

# 2012 Auckland Region Manual Cycle Monitor

## - Regional Summary -



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# 1. INTRODUCTION

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## 1.1 The Need For Reliable Cycle Trip Data

Monitoring cycle movements and cycle traffic is important to Auckland Transport, to identify where investment may be needed to improve infrastructure for cycling. Cycle traffic data will also help Auckland Transport prioritise future funding through the Auckland Land Transport Programme<sup>1</sup>.

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

### *Manual Cycle Monitoring*

Historically, manual cycle monitoring had been carried out in four of the seven Auckland region Territorial Authorities (TAs). However, each monitor had been undertaken using a different methodology<sup>2</sup> and conducted at different times of the year. This variability prevented the possibility of comparing the relative popularity of different sites across TA boundaries.

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.

This report provides a regional summary of the results of manual cycle monitoring conducted at 83 pre-determined sites throughout the Auckland region. Site-by-site results and ward summaries for each of the twelve<sup>3</sup> wards in the Auckland region have been provided in separate documents. Readers should refer to these documents for ward and site-level detail.

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<sup>1</sup> Auckland Regional Transport Authority (2006) *Regional Cycle Monitoring Plan (Provisional Guidelines)*

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

<sup>3</sup> Note that there were no monitoring sites in the Rodney ward.

## 1.2 Cycle Monitoring Locations

Eighty-three sites were monitored across the Auckland region in 2012. Note that where sites lie on the border between two wards, they have been included in the reports for both wards. Site numbers (which correspond to the numbering in Figure 1.1) appear in brackets after the site name.

### *Albany*

- Whangaparaoa Road (near Red Beach intersection), Red Beach (59)
- Whangaparaoa Road (near SH1 intersection), Silverdale (60)
- D'Oyly Reserve cycleway, Stanmore Bay (61)
- Gulf Harbour Drive/Laurie Southwick Parade, Gulf Harbour (63)
- Jelas/Moffatt Road, Silverdale (82)
- Behind Rodney District Council Building, Centreway Road, Orewa (84)
- Beach/Browns Bay Road, Browns Bay (45)
- Rosedale/East Coast Road, Rosedale (38)
- Upper Harbour/Albany Highway, Greenhithe (39)
- Oteha Valley Road/SH17/Albany Highway, Oteha (40)
- Rosedale/Bush Road, Albany (46)
- Oteha Valley/East Coast Road, Northcross (47)
- Squadron Drive/Buckley Avenue, Greenhithe (70)
- Luckens/Hobsonville Road, West Harbour (51)
- Sunnynook Road/East Coast Road, Sunnynook (89)

### *North Shore*

- Lake Road by Takapuna Grammar, Takapuna (35)
- Hurstmere Road/Killarney Street, Takapuna (36)
- Taharoto/Northcote Road, Northcote (37)
- Wairau/Glenfield Road, Glenfield (41)
- Shakespeare/East Coast Road, Milford (42)
- Glenfield/Coronation Road, Hillcrest (43)
- Birkenhead Ave/Mokoia Road, Birkenhead (44)
- Sunnynook Road/East Coast Road, Sunnynook (89)

### *Waitakere*

- Henderson Creek, Henderson (48)
- Triangle Road/Don Buck Road, Massey (49)
- Lincoln Road/Fairdene Ave, Henderson (50)
- Luckens/Hobsonville Road, West Harbour (51)
- Central Park Drive, Henderson (52)
- 326 Te Atatu Road, Te Atatu (53)
- Te Atatu Road/Elcoat Eve, Te Atatu (54)
- Swanson Road/Ranui Station Road/Armada Drive, Ranui (55)
- West Coast/Rosier Road, Glen Eden (57)
- North Western Cycleway (near Te Atatu off-ramp), Te Atatu (58)
- Te Atatu Road/Old Te Atatu Road, Te Atatu (72)
- Rathgar/Pomaria Road, Henderson (85)
- Triangle Road/Huruhuru Road, Henderson (87)

### *Waitemata and Gulf*

- Victoria Street/Wellesley Street, CBD (1)
- Ponsonby/Karangahape/Newton/Great North Road, Newton (2)
- Symonds/Karangahape/Grafton Road, Grafton (8)
- Karangahape Road/Queen Street, CBD (9)
- Tamaki Drive/The Strand, Mechanics Bay (10)
- Auckland Ferry Terminal, CBD (22)
- Stanley Street/Grafton Road/Wellesley Street East, CBD (75)
- Ian McKinnon Drive/Newton Road, Eden Terrace (13)
- Jervois Road/Wallace Street/Kelmarna Ave, Herne Bay (16)
- Broadway/Khyber Pass, Newmarket (90)

### *Albert-Eden-Roskill*

- Great North/Carrington/Point Chevalier Road, Point Chevalier (3)
- Dominion/Balmoral Road, Balmoral (5)
- North Western Cycleway/Great North Road, Waterview (6)
- North Western Cycleway/St Lukes Road, St Lukes (7)
- Manukau Road/Greenlane West, Epsom (12)
- Mount Albert/New North Road, Mt Albert (14)
- Keith Hay Park, Sandringham (88)
- Great South Road/Campbell Road/Main Highway, Ellerslie (21)
- Blockhouse Bay Road/Great North Road, Avondale (73)

- Richardson Road/Maioro Street, New Windsor (15)
- Broadway/Khyber Pass Road, Newmarket<sup>4</sup> (90)

### *Whau*

- 3 Rankin Ave, New Lynn (56)
- Blockhouse Bay Road/Great North Road, Avondale (73)
- Patiki/Rosebank Road, Avondale (4)
- Richardson Road/Maioro Street, New Windsor (15)

### *Orakei*

- St Heliers Bay/West Tamaki Road, Glendowie (20)
- Remuera/Orakei Road, Remuera (11)

### *Maungakiekie-Tamaki*

- Ellerslie Panmure Highway/Lunn Ave, Panmure (19)
- Great South Road/Campbell Road/Main Highway, Ellerslie (21)
- Apirana Avenue/Pilkington Road/Tripoli Road, Glen Innes (74)
- Waikaraka Cycleway, Onehunga (76)
- Onehunga Harbour Road, Onehunga (17)
- Lagoon Drive/Church Crescent, Panmure (78)
- St Heliers Bay/West Tamaki Road, Glendowie (20)

### *Howick*

- Bucklands Beach/Pakuranga Road, Howick (33)
- Te Irirangi/Ti Rakau Drive, Botany (34)
- Pakuranga Road/Ti Rakau Drive, Pakuranga (80)
- Harris/Smales Road, East Tamaki (79)
- Te Irirangi Drive/Ormiston Road, Flat Bush (81)

### *Manukau*

- Great South/Bairds Road, Papatoetoe (23)
- Great South Road/Te Irirangi Drive/Cavendish Drive, Manukau (24)
- Massey/Buckland Road, Mangere (28)
- Te Irirangi Drive/Ormiston Road, Flat Bush (81)
- Tom Pearce/George Bolt Memorial Drive, Mangere (25)

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<sup>4</sup> Broadway/Khyber Pass Road, Newmarket is a new site in 2012.

- Great South/East Tamaki Road, Papatoetoe (30)
- Wyllie Avenue/Puhinui Road, Papatoetoe (31)
- McKenzie/Coronation/Walmsley Road, Mangere (32)
- Highbrook Drive, Highbrook (71)
- Great South Road/High Street/Atkinson Avenue, Otahuhu (18)

#### ***Manurewa-Papakura***

- Great South Road/Taka Street, Takanini (66)
- Porchester Road/Walters Road, Takanini (64)
- Great South Road/Rosehill Drive, Papakura (65)
- Great South/Browns/Orams Road, Manurewa (26)

#### ***Franklin***

- Queen/Harris Street, Pukekohe (68)
- Edinburgh/Tobin Street, Pukekohe (69)

Note that there are no cycle monitoring sites in the Rodney ward.







## 2. REGIONAL SUMMARY OF RESULTS

### 2.1 Aggregated Total

#### Total Movements

- Overall, a total of 13,215 cyclist movements<sup>5</sup> were recorded across the 83 sites monitored in 2012. Of the 82 sites monitored in both 2011 and 2012, a total of 12,638 movements were recorded. This figure represents a 6 per cent decrease when compared with 2011 (13,406 movements).
- Across the 60 sites monitored since the manual cycle monitor began in 2007, cyclist movements have increased 22 per cent.

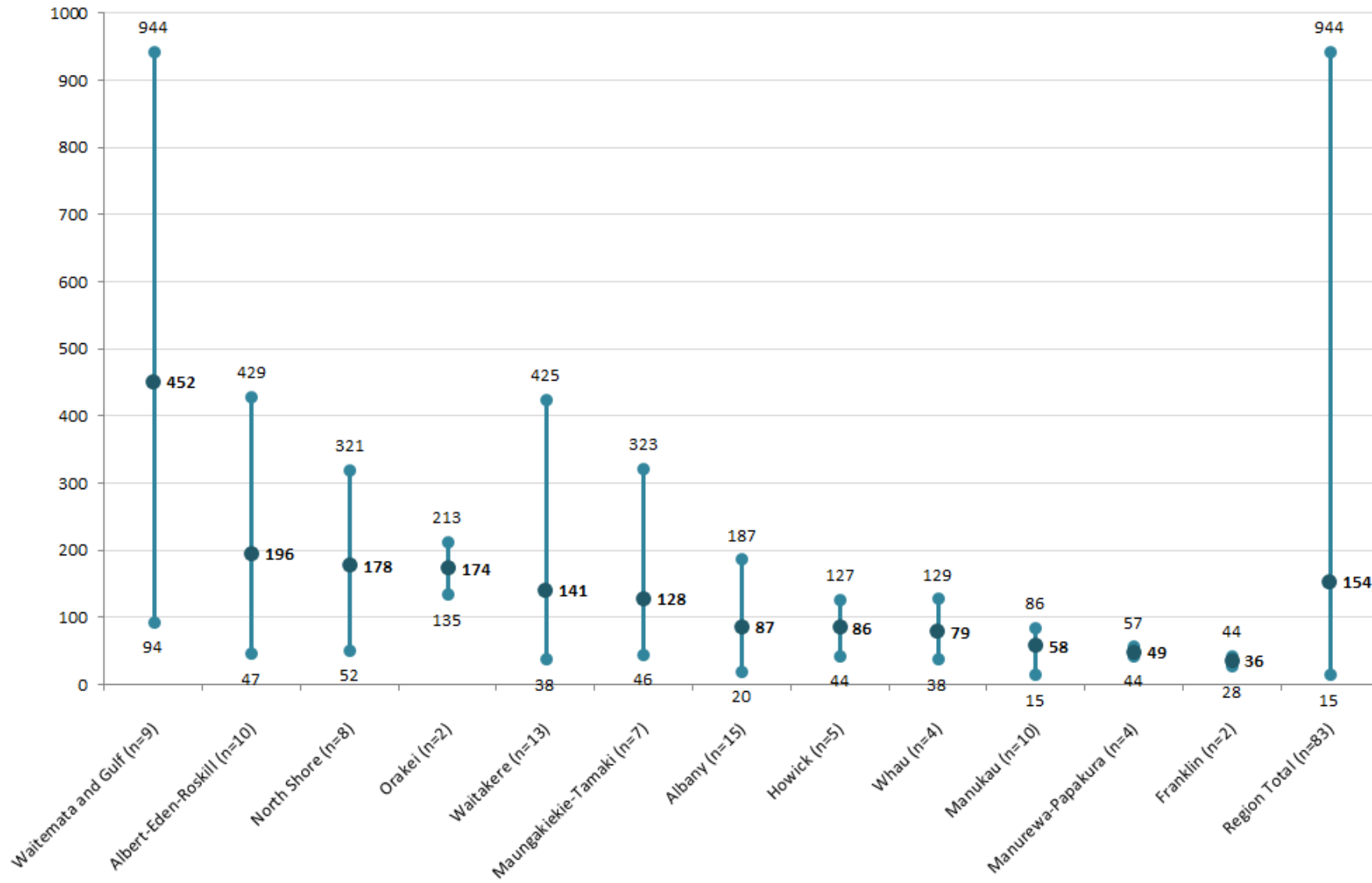
**Table 2.1: Total Cyclist Movements in the Auckland Region  
2007-2012**

<i>Locations</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>Change 11-12</i>	<i>Change 07-11</i>
<b>Total (60 sites since 2007)</b>	<b>8417</b>	<b>8783</b>	<b>8427</b>	<b>10659</b>	<b>10917</b>	<b>10275</b>	<b>-6%</b>	<b>22%</b>
<b>Total (67 sites since 2008)</b>	-	<b>9255</b>	<b>8965</b>	<b>11336</b>	<b>11517</b>	<b>10949</b>	<b>-5%</b>	-
<b>Total (78 sites in 2009)</b>	-	-	<b>9969</b>	<b>12646</b>	<b>12970</b>	<b>12215</b>	<b>-6%</b>	-
<b>Total (80 sites in 2010)</b>	-	-	-	<b>12836</b>	<b>13160</b>	<b>12439</b>	<b>-5%</b>	-
<b>Total (82 sites in 2011)</b>	-	-	-	-	<b>13406</b>	<b>12638</b>	<b>-6%</b>	-
<b>Total (83 sites in 2012)</b>	-	-	-	-	-	<b>13215</b>	-	-

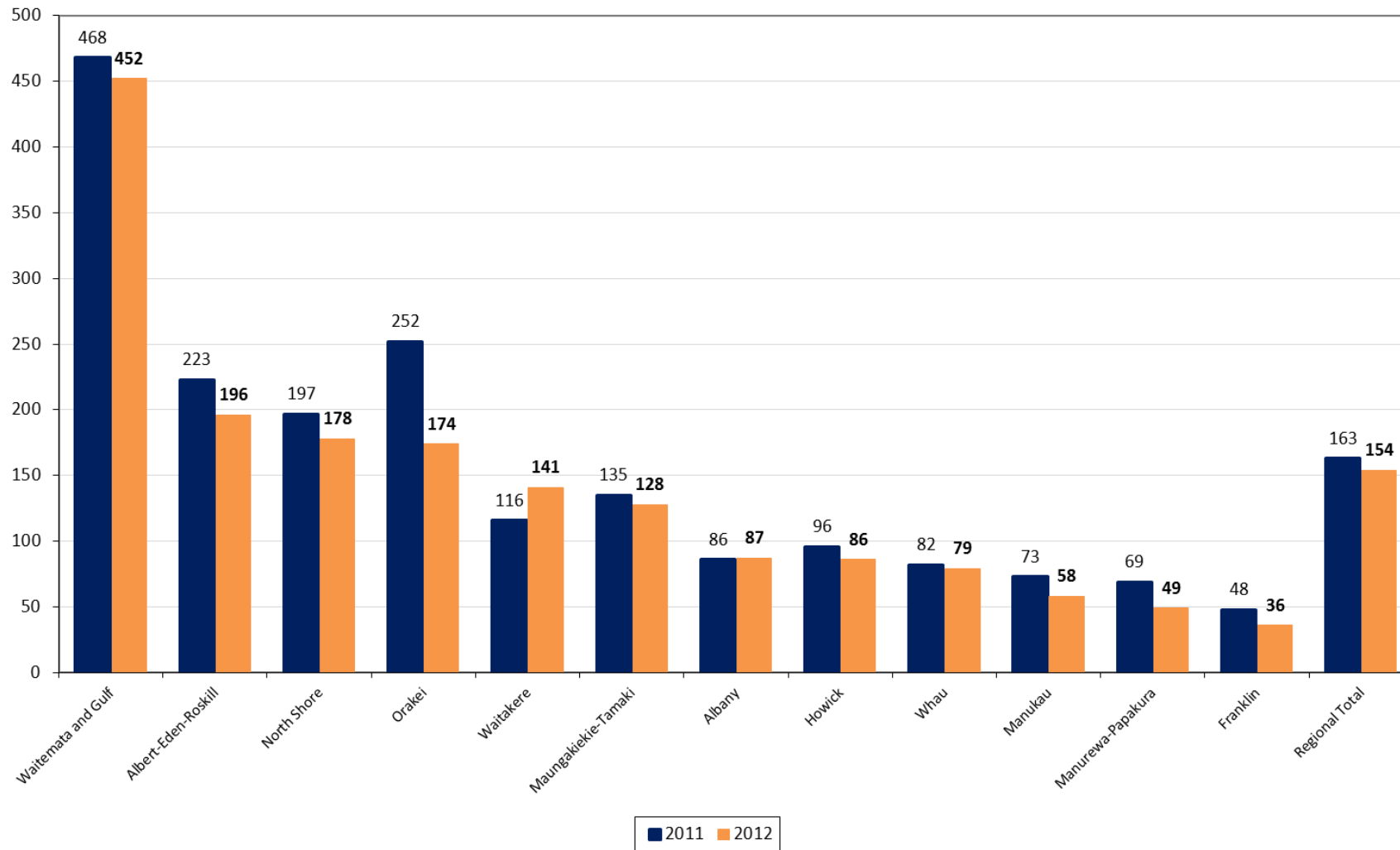
- Of the sites monitored in both 2011 and 2012, the average number of cycle movements in the region across the morning and evening periods has declined (154 per site in 2012 compared with 163 per site in 2011 – a decrease of 6 per cent).
- However, these figures mask considerable variation between wards. Waitakere (up 22 per cent), have experienced a notable increase in average total cycle movements. In contrast, Orakei has experienced a decline in average total cycle movements since 2011 (down from 252 movements per site in 2011 to 174 this year, a decrease of 31 per cent) (Figures 2.1 and 2.2).

<sup>5</sup> It is important to note that this figure represents individual cyclist movements rather than total cyclist numbers. The limitations of the methodology used mean that, due to the close proximity of sites to one another (particularly in the Auckland CBD), it is possible for the same cyclist to be counted at more than one site. It is also possible to 'double count' cyclists if they use the same intersection more than once during a shift. At the same time, there will be many cycle trips that will not be counted at all by this methodology, if a cyclist's route does not pass through a monitoring location. Because of these limitations, it cannot be said that 13,215 different cyclists were counted on the Auckland region's roads using these sites; the actual number of cyclists, and the number of cycle trips they take, may be higher or lower than the number of cycle movements counted through this methodology.

Figure 2.1: Average and Range of Total Cyclist Movements by Ward in 2012 (All 83 Sites)



**Figure 2.2: Average Cyclist Movements by Ward - 2011-2012 (n)**



Note: To allow for accurate time series comparisons, average site calculation for 2011 for Waitemata and Gulf wards exclude Khyber Pass/Broadway, a site monitored for the first time in 2012.

- Of the 83 sites monitored in the Auckland region, the busiest is the Tamaki Drive/The Strand intersection with a total of 944 movements (down from 1059 movements last year).
- Tom Pearce/George Bolt Memorial Drive intersection has the lightest cyclist traffic (15 movements, down from 54 movements in 2011).
- Thirty-five per cent of the sites (29 of the 82 sites monitored in 2011 and 2012) have recorded increases in total cyclist numbers this year compared with 2011. The intersections with the biggest increases are:
  - Luckens/Hobsonville Road, Albany and Waitakere wards – up from 52 to 112 movements (115 per cent);
  - Henderson Creek, Waitakere ward – up from 66 to 116 movements (76 per cent); and
  - Oteha Valley Road/SH17/Albany Highway, Albany ward – up from 82 to 128 movements (56 per cent).
- In contrast, the number of total cyclists recorded at 51 sites is lower than last year. The most notable decreases are at:
  - Tom Pearce/George Bolt Memorial Drive, Manukau – down from 54 to 15 movements (72 per cent);
  - McKenzie/Coronation/Walmsley Road, Manukau ward – down from 93 to 48 movements (48 per cent); and
  - Harris/Smales Road, Howick ward – down from 75 to 44 movements (41 per cent).

