movement 8 =13 cyclists).
- The most notable increase in cyclist volumes from 2008 is at Movement 2 (up 7 cyclists).

Table 26.1: Morning Cyclist Movements
Stanley Street/Grafton Road 2008-2009 (n)

Movement	*2008*	*2009*	Change 08-09
1	0	0	0
2	3	10	7
3	1	1	0
4	0	0	0
5	0	0	0
6	1	1	0
7	8	11	3
8	9	13	4
9	2	3	1
10	0	0	0
11	12	9	-3
12	0	1	1
Total	**36**	**49**	**13**

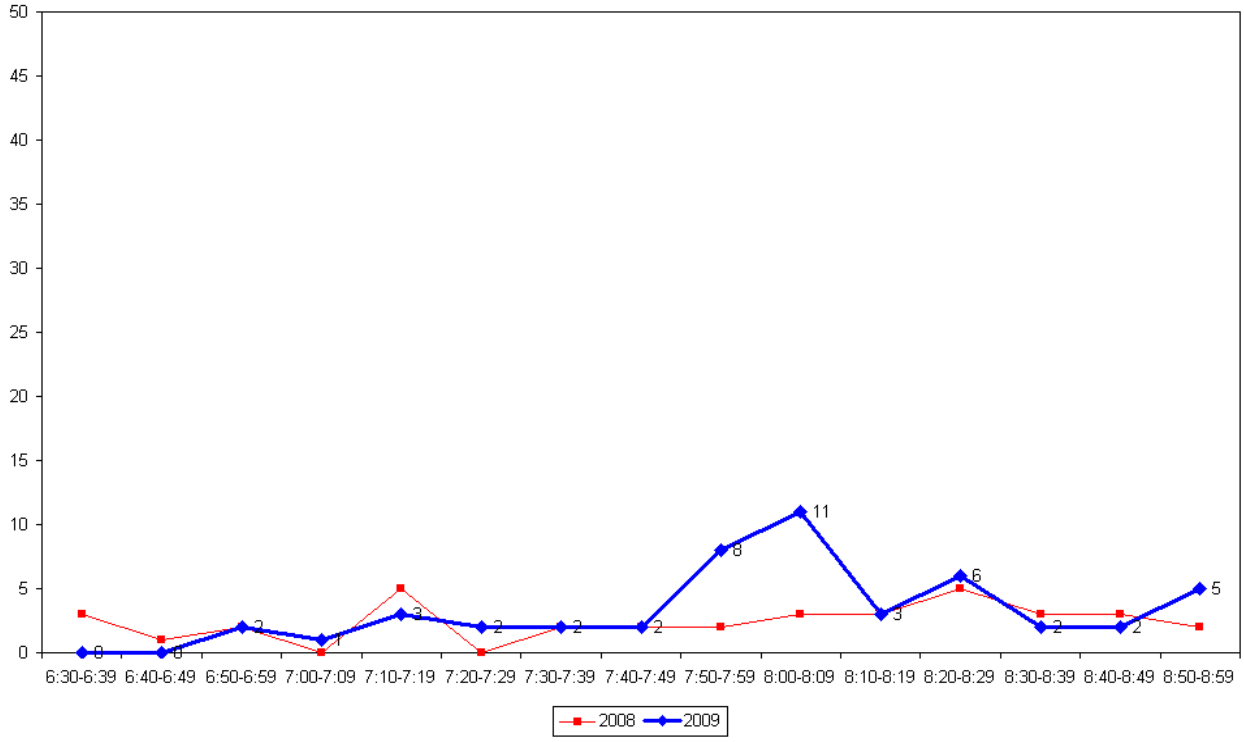
- Over the morning peak, all cyclists are adults (100 per cent, unchanged from last year).
- Most cyclists are wearing a helmet (94 per cent, stable from 92 per cent in 2008).
- Approximately three in five cyclists are riding on the road (61 per cent, down notably from 78 per cent at the previous measure).

Table 26.2: Morning Cyclist Characteristics
Stanley Street/Grafton Road 2008-2009 (%)

	2008	*2009*	Change 08-09
Cyclist Type			
Adult	100	100	0
School child	0	0	0
Helmet Wearing			
Helmet on head	92	94	2
No helmet	8	6	-2
Where Riding			
Road	78	61	-17
Footpath	22	39	17
Base:	***36***	***49***	

- Morning cycle volumes start off low, then increase sharply to peak between 8:00am and 8:09am. This compares with a slight peak between 7:10am and 7:19am (5 cyclists) in 2008.

Figure 26.2: Stanley Street/Grafton Road Cyclist Frequency – Morning Peak



26.2 Evening Peak

Environmental Conditions

- The weather was variable throughout the evening shift, with light rain recorded between 5:16pm and 5:18pm, between 5:23pm and 5:50pm and again from 6:48pm until the end of the monitoring period.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The total number of cycle movements recorded at the Stanley Street/Grafton Road site has increased this year, with 47 movements in the evening compared with 29 movements in 2008.
- The key movements in the evening are straight along Stanley Street heading southeast (Movement 2 = 13 cyclists) and straight along Stanley Street heading northwest (Movement 8 = 12 cyclists).
- The most notable increase since 2008 is at Movement 8, up by 10 cyclists to 12 movements recorded this year.

Table 26.3: Evening Cyclist Movements
Stanley Street/Grafton Road 2008-2009 (n)

Movement	*2008*	*2009*	Change 08-09
1	0	0	0
2	8	13	5
3	3	0	-3
4	1	1	0
5	3	8	5
6	4	5	1
7	2	1	-1
8	2	12	10
9	1	2	1
10	4	2	-2
11	1	3	2
12	0	0	0
Total	**29**	**47**	**18**

