

SUPPORTING DOCUMENT for

Standard for the Accuracy of Spatial Cadastres in Australia and New Zealand

Version 1.0

Intergovernmental Committee on Surveying and Mapping (ICSM) Cadastre Working Group (CWG) November 2022

Document History

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Terms and definitions

Term/Acronym	Definition
Accuracy	The level of closeness of an estimated value – measured or computed – of a quantity to its true or accepted value ² .
ABS	Australian Bureau of Statistics
CBD	Central Business District. In this document, CBD includes regional business and commercial centres. See section 3.2
Datum	An official, fully-defined, spatial reference system or surface to which measurements and or coordinates upon the Earth may be defined and related (ICSM – SP1).
ICSM	Intergovernmental Committee on Surveying and Mapping
ISO	International Organization for Standardization – a developer of voluntary International Standards (ICSM – SP1).
Peri-urban	Areas between urban and rural zones with large, predominately residential, blocks not primarily intended for agriculture. These areas include rural residential however, not all Peri-urban areas are residential.
SA1 / SA2	Statistical Areas of geography. SA2 is a larger area comprising a number of SA1 areas. SA1 comprises a number of meshblocks.
Standard	Standard for the Accuracy of Spatial Cadastres in Australia and New Zealand. This document supports the Standard.
Stats New Zealand (Stats NZ)	New Zealand Government statistics organisation.
Spatial Cadastre	The official jurisdictional spatial representation of cadastral parcels and their boundary points and lines.
	For further information refer to Cadastre Definitions Glossary: <u>https://www.icsm.gov.au/sites/default/files/Cadastre%20definitions</u> <u>%20glossary-v1.0.pdf</u>

For the purpose of this document, the following terms and definitions shall apply¹.

¹ Note: Defined terms used in this document have their first letter capitalised.

² Note: Accuracy is qualitative and is not given a numerical quantity value

Uncertainty	In accordance with the GUM ³ meaning, uncertainty in this Standard means doubt about the validity of a measurement or result of a measurement (e.g. a coordinate). It is an indication of how wrong a value may be and is used in this Standard to quantify the level of quality of points in a spatial cadastre. Uncertainty is expressed as a standard deviation in the International System of Units (SI) expanded to the 95% confidence level (ICSM – SP1).
Uncertainty, Positional (PU)	The uncertainty of the horizontal and/or vertical coordinates of a point, parcel line or polygon in a spatial cadastre with respect to the defined datum and represents the combined uncertainty of the existing datum realisation and the spatial cadastre. A fully constrained least squares adjustment is the preferred and most rigorous way to estimate and test PU. PU is expressed in SI units at the 95% confidence level.
Uncertainty, Relative (RU)	The uncertainty between the horizontal coordinates of any two points in the spatial cadastre. Such marks may be connected by measurement directly or indirectly. The preferred and most rigorous means for deriving RU between pairs of points is by propagating the respective variances and co-variances obtained from a minimally or fully constrained least squares adjustment (i.e. from PU). RU can be expressed in SI units at the 95% confidence level, or in a proportional form such as a ratio of uncertainty per unit length or survey misclosure.

³ GUM is the International Organization for Standardization (ISO) 'Guide to the expression of uncertainty in measurement'

1 About this Document

This document provides background material related to the Standard for the Accuracy of Spatial Cadastres in Australia and New Zealand. As such, it records the research and justification relied upon in the development of the Standard. Presenting this material in a separate document preserves background material while keeping the Standard succinct and easily accessible.

2 Positional Standards

Terminology

The Standard uses the term Positional Uncertainty⁴.

Spatial Cadastre Positional Uncertainty results primarily from:

- 1. The process of digitisation;
- 2. Efforts and processes used to improve the position of the Spatial Cadastre;
- 3. Age and quality of the original survey fieldwork;
- 4. Boundary definition and local cadastral uncertainty;
- 5. Density and quality of local survey mark control network;
- 6. Age of definition of natural feature boundaries; and
- 7. Distance to, and quality of connection to the Datum.