**Table 2.2: Summary Of Total Cyclist Movements  
2007-2012 (n) – 6:30am to 9:00am and 4:00pm to 7:00pm**

<b>Site Number</b>	<b>Location</b>	<b>Area</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>Change 11-12</b>	<b>Change 07-12</b>
10	Tamaki Drive/The Strand	Waitemata and Gulf	900	786	603	936	1059	<b>944</b>	<b>-11%</b>	<b>5%</b>
8	Symonds Street/Karangahape Road	Waitemata and Gulf	639	621	528	597	690	<b>732</b>	<b>6%</b>	<b>15%</b>
9	Karangahape Road/Queen Street	Waitemata and Gulf	507	424	459	582	554	<b>573</b>	<b>3%</b>	<b>13%</b>
13	Ian McKinnon/Newton Road	Waitemata and Gulf	-	-	291	374	560	<b>503</b>	<b>-10%</b>	-
2	Ponsonby/Karangahape Road	Waitemata and Gulf	487	415	370	559	511	<b>498</b>	<b>-3%</b>	<b>2%</b>
7	North Western Cycleway/St Lukes	Albert-Eden-Roskill	324	331	310	432	513	<b>429</b>	<b>-16%</b>	<b>32%</b>
58	North Western Cycleway/near Te Atatu Road off-ramp	Waitakere	232	272	355	388	345	<b>425</b>	<b>23%</b>	<b>83%</b>
6	North Western Cycleway/Great North Road	Albert-Eden-Roskill	232	369	286	485	486	<b>405</b>	<b>-17%</b>	<b>75%</b>
22	Ferry Terminal	Waitemata and Gulf	380	316	248	395	391	<b>389</b>	<b>-1%</b>	<b>2%</b>
17	Onehunga Harbour Road	Maungakiekie-Tamaki	249	220	180	257	310	<b>323</b>	<b>4%</b>	<b>30%</b>
35	Lake Road, by Takapuna Grammar	North Shore	192	297	295	327	316	<b>321</b>	<b>2%</b>	<b>67%</b>
36	Hurstmere Road/Killarney Street	North Shore	121	252	318	302	304	<b>262</b>	<b>-14%</b>	<b>117%</b>
52	Central Park Drive	Waitakere	127	157	212	200	212	<b>246</b>	<b>16%</b>	<b>94%</b>
42	Shakespeare/East Coast Road	North Shore	137	250	310	305	286	<b>238</b>	<b>-17%</b>	<b>74%</b>
37	Taharoto/Northcote Road	North Shore	162	270	202	229	307	<b>218</b>	<b>-29%</b>	<b>35%</b>
11	Remuera/Orakei Road	Orakei	195	189	187	244	280	<b>213</b>	<b>-24%</b>	<b>9%</b>
3	Great North/Carrington Road	Albert-Eden-Roskill	235	231	193	314	232	<b>206</b>	<b>-11%</b>	<b>-12%</b>
12	Manukau Road/Greenlane West	Albert-Eden-Roskill	225	205	176	257	227	<b>205</b>	<b>-10%</b>	<b>-9%</b>
72	Te Atatu/Old Te Atatu Road/Tatau Way	Waitakere	-	111	134	207	141	<b>193</b>	<b>37%</b>	-
1	Victoria/Wellesley/Halsey Street	Waitemata and Gulf	160	136	124	162	225	<b>192</b>	<b>-15%</b>	<b>20%</b>
5	Dominion/Balmoral Road	Albert-Eden-Roskill	237	201	183	205	197	<b>188</b>	<b>-5%</b>	<b>-21%</b>

Site Number	Location	Area	2007	2008	2009	2010	2011	2012	Change 11-12	Change 07-12
39	Upper Harbour/Albany Highway	Albany	25	98	138	158	148	187	26%	648%
87	Triangle/Huruhuru Road	Waitakere	-	-	-	137	121	177	46%	-
14	Mount Albert/New North Road	Albert-Eden-Roskill	156	164	142	209	201	170	-15%	9%
16	Jervois Road/Wallace Street	Waitemata and Gulf	-	-	111	167	148	141	-5%	-
47	Oteha Valley/East Coast Road	Albany	59	114	138	168	129	137	6%	132%
78	Lagoon Drive/Church Crescent	Maungakiekie-Tamaki	-	-	129	195	163	137	-16%	-
20	St Heliers Bay/West Tamaki Road	Maungakiekie-Tamaki/Orakei	208	167	108	170	224	135	-40%	-35%
53	326 Te Atatu Road, near Covil Avenue	Waitakere	87	107	138	127	127	135	6%	55%
21	Great South Road/Campbell Road/Main Highway	Albert-Eden-Roskill/Maungakiekie-Tamaki	174	114	151	171	138	132	-4%	-24%
73	Blockhouse Bay/Great North Road	Albert-Eden-Roskill/Whau	-	117	119	141	129	129	0%	-
40	Oteha Valley Road/SH17/Albany Highway	Albany	19	48	72	91	82	128	56%	574%
80	Pakuranga Road/Ti Rakau Drive	Howick	-	-	123	162	124	127	2%	-
38	Rosedale/East Coast Road	Albany	76	98	159	152	143	118	-17%	55%
48	Henderson Creek	Waitakere	46	30	73	84	66	116	76%	152%
55	Swanson/Ranui Station Road/Armada Drive	Waitakere	62	86	103	102	132	115	-13%	85%
51	Luckens/Hobsonville Road	Albany/Waitakere	32	41	77	95	52	112	115%	250%
70	Squadron Drive/Buckley Avenue*	Albany	-	35	68	94	83	110	33%	-
41	Wairau/Glenfield Road	North Shore	64	73	80	91	93	105	13%	64%
4	Patiki/Rosebank Road	Whau	82	79	72	90	121	95	-21%	16%
75	Stanley Street/Grafton Road	Waitemata and Gulf	-	65	96	93	74	94	27%	-
84	Behind Rodney District Council Building	Albany	-	-	86	95	138	89	-36%	-
30	Great South/East Tamaki Road	Manukau	73	51	63	65	89	86	-3%	18%
34	Te Irirangi Drive/Ti Rakau Drive	Howick	81	75	59	78	76	86	13%	6%

Site Number	Location	Area	2007	2008	2009	2010	2011	2012	Change 11-12	Change 07-12
33	Bucklands Beach/Pakuranga Road	Howick	140	130	94	114	107	85	-21%	-39%
49	Triangle Road/Don Buck Road	Waitakere	67	61	56	90	88	83	-6%	24%
23	Great South/Bairds Road	Manukau	68	56	57	71	89	81	-9%	19%
19	Ellerslie Panmure Highway/Lunn Ave	Maungakiekie-Tamaki	118	94	82	100	77	79	3%	-33%
24	Great South Road/Te Irirangi Drive/Cavendish Drive	Manukau	73	51	41	72	94	78	-17%	7%
18	Great South Road/High Street/Atkinson/Park Avenue	Manukau	84	60	49	61	71	75	6%	-11%
43	Glenfield/Coronation Road	North Shore	28	75	78	93	52	73	40%	161%
85	Rathgar/Pomaria Road	Waitakere	-	-	85	99	68	73	7%	-
50	Lincoln Road/Fairdene Avenue	Waitakere	40	55	43	56	54	67	24%	68%
46	Rosedale/Bush Road	Albany	31	73	72	109	85	63	-26%	103%
45	Beach/Browns Bay Road	Albany	19	45	59	77	75	61	-19%	221%
54	Te Atatu Road/Elcoat Avenue	Waitakere	50	45	69	52	48	57	19%	14%
65	Great South Road/Rosehill Drive	Manurewa-Papakura	53	72	59	62	73	57	-22%	8%
15	Richardson Road/Maioro Street	Albert-Eden-Roskill/Whau	-	-	21	39	37	53	43%	-
44	Birkenhead Ave/Mokoia Road	North Shore	40	49	57	75	45	52	16%	30%
76	Waikaraka Cycle Way	Maungakiekie-Tamaki	-	54	51	42	65	52	-20%	-
71	Highbrook Drive	Manukau	-	29	38	40	53	50	-6%	-
81	Te Irirangi Drive/Ormiston Road	Howick/Manukau	-	-	33	66	56	50	-11%	-
66	Great South Road/Taka Street	Manurewa-Papakura	58	58	36	43	60	49	-18%	-16%
28	Massey/Buckland Road	Manukau	43	31	39	45	53	48	-9%	12%
32	McKenzie/Coronation/Walmsley Road	Manukau	70	57	52	87	93	48	-48%	-31%
31	Wyllie Avenue/Puhinui Road	Manukau	38	33	35	57	75	47	-37%	24%
88	Keith Hay Park	Albert-Eden-Roskill	-	-	-	53	69	47	-32%	-



Site Number	Location	Area	2007	2008	2009	2010	2011	2012	Change 11-12	Change 07-12
74	Apirana Avenue/Pilkington/Tripoli Road	Maungakiekie-Tamaki	-	61	32	60	55	46	-16%	-
26	Great South/Browns/Orams Road	Manurewa-Papakura	60	55	39	58	70	44	-37%	-27%
68	Queen/Harris Street	Franklin	101	83	95	57	67	44	-34%	-56%
79	Harris/Smales Road	Howick	-	-	60	62	75	44	-41%	-
56	3 Rankin Avenue	Whau	31	38	38	32	42	38	-10%	23%
57	West Coast/Rosier Road	Waitakere	48	37	62	60	60	38	-37%	-21%
61	D'Oyly Reserve cycleway	Albany	24	103	9	44	58	35	-40%	46%
82	Jelas/Moffatt Road	Albany	-	-	38	39	30	34	13%	-
63	Gulf Harbour Drive/Laurie Southwick Parade	Albany	56	44	22	37	39	33	-15%	-41%
59	Whangaparaoa Road, near Red Beach Intersection	Albany	29	31	26	29	26	28	8%	-3%
69	Edinburgh/Tobin Street	Franklin	35	40	34	28	28	28	0%	-20%
60	Whangaparaoa Road, near SH1 Intersection	Albany	28	20	12	23	22	20	-9%	-29%
25	Tom Pearce/George Bolt Memorial Drive	Manukau	-	-	27	12	54	15	-72%	-
	<b>Total (60 sites since 2007)^</b>		<b>8417</b>	<b>8783</b>	<b>8427</b>	<b>10659</b>	<b>10917</b>	<b>10275</b>	<b>-6%</b>	<b>22%</b>
	<b>Total (67 sites since 2008)^</b>		-	<b>9255</b>	<b>8965</b>	<b>11336</b>	<b>11517</b>	<b>10949</b>	<b>-5%</b>	-
	<b>Total (78 sites in 2009)</b>		-	-	<b>9969</b>	<b>12646</b>	<b>12970</b>	<b>12215</b>	<b>-6%</b>	-
	<b>Total (80 sites in 2010)</b>		-	-	-	<b>12836</b>	<b>13160</b>	<b>12439</b>	<b>-5%</b>	-
89	Sunnynook/East Coast Road	Albany/North Shore	-	-	-	-	174	155	-11%	-
64	Porchester Road/Walters Road	Manurewa-Papakura	50	46	49	-	72	44	-39%	-12%
	<b>Total (82 sites in 2011)</b>		-	-	-	-	<b>13406</b>	<b>12638</b>	<b>-6%</b>	-
90	Broadway/Khyber Pass	Waitemata and Gulf	-	-	-	-	-	577	-	-
	<b>Total (83 sites in 2012)</b>		-	-	-	-	-	<b>13215</b>	-	-

^Note that the evening count for D'Oyly Reserve cycleway (site 61) in 2008 is considered as an outlier, so the total figures exclude this outlier for more accurate comparison.

\*Note that the Squadron Drive/Buckley Avenue (site 70) is the relocated site from previous Upper Harbour Drive/Buckley Avenue, so previous results are not directly comparable.

- Overall, 90 per cent of cyclists in the Auckland region are adults in 2012 (unchanged from 2011). Of the twelve wards monitored, the Waitemata and Gulf ward has the highest proportion of cyclists who are adults (99 per cent) whilst Albany ward has the greatest share of cyclists identified as school children (23 per cent).
- Almost all cyclists are wearing a helmet (91 per cent, unchanged from previous years). Orakei ward has the highest proportion of cyclists who are wearing a helmet (98 per cent) whilst the Franklin ward has the greatest share of cyclists who are not wearing helmets (42 per cent).
- Eighty-two per cent of all cyclists observed in the Auckland region throughout the monitoring period are male; fifteen per cent are female. Manukau ward has the highest proportion of cyclists who are male (90 per cent), while Albert/Eden/Roskill, North Shore, Orakei and Waitemata and Gulf ward has the greatest share of female cyclists (16 per cent in each ward).
- On average, 61 per cent of all cyclists are riding on the road (unchanged from last year). Twenty-one per cent of cyclists are riding on an off-road cycleway, stable from 18 per cent in 2011. Orakei ward has the highest share of cyclists who are riding on the road (91 per cent, stable from 90 per cent last year), while Waitakere ward has the greatest share of cyclists who are using an off-road cycleway (43 per cent, stable from 44 per cent in 2011). Franklin ward has the highest proportion of footpath riders (51 per cent, down from 67 per cent 12 months ago).

**Table 2.3: Aggregate Totals of Cyclist Characteristics 2007-2012 (%)**

	<i>Aggregate Total (2007)</i>	<i>Aggregate Total (2008)</i>	<i>Aggregate Total (2009)</i>	<i>Aggregate Total (2010)</i>	<i>Aggregate Total (2011)</i>	<i>Aggregate Total (2012)</i>
<b>Cyclist Type</b>						
Adult	89	87	88	89	90	<b>90</b>
School child	11	13	12	11	10	<b>10</b>
<b>Helmet Wearing</b>						
Helmet on head	90	90	91	91	91	<b>91</b>
No helmet	10	10	9	9	9	<b>9</b>
<b>Gender</b>						
Male	-	-	-	-	79	<b>82</b>
Female	-	-	-	-	16	<b>15</b>
Can't tell	-	-	-	-	5	<b>3</b>
<b>Where Riding</b>						
Road	68	72	61	62	61	61
Footpath	21	21	25	25	21	18
Off-road cycleway	10	7	14	13	18	21
<b>Base:</b>	<b>8417</b>	<b>9255</b>	<b>9969</b>	<b>12836</b>	<b>13406</b>	<b>13215</b>

Table 2.4: Summary of Cyclist Characteristics by Ward in 2012

	<i>Albany</i>	<i>North Shore</i>	<i>Wai-takere</i>	<i>Waite-mata and Gulf</i>	<i>Albert/Eden/Roskill</i>	<i>Whau</i>	<i>Orakei</i>	<i>Maungakiekie-Tamaki</i>	<i>Howick</i>	<i>Manukau</i>	<i>Manurewa-Papakura</i>	<i>Franklin</i>
<b>Cyclist Type</b>												
Adult	77	86	84	99	91	94	86	92	89	84	79	81
School child	23	14	16	1	9	6	14	8	11	16	21	19
<b>Helmet Wearing</b>												
Helmet on head	94	97	89	91	91	88	98	92	91	73	82	58
No helmet	6	3	11	9	9	12	2	8	9	27	18	42
<b>Gender</b>												
Male	82	80	86	78	82	85	79	84	87	90	81	83
Female	15	16	13	16	16	14	16	13	8	8	14	13
Can't tell	3	4	1	6	2	1	5	3	5	1	4	4
<b>Where Riding</b>												
Road	75	80	35	73	43	57	91	70	61	61	62	49
Footpath	12	17	23	15	17	33	9	22	39	29	37	51
Off-road cycleway	13	3	43	11	40	10	0	9	0	10	1	0
<b>Base:</b>	<b>1310</b>	<b>1424</b>	<b>1837</b>	<b>4643</b>	<b>1964</b>	<b>315</b>	<b>348</b>	<b>904</b>	<b>392</b>	<b>578</b>	<b>194</b>	<b>72</b>

Note: Orange highlighting denotes the ward with the highest proportion of a particular characteristic when compared to the other wards.

## 2.2 Morning Peak

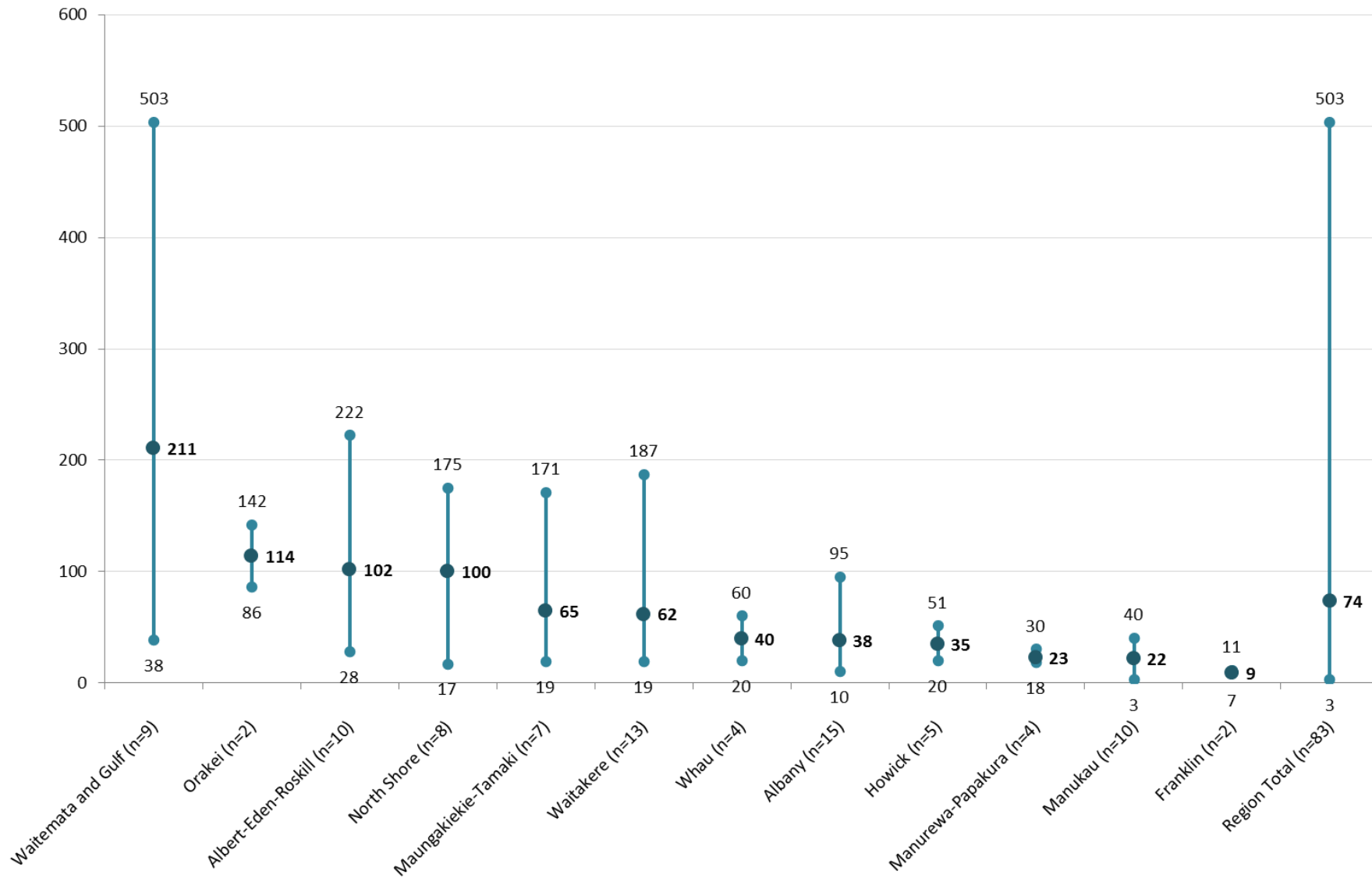
### *Key Points*

- A total of 6357<sup>6</sup> cyclist movements were recorded across the 83 sites monitored in 2012.
- Across the the 82 sites monitored in 2011 and 2012 in the morning peak period (between 6:30am and 9:00am), 6065 cyclist movements were recorded in 2012. This represents a 6 per cent decrease from 2011 (6457 movements).
- As shown in Figure 2.3 and 2.4, the average volume of morning cyclists across the 83 sites in the Auckland region is 74 cycle movements in 2012, down from 79 movements last year. Of the twelve wards, the average number of morning cyclists is highest in the Waitemata and Gulf ward (211 movements) and lowest in Franklin ward (9 movements).