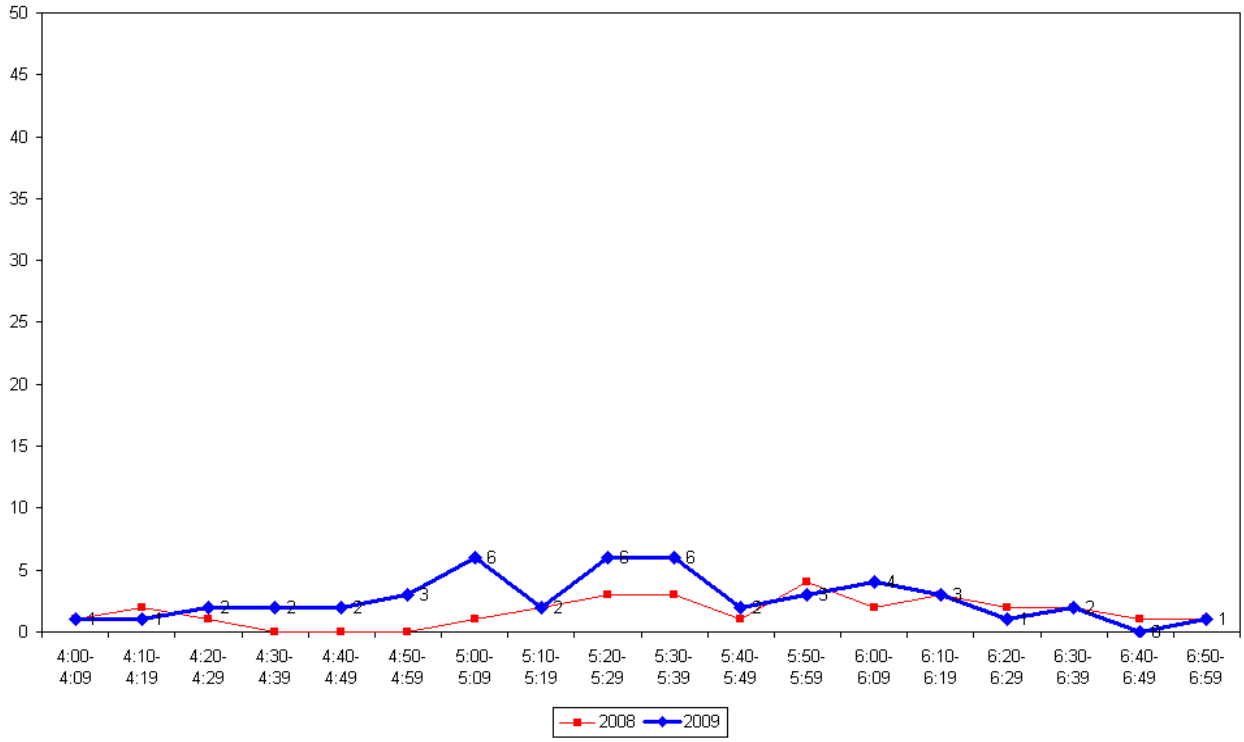
- Over the evening peak, all cyclists using this site are adults (100 per cent, unchanged from 2008).
- Most cyclists at this site are wearing a helmet (96 per cent, up slightly by 3 percentage points this measure).
- On average, just less than two in five cyclists are riding on the road (36 per cent, down notably from 66 per cent last year).

Table 26.4: Evening Cyclist Characteristics
Stanley Street/Grafton Road 2008-2009 (%)

	2008	*2009*	Change 08-09
Cyclist Type			
Adult	100	100	0
School child	0	0	0
Helmet Wearing			
Helmet on head	93	96	3
No helmet	7	4	-3
Where Riding			
Road	66	36	-30
Footpath	34	64	30
Base:	***29***	***47***	

- Evening cycle volumes are low throughout the shift, with no more than three cyclists recorded during most ten minute intervals. Slight peaks occur between 5:00pm and 5:09pm (6 cyclists), and again between 5:20pm and 5:39pm (6 cyclists per ten minute interval). This compares with a slight peak occurring between 5:50pm and 5:59pm (4 cyclists) in 2008.

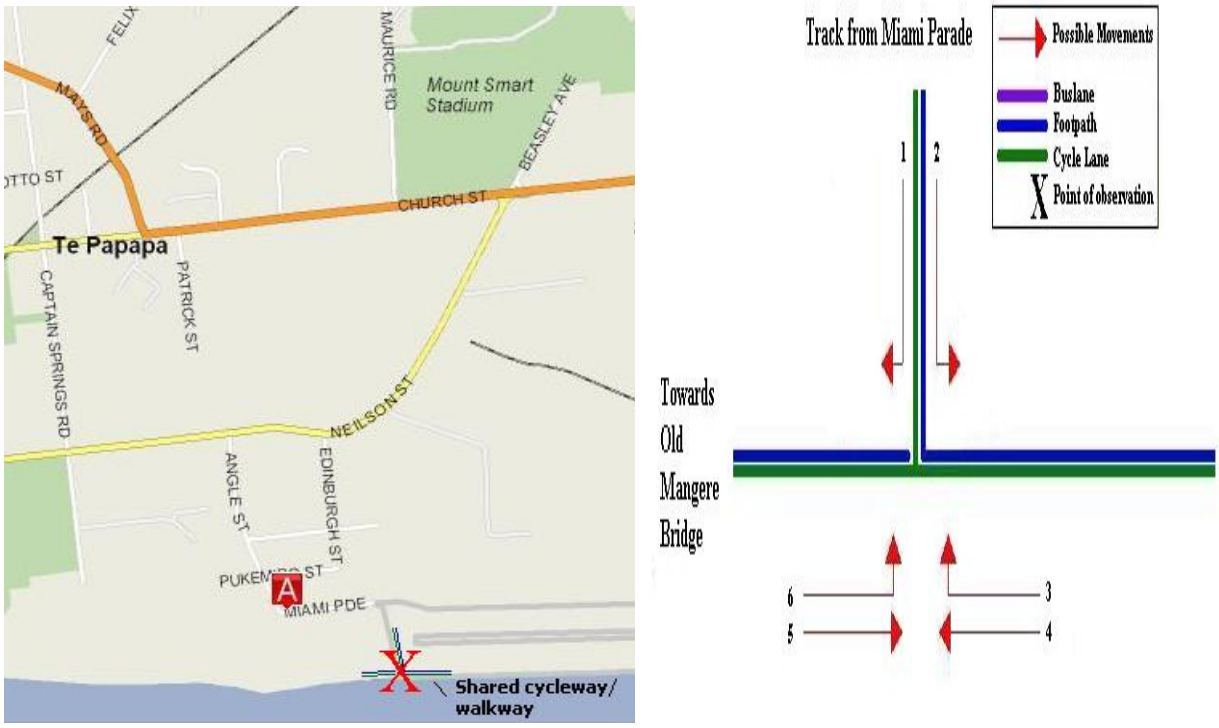
Figure 26.3: Stanley Street/Grafton Road Cyclist Frequency – Evening Peak



27. WAIKARAKA CYCLEWAY, ONEHUNGA SOUTH (SITE 76)

Figure 27.1 shows the possible cyclist movements at this site.

Figure 27.1: Cycle Movements: Waikaraka Cycleway, Onehunga South



AADT Estimate

- The AADT for this site is 73 cycle movements per day. This compares with 76 cycle movements per day in 2008.

27.1 Morning Peak

Environmental Conditions

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

Key Points

- The total number of cycle movements recorded in the morning shift has increased slightly this year, from 13 in 2008 to 18.
- The key morning movement is east along the cycleway away from Old Mangere Bridge (Movement 5 = 11 cyclists).
- There have been no notable changes in cyclist volumes across the six possible movements at this site.