It is recognised that the Positional Uncertainty of a Spatial Cadastre is rarely rigorously determined and may be based on professional estimation or local adjustments. Cadastral boundaries may also be difficult to rigorously define or be related to natural features.

The term Relative Uncertainty refers to the uncertainty of the horizontal coordinates of a point relative to the coordinates of surrounding points. Relative Uncertainty is not absolute in that it is not related to the Datum.

3 Regional Delineation (Definition)

To be of value to the Standard, the zones need to be easily and unambiguously represented using digital data. Therefore, the zones need to be defined in a manner which facilitates effective delineation of the zone limits.

3.1 Methodology

The Standard requires different levels of Positional Uncertainty for different zones. These zones are:

- 1. Central Business Districts;
- 2. Urban including peri-urban and industrial;
- 3. Rural; and
- 4. Remote.

⁴ Positional Uncertainty is defined in the ICSM Standard for Australian Survey Control Network V2.2 (ICSM – SP1)

The Standard is to include a definition or description resulting in a clear delineation of each of these zones. The delineation should ideally be:

- Consistent for all jurisdictions;
- In a format useful to spatial data practitioners (ideally digital data polygons); and
- Easy to maintain to reflect changes in land use.

The following have been considered as criteria to assist in defining and delineating the zones:

- 1. Widely understood (dictionary) definitions. For example, urban could be defined as part of a city or town;
- 2. Statistical data related to population and/or dwelling density;
- 3. Statistical data related to where people work;
- 4. Statistical data on remoteness;
- 5. Related to land value; and
- 6. Defined by reference to council zoning.

Land value and council zoning are not recommended due to a lack of available and consistent data for all jurisdictions.

3.2 Central Business District (CBD)

Part of a city where there are many businesses (Merriam-Webster). A single CBD may not be applicable for large cities which have decentralised business districts where building density and land value require accurate spatial cadastral data.

This region is the most difficult to define with businesses increasingly decentralised. Several definitions using available statistical data have been tested and detailed below. It should be noted that statistical data may not assist in defining the CBD in jurisdictions or areas with low populations.

A. Population density

Mapping areas by population density was tested as a surrogate CBD. The statistical areas needed to be large as many CBDs have little to no residential areas however are often surrounded by very dense population. This meant that CBDs included high-density urban areas such as terrace housing and large apartment buildings. These very high-density residential areas warrant inclusion in the highest level of Spatial Cadastre Positional Uncertainty.

SA2⁵ areas were used and sorted according to population per square kilometre.

However, investigation of this method identified many areas such as Bondi, Randwick and Kingsford in Sydney as more densely populated than the centre of Sydney. This suggests population density alone is not an ideal method of defining CBDs.

B. Place of Work density

In Australia, a question in recent census asks participants to identify their place of work. This Place of Work (POW) data is provided at SA2 level although smaller areas known as

⁵ SA2 areas can be visualised on-line via the ABS geography maps showing the extent of the various statistical regions. See <u>https://itt.abs.gov.au/itt/r.jsp?ABSMaps</u>

Destination Zones are also available for a fee. Determining the density of POW is possible from ABS statistics although some manual manipulation is required to match SA2 area and POW data. As part of this research, the 100 SA2 areas with the largest POW figures were matched with area to determine a POW per square kilometre (POW/sq km) density. See Appendix A.

Examining those SA2 areas where POW/sq km exceeds 4,000/sq km in the Australian capital cities is shown highlighted on the maps in Appendix B. These highlighted areas are known to contain numerous businesses and/or extremely high density residential. However, examining this methodology suggests that the criterion is less than ideal. It is suggested that POW/sq km may be used as a guide but cannot adequately delineate all CBDs. The fact that the data does not reveal any CBD areas with the Northern Territory again demonstrates the limitations of this approach.

C. Other methods

Land value and/or land zoning could provide useful guidance for defining the extent of CBDs, but it is difficult to collect and collate current data that is consistent across all jurisdictions.