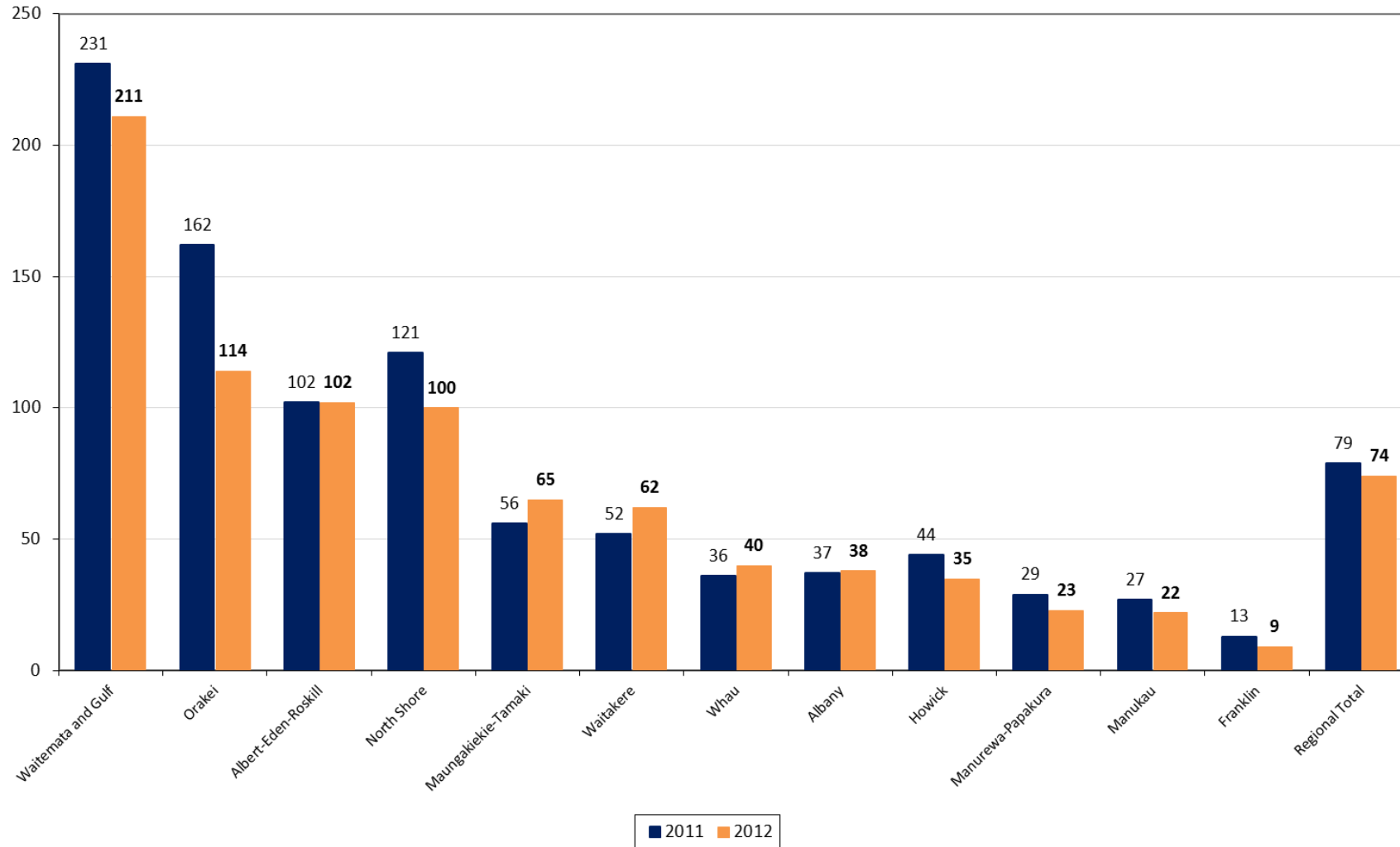
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<sup>6</sup> It is important to note that this figure represents individual cyclist movements rather than total cyclist numbers. The limitations of the methodology used mean that, due to the close proximity of sites to one another (particularly in Auckland City's CBD), it is possible for the same cyclist to be counted at more than one site. It is also possible to 'double count' cyclists if they use the same intersection more than once during a shift. At the same time, there will be many cycle trips that were not counted at all by this methodology, if a cyclist's route does not pass through a monitoring location. Because of these limitations, it cannot be said that 6457 different cyclists were counted on the Auckland region's roads using these sites; the actual number of cyclists, and the number of cycle trips they take, may be higher or lower than the number of cycle movements counted through this methodology.

**Figure 2.3: Average and Range of Morning Cyclist Movements by Ward in 2012 (All 83 Sites)**



**Figure 2.4: Average Morning Cyclist Movements by Ward - 2011-2012 (n)**



Note: To allow for accurate time series comparisons, average site calculation for 2011 for Waitemata and Gulf wards exclude Khyber Pass/Broadway, a site monitored for the first time in 2012.

- As in previous years, the busiest site out of the 83 sites in the morning peak is the intersection of Tamaki Drive and The Strand (503 movements, down from 630 movements in 2011), while the lowest level of morning cyclist traffic was observed at the Tom Pearce/George Bolt Memorial Drive intersection (3 movements).
- Thirty-nine per cent of the sites (32 of the 82 sites monitored in 2011 and 2012) have recorded increases in total morning cyclist numbers this year compared with 2011. The most notable increases are at:
  - Luckens/Hobsonville Road, Albany and Waitakere wards – up from 14 to 42 movements (200 per cent);
  - Richardson Road/Maioro Street, Albert-Eden-Roskill and Whau wards– up from 15 to 29 movements (93 per cent); and
  - Great South Road/High Street/Atkinson/Park Avenue, Manukau ward – up from 20 to 34 movements (70 per cent).
- In contrast, the number of morning cyclists recorded at 49 sites is lower than last year. The most notable decreases are at:
  - Tom Pearce/George Bolt Memorial Drive, Manukau ward – down from 15 to 3 movements (80 per cent); and
  - Porchester Road/Walters Road, Manurewa-Papakura ward – down from 33 to 18 movements (45 per cent).



**Table 2.5: Summary Of Morning Cyclist Movements  
2007-2012 (n) – 6:30am to 9:00am**

Site Number	Location	Area	2007	2008	2009	2010	2011	2012	Change 11-12	Change 07-12
10	Tamaki Drive/The Strand	Waitemata and Gulf	480	416	321	498	630	<b>503</b>	<b>-20%</b>	<b>5%</b>
8	Symonds Street/Karangahape Road	Waitemata and Gulf	290	285	246	283	317	<b>338</b>	<b>7%</b>	<b>17%</b>
9	Karangahape Road/Queen Street	Waitemata and Gulf	246	212	238	272	256	<b>266</b>	<b>4%</b>	<b>8%</b>
7	North Western Cycleway/St Lukes	Albert-Eden-Roskill	152	156	155	222	240	<b>222</b>	<b>-8%</b>	<b>46%</b>
13	Ian McKinnon/Newton Road	Waitemata and Gulf	-	-	139	190	236	<b>219</b>	<b>-7%</b>	<b>-</b>
2	Ponsonby/Karangahape Road	Waitemata and Gulf	226	199	176	242	222	<b>204</b>	<b>-8%</b>	<b>-10%</b>
6	North Western Cycleway/ Great North Road	Albert-Eden-Roskill	98	156	145	244	204	<b>201</b>	<b>-1%</b>	<b>105%</b>
22	Ferry Terminal	Waitemata and Gulf	195	158	137	198	205	<b>189</b>	<b>-8%</b>	<b>-3%</b>
58	North Western Cycleway/near Te Atatu Road off-ramp	Waitakere	102	121	157	179	155	<b>187</b>	<b>21%</b>	<b>83%</b>
35	Lake Road, by Takapuna Grammar	North Shore	127	200	166	186	220	<b>175</b>	<b>-20%</b>	<b>38%</b>
17	Onehunga Harbour Road	Maungakiekie-Tamaki	93	88	74	98	139	<b>171</b>	<b>23%</b>	<b>84%</b>
36	Hurstmere Road/Killarney Street	North Shore	76	134	186	180	191	<b>154</b>	<b>-19%</b>	<b>103%</b>
42	Shakespeare/East Coast Road	North Shore	82	127	177	146	181	<b>145</b>	<b>-20%</b>	<b>77%</b>
11	Remuera/Orakei Road	Orakei	86	100	107	149	173	<b>142</b>	<b>-18%</b>	<b>65%</b>
37	Taharoto/Northcote Road	North Shore	111	160	98	117	202	<b>141</b>	<b>-30%</b>	<b>27%</b>
3	Great North/Carrington Road	Albert-Eden-Roskill	114	95	97	150	103	<b>112</b>	<b>9%</b>	<b>-2%</b>
52	Central Park Drive	Waitakere	61	68	91	94	100	<b>112</b>	<b>12%</b>	<b>84%</b>
12	Manukau Road/Greenlane West	Albert-Eden-Roskill	103	92	84	130	120	<b>110</b>	<b>-8%</b>	<b>7%</b>
72	Te Atatu/Old Te Atatu Road/Tatau Way	Waitakere	-	56	66	105	63	<b>103</b>	<b>63%</b>	<b>-</b>
5	Dominion/Balmoral Road	Albert-Eden-Roskill	114	90	85	91	99	<b>97</b>	<b>-2%</b>	<b>-15%</b>
14	Mount Albert/New North Road	Albert-Eden-Roskill	75	68	59	91	97	<b>94</b>	<b>-3%</b>	<b>25%</b>
20	St Heliers Bay/West Tamaki Road	Maungakiekie-Tamaki/Orakei	139	107	61	98	150	<b>86</b>	<b>-43%</b>	<b>-38%</b>

Site Number	Location	Area	2007	2008	2009	2010	2011	2012	Change 11-12	Change 07-12
1	Victoria/Wellesley/Halsey Street	Waitemata and Gulf	70	57	59	82	116	82	-29%	17%
53	326 Te Atatu Road, near Covil Avenue	Waitakere	44	52	79	65	73	75	3%	70%
87	Triangle/Huruhuru Road	Waitakere	-	-	-	59	52	71	37%	-
21	Great South Road/Campbell Road/Main Highway	Albert-Eden-Roskill/Maungakiekie-Tamaki	89	53	64	69	60	68	13%	-24%
47	Oteha Valley/East Coast Road	Albany	42	40	69	87	53	68	28%	62%
38	Rosedale/East Coast Road	Albany	54	52	105	93	73	67	-8%	24%
78	Lagoon Drive/Church Crescent	Maungakiekie-Tamaki	-	-	57	100	65	66	2%	-
16	Jervois Road/Wallace Street	Waitemata and Gulf	-	-	60	88	73	62	-15%	-
84	Behind Rodney District Council Building	Albany	-	-	75	73	72	61	-15%	-
73	Blockhouse Bay/Great North Road	Albert-Eden-Roskill/Whau	-	57	57	66	56	60	7%	-
4	Patiki/Rosebank Road	Whau	37	34	38	38	56	52	-7%	41%
39	Upper Harbour/Albany Highway	Albany	14	54	63	65	57	51	-11%	264%
80	Pakuranga Road/Ti Rakau Drive	Howick	-	-	46	70	59	51	-14%	-
51	Luckens/Hobsonville Road	Albany/Waitakere	20	25	26	41	14	42	200%	110%
19	Ellerslie Panmure Highway/Lunn Ave	Maungakiekie-Tamaki	52	42	31	44	31	40	29%	-23%
30	Great South/East Tamaki Road	Manukau	36	24	33	25	44	40	-9%	11%
33	Bucklands Beach/Pakuranga Road	Howick	68	53	51	45	43	40	-7%	-41%
40	Oteha Valley Road/SH17/Albany Highway	Albany	4	20	25	29	26	40	54%	900%
23	Great South/Bairds Road	Manukau	32	27	29	34	40	39	-3%	22%
48	Henderson Creek	Waitakere	14	11	27	38	24	39	63%	179%
75	Stanley Street/Grafton Road	Waitemata and Gulf	-	36	49	47	27	38	41%	-
85	Rathgar/Pomaria Road	Waitakere	-	-	32	53	33	38	15%	-
41	Wairau/Glenfield Road	North Shore	34	39	42	38	41	36	-12%	6%

Site Number	Location	Area	2007	2008	2009	2010	2011	2012	Change 11-12	Change 07-12
43	Glenfield/Coronation Road	North Shore	16	36	36	37	27	35	30%	119%
18	Great South Road/High Street/Atkinson/Park Avenue	Manukau	38	30	21	25	20	34	70%	-11%
50	Lincoln Road/Fairdene Avenue	Waitakere	13	19	21	21	26	34	31%	162%
54	Te Atatu Road/Elcoat Avenue	Waitakere	26	27	37	30	30	34	13%	31%
34	Te Irirangi Drive/Ti Rakau Drive	Howick	36	36	30	30	37	30	-19%	-17%
49	Triangle Road/Don Buck Road	Waitakere	24	29	21	27	35	30	-14%	25%
65	Great South Road/Rosehill Drive	Manurewa-Papakura	29	42	22	29	30	30	0%	3%
15	Richardson Road/Maioro Street	Albert-Eden-Roskill/Whau	-	-	8	14	15	29	93%	-
24	Great South Road/Te Irirangi Drive/Cavendish Drive	Manukau	34	25	19	28	41	28	-32%	-18%
45	Beach/Browns Bay Road	Albany	11	26	29	50	47	28	-40%	155%
70	Squadron Drive/Buckley Avenue*	Albany	-	17	23	37	34	28	-18%	-
76	Waikaraka Cycle Way	Maungakiekie-Tamaki	-	13	18	7	29	28	-3%	-
88	Keith Hay Park	Albert-Eden-Roskill	-	-	-	28	29	28	-3%	-
55	Swanson/Ranui Station Road/Armada Drive	Waitakere	15	21	37	34	47	27	-43%	80%
26	Great South/Browns/Orams Road	Manurewa-Papakura	25	32	21	21	29	24	-17%	-4%
46	Rosedale/Bush Road	Albany	15	36	26	48	29	22	-24%	47%
71	Highbrook Drive	Manukau	-	13	20	27	23	21	-9%	-
56	3 Rankin Avenue	Whau	16	17	21	12	16	20	25%	25%
79	Harris/Smales Road	Howick	-	-	35	25	35	20	-43%	-
82	Jelas/Moffatt Road	Albany	-	-	15	24	19	20	5%	-
32	McKenzie/Coronation/Walmsley Road	Manukau	28	21	22	38	32	19	-41%	-32%
57	West Coast/Rosier Road	Waitakere	19	18	28	31	25	19	-24%	0%
74	Apirana Avenue/Pilkington/Tripoli Road	Maungakiekie-Tamaki	-	22	12	30	14	19	36%	-

Site Number	Location	Area	2007	2008	2009	2010	2011	2012	Change 11-12	Change 07-12
66	Great South Road/Taka Street	Manurewa-Papakura	18	19	12	15	23	18	-22%	0%
81	Te Irirangi Drive/Ormiston Road	Howick/Manukau	-	-	13	25	24	18	-25%	-
44	Birkenhead Ave/Mokoia Road	North Shore	20	20	27	29	22	17	-23%	-15%
59	Whangaparaoa Road, near Red Beach Intersection	Albany	13	15	15	21	11	15	36%	15%
28	Massey/Buckland Road	Manukau	12	11	19	16	18	14	-22%	17%
61	D'Oyly Reserve cycleway	Albany	14	19	5	31	13	14	8%	0%
63	Gulf Harbour Drive/Laurie Southwick Parade	Albany	17	14	5	14	12	13	8%	-24%
68	Queen/Harris Street	Franklin	44	31	27	18	14	11	-21%	-75%
60	Whangaparaoa Road, near SH1 Intersection	Albany	11	9	6	13	7	10	43%	-9%
31	Wyllie Avenue/Puhinui Road	Manukau	18	8	12	23	13	8	-38%	-56%
69	Edinburgh/Tobin Street	Franklin	17	16	15	17	11	7	-36%	-59%
25	Tom Pearce/George Bolt Memorial Drive	Manukau	-	-	6	5	15	3	-80%	-
	<b>Total (60 sites since 2007)^</b>		<b>4109</b>	<b>4192</b>	<b>4135</b>	<b>5119</b>	<b>5370</b>	<b>4969</b>	<b>-7%</b>	<b>21%</b>
	<b>Total (67 sites since 2008)^</b>		-	<b>4406</b>	<b>4380</b>	<b>5438</b>	<b>5616</b>	<b>5266</b>	<b>-6%</b>	-
	<b>Total (78 sites in 2009)</b>		-	-	<b>4866</b>	<b>6105</b>	<b>6262</b>	<b>5853</b>	<b>-7%</b>	-
	<b>Total (80 sites in 2010)</b>		-	-	-	<b>6192</b>	<b>6343</b>	<b>5952</b>	<b>-6%</b>	-
89	Sunnynook/East Coast Road	Albany/North Shore	-	-	-	-	81	95	17%	-
64	Porchester Road/Walters Road	Manurewa-Papakura	22	19	19	-	33	18	-45%	-18%
	<b>Total (82 sites in 2011)</b>		-	-	-	-	<b>6457</b>	<b>6065</b>	<b>-6%</b>	-
90	Broadway/Khyber Pass	Waitemata and Gulf	-	-	-	-	-	292	-	-
	<b>Total (83 sites in 2012)</b>		-	-	-	-	-	<b>6357</b>	-	-

^Note that the evening count for D'Oyly Reserve cycleway (site 61) in 2008 is considered as an outlier, so the total figures exclude this outlier for more accurate comparison.

\*Note that the Squadron Drive/Buckley Avenue (site 70) is the new relocated site from previous Upper Harbour Drive/Buckley Avenue, so previous results are not directly comparable.

Total morning cyclist characteristics are shown in Table 2.6 below.