Table 27.1: Morning Cyclist Movements
Waikaraka Cycleway, Onehunga South 2008-2009 (n)

Movement	*2008*	*2009*	Change 08-09
1	0	0	0
2	0	0	0
3	1	1	0
4	2	3	1
5	9	11	2
6	1	3	2
Total	**13**	**18**	**5**

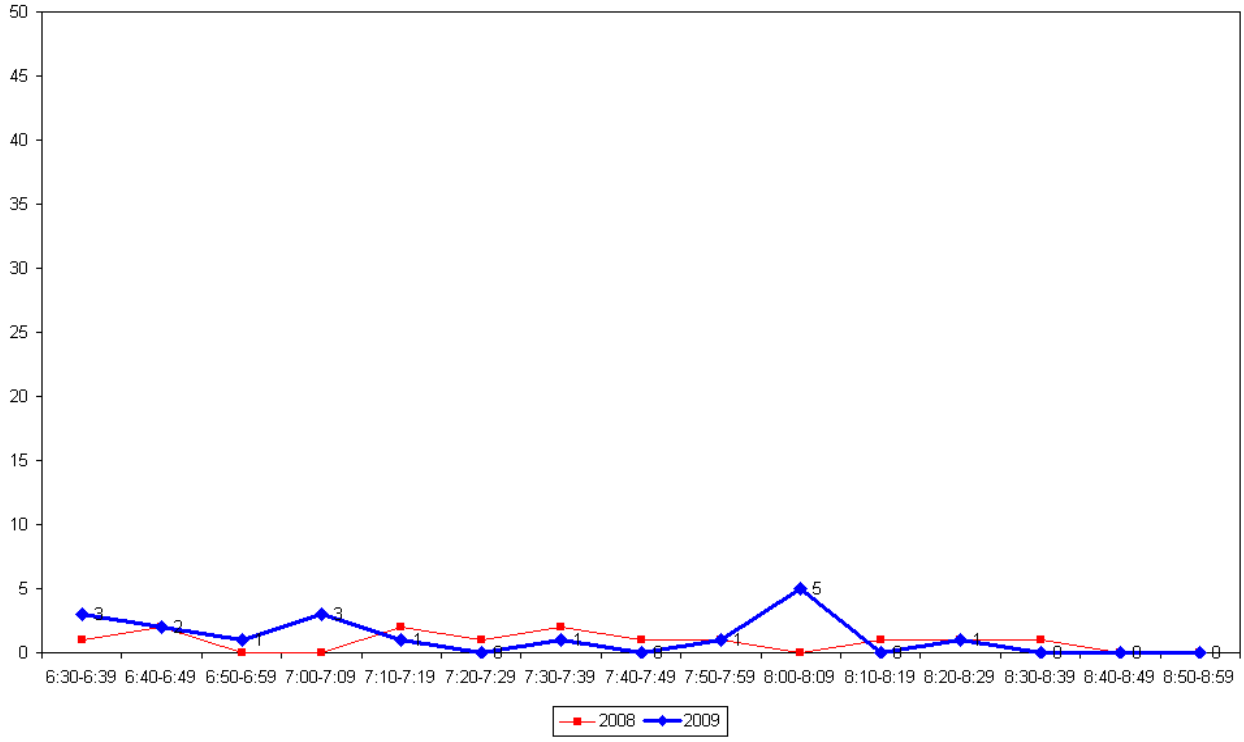
- Over the morning peak, all cyclists are adults (100 per cent), unchanged from last year.
- The majority of cyclists are wearing a helmet (89 per cent, up slightly from 85 per cent in 2008).

Table 27.2: Morning Cyclist Characteristics
Waikaraka Cycleway, Onehunga South 2008 (%)

	2008	*2009*	Change 08-09
Cyclist Type			
Adult	100	100	0
School child	0	0	0
Helmet Wearing			
Helmet on head	85	89	4
No helmet	15	11	-4
Base:	***13***	***18***	

- Morning cycle volumes are low throughout the shift, with no more than three cyclists recorded during most ten minute intervals, and a slight peak of five cyclists between 8:00am and 8:09am.

Figure 27.2: Waikaraka Cycleway, Onehunga South Cyclist Frequency – Morning Peak



27.2 Evening Peak

Environmental Conditions

- The weather was overcast throughout the evening shift, with light patches of rain between 5:30pm and 5:35pm, between 6:40pm and 6:42pm, and from 6:46pm to the end of the monitoring period.
- There were no road works or accidents that may affect cycle counts.

Key Points

- The total number of cycle movements at the Waikaraka Cycleway site continues to be low with 33 movements evident in the evening, a decrease from the 41 movements recorded in 2008.
- The most common movement in the evening is west along the cycleway towards the Old Mangere Bridge (Movement 4 = 19 cyclists, including five riding together as a group).
- The most notable decline since 2008 has been at Movement 5 (down 7 cyclists).

Table 27.3: Evening Cyclist Movements
Waikaraka Cycleway, Onehunga South 2008-2009 (n)

Movement	*2008*	*2009*	Change 08-09
1	1	2	1
2	1	1	0
3	0	0	0
4	21	19	-2
5	15	8	-7
6	3	3	0
Total	**41**	**33**	**-8**

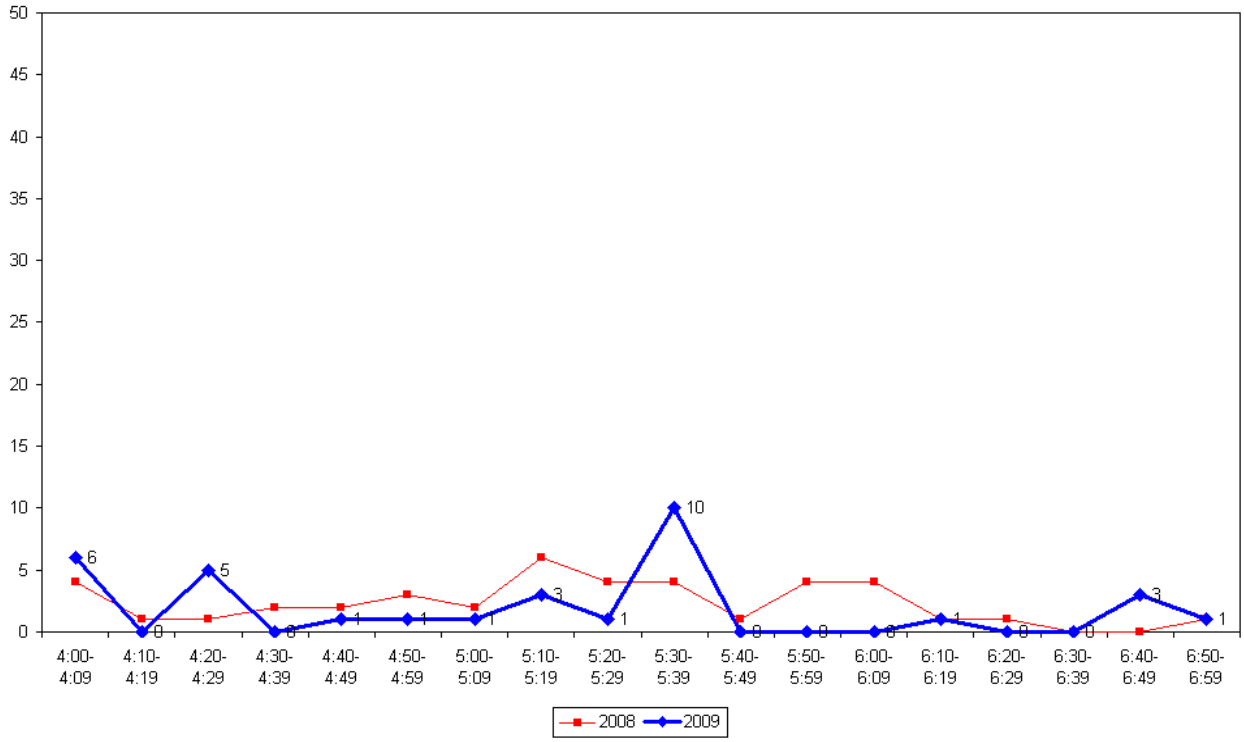
- Over the evening peak, all cyclists using this cycleway are adults (100 per cent, up from 95 per cent in 2008).
- Most cyclists at this site are wearing a helmet (79 per cent, down from 88 per cent at the previous measure).

