

Ambient air quality (nitrogen dioxide) monitoring network - site metadata report 2007-2011



Ambient air quality (nitrogen dioxide) monitoring network - site metadata report 2007 to 2011

Prepared for
New Zealand Transport Agency (NZTA)

By


water Care
services limited
Laboratory Services
Air Quality Department

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Introduction

The NZ Transport Agency (NZTA) is a Crown entity responsible for, among other things, managing 10,894 kilometres of state highways. The state highway system accounts for about 12 percent of New Zealand's roads and around half of the 40 billion vehicle kilometres New Zealanders travel each year¹. Motor vehicles travelling on roads emit an array of air pollutants which can contribute to harmful effects on human health and smog formation.

Section 96(1)(a) of the Land Transport Management Act requires that the NZTA exhibit a sense of social and environmental responsibility. The NZTA promotes an accessible and safe transport system that contributes positively to New Zealand's economic, social and environmental welfare and is committed to acting in an environmentally and socially responsible manner. Giving effect to this policy, the NZTA's Environmental Plan² presents approaches and implementation plans for a range of environmental and social impacts arising from the state highway network. The specific objectives for improving air quality include:

- A1. Understand the contribution of vehicle traffic to air quality
- A2. Ensure new state highway projects do not directly cause national environmental standards for ambient air quality to be exceeded
- A3. Contribute to reducing emissions where the state highway network is a significant source of exceedances of national ambient air quality standards

Annual assessment of vehicle emissions from the state highway network is undertaken using data gathered from selected sites using passive samplers to measure nitrogen dioxide (NO₂) as a general proxy for air pollution from motor vehicles. The World Health Organisation (WHO) states³ that:

"Nitrogen dioxide concentrations closely follow vehicle emissions in many situations, so nitrogen dioxide levels are generally a reasonable marker of exposure to traffic-related emissions."

In 2007, NZTA started a national NO₂ passive monitoring programme to determine relative levels of vehicle pollution across the state highway network. As at the end of 2011, diffusion tubes (a type of passive sampler) are now deployed in 128 sites across New Zealand (including state highway, local road and background locations). The overall aim is to see a decreasing trend in NO₂ concentrations measured at these sites.

This report presents the metadata for all sites (past and current) that have been part of the NZTA national NO₂ passive monitoring network sites since 2007 to end 2011 and includes the following:

- Summary tables listing all sites by monitoring zone from 2007 to 2011
- Maps showing the coverage of the national network in each year from 2007 to 2011
- Individual one-page descriptions for each site ordered by monitoring zone outlining critical details such as location, type and the distance to nearest roads/receptors

¹ MoT (2011). *The New Zealand vehicle fleet, Annual fleet statistics 2010*, Ministry of Transport, dated March 2011 but updated in August 2011.

² Transit (2008). *Environmental Plan, version 2*, Transit New Zealand, June 2008. Note: Transit New Zealand merged with Land Transport New Zealand to form the NZ Transport Agency on 1 August 2008.

³ WHO (2006). *Air quality guidelines global update 2005: Particulate matter, ozone, nitrogen dioxide, and sulphur dioxide*, World Health Organisation, October 2006.

This report is intended to complement the 2007-2011 monitoring report⁴, which details the results and trends from the passive sampling programme since its inception.

Monitoring zones

NZTA monitoring zones have been established for each main urban area⁵ in New Zealand, as well as for Taupo, Otaki, Blenheim, Greymouth and Queenstown. The number of monitoring sites within each zone reflects the risk of being exposed to elevated levels of air pollution arising from vehicles using the state highway network. This is based on the population of urban areas in each zone.

In 2007 and 2008, there were 53 locations monitored throughout New Zealand. NZTA expanded the network in 2009 to include background and local road sites and then undertook a further significant expansion in 2010 to improve coverage. As at the end of 2011, the national network now covers 128 locations. Table 1 summarises the number of monitoring sites in each zone.

Table 1: The number of monitoring sites in each zone from 2007 to 2011

Monitoring zone	Population in 2006 (000's)	Site type	Number of sites*				
			2007	2008	2009	2010	2011
Whangarei	49	SH	1	1	1	1	1
		Background	-	-	1	2	1
Auckland - Northern	248	SH	3	3	7	6	6
		Local	1	1	4	4	4
		Background	-	-	1	1	1
Auckland - Western	192	SH	1	1	5	5	5
		Local	-	-	4	4	4
		Background	-	-	1	1	1
Auckland - Central	396	SH	6	6	6	6	6
		Local	-	-	5	5	5
		Background	1	1	1	1	1
Auckland - Southern	372	SH	4	4	6	6	6
		Local	-	-	3	3	3
		Background	-	-	1	1	1
Hamilton	155	SH	3	3	3	5	5
		Local	-	-	-	3	3
		Background	-	-	-	1	1

⁴ NZTA (2012). *Ambient air quality (nitrogen dioxide) monitoring network - annual report 2007-2011*, NZ Transport Agency, June 2012.

⁵ The NZTA monitoring zones reflect the "urban areas" used by Statistics New Zealand. The urban area classification is designed to identify concentrated urban or semi-urban settlements without the distortions of administrative boundaries. Three types of urban areas are defined – main, secondary and minor – and these are delineated by population. See www.stats.govt.nz/census/about-2006-census/2006-census-definitions-questionnaires/definitions/geographic.aspx for details.

Monitoring zone	Population in 2006 (000's)	Site type	Number of sites*				
			2007	2008	2009	2010	2011
Cambridge	15	SH	1	1	1	1	1
Te Awamutu	14	SH	-	-	-	1	1
Taupo	22	SH	1	1	1	1	1
Tauranga	109	SH	3	3	3	4	4
		Local	-	-	-	2	2
		Background	-	-	-	1	1
Rotorua	54	SH	1	1	1	1	1
		Background	-	-	-	1	1
Gisborne	33	SH	1	1	1	1	1
Napier	56	SH	2	2	2	2	2
		Background	-	-	-	1	1
Hastings	62	SH	1	1	1	1	1
		Background	-	-	-	1	1
New Plymouth	49	SH	1	1	1	1	1
		Background	-	-	-	1	1
Wanganui	39	SH	1	1	2	1	1
Palmerston North	76	SH	1	1	1	3	3
		Local	-	-	-	1	1
		Background	-	-	-	1	1
Otaki	5	SH	-	-	-	1	1
Kapiti	37	SH	1	1	1	1	1
Upper Hutt	36	SH	-	-	-	1	1
		Background	-	-	-	1	1
Lower Hutt	97	SH	2	2	3	3	3
		Local	-	-	-	1	1
		Background	-	-	-	1	1
Porirua	48	SH	1	1	1	1	1
Wellington	179	SH	2	2	4	6	5
		Local	-	-	-	3	3
		Background	-	-	-	2	2
Nelson	56	SH	3	3	3	3	3
		Background	-	-	-	1	1

Monitoring zone	Population in 2006 (000's)	Site type	Number of sites*				
			2007	2008	2009	2010	2011
Blenheim	29	SH	1	1	1	1	1
Christchurch	361	SH	3	3	3	6	6
		Local	-	-	-	4	4
		Background	1	1	1	2	2
Greymouth	10	SH	1	1	1	1	1
Dunedin	111	SH	2	2	2	3	4
		Local	1	1	1	3	3
		Background	-	-	-	1	1
Queenstown	10	SH	1	1	1	1	1
Invercargill	47	SH	1	1	1	1	1
		Background	-	-	-	1	1
Grand Total			53	53	86	130	129

* Note: the number of sites includes all sites that had data for the current year. Therefore, if a site was relocated to another location in a particular year but both locations have at least one month's data for that year then both sites are counted in this table.

Monitoring sites in the NZTA national NO₂ passive monitoring network are classified as:

- *State highway* sites, which are located within 100m of the highway being monitored
- *Local road* sites, which are located within 50m of the road being monitored
- *Urban background* sites, which are located more than 100m from a state highway and more than 50m from a busy local road

Monitoring locations

Table 2 summarises the metadata for all sites that were operational between 2007 and 2011.

Figures 1 to 5 illustrate how the monitoring network has developed from 2007 to 2011.