- Overall, 88 per cent of morning cyclists in the Auckland region are adults in 2011 (stable from 87 per cent in 2011). Of the twelve wards monitored, the Waitemata and Gulf ward again has the highest proportion of cyclists who are adults (99 per cent, unchanged from last year) whilst Albany ward has the greatest share of cyclists identified as school children (29 per cent).
- Almost all cyclists are wearing a helmet (92 per cent, stable from previous years). Orakei ward has the highest proportion of cyclists who are wearing a helmet (100 per cent) whilst the Franklin has the greatest share of cyclists not wearing helmets (67 per cent).
- Eighty percent of all morning cyclists are identified as male (up slightly from 77 per cent 12 months ago). Manukau and Franklin wards have the highest proportion of cyclists who are male (89 per cent each), while Albert-Eden-Roskill ward has the highest share of cyclists who are female (17 per cent).
- On average, 62 per cent of all cyclists are riding on the road (down slightly from 65 per cent last year). Twenty-one per cent of cyclists are riding on an off-road cycleway, up from 16 per cent 12 months ago. Orakei ward has the highest share of cyclists who are riding on the road (94 per cent), while Waitakere ward (44 per cent) has the greatest share of cyclists who are using an off-road cycleway. Franklin ward has the highest proportion of footpath riders (53 per cent).

**Table 2.6: Aggregate Totals of Morning Cyclist Characteristics - 2007-2012 (%)**

	<i>Aggregate Total (2007)</i>	<i>Aggregate Total (2008)</i>	<i>Aggregate Total (2009)</i>	<i>Aggregate Total (2010)</i>	<i>Aggregate Total (2011)</i>	<i>Aggregate Total (2012)</i>
<b>Cyclist Type</b>						
Adult	86	86	85	87	88	<b>88</b>
School child	14	14	15	13	12	<b>12</b>
<b>Helmet Wearing</b>						
Helmet on head	93	93	93	93	93	<b>92</b>
No helmet	7	7	7	7	7	<b>8</b>
<b>Gender</b>						
Male	-	-	-	-	77	<b>80</b>
Female	-	-	-	-	16	<b>15</b>
Can't tell	-	-	-	-	7	<b>5</b>
<b>Where Riding</b>						
Road	69	73	63	63	65	<b>62</b>
Footpath	21	20	23	23	19	<b>17</b>
Off-road cycleway	9	7	14	14	16	<b>21</b>
<b>Base:</b>	<b>4109</b>	<b>4406</b>	<b>4866</b>	<b>6192</b>	<b>6457</b>	<b>6357</b>

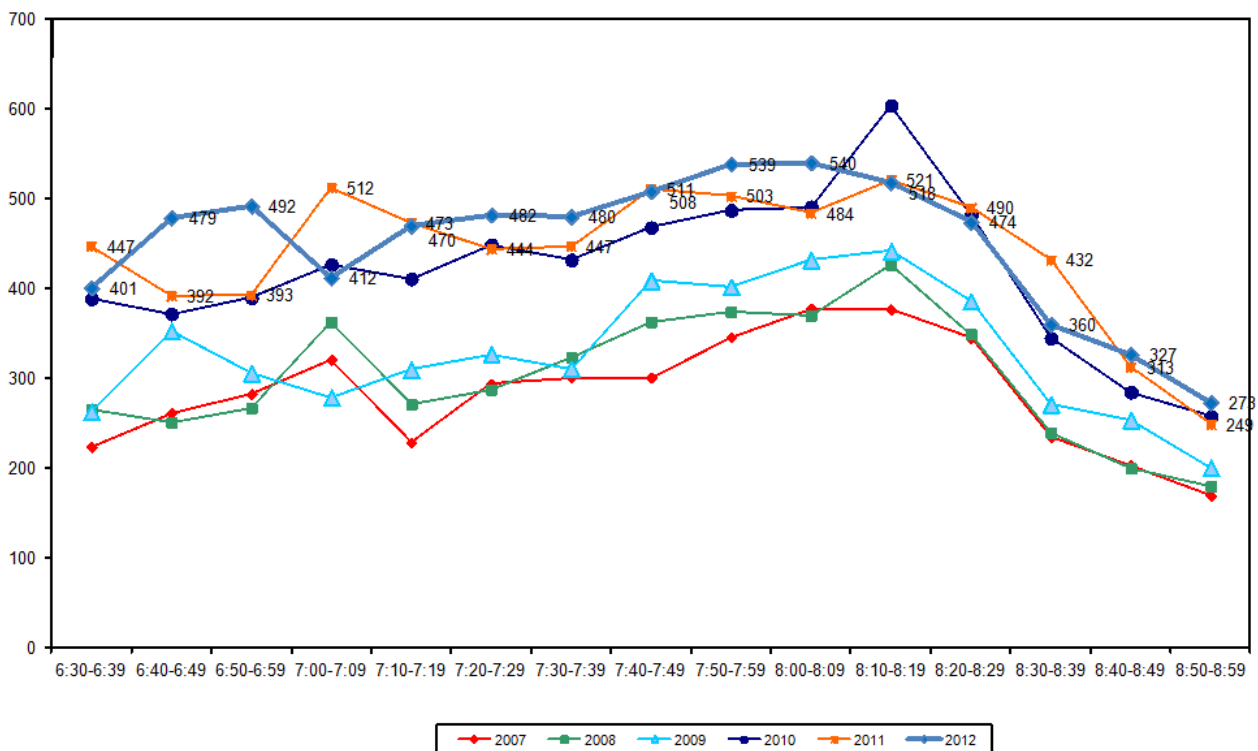
**Table 2.7: Summary of Morning Cyclist Characteristics by Ward in 2012**

	<i>Albany</i>	<i>North Shore</i>	<i>Wai- takere</i>	<i>Waite- mata and Gulf</i>	<i>Albert/ Eden/ Roskill</i>	<i>Whau</i>	<i>Orakei</i>	<i>Maunga- kieke- Tamaki</i>	<i>Howick</i>	<i>Manukau</i>	<i>Manu- rewa- Papakura</i>	<i>Franklin</i>
<b>Cyclist Type</b>												
Adult	71	83	81	99	89	92	89	84	81	83	76	83
School child	29	17	19	1	11	8	11	16	19	17	24	17
<b>Helmet Wearing</b>												
Helmet on head	96	98	91	93	91	86	100	93	90	78	91	33
No helmet	4	2	9	7	9	14	0	7	10	22	9	67
<b>Gender</b>												
Male	82	78	86	76	81	84	79	82	88	89	83	89
Female	16	16	14	16	17	15	14	14	8	8	9	6
Can't tell	2	6	0	8	2	1	7	4	4	3	8	6
<b>Where Riding</b>												
Road	69	79	32	78	43	55	94	75	58	59	62	47
Footpath	13	18	24	13	17	33	6	16	42	30	37	53
Off-road cycleway	18	3	44	9	40	11	0	9	0	11	1	0
<b>Base:</b>	<b>574</b>	<b>798</b>	<b>811</b>	<b>2193</b>	<b>1021</b>	<b>161</b>	<b>228</b>	<b>478</b>	<b>159</b>	<b>224</b>	<b>90</b>	<b>18</b>

Note: Orange highlighting denotes the ward with the highest proportion of a particular characteristic when compared to the other wards.

- Figure 2.5 shows the overall pattern of total morning cyclist volumes recorded at the 83 sites monitored in the Auckland region. Morning cyclist numbers remain steady over the monitoring period, decreasing from 8:10am and continuing to decline until the end of the morning peak period. Morning cyclist numbers peaked between 8:00am and 8:09am at 540 cyclist movements across all sites. There were at least 273 cycle movements recorded within any ten minute interval during the morning peak.

**Figure 2.5: Total Cyclist Frequency – Morning Peak**  
2007-2012 (n)





## 2.3 Evening Peak

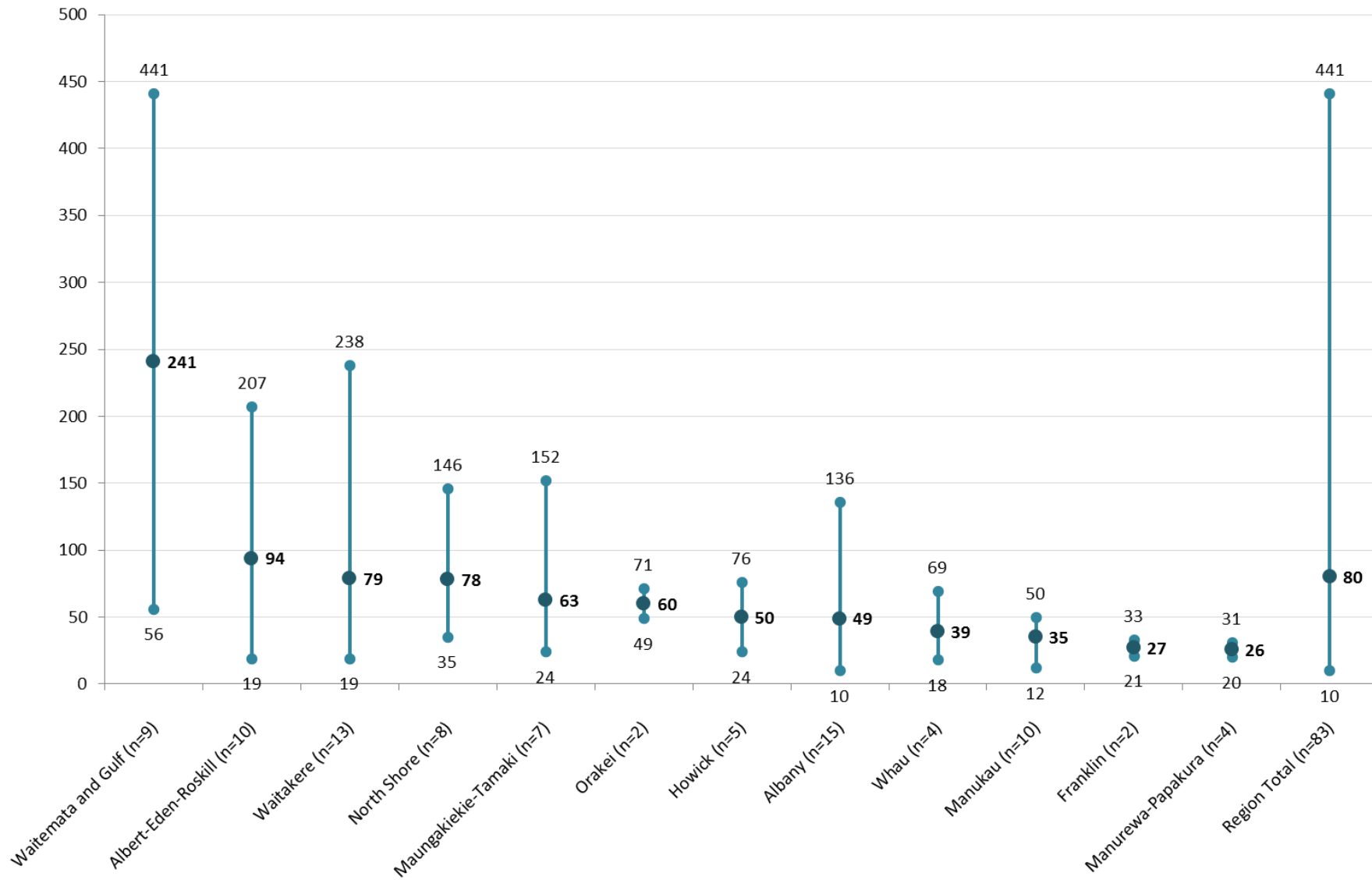
### *Key Points*

- A total of 6858<sup>7</sup> cyclist movements were recorded across the 83 sites monitored in 2012.
- Across the the 82 sites monitored in 2011 and 2012 in the evening peak period (between 4:00pm and 7:00pm), 6573 cyclist movements were recorded in 2012. This represents a 5 per cent decrease from 2011 (6644 movements).
- As shown in Figures 2.6 and 2.7, the average volume of evening cyclists across the 83 sites in the Auckland region is 80 cycle movements in 2012. Of the twelve wards, the average number of evening cyclists is highest in the Waitemata and Gulf ward (241 movements) and lowest in Manurewa-Papakura (26 movements).

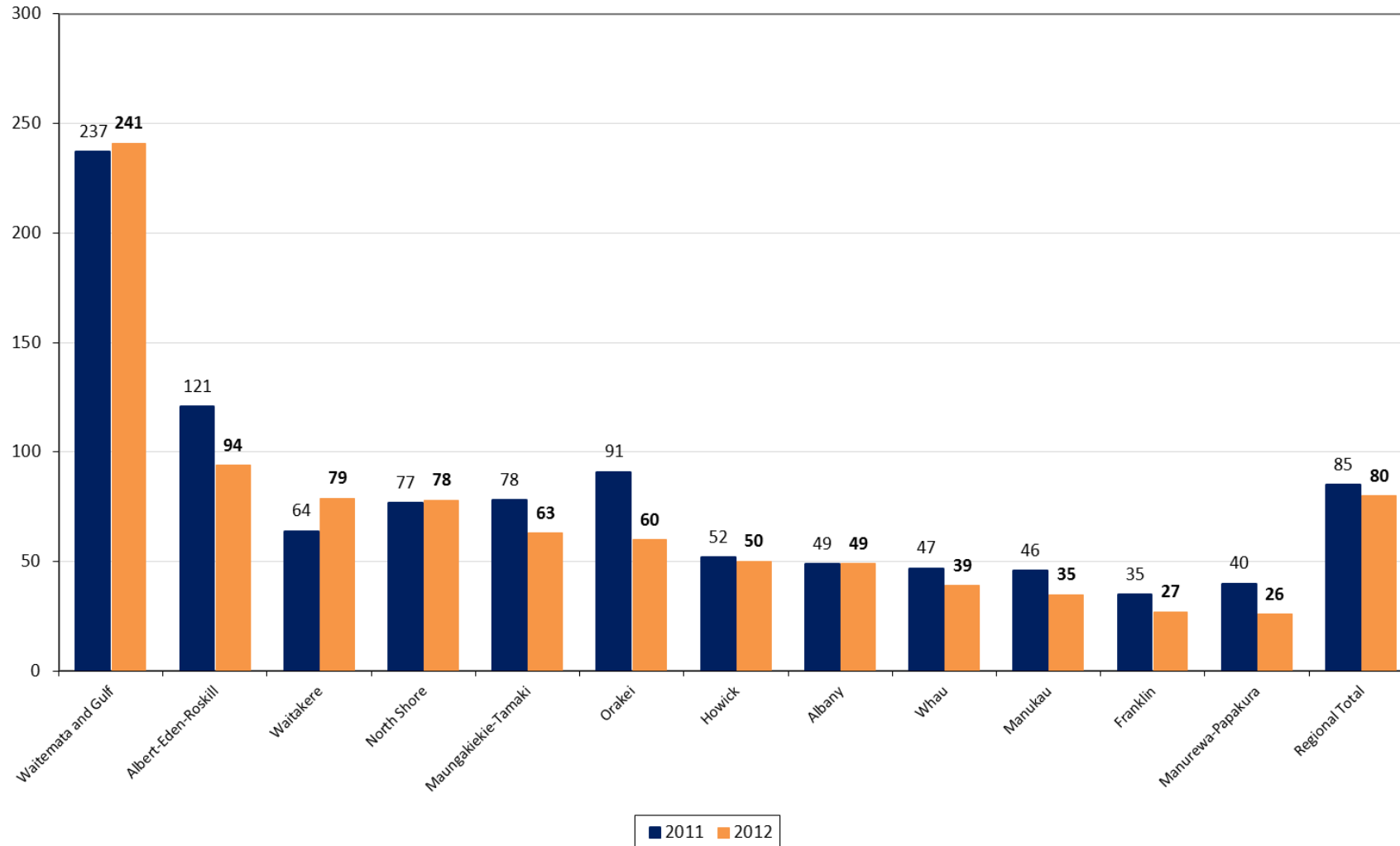
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<sup>7</sup> It is important to note that this figure represents individual cyclist movements rather than total cyclist numbers. The limitations of the methodology used mean that, due to the close proximity of sites to one another (particularly in Auckland City's CBD), it is possible for the same cyclist to be counted at more than one site. It is also possible to 'double count' cyclists if they use the same intersection more than once during a shift. At the same time, there will be many cycle trips that were not counted at all by this methodology, if a cyclist's route does not pass through a monitoring location. Because of these limitations, it cannot be said that 6949 different cyclists were counted on the Auckland region's roads using these sites; the actual number of cyclists, and the number of cycle trips they take, may be higher or lower than the number of cycle movements counted through this methodology.

**Figure 2.6: Average and Range of Evening Cyclist Movements by Ward in 2012 (All 83 Sites)**



**Figure 2.7: Average Evening Cyclist Movements by Ward  
2011-2012 (n)**



Note: To allow for accurate time series comparisons, average site calculation for 2011 for Waitemata and Gulf wards exclude Khyber Pass/Broadway, a site monitored for the first time in 2012.

- As in previous years, the busiest site of the 83 monitored in the evening period is the intersection of Tamaki Drive and The Strand (441 movements, up from 429 movements in 2011), while the lowest level of evening cyclist traffic was observed at Whangaparaoa Road, near SH1 Intersection in Albany ward (10 movements).
- Thirty-nine per cent of the sites (32 of the 82 sites monitored in 2011 and 2012) have recorded increases in total evening cyclist numbers this year compared with 2011. The most notable increases are at:
  - Tom Luckens/Hobsonville Road, Albany and Waitakere wards – up from 38 to 70 movements (84 per cent);
  - Henderson, Waitakere ward – up from 42 to 77 movements (83 per cent); and
  - Oteha Valley Road/SH17/Albany Highway, Albany ward – up from 56 to 88 movements (57 per cent).
- In contrast, the number of evening cyclists recorded at the 50 sites remaining sites is lower than last year. The most notable decreases are at:
  - Tom Pearce/George Bolt Memorial Drive, Manukau ward – down from 39 to 12 movements (69 per cent); and
  - Behind Rodney District Council Building, Albany ward – down from 66 to 28 movements (58 per cent).