Table 27.4: Evening Cyclist Characteristics
Waikaraka Cycleway, Onehunga South 2008-2009 (%)

	2008	*2009*	Change 08-09
Cyclist Type			
Adult	95	100	5
School child	5	0	-5
Helmet Wearing			
Helmet on head	88	79	-9
No helmet	12	21	9
Base:	***41***	***33***	

- Evening cycle volumes are low throughout the shift, with no more than three cyclists recorded during most ten minute intervals. Two slight peaks occur at the beginning of the monitoring period from 4:00pm to 4:09pm (6 cyclists) and from 4:20pm to 4:29pm (5 cyclists). A larger peak occurs between 5:30pm and 5:39pm (10 cyclists, five of these cyclists were riding as a group).

Figure 27.3: Waikaraka Cycleway, Onehunga South Cyclist Frequency – Evening Peak

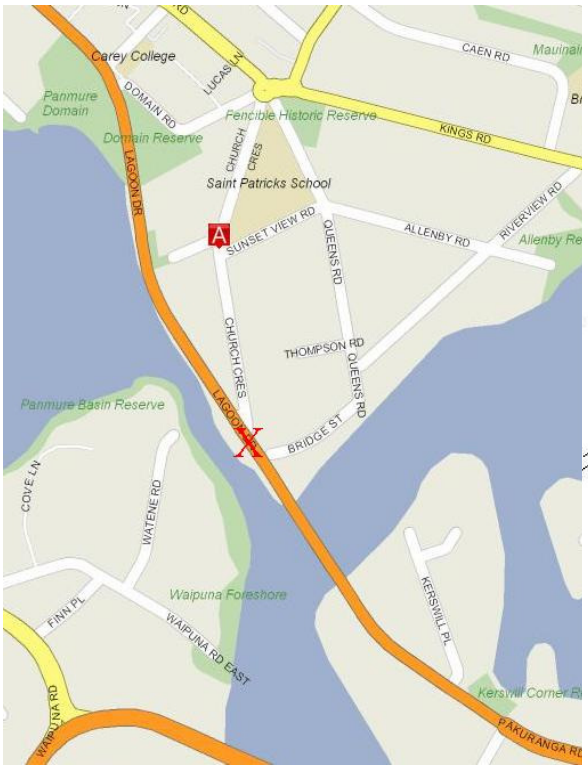


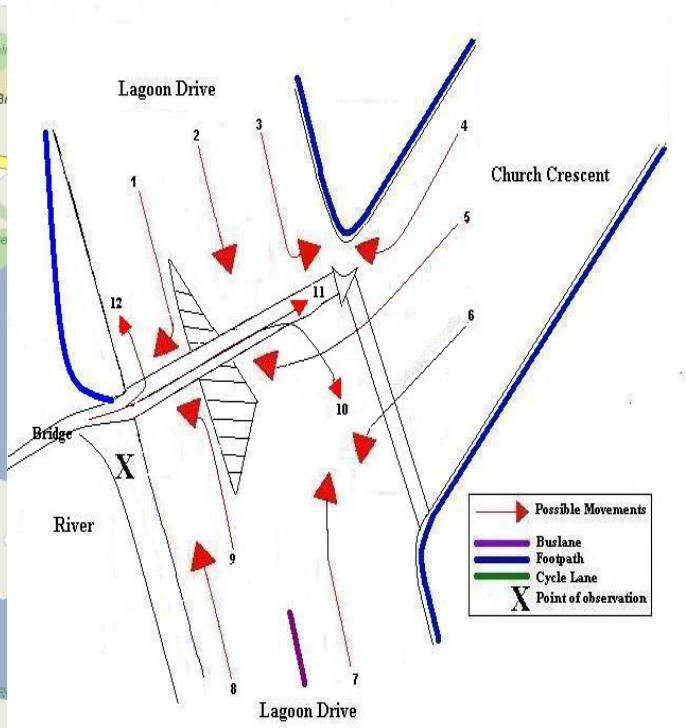
Note: Five cyclists were observed riding together at this site at 5.36pm. This comprises 15 per cent of total cycle movements recorded in the evening peak.

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

Figure 28.1 shows the possible cyclist movements at this intersection.

Figure 28.1: Cycle Movements: Lagoon Drive/Church Crescent, Panmure





Note: This site was monitored for the first time in 2009.

AADT Estimate

- The AADT for this site is 186 cycle movements per day.

28.1 Morning Peak

Environmental Conditions

- The weather was fine throughout the morning shift, apart from some light drizzle at 7:35am.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Fifty-seven cycle movements recorded were recorded at this site.
- The key morning movements are straight along Lagoon Drive heading north (Movement 8 = 12 cyclists) and coming from the bridge and turning right into Lagoon Drive (Movement 10 = 10 cyclists).
- As this is a new site this year, comparisons with previous years cannot be made.

Table 28.1: Morning Cyclist Movements
Lagoon Drive/Church Crescent, Panmure 2009 (n)

Movement	2009
1	0
2	8
3	1
4	0
5	3
6	9
7	6
8	12
9*	8
10	10
11	0
12	0
Total	**57**

- **Note: All cyclists making Movement 9 were riding on the right hand side of Lagoon Drive to approach the intersection and crossed the pedestrian crossing to reach the foot bridge.*

