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Land Transport NZ
Ikiiki Whenua Aotearoa

land transport road assets

comparison of all territorial authorities

Information as at June 2007

Purpose of this publication

Land Transport New Zealand annually publishes comparative information on the maintenance of local authority roads. The information in this publication is based on financial assistance claimed from Land Transport NZ in 2006/07 and on the annual achievement returns from each local authority's RAMM database.

This enables a comparison to be made between local authorities and their peers. It is also useful as a benchmark for auditing and for reviewing of maintenance funding allocations.

This publication is also available on our website under *Performance of Land Transport* (http://www.landtransport.govt.nz/performance/index.html)

Enquiries

For further information please contact Sharon Inch at Land Transport NZ's National office in Wellington; ph 04 916 4282, or email sharon.inch@landtransport.govt.nz

Feedback

We are keen to receive your feedback so that improvements can continue to be made. Please contact the manager of performance information at your local Land Transport NZ office.

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Southern Region	Geoff Holland	03 964 2845

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Road condition

Smooth Travel Exposure (STE)

The smooth travel exposure section gives the STE results from each territorial authority's annual achievement return, plus the trend over the last five years.

Smooth travel exposure measures the proportion (%) of vehicle kilometres travelled in a year that occurs on 'smooth' sealed roads and indicates the quality of the ride experienced by motorists.

A 'smooth' road is one smoother than a predetermined NAASRA roughness threshold. Thresholds vary with traffic density and road location. Heavily trafficked roads have a lower (smoother) threshold. High volume urban roads have lower roughness thresholds than low volume rural roads.

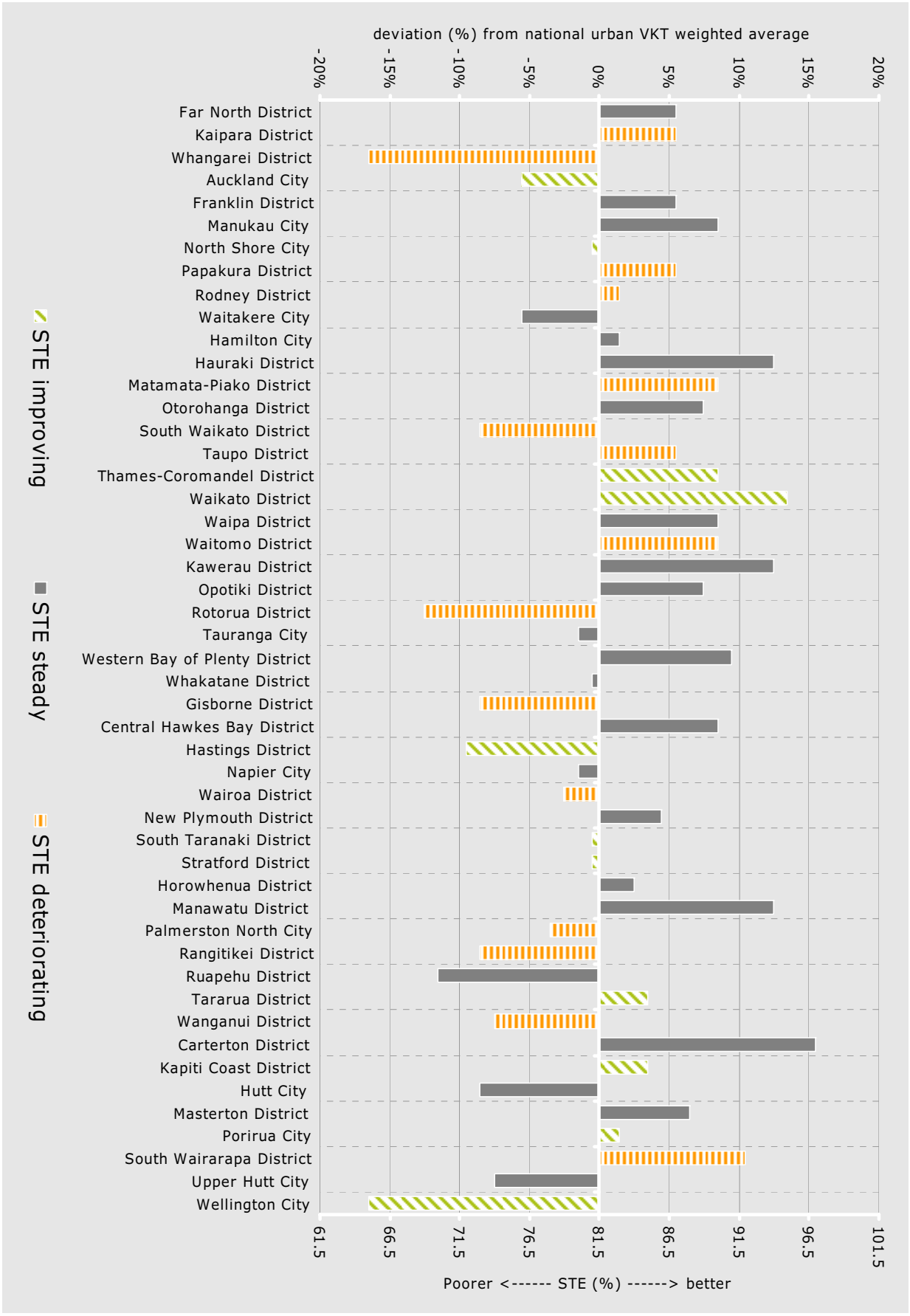
Results for urban roads, rural roads and the completed sealed network are shown separately, as are North Island and South Island results. Urban roads have a speed limit of 70kph or less. The recent trend in this measure is also shown[1]. Where the network is getting rougher the bar is orange, if smoother, lime green. If the network's net smoothness is steady, grey is used.

A deteriorating trend for a particular TA (that is, the value of STE has been reducing over time) does not always indicate that corrective action should be taken. Where the value of STE is already high (that is, the busy roads are generally smooth), the optimal value will probably be less than at present and a deteriorating trend is acceptable. The current value and trend in STE gives a 'snapshot' in time and helps us assess the effectiveness (at least in terms of ride quality experienced by users) of the investment made in sealed road maintenance and pavement smoothing in recent years. However, STE alone does not give us sufficient information to judge whether a territorial authority's pavement maintenance practices, including level of intervention, are optimal.

[1]This trend shows the slope of the linear regression line for the last five years of data. The range of the measured results, across all local authorities, has been examined to establish the limits of a middle band. The middle band includes half of the total travel. This middle band is defined by a range centred around zero change in the measure per annum—that is, within + or—'X' annual change. The value of 'X' has simply been chosen to capture half of the travel and results falling within this middle band have been classified as 'steady'. Establishing which results will fall in the steady classification is thus arbitrary, but the methodology allows us to identify outliers. Individual local authorities are also able to identify whether the measures for their roads, relative to other local authorities, are within the middle band or whether they fall into an outlier group.

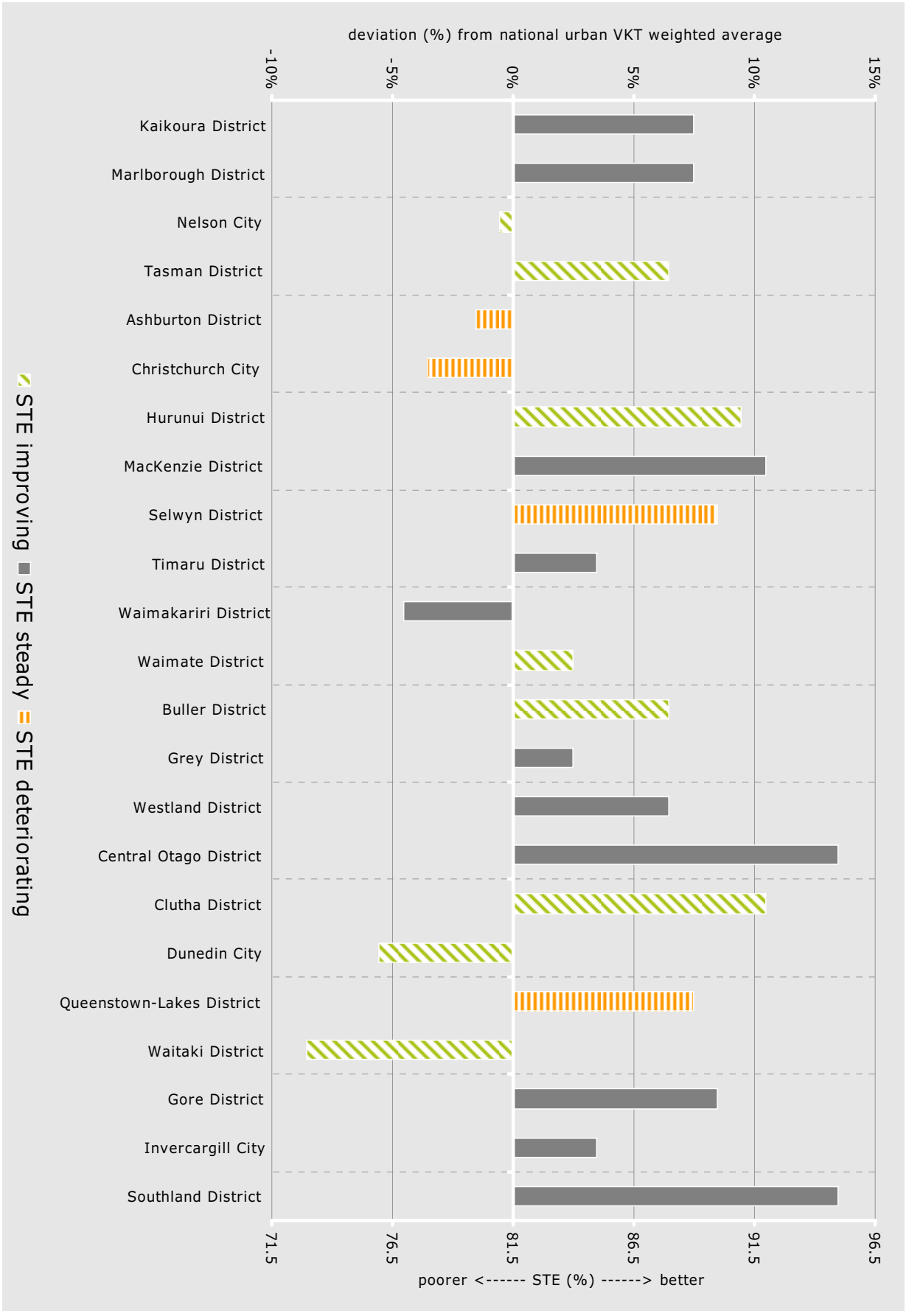
North Island sealed urban network

Smooth travel exposure (STE)



South Island sealed urban network

Smooth travel exposure (STE)

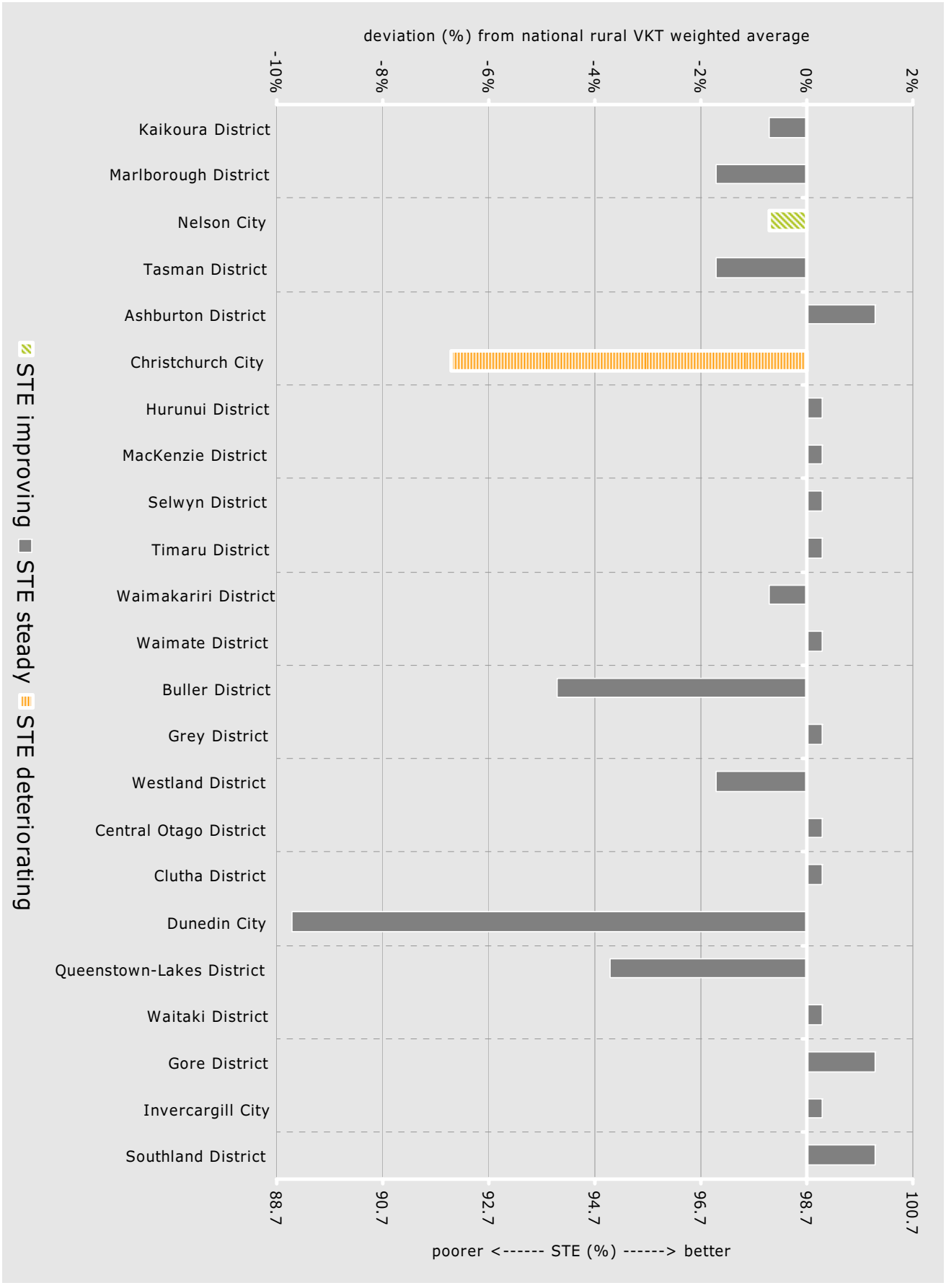


North Island sealed rural network

Smooth travel exposure (STE)