Stats NZ uses Business Register employee counts and aerial imagery to design business SA2s and can provide a list of these. The list at the time of publication is provided in Appendix C.

3.2.1 Recommended CBD delineation

The above methods combined with local knowledge appears to be the most reliable way to determine CBDs.

3.3 Urban

Urban has been defined as:

- a) 'Relating to, or characteristic of, a city' (Merriam-Webster).
- b) 'Belonging to, or relating to, a town or city' (Collins dictionary).
- c) *'....comprising a city or town'*. (Macquarie)

Macquarie also identifies the word 'urb' as an old English word which typically refers to a city. This explains suburb as being a sub (in proximity of) part of the city.

In the United States, settlements with 2,500 inhabitants or more are defined as urban. (National Geographic).

The United Nations defines urban as an area generally having a population density of 400 person per square kilometre. (United Nations 1). In Australia and New Zealand this figure is probably too high to define urban.

ABS POPULATION GRID

The ABS have produced a one-kilometre grid over Australia attributed based on population density as follows:

https://absstats.maps.arcgis.com/apps/MapSeries/index.html?appid=d48afe3794c24eb1a 9cb531ee2408bee

This data is too coarse in more populated regions for the purposes of the Standard.

Urban by Population Density and Dwelling Density

Population density and/or dwelling density are useful methods of distinguishing between urban and rural areas. The ABS uses a definition of an urban centre based on SA1s and combining population density with dwelling density as follows:

- have an Urban Mesh Block* population greater or equal to 45% of the total population^ AND a dwelling density greater or equal to 45 dwellings per square (sq) Kilometre (km); OR
- have a population density greater or equal to 100 persons per sq km AND a dwelling density greater or equal to 50 dwellings per sq km; OR
- have a population density greater or equal to 200 person per sq km.

*An Urban Mesh Block is defined as a Mesh Block with a population density of 200 persons or more per sq km.

[^]The population and dwelling figures used for these criteria are 'Place of Usual Residence' from the 2016 Census of Population and Housing.

The ABS produces urban centres and localities (UCL) data which is freely available and updated after each census. Full details on how this is determined is available from the ABS⁶

Stats NZ produces urban/rural data (Stats New Zealand 2) based on their SA2 areas⁷.

3.3.1 Peri-urban

Peri-urban areas are defined as the areas that surround our metropolitan areas and cities neither urban nor rural in the conventional sense. They are the fastest growing regions in many countries. In Australia, they frequently extend 100 kilometres beyond the suburban edge. It is estimated that over a quarter of million Victorians live in Peri-urban areas (La Trobe University).

ABS proposes to include Peri-urban areas after the next census which will presumably provide areas which could be included in the urban and localities data.

3.3.2 Recommended Urban Delineation

The ABS and Stats NZ delineation of urban areas provides easily accessible and consistent data across all jurisdictions that is updated every 5 years. In future, ABS Peri-urban areas may be included in the Australian urban delineation.

⁶

https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1270.0.55.004~July%202016~Main% 20Features~Design%200f%20UCL~8

⁷ Statistical area 1 datasets for 2018 Census containing counts at statistical area 1 (SA1) geographic level for selected variables are now available to view and download.

3.4 Rural

Relating to the country, country people or life, or agriculture (Merriam-Webster). The key component to defining land as "rural" appears to be emphasis on agriculture.

Rural is also defined as 'country (as distinguished from towns or cities);rustic. Pertaining to agriculture.' (Macquarie)

3.4.1 Recommended Rural Delineation

In both Australia and New Zealand, rural can be defined as being those areas outside urban zones that are not remote zones. This definition includes non-agricultural regions such as national parks in the rural zone. The lack of cadastral boundaries in these non-agricultural regions makes their inclusion acceptable.

3.5 Remote

Remote areas are defined as 'far away from cities and places where most people live, and are therefore difficult to get to' (Collins), or 'Far apart' (Macquarie)

3.5.1 New Zealand - Remoteness

Stats NZ produce accessibility data based on time to travel by road to the nearest urban area. See figure 1.