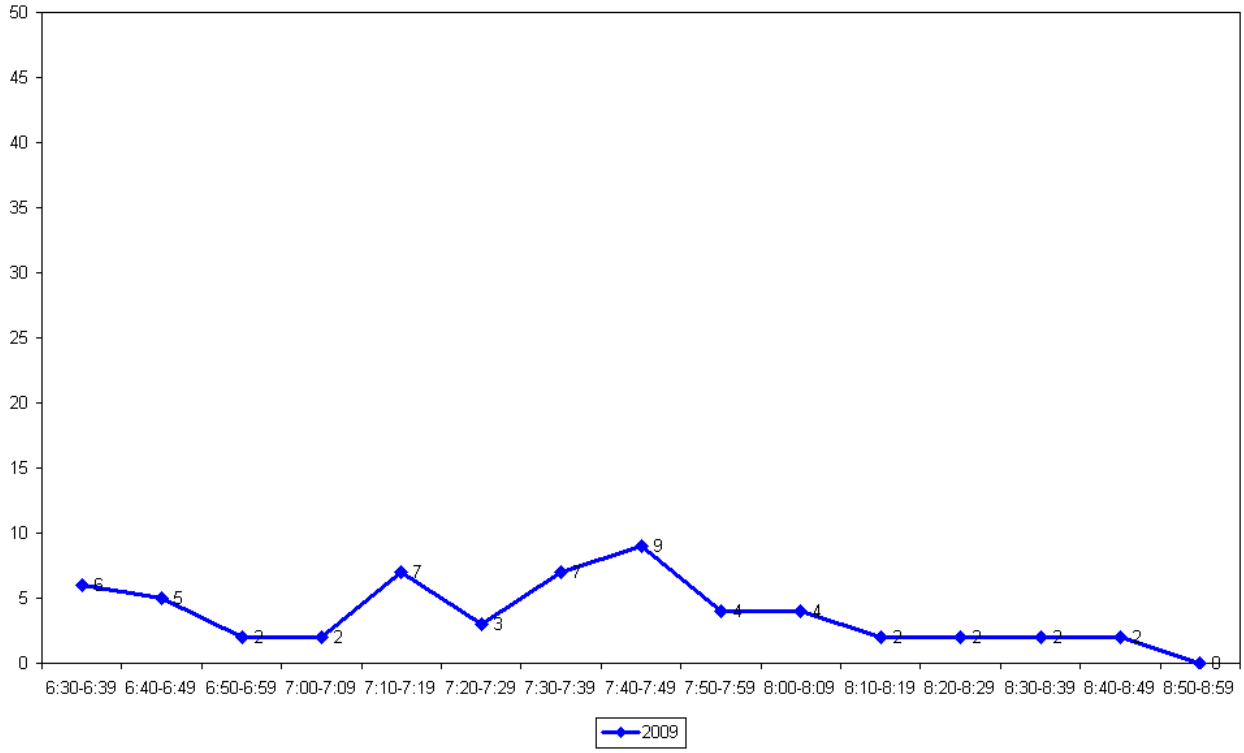
- Over the morning peak, the majority of cyclists are adults (82 per cent).
- Most cyclists are wearing a helmet (89 per cent).
- Two-thirds of cyclists are riding on the road (68 per cent).

Table 28.2: Morning Cyclist Characteristics
Lagoon Drive/Church Crescent, Panmure 2009 (%)

	2009
Cyclist Type	
Adult	82
School child	18
Helmet Wearing	
Helmet on head	89
No helmet	11
Where Riding	
Road	68
Footpath	32
Base:	***57***

- Morning cycle volumes are low throughout the shift, with peaks between 7:10am and 7:19 am (7 movements) and half an hour later between 7:40am and 7:49am (9 cyclists).

Figure 28.2: Lagoon Drive/Church Crescent, Panmure Cyclist Frequency – Morning Peak



28.2 Evening Peak

Environmental Conditions

- The weather was overcast throughout the evening shift, with intermittent light rain reported, particularly between 5:00pm and 6:00pm.
- There were no road works or accidents that may affect cycle counts.

Key Points

- Seventy-two movements were recorded over the evening shift at the Lagoon Drive and Church Crescent site.
- The most common movements in the evening are turning right from Lagoon Drive into Church Crescent (Movement 7 = 17 cyclists) and coming from the bridge and turning right into Lagoon Drive (Movement 10 = 15 cyclists) .
- As this is a new site in 2009, comparisons with previous years cannot be made.

Table 28.3: Evening Cyclist Movements
Lagoon Drive/Church Crescent, Panmure 2009 (n)

Movement	2009
1	0
2	10
3	0
4	0
5	0
6	10
7	17
8	9
9*	6
10	15
11	5
12	0
Total	**72**

- **Note: All cyclists making Movement 9 were riding on the right hand side of Lagoon Drive to approach the intersection and crossed the pedestrian crossing to reach the foot bridge.*

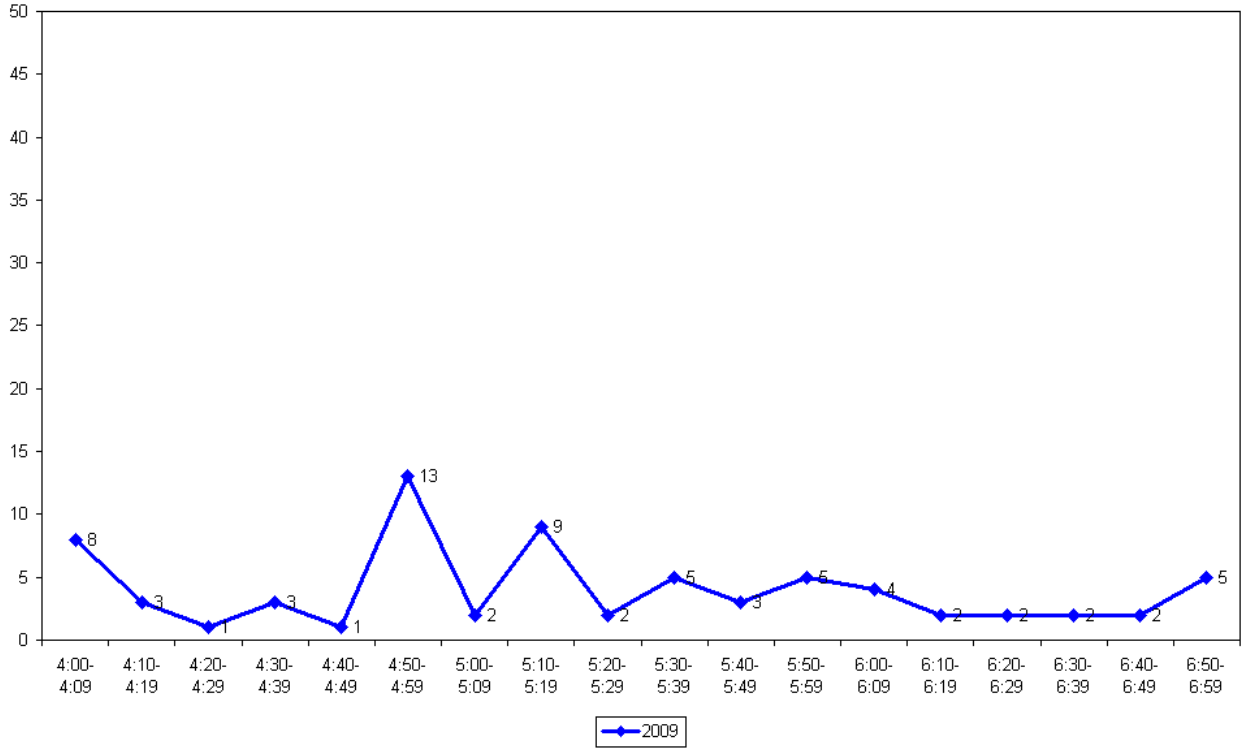
- Almost all cyclists at this site were adults (96 per cent).
- Most cyclists were wearing a helmet (89 per cent).
- Most cyclists were riding on the road (79 per cent).