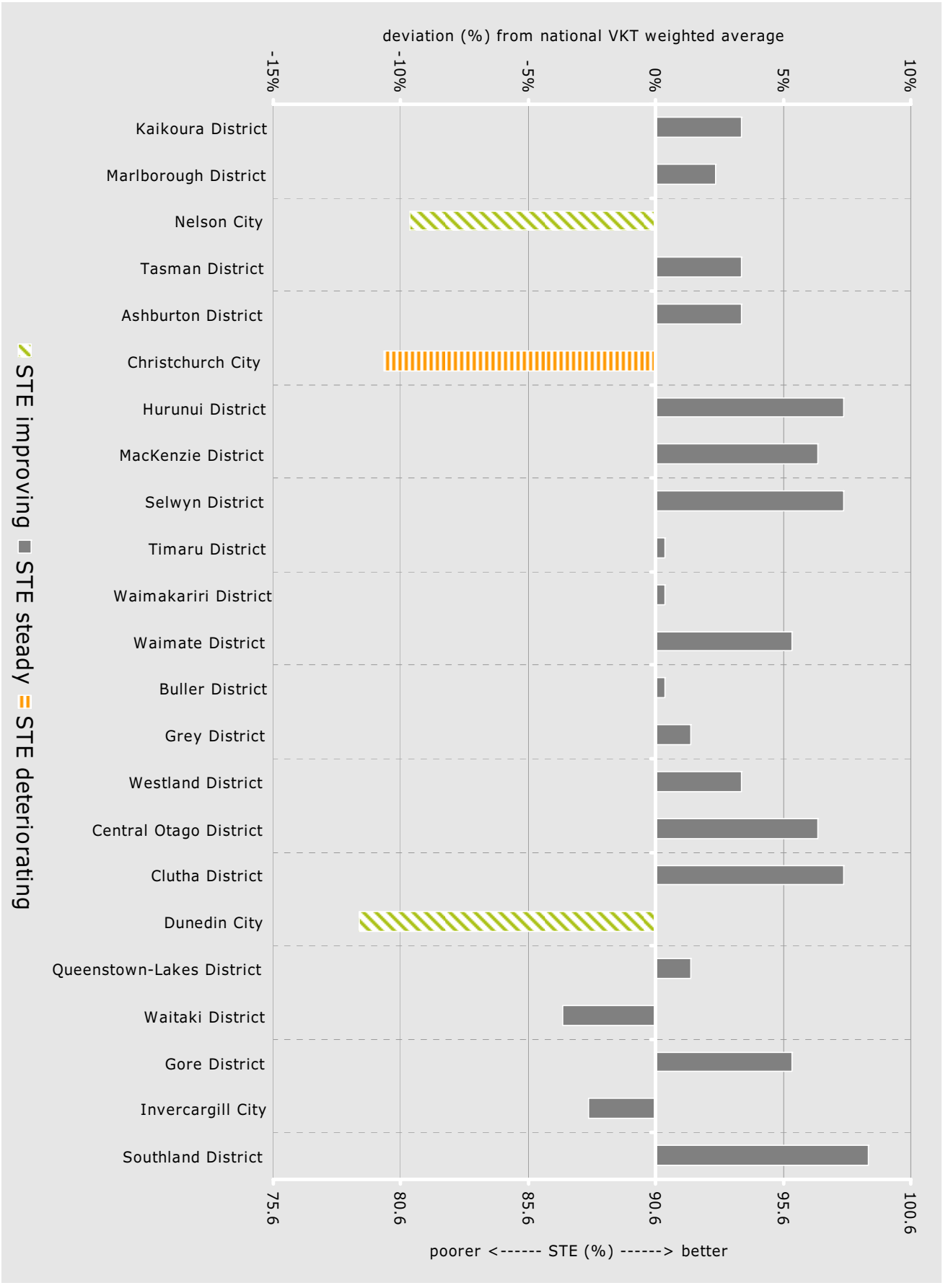
South Island sealed rural network

Smooth travel exposure (STE)



North Island sealed network overall
Smooth travel exposure (STE)

South Island sealed network overall
Smooth travel exposure (STE)



Condition Index (CI)

The Condition Index (CI) is a combined index, a 'weighted sum', of the surface faults in sealed road surfaces. CI combines alligator cracking, scabbing, potholes, pothole patches and flushing.

100 - CI ensures that the higher the number, the better the condition.

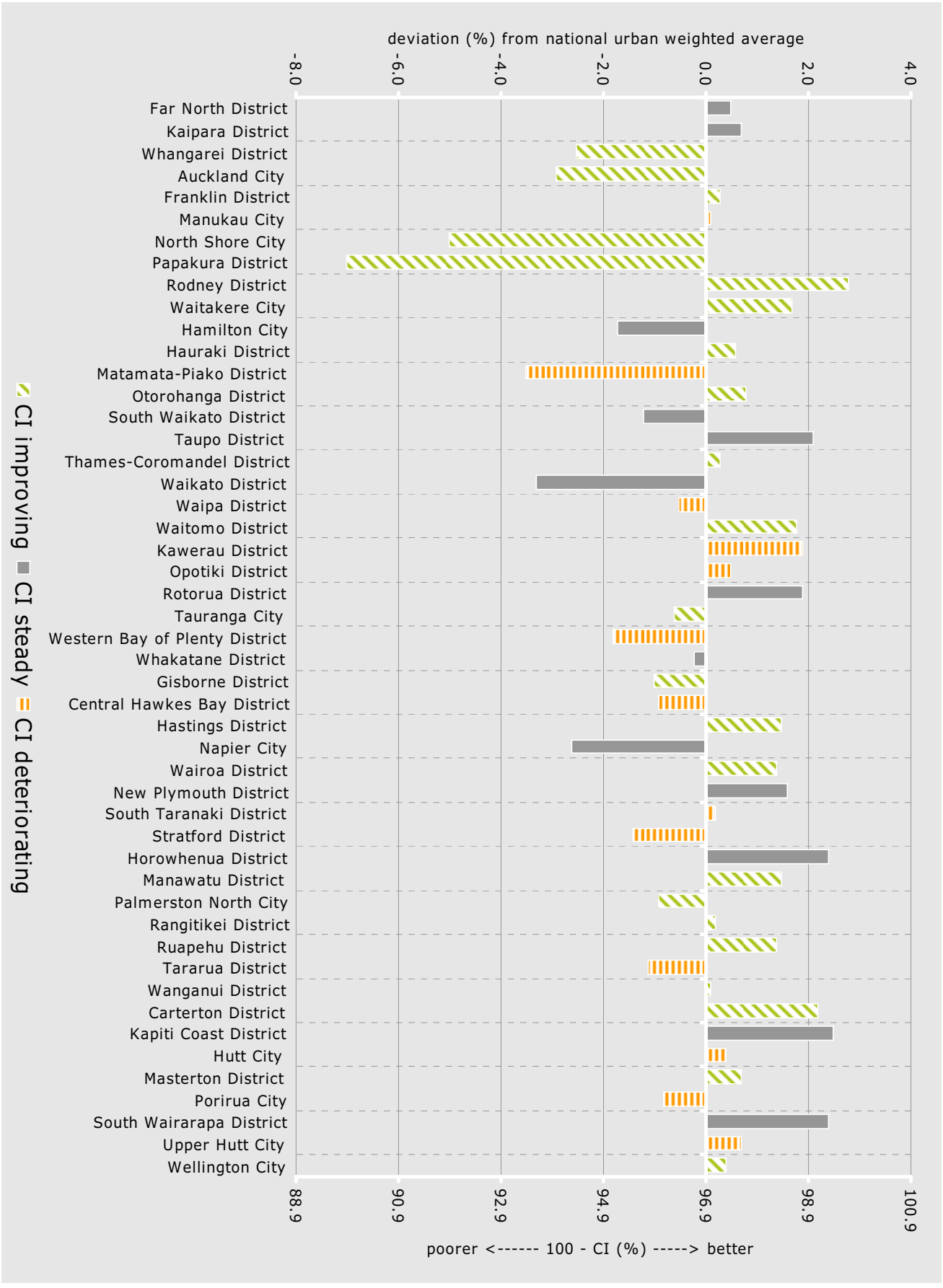
CI and the routine for calculating it using the RAMM software, were introduced in the 2002/03 year.

Results for urban roads, rural roads and the completed sealed network are shown separately, as are North Island and South Island results. Urban roads are defined as having a speed limit of 70kph or less. The recent trend in this measure is also shown[2]. Where the surface condition is deteriorating the bar is orange, if improving, lime green. If the network's surface condition is steady, grey is used.

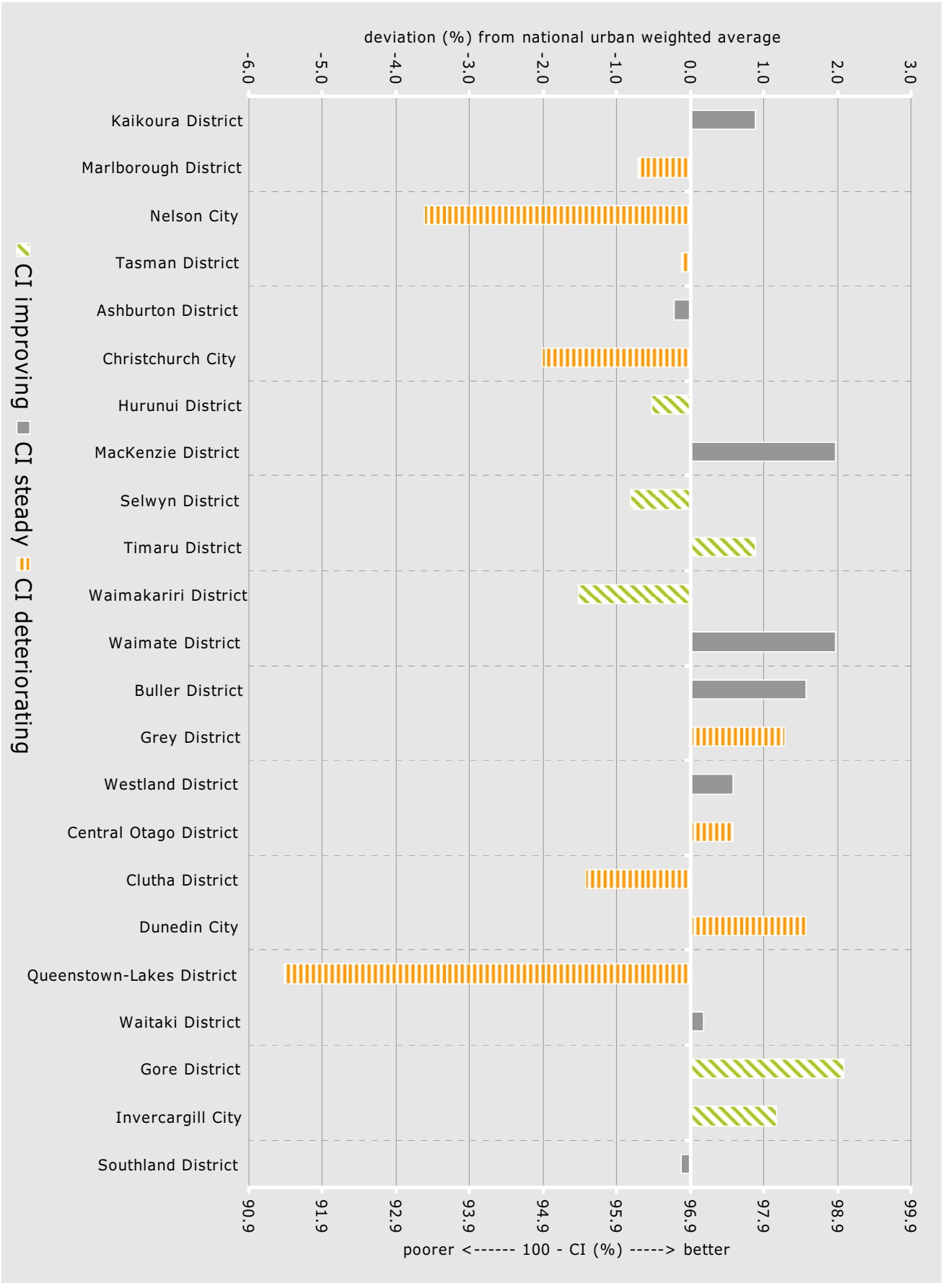
A deteriorating trend for a particular territorial authority (that is, the value of 100 - CI has been decreasing over time) does not always indicate that corrective action should be taken. Where the value of 100 - CI is already high (the surface condition is good) the optimal value will probably be higher than at present and a deteriorating trend is desirable. The current value and trend in 100 - CI give a 'snapshot' in time. Substantially more information (including historical CI data) is needed to judge whether current maintenance practices, including the level of investment, are optimal.

[2]This trend shows the slope of the linear regression line for the last five years of data. The range of the measured results, across all local authorities, has been examined to establish the limits of a middle band. The middle band includes half of the total travel. This middle band is defined by a range centred around zero change in the measure per annum—that is, within + or—'X' annual change. The value of 'X' has simply been chosen to capture half of the travel and results falling within this middle band have been classified as 'steady'. Establishing which results will fall in the steady classification is thus arbitrary, but the methodology allows us to identify outliers. Individual local authorities are also able to identify whether the measures for their roads, relative to other local authorities, are within the middle band or whether they fall into an outlier group.