3.5.2 Australia – Remoteness

The University of Adelaide's Hugo Centre for Population and Housing produce national (Australian) remoteness index and grid maps based on road distance measured to the nearest service centres known as the ARIA+ Remoteness Index.

ARIA+ is a continuous varying index with values ranging from 0 (high accessibility) to 15 (high remoteness) and is based on road distance measurements from over 12,000 populated localities to the nearest Service Centres in five size categories based on population size. (Hugo Centre)

Figure 2 shows ABS use of the ARIA+ index to produce remoteness maps and data.



Figure 1 – NZ Accessibility Map. (Stats NZ)

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Figure 2 - Remoteness areas of Australia. Australian Bureau of Statistics. <u>https://www.abs.gov.au/websitedbs/D3310114.nsf/home/remoteness+structure</u>

3.5.3 Recommended Remote Delineation

It is recommended that the Standard adopt the ABS remoteness data for Australia and the Stats NZ data for New Zealand. In both cases the Remote and Very Remote regions should be included.

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APPENDIX A – Place of Work Density⁸

SA2	POW	area (sq km)	state	POW / Sq Km
Melbourne	221136	2.4	VIC	92140
Sydney - Haymarket - The Rocks	320829	4.3	NSW	74611
Brisbane City	122488	2.4	QLD	51037
North Sydney - Lavender Bay	48975	1.9	NSW	25776
Pyrmont - Ultimo	36831	1.5	NSW	24554
Civic	34356	1.4	ACT	24540
Docklands	57555	2.4	VIC	23981
Surry Hills	29818	1.3	NSW	22937
Fortitude Valley	22089	1.3	QLD	16992
South Brisbane	27491	2	QLD	13746
Perth City	137443	10.9	WA	12609
Southbank	38778	3.1	VIC	12509
South Yarra - West	16134	1.5	VIC	10756
St Leonards - Naremburn	29421	2.8	NSW	10508
South Melbourne	26020	2.5	VIC	10408
Adelaide	107612	10.5	SA	10249
Potts Point - Woolloomooloo	14949	1.5	NSW	9966
Carlton	15652	1.8	VIC	8696
Parkville	28207	4	VIC	7052
East Melbourne	19911	2.9	VIC	6866
Redfern - Chippendale	14577	2.2	NSW	6626
Newstead - Bowen Hills	20347	3.1	QLD	6564
Woolloongabba	15591	2.4	QLD	6496
Osborne Park Industrial	22035	3.4	WA	6481
Newtown - Camperdown - Darlington	20605	3.3	NSW	6244
Bondi Junction - Waverly	15309	2.5	NSW	6124
Richmond (Vic.)	36837	6.2	VIC	5941
Parramatta - Rosehill	50227	8.5	NSW	5909
Hobart	36448	6.6	TAS	5522
Erskineville - Alexandria	23631	4.3	NSW	5496
Chatswood (East) - Artarmon	27655	5.1	NSW	5423
Kelvin Grove - Herston	16732	3.4	QLD	4921
North Melbourne	15262	3.2	VIC	4769
Newcastle - Cooks Hill	19024	4	NSW	4756
Paddington - Milton	16418	3.6	QLD	4561
Macquarie Park - Marsfield	48394	10.7	NSW	4523
Concord West - North Strathfield	19823	5.1	NSW	3887
St Kilda	14830	3.9	VIC	3803
Wollongong - East	20451	5.5	NSW	3718
Clayton	34203	9.4	VIC	3639
Mascot - Eastlakes	22410	6.2	NSW	3615
Cairns City	21989	6.2	QLD	3547
Albert Park	16523	4.7	VIC	3516
Port Melbourne Industrial	22785	6.9	VIC	3302
Southport - North	24158	7.6	QLD	3179
Liverpool	19524	6.3	NSW	3099
Subiaco - Shenton Park	22935	7.8	WA	2940
Northmead	17079	5.9	NSW	2895

⁸ Note: Data does not identify areas of CBD within the Northern Territory. (see Section 3.2b)