Table 2: Summary of metadata for the NZTA national ambient NO₂ monitoring network for sites for 2007 to 2011

Site metadata summary										
Monitoring zone	Site ID	Site name	Area	NZTM easting	NZTM northing	Distance to sensitive receptor (m)	Site type	State highway	Distance to SH (m)	Distance to local road (m)
Whangarei	AUC001	Western Hills Dr / Selwyn Ave	Woodhill	1718908	6046054	10	SH	1	1	350
	AUC038	Huia St (relocated to AUC171)	Whau Valley	1717812	6048753	10	Background	1	880	95
	AUC171	Korau Rd (relocated from AUC038)	Tikipunga	1720175	6049513	5	Background	1	1535	80
Auckland - Northern	AUC004	Grand Dr / Tauranga Pl	Orewa	1750060	5949364	50	SH	1A	1	895
	AUC005	Northern Motorway / Fairview Ave	Albany	1753063	5935161	120	Local	1	160	2
	AUC006	Northern Motorway / Curry Ln (relocated to AUC170)	Westlake	1755497	5928947	25	SH	1	5	35
	AUC007	Northern Motorway / Sulphur Beach Rd	Northcote	1756065	5923935	5	SH	1	11	610
	AUC039	Albany Highway / Ashby Pl	Unsworth Heights	1752018	5930500	8	SH	18	60	330
	AUC040	Upper Harbour Dr / William Pitcher Pl	Greenhithe	1749755	5928069	15	SH	18	12	270
	AUC041	Glenfield Rd / Sunset Rd	Glenfield	1753390	5929775	5	Local	18	1115	1
	AUC042	Lake Rd / Service Ln	Takapuna	1758078	5927136	5	Local	1	1590	1
	AUC043*	Northern Motorway / Wairau Rd (AC Takapuna) * = triplicate site	Takapuna	1756069	5928070	50	SH	1	50	45
	AUC044*									
	AUC045*									
	AUC046	Lake Rd / Esmonde Rd	Takapuna	1758428	5926591	5	Local	1	1425	2
	AUC047	Woodcote Dr	Marlborough	1753696	5927375	10	Background	1	2530	60
AUC170	Northern Motorway / Tristram Ave (relocated from AUC006)	Westlake	1755482	5928973	25	SH	1	5	5	
Auckland - Western	AUC020	North Western Motorway / Cedar Heights Ave	Massey East	1744601	5921792	10	SH	16	90	170
	AUC048	North Western Motorway / Te Atatu Rd	Te Atatu	1747262	5919849	40	SH	18	2	2
	AUC049	Hobsonville Rd / Carnegie Cres	Hobsonville	1747244	5926410	5	SH	18	10	710
	AUC050	SH16 / Kennedys Rd	Whenuapai	1742258	5926703	7	SH	16	4	155

Site metadata summary										
Monitoring zone	Site ID	Site name	Area	NZTM easting	NZTM northing	Distance to sensitive receptor (m)	Site type	State highway	Distance to SH (m)	Distance to local road (m)
	AUC051	North Western Motorway / Taitapu St	Massey East	1745021	5921302	8	SH	16	70	195
	AUC052	Henderson Valley Rd / Hickory Ave	Henderson	1745187	5916791	15	Local	16	3450	5
	AUC053	Te Atatu Rd / Edmonton Rd	Te Atatu South	1746835	5918811	5	Local	16	930	3
	AUC054*	Lincoln Rd / Henderson Intermediate (AC Henderson) * = triplicate site	Henderson	1745143	5918530	20	Local	16	2095	7
	AUC055*									
	AUC056*									
	AUC057*	Meadowvale Rd / Ceramco Park (AC Glen Eden) * = triplicate site	Glen Eden	1747149	5912480	10	Background	16	6160	250
	AUC058*									
	AUC059*									
AUC063	Great North Rd / Rata St	New Lynn	1749443	5913945	3	Local	20	4140	10	
Auckland - Central	AUC008	Northern Motorway / St Mary's Bay Rd	St Mary's Bay	1755662	5921138	10	SH	1	70	280
	AUC009	CMJ / Canada St	Newton	1756811	5919276	20	SH	1	20	130
	AUC011	Southern Motorway / Mt Hobson Rd	Remuera	1758969	5917106	10	SH	1	10	390
	AUC013*	Southern Motorway / Gavin St (AC/MfE Penrose) * = triplicate site	Penrose	1761757	5914171	45	SH	1	100	210
	AUC014*									
	AUC015*									
	AUC021	Waterbank Cres	Waterview	1751684	5917742	10	Background	16	150	260
	AUC022	North Western Motorway / Niger St	Arch Hill	1755717	5918398	10	SH	16	32	110
	AUC025	Hugh Watt Dr / Melrose Rd	Hillsborough	1756246	5912958	5	SH	20	40	215
	AUC060	New North Rd / Mount Albert Rd	Mt Albert	1752882	5916590	3	Local	16	1515	1
	AUC061	Great South Rd / Green Ln East	Greenlane	1759925	5915778	8	Local	1	255	2
	AUC062	Ellerslie Panmure Highway / Mountain Rd	Panmure	1764307	5914946	10	Local	1	2300	3
	AUC064	Sandringham Rd / Kowhai Intermediate (MfE Kingsland)	Kingsland	1755692	5917809	2	Local	16	470	4
AUC071	Mangere Rd / Walmsley Rd	Otahuhu	1763685	5908918	3	Local	1	1670	1	

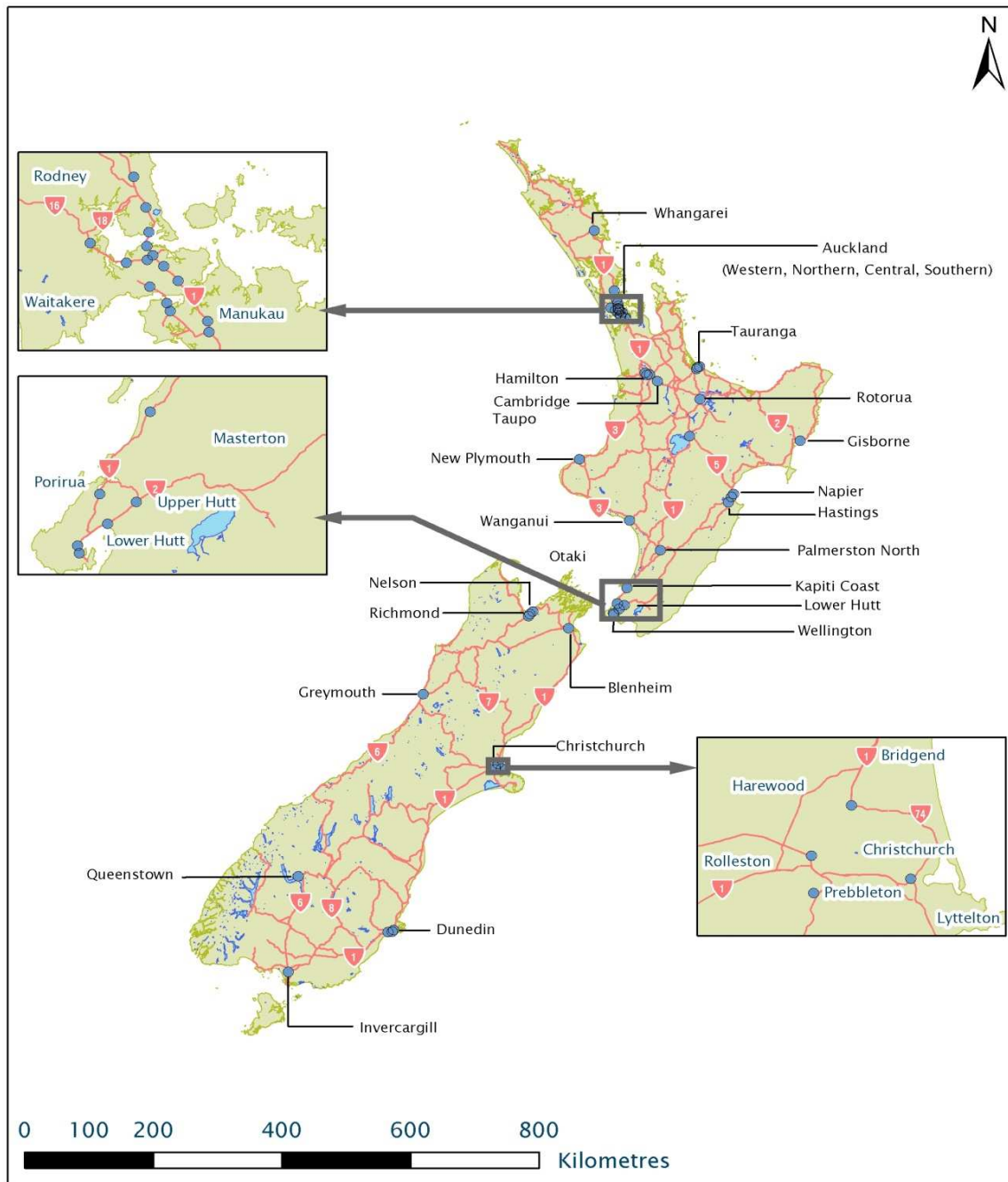
Site metadata summary										
Monitoring zone	Site ID	Site name	Area	NZTM easting	NZTM northing	Distance to sensitive receptor (m)	Site type	State highway	Distance to SH (m)	Distance to local road (m)
Auckland - Southern	AUC018	Southern Motorway / Waimate St	Flat Bush	1767463	5906047	20	SH	1	60	250
	AUC019	Southern Motorway / Liggett Dr	Manukau	1767713	5903803	10	SH	1	100	60
	AUC026	South Western Motorway / Hastie Ave	Mangere Bridge	1759570	5909661	5	SH	20	25	270
	AUC027	South Western Motorway / Ashmore Pl	Mangere	1760189	5908083	5	SH	20	20	490
	AUC067	South Western Motorway / Massey Rd	Mangere East	1761844	5906521	6	SH	20	20	85
	AUC068	George Bolt Dr / Kirkbride Rd	Mangere	1759293	5906550	10	SH	20A	2	2
	AUC069	Bairds Rd / Otara Rd	Otara	1766535	5908095	5	Local	1	605	10
	AUC070	Dominion Rd / Settlement Rd	Papakura	1774740	5896065	25	Local	1	3440	5
	AUC072	Pakuranga Rd / Bell Reserve (AC Pakuranga)	Pakuranga	1768412	5913942	5	Local	1	4320	3
	AUC073	Oakridge Way (AC Botany)	Botany	1771370	5912359	10	Background	1	7040	250
Hamilton	HAM001	Cambridge Rd / Morrinsville Rd	Hillcrest	1804416	5813725	40	SH	1	3	240
	HAM002	Avalon Dr / Grandview Rd	Nawton	1797762	5816739	40	SH	1	3	20
	HAM003	Lorne St / Ohaupo Rd	Melville	1800756	5813015	2	SH	1 & 3	1	5
	HAM012	Te Rapa Rd / Ann Michele St	Pukete	1795724	5821363	8	SH	1	4	910
	HAM013	Greenwood St / Killarney Rd	Frankton	1799056	5814544	10	SH	1	1	1
	HAM014	Victoria St / Ulster St	Beerescourt	1799295	5817333	31	Local	1	1670	1
	HAM015	Brooklyn Rd / Peachgrove Rd	Claudelands	1801984	5816917	20	Local	1	3400	3
	HAM016	Bridge St / Cobham Dr	Hamilton West	1801223	5814608	7	Local	1	1190	1
	HAM017	Seamer Pl	St Andrews	1798688	5819138	10	Background	1	1665	93
Cambridge	HAM004	Victoria St / Queen St	Cambridge	1816991	5803351	15	SH	1	1	30
Te Awamutu	HAM022	Ohaupo Rd / Albert Park Dr	Te Awamutu	1804490	5790839	5	SH	3	1	80
Taupo	HAM005	Tongariro St / Norman Smith St	Taupo	1866997	5714268	60	SH	1	2	5
Tauranga	HAM007	Fifteenth Ave / Cameron Rd	Tauranga South	1878044	5822402	45	SH	2A	2	2