**Table 2.8: Summary of Evening Cyclist Movements  
2007-2012 (n) – 4:00pm to 7:00pm**

<b>Site Number</b>	<b>Location</b>	<b>Area</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>Change 11-12</b>	<b>Change 07-12</b>
10	Tamaki Drive/The Strand	Waitemata and Gulf	420	370	282	438	429	<b>441</b>	<b>3%</b>	<b>5%</b>
8	Symonds Street/Karangahape Road	Waitemata and Gulf	349	336	282	314	373	<b>394</b>	<b>6%</b>	<b>13%</b>
9	Karangahape Road/Queen Street	Waitemata and Gulf	261	212	221	310	298	<b>307</b>	<b>3%</b>	<b>18%</b>
2	Ponsonby/Karangahape Road	Waitemata and Gulf	261	216	194	317	289	<b>294</b>	<b>2%</b>	<b>13%</b>
13	Ian McKinnon/Newton Road	Waitemata and Gulf	-	-	152	184	324	<b>284</b>	<b>-12%</b>	-
58	North Western Cycleway/near Te Atatu Road off-ramp	Waitakere	130	151	198	209	190	<b>238</b>	<b>25%</b>	<b>83%</b>
7	North Western Cycleway/St Lukes	Albert-Eden-Roskill	172	175	155	210	273	<b>207</b>	<b>-24%</b>	<b>20%</b>
6	North Western Cycleway/Great North Road	Albert-Eden-Roskill	134	213	141	241	282	<b>204</b>	<b>-28%</b>	<b>52%</b>
22	Ferry Terminal	Waitemata and Gulf	185	158	111	197	186	<b>200</b>	<b>8%</b>	<b>8%</b>
17	Onehunga Harbour Road	Maungakiekie-Tamaki	156	132	106	159	171	<b>152</b>	<b>-11%</b>	<b>-3%</b>
35	Lake Road, by Takapuna Grammar	North Shore	65	97	129	141	96	<b>146</b>	<b>52%</b>	<b>125%</b>
39	Upper Harbour/Albany Highway	Albany	11	44	75	93	91	<b>136</b>	<b>49%</b>	<b>1136%</b>
52	Central Park Drive	Waitakere	66	89	121	106	112	<b>134</b>	<b>20%</b>	<b>103%</b>
1	Victoria/Wellesley/Halsey Street	Waitemata and Gulf	90	79	65	80	109	<b>110</b>	<b>1%</b>	<b>22%</b>
36	Hurstmere Road/Killarney Street	North Shore	45	118	132	122	113	<b>108</b>	<b>-4%</b>	<b>140%</b>
87	Triangle/Huruhuru Road	Waitakere	-	-	-	78	69	<b>106</b>	<b>54%</b>	-
12	Manukau Road/Greenlane West	Albert-Eden-Roskill	122	113	92	127	107	<b>95</b>	<b>-11%</b>	<b>-22%</b>
3	Great North/Carrington Road	Albert-Eden-Roskill	121	136	96	164	129	<b>94</b>	<b>-27%</b>	<b>-22%</b>
42	Shakespeare/East Coast Road	North Shore	55	123	133	159	105	<b>93</b>	<b>-11%</b>	<b>69%</b>
5	Dominion/Balmoral Road	Albert-Eden-Roskill	123	111	98	114	98	<b>91</b>	<b>-7%</b>	<b>-26%</b>
72	Te Atatu/Old Te Atatu Road/Tatau Way	Waitakere	-	55	68	102	78	<b>90</b>	<b>15%</b>	-
40	Oteha Valley Road/SH17/Albany Highway	Albany	15	28	47	62	56	<b>88</b>	<b>57%</b>	<b>487%</b>

Site Number	Location	Area	2007	2008	2009	2010	2011	2012	Change 11-12	Change 07-12
55	Swanson/Ranui Station Road/Armada Drive	Waitakere	47	65	66	68	85	88	4%	87%
70	Squadron Drive/Buckley Avenue*	Albany	-	18	45	57	49	82	67%	-
16	Jervois Road/Wallace Street	Waitemata and Gulf	-	-	51	79	75	79	5%	-
37	Taharoto/Northcote Road	North Shore	51	110	104	112	105	77	-27%	51%
48	Henderson Creek	Waitakere	32	19	46	46	42	77	83%	141%
14	Mount Albert/New North Road	Albert-Eden-Roskill	81	96	83	118	104	76	-27%	-6%
80	Pakuranga Road/Ti Rakau Drive	Howick	-	-	77	92	65	76	17%	-
11	Remuera/Orakei Road	Orakei	109	89	80	95	107	71	-34%	-35%
78	Lagoon Drive/Church Crescent	Maungakiekie-Tamaki	-	-	72	95	98	71	-28%	-
51	Luckens/Hobsonville Road	Albany/Waitakere	12	16	51	54	38	70	84%	483%
41	Wairau/Glenfield Road	North Shore	30	34	38	53	52	69	33%	130%
47	Oteha Valley/East Coast Road	Albany	17	74	69	81	76	69	-9%	306%
73	Blockhouse Bay/Great North Road	Albert-Eden-Roskill/Whau	-	60	62	75	73	69	-5%	-
21	Great South Road/Campbell Road/Main Highway	Albert-Eden-Roskill/Maungakiekie-Tamaki	85	61	87	102	78	64	-18%	-25%
53	326 Te Atatu Road, near Covil Avenue	Waitakere	43	55	59	62	54	60	11%	40%
34	Te Irirangi Drive/Ti Rakau Drive	Howick	45	39	29	48	39	56	44%	24%
75	Stanley Street/Grafton Road	Waitemata and Gulf	-	29	47	46	47	56	19%	-
49	Triangle Road/Don Buck Road	Waitakere	43	32	35	63	53	53	0%	23%
38	Rosedale/East Coast Road	Albany	22	46	54	59	70	51	-27%	132%
24	Great South Road/Te Irirangi Drive/Cavendish Drive	Manukau	39	26	22	44	53	50	-6%	28%
20	St Heliers Bay/West Tamaki Road	Maungakiekie-Tamaki/Orakei	69	60	47	72	74	49	-34%	-29%
30	Great South/East Tamaki Road	Manukau	37	27	30	40	45	46	2%	24%
33	Bucklands Beach/Pakuranga Road	Howick	72	77	43	69	64	45	-30%	-38%

Site Number	Location	Area	2007	2008	2009	2010	2011	2012	Change 11-12	Change 07-12
4	Patiki/Rosebank Road	Whau	45	45	34	52	65	43	-34%	-4%
23	Great South/Bairds Road	Manukau	36	29	28	37	49	42	-14%	17%
18	Great South Road/High Street/Atkinson/Park Avenue	Manukau	46	30	28	36	51	41	-20%	-11%
46	Rosedale/Bush Road	Albany	16	37	46	61	56	41	-27%	156%
19	Ellerslie Panmure Highway/Lunn Ave	Maungakiekie-Tamaki	66	52	51	56	46	39	-15%	-41%
31	Wyllie Avenue/Puhinui Road	Manukau	20	25	23	34	62	39	-37%	95%
43	Glenfield/Coronation Road	North Shore	12	39	42	56	25	38	52%	217%
44	Birkenhead Ave/Mokoia Road	North Shore	20	29	30	46	23	35	52%	75%
85	Rathgar/Pomaria Road	Waitakere	-	-	53	46	35	35	0%	-
28	Massey/Buckland Road	Manukau	31	20	20	29	35	34	-3%	10%
45	Beach/Browns Bay Road	Albany	8	19	30	27	28	33	18%	313%
50	Lincoln Road/Fairdene Avenue	Waitakere	27	36	22	35	28	33	18%	22%
68	Queen/Harris Street	Franklin	57	52	68	39	53	33	-38%	-42%
81	Te Irirangi Drive/Ormiston Road	Howick/Manukau	-	-	20	41	32	32	0%	-
66	Great South Road/Taka Street	Manurewa-Papakura	40	39	24	28	37	31	-16%	-23%
32	McKenzie/Coronation/Walmsley Road	Manukau	42	36	30	49	61	29	-52%	-31%
71	Highbrook Drive	Manukau	-	16	18	13	30	29	-3%	-
84	Behind Rodney District Council Building	Albany	-	-	11	22	66	28	-58%	-
65	Great South Road/Rosehill Drive	Manurewa-Papakura	24	30	37	33	43	27	-37%	13%
74	Apirana Avenue/Pilkington/Tripoli Road	Maungakiekie-Tamaki	-	39	20	30	41	27	-34%	-
15	Richardson Road/Maioro Street	Albert-Eden-Roskill/Whau	-	-	13	25	22	24	9%	-
76	Waikaraka Cycle Way	Maungakiekie-Tamaki	-	41	33	35	36	24	-33%	-
79	Harris/Smales Road	Howick	-	-	25	37	40	24	-40%	-

Site Number	Location	Area	2007	2008	2009	2010	2011	2012	Change 11-12	Change 07-12
54	Te Atatu Road/Elcoat Avenue	Waitakere	24	18	32	22	18	23	28%	-4%
61	D'Oyly Reserve cycleway	Albany	10	84	4	13	45	21	-53%	110%
69	Edinburgh/Tobin Street	Franklin	18	24	19	11	17	21	24%	17%
26	Great South/Browns/Orams Road	Manurewa-Papakura	35	23	18	37	41	20	-51%	-43%
63	Gulf Harbour Drive/Laurie Southwick Parade	Albany	39	30	17	23	27	20	-26%	-49%
57	West Coast/Rosier Road	Waitakere	29	19	34	29	35	19	-46%	-34%
88	Keith Hay Park	Albert-Eden-Roskill	-	-	-	25	40	19	-53%	-
56	3 Rankin Avenue	Whau	15	21	17	20	26	18	-31%	20%
82	Jelas/Moffatt Road	Albany	-	-	23	15	11	14	27%	-
59	Whangaparaoa Road, near Red Beach Intersection	Albany	16	16	11	8	15	13	-13%	-19%
25	Tom Pearce/George Bolt Memorial Drive	Manukau	-	-	21	7	39	12	-69%	-
60	Whangaparaoa Road, near SH1 Intersection	Albany	17	11	6	10	15	10	-33%	-41%
	<b>Total (60 sites since 2007)^</b>		<b>4308</b>	<b>4591</b>	<b>4292</b>	<b>5540</b>	<b>5547</b>	<b>5306</b>	<b>-4%</b>	<b>23%</b>
	<b>Total (67 sites since 2008)^</b>		-	<b>4849</b>	<b>4585</b>	<b>5898</b>	<b>5901</b>	<b>5683</b>	<b>-4%</b>	-
	<b>Total (78 sites in 2009)</b>		-	-	<b>5103</b>	<b>6541</b>	<b>6708</b>	<b>6362</b>	<b>-5%</b>	-
	<b>Total (80 sites in 2010)</b>		-	-	-	<b>6644</b>	<b>6817</b>	<b>6487</b>	<b>-5%</b>	-
89	Sunnynook/East Coast Road	Albany/North Shore	-	-	-	-	93	60	-35%	-
64	Porchester Road/Walters Road	Manurewa-Papakura	28	27	30	-	39	26	-33%	-7%
	<b>Total (82 sites in 2011)</b>		-	-	-	-	<b>6949</b>	<b>6573</b>	<b>-5%</b>	-
90	Broadway/Khyber Pass	Waitemata and Gulf	-	-	-	-	-	285	-	-
	<b>Total (83 sites in 2012)</b>		-	-	-	-	-	<b>6858</b>	-	-

^Note that the evening count for D'Oyly Reserve cycleway (site 61) in 2008 is considered as an outlier, so the total figures exclude this outlier for more accurate comparison.

\*Note that the Squadron Drive/Buckley Avenue (site 70) is the new relocated site from previous Upper Harbour Drive/Buckley Avenue, so previous results are not directly comparable.



- Evening cyclist characteristics are shown in Table 2.9 below. Overall, 92 per cent of evening cyclists in the Auckland region are adults in 2012 (stable from 91 per cent in 2011). Of the twelve wards monitored, the Waitemata and Gulf ward has the highest proportion of cyclists who are adults (99 per cent) whilst Franklin ward has the greatest share of cyclists identified as school children (20 per cent).
- Almost all cyclists are wearing a helmet (89 per cent, stable from 88 per cent last year). Orakei ward has the highest proportion of cyclists who are wearing a helmet (96 per cent) whilst the Franklin ward has the greatest share of cyclists who are not wearing helmets (33 per cent).
- Eighty-three per cent of evening cyclists are male (stable from 82 per cent last year). Manukau ward has the highest share of cyclists who are male (92 per cent), while Orakei and Manurewa-Papakura wards have the highest proportion of cyclists who are female (19 per cent respectively).
- On average, 60 per cent of all cyclists are riding on the road (stable from 58 per cent last year). Twenty-one per cent of cyclists are riding on an off-road cycleway (stable from 20 per cent in 2011). Orakei ward has the highest share of cyclists who are riding on the road (85 per cent), while Waitakere ward has the greatest share of cyclists who are using an off-road cycleway (42 per cent). Franklin ward has the highest proportion of footpath riders (50 per cent).

**Table 2.9: Aggregate Totals of Evening Cyclist Characteristics  
2007-2012 (%)**

	<i>Aggregate Total (2007)</i>	<i>Aggregate Total (2008)</i>	<i>Aggregate Total (2009)</i>	<i>Aggregate Total (2010)</i>	<i>Aggregate Total (2011)</i>	<i>Aggregate Total (2012)</i>
<b>Cyclist Type</b>						
Adult	92	88	90	91	91	<b>92</b>
School child	8	12	10	9	9	<b>8</b>
<b>Helmet Wearing</b>						
Helmet on head	87	87	89	88	88	<b>89</b>
No helmet	13	13	11	12	12	<b>11</b>
<b>Gender</b>						
Male	-	-	-	-	82	<b>83</b>
Female	-	-	-	-	15	<b>14</b>
Can't tell	-	-	-	-	3	<b>3</b>
<b>Where Riding</b>						
Road	67	71	60	60	58	<b>60</b>
Footpath	22	21	26	27	22	<b>19</b>
Off-road cycleway	11	8	14	13	20	<b>21</b>
<b>Base:</b>	<b>4308</b>	<b>4849</b>	<b>5103</b>	<b>6644</b>	<b>6949</b>	<b>6858</b>

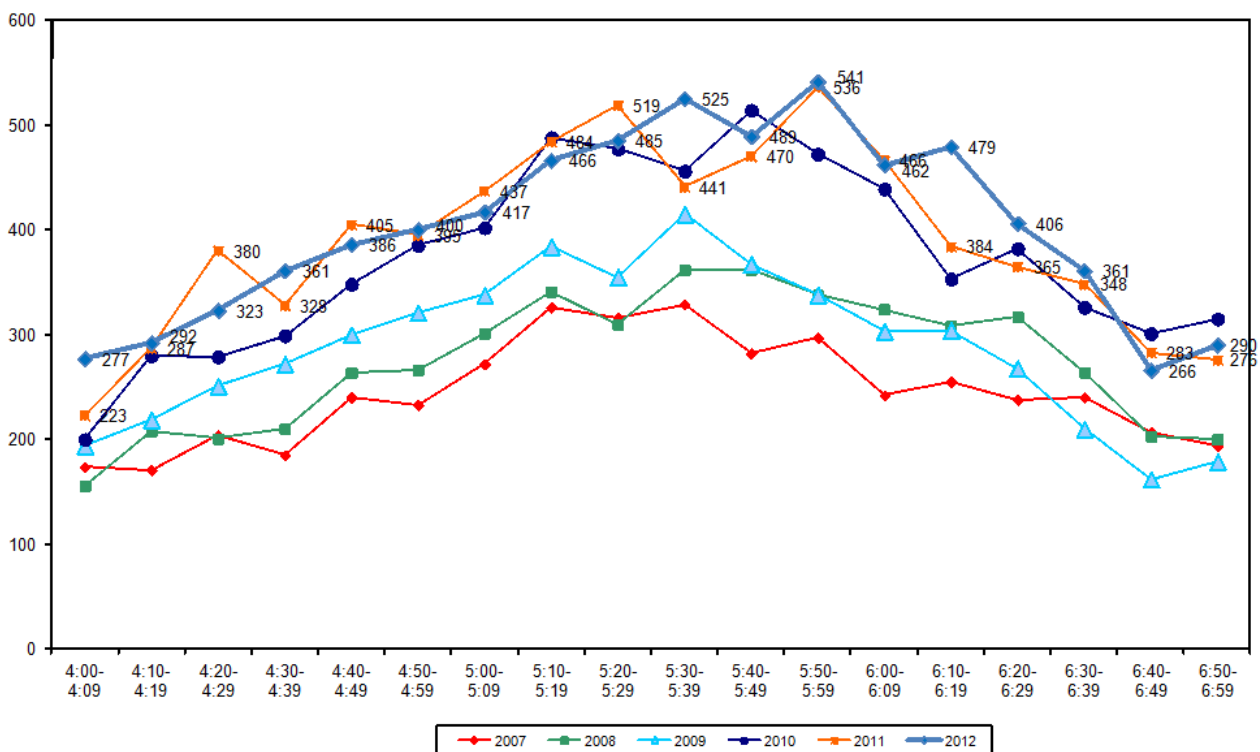
**Table 2.10: Summary of Evening Cyclist Characteristics by Ward in 2012**

	<i>Albany</i>	<i>North Shore</i>	<i>Wai-takere</i>	<i>Waite-mata and Gulf</i>	<i>Albert/Eden/Roskill</i>	<i>Whau</i>	<i>Orakei</i>	<i>Maungakiekie-Tamaki</i>	<i>Howick</i>	<i>Manukau</i>	<i>Manurewa-Papakura</i>	<i>Franklin</i>
<b>Cyclist Type</b>												
Adult	81	90	87	99	94	95	81	82	95	85	83	80
School child	19	9	13	1	6	5	18	17	5	15	17	20
<b>Helmet Wearing</b>												
Helmet on head	92	95	87	90	91	90	96	92	92	70	74	67
No helmet	8	5	13	10	9	10	4	8	8	30	26	33
<b>Gender</b>												
Male	82	81	86	80	84	86	80	86	86	92	80	81
Female	15	17	13	16	15	12	19	13	8	8	19	15
Can't tell	4	2	1	5	1	1	1	1	6	0	1	4
<b>Where Riding</b>												
Road	80	82	37	69	43	59	85	63	64	62	62	50
Footpath	11	15	21	18	16	32	15	29	36	28	38	50
Off-road cycleway	9	3	42	13	41	8	0	8	0	9	0	0
<b>Base:</b>	<b>736</b>	<b>626</b>	<b>1026</b>	<b>2450</b>	<b>943</b>	<b>154</b>	<b>120</b>	<b>426</b>	<b>233</b>	<b>354</b>	<b>104</b>	<b>54</b>

Note: Orange highlighting denotes the ward with the highest proportion of a particular characteristic when compared to the other wards.

- Figure 2.8 shows the overall pattern of total morning cyclist volumes recorded at the 83 sites monitored in the Auckland region. Evening cyclist numbers increase over the monitoring period, with a peak of 541 cyclist movements between 5:50pm and 5:59pm. Evening cyclist numbers then decline until the end of the monitoring period. There were at least 266 cycle movements recorded within any ten minute interval during the evening peak.

**Figure 2.8: Total Cyclist Frequency – Evening Peak  
2007-2012**



## 2.4 Annual Average Daily Traffic (AADT) Estimates

*Note: A full description of the Annual Daily Traffic tool, the calculation used, and the limitations of the estimates, are provided in Appendix Two. Readers are encouraged to review this section in conjunction with the data presented here.*

- Table 2.11 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 (1377 daily trips, down from 1555 daily trips last year) and the lowest is at the Tom Pearce/George Bolt Memorial Drive intersection (21 daily trips).
- Thirty-five per cent of the sites monitored in 2011 and 2012 (29 out of 82) have recorded increases in total AADT estimates this year compared with last year. The most notable increases are at:
  - Tom Luckens/Hobsonville Road, Albany and Waitakere wards – up from 74 to 161 movements (118 per cent);
  - Henderson, Waitakere Ward – up from 95 to 166 movements (75 per cent); and
  - Oteha Valley Road/SH17/Albany Highway, Albany ward – up from 117 to 182 movements (56 per cent).
- In contrast, AADT estimates at 51 sites are lower than last year. The most notable declines are at:
  - Tom Pearce/George Bolt Memorial Drive, Manukau ward – down from 77 to 21 movements (73 per cent); and
  - McKenzie/Coronation/Walmsley Road, Manukau ward – down from 133 to 69 movements (48 per cent).