SA2	POW	area (sq km)	state	POW / Sq Km
Launceston	15054	5.3	TAS	2840
Hawthorn	15456	5.7	VIC	2712
Box Hill	18955	7	VIC	2708
Blacktown (East) - Kings Park	20207	8	NSW	2526
Malaga	15969	6.4	WA	2495
Geelong	31099	12.8	VIC	2430
Homebush Bay - Silverwater	26520	11.3	NSW	2347
Freshwater - Brookvale	16182	7.2	NSW	2248
Preston - East	16917	7.7	VIC	2197
Baulkham Hills (West) - Bella Vista	23584	11	NSW	2144
Nedlands - Dalkeith - Crawley	20294	9.7	WA	2092
Richmond (SA)	18501	8.9	SA	2079
Welshpool	17155	8.3	WA	2067
Wetherill Park Industrial	17575	8.6	NSW	2044
Mulgrave	21213	10.7	VIC	1983
Penrith	20148	10.4	NSW	1937
Toowoomba - Central	18183	9.5	QLD	1914
Sydney Airport	15441	8.9	NSW	1735
Ringwood	14923	9.9	VIC	1507
Ballarat	17451	12.4	VIC	1407
Campbelltown - Woodbine	18327	13.7	NSW	1338
Moorabbin - Heatherton	15332	11.7	VIC	1310
Frankston	15133	11.6	VIC	1305
Bendigo	20380	16	VIC	1274
Campbellfield - Coolaroo	23050	18.2	VIC	1266
Maroochydore - Kuluin	16438	13.8	QLD	1191
Joondalup - Edgewater	18542	15.6	WA	1189
Gosford - Springfield	18833	16.9	NSW	1114
Dandenong	65688	61.8	VIC	1063
Rocklea - Acacia Ridge	23286	22.4	QLD	1040
Robina	15301	15	QLD	1020
The Parks	18647	18.3	SA	1019
Thomastown	14790	14.7	VIC	1006
Keilor	17543	17.5	VIC	1002
Madeley - Darch - Landsdale	18357	20.4	WA	900
Laverton	19320	22.2	VIC	870
Prospect Reservoir	17965	30.7	NSW	585
Fremantle	16587	29.2	WA	568
Melbourne Airport	15922	30.4	VIC	524
Brisbane Airport	21425	45.5	QLD	471
Orange	15198	45.2	NSW	336
Wagga Wagga - West	15731	54.9	NSW	287
Ormeau - Yatala	18438	72.2	QLD	255
Lismore	14698	63.3	NSW	232
Nowra	15066	101.7	NSW	148
Ashburton (WA)	23540	100827	WA	0