Site metadata summary										
Monitoring zone	Site ID	Site name	Area	NZTM easting	NZTM northing	Distance to sensitive receptor (m)	Site type	State highway	Distance to SH (m)	Distance to local road (m)
	HAM008	Maunganui Rd / Golf Rd	Mt Maunganui	1882910	5826562	30	SH	2	2	30
	HAM010	Marsh St / Chapel St	Tauranga	1879269	5825395	60	SH	2	2	2
	HAM018	SH2 / Maunganui Rd	Te Maunga	1884544	5824456	50	SH	2	2	810
	HAM019	Bellevue Rd / Otumoetai Rd	Brookfield	1876492	5823919	20	Local	2	1040	2
	HAM020	Cameron Rd / Twentythird Ave	Gate Pa	1877026	5821388	15	Local	2	1090	3
	HAM021	Seaforth Gr	Greerton	1875811	5819200	5	Background	29	360	280
Rotorua	HAM006	Old Taupo Rd / Pukuatua St	Rotorua	1883582	5774041	40	SH	30A & 5	3	40
	HAM023	Lighthouse St	Glenholme	1884716	5772827	10	Background	5	880	170
Gisborne	NAP001	Wainui Rd / Craig Rd	Gisborne	2038946	5707152	5	SH	35	2	190
Napier	NAP002	Napier Hastings Motorway / Meeanee Rd	Jervoistown	1931872	5616278	40	SH	50	3	2
	NAP003	Hyderabad Rd / Georges Dr	Marewa	1935394	5620994	10	SH	2	3	70
	NAP006	Hastie Pl	Onekawa	1934262	5618615	15	Background	50	800	600
Hastings	NAP004	Napier Hastings Motorway / Omaha Rd	Woolwich	1927501	5607387	180	SH	50A	20	10
	NAP005	Amanda Pl	Mayfair	1931267	5605429	15	Background	2	230	100
New Plymouth	WAN001	Northgate / Paynters Ave	Fitzroy	1695561	5676854	50	SH	3	1	140
	WAN009	Benbow Pl	Westown	1691914	5674457	5	Background	45	1360	240
Wanganui	WAN002	London St / Grey St (relocated to WAN010)	Wanganui	1773681	5578142	50	SH	3	1	70
	WAN010	London St / Grey St (relocated from WAN002)	Wanganui	1773776	5578231	10	SH	3	1	60
Palmerston North	WAN004	Rangitikei St / Featherston St	Palmerston Nth Central	1821340	5530133	20	SH	3	1	1
	WAN005	Pioneer Hwy / Maxwells Line	Awapuni	1818864	5527893	30	SH	56	1	35
	WAN006	Main St / Ruahine St	Terrace End	1823226	5530270	40	SH	3	1	10
	WAN007	Pitt St / Ferguson St	West End	1821556	5528890	20	Local	3	920	1

Site metadata summary										
Monitoring zone	Site ID	Site name	Area	NZTM easting	NZTM northing	Distance to sensitive receptor (m)	Site type	State highway	Distance to SH (m)	Distance to local road (m)
	WAN008	Tyndall St	Roslyn	1822113	5531385	5	Background	3	1250	100
Otaki	WEL061	State Highway 1 / Mill Rd	Otaki	1782095	5485605	15	SH	1	3	5
Kapiti	WEL004	Ihakara Street (relocated to WEL063)	Paraparaumu	1768605	5467998	20	SH	1	3	610
	WEL063	Main Rd South / Rimutaka St (relocated from WEL004)	Paraparaumu	1769627	5469035	20	SH	1	5	680
Upper Hutt	WEL057	River Rd / Totara Park Rd	Clouston Park	1774749	5446335	20	SH	2	2	5
	WEL058*	GWRC Savage Park * = triplicate site	Upper Hutt	1773803	5445683	21	Background	2	600	69
	WEL059*									
	WEL060*									
Lower Hutt	WEL002	Western Hutt Rd / Manor Park Rd	Manor Park	1765598	5441729	180	SH	2	1	485
	WEL003	Western Hutt Rd / Riddlers Cres	Petone	1757206	5435187	8	SH	2	40	150
	WEL028*	Western Hutt Rd / Block Rd (GWRC Melling Station) * = triplicate site	Boulcott	1759881	5436960	5	SH	2	10	50
	WEL029*									
	WEL030*									
	WEL052	Western Hutt Rd / Pharazyn St	Boulcott	1759667	5436831	12	SH	2	15	185
	WEL053	Knights Rd / Bloomfield Tce	Lower Hutt	1759934	5436058	20	Local	2	828	1
	WEL054*	GWRC Birch Lane * = triplicate site	Waterloo	1761034	5435864	8	Background	2	1595	100
	WEL055*									
WEL056*										
Porirua	WEL005	Johnsonville Porirua Motorway / Titahi Bay Rd	Porirua	1754930	5444242	30	SH	1	50	5
Wellington	WEL007	Wellington Urban Motorway / Bolton St	Lambton	1748501	5428612	15	SH	1	30	175
	WEL008	Rugby St / Sussex St	Mt Cook	1748917	5426328	15	SH	1	2	95
	WEL027	Johnsonville Porirua Motorway / Helston Rd (relocated to WEL064)	Johnsonville	1751754	5435077	5	SH	1	100	5