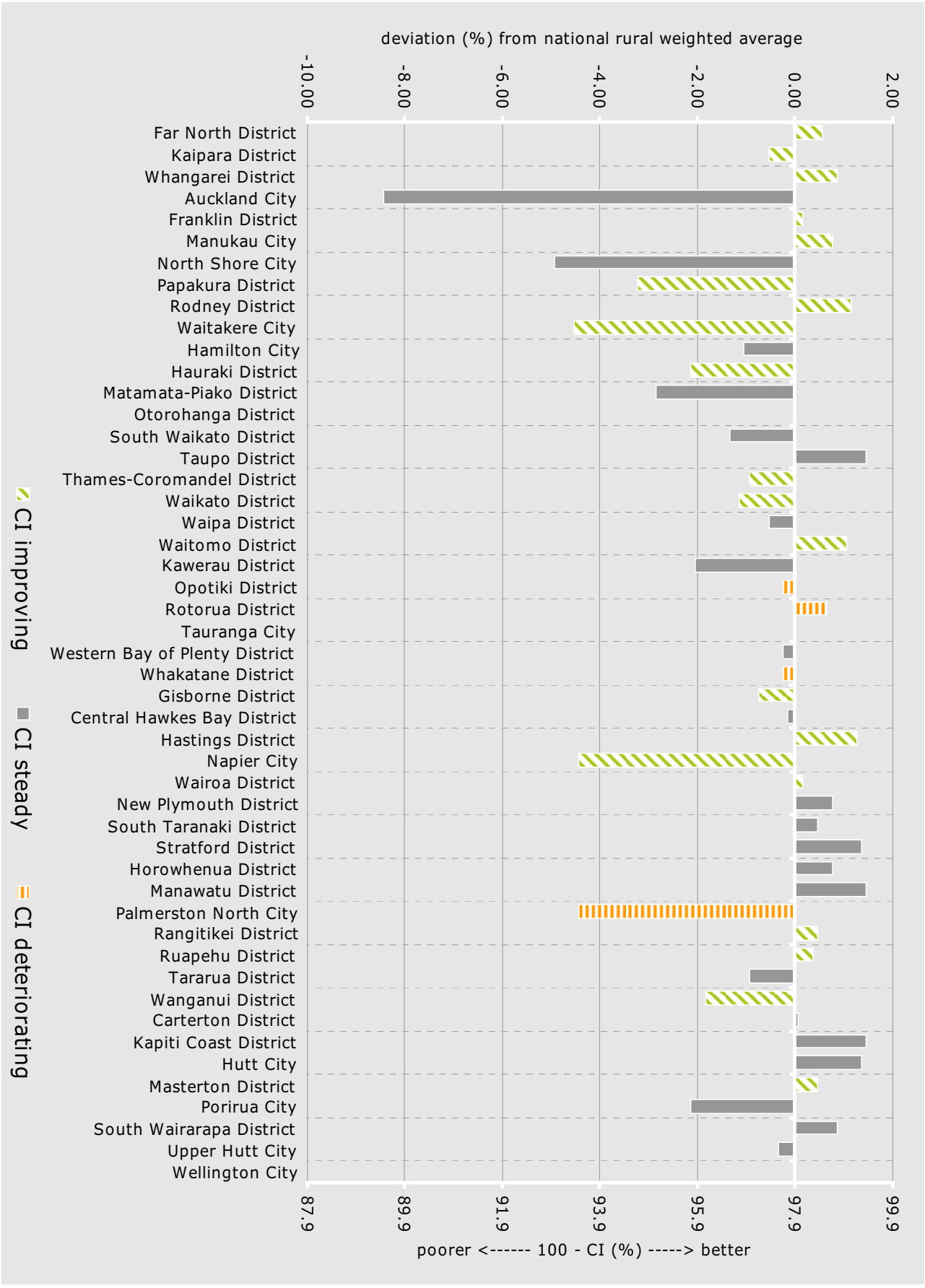
North Island sealed urban networks
2006/07 network surface condition



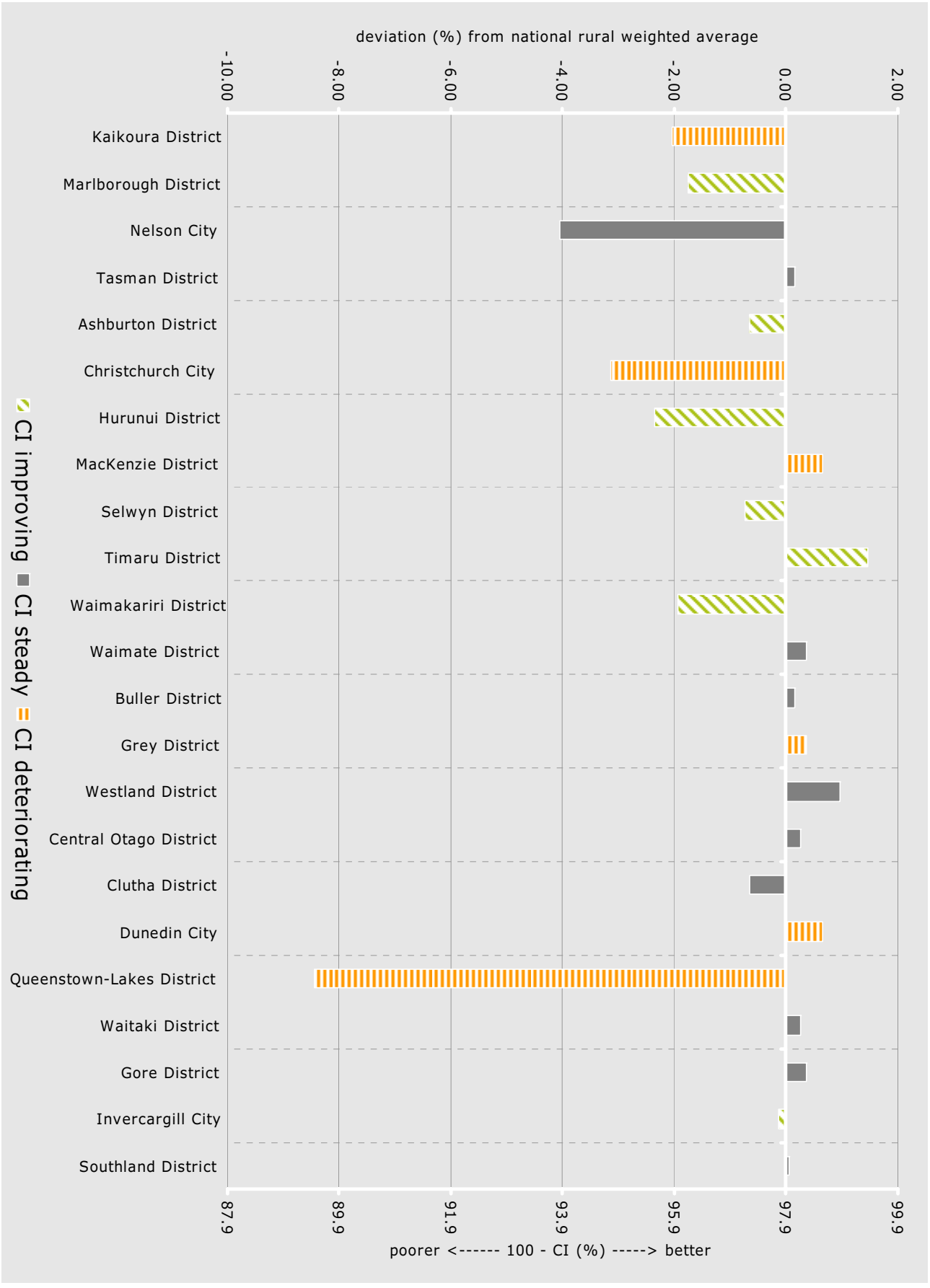
South Island sealed urban networks
2006/07 network surface condition



North Island sealed rural networks
2006/07 surface condition

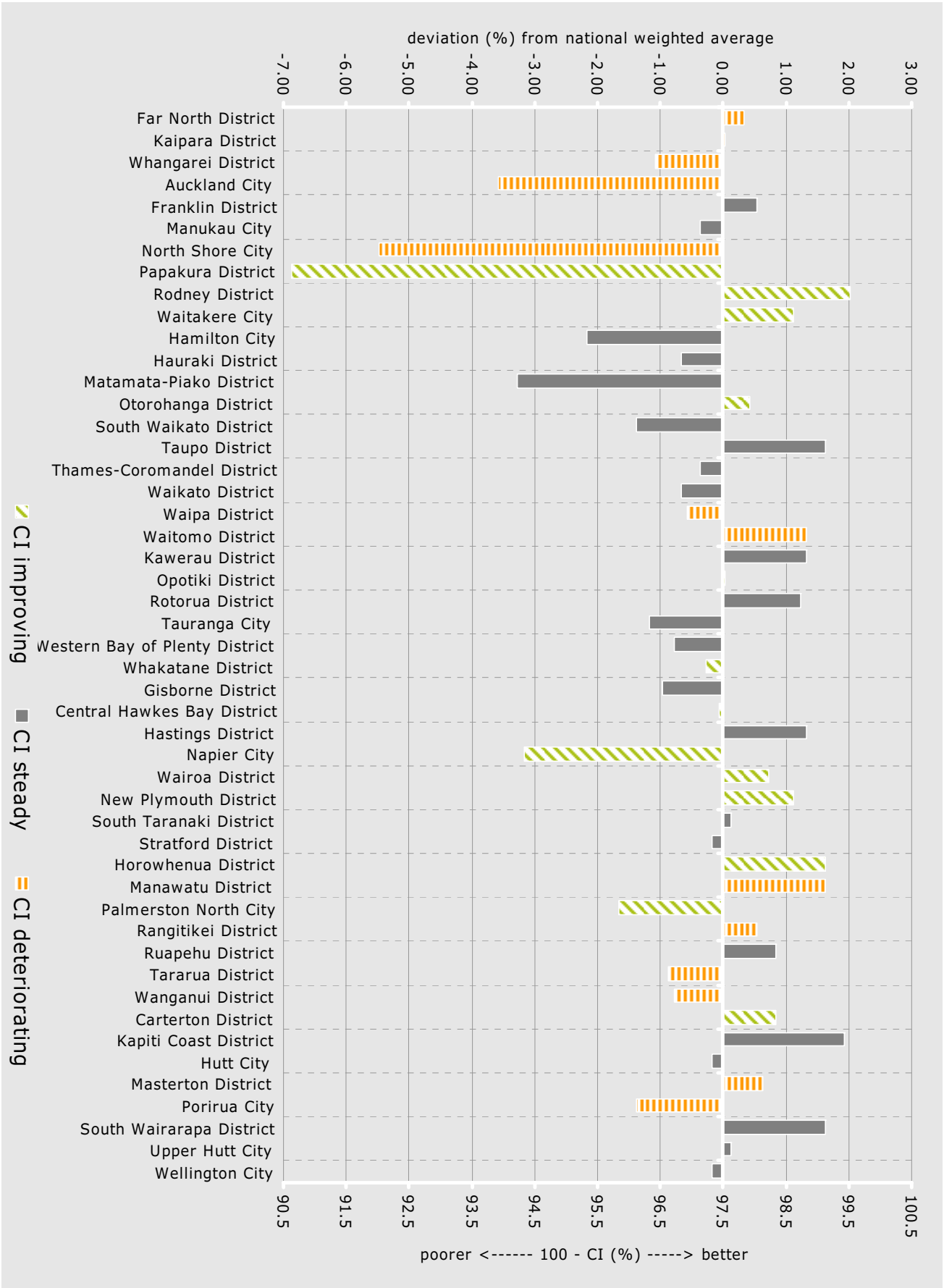


South Island sealed rural networks
2006/07 surface condition



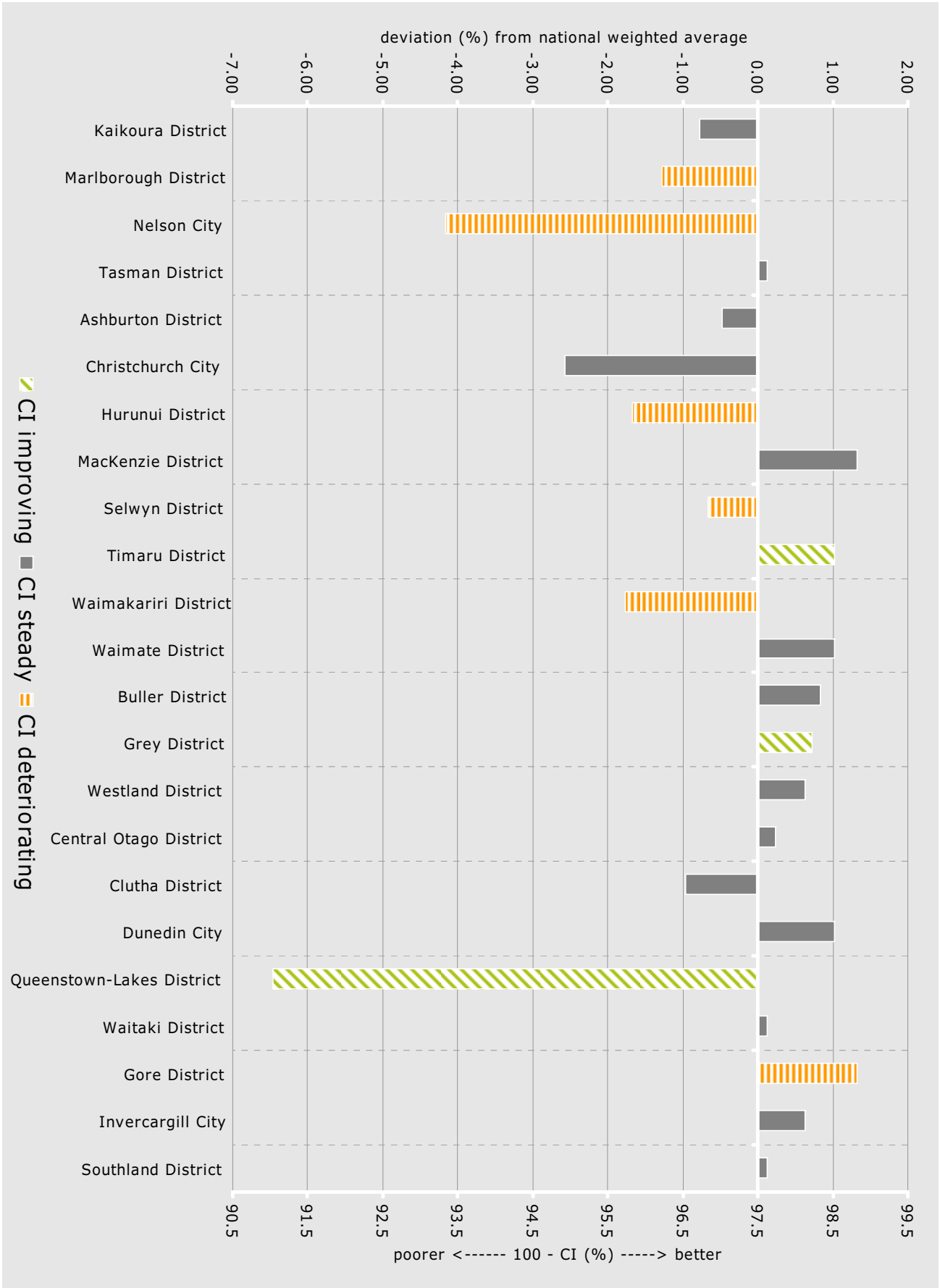
North Island sealed networks overall

2006/07 surface condition



South Island sealed networks overall

2006/07 surface condition



Pavement Integrity Index (PII)

The Pavement Integrity Index (PII) is a combined index of the pavement faults in sealed road surfaces. It is a 'weighted sum' of the pavement defects divided by the total lane length. PII combines surface faults (CI) with rutting and shoving.

100 - PII ensures that the higher the number the greater the pavement integrity.