**Table 2.11: AADT Estimates Based on Morning and Evening Cyclist Movements 2007-2012 (n)**

<b>Site Number</b>	<b>Locations</b>	<b>Area</b>	<b>AADT 2007</b>	<b>AADT 2008</b>	<b>AADT 2009</b>	<b>AADT 2010</b>	<b>AADT 2011</b>	<b>AADT 2012</b>	<b>Change 11-12</b>	<b>Change 07-12</b>
10	Tamaki Drive/The Strand	Waitemata and Gulf	1313	1146	880	1365	1555	<b>1377</b>	<b>-11%</b>	<b>5%</b>
8	Symonds Street/Karangahape Road	Waitemata and Gulf	924	899	765	865	999	<b>1060</b>	<b>6%</b>	<b>15%</b>
9	Karangahape Road/Queen Street	Waitemata and Gulf	736	616	669	843	802	<b>830</b>	<b>3%</b>	<b>13%</b>
13	Ian McKinnon/Newton Road	Waitemata and Gulf	-	-	422	544	807	<b>726</b>	<b>-10%</b>	<b>-</b>
2	Ponsonby/Karangahape Road	Waitemata and Gulf	705	602	536	807	738	<b>717</b>	<b>-3%</b>	<b>2%</b>
7	North Western Cycleway/St Lukes	Albert-Eden-Roskill	469	480	451	629	743	<b>625</b>	<b>-16%</b>	<b>33%</b>
58	North Western Cycleway/near Te Atatu Road off-ramp	Waitakere	335	393	513	562	499	<b>614</b>	<b>23%</b>	<b>83%</b>
6	North Western Cycleway/Great North Road	Albert-Eden-Roskill	335	532	416	705	701	<b>589</b>	<b>-16%</b>	<b>76%</b>
22	Ferry Terminal	Waitemata and Gulf	553	459	363	574	570	<b>565</b>	<b>-1%</b>	<b>2%</b>
17	Onehunga Harbour Road	Maungakiekie-Tamaki	357	316	259	369	448	<b>471</b>	<b>5%</b>	<b>32%</b>
35	Lake Road, by Takapuna Grammar	North Shore	444	440	432	479	469	<b>469</b>	<b>0%</b>	<b>6%</b>
36	Hurstmere Road/Killarney Street	North Shore	279	368	466	443	448	<b>384</b>	<b>-14%</b>	<b>38%</b>
52	Central Park Drive	Waitakere	184	227	306	290	307	<b>356</b>	<b>16%</b>	<b>93%</b>
42	Shakespeare/East Coast Road	North Shore	314	364	454	442	422	<b>350</b>	<b>-17%</b>	<b>11%</b>
37	Taharoto/Northcote Road	North Shore	375	396	293	333	454	<b>322</b>	<b>-29%</b>	<b>-14%</b>
11	Remuera/Orakei Road	Orakei	282	276	274	359	412	<b>315</b>	<b>-24%</b>	<b>12%</b>
3	Great North/Carrington Road	Albert-Eden-Roskill	341	333	281	455	335	<b>301</b>	<b>-10%</b>	<b>-12%</b>
12	Manukau Road/Greenlane West	Albert-Eden-Roskill	326	296	255	374	331	<b>299</b>	<b>-10%</b>	<b>-8%</b>
72	Te Atatu/Old Te Atatu Road/Tatau Way	Waitakere	-	161	195	301	204	<b>282</b>	<b>38%</b>	<b>-</b>
1	Victoria/Wellesley/Halsey Street	Waitemata and Gulf	231	196	180	236	328	<b>277</b>	<b>-16%</b>	<b>20%</b>
5	Dominion/Balmoral Road	Albert-Eden-Roskill	344	291	265	296	286	<b>274</b>	<b>-4%</b>	<b>-20%</b>
39	Upper Harbour/Albany Highway	Albany	57	143	200	228	213	<b>265</b>	<b>24%</b>	<b>365%</b>

Site Number	Locations	Area	AADT 2007	AADT 2008	AADT 2009	AADT 2010	AADT 2011	AADT 2012	Change 11-12	Change 07-12
87	Triangle/Huruhuru Road	Waitakere	-	-	-	198	175	255	46%	-
14	Mount Albert/New North Road	Albert-Eden-Roskill	226	236	205	302	292	249	-15%	10%
16	Jervois Road/Wallace Street	Waitemata and Gulf	-	-	162	243	215	204	-5%	-
20	St Heliers Bay/West Tamaki Road	Maungakiekie-Tamaki/Orakei	308	246	158	249	331	199	-40%	-35%
78	Lagoon Drive/Church Crescent	Maungakiekie-Tamaki	-	-	186	284	234	199	-15%	-
47	Oteha Valley/East Coast Road	Albany	137	163	201	245	186	199	7%	45%
53	326 Te Atatu Road, near Covil Avenue	Waitakere	127	155	202	185	186	197	6%	55%
21	Great South Road/Campbell Road/Main Highway	Albert-Eden-Roskill/Maungakiekie-Tamaki	253	165	218	246	199	192	-4%	-24%
73	Blockhouse Bay/Great North Road	Albert-Eden-Roskill/Whau	-	170	173	204	186	187	1%	-
80	Pakuranga Road/Ti Rakau Drive	Howick	-	-	176	234	180	183	2%	-
40	Oteha Valley Road/SH17/Albany Highway	Albany	42	69	103	130	117	182	56%	333%
38	Rosedale/East Coast Road	Albany	176	143	235	224	208	173	-17%	-2%
48	Henderson Creek	Waitakere	65	43	105	121	95	166	75%	155%
55	Swanson/Ranui Station Road/Armada Drive	Waitakere	88	122	148	146	189	162	-14%	84%
51	Luckens/Hobsonville Road	Albany/Waitakere	47	60	110	137	74	161	118%	243%
70	Squadron Drive/Buckley Avenue*	Albany	-	51	97	135	120	156	30%	-
41	Wairau/Glenfield Road	North Shore	93	107	117	131	134	150	12%	61%
4	Patiki/Rosebank Road	Whau	119	114	105	130	175	139	-21%	17%
75	Stanley Street/Grafton Road	Waitemata and Gulf	-	95	140	135	106	135	27%	-
84	Behind Rodney District Council Building	Albany	-	-	130	142	201	132	-34%	-
30	Great South/East Tamaki Road	Manukau	106	74	92	93	129	125	-3%	18%
33	Bucklands Beach/Pakuranga Road	Howick	203	187	137	164	154	123	-20%	-39%
34	Te Irirangi Drive/Ti Rakau Drive	Howick	117	109	86	112	110	123	12%	5%

Site Number	Locations	Area	AADT 2007	AADT 2008	AADT 2009	AADT 2010	AADT 2011	AADT 2012	Change 11-12	Change 07-12
49	Triangle Road/Don Buck Road	Waitakere	96	88	80	128	127	119	-6%	24%
23	Great South/Bairds Road	Manukau	99	81	83	103	129	118	-9%	19%
19	Ellerslie Panmure Highway/Lunn Ave	Maungakiekie-Tamaki	170	136	118	144	111	115	4%	-32%
24	Great South Road/Te Irirangi Drive/Cavendish Drive	Manukau	106	74	59	103	136	112	-18%	6%
18	Great South Road/High Street/Atkinson/Park Avenue	Manukau	121	87	71	88	101	108	7%	-11%
85	Rathgar/Pomaria Road	Waitakere	-	-	122	144	99	106	7%	-
43	Glenfield/Coronation Road	North Shore	64	109	113	134	76	106	39%	66%
50	Lincoln Road/Fairdene Avenue	Waitakere	57	79	62	80	78	97	24%	70%
46	Rosedale/Bush Road	Albany	70	106	103	157	121	90	-26%	29%
45	Beach/Browns Bay Road	Albany	44	66	86	114	110	88	-20%	100%
54	Te Atatu Road/Elcoat Avenue	Waitakere	73	66	101	76	71	84	18%	15%
65	Great South Road/Rosehill Drive	Manurewa-Papakura	77	106	85	90	105	83	-21%	8%
15	Richardson Road/Maioro Street	Albert-Eden-Roskill/Whau	-	-	30	56	53	77	45%	-
76	Waikaraka Cycle Way	Maungakiekie-Tamaki	-	76	73	59	94	76	-19%	-
44	Birkenhead Ave/Mokoia Road	North Shore	58	71	83	108	65	74	14%	28%
81	Te Irirangi Drive/Ormiston Road	Howick/Manukau	-	-	47	95	81	72	-11%	-
71	Highbrook Drive	Manukau	-	42	55	59	77	72	-6%	-
66	Great South Road/Taka Street	Manurewa-Papakura	83	83	51	62	86	70	-19%	-16%
32	McKenzie/Coronation/Walmsley Road	Manukau	101	82	75	126	133	69	-48%	-32%
88	Keith Hay Park	Albert-Eden-Roskill	-	-	-	77	99	69	-30%	-
28	Massey/Buckland Road	Manukau	61	44	57	64	76	68	-11%	11%
31	Wyllie Avenue/Puhinui Road	Manukau	55	47	50	82	105	66	-37%	20%
74	Apirana Avenue/Pilkington/Tripoli Road	Maungakiekie-Tamaki	-	87	46	87	78	66	-15%	-

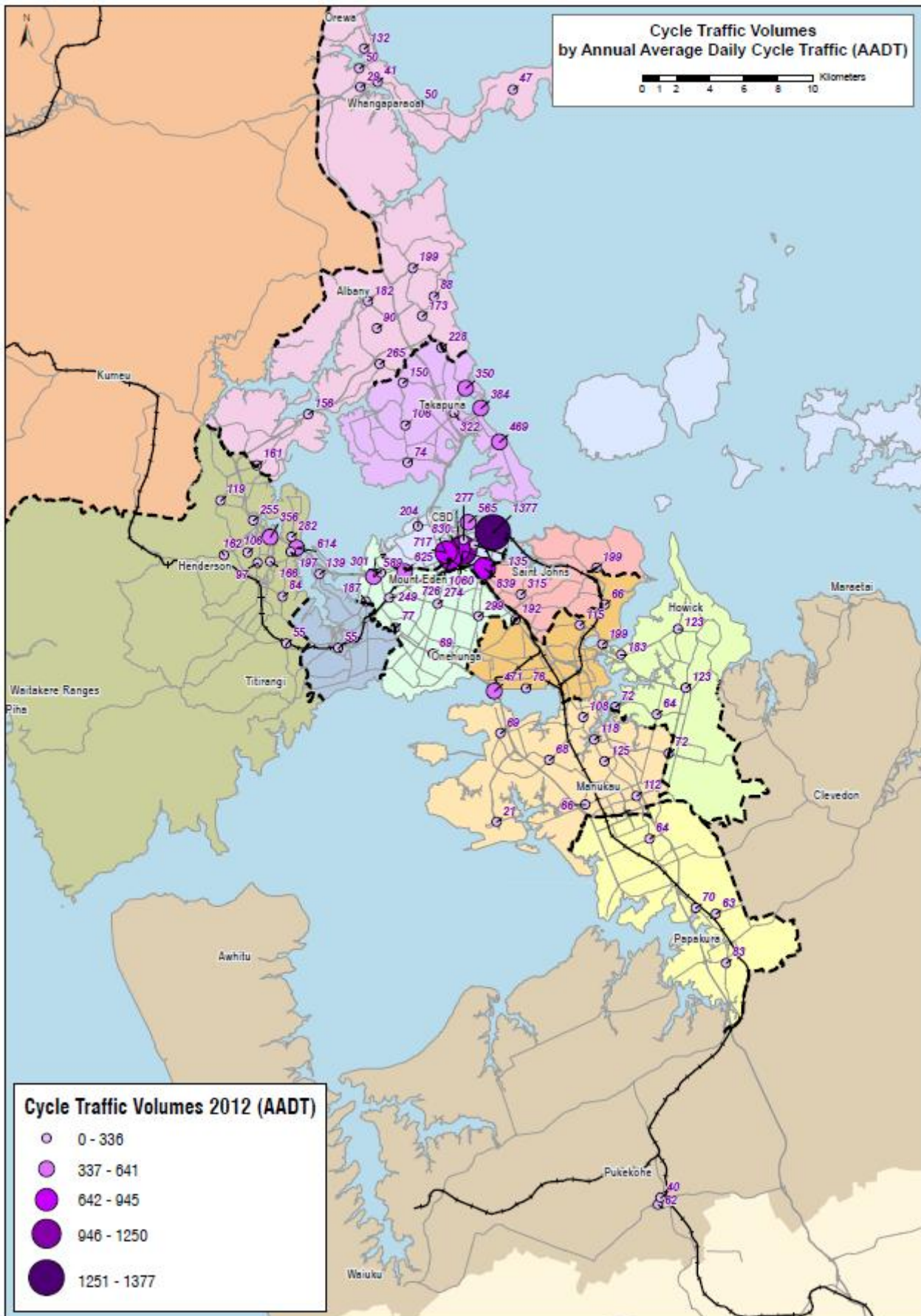
Site Number	Locations	Area	AAAT 2007	AAAT 2008	AAAT 2009	AAAT 2010	AAAT 2011	AAAT 2012	Change 11-12	Change 07-12
79	Harris/Smales Road	Howick	-	-	88	89	109	64	-41%	-
26	Great South/Browns/Orams Road	Manurewa-Papakura	86	81	57	83	101	64	-37%	-26%
68	Queen/Harris Street	Franklin	146	119	135	81	94	62	-34%	-58%
57	West Coast/Rosier Road	Waitakere	69	54	90	87	86	55	-36%	-20%
56	3 Rankin Avenue	Whau	45	55	56	46	60	55	-8%	22%
61	D'Oyly Reserve cycleway	Albany	35	145	13	65	82	50	-39%	43%
82	Jelas/Moffatt Road	Albany	-	-	55	57	44	50	14%	-
63	Gulf Harbour Drive/Laurie Southwick Parade	Albany	80	63	31	53	56	47	-16%	-41%
59	Whangaparaoa Road, near Red Beach Intersection	Albany	42	45	38	43	37	41	11%	-2%
69	Edinburgh/Tobin Street	Franklin	51	58	49	41	40	40	0%	-22%
60	Whangaparaoa Road, near SH1 Intersection	Albany	40	29	17	34	31	29	-6%	-28%
25	Tom Pearce/George Bolt Memorial Drive	Manukau	-	-	38	17	77	21	-73%	-
	<b>Total (67 sites since 2008)^</b>		-	<b>13422</b>	<b>13022</b>	<b>16441</b>	<b>16721</b>	<b>15884</b>	-5%	-
	<b>Total (78 sites in 2009)</b>		-	-	<b>14478</b>	<b>18346</b>	<b>18821</b>	<b>17718</b>	-6%	-
	<b>Total (80 sites in 2010)</b>		-	-	-	<b>18621</b>	<b>19095</b>	<b>18042</b>	-6%	-
89	Sunnynook/East Coast Road	Albany/North Shore	-	-	-	-	252	228	-10%	-
64	Porchester Road/Walters Road	Manurewa-Papakura	72	66	70	-	104	63	-39%	-13%
	<b>Total (82 sites in 2011)</b>		-	-	-	-	<b>19199</b>	<b>18333</b>	-5%	-
90	Broadway/Khyber Pass	Waitemata and Gulf	-	-	-	-	-	839	-	-
	<b>Total (83 sites in 2012)</b>		-	-	-	-	-	<b>19172</b>	-	-

^Note that the evening count for D'Oyly Reserve cycleway (site 61) in 2008 is considered as an outlier, so the total figures exclude this outlier for more accurate comparison.

\*Note that the Squadron Drive/Buckley Avenue (site 70) is the new relocated site from previous Upper Harbour Drive/Buckley Avenue, so previous results are not directly comparable.



Figure 2.9: AADT Cycle Volumes in the Auckland Region - 2012



## 2.5 Ferry Wharf Count Summary

- Half Moon Bay wharf counts of stationary cycles were conducted prior to, and at the conclusion of, the morning and evening monitoring periods (on the same day as other sites in the ward).
- The Devonport wharf counts were conducted on Tuesday 12<sup>th</sup> June 2012 due to one cycle stand being overlooked during the initial counts in March 2012.
- At six additional ferry wharves, single point in time stationary cycle counts were conducted – at 10:00am on Tuesday 13<sup>th</sup> of March (Pine Harbour), Wednesday 28<sup>th</sup> March (North Shore Terminals and West Harbour) and Friday 30<sup>th</sup> March (Waiheke Island).

### Key Points

- In the morning, 3 cycles were observed at the Devonport Ferry Terminal at 6.10am and 43 were observed at 9.10am. This suggests around 40 passenger's rode to the ferry and parked their cycles in the morning peak. This is down from 42 in 2011 (seasonal variance may apply).
- In the afternoon, 26 cycles were recorded at the Devonport Ferry Terminal at 3.30pm and 4 were observed at 7.10pm. This suggests 22 ferry passengers collected their bikes after disembarking and cycled home in the evening peak. This is down from 68 last year (seasonal variance may apply).
- At Half Moon Bay, no cycles were observed either prior to, or after both the morning and evening shifts. Stationery cycle numbers at this site in 2011 were also very low.

**Table 2.12: 'Multiple Count' Cycle Counts at Ferry Wharves (n)**

	<i>Devonport</i>		<i>Half Moon Bay</i>	
	<i>2011</i>	<i>2012</i>	<i>2011</i>	<i>2012</i>
<b>Morning Peak</b>				
6:10am	5	<b>3</b>	2	<b>0</b>
9:10am	47	<b>43</b>	0	<b>0</b>
<b>Evening Peak</b>				
3:30pm	79	<b>26</b>	1	<b>0</b>
7:10pm	11	<b>4</b>	0	<b>0</b>

- Thirty-two additional cycles were observed at ferry wharves where a single point in time count was taken (around 10:00am).
- Whilst the number of stationery cycles has declined at the Pine Harbour ferry wharf (down from 12 in 2011 to 7 in 2012), increases are evident at Bayswater and Northcote.

**Table 2.13: 'Single Count' Cycle Counts at Ferry Wharves (n)**

<i>Ferry Wharf</i>	<i>Cycle Count</i>	
	<i>2011</i>	<i>2012</i>
Waiheke	-	<b>12</b>
Bayswater	5	<b>11</b>
Pine Harbour	12	<b>7</b>
Northcote	0	<b>2</b>
West Harbour	0	<b>0</b>
Birkenhead	0	<b>0</b>

## 2.6 School Bike Shed Count Summary

### *Background Information*

- A total of 317 full primary, intermediate, secondary and composite schools throughout the Auckland region were contacted by Gravitas. Of the 233<sup>8</sup> schools that responded to the survey (74 per cent<sup>9</sup>), most have no policies that restrict students cycling to school.<sup>10</sup>
- Most schools conducted their count on Tuesday the 6<sup>th</sup> of March, 2012.