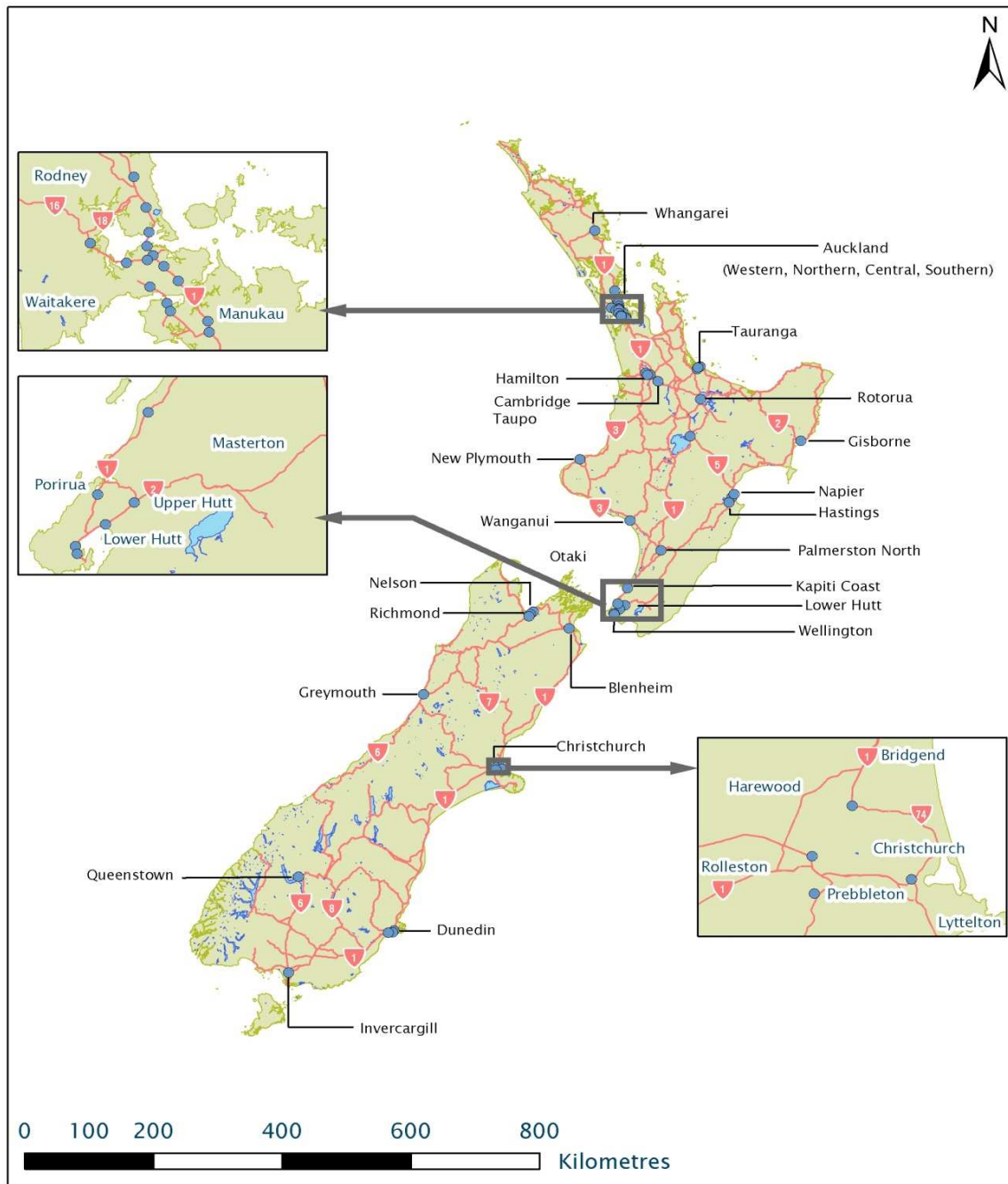
Site metadata summary										
Monitoring zone	Site ID	Site name	Area	NZTM easting	NZTM northing	Distance to sensitive receptor (m)	Site type	State highway	Distance to SH (m)	Distance to local road (m)
	WEL031*	Vivian St / Victoria St (GWRC Corner V) * = triplicate site	Te Aro	1748455	5427079	15	SH	1	7	5
	WEL032*									
	WEL033*									
	WEL034*	GWRC Duncan Park * = triplicate site	Linden	1753584	5442139	18	Background	1	585	60
	WEL035*									
	WEL036*									
	WEL047	Karori Rd / Campbell St	Karori	1745617	5428203	10	Local	1	2895	1
	WEL048	Thames St	Island Bay	1748544	5422507	1	Background	1	2870	150
	WEL049	Riddiford St / Mein St	Newtown	1748907	5425194	15	Local	1	1090	1
	WEL050	Wellington Rd / Hamilton Rd	Kilbirnie	1750102	5425039	2	SH	1	4	195
	WEL051	Miramar Ave / Hobart St	Miramar	1752043	5424476	3	Local	1	575	4
WEL064	Johnsonville Porirua Motorway / Helston Rd (relocated from WEL004)	Johnsonville	1751625	5435095	7	SH	1	7	5	
Nelson	WEL009	Haven Rd / Queen Elizabeth II Dr	Nelson	1623243	5431540	40	SH	6	3	10
	WEL010	Whakatu Dr / Songer St	Stoke	1618638	5427252	10	SH	6	10	125
	WEL011	Richmond Deviation / Melia Pl	Richmond	1616187	5424131	10	SH	6	60	420
	WEL062	Totara St	Toi Toi	1622565	5429808	10	Background	6	1335	90
Blenheim	WEL012	Nelson St / McLauchlan St	Blenheim	1678828	5404333	20	SH	6	3	390
Christchurch	CHR002	Main North Rd / Queen Elizabeth II Dr	Redwood	1569019	5185272	30	SH	74	2	40
	CHR003	Yaldhurst Rd / Curletts Rd	Riccarton	1565126	5180169	30	SH	73	5	5
	CHR004	Nash Rd	Hilmorton	1565311	5176435	60	Background	75	440	715
	CHR006	Rutherford St / Ferry Rd	Woolston	1574752	5177873	20	SH	74A	12	5
	CHR011	Main South Rd / Parker St	Hornby	1560924	5178620	15	SH	1	10	5
	CHR012	Memorial Ave / Grahams Rd	Burnside	1565320	5182825	10	Local	1	2195	1
	CHR013	Main North Rd / Johns Rd	Belfast	1569958	5189023	6	SH	74 & 1	3	1695
	CHR014	Brougham St / Waltham Rd	Waltham	1571458	5178310	8	SH	73	12	5

Site metadata summary										
Monitoring zone	Site ID	Site name	Area	NZTM easting	NZTM northing	Distance to sensitive receptor (m)	Site type	State highway	Distance to SH (m)	Distance to local road (m)
	CHR015	Shirley Rd / North Pde	Shirley	1572768	5182715	12	Local	74	2005	10
	CHR016	Buckleys Rd / Norwich St	Linwood	1573683	5179994	7	Local	73	2150	3
	CHR017*	ECan Riccarton Rd * = triplicate site	Riccarton	1567570	5180276	50	Local	73	1900	5
	CHR018*									
	CHR019*									
	CHR020*	ECan Coles Pl * = triplicate site	St Albans	1570393	5182343	40	Background	74	2545	155
	CHR021*									
CHR022*										
Greymouth	CHR001	Tainui St / School Lane	Greymouth	1452575	5298043	13	SH	6	1	175
Dunedin	DUN001	Cumberland St / Hanover St	Dunedin	1406666	4917299	30	SH	1	2	195
	DUN002	Dunedin Southern Motorway / Barnes Dr	Caversham	1404335	4914580	5	SH	1	40	150
	DUN003	Dunedin Southern Motorway / Old Brighton Rd (relocated to DUN011)	Fairfield	1397755	4913692	10	Local	1	150	2
	DUN006	Quarry Rd / Gladstone Rd	Mosgiel	1394721	4915218	30	SH	87	1	80
	DUN007	Durham St	Mornington	1404084	4915951	3	Background	1	1470	50
	DUN008	Stuart St / Strathmore Cres	Roslyn	1405367	4917609	5	Local	1	1310	10
	DUN009	Anderson Bay Rd / Bay View Rd	South Dunedin	1406779	4914351	20	Local	1	1215	2
	DUN011	Dunedin Southern Motorway / Old Brighton Rd (relocated from DUN003)	Fairfield	1397812	4913605	125	SH	1	60	3
Queenstown	DUN004	Stanley St / Sydney St	Queenstown	1258576	5004222	100	SH	6A	3	455
Invercargill	DUN005	Dee St / Don St	Invercargill	1242407	4849734	5	SH	6	1	265
	DUN010	Terrace St	Rosedale	1243428	4852255	10	Background	6	1130	50



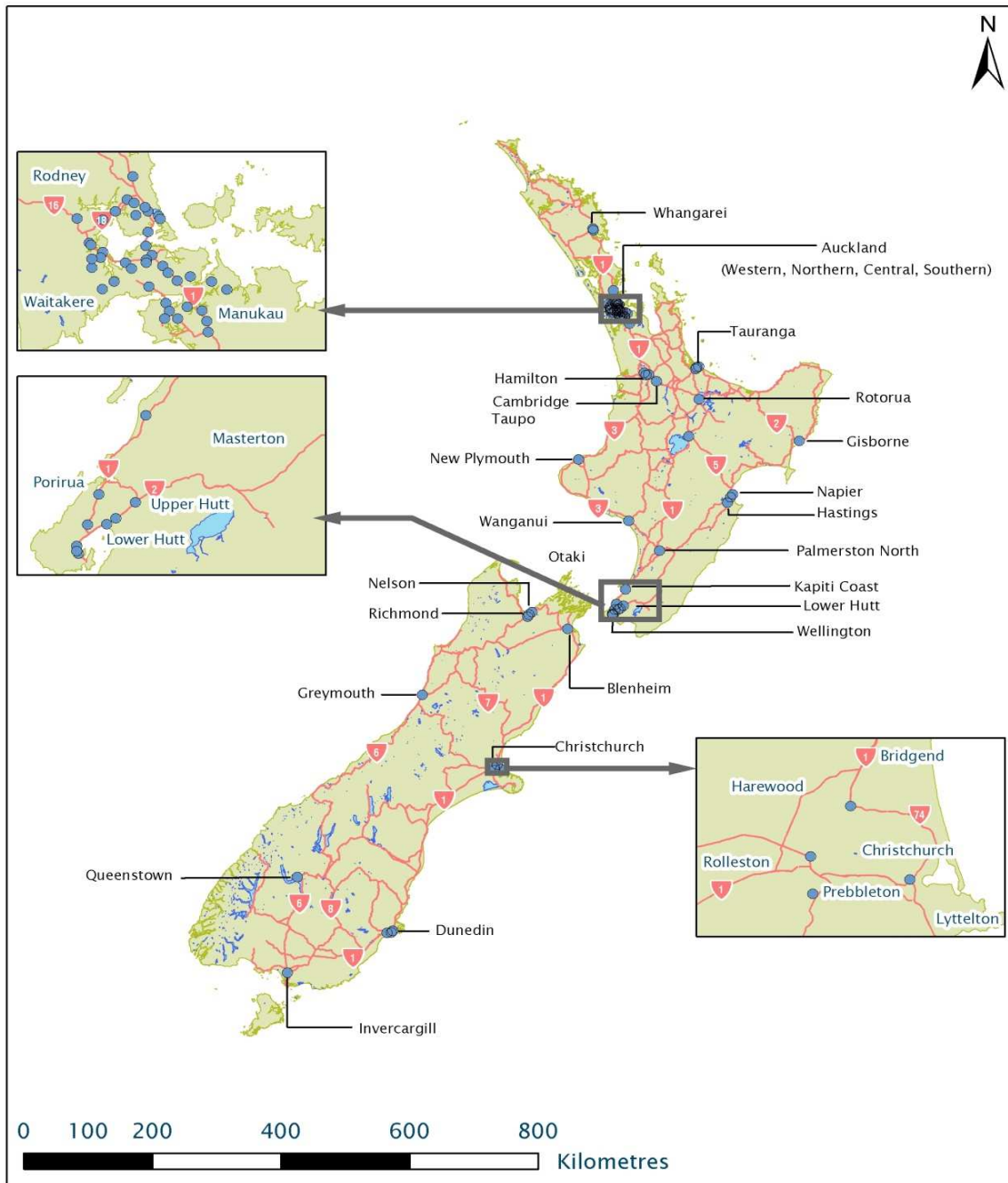
P:\318\3181987\TGI\55_Workspaces\01_mxd\110210_AirQualityReportMaps\110210_MetadataReports\Overview_2007_Rev3.mxd