Table 28.4: Evening Cyclist Characteristics
Lagoon Drive/Church Crescent, Panmure 2009 (%)

	2009
Cyclist Type	
Adult	96
School child	4
Helmet Wearing	
Helmet on head	89
No helmet	11
Where Riding	
Road	79
Footpath	21
Base:	***72***

- Cyclist volumes peak between 4:50pm and 4:59pm where 13 movements were recorded. Slight peaks also occur at the beginning of the monitoring period between 4:00pm and 4:09pm (8 cyclists), and later between 5:10pm and 5:19pm (9 cyclists).

Figure 28.3: Lagoon Drive/Church Crescent, Panmure Cyclist Frequency – Evening Peak



29. SCHOOL BIKE SHED COUNT – AUCKLAND CITY

Background Information

- A total of 53 schools were contacted in Auckland city. Of the 45 schools that responded to the survey (85 per cent), no schools have policies that restrict students cycling to school[15].
- The designated count day was Tuesday 10th of March[16]. Note that glendowie College reported 180 Year 13 students were on school camp on count day, while Remuera Intermediate reported two Year 8 classes at school camp.

Key Points

- Of those eligible to cycle at school, on average, two per cent of students are cycling to their schools. This share is unchanged from two per cent in 2008 and 2007.
- Across the 44 eligible schools that responded n=634 students were reported to cycle to school.
- As in 2007 and 2008, Pasadena Intermediate reported the highest share of cyclists – 17 per cent of all eligible students currently cycling (up from 12 per cent last year).
- Of the 44 eligible schools that responded, 15 (34 per cent) had no students cycling to school. This compares with 11 (26 per cent) in 2008.

[15] Note: One school who responded – Dilworth – was deemed ineligible as all students are boarders.
[16] The following schools undertook counts on alternative days:
- Hebron Christian College – Tuesday 17th March
- Ponsonby Intermediate – Wednesday 11th March
- One Tree Hill College – Wednesday 18th March
- Selwyn College – Tuesday 17th March
- Western Springs College – Friday 27th March

Table 29.1 shows the results of the 44 schools surveyed in Auckland city.

Table 29.1: Summary Table Of School Bike Count 2007-2009 (n)

School Name	*Year Levels*	*School Roll Eligible To Cycle*	*No. of Cycles Counted*	*Cyclists as share of those eligible[17] (2009)*	*Cyclists as share of those eligible (2008)*	*Cyclists as share of those eligible (2007)*
Pasadena Intermediate	Intermediate	277	48	17%	12%	18%
Remuera Intermediate	Intermediate	910	61	7%	5%	9%
Auckland Normal Intermediate	Intermediate	650	36	6%	5%	7%
Kowhai Intermediate	Intermediate	362	21	6%	6%	6%
Western Springs College	Secondary	1100	62	6%	7%	-
Ponsonby Intermediate	Intermediate	547	25	5%	4%	6%
Auckland Grammar	Secondary	2400	95	4%	3%	2%
Waikowhai Intermediate	Intermediate	393	14	4%	3%	3%
Blockhouse Bay Intermediate	Intermediate	785	23	3%	4%	4%
Hebron Christian College	Composite	305	8	3%	2%	3%
Michael Park School	Composite	405	14	3%	2%	1%
Royal Oak Intermediate	Intermediate	527	15	3%	2%	2%
Waiheke High School	Intermediate/Secondary	448	15	3%	2%	3%
Wesley Intermediate	Intermediate	144	4	3%	3%	3%
Immanuel Christian School	Composite	116	2	2%	1%	1%
Mt Albert Grammar School	Secondary	2205	48	2%	3%	-
Selwyn College	Secondary	720	16	2%	1%	-

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

School Name	Year Levels	School Roll Eligible To Cycle	No. of Cycles Counted	Cyclists as share of those eligible[17] (2009)	Cyclists as share of those eligible (2008)	Cyclists as share of those eligible (2007)
Glendowie College	Secondary	1036	10	1%	1%	2%
Lynfield College	Secondary	1860	10	1%	<1%	1%
Mt Roskill Grammar School	Secondary	2332	32	1%	1%	2%
Onehunga High School	Secondary	1545	23	1%	-	-
St Peter's College	Intermediate/Secondary	1157	12	1%	1%	1%
Tamaki Intermediate	Intermediate	265	2	1%	0%	3%
Sacred Heart College	Intermediate/Secondary	1103	12	1%	1%	-
Avondale College	Secondary	21700	21	1%	1%	-
Marist College	Intermediate/Secondary	750	2	<1%	-	-
Marcellin College	Intermediate/Secondary	704	1	<1%	1%	-
St Mary's College	Intermediate/Secondary	800	1	<1%	-	-
Avondale Intermediate	Intermediate	435	1	<1%	1%	1%
ACG New Zealand International College	Secondary	448	0	0%	-	-
ACG Senior College	Secondary	461	0	0%	0%	0%
Auckland Girls' Grammar School	Secondary	1400	0	0%	0%	<1%
Auckland International College	Secondary	380	0	0%	0%	-
Baradene College	Intermediate/Secondary	950	0	0%	<1%	0%
Carey College	Composite	66	0	0%	-	-
Corran School	Composite	343	0	0%	0%	0%
Diocesan School for Girls	Composite	1460	0	0%	<1%	0%
McAuley High School	Secondary	653	0	0%	0%	0%
Mt Hobson Middle School	Composite	45	0	0%	-	-

School Name	*Year Levels*	*School Roll Eligible To Cycle*	*No. of Cycles Counted*	*Cyclists as share of those eligible[17] (2009)*	*Cyclists as share of those eligible (2008)*	*Cyclists as share of those eligible (2007)*
One Tree Hill College	Secondary	770	0	0%	-	-
Otahuhu College	Secondary	1433	0	0%	0%	0%
St Cuthbert's College	Composite	1470	0	0%	-	-
St Paul's College	Intermediate/Secondary	227	0	0%	-	-
Tamaki College	Secondary	713	0	0%	<1%	<1%
Total		37800	634	2%	2%	2%

Table 29.1a: Summary Table Of Non-Participating and Ineligible Schools 2007-2009 (n)