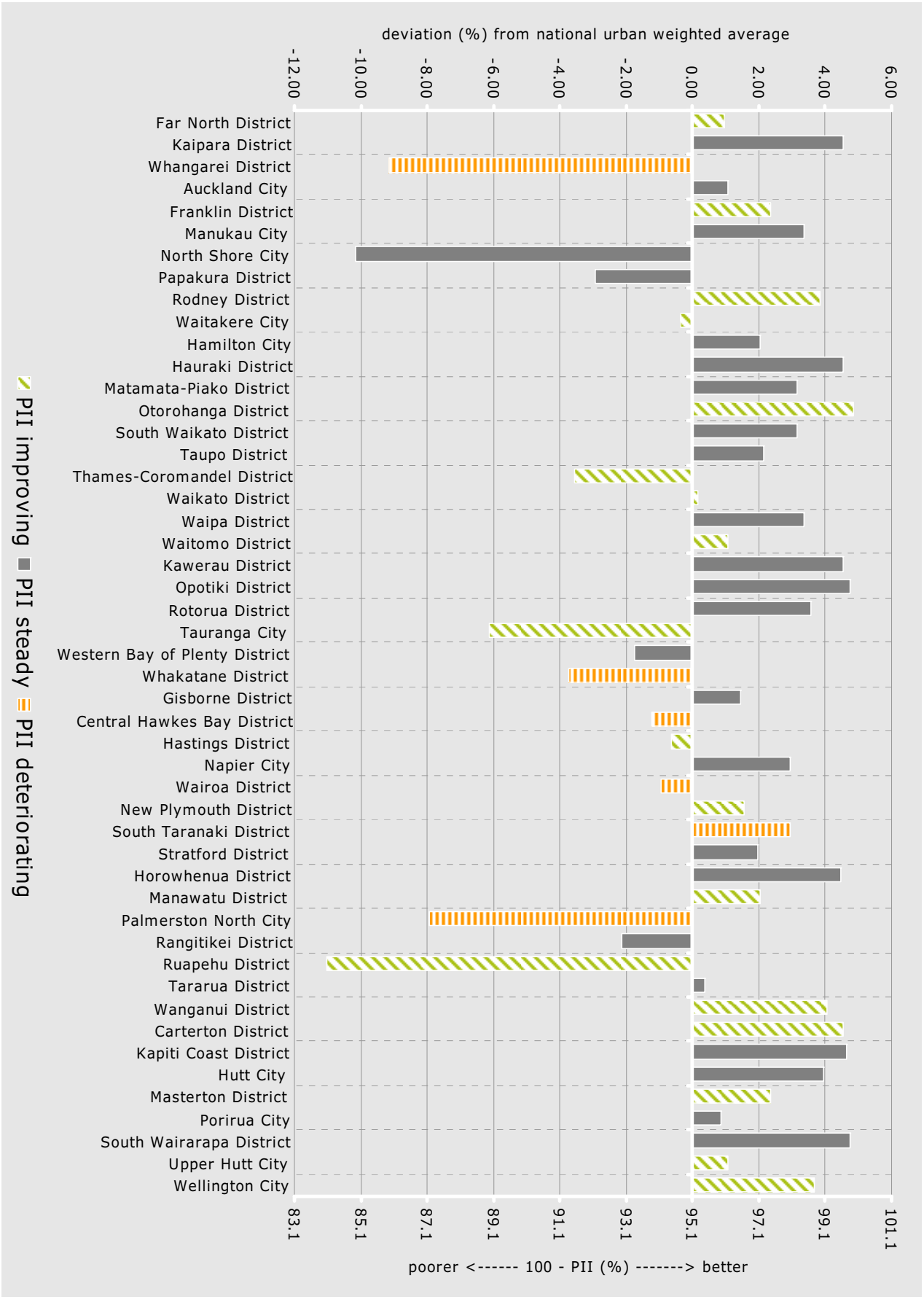
Pavement integrity index (PII) and the routine for calculating it using the RAMM software, was introduced in the 2003/04 year.

Results for urban roads, rural roads and the completed sealed network are shown separately, as are North Island and South Island results. Urban roads have a speed limit of 70kph or less. The recent trend in this measure is also shown[3]. Where the pavement integrity is deteriorating the bar is orange, if improving, lime green. If the network pavement integrity is steady, grey is used.

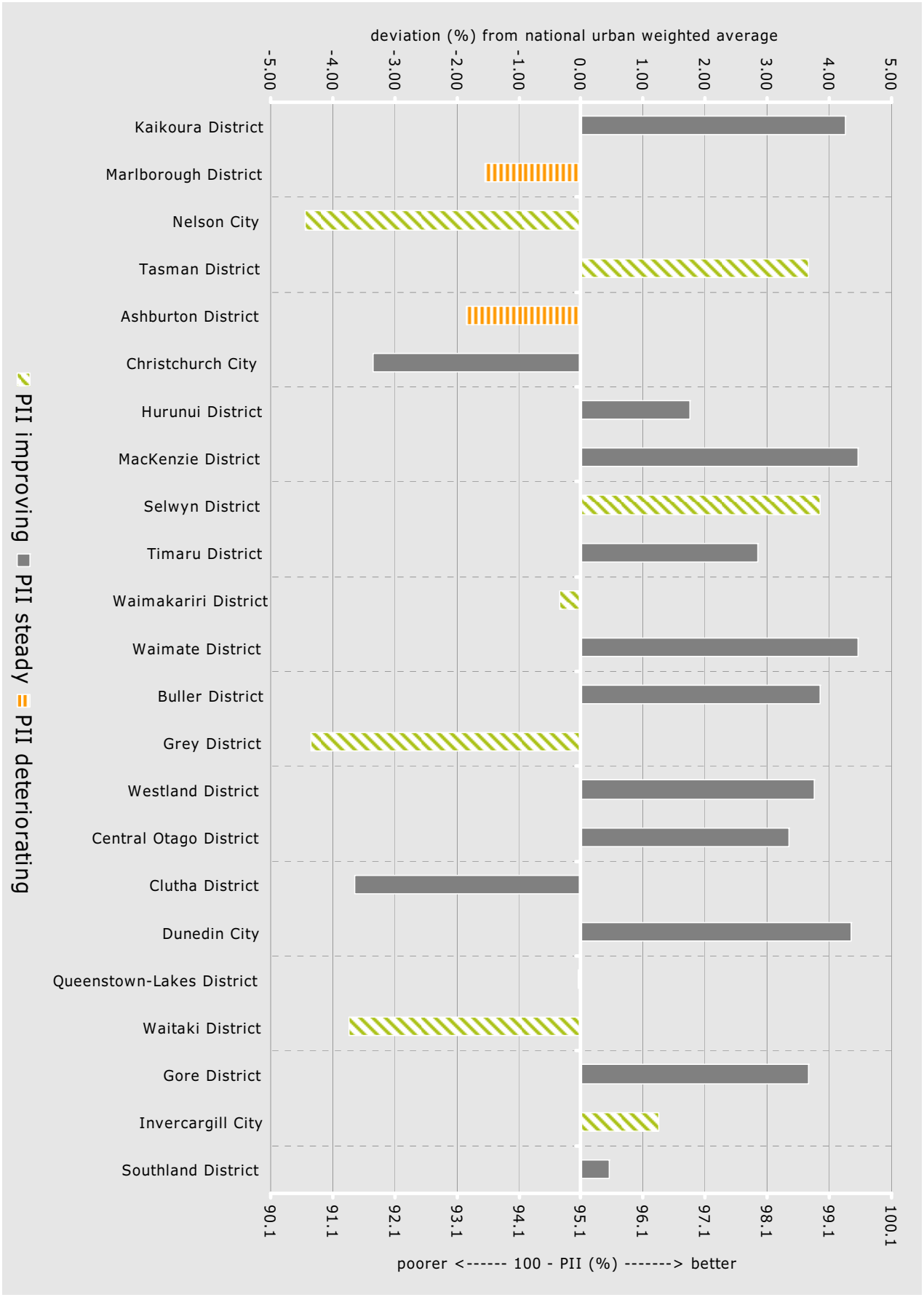
A deteriorating trend for a particular territorial authority (that is, the value of 100 - PII has been decreasing over time) does not always indicate that corrective action should be taken. Where the value of 100 - PII is already high (the pavement integrity is good), the optimal value will probably be higher than at present and a deteriorating trend is desirable. The current value and trend in 100 - PII give a 'snapshot' in time. Substantially more information (including historical PII data) is needed to judge whether current maintenance practices, including the level of investment , are optimal.

[3]This trend shows the slope of the linear regression line for the last five years of data. The range of the measured results, across all local authorities, has then been examined to establish the limits of a middle band. The middle band includes half of the total travel. This middle band is defined by a range centred around zero change in the measure per annum—that is, within + or—'X' annual change. The value of 'X' has simply been chosen to capture half of the road length and results falling within this middle band have been classified as 'steady'. Establishing which results will fall in the steady classification is thus arbitrary, but the methodology allows us to identify outliers. Individual local authorities are also able to identify whether the measures for their roads, relative to other local authorities, are within the middle band or whether they fall into an outlier group.

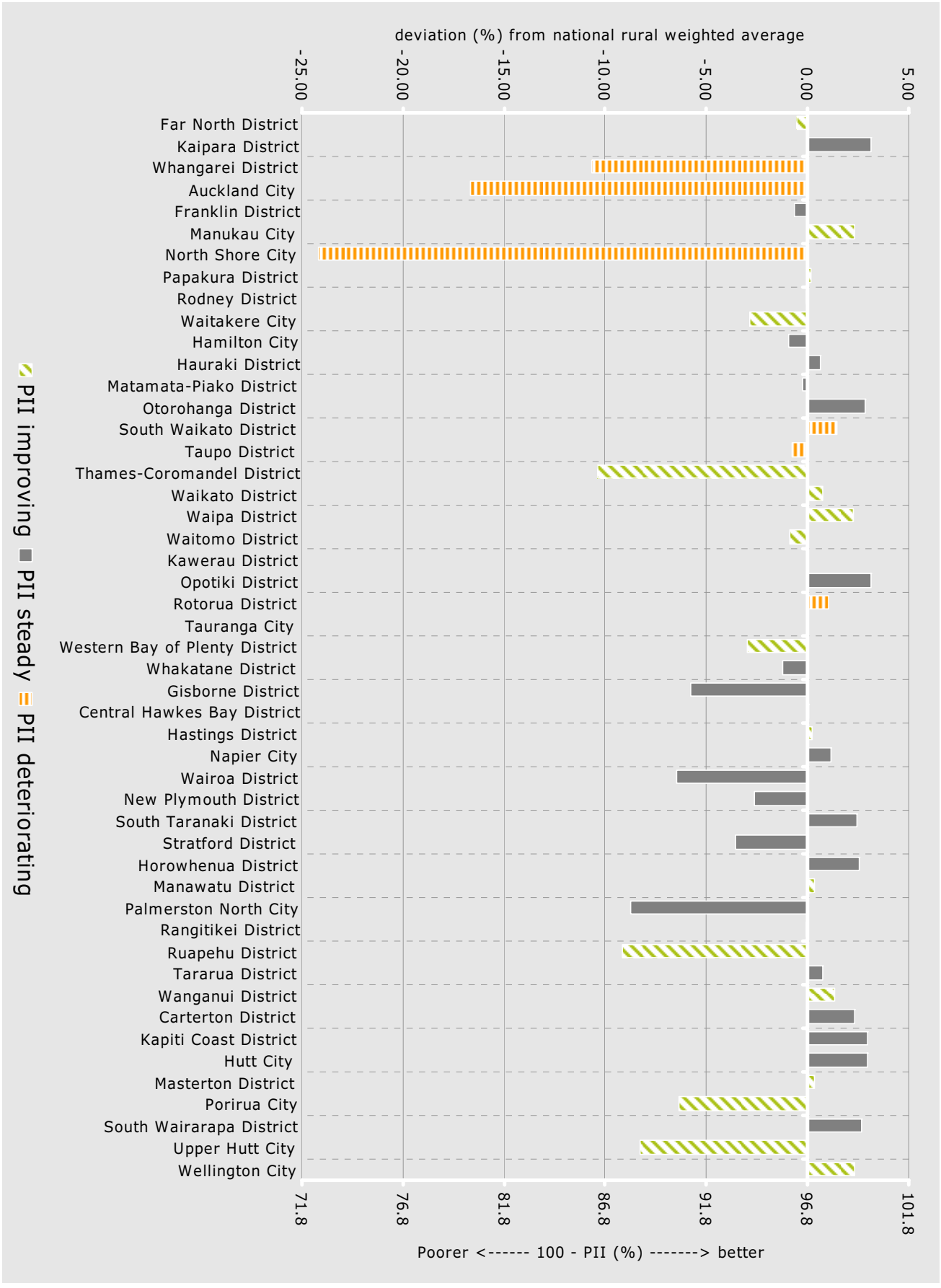
North Island sealed urban network
2006/07 pavement condition