### *Key Points*

- Of those students from the surveyed schools eligible to cycle to school, on average two per cent are cycling to their schools. This result is unchanged since 2007.
- The following schools report at least 10 per cent of students cycling to school:
  - The Bridge Academy, Orakei ward (100 per cent)
  - Belmont Intermediate, North Shore ward (31 per cent)
  - Hingaia Peninsula School, Albert-Eden-Roskill Ward (29 per cent)
  - Pasadena Intermediate, Albert-Eden-Roskill ward (12 per cent)
  - Waiuku Primary School, Franklin ward (12 per cent)
- Among secondary schools, Takapuna Grammar (North Shore ward) has the highest rate of students cycling to school (9 per cent).
- Of the 161 schools that participated in the count in both 2011 and 2012, 33 (20 per cent) had decreased the share of students cycling. The most notable increase is at Waiuku Primary School – up from 5 per cent in 2011 to 12 per cent in 2012.
- Of the 233 eligible schools, 97 (42 per cent) had no students cycling to school.

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<sup>8</sup> Note that Dilworth School responded to the survey. However, their results have been excluded from the analysis as all students are boarders.

<sup>9</sup> Compared with 68 per cent in 2011.

<sup>10</sup> These exceptions are detailed in the ward level reports. Most relate to full primary schools restricting younger students from cycling.

- Tables 2.14 and 2.15 illustrate the rates of cycling to school at different school levels in 2012 and in previous years. Rates of cycling to school are highest among intermediate schools surveyed (4 per cent).

**Table 2.14: Average Cycling Rates by School Level  
2012 (n)**

<i>Year Levels</i>	<i>Number of Schools Responding (n)</i>	<i>Average School Roll Eligible To Cycle</i>	<i>Average Number of Cycles Counted</i>	<i>Average Cycling Rate per School</i>
Intermediate	39	517	19	<b>4%</b>
Composite	29	395	5	<b>1%</b>
Full Primary	104	313	4	<b>1%</b>
Intermediate/Secondary	18	793	10	<b>1%</b>
Secondary	42	1357	15	<b>1%</b>
<b>Regional Total</b>	<b>232</b>	<b>584</b>	<b>9</b>	<b>2%</b>

**Table 2.15: Summary Table of Average Cycling Rates by School Level  
2007-2012**

<i>Year Levels</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>
Intermediate	5%	4%	4%	5%	4%	<b>4%</b>
Composite	1%	1%	<1%	1%	1%	<b>1%</b>
Full Primary	-	-	-	-	2%	<b>1%</b>
Intermediate/Secondary	2%	2%	1%	2%	1%	<b>1%</b>
Secondary	1%	1%	1%	1%	1%	<b>1%</b>
<b>Regional Total</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>

- Table 2.16 illustrates the rates of cycling to school within each of the Auckland wards. Rates of cycling to school are highest among schools in North Shore ward (4 per cent, unchanged from 4 per cent last year. By comparison, Manukau ward (less than 1 per cent) has the lowest rate of cycling.

**Table 2.16: Summary Table of School Bike Count by Ward  
2007-2012 (n)**

Ward	2012			Average Cycle Rate Per Ward					
	Number of Schools Responding (n)	Average School Roll Eligible To Cycle	Average Number of Cycles Counted	2007	2008	2009	2010	2011	2012
North Shore	17	795	28	3%	3%	3%	4%	4%	<b>4%</b>
Albert-Eden-Roskill	18	929	15	2%	1%	1%	21%	2%	<b>2%</b>
Franklin	21	267	6	1%	1%	1%	<1%	3%	<b>2%</b>
Orakei	14	536	12	1%	1%	2%	1%	2%	<b>2%</b>
Waitakere	24	520	10	1%	1%	1%	1%	1%	<b>2%</b>
Waitemata & Gulf	12	700	14	1%	1%	2%	2%	2%	<b>2%</b>
Whau	9	525	9	1%	1%	1%	<1%	1%	<b>2%</b>
Albany	19	833	10	2%	1%	1%	1%	1%	<b>1%</b>
Howick	13	929	13	1%	2%	3%	2%	1%	<b>1%</b>
Manurewa-Papakura	30	547	6	<1%	1%	<1%	1%	1%	<b>1%</b>
Rodney	16	343	3	2%	1%	<1%	0%	1%	<b>1%</b>
Manukau	24	536	2	0%	0%	<1%	<1%	<1%	<b>&lt;1%</b>
Maungakiekie-Tamaki	15	256	0	<1%	0%	<1%	0%	<1%	<b>0%</b>
<b>Regional Total</b>	<b>232</b>	<b>584</b>	<b>9</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>

**Table 2.17: Summary Table of Average Cycling Rates by School Level and Ward  
2012**

<i>Ward</i>	<i>School Type</i>					<i>School Levels</i>
	<i>Composite</i>	<i>Full Primary</i>	<i>Intermediate</i>	<i>Intermediate/Secondary</i>	<i>Secondary</i>	
North Shore	0%	0%	10%	1%	2%	<b>4%</b>
Albert-Eden-Roskill	<1%	3%	5%	0%	1%	<b>2%</b>
Franklin	<1%	3%	1%	-	<1%	<b>2%</b>
Orakei	100%	2%	6%	<1%	2%	<b>2%</b>
Waitakere	2%	1%	3%	1%	2%	<b>2%</b>
Waitemata & Gulf	3%	3%	4%	2%	2%	<b>2%</b>
Whau	2%	1%	3%	-	1%	<b>2%</b>
Albany	2%	2%	1%	2%	<1%	<b>1%</b>
Howick	0%	2%	3%	1%	1%	<b>1%</b>
Manurewa-Papakura	3%	1%	3%	-	1%	<b>1%</b>
Rodney	0%	1%	-	1%	0%	<b>1%</b>
Manukau	1%	0%	1%	1%	<1%	<b>&lt;1%</b>
Maungakiekie-Tamaki	0%	0%	0%	-	-	<b>0%</b>
<b>Regional Total</b>	<b>1%</b>	<b>1%</b>	<b>4%</b>	<b>1%</b>	<b>1%</b>	<b>2%</b>

The following table ranks the 233 schools from the highest share of cyclists to the lowest.

**Table 2.18: School Bike Count by School**

School Name	Ward	School Type	School Roll Eligible To Cycle	No. of Cycles Counted	Cyclists as share of those eligible[1]					
					2012	2011	2010	2009	2008	2007
The Bridge Academy	Orakei	Composite	2	2	100%	0%	0%	-	-	-
Belmont Intermediate	North Shore	Intermediate	558	173	31%	30%	33%	22%	26%	34%
Hingaia Peninsula School	Manurewa-Papakura	Full Primary	51	15	29%	-	-	-	-	-
Pasadena Intermediate School	Albert-Eden-Roskill	Intermediate	338	42	12%	22%	26%	17%	12%	18%
Waiuku Primary School	Franklin	Full Primary	344	42	12%	5%	-	-	-	-
Takapuna Grammar School	North Shore	Secondary	1606	147	9%	9%	8%	9%	6%	8%
Te Atatu Intermediate	Waitakere	Intermediate	317	30	9%	8%	8%	9%	7%	10%
Takapuna Normal Intermediate School	North Shore	Intermediate	600	50	8%	-	-	-	-	-
Waikowhai Intermediate School	Albert-Eden-Roskill	Intermediate	400	22	6%	5%	3%	4%	3%	3%
Beachlands School	Franklin	Full Primary	502	30	6%	7%	-	-	-	-
Rosehill Intermediate School	Manurewa-Papakura	Intermediate	364	21	6%	6%	6%	6%	-	-
Churchill Park School	Orakei	Full Primary	470	30	6%	2%	-	-	-	-
Mt Hobson Middle School	Orakei	Intermediate/Secondary	52	3	6%	-	-	-	-	-
Remuera Intermediate	Orakei	Intermediate	950	53	6%	6%	5%	7%	5%	9%
Nga Kakano Christian Reo Rua Kura	Waitakere	Composite	62	4	6%	2%	-	6%	7%	7%
Waiheke High School	Waitemata & Gulf	Intermediate/Secondary	480	31	6%	4%	4%	3%	2%	3%
Albany Junior High School	Albany	Composite	1200	57	5%	-	-	-	-	-
Gulf Harbour Primary	Albany	Full Primary	411	20	5%	6%	-	-	-	-
Sandspit Road School	Franklin	Full Primary	351	17	5%	10%	-	-	-	-
View Road School	Franklin	Full Primary	149	8	5%	3%	-	-	-	-



School Name	Ward	School Type	School Roll Eligible To Cycle	No. of Cycles Counted	Cyclists as share of those eligible[1]					
					2012	2011	2010	2009	2008	2007
Farm Cove Intermediate	Howick	Intermediate	585	30	5%	7%	7%	9%	6%	4%
Reremoana School	Manurewa-Papakura	Full Primary	329	17	5%	9%	-	-	-	-
Stonefields School	Orakei	Full Primary	148	8	5%	-	-	-	-	-
Blockhouse Bay Intermediate	Whau	Intermediate	870	43	5%	3%	-	3%	4%	4%
Auckland Normal Intermediate	Albert-Eden-Roskill	Intermediate	680	29	4%	7%	7%	6%	5%	7%
Balmoral School	Albert-Eden-Roskill	Full Primary	779	32	4%	4%	0%	-	-	-
Henderson Intermediate	Waitakere	Intermediate	561	20	4%	-	-	-	-	-
Rutherford College	Waitakere	Secondary	1465	55	4%	-	-	-	-	-
ACG Senior College	Waitemata & Gulf	Composite	779	28	4%	0%	1%	-	0%	-
Ponsonby Intermediate	Waitemata & Gulf	Intermediate	525	20	4%	5%	6%	5%	4%	6%
Kowhai Intermediate School	Albert-Eden-Roskill	Intermediate	387	13	3%	5%	5%	6%	6%	6%
Mt Roskill Intermediate School	Albert-Eden-Roskill	Intermediate	660	19	3%	2%	4%	-	2%	2%
Buckland School	Howick	Full Primary	815	21	3%	-	-	-	-	-
Elim Christian College Senior Campus	Howick	Intermediate/Secondary	453	12	3%	-	-	-	-	-
Pakuranga Intermediate School	Howick	Intermediate	317	8	3%	-	-	-	-	-
Conifer Grove School	Manurewa-Papakura	Full Primary	512	13	3%	4%	-	-	-	-
Greemeadows Intermediate School	Manurewa-Papakura	Intermediate	431	15	3%	4%	2%	0%	5%	3%
Papakura Normal Primary School	Manurewa-Papakura	Full Primary	603	19	3%	2%	-	-	-	-
The Gardens School	Manurewa-Papakura	Full Primary	531	15	3%	-	-	-	-	-
Rosmini College	North Shore	Intermediate/Secondary	1010	26	3%	5%	3%	3%	4%	3%
Wairau Intermediate School	North Shore	Intermediate	259	7	3%	4%	6%	5%	7%	4%
Huapai District School	Rodney	Full Primary	449	13	3%	5%	-	-	-	-
Wentworth Primary School	Rodney	Full Primary	32	1	3%	0%	-	-	-	-
Liston College	Waitakere	Intermediate/Secondary	812	25	3%	-	-	-	-	-
Rangeview Intermediate	Waitakere	Intermediate	832	29	3%	-	-	-	-	-
Auckland Grammar	Waitemata & Gulf	Secondary	2500	68	3%	4%	4%	4%	3%	2%

School Name	Ward	School Type	School Roll Eligible To Cycle	No. of Cycles Counted	Cyclists as share of those eligible[1]					
					2012	2011	2010	2009	2008	2007
Parnell District School	Waitemata & Gulf	Full Primary	459	14	3%	1%	-	-	-	-
Kingsway School	Albany	Composite	1073	18	2%	2%	1%	1%	1%	<1%
Northcross Intermediate School	Albany	Intermediate	1080	20	2%	2%	-	4%	0%	5%
Orewa College	Albany	Intermediate/Secondary	1800	35	2%	4%	7%	5%	5%	6%
Silverdale Primary School	Albany	Full Primary	313	6	2%	8%	-	-	-	-
Balmoral SDA School	Albert-Eden-Roskill	Full Primary	89	2	2%	2%	-	-	-	-
Kohia Terrace School	Albert-Eden-Roskill	Full Primary	370	6	2%	-	-	-	-	-
Mount Albert Grammar School	Albert-Eden-Roskill	Secondary	2600	47	2%	-	-	-	-	-
Mt Roskill Grammar School	Albert-Eden-Roskill	Secondary	2300	35	2%	1%	1%	1%	1%	2%
Buckland School	Franklin	Full Primary	246	4	2%	6%	-	-	-	-
Waiau Pa School	Franklin	Full Primary	323	5	2%	-	-	-	-	-
Botany Downs Secondary College	Howick	Secondary	1800	34	2%	-	-	-	-	-
Somerville Intermediate	Howick	Intermediate	950	20	2%	2%	3%	3%	4%	4%
Mission Heights Junior College	Manukau	Composite	653	10	2%	1%	5%	3%	-	-
Otahuhu Intermediate School	Manukau	Intermediate	326	5	2%	0%	0%	-	1%	1%
Papatoetoe Intermediate School	Manukau	Intermediate	870	18	2%	2%	2%	1%	-	-
Te Kura Maori o Nga Tapuwae	Manukau	Composite	293	7	2%	-	-	-	-	-
Drury School	Manurewa-Papakura	Full Primary	412	7	2%	4%	-	-	-	-
Rosehill College	Manurewa-Papakura	Secondary	1808	28	2%	1%	1%	1%	1%	<1%
Birkdale Intermediate	North Shore	Intermediate	465	10	2%	2%	2%	1%	<1%	-
Northcote Intermediate School	North Shore	Intermediate	238	4	2%	3%	5%	2%	3%	2%
Westlake Boys High School	North Shore	Secondary	2309	46	2%	4%	3%	2%	<1%	2%
Glendowie Primary	Orakei	Full Primary	608	13	2%	4%	-	-	-	-
Selwyn College	Orakei	Secondary	826	19	2%	2%	2%	2%	1%	-
St Heliers School	Orakei	Full Primary	740	18	2%	-	-	-	-	-
ACG Sunderland	Waitakere	Composite	254	5	2%	<1%	4%	2%	1%	-

School Name	Ward	School Type	School Roll Eligible To Cycle	No. of Cycles Counted	Cyclists as share of those eligible[1]					
					2012	2011	2010	2009	2008	2007
Hobsonville School	Waitakere	Full Primary	605	11	2%	-	-	-	-	-
Swanson School	Waitakere	Full Primary	476	9	2%	7%	-	-	-	-
Waitakere College	Waitakere	Secondary	1400	26	2%	-	-	-	-	-
Kadimah	Waitemata & Gulf	Full Primary	130	3	2%	8%	-	-	-	-
Green Bay Primary & Intermediate School	Whau	Full Primary	415	8	2%	3%	-	-	-	-
Immanuel Christian School	Whau	Composite	128	2	2%	0%	-	2%	1%	1%
Albany Senior High School	Albany	Secondary	781	4	1%	1%	2%	-	-	-
Murrays Bay Intermediate	Albany	Intermediate	1000	6	1%	2%	3%	2%	2%	5%
Pinehurst School	Albany	Composite	650	6	1%	<1%	1%	0%	1%	1%
Wentworth College	Albany	Intermediate/Secondary	213	2	1%	2%	3%	4%	<1%	3%
Hebron Christian College	Albert-Eden-Roskill	Composite	235	3	1%	-	-	-	-	-
Clevedon School	Franklin	Full Primary	341	2	1%	-	-	-	-	-
Maraetai Beach School	Franklin	Full Primary	245	2	1%	3%	-	-	-	-
Pukekohe Intermediate School	Franklin	Intermediate	620	5	1%	2%	-	3%	7%	5%
Ramarama School	Franklin	Full Primary	196	2	1%	2%	-	-	-	-
Edgewater College	Howick	Secondary	905	8	1%	2%	2%	2%	2%	-
Elim Christian College Junior Campus	Howick	Full Primary	345	4	1%	-	-	-	-	-
Macleans College	Howick	Secondary	2551	19	1%	<1%	-	2%	1%	-
Sancta Maria College	Howick	Intermediate/Secondary	992	7	1%	1%	1%	1%	1%	2%
Auckland Seventh Day Adventist High School	Manukau	Secondary	223	2	1%	<1%	-	-	-	-
Kedgley Intermediate	Manukau	Intermediate	782	5	1%	1%	2%	2%	-	-
Kia Aroha College/Clover Park Middle School	Manukau	Intermediate/Secondary	300	4	1%	0%	-	-	0%	-
ACG Strathallan	Manurewa-Papakura	Composite	1,000	6	1%	-	-	-	-	-
Alfriston College	Manurewa-Papakura	Secondary	1416	12	1%	1%	1%	1%	2%	-
Mansell Senior School	Manurewa-Papakura	Intermediate	199	1	1%	0%	0%	-	-	-
Papakura High School	Manurewa-Papakura	Secondary	959	6	1%	<1%	1%	0%	<1%	<1%

School Name	Ward	School Type	School Roll Eligible To Cycle	No. of Cycles Counted	Cyclists as share of those eligible[1]					
					2012	2011	2010	2009	2008	2007
St Mary's Catholic School, Papakura	Manurewa-Papakura	Full Primary	260	3	1%	2%	-	-	-	-
Weymouth Intermediate School	Manurewa-Papakura	Intermediate	357	3	1%	-	-	-	-	-
Northcote College	North Shore	Secondary	1209	8	1%	<1%	<1%	0%	-	-
Glendowie College	Orakei	Secondary	1004	12	1%	1%	1%	1%	-	-
Kohimarama School	Orakei	Full Primary	509	6	1%	-	-	-	-	-
Wainui	Rodney	Full Primary	177	1	1%	0%	-	-	-	-
Whangaparaoa College	Rodney	Intermediate/Secondary	1450	21	1%	1%	-	1%	2%	4%
Bruce McLaren Intermediate	Waitakere	Intermediate	261	3	1%	<1%	3%	4%	2%	2%
Glen Eden Intermediate School	Waitakere	Intermediate	1000	10	1%	1%	1%	3%	-	-
Henderson High School	Waitakere	Secondary	600	5	1%	-	-	-	-	-
Avondale Intermediate School	Whau	Intermediate	338	5	1%	-	-	-	-	-
Green Bay High School	Whau	Secondary	1320	17	1%	1%	1%	1%	1%	1%
Kelston Intermediate	Whau	Intermediate	300	2	1%	-	-	-	-	-
Wesley Intermediate School	Whau	Intermediate	131	1	1%	-	-	-	-	-
Kristin School	Albany	Composite	1572	3	<1%	<1%	<1%	1%	-	-
Long Bay College	Albany	Secondary	1700	3	<1%	<1%	<1%	0%	1%	-
Rangitoto College	Albany	Secondary	3150	12	<1%	1%	1%	1%	<1%	1%
Diocesan School for Girls	Albert-Eden-Roskill	Composite	1399	1	<1%	<1%	<1%	0%	<1%	0%
Epsom Girls' Grammar School	Albert-Eden-Roskill	Secondary	2199	5	<1%	0%	<1%	0%	<1%	-
Lynfield College	Albert-Eden-Roskill	Secondary	1900	5	<1%	<1%	<1%	1%	<1%	1%
St Cuthbert's College	Albert-Eden-Roskill	Composite	1444	3	<1%	-	-	-	-	-
Pukekohe Christian School	Franklin	Composite	205	1	<1%	-	-	-	-	-
Waiuku College	Franklin	Secondary	860	4	<1%	-	-	-	-	-
Howick Intermediate	Howick	Intermediate	450	1	<1%	-	-	-	-	-
Mangere College	Manukau	Secondary	870	2	<1%	1%	1%	1%	-	-
Clayton Park School	Manurewa-Papakura	Full Primary	468	1	<1%	<1%	-	-	-	-