Figure 1: Map of the NZTA national nitrogen dioxide monitoring network in 2007



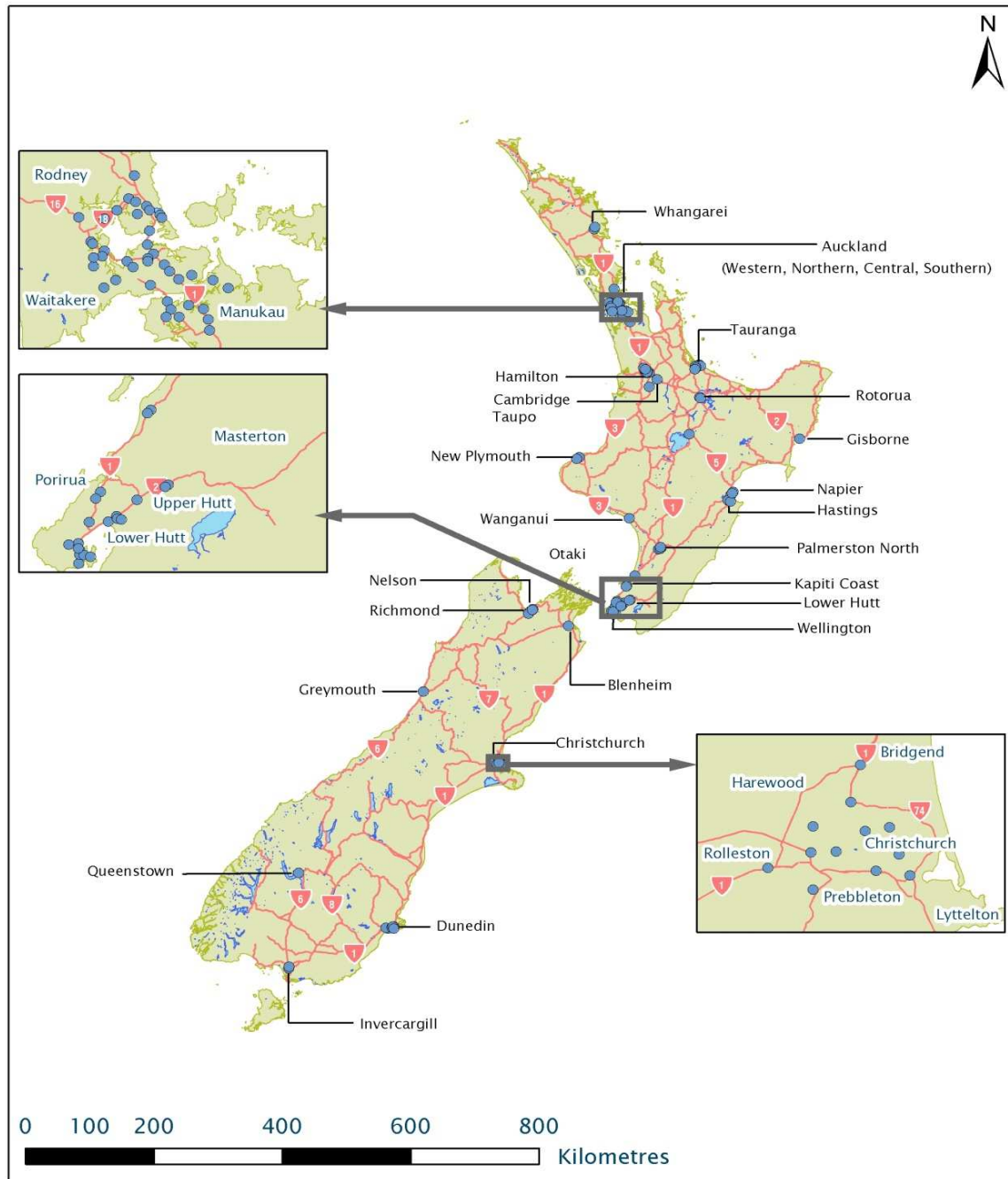
P:\318\3181987\TGI\55_Workspaces\01_mxd\110210_AirQualityReportMaps\110210_MetadataReports\Overview_2008_Rev3.mxd

Figure 2: Map of the NZTA national nitrogen dioxide monitoring network in 2008



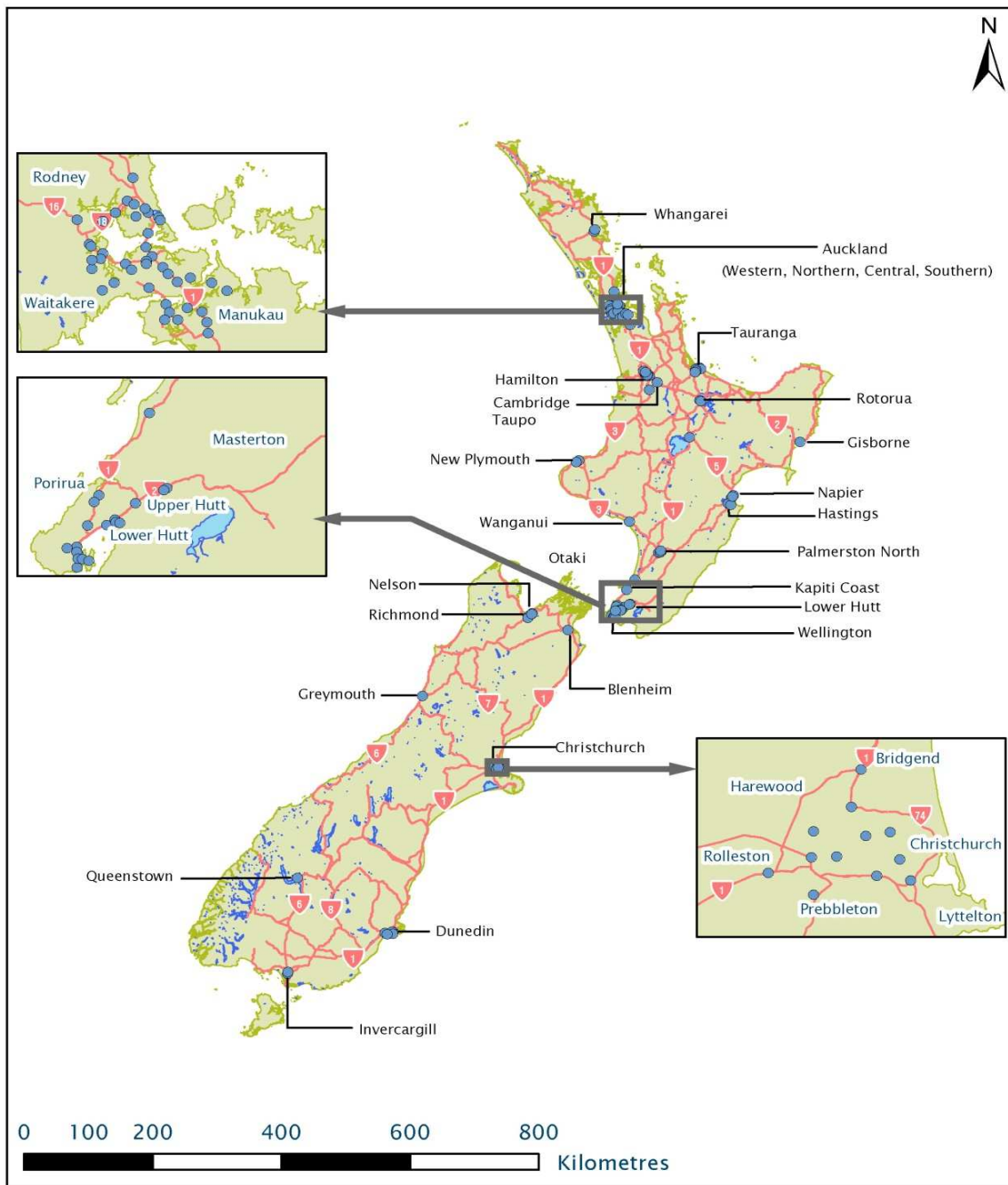
P:\318\3181987\TGI\55_Workspaces\01_mxd\110210_AirQualityReportMaps\110210_MetadataReports\Overview_2009_Rev3.mxd

Figure 3: Map of the NZTA national nitrogen dioxide monitoring network in 2009



P:\318\3181987\TGI\55_Workspaces\01_mxd\110210_AirQualityReportMaps\110210_MetadataReports\Overview_2010_Rev3.mxd