Place of Work Density sorted by State

SA2 (POW)	POW	area (sq km)	State	POW / Sq Km
Civic	34356	1.4	ACT	24,540
Sydney - Haymarket - The Rocks	320829	4.3	NSW	74,611
North Sydney - Lavender Bay	48975	1.9	NSW	25,776
Pyrmont - Ultimo	36831	1.5	NSW	24,554
Surry Hills	29818	1.3	NSW	22,937
St Leonards - Naremburn	29421	2.8	NSW	10,508
Potts Point - Woolloomooloo	14949	1.5	NSW	9,966
Redfern - Chippendale	14577	2.2	NSW	6,626
Newtown - Camperdown -				
Darlington	20605	3.3	NSW	6,244
Bondi Junction - Waverly	15309	2.5	NSW	6,124
Parramatta - Rosehill	50227	8.5	NSW	5,909
Erskineville - Alexandria	23631	4.3	NSW	5,496
Chatswood (East) - Artarmon	27655	5.1	NSW	5,423
Newcastle - Cooks Hill	19024	4	NSW	4,756
Macquarie Park - Marsfield	48394	10.7	NSW	4,523
Concord West - North Strathfield	19823	5.1	NSW	3,887
Wollongong - East	20451	5.5	NSW	3,718
Mascot - Eastlakes	22410	6.2	NSW	3,615
Liverpool	19524	6.3	NSW	3,099
Northmead	17079	5.9	NSW	2,895
Blacktown (East) - Kings Park	20207	8	NSW	2,526
Homebush Bay - Silverwater	26520	11.3	NSW	2,347
Freshwater - Brookvale	16182	7.2	NSW	2,248
Baulkham Hills (West) - Bella Vista	23584	11	NSW	2,144
Wetherill Park Industrial	17575	8.6	NSW	2,044
Penrith	20148	10.4	NSW	1,937
Sydney Airport	15441	8.9	NSW	1,735
Campbelltown - Woodbine	18327	13.7	NSW	1,338
Gosford - Springfield	18833	16.9	NSW	1,114
Prospect Reservoir	17965	30.7	NSW	585
Orange	15198	45.2	NSW	336
Wagga Wagga - West	15731	54.9	NSW	287
Lismore	14698	63.3	NSW	232
Nowra	15066	101.7	NSW	148
Brisbane City	122488	2.4	QLD	51,037
Fortitude Valley	22089	1.3	QLD	16,992
South Brisbane	27491	2	QLD	13,746
Newstead - Bowen Hills	20347	3.1	QLD	6,564
Woolloongabba	15591	2.4	QLD	6,496
Kelvin Grove - Herston	16732	3.4	QLD	4,921
Paddington - Milton	16418	3.6	QLD	4,561
Cairns City	21989	6.2	QLD	3,547
Southport - North	24158	7.6	QLD	3,179
Toowoomba - Central	18183	9.5	QLD	1,914
Maroochydore - Kuluin	16438	13.8	QLD	1,191
Rocklea - Acacia Ridge	23286	22.4	QLD	1,040
Robina	15301	15	QLD	1,020
Brisbane Airport	21425	45.5	QLD	471

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SA2 (POW)	POW	area (sq km)	State	POW / Sq Km
Ormeau - Yatala	18438	72.2	QLD	255
Adelaide	107612	10.5	SA	10,249
Richmond (SA)	18501	8.9	SA	2,079
The Parks	18647	18.3	SA	1,019
Hobart	36448	6.6	TAS	5,522
Launceston	15054	5.3	TAS	2,840
Melbourne	221136	2.4	VIC	92,140
Docklands	57555	2.4	VIC	23,981
Southbank	38778	3.1	VIC	12,509
South Yarra - West	16134	1.5	VIC	10,756
South Melbourne	26020	2.5	VIC	10,408
Carlton	15652	1.8	VIC	8,696
Parkville	28207	4	VIC	7,052
East Melbourne	19911	2.9	VIC	6,866
Richmond (Vic.)	36837	6.2	VIC	5,941
North Melbourne	15262	3.2	VIC	4,769
St Kilda	14830	3.9	VIC	3,803
Clayton	34203	9.4	VIC	3,639
Albert Park	16523	4.7	VIC	3,516
Port Melbourne Industrial	22785	6.9	VIC	3,302
Hawthorn	15456	5.7	VIC	2,712
Box Hill	18955	7	VIC	2,708
Geelong	31099	12.8	VIC	2,430
Preston - East	16917	7.7	VIC	2,197
Mulgrave	21213	10.7	VIC	1,983
Ringwood	14923	9.9	VIC	1,507
Ballarat	17451	12.4	VIC	1,407
Moorabbin - Heatherton	15332	11.7	VIC	1,310
Frankston	15133	11.6	VIC	1,305
Bendigo	20380	16	VIC	1,274
Campbellfield - Coolaroo	23050	18.2	VIC	1,266
Dandenong	65688	61.8	VIC	1,063
Thomastown	14790	14.7	VIC	1,006
Keilor	17543	17.5	VIC	1,002
Laverton	19320	22.2	VIC	870
Melbourne Airport	15922	30.4	VIC	524
Perth City	137443	10.9	WA	12,609
Osborne Park Industrial	22035	3.4	WA	6,481
Subiaco - Shenton Park	22935	7.8	WA	2,940
Malaga	15969	6.4	WA	2,495
Nedlands - Dalkeith - Crawley	20294	9.7	WA	2,092
Welshpool	17155	8.3	WA	2,067
Joondalup - Edgewater	18542	15.6	WA	1,189
Madeley - Darch - Landsdale	18 <u>357</u>	20.4	WA	900
Fremantle	16 <u>587</u>	29.2	WA	568
Ashburton (WA)	23540	100827	WA	0

APPENDIX B – **Examples of CBDs Delineated by POW density**⁹.