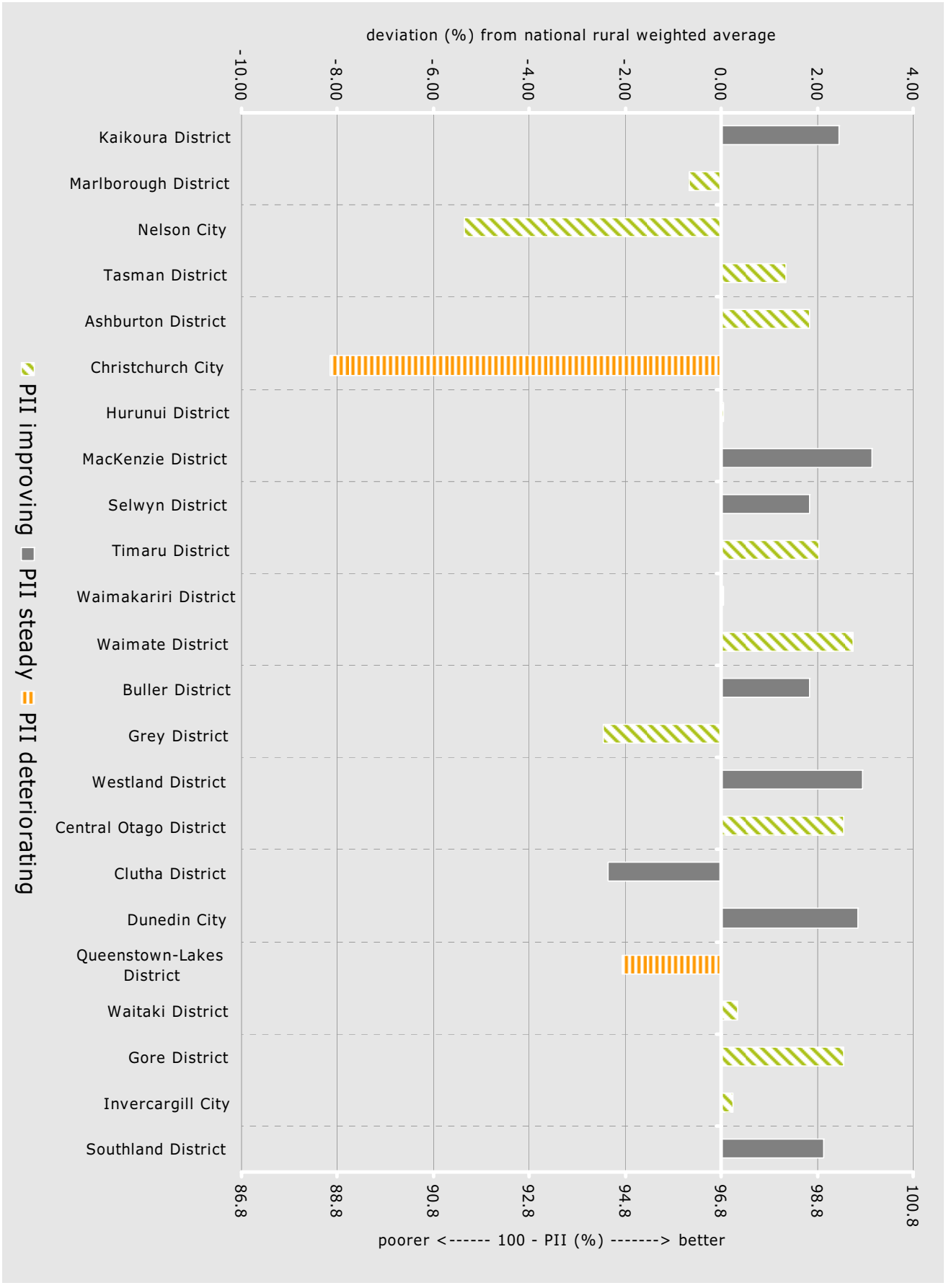
South Island sealed urban network
2006/07 pavement condition



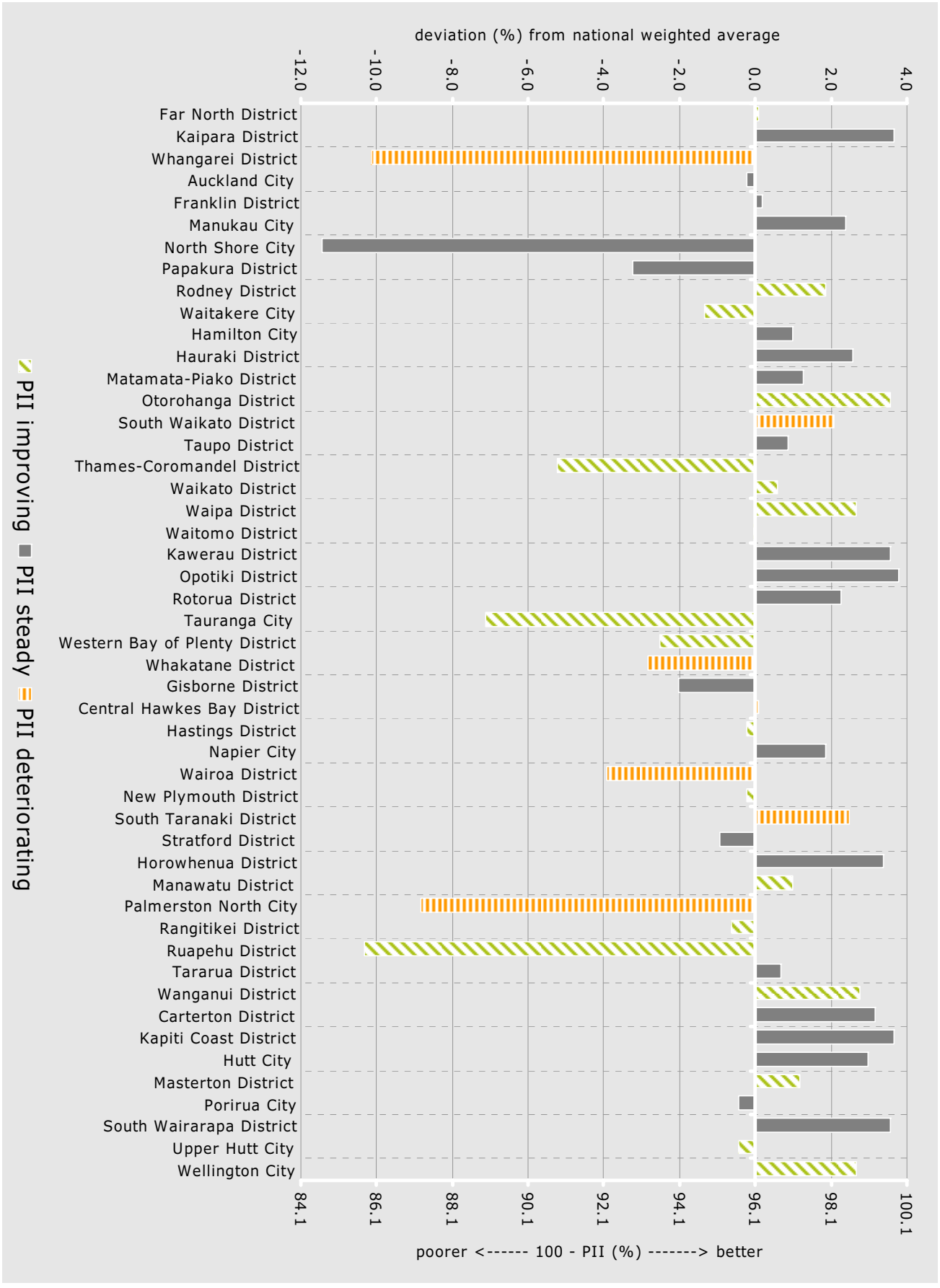
North Island sealed rural network
2006/07 pavement condition



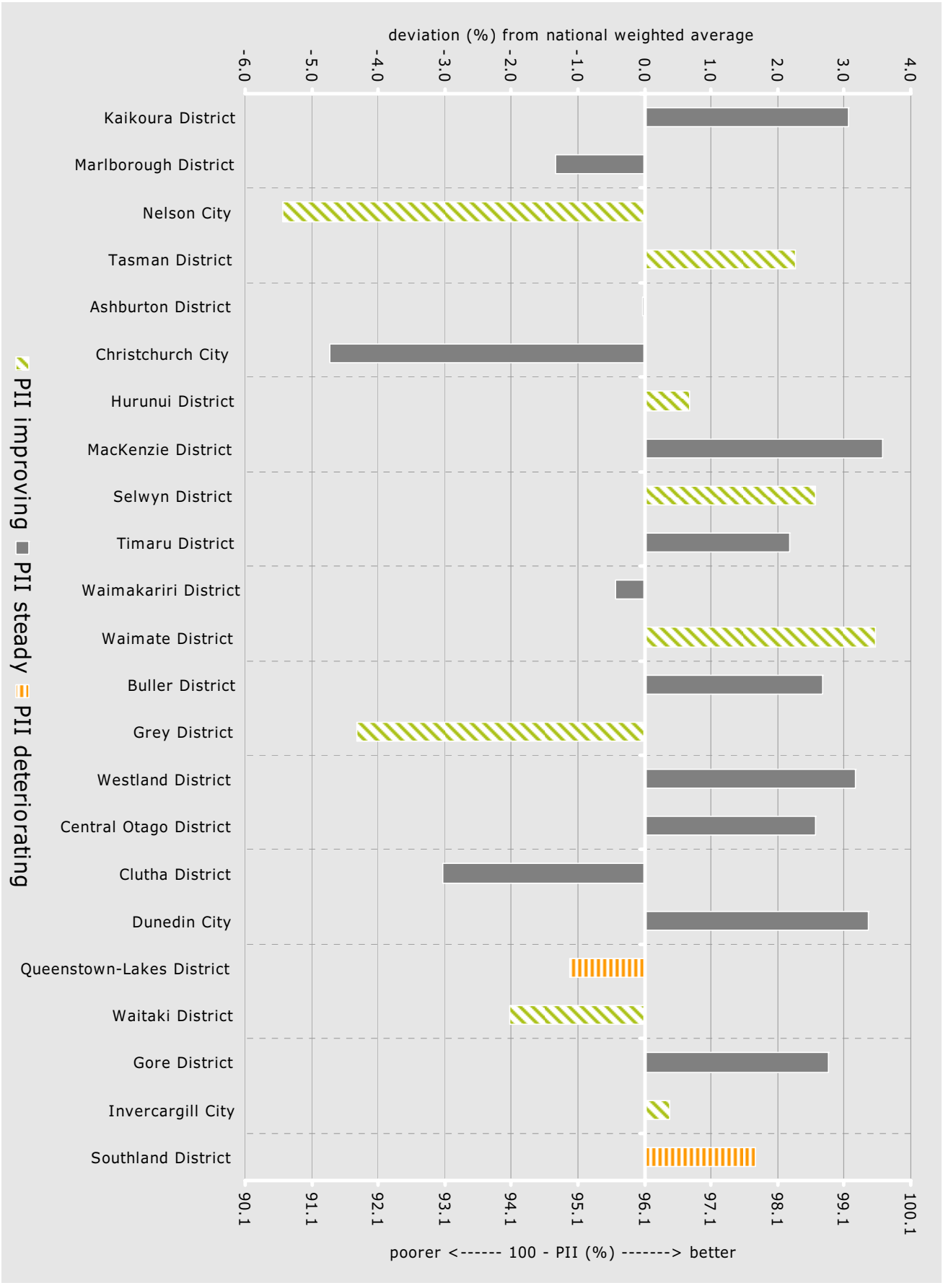
South Island sealed rural network
2006/07 pavement condition



North Island overall network
2006/07 pavement condition



South Island overall network
2006/07 pavement condition

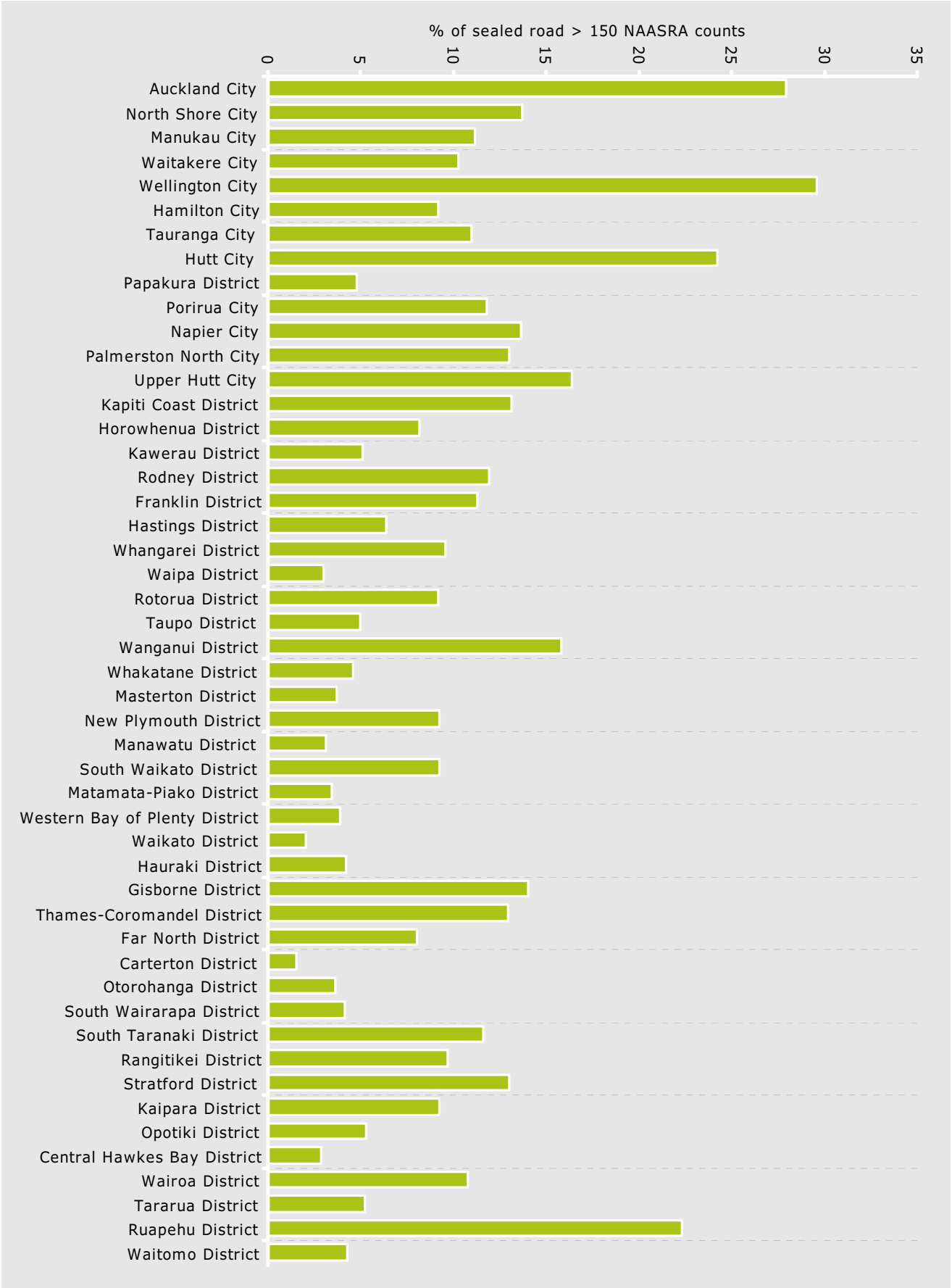


Road Roughness

Road roughness is measured by a system developed by the former National Association of Australian State Roading Authorities (NAASRA). Values are obtained by a special-purpose vehicle travelling down both the outside lanes of a length of road. The rougher the road, the higher the NAASRA counts per lane kilometre.