Figure 4: Map of the NZTA national nitrogen dioxide monitoring network in 2010



P:\318\3181987\TGI\55_Workspaces\01_mxd\AirQuality_Overviews\Overview_2011.mxd

Figure 5: Map of the NZTA national nitrogen dioxide monitoring network in 2011

Monitoring Zone
Nelson

Site Name

Queen Elizabeth II Dr

Site Code

WEL009

Region & Monitoring Zone

Nelson - Nelson

Area

Nelson

Site Type

SH

Source

Haven Rd

Site Location135 Haven Rd
Nelson, Nelson**Map Reference**

	Easting	Northing
NZMG	2533238	5993244



	Easting	Northing
NZTM	1623243	5431540

Nearest Sensitive Receptor & LocationAuckland Point School
111 Haven RdDistance (m)
40**Nearest SH & Local Road (m) with Direction**

SH 6 3 NE

LR 10 E

National Network

Y

Intersection

Y

Other Site Information

Near Auckland Point School

Height Above Ground (m)

3.0

Nearest Tree (m)

3.0

Monitoring Note(s)

Jan-07 Commissioned



Site Name

Songer St

Site Code

WEL010

Region & Monitoring Zone

Nelson - Nelson

Area

Stoke

Site Type

SH

Source

Whakatu Dr

Site Location

3 Duffy Pl
Stoke, Nelson

Map Reference

	Easting	Northing
NZMG	2528631	5988954



	Easting	Northing
NZTM	1618638	5427252

Nearest Sensitive Receptor & Location

Residential Housing / Birchwood School
Duffy Pl

Distance (m)
10

Nearest SH & Local Road (m) with Direction

SH 6 10 NW

LR 125 SW

National Network

Y

Intersection

Y

Other Site Information

-

Height Above Ground (m)

2.4

Nearest Tree (m)

5.0

Monitoring Note(s)

Jun-07 Commissioned



Site Name

Melia Pl

Site Code

WEL011

Region & Monitoring Zone

Tasman - Nelson

Area

Richmond

Site Type

SH

Source

Richmond Deviation

Site Location10 Melia Pl
Richmond, Tasman**Map Reference**

	Easting	Northing
NZMG	2526180	5985832

	Easting	Northing
NZTM	1616187	5424131

Nearest Sensitive Receptor & LocationResidential Housing / Salisbury School
Melia PlDistance (m)
10**Nearest SH & Local Road (m) with Direction**

SH 6 60 N

LR 420 SE

National Network

Y

Intersection

N

Other Site Information

Near Salisbury School 40m W

Height Above Ground (m)

2.4

Nearest Tree (m)

5.0

Monitoring Note(s)

Jan-07 Commissioned



Site Name

Totara St

Site Code

WEL062

Region & Monitoring Zone

Nelson - Nelson

Area

Toi Toi

Site Type

Background

Source

-

**Site Location**

12 Totara St
Toi Toi, Nelson

Map Reference

	Easting	Northing
NZMG	2532559	5991511

	Easting	Northing
NZTM	1622565	5429808

Nearest Sensitive Receptor & Location

Residential Housing
Totara St

Distance (m)
10

Nearest SH & Local Road (m) with Direction

SH 6 1335 NW

LR 90 SE

National Network

Y

Intersection

N

Other Site Information

Near Victoria Primary School

Height Above Ground (m)

2.2

Nearest Tree (m)

10.0

Monitoring Note(s)

Mar-10 Commissioned



Monitoring Zone
Blenheim

Site Name

McLauchlan St

Site Code

WEL012

Region & Monitoring Zone

Marlborough - Blenheim

Area

Blenheim

Site Type

SH

Source

Nelson St

Site Location61 Nelson St
Blenheim, Blenheim**Map Reference**

	Easting	Northing
NZMG	2588840	5966033

	Easting	Northing
NZTM	1678828	5404333

Nearest Sensitive Receptor & Location

Residential Housing / Marlborough Girls College	Distance (m)
Nelson St	20

Nearest SH & Local Road (m) with Direction

SH 6	3	N	LR	390	W
------	---	---	----	-----	---

National Network

Y

Intersection

N

Other Site Information

Opposite Marlborough Girls College. Section 61 Nelson St cleared early 2009.

Height Above Ground (m)

4.2

Nearest Tree (m)

10.0

Monitoring Note(s)

Jan-07 Commissioned



Monitoring Zone
Christchurch

Site Name

Queen Elizabeth II Dr

Site Code

CHR002

Region & Monitoring Zone

Canterbury - Christchurch

Area

Redwood

Site Type

SH

Source

Main North Rd

Site Location204 Main North Rd
Redwood, Christchurch**Map Reference**

	Easting	Northing
NZMG	2479019	5746886

	Easting	Northing
NZTM	1569019	5185272

Nearest Sensitive Receptor & LocationSt Bedes College
210 Main North RdDistance (m)
30**Nearest SH & Local Road (m) with Direction**

SH 74 2 N

LR 40 W

National Network

Y

Intersection

N

Other Site Information

Near St Bedes College

Height Above Ground (m)

3.2

Nearest Tree (m)

20.0

Monitoring Note(s)

Jan-07 Commissioned



Site Name

Nash Rd

Site Code

CHR004

Region & Monitoring Zone

Canterbury - Christchurch

Area

Hilmorton

Site Type

Background

Source

-

Site LocationCnr Nash Rd & Aidanfield Dr
Hilmorton, Christchurch**Map Reference**

	Easting	Northing		Easting	Northing
NZMG	2475309	5738046	NZTM	1565311	5176435

Nearest Sensitive Receptor & LocationCanterbury Christian College
Nash RdDistance (m)
60**Nearest SH & Local Road (m) with Direction**

SH 75 440 SE

LR 715 SW

National Network

Y

Intersection

N

Other Site InformationChristchurch Southern Motorway Extension "project site"
2007 - 2009. Near St John of God Hospital.**Height Above Ground (m)**

3.1

Nearest Tree (m)

20.0

Monitoring Note(s)

Jan-07 Commissioned



Site Name

Curletts Rd

Site Code

CHR003

Region & Monitoring Zone

Canterbury - Christchurch

Area

Riccarton

Site Type

SH

Source

Yaldhurst Rd

Site Location34 Yaldhurst Rd
Riccarton, Christchurch**Map Reference**

	Easting	Northing
NZMG	2475124	5741781

	Easting	Northing
NZTM	1565126	5180169

Nearest Sensitive Receptor & LocationVilla Maria College
21 Peer StDistance (m)
30**Nearest SH & Local Road (m) with Direction**

SH 73 5 SW

LR 5 W

National Network

Y

Intersection

Y

Other Site Information

Near Villa Maria College

Height Above Ground (m)

3.3

Nearest Tree (m)

10.0

Monitoring Note(s)

Jan-07 Commissioned



Site Name

Ferry Rd

Site Code

CHR006

Region & Monitoring Zone

Canterbury - Christchurch

Area

Woolston

Site Type

SH



Source

Rutherford St

Site Location

698 Ferry Rd
Woolston, Christchurch

Map Reference

	Easting	Northing		Easting	Northing
NZMG	2484754	5739484	NZTM	1574752	5177873

Nearest Sensitive Receptor & Location

Residential Housing / Bamford School	Distance (m)
Ferry Rd	20

Nearest SH & Local Road (m) with Direction

SH 74A	12	NW	LR	5	NE
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National Network

Y

Intersection

Y

Other Site Information

Near Bamford School

Height Above Ground (m)

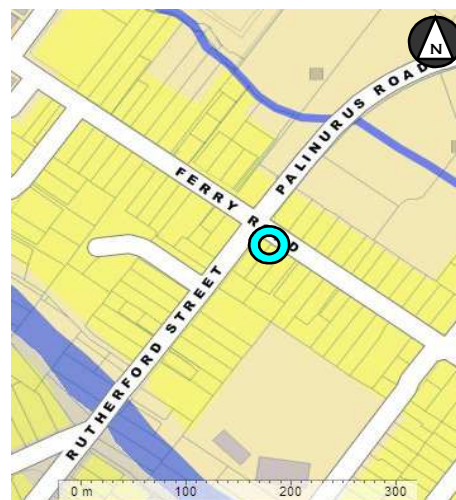
3.4

Nearest Tree (m)

10.0

Monitoring Note(s)

Jan-07 Commissioned



Site Name

Parker St

Site Code

CHR011

Region & Monitoring Zone

Canterbury - Christchurch

Area

Hornby

Site Type

SH

Source

Main South Rd

Site Location

2 Parker St
Hornby, Christchurch

Map Reference

	Easting	Northing
NZMG	2470921	5740232

	Easting	Northing
NZTM	1560924	5178620

Nearest Sensitive Receptor & Location

Residential Housing
Parker St

Distance (m)
15

Nearest SH & Local Road (m) with Direction

SH 1	10	S
------	----	---

LR	5	W
----	---	---

National Network

Y

Intersection

Y

Other Site Information

-

Height Above Ground (m)

2.9

Nearest Tree (m)

14.0

Monitoring Note(s)

Apr-10 Commissioned



Site Name

Grahams Rd

Site Code

CHR012

Region & Monitoring Zone

Canterbury - Christchurch

Area

Burnside

Site Type

Local

Source

Memorial Ave

Site Location233 Memorial Ave
Burnside, Christchurch**Map Reference**

	Easting	Northing
NZMG	2475318	5744438



	Easting	Northing
NZTM	1565320	5182825

Nearest Sensitive Receptor & LocationResidential Housing
Memorial AveDistance (m)
10**Nearest SH & Local Road (m) with Direction**