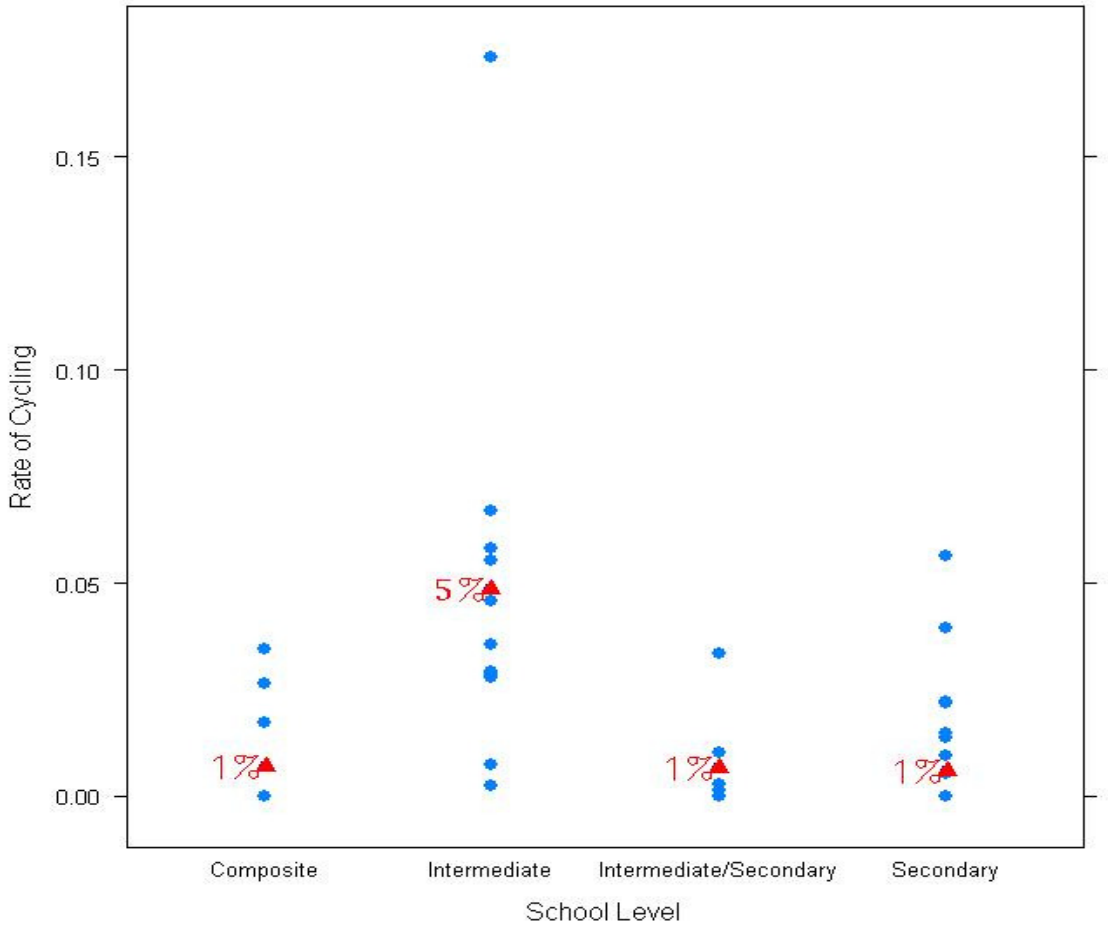
School Name	*Year Levels*	*School Roll Eligible To Cycle*	*No. of Cycles Counted*	*Cyclists as share of those eligible (2009)*	*Cyclists as share of those eligible (2008)*	*Cyclists as share of those eligible (2007)*
Epsom Girls Grammar	Secondary	1770	-	-	<1%	-
Kings College	Secondary	955	-	-	2%	0%
Mt Roskill Intermediate	Intermediate	683	-	-	2%	2%
ACG Parnell College	Composite	650	-	-	0%	-
Otahuhu Intermediate	Intermediate	370	-	-	1%	1%
Te KKM o Puau Te Moananui-a-Kiwa	Composite	61	-	-	-	-
MindAlive	Composite	49	-	-	-	-
Montessori College of Auckland	Composite	14	-	-	-	-

- Table 29.2 and Figure 29.1 illustrate the rates of cycling to school at different school levels. Rates of cycling to school are highest among intermediate schools (5 per cent, up from 3 per cent in 2008), while other levels of schools have fairly constant cycling rates (1 per cent, unchanged from last year).

Table 29.2: Summary Table Of School Bike Count by Year Levels 2007-2009 (%)

Year Levels	*Number of Schools Responded in 2009*	*Cyclists as share of those eligible 2007*	*Cyclists as share of those eligible 2008*	*Cyclists as share of those eligible 2009*	Change 08-09
Intermediate	11	5	3	5	2
Secondary	17	1	1	1	0
Intermediate/Secondary	8	1	1	1	0
Composite	18	1	1	1	0
Total	**44**	**2%**	**2%**	**2%**	**0**

Figure 29.1: Cycling Rates by School Level
2009 (%)



APPENDICES

Appendix One: Annual Average Daily Traffic (AADT) Calculation

Appendix Two: Comparative 2009 AADT Estimates Using Dry and Wet Weather Factors

Appendix Three: School Bike Shed Information Sheet And Cover Letter

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[18] 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)[19], 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.

[18] Annual average daily traffic

[19] 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%

APPENDIX TWO: COMPARATIVE 2009 AADT ESTIMATES USING DRY AND WET WEATHER FACTORS

Table 1: Dry Weather Factor AADT Estimates Based on Morning and Evening Cyclist Movements 2007-2009 (n)

Site Number	*Locations*	*2007 AADT*	*2008 AADT*	*2009 AADT*	08-09 Change	07-09 Change
10	Tamaki Drive/The Strand	1313	1146	**880**	-23%	-33%
8	Symonds Street/Karangahape Road	924	899	**765**	-15%	-17%
9	Karangahape Road/Queen Street	736	616	**669**	9%	-9%
2	Ponsonby/Karangahape Road	705	602	**536**	-11%	-24%
7	North Western Cycleway/St Lukes	469	480	**451**	-6%	-4%
13	Ian McKinnon/Newton Road	-	-	**422**	-	*
6	North Western Cycleway/Great North Road	335	532	**416**	-22%	24%
22	Ferry Terminal	553	459	**363**	-21%	-34%
3	Great North/Carrington Road	341	333	**281**	-16%	-18%
11	Remuera/Orakei Road	282	276	**274**	-1%	-3%
5	Dominion/Balmoral Road	344	291	**265**	-9%	-23%
17	Onehunga Harbour Road	357	316	**259**	-18%	-27%
12	Manukau Road/Greenlane West	326	296	**255**	-14%	-22%
21	Great South Road/Campbell Road/Main Highway	253	165	**218**	32%	-14%
14	Mount Albert/New North Road	226	236	**205**	-13%	-9%
78	Lagoon Drive/Church Crescent	-	-	**186**	-	*
1	Victoria/Wellesley Street	231	201	**180**	-10%	-22%
73	Blockhouse Bay/Great North Road	-	170	**173**	2%	*
16	Jervois Road/Wallace Street	-	-	**162**	-	*
20	St Heliers Bay/West Tamaki Road	308	246	**158**	-36%	-49%
75	Stanley Street/Grafton Road	-	95	**140**	47%	*
19	Ellerslie Panmure Highway/Lunn Ave	170	136	**118**	-13%	-31%
4	Patiki/Rosebank Road	119	114	**105**	-8%	-12%
76	Waikaraka Cycle Way	-	76	**73**	-4%	*
18	Great South Road/High St/Atkinson/Park Ave	121	87	**71**	-18%	-41%
74	Apirana Avenue/Pilkington/Tripoli Road	-	87	**46**	-47%	*
15	Richardson/Maioro Street	-	-	**30**	-	*