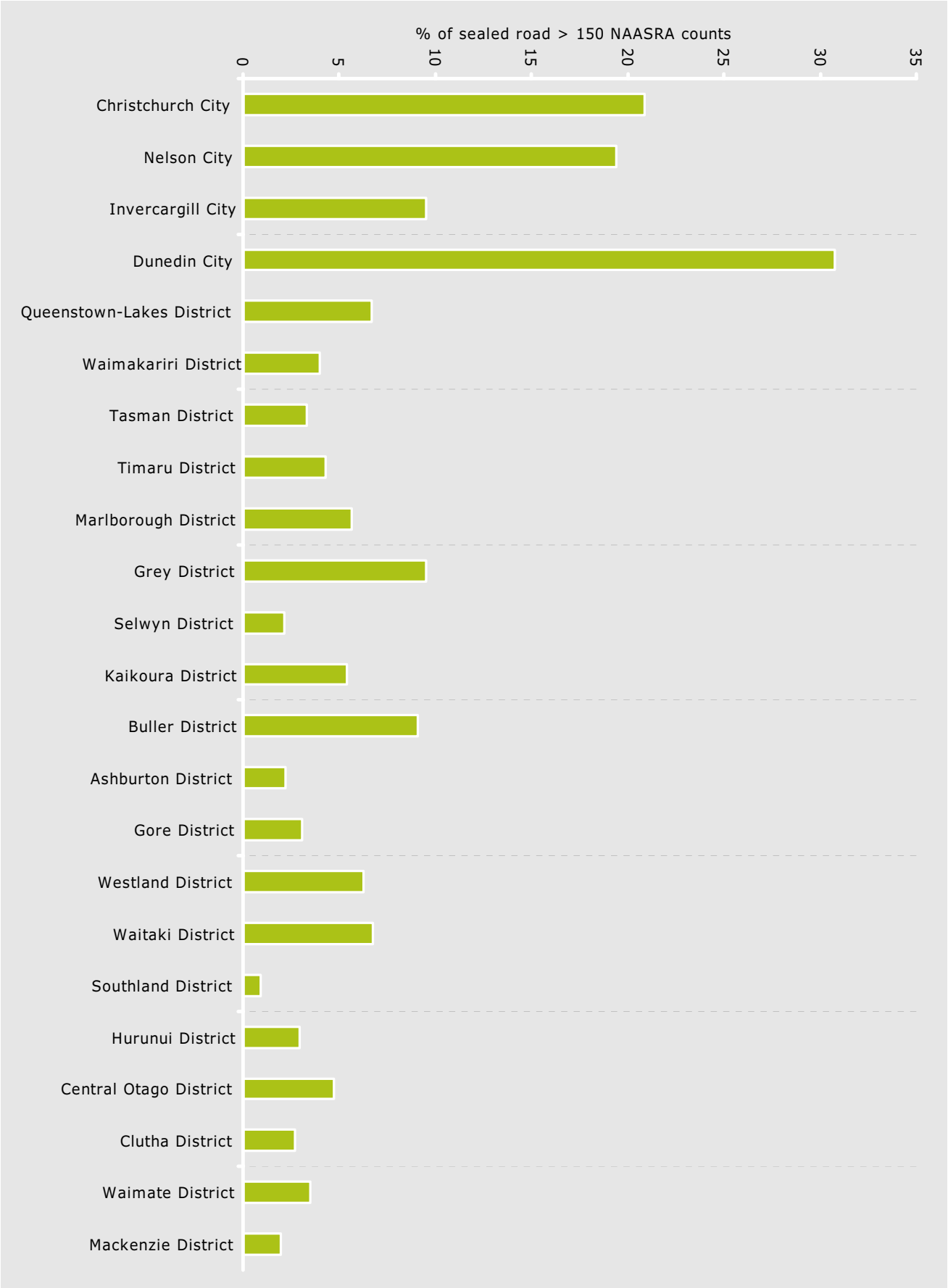
Approved organisations define acceptable levels of service for roughness on their networks. The graphs printed in this document have used a threshold of 150 NAASRA. A NAASRA count of greater than 150 typically indicates a road which is becoming a concern in terms of its roughness and the number of complaints likely to be generated.

Road roughness comparison for North Island authorities for 2006/07



Note 1: Authorities are listed from highest to lowest average traffic density.
Note 2: The higher the percentage the rougher the network.

Road roughness comparison for South Island authorities for 2006/07



Note 1: Authorities are listed from highest to lowest average traffic density.
Note 2: The higher the percentage the rougher the network.

Unit costs based on traffic volume—2006/2007

Pavement costs—North Island

		Total Annual Vehicle Kilometres (VKT 000s)	Average Traffic Density on the network (VPD)	Total Pavement & Drainage Mtce - work categories 1 - 6 & 40 ($000)	Total Pavement & Drainage Mtce - work categories 1 - 6 & 40 (cents/ VKT)	Vehicle kilometres per Unit Pavement Mtce Costs (VKT/ $)
1	Far North District	227,910	247	13,887	6.1	16
2	Kaipara District	81,188	144	9,683	11.9	8
3	Whangarei District	418,157	657	10,240	2.4	41
4	Auckland City	2,756,942	5293	42,415	1.5	65
5	Franklin District	494,869	835	12,279	2.5	40
6	Manukau City	1,696,591	3665	19,830	1.2	86
7	North Shore City	996,558	3983	13,682	1.4	73
8	Papakura District	270,231	2557	3,606	1.3	75
9	Rodney District	581,119	932	21,055	3.6	28
10	Waitakere City	970,937	3382	11,715	1.2	83
11	Hamilton City	617,672	2882	4,061	0.7	152
12	Hauraki District	71,122	329	4,102	5.8	17
13	Matamata-Piako District	144,552	398	5,741	4.0	25
14	Otorohanga District	57,188	196	3,394	5.9	17
15	South Waikato District	78,226	464	2,934	3.8	27
16	Taupo District	149,021	541	2,690	1.8	55
17	Thames-Coromandel District	87,128	355	7,661	8.8	11
18	Waikato District	237,135	390	12,644	5.3	19
19	Waipa District	231,712	601	7,949	3.4	29
20	Waitomo District	41,165	112	6,710	16.3	6
21	Kawerau District	12,098	841	204	1.7	59
22	Opotiki District	17,141	135	1,378	8.0	12
23	Rotorua District	214,953	588	5,861	2.7	37
24	Tauranga City	522,129	2869	4,256	0.8	123
25	Western BOP District	156,388	416	10,438	6.7	15
26	Whakatane District	193,698	589	5,829	3.0	33
27	Gisborne District	216,899	320	12,488	5.8	17
28	Central Hawkes Bay District	73,112	159	6,465	8.8	11
29	Hastings District	442,094	746	8,301	1.9	53
30	Napier City	286,424	2230	2,347	0.8	122
31	Wairoa District	41,361	126	4,890	11.8	8
32	New Plymouth District	206,934	446	6,542	3.2	32
33	South Taranaki District	108,841	185	7,047	6.5	15
34	Stratford District	31,815	146	1,720	5.4	18
35	Horowhenua District	196,897	957	2,747	1.4	72
36	Manawatu District	215,679	413	7,045	3.3	31
37	Palmerston North City	306,583	1789	3,792	1.2	81
38	Rangitikei District	71,161	159	6,465	9.1	11
39	Ruapehu District	55,974	116	4,586	8.2	12
40	Tararua District	86,154	121	6,910	8.0	12
41	Wanganui District	169,199	553	5,646	3.3	30
42	Carterton District	34,167	216	1,505	4.4	23
43	Kapiti Coast District	145,854	1040	2,259	1.5	65
44	Hutt City	498,202	2865	6,054	1.2	82
45	Masterton District	132,128	454	4,402	3.3	30
46	Porirua City	199,929	2309	1,397	0.7	143
47	South Wairarapa District	44,260	186	2,076	4.7	21
48	Upper Hutt City	128,984	1509	1,340	1.0	96
49	Wellington City	680,847	2732	11,118	1.6	61

Pavement costs—South Island

		Total Annual Vehicle Kilometres (VKT 000s)	Average Traffic Density on the network (VPD)	Total Pavement & Drainage Mtce - work categories 1 - 6 & 40 ($000)	Total Pavement & Drainage Mtce - work categories 1 - 6 & 40 (cents/ VKT)	Vehicle kilometres per Unit Pavement Mtce Costs (VKT/ $)
50	Kaikoura District	14,312	195	401	2.8	36
51	Marlborough District	137,497	244	5,598	4.1	25
52	Nelson City	212,533	2300	1,974	0.9	108
53	Tasman District	215,525	349	6,565	3.0	33
54	Ashburton District	163,909	171	5,512	3.4	30
56	Christchurch City	1,974,449	2377	20,286	1.0	97
57	Hurunui District	65,719	124	3,830	5.8	17
58	MacKenzie District	18,552	72	1,152	6.2	16
59	Selwyn District	271,159	302	5,083	1.9	53
60	Timaru District	181,236	290	5,486	3.0	33
61	Waimakariri District	211,933	394	4,809	2.3	44
62	Waimate District	36,522	75	1,701	4.7	21
63	Buller District	37,494	172	2,083	5.6	18
64	Grey District	46,801	207	2,308	4.9	20
65	Westland District	37,605	154	2,105	5.6	18
66	Central Otago District	69,923	103	2,907	4.2	24
67	Clutha District	96,515	90	9,176	9.5	11
68	Dunedin City	446,030	697	12,214	2.7	37
69	Queenstown-Lakes District	166,023	522	5,905	3.6	28
70	Waitaki District	92,232	139	4,123	4.5	22
71	Gore District	55,102	169	2,287	4.2	24
72	Invercargill City	212,630	989	4,755	2.2	45
73	Southland District	216,518	120	13,699	6.3	16

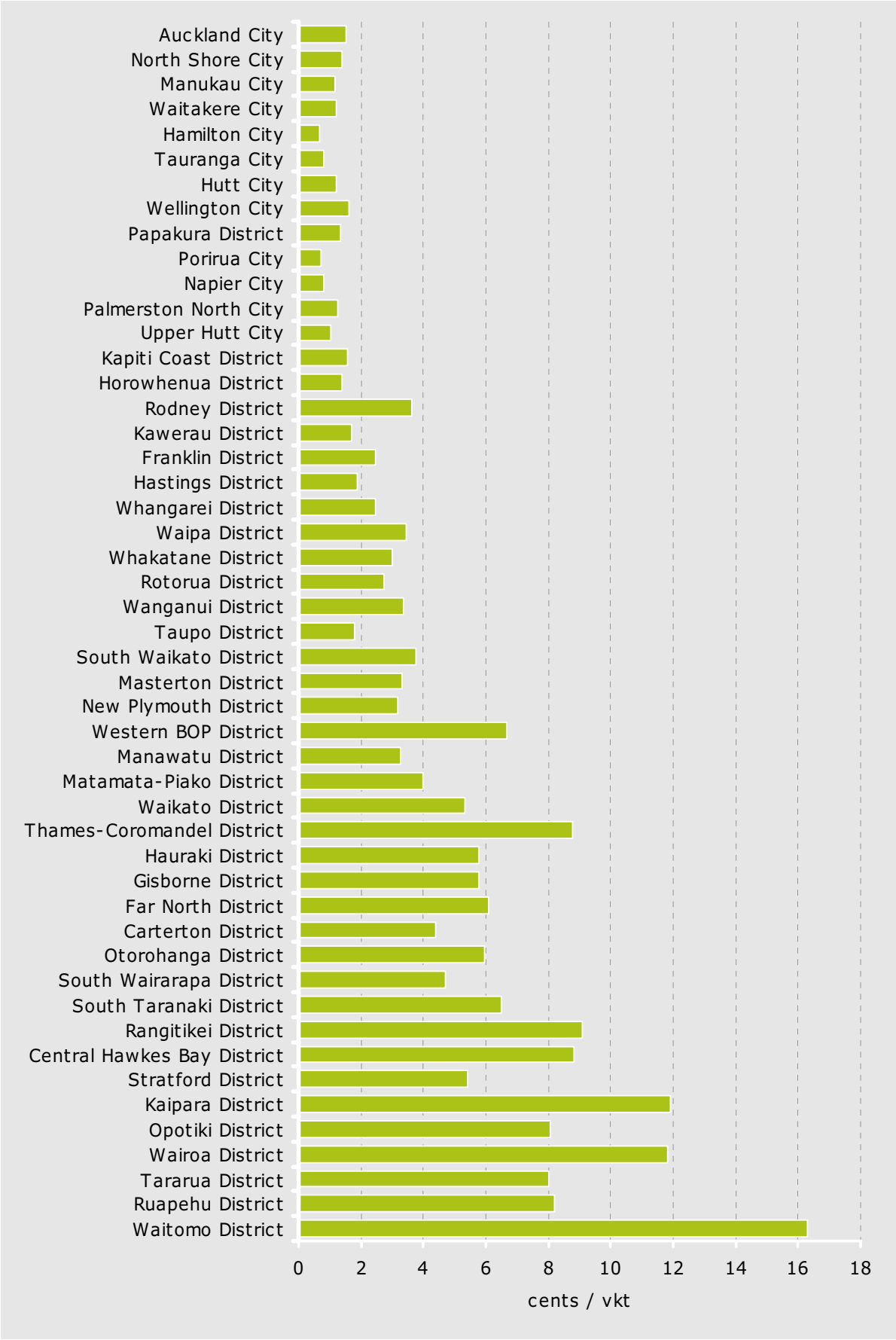
VPD (Vehicles per day) - The number of vehicles observed passing a point on the road in both directions for 24 hours.

Work categories - Land Transport New Zealand has divided road asset work into activity types called work categories. Claims for funding are allocated to work categories. For further explanation of individual work categories please refer to the Land Transport New Zealand 'Programme and Funding Manual, version 2.1' on our website
http://www.landtransport.govt.nz/funding/programme-and-funding-manual/index.html

Vehicle kilometres travelled (VKT) - Total annual vehicle kilometres travelled in an area. This is calculated from the number of vehicles crossing a point in both directions in a 24 hour period, times the length of the road being travelled. Individual road VKT is added to give a value for the whole road network in that area.