SH 1 2195 NW

LR 1 N

National Network

Y

Intersection

Y

Other Site Information

Near Burnside High School

Height Above Ground (m)

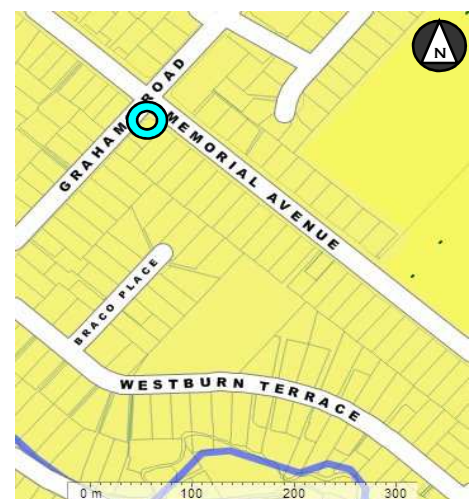
3.0

Nearest Tree (m)

10.0

Monitoring Note(s)

Apr-10 Commissioned



Site Name

Johns Rd

Site Code

CHR013

Region & Monitoring Zone

Canterbury - Christchurch

Area

Belfast

Site Type

SH

Source

Main North Rd

Site Location730 Main North Rd
Belfast, Christchurch**Map Reference**

	Easting	Northing
NZMG	2479958	5750638

	Easting	Northing
NZTM	1569958	5189023

Nearest Sensitive Receptor & LocationResidential Housing
Main North RdDistance (m)
6**Nearest SH & Local Road (m) with Direction**

SH 74 & 1 3 W

LR 1695 N

National Network

Y

Intersection

Y

Other Site Information

-

Height Above Ground (m)

3.2

Nearest Tree (m)

16.0

Monitoring Note(s)

Apr-10 Commissioned



Site Name

Waltham Rd

Site Code

CHR014

Region & Monitoring Zone

Canterbury - Christchurch

Area

Waltham

Site Type

SH

Source

Brougham St

Site Location

145 Waltham Rd
Waltham, Christchurch

Map Reference

	Easting	Northing
NZMG	2481459	5739921



	Easting	Northing
NZTM	1571458	5178310

Nearest Sensitive Receptor & Location

Residential Housing
Waltham Rd

Distance (m)
8

Nearest SH & Local Road (m) with Direction

SH 73 12 N

LR 5 E

National Network

Y

Intersection

Y

Other Site Information

-

Height Above Ground (m)

2.9

Nearest Tree (m)

15.0

Monitoring Note(s)

Apr-10 Commissioned



Site Name

North Pde

Site Code

CHR015

Region & Monitoring Zone

Canterbury - Christchurch

Area

Shirley

Site Type

Local

Source

Shirley Rd

Site Location4 New Brighton Rd
Shirley, Christchurch**Map Reference**

	Easting	Northing
NZMG	2482769	5744328

	Easting	Northing
NZTM	1572768	5182715

Nearest Sensitive Receptor & LocationResidential Housing
New Brighton RdDistance (m)
12**Nearest SH & Local Road (m) with Direction**

SH 74 2005 N

LR 10 W

National Network

Y

Intersection

Y

Other Site Information

-

Height Above Ground (m)

3.1

Nearest Tree (m)

12.0

Monitoring Note(s)

Apr-10 Commissioned



Site Name

Norwich St

Site Code

CHR016

Region & Monitoring Zone

Canterbury - Christchurch

Area

Linwood

Site Type

Local

Source

Buckleys Rd

**Site Location**

22 Buckleys Rd
Linwood, Christchurch

Map Reference

	Easting	Northing
NZMG	2483685	5741606

	Easting	Northing
NZTM	1573683	5179994

Nearest Sensitive Receptor & Location

Retail Area
Buckleys Rd

Distance (m)
7

Nearest SH & Local Road (m) with Direction

SH 73 2150 SW

LR 3 NW

National Network

Y

Intersection

Y

Other Site Information

-

Height Above Ground (m)

3.0

Nearest Tree (m)

10.0

Monitoring Note(s)

Apr-10 Commissioned



Site Name

ECan Riccarton Rd

Site Code

CHR017 - CHR019

Region & Monitoring Zone

Canterbury - Christchurch

Area

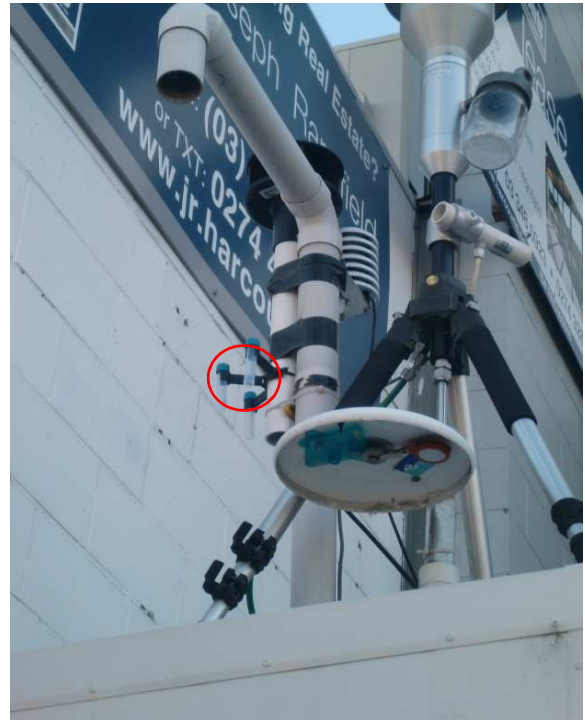
Riccarton

Site Type

Local

Source

-

Site Location122 Riccarton Rd
Riccarton, Christchurch**Map Reference**

	Easting	Northing
NZMG	2477569	5741888

	Easting	Northing
NZTM	1567570	5180276

Nearest Sensitive Receptor & LocationRetail Area
Riccarton RdDistance (m)
50**Nearest SH & Local Road (m) with Direction**

SH 73 1900 S

LR 5 S

National Network

Y

Intersection

Y

Other Site Information

AQ Station. Co-located in triplicate.

Height Above Ground (m)

3.0

Nearest Tree (m)

70.0

Monitoring Note(s)

Apr-10 Commissioned



Site Name

ECan Coles Pl

Site Code

CHR020 - CHR022

Region & Monitoring Zone

Canterbury - Christchurch

Area

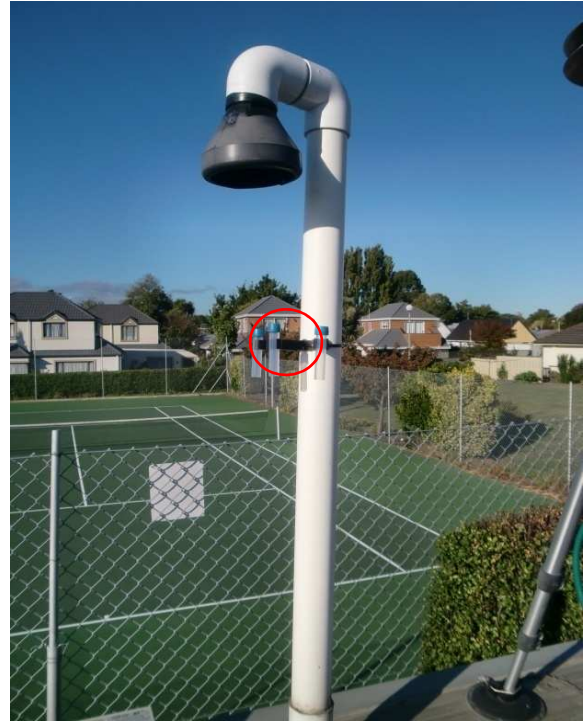
St Albans

Site Type

Background

Source

-

Site Location21 Coles Pl
St Albans, Christchurch**Map Reference**

	Easting	Northing
NZMG	2480393	5743956

	Easting	Northing
NZTM	1570393	5182343

Nearest Sensitive Receptor & LocationResidential Housing
Coles PlDistance (m)
40**Nearest SH & Local Road (m) with Direction**

SH 74 2545 N

LR 155 W

National Network

Y

Intersection

N

Other Site Information

AQ Station. Co-located in triplicate.