School Name	Ward	School Type	School Roll Eligible To Cycle	No. of Cycles Counted	Cyclists as share of those eligible[1]					
					2012	2011	2010	2009	2008	2007
James Cook High school	Manurewa-Papakura	Secondary	1431	7	<1%	-	-	-	-	-
Red Hill Primary School	Manurewa-Papakura	Full Primary	2002	4	<1%	<1%	-	-	-	-
Birkenhead College	North Shore	Secondary	800	1	<1%	<1%	1%	-	-	-
Carmel College	North Shore	Intermediate/Secondary	1024	2	<1%	<1%	0%	0%	<1%	0%
Westlake Girls High School	North Shore	Secondary	2230	1	<1%	<1%	<1%	0%	<1%	<1%
Kings School	Orakei	Full Primary	650	2	<1%	-	-	-	-	-
Helensville School	Rodney	Full Primary	382	1	<1%	-	-	-	-	-
mahurangi College	Rodney	Intermediate/Secondary	1295	4	<1%	-	-	-	-	-
Auckland Girls Grammar School	Waitemata & Gulf	Secondary	1450	2	<1%	<1%	0%	0%	0%	<1%
Marist College	Waitemata & Gulf	Intermediate/Secondary	750	1	<1%	0%	<1%	0%	-	-
St Marys College Ponsonby	Waitemata & Gulf	Intermediate/Secondary	872	1	<1%	0%	0%	0%	-	-
Kelston Boys High School	Whau	Secondary	976	3	<1%	<1%	<1%	0%	1%	1%
City Impact Church School	Albany	Full Primary	98	0	0%	-	-	-	-	-
City Impact Church School (Secondary)	Albany	Secondary	27	0	0%	-	-	-	-	-
Dairy Flat School	Albany	Full Primary	199	0	0%	0%	-	-	-	-
Stella Maris Primary School	Albany	Full Primary	400	0	0%	1%	-	-	-	-
Te Kura Kaupapa o Te Raki Paewhenua	Albany	Composite	80	0	0%	0%	-	-	-	-
The Corelli School of the Arts	Albany	Composite	78	0	0%	-	-	-	-	-
Christ the King Catholic School	Albert-Eden-Roskill	Full Primary	141	0	0%	0%	-	-	-	-
Dilworth	Albert-Eden-Roskill	Full Primary	532	0	0%	-	-	-	-	-
Ficino School	Albert-Eden-Roskill	Full Primary	122	0	0%	0%	-	-	-	-
Marcellin College	Albert-Eden-Roskill	Intermediate/Secondary	686	0	0%	<1%	0%	0%	1%	-
Ararimu School	Franklin	Full Primary	118	0	0%	0%	-	-	-	-
Awhitu District School	Franklin	Full Primary	118	0	0%	2%	-	-	-	-
Bombay School	Franklin	Full Primary	332	0	0%	0%	-	-	-	-
Glenbrook School	Franklin	Full Primary	240	0	0%	0%	-	-	-	-

School Name	Ward	School Type	School Roll Eligible To Cycle	No. of Cycles Counted	Cyclists as share of those eligible[1]					
					2012	2011	2010	2009	2008	2007
Hunua School	Franklin	Full Primary	92	0	0%	-	-	-	-	-
KingsGate School	Franklin	Full Primary	40	0	0%	0%	-	-	-	-
Parkside School	Franklin	Composite	127	0	0%	-	-	-	-	-
St Joseph's School (Pukekohe)	Franklin	Full Primary	374	0	0%	2%	-	-	-	-
Waipipi School	Franklin	Full Primary	110	0	0%	-	-	-	-	-
Howick College	Howick	Secondary	1800	0	0%	-	-	-	-	-
Tyndale Park Christian School	Howick	Composite	120	0	0%	0%	0%	0%	0%	0%
Aorere College	Manukau	Secondary	1512	0	0%	0%	0%	0%	-	-
Ferguson Intermediate School	Manukau	Intermediate	480	0	0%	0%	-	-	0%	-
Holy Cross School (Papatoetoe)	Manukau	Full Primary	580	0	0%	-	-	-	-	-
King's College	Manukau	Secondary	950	0	0%	-	-	-	-	-
Koru School	Manukau	Full Primary	570	0	0%	-	-	-	-	-
Mangere Central School	Manukau	Full Primary	455	0	0%	-	-	-	-	-
Mary MacKillop School	Manukau	Full Primary	300	0	0%	0%	-	-	-	-
McAuley High School	Manukau	Secondary	689	0	0%	0%	0%	0%	0%	0%
Otahuhu College	Manukau	Secondary	1355	0	0%	0%	-	0%	0%	0%
Sir Edmund Hillary Collegiate Middle School	Manukau	Intermediate	226	0	0%	-	-	-	-	-
Sir Keith Park Special	Manukau	Composite	135	0	0%	-	-	-	-	-
South Auckland SDA School	Manukau	Full Primary	280	0	0%	-	-	-	-	-
St John The Evangelist	Manukau	Full Primary	265	0	0%	-	-	-	-	-
Sutton Park School	Manukau	Full Primary	495	0	0%	0%	-	-	-	-
Te Kura Kaupapa Maori a Rohe o Mangere	Manukau	Composite	184	0	0%	1%	-	-	-	-
zayed college for girls	Manukau	Intermediate/Secondary	74	0	0%	0%	-	-	-	-
Alfriston School	Manurewa-Papakura	Full Primary	311	0	0%	-	-	-	-	-
Brookby School	Manurewa-Papakura	Full Primary	106	0	0%	-	-	-	-	-
Drury Christian School	Manurewa-Papakura	Composite	40	0	0%	-	-	-	-	-

School Name	Ward	School Type	School Roll Eligible To Cycle	No. of Cycles Counted	Cyclists as share of those eligible[1]					
					2012	2011	2010	2009	2008	2007
Edmund Hillary School	Manurewa-Papakura	Full Primary	152	0	0%	0%	-	-	-	-
Karaka School	Manurewa-Papakura	Full Primary	227	0	0%	-	-	-	-	-
Manukau Christian School	Manurewa-Papakura	Full Primary	100	0	0%	0%	0%	2%	0%	4%
Manurewa High School	Manurewa-Papakura	Secondary	1875	0	0%	<1%	1%	0%	1%	2%
Opaheke Primary School	Manurewa-Papakura	Full Primary	600	0	0%	0%	-	-	-	-
Papakura South School	Manurewa-Papakura	Full Primary	94	0	0%	0%	-	-	-	-
Rosehill School	Manurewa-Papakura	Composite	147	0	0%	-	-	-	-	-
St Anne's Catholic School	Manurewa-Papakura	Full Primary	560	0	0%	0%	-	-	-	-
Te Kura Kaupapa Maori o Manurewa	Manurewa-Papakura	Full Primary	52	0	0%	-	-	-	-	-
Bailey Road School	Maungakiekie-Tamaki	Full Primary	433	0	0%	0%	-	-	-	-
Destiny School	Maungakiekie-Tamaki	Full Primary	190	0	0%	0%	-	-	-	-
Ellerslie School	Maungakiekie-Tamaki	Full Primary	529	0	0%	1%	-	-	-	-
Glen Innes School	Maungakiekie-Tamaki	Full Primary	171	0	0%	-	-	-	-	-
Glenbrae Primary School	Maungakiekie-Tamaki	Full Primary	162	0	0%	-	-	-	-	-
Golden Grove School	Maungakiekie-Tamaki	Full Primary	32	0	0%	0%	-	-	-	-
Panmure District School	Maungakiekie-Tamaki	Full Primary	160	0	0%	1%	-	-	-	-
Pt England School	Maungakiekie-Tamaki	Full Primary	570	0	0%	0%	-	-	-	-
Ruapotaka	Maungakiekie-Tamaki	Full Primary	180	0	0%	-	-	-	-	-
Sommerville Special School	Maungakiekie-Tamaki	Composite	198	0	0%	-	-	-	-	-
St Mary's Catholic School, Ellerslie	Maungakiekie-Tamaki	Full Primary	333	0	0%	0%	-	-	-	-
St Patrick's School (Panmure)	Maungakiekie-Tamaki	Full Primary	128	0	0%	-	-	-	-	-
St Pius X School (Glen Innes)	Maungakiekie-Tamaki	Full Primary	157	0	0%	1%	-	-	-	-
Stanhope Road Primary	Maungakiekie-Tamaki	Full Primary	520	0	0%	<1%	-	-	-	-
Tamaki Intermediate School	Maungakiekie-Tamaki	Intermediate	80	0	0%	1%	0%	1%	0%	3%
Glenfield Intermediate School	North Shore	Intermediate	368	0	0%	1%	1%	3%	2%	4%
Hato Petera College	North Shore	Secondary	139	0	0%	-	-	-	-	-

School Name	Ward	School Type	School Roll Eligible To Cycle	No. of Cycles Counted	Cyclists as share of those eligible[1]					
					2012	2011	2010	2009	2008	2007
St. Mary's School	North Shore	Full Primary	378	0	0%	0%	-	-	-	-
Wairau Valley Special School	North Shore	Composite	123	0	0%	-	-	-	-	-
Westminster Christian School	North Shore	Full Primary	193	0	0%	0%	-	-	-	-
Baradene College	Orakei	Intermediate/Secondary	1120	0	0%	0%	0%	0%	<1%	0%
Glen Taylor School	Orakei	Full Primary	296	0	0%	-	-	-	-	-
Saint Kentigern School for Girls - Corran	Orakei	Full Primary	130	0	0%	0%	0%	-	-	-
Ahuroa School	Rodney	Full Primary	66	0	0%	0%	-	-	-	-
Hare Krishna School	Rodney	Full Primary	89	0	0%	0%	-	-	-	-
Kaukapakapa School	Rodney	Full Primary	275	0	0%	0%	-	-	-	-
Living Way Christian School	Rodney	Composite	32	0	0%	5%	3%	9%	3%	24%
Rodney College	Rodney	Secondary	365	0	0%	0%	0%	0%	0%	2%
Tapora School	Rodney	Full Primary	26	0	0%	0%	-	-	-	-
Tauhoa School	Rodney	Full Primary	54	0	0%	0%	-	-	-	-
Tomarata	Rodney	Full Primary	125	0	0%	0%	-	-	-	-
Waimauku School	Rodney	Full Primary	580	0	0%	0%	-	-	-	-
Waioneke School	Rodney	Full Primary	83	0	0%	0%	-	-	-	-
Birdwood School	Waitakere	Full Primary	214	0	0%	0%	-	-	-	-
Colwill School	Waitakere	Full Primary	240	0	0%	<1%	-	-	-	-
Don Buck Primary School	Waitakere	Full Primary	210	0	0%	0%	-	-	-	-
Holy Cross Henderson	Waitakere	Full Primary	387	0	0%	0%	-	-	-	-
Kelston Deaf Education Centre	Waitakere	Full Primary	103	0	0%	-	-	-	-	-
Kelston Girls High School	Waitakere	Secondary	743	0	0%	0%	0%	0%	0%	0%
Lincoln Heights School	Waitakere	Full Primary	441	0	0%	0%	-	-	-	-
Royal Road School	Waitakere	Full Primary	285	0	0%	0%	-	-	-	-
St Dominic's College	Waitakere	Intermediate/Secondary	891	0	0%	0%	-	<1%	<1%	<1%
Te Kura Kaupapa o Hoani Waititi Marae	Waitakere	Composite	181	0	0%	2%	2%	0%	0%	-



School Name	Ward	School Type	School Roll Eligible To Cycle	No. of Cycles Counted	Cyclists as share of those eligible[1]					
					2012	2011	2010	2009	2008	2007
Titirangi Rudolf Steiner School	Waitakere	Full Primary	130	0	0%	0%	0%	0%	0%	0%
Auckland International College	Waitemata & Gulf	Secondary	380	0	0%	0%	0%	0%	0%	-
MindAlive	Waitemata & Gulf	Composite	47	0	0%	-	-	-	-	-
Mulberry Grove School	Waitemata & Gulf	Full Primary	31	0	0%	-	-	-	-	-
Glenavon School	Whau	Full Primary	246	0	0%	0%	-	-	-	-

## **APPENDICES**

Appendix One: Methodology

Appendix Two: Annual Average Daily Traffic (AADT) Calculation

# APPENDIX ONE: METHODOLOGY

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

## 1. Choice of Sites

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

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

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

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

## 2. Monitoring Times

### *Time Of Day*

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

### *Day Of Week*

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

### *Time Of Year*

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

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

It was agreed that manual counts would commence on Tuesday the 6<sup>th</sup> of March and be conducted on the first three fine days of the 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, or 15<sup>th</sup> of March.

Counts were conducted on the following days:

- Tuesday 6<sup>th</sup> March                      Albany, North Shore, Waitakere
- Wednesday 7<sup>th</sup> March                Whau, Albert-Eden-Roskill, Orakei, Manurewa-Papakura, Maungakiekie-Tamaki
- Tuesday 13<sup>th</sup> March                  Howick, Franklin, Manukau, Waitemata & Gulf

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

### *Weather and Daylight Conditions*

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

The weather on the three count days in 2012 was as follows:

**Tuesday 6<sup>th</sup> March**

- Sunrise: 7:11am; Sunset: 7:52pm.
- Highest temperature: 21.3 degrees Celsius.
- Mostly fine weather with some cloud for some sites in the morning and afternoon shifts.

**Wednesday 7<sup>th</sup> March**

- Sunrise: 7:12am; Sunset: 7:51pm.
- Highest temperature: 24.0 degrees Celsius.
- Mostly fine weather with some cloud for all sites in the morning, some sites experienced showers intermittently from 4:00pm until the end of the evening monitoring period.

**Tuesday 13<sup>th</sup> March**

- Sunrise: 7:17am; Sunset: 7:43pm.
- Highest temperature: 21.3 degrees Celsius.
- Mostly fine weather with some cloud for some sites in the morning and afternoon shifts.

### **3. Conducting The Manual Counts**

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

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

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

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

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

### **Briefing Session**

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

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

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

### **Conducting The Manual Counts**

Each site was assigned to a surveyor, who was issued with a map that showed the range of movements a cyclist could make through that site. In addition to the map, surveyors were issued with a clipboard, a safety vest and a letter identifying them as a member of a Gravitass research team<sup>11</sup>.

During their shift the surveyor collected data on:

- The total number of cyclists<sup>12</sup> passing through the intersection;
- The direction in which cyclists are travelling (using the numbers on the map provided);
- The time at which cyclists pass through the intersection (to the nearest minute);
- Whether cyclists are school children or adults (determined by whether they are wearing a school uniform or clearly of school age);
- Whether cyclists are wearing a helmet;
- Gender of the cyclist (*collected for the first time in 2011*); and
- Whether cyclists are riding on the road, footpath or designated off- road cycleway<sup>13</sup>.

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<sup>11</sup> This letter also contained contact details for Auckland Transport and Gravitass Research and Strategy for any member of the public or local business owners who had queries about the work being undertaken.

<sup>12</sup> To ensure consistency across all surveyors, a “cycle” was defined as being non-motorised, with one or two wheels and requiring pedalling to make it move. Note that this definition did not include scooters.

<sup>13</sup> Note: For the purpose of this project, an off-road cycleway is defined as designated off-road path for cycles. This includes exclusive cycle paths, separated paths (such as the footpath on Tamaki Drive) and shared-use paths (available to cyclists and pedestrians). It excludes on-road cycle lanes (that is, designated lanes marked on the road).

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

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

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

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

#### **4. 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.

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

It is acknowledged that the number of cyclists using a site varies by time of day, day of the week and week of the year, and therefore it is not valid to simply multiply manual count data collected over a certain (relatively brief) period out to represent a full day, week or year. However, according to Land Transport New Zealand<sup>14</sup>, Annual Average Daily Traffic (AADT) analysis can be used to estimate the average annual daily flow of cyclists from manual and automated cycle counts conducted at one point in time. The procedure involves deriving scale factors, which account for the time of day, day of the week, and week of the year (which varies with school holidays and season) as well as weather conditions on the count day. These scale factors are then applied to the count data collected to give an AADT estimate.

Using the manual count figures for each site, it has been possible to provide the average annual daily traffic flow of cyclists (cycling AADT) estimate for each site. AADT scale factors (morning and afternoon) were provided by ViaStrada<sup>15</sup>.

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<sup>14</sup> <http://www.ltsa.govt.nz/road-user-safety/walking-and-cycling/cycle-network/appendix2.html>

<sup>15</sup> ViaStrada is a traffic engineering and transport planning consultancy based in Christchurch, New Zealand.

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

*Note: ViaStrada acknowledge that, as cycling volumes fluctuate from day to day depending on the weather, this method should be used with caution. They note that ideally an estimate should be achieved based on the average of the results of several counts, rather than counts from a single day, as in this study<sup>16</sup>.*

## **6. School Bike Shed Counts**

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

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

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

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<sup>16</sup> Appendix 2 of the Cycle Network and Route Planning Guide (CNRPG) (Land Transport New Zealand, 2004)  
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## **Methodology**

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

1. Gravitas designed an information sheet that was distributed to most full primary, intermediate, secondary and composite (Years 1 to 13) schools in the Auckland region via email (note a small number of schools were omitted due to the special nature of the students e.g. boarding schools, special needs schools). This sheet was designed in consultation with Auckland Transport to ensure all necessary information was collected.
2. This email was then sent to all eligible schools in Auckland region (n=317) to notify them of the bike shed count and to let them know what they would be required to do. Included in this email was a link to an online count form.
3. To enhance the comparability of the school bike shed data with that of the regional cycle monitor, Tuesday 6<sup>th</sup> March was designated as the bike shed count day. (Most schools reported that they undertook the count on this day).
4. Once the school bike shed count had been completed, schools completed the online count form and submitted it electronically to Gravitas. Gravitas contacted all participating schools who had not returned their sheets after five working days, first by email (two rounds) and then by telephone. All count forms were checked for completeness before being data-entered into Excel. In 2012, 233 responses were received, a response rate of 74 per cent. (This compares with 68 per cent in 2011).

## **7. Reporting**

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

### **Manual Counts - Site Level Reporting**

The following results have been reported for each site:

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

### ***Manual Counts - Aggregated Reporting***

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

### ***Bike Shed Counts***

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

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

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

### Purpose

The purpose of this appendix is to document the recommended procedure for estimating a cycling AADT<sup>17</sup> in the Auckland region from any Gravitas manual count.

### Method for Estimating AADT

The methodology is based on that published in Appendix 2 of the Cycle Network and Route Planning Guide (CNRPG)<sup>18</sup>, adjusted for Auckland conditions based on data collected during March 2007. The aim was to use the published methodology as much as possible, with any necessary departure from it documented below. The following equation yields the best estimate of a cycling AADT:

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

where *Count* = result of count period

*H* = scale factor for time of day

*D* = scale factor for day of week

*W* = scale factor for week of year

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

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

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

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<sup>17</sup> Annual average daily traffic

<sup>18</sup> LTSA, 2004

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

	<b>Morning</b>	<b>Afternoon</b>
<b>Dry weather</b>	<b>3.06</b>	<b>2.78</b>
<b>Wet weather</b>	<b>4.78</b>	<b>4.35</b>

### Worked Example

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

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

**Figure 1: Scale Factors for Auckland Region**

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

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

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

Weather	R
Fine	100%
Rain	64%