SA2 areas in Sydney with POW density > 4000

SA2 areas in Melbourne with POW density > 4000



⁹ Note: Data does not identify areas of CBD within the Northern Territory. (see Section 3.2b)



SA2 areas in Adelaide with POW density > 4000

SA2 areas in Perth with POW density > 4000



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SA2 areas in Brisbane with POW density > 4000

SA2 areas in Hobart with POW density > 4000





SA2 areas in Canberra with POW density > 4000

APPENDIX C – New Zealand Business SA2 regions.

SA22020_V1_00	SA22020_V1_00_NAME	Urban area
103000	Kerikeri Central	Kerikeri
107100	Whangārei Central	Whangārei
131300	Wynyard-Viaduct	Auckland
132400	Victoria Park	Auckland
132700	Hobson Ridge North	Auckland
133200	Queen Street	Auckland
133300	Quay Street-Customs Street	Auckland
133400	Hobson Ridge Central	Auckland
133700	Shortland Street	Auckland
133800	Hobson Ridge South	Auckland
134100	Queen Street South West	Auckland
134300	Karangahape	Auckland
134500	Anzac Avenue	Auckland
134800	Auckland-University	Auckland
135100	Symonds Street North West	Auckland
135300	Symonds Street West	Auckland
135700	The Strand	Auckland
135900	Symonds Street East	Auckland
166000	Pukekohe Central	Pukekohe
179000	Kirikiriroa	Hamilton
179400	Hamilton Central	Hamilton
183200	Cambridge Central	Cambridge
184100	Te Awamutu Central	Te Awamutu
186700	Tokoroa Central	Tokoroa
188600	Taupō Central West	Taupō
193800	Tauranga Central	Tauranga
200100	Rotorua Central	Rotorua
202700	Whakatāne Central	Whakatāne
206800	Gisborne Central	Gisborne
210500	Hastings Central	Hastings
211600	Havelock North-Central	Havelock North
214300	Napier Central	Napier
217000	New Plymouth Central	New Plymouth
225700	Whanganui Central	Whanganui
228400	Feilding Central	Feilding
230600	Palmerston North Central	Palmerston North
235200	Levin Central	Levin
237600	Waikanae West	Waikanae
237800	Paraparaumu Central	Paraparaumu
239900	Porirua Central	Porirua
243000	Upper Hutt Central	Upper Hutt
244300	Hutt Central North	Hutt North
250700	Pipitea-Kaiwharawhara	Wellington
250900	Thorndon	Wellington
251400	Wellington Central	Wellington
251600	Dixon Street	Wellington
251800	Courtenay	Wellington

255900	Masterton Central	Masterton
302800	Richmond Central (Tasman District)	Richmond (Tasman District)
304700	Nelson Central-Trafalgar	Nelson
307900	Blenheim Central	Blenheim
310300	Greymouth Central	Greymouth
314400	Rangiora Central	Rangiora
316100	Kaiapoi Central	Kaiapoi
325700	Christchurch Central-West	Christchurch
325800	Christchurch Central-North	Christchurch
326600	Christchurch Central	Christchurch
327000	Christchurch Central-East	Christchurch
327100	Christchurch Central-South	Christchurch
334800	Rolleston Izone	Rolleston
338000	Ashburton Central	Ashburton
341100	Timaru Central	Timaru
344400	Oamaru Central	Oamaru
348100	Queenstown Central	Queenstown
349900	Mosgiel Central	Mosgiel
353400	Dunedin Central	Dunedin
360100	Gore Central	Gore
361000	Invercargill Central	Invercargill