Height Above Ground (m)

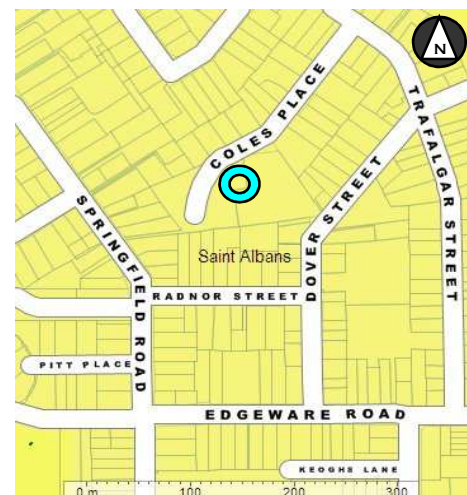
3.5

Nearest Tree (m)

10.0

Monitoring Note(s)

Apr-10 Commissioned



Monitoring Zone
Greymouth

Site Name

School Lane

Site Code

CHR001

Region & Monitoring Zone

Greymouth - Greymouth

Area

Greymouth

Site Type

SH

Source

Tainui St

Site Location

180 Tainui St
Greymouth, Greymouth

Map Reference

	Easting	Northing
NZMG	2362535	5859679

	Easting	Northing
NZTM	1452575	5298043

Nearest Sensitive Receptor & Location

Karoro Learning Centre
180 Tainui St

Distance (m)
13

Nearest SH & Local Road (m) with Direction

SH 6 1 N

LR 175 SE

National Network

Y

Intersection

N

Other Site Information

Outside Karoro Learning Centre

Height Above Ground (m)

2.3

Nearest Tree (m)

16.0

Monitoring Note(s)

Jan-07 Commissioned



Monitoring Zone
Dunedin

Site Name

Hanover St

Site Code

DUN001

Region & Monitoring Zone

Otago - Dunedin

Area

Dunedin

Site Type

SH

Source

Cumberland St

Site Location

Crn Hanover St & Cumberland St
Dunedin, Dunedin

Map Reference

	Easting	Northing
NZMG	2316457	5478947

	Easting	Northing
NZTM	1406666	4917299

Nearest Sensitive Receptor & Location

Dunedin Hospital
201 Great King St

Distance (m)
30

Nearest SH & Local Road (m) with Direction

SH 1 2 NW

LR 195 S

National Network

Y

Intersection

Y

Other Site Information

Opposite Dunedin Hospital

Height Above Ground (m)

3.0

Nearest Tree (m)

15.0

Monitoring Note(s)

Jan-07 Commissioned



Site Name

Barnes Dr

Site Code

DUN002

Region & Monitoring Zone

Otago - Dunedin

Area

Caversham

Site Type

SH

Source

Dunedin Southern Motorway

Site Location

16 Barnes Dr
Caversham, Dunedin

Map Reference

	Easting	Northing		Easting	Northing
NZMG	2314122	5476231	NZTM	1404335	4914580

Nearest Sensitive Receptor & Location

Residential Housing	Distance (m)
Barnes Dr	5

Nearest SH & Local Road (m) with Direction

SH 1	40	S	LR	150	S
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National Network

Y

Intersection

N

Other Site Information

-

Height Above Ground (m)

3.0

Nearest Tree (m)

5.0

Monitoring Note(s)

Mar-07 Commissioned



Site Name

Old Brighton Rd

Site Code

DUN003

Region & Monitoring Zone

Otago - Dunedin

Area

Fairfield

Site Type

Local

Source

Dunedin Southern Motorway

Site Location

Cnr Old Brighton Rd & Sickels St
Fairfield, Dunedin

Map Reference

	Easting	Northing		Easting	Northing
NZMG	2307542	5475355	NZTM	1397755	4913692

Nearest Sensitive Receptor & Location

Residential Housing / Fairfield School	Distance (m)
Sickels St	10

Nearest SH & Local Road (m) with Direction

SH 1	150	S	LR	2	E
------	-----	---	----	---	---

National Network

Y

Intersection

N

Other Site Information

Near Fairfield School. Relocated to DUN011.

Height Above Ground (m)

3.0

Nearest Tree (m)

5.0

Monitoring Note(s)

Mar-07	Commissioned
Mar-11	Decommissioned



Site Name

Gladstone Rd

Site Code

DUN006

Region & Monitoring Zone

Otago - Dunedin

Area

Mosgiel

Site Type

SH

Source

Quarry Rd

**Site Location**

1 Gladstone Rd South
Mosgiel, Dunedin

Map Reference

	Easting	Northing
NZMG	2304510	5476884

	Easting	Northing
NZTM	1394721	4915218

Nearest Sensitive Receptor & Location

Residential Housing
Gladstone Rd North

Distance (m)
30

Nearest SH & Local Road (m) with Direction

SH 87	1	E
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LR	80	N
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National Network

Y

Intersection

Y

Other Site Information

-

Height Above Ground (m)

3.0

Nearest Tree (m)

20.0

Monitoring Note(s)

Apr-10 Commissioned



Site Name

Durham St

Site Code

DUN007

Region & Monitoring Zone

Otago - Dunedin

Area

Mornington

Site Type

Background

Source

-

**Site Location**

Opposite 46 Durham St
Mornington, Dunedin

Map Reference

	Easting	Northing
NZMG	2313874	5477603

	Easting	Northing
NZTM	1404084	4915951

Nearest Sensitive Receptor & Location

Mornington Playcentre
37 Durham St

Distance (m)
3

Nearest SH & Local Road (m) with Direction

SH 1 1470 S

LR 50 W

National Network

Y

Intersection

N

Other Site Information

Outside Mornington Playcentre

Height Above Ground (m)

3.0

Nearest Tree (m)

20.0

Monitoring Note(s)

Apr-10 Commissioned



Site Name

Strathmore Cres

Site Code

DUN008

Region & Monitoring Zone

Otago - Dunedin

Area

Roslyn

Site Type

Local

Source

Stuart St

Site Location379 Stuart St
Roslyn, Dunedin**Map Reference**

	Easting	Northing
NZMG	2315159	5479259

	Easting	Northing
NZTM	1405367	4917609

Nearest Sensitive Receptor & LocationResidential Housing
Stuart StDistance (m)
5**Nearest SH & Local Road (m) with Direction**

SH 1 1310 E

LR 10 NE

National Network

Y

Intersection

N

Other Site Information

-

Height Above Ground (m)

3.0

Nearest Tree (m)

10.0

Monitoring Note(s)

Apr-10 Commissioned



Site Name

Bay View Rd

Site Code

DUN009

Region & Monitoring Zone

Otago - Dunedin

Area

South Dunedin

Site Type

Local

Source

Anderson Bay Rd

Site Location

555 Anderson Bay Rd
South Dunedin, Dunedin

Map Reference

	Easting	Northing
NZMG	2316566	5475998

	Easting	Northing
NZTM	1406779	4914351

Nearest Sensitive Receptor & Location

Residential Housing
Anderson Bay Rd

Distance (m)
20

Nearest SH & Local Road (m) with Direction

SH 1	1215	NW
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LR	2	N
----	---	---

National Network

Y

Intersection

Y

Other Site Information

-

Height Above Ground (m)

3.0

Nearest Tree (m)

50.0

Monitoring Note(s)

Apr-10 Commissioned



Site Name

Old Brighton Rd

Site Code

DUN011

Region & Monitoring Zone

Otago - Dunedin

Area

Fairfield

Site Type

SH

Source

Dunedin Southern Motorway

Site Location31 Old Brighton Rd
Fairfield, Dunedin**Map Reference**

	Easting	Northing
NZMG	2307600	5475268

	Easting	Northing
NZTM	1397812	4913605

Nearest Sensitive Receptor & LocationResidential Housing / Fairfield School
Sickels StDistance (m)
125**Nearest SH & Local Road (m) with Direction**

SH 1 60 S

LR 3 W

National Network

Y

Intersection

N

Other Site Information

Near Fairfield School. Relocated from DUN003.

Height Above Ground (m)

3.0

Nearest Tree (m)

20.0

Monitoring Note(s)

Apr-11 Commissioned



Monitoring Zone
Queenstown

Site Name

Sydney St

Site Code

DUN004

Region & Monitoring Zone

Otago - Queenstown

Area

Queenstown

Site Type

SH

Source

Stanley St

Site LocationCrn Sydney St & Stanley St
Queenstown, Queenstown**Map Reference**

	Easting	Northing
NZMG	2168560	5566006

	Easting	Northing
NZTM	1258576	5004222

Nearest Sensitive Receptor & LocationResidential Housing
Stanley StDistance (m)
100**Nearest SH & Local Road (m) with Direction**

SH 6A 3 NE

LR 455 NW

National Network

Y

Intersection

N

Other Site Information

Air Shed. Near Southern Lakes Christian School.

Height Above Ground (m)

3.0

Nearest Tree (m)

5.0

Monitoring Note(s)

Jan-07 Commissioned



Monitoring Zone
Invercargill

Site Name

Don St

Site Code

DUN005

Region & Monitoring Zone

Southland - Invercargill

Area

Invercargill

Site Type

SH

Source

Dee St

Site Location

50 Dee St
Invercargill, Invercargill

Map Reference

	Easting	Northing
NZMG	2152166	5411731

	Easting	Northing
NZTM	1242407	4849734

Nearest Sensitive Receptor & Location

Public Library
50 Dee St

Distance (m)
5

Nearest SH & Local Road (m) with Direction

SH 6 1 E

LR 265 E

National Network

Y

Intersection

N

Other Site Information

Outside Library

Height Above Ground (m)

3.0

Nearest Tree (m)

3.0

Monitoring Note(s)

Jan-07 Commissioned



Site Name

Terrace St

Site Code

DUN010

Region & Monitoring Zone

Southland - Invercargill

Area

Rosedale

Site Type

Background

Source

-



Site Location

33 Terrace St
Rosedale, Invercargill

Map Reference

	Easting	Northing		Easting	Northing
NZMG	2153191	5414246	NZTM	1243428	4852255

Nearest Sensitive Receptor & Location

Residential Housing	Distance (m)
Terrace St	10

Nearest SH & Local Road (m) with Direction

SH 6	1130	W	LR	50	W
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National Network

Y

Intersection

N

Other Site Information

-

Height Above Ground (m)

3.0

Nearest Tree (m)

10.0

Monitoring Note(s)

May-10 Commissioned