Total pavement and drainage maintenance (work categories 1—6 & 40) costs / vkt

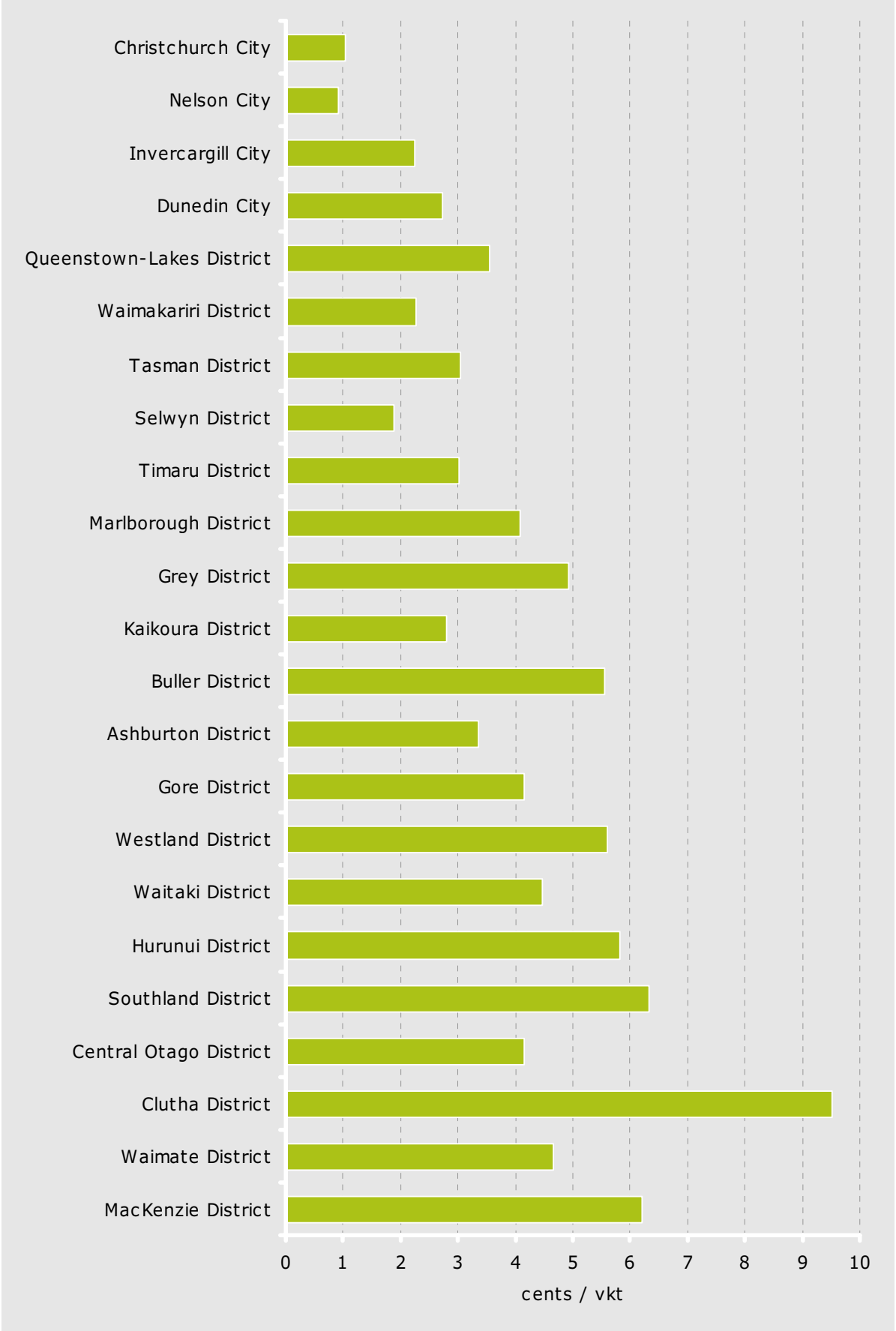
North Island



Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Total pavement and drainage maintenance (work categories 1—6 & 40) costs / vkt

South Island



Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Corridor costs—North Island

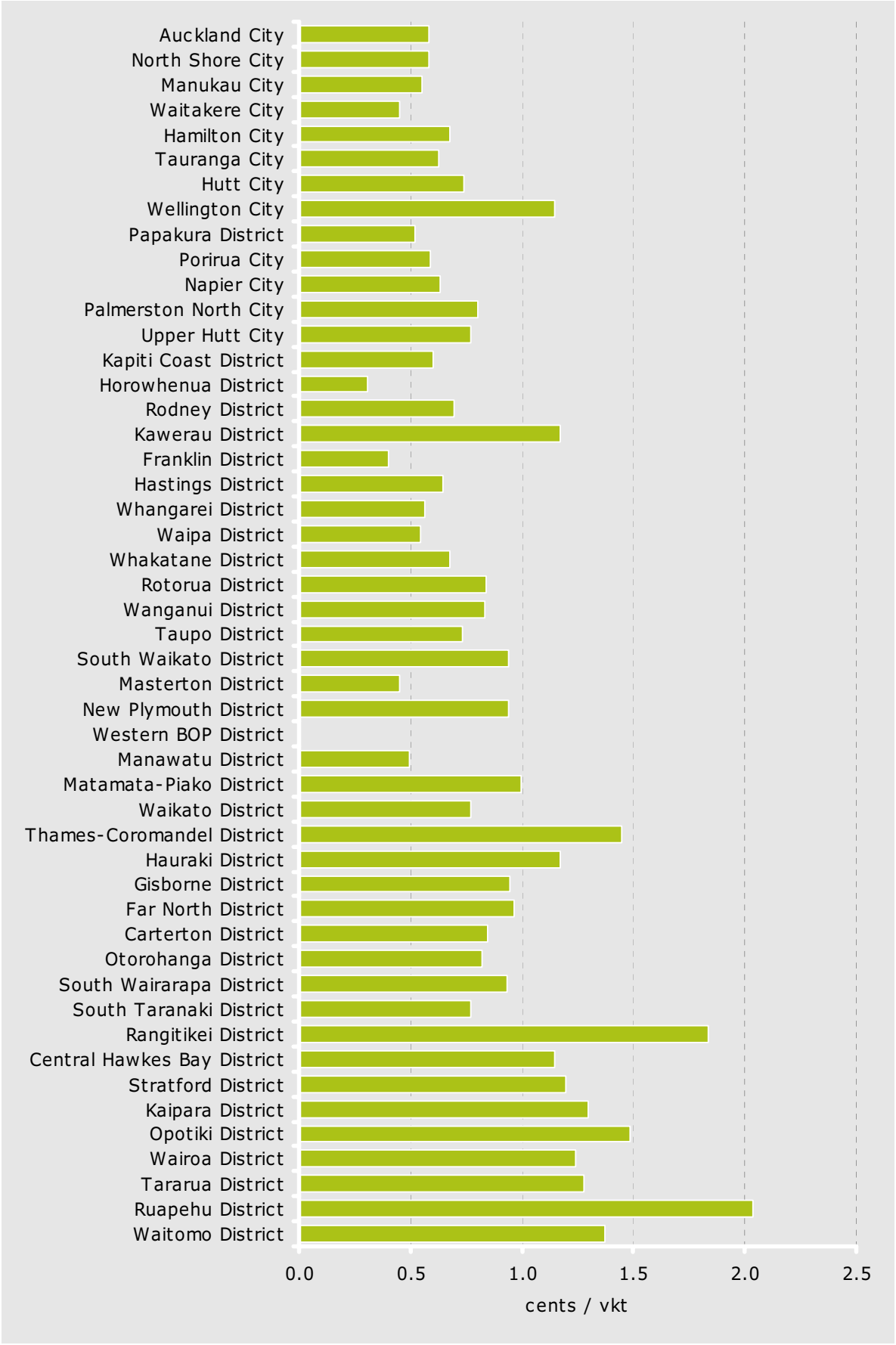
		Total Annual Vehicle Kilometres (VKT 000s)	Average Traffic Density on the network (VPD)	Total Corridor Mtce - work categories 10 - 13 ($000)	Total Corridor Mtce - work categories 10 - 13 (cents/ VKT)	Vehicle kilometres per Unit Corridor Mtce Costs (VKT/ $)
1	Far North District	227,910	247	2,194	0.96	104
2	Kaipara District	81,188	144	1,054	1.30	77
3	Whangarei District	418,157	657	2,356	0.56	177
4	Auckland City	2,756,942	5293	16,082	0.58	171
5	Franklin District	494,869	835	1,976	0.40	250
6	Manukau City	1,696,591	3665	9,354	0.55	181
7	North Shore City	996,558	3983	5,816	0.58	171
8	Papakura District	270,231	2557	1,410	0.52	192
9	Rodney District	581,119	932	4,044	0.70	144
10	Waitakere City	970,937	3382	4,382	0.45	222
11	Hamilton City	617,672	2882	4,161	0.67	148
12	Hauraki District	71,122	329	833	1.17	85
13	Matamata-Piako District	144,552	398	1,437	0.99	101
14	Otorohanga District	57,188	196	468	0.82	122
15	South Waikato District	78,226	464	733	0.94	107
16	Taupo District	149,021	541	1,090	0.73	137
17	Thames-Coromandel District	87,128	355	1,258	1.44	69
18	Waikato District	237,135	390	1,821	0.77	130
19	Waipa District	231,712	601	1,257	0.54	184
20	Waitomo District	41,165	112	565	1.37	73
21	Kawerau District	12,098	841	142	1.17	85
22	Opotiki District	17,141	135	254	1.48	67
23	Rotorua District	214,953	588	1,801	0.84	119
24	Tauranga City	522,129	2869	3,275	0.63	159
25	Western BOP District	156,388	416	0	0.00	n/a
26	Whakatane District	193,698	589	1,314	0.68	147
27	Gisborne District	216,899	320	2,050	0.95	106
28	Central Hawkes Bay District	73,112	159	839	1.15	87
29	Hastings District	442,094	746	2,864	0.65	154
30	Napier City	286,424	2230	1,809	0.63	158
31	Wairoa District	41,361	126	513	1.24	81
32	New Plymouth District	206,934	446	1,941	0.94	107
33	South Taranaki District	108,841	185	837	0.77	130
34	Stratford District	31,815	146	381	1.20	83
35	Horowhenua District	196,897	957	607	0.31	325
36	Manawatu District	215,679	413	1,070	0.50	202
37	Palmerston North City	306,583	1789	2,454	0.80	125
38	Rangitikei District	71,161	159	1,305	1.83	55
39	Ruapehu District	55,974	116	1,139	2.03	49
40	Tararua District	86,154	121	1,099	1.28	78
41	Wanganui District	169,199	553	1,405	0.83	120
42	Carterton District	34,167	216	289	0.84	118
43	Kapiti Coast District	145,854	1040	878	0.60	166
44	Hutt City	498,202	2865	3,691	0.74	135
45	Masterton District	132,128	454	593	0.45	223
46	Porirua City	199,929	2309	1,184	0.59	169
47	South Wairarapa District	44,260	186	413	0.93	107
48	Upper Hutt City	128,984	1509	998	0.77	129
49	Wellington City	680,847	2732	7,796	1.14	87

Corridor costs—South Island

		Total Annual Vehicle Kilometres (VKT 000s)	Average Traffic Density on the network (VPD)	Total Corridor Mtce - work categories 10 - 13 ($000)	Total Corridor Mtce - work categories 10 - 13 (cents/ VKT)	Vehicle kilometres per Unit Corridor Mtce Costs (VKT/ $)
50	Kaikoura District	14,312	195	107	0.75	133
51	Marlborough District	137,497	244	1,355	0.99	102
52	Nelson City	212,533	2300	1,040	0.49	204
53	Tasman District	215,525	349	1,692	0.79	127
54	Ashburton District	163,909	171	1,214	0.74	135
56	Christchurch City	1,974,449	2377	11,685	0.59	169
57	Hurunui District	65,719	124	691	1.05	95
58	MacKenzie District	18,552	72	309	1.67	60
59	Selwyn District	271,159	302	1,592	0.59	170
60	Timaru District	181,236	290	1,362	0.75	133
61	Waimakariri District	211,933	394	1,286	0.61	165
62	Waimate District	36,522	75	225	0.62	163
63	Buller District	37,494	172	661	1.76	57
64	Grey District	46,801	207	815	1.74	57
65	Westland District	37,605	154	379	1.01	99
66	Central Otago District	69,923	103	1,275	1.82	55
67	Clutha District	96,515	90	956	0.99	101
68	Dunedin City	446,030	697	4,689	1.05	95
69	Queenstown-Lakes District	166,023	522	1,800	1.08	92
70	Waitaki District	92,232	139	806	0.87	114
71	Gore District	55,102	169	401	0.73	138
72	Invercargill City	212,630	989	1,473	0.69	144
73	Southland District	216,518	120	1,455	0.67	149

Total corridor maintenance (work categories 10—13) costs / vkt

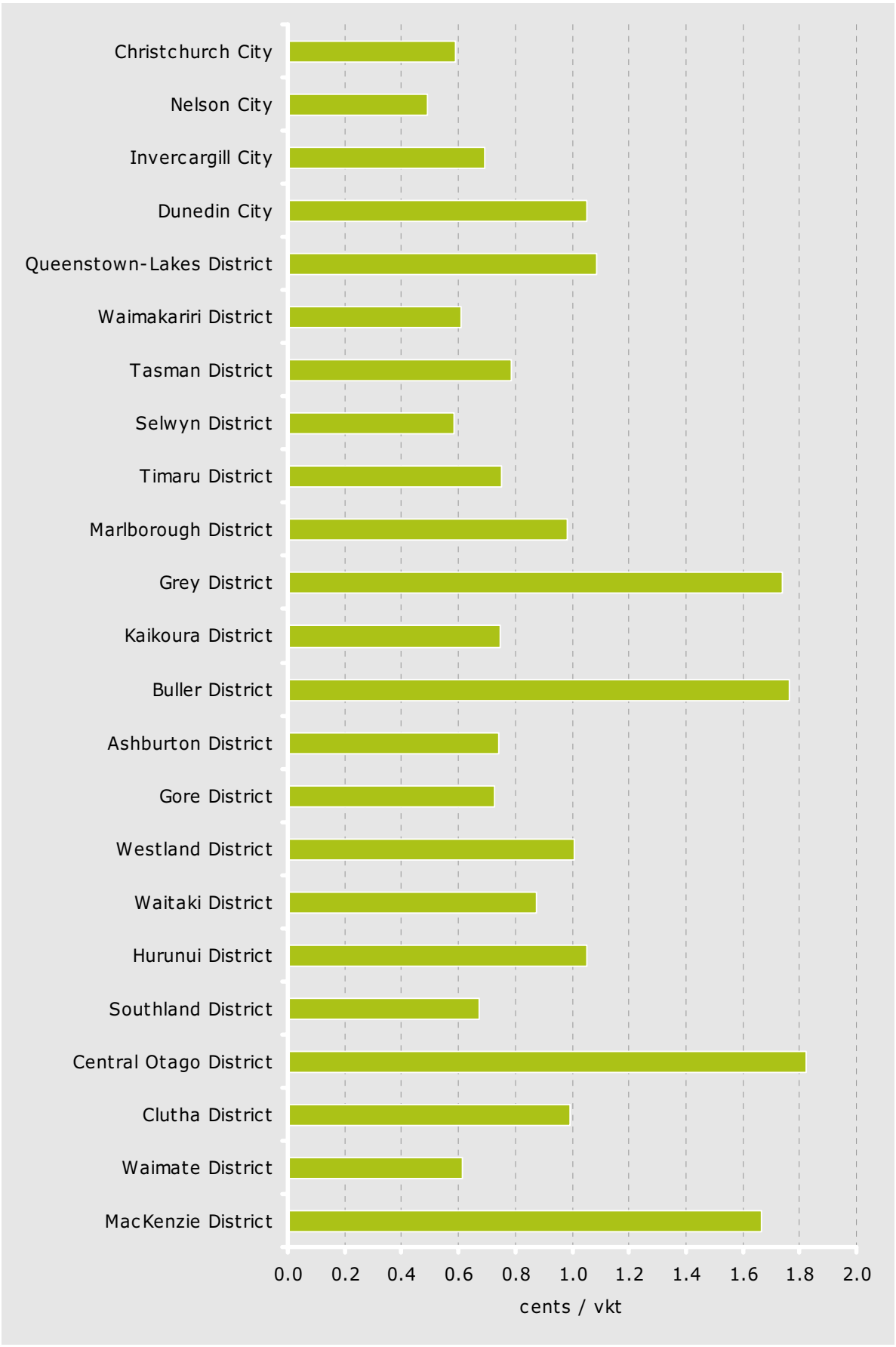
North Island



Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Total corridor maintenance (work categories 10—13) costs / vkt