Table 2: Wet Weather Factor AADT Estimates Based on Morning and Evening Cyclist Movements in 2009 (n)

Site Number	Locations	2007 AADT	2008 AADT	2009 AADT	08-09 Change	07-09 Change
10	Tamaki Drive/The Strand	1313	1146	**1374**	20%	5%
8	Symonds Street/Karangahape Road	924	899	**1195**	33%	29%
9	Karangahape Road/Queen Street	736	616	**1045**	70%	42%
2	Ponsonby/Karangahape Road	705	602	**838**	39%	19%
7	North Western Cycleway/St Lukes	469	480	**704**	47%	50%
13	Ian McKinnon/Newton Road	-	-	**659**	*	*
6	North Western Cycleway/Great North Road	335	532	**650**	22%	94%
22	Ferry Terminal	553	459	**566**	23%	2%
3	Great North/Carrington Road	341	333	**439**	32%	29%
11	Remuera/Orakei Road	282	276	**428**	55%	52%
5	Dominion/Balmoral Road	344	291	**414**	42%	20%
17	Onehunga Harbour Road	357	316	**405**	28%	13%
12	Manukau Road/Greenlane West	326	296	**399**	35%	22%
21	Great South Road/Campbell Road/Main Highway	253	165	**340**	106%	34%
14	Mount Albert/New North Road	226	236	**320**	36%	42%
78	Lagoon Drive/Church Crescent	-	-	**291**	*	*
1	Victoria/Wellesley Street	231	201	**281**	40%	22%
73	Blockhouse Bay/Great North Road	-	170	**270**	59%	*
16	Jervois Road/Wallace Street	-	-	**253**	*	*
20	St Heliers Bay/West Tamaki Road	308	246	**247**	0%	-20%
75	Stanley Street/Grafton Road	-	95	**218**	129%	*
19	Ellerslie Panmure Highway/Lunn Ave	170	136	**184**	35%	8%
4	Patiki/Rosebank Road	119	114	**164**	44%	38%
76	Waikaraka Cycle Way	-	76	**114**	50%	*
18	Great South Road/High St/Atkinson/Park Ave	121	87	**110**	26%	-9%
74	Apirana Avenue/Pilkington/Tripoli Road	-	87	**72**	-17%	*
15	Richardson/Maioro Street	-	-	**47**	*	*

APPENDIX THREE: SCHOOL BIKE SHED INFORMATION SHEET AND COVER LETTER

AUCKLAND REGIONAL CYCLE MONITOR

- 2009 SCHOOL CYCLE COUNT –

ABOUT YOUR SCHOOL (To be completed by staff member)

Name of school: _____

Physical address of school: _____

_____

This school caters for students from Year ☐ to Year ☐

Current school roll (total number of students): ☐

Does the school have a policy which recommends only certain Year levels should cycle to school? *(Please tick one box only)*

☐ No

☐ Yes *Please outline which Year levels the policy recommends should cycle to school:*

_____

_____

If school policy recommends only certain Year levels should cycle to and from school, please tell us the current school roll of students in Year levels allowed to cycle to school: ☐

Is there any reason why this cycle count may NOT be representative of the usual number of students who cycle to school? eg students away at school camp, senior study break etc. *Please write in.*

_____

_____

In case we need to contact you about the information you have provided:

Contact staff member's name _____ Contact phone number: _____

AUCKLAND REGIONAL CYCLE MONITOR

- 2009 SCHOOL CYCLE COUNT –

THE CYCLE COUNT (Can be completed by staff member or student)

Name of school: _____

Date of cycle count: _____

(Note: The preferred day is Tuesday 10th of March)

Total number of cycles counted: ☐

Name of counter: _____

Postal address: _____

_____

(Please note that your personal details will only be used by Gravitas if we need to contact you for clarification of your school or count information. Your personal details will not be passed on to any other organisation or used for any purpose other than this research).

Thank you for your assistance with the project – your contribution is much appreciated.

Once completed, please place this form (check you have both pages) in the stamped addressed envelope provided and post no later than Friday March 13 2009.

26 February 2009

«Staff_Member_Name»
«Schools_Name»
«Address_1»
«Address_2_suburb»
«Address_3»

Dear «Staff_Member»

Re: Regional Cycle Monitoring Programme – Student Cyclists

In conjunction with a larger region-wide cycle monitoring programme being undertaken in early March, intermediate and secondary schools in the Auckland region are being invited to play a part in building a greater understanding of how students get to school. The data provided by schools, along with counts of cyclists at major intersections throughout the Auckland region, will provide local Councils and the Auckland Regional Transport Authority with the information they need to ensure future funding for improvements to cycle infrastructure.

This is the third year that this count of student cyclists has been undertaken. On behalf of the local Councils and the Auckland Regional Transport Authority, we would like to thank those schools that have participated in 2007 and 2008 for their contribution. We look forward to hearing from you again this year.

Accompanying this letter is an information form. The form is in two parts:

- The first part of the form ("About Your School") asks for basic information about your school, including whether there is a policy around recommending that only certain Year levels should cycle to and from school. Given the nature of the information being requested, it is probably most appropriate for the first part of the form to be filled out by a staff member. It should only take two or three minutes to complete.

- The second part of the form ("The Cycle Count") asks for a count of the number of bicycles at your school (in bike sheds, racks etc.) on a pre-determined day. It is envisaged that this information could be collected by a student during one of their breaks (however, if students are permitted to leave the school on cycles during lunchtime, we would ask that the count not be conducted at this time).

To ensure consistency across all schools in the region, **Tuesday the 10th of March** has been selected as the day we would like the cycle count to be conducted. We realise that the weather plays a significant role in the numbers of students cycling to school on any particular day. For this reason, if the weather is particularly bad on the 10th of March, then please postpone the count until **Tuesday the 17th of March**.

Once BOTH PARTS of the form have been completed, it should be placed in the stamped, addressed envelope accompanying this letter and posted no later than Friday the 13th of March (or Friday the 20th of March should the count be postponed due to bad weather).

The data you provide will be analysed to provide an 'actual student cyclists as a share of all potential student cyclists' figure for each school as well as aggregated results by city/district and region. (The final results will be available in May. If you would like a copy, you can contact Brian Horspool at ARTA – Brian.Horspool@arta.co.nz). Please be assured that all information you provide will be treated in the strictest confidence and only used for the purpose of this study.

One of our team will call you in the next couple of days to confirm that you have received the form and to answer any questions you have. However, if you have any questions about what is required, or would like further information about the wider study being undertaken, please don't hesitate to contact me (tania@gravitas.co.nz).

Thank you for your co-operation. Your assistance is greatly appreciated.

Kind regards

Tania Boyer
Project Director
Gravitas Research and Strategy Limited