South Island



Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Unit costs based on network length—2006/07

		Maintenance (Output 1)	%Urban Physical	Rural % Sealed	Pavement M tce	Area-wide Pavement Treatment	Major Drainage Control	Reseals	Bridge M tce	Total Structural M tce	Amenity /Safety M tce	Street Cleaning	Traffic Services	Carriageway Lighting	Cycleway M tce	Total Corridor M tce	Professional Services	Pavement Smoothing	Total Pavement and Drainage M tce	Professional Services
	Work Categories	1-30			1	2	3	4-6	7	1-7	10	11	12	13	14	10-13	17	40	1-6 & 40	17
Code	Authority Name	$k	%[1]	%[2]	$k/km[3]	$k/km[3]	$k/km[3]	$k/km[4]	$/m[5]	$k/km[3]	$k/km[3]	$k/km[6]	$k/km[3]	$k/km[6]	$k[7]	$k/km[3]	%[8]	$k/km[3]	$k/km[3]	$k/km[3]
1	Far North Dist	20,983	8	27	2.64	1.82	0.12	2.85	75.07	5.77	0.26	0.30	0.36	3.24	0.00	0.87	8.1%	0.00	5.49	0.58
2	Kaipara Dist	13,185	7	22	3.80	2.06	0.00	1.45	73.60	6.48	0.27	0.57	0.29	1.27	0.00	0.68	6.9%	0.00	6.25	0.53
3	Whangarei Dist	18,172	14	51	3.38	1.01	0.16	2.27	46.28	6.05	0.35	0.97	0.68	1.29	0.00	1.35	11.3%	0.00	5.87	0.95
4	Auckland City	56,875	89	37	6.21	3.95	3.62	8.33	203.36	22.64	0.10	2.71	5.31	3.93	70.00	11.28	10.3%	8.27	29.74	3.91
5	Franklin Dist	14,424	13	82	2.64	1.61	0.21	2.46	77.43	6.67	0.60	0.50	0.36	1.43	0.00	1.22	10.6%	1.03	7.57	0.93
6	Manukau City	29,052	80	93	3.11	3.81	0.97	5.32	96.12	13.37	0.82	1.06	3.07	3.32	23.78	7.38	9.4%	2.51	15.65	2.16
7	North Shore City	19,702	94	95	5.74	3.63	0.95	7.53	390.90	18.14	0.60	1.40	3.63	3.13	0.00	8.49	7.4%	2.15	19.97	2.12
8	Papakura Dist	4,977	62	98	2.85	2.39	0.81	4.27	173.40	10.64	1.29	1.64	1.75	1.34	0.00	4.88	9.6%	2.18	12.46	1.66
9	Rodney Dist	27,984	19	49	4.31	5.45	0.05	2.76	94.65	11.67	1.15	0.94	0.68	2.00	0.00	2.37	8.7%	0.92	12.33	1.33
10	Waitakere City	17,760	74	81	4.68	1.20	1.17	7.40	306.46	14.65	0.64	0.70	2.43	2.70	18.90	5.58	7.2%	0.85	14.91	1.56
11	Hamilton City	9,846	92	95	1.71	0.83	1.43	2.96	16.70	6.96	0.95	1.49	2.11	2.88	12.25	7.09	16.0%	0.00	6.92	2.68
12	Hauraki Dist	6,269	18	77	2.30	1.76	1.40	1.83	241.33	7.60	0.66	0.26	0.37	1.89	0.00	1.41	9.9%	0.00	6.94	0.99
13	Matamata-Piako Dist	7,974	13	93	2.25	1.89	0.17	1.56	35.17	5.91	0.57	0.65	0.46	2.63	0.00	1.45	7.9%	0.00	5.78	0.64
14	Otorohanga Dist	4,293	4	64	2.36	0.41	0.02	1.82	21.77	4.03	0.28	1.86	0.16	2.18	0.00	0.58	10.0%	0.26	4.24	0.51
15	South Waikato Dist	4,369	24	97	2.05	1.45	0.16	2.77	114.75	6.51	0.25	1.32	0.44	2.48	0.00	1.59	11.0%	0.00	6.36	1.01
16	Taupo Dist	4,091	29	82	1.99	0.29	0.02	1.45	28.71	3.59	0.30	0.77	0.44	1.64	5.52	1.44	7.1%	0.00	3.56	0.38
17	Thames-Coromandel Dist	11,075	40	39	3.92	4.51	0.11	4.54	145.76	11.80	0.57	0.40	0.63	1.30	0.00	1.87	9.7%	0.00	11.39	1.47
18	Waikato Dist	17,177	9	70	2.89	2.63	0.18	2.62	134.21	8.02	0.36	0.53	0.47	2.54	0.00	1.09	8.3%	0.00	7.59	0.83
19	Waipa Dist	8,079	16	91	2.56	1.40	0.17	1.83	10.20	5.85	0.19	1.32	0.54	1.64	0.00	1.19	7.8%	1.70	7.53	0.60
20	Waitomo Dist	6,736	5	42	2.83	0.63	0.08	2.82	12.16	4.84	0.18	1.38	0.21	2.24	0.00	0.56	7.2%	1.85	6.65	0.42
21	Kawerau Dist	366	100	n/a	1.91	0.47	0.75	2.05	0.00	5.18	0.00	0.44	0.40	2.76	0.00	3.60	5.4%	0.00	5.18	0.50
22	Opotiki Dist	1,900	8	39	3.09	0.28	0.09	1.17	45.70	4.11	0.28	1.60	0.22	1.40	0.00	0.73	5.5%	0.00	3.96	0.28
23	Rotorua Dist	8,557	25	75	2.66	1.11	0.10	2.43	30.09	5.89	0.28	0.71	0.47	3.54	27.60	1.80	8.1%	0.00	5.85	0.68
24	Tauranga Dist	8,377	100	n/a	2.75	2.38	0.16	3.25	0.00	8.54	1.37	0.97	2.01	2.23	8.00	6.57	9.7%	0.00	8.54	1.64
25	Western BoP Dist	10,747	14	69	10.14	0.00	0.00	0.00	n/a	10.14	0.00	0.00	0.00	0.00	0.00	0.00	1.1%	0.00	10.14	0.12
26	Whakatane Dist	9,365	14	76	2.48	0.62	1.00	3.03	45.69	6.53	0.58	1.13	0.30	2.95	0.00	1.46	13.0%	0.09	6.48	1.19
27	Gisborne Dist	20,243	12	35	4.21	1.50	0.00	2.44	57.09	7.02	0.33	1.26	0.34	2.48	0.00	1.11	9.8%	0.00	6.74	0.88
28	Central Hawke's Bay Dist	9,148	5	66	2.21	1.70	0.03	1.75	43.20	5.30	0.33	1.00	0.22	1.22	0.00	0.67	8.7%	0.00	5.12	0.57
29	Hastings Dist	12,514	18	68	2.15	0.80	0.04	1.70	33.94	4.37	0.47	0.78	0.70	2.54	11.32	1.76	15.0%	0.87	5.11	1.09
30	Napier City	4,844	84	100	2.00	1.61	0.51	2.55	37.09	6.72	0.55	1.18	0.88	3.26	0.55	5.15	12.8%	0.00	6.67	1.77
31	Wairoa Dist	10,413	7	26	3.92	0.60	0.18	2.57	59.50	5.78	0.07	0.68	0.25	3.35	0.00	0.57	12.4%	0.00	5.46	0.90
32	New Plymouth Dist	11,373	24	81	2.47	0.65	0.19	2.15	210.63	5.80	0.30	0.80	0.60	1.80	0.00	1.53	13.5%	0.00	5.15	1.14
33	South Taranaki Dist	12,895	8	82	1.59	0.98	0.39	1.69	80.69	4.53	0.09	0.14	0.31	1.20	0.00	0.52	10.9%	0.00	4.37	0.62
34	Stratford Dist	2,620	7	56	1.54	0.51	0.00	1.38	66.69	3.14	0.18	0.77	0.32	1.40	0.00	0.64	9.0%	0.00	2.88	0.38
35	Horowhenua Dist	4,064	29	85	1.90	0.98	0.18	2.04	176.43	5.14	0.27	0.05	0.46	1.14	0.00	1.08	4.8%	0.00	4.88	0.32
36	Manawatu Dist	12,826	10	71	1.60	2.14	0.01	1.60	41.91	5.04	0.26	0.63	0.25	1.91	0.00	0.75	11.5%	0.00	4.93	0.75
37	Palmerston North City	7,101	67	77	2.55	1.56	0.30	2.72	149.81	7.30	0.26	1.36	1.92	3.18	64.49	5.23	8.3%	1.15	8.08	1.14
38	Rangitikei Dist	13,317	8	60	1.67	2.22	0.00	2.23	93.67	5.57	0.53	1.32	0.28	2.17	0.00	1.07	8.1%	0.00	5.29	0.59
39	Ruapehu Dist	8,884	8	28	2.05	0.52	0.13	2.24	54.70	3.70	0.38	0.55	0.22	2.83	0.00	0.86	17.4%	0.00	3.47	0.96
40	Tararua Dist	14,484	4	58	1.86	0.73	0.07	1.46	56.95	3.80	0.23	1.41	0.20	1.63	0.00	0.56	7.9%	0.00	3.53	0.37

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		Maintenance (Output 1)	%Urban Physical	Rural % Sealed	Pavement Mtce	Area-wide Pavement Treatment	Major Drainage Control	Reseals	Bridge Mtce	Total Structural Mtce	Amenity /Safety Mtce	Street Cleaning	Traffic Services	Carriageway Lighting	Cycleway Mtce	Total Corridor Mtce	Professional Services	Pavement Smoothing	Total Pavement and Drainage Mtce	Professional Services
	Work Categories	1 - 30			1	2	3	4 - 6	7	1 - 7	10	11	12	13	14	10 - 13	17	40	1 - 6 &40	17
Code	Authority Name	$k	%[1]	%[2]	$k/km [3]	$k/km [3]	$k/km [3]	$k/km [4]	$/m [5]	$k/km [3]	$k/km [3]	$k/km [6]	$k/km [3]	$k/km [6]	$k[7]	$k/km [3]	%[8]	$k/km [3]	$k/km [3]	$k/km [3]
41	Wanganui Dist	17,861	27	53	3.31	0.30	1.02	3.22	166.87	7.22	0.25	0.82	0.41	3.00	20.55	1.68	14.7%	0.02	6.73	1.54
42	Carterton Dist	2,526	6	62	2.00	0.69	0.00	1.23	10.25	3.51	0.27	1.29	0.24	1.36	0.00	0.67	10.6%	0.00	3.48	0.50
43	Kapiti Coast Dist	3,913	60	89	2.41	0.31	0.00	2.88	76.99	5.63	0.23	0.43	0.82	1.64	24.74	2.29	12.0%	0.42	5.88	1.10
44	Hutt City	13,096	94	100	2.69	1.67	0.34	7.28	76.38	12.27	0.87	1.59	1.54	4.12	1.67	7.75	13.7%	0.74	12.72	3.18
45	Masterton Dist	6,424	14	59	2.53	1.58	0.14	1.96	22.28	5.64	0.22	0.98	0.21	1.29	0.00	0.74	6.2%	0.00	5.52	0.42
46	Porirua City	3,193	82	95	2.41	0.47	0.00	2.61	88.11	5.70	0.79	0.57	1.12	3.19	2.97	4.99	12.8%	0.42	5.89	1.58
47	South Wairarapa Dist	4,603	8	52	2.31	0.21	0.08	1.02	15.29	3.26	0.18	0.61	0.32	0.95	0.00	0.63	9.9%	0.00	3.18	0.43
48	Upper Hutt City	2,689	65	98	2.99	0.00	0.89	1.87	166.87	6.37	0.30	1.40	1.31	2.68	0.70	4.26	7.2%	0.00	5.73	0.83
49	Wellington City	22,141	92	99	5.16	0.55	2.43	3.78	730.32	13.48	1.04	2.40	4.43	4.09	25.74	11.42	15.9%	4.38	16.29	4.72
50	Kaikoura Dist	591	10	44	1.52	0.00	0.00	0.97	15.32	2.08	0.24	0.70	0.10	1.35	0.00	0.53	11.2%	0.00	2.00	0.33
51	Marlborough Dist	8,199	12	51	1.61	0.54	0.06	2.48	33.72	3.75	0.38	0.81	0.19	1.81	9.93	0.88	6.5%	0.00	3.62	0.32
52	Nelson City	3,616	83	65	2.01	1.75	1.54	2.68	396.77	8.96	0.28	0.91	1.52	1.88	24.88	4.11	7.8%	0.00	7.80	1.12
53	Tasman Dist	10,256	10	49	1.63	0.85	0.28	2.08	61.39	4.15	0.46	0.45	0.37	1.28	16.00	1.00	13.1%	0.00	3.88	0.78
54	Ashburton Dist	7,283	6	53	0.79	0.17	0.13	1.83	28.35	2.14	0.11	1.95	0.13	1.81	4.23	0.46	6.0%	0.00	2.10	0.17
56	Christchurch City	37,637	67	54	3.65	1.01	1.19	3.43	125.02	8.95	0.65	2.29	0.95	3.05	144.57	5.14	10.6%	0.18	8.92	1.69
57	Hurunui Dist	5,015	5	37	1.74	0.24	0.03	1.52	7.31	2.67	0.27	0.74	0.14	0.71	0.00	0.48	8.9%	0.00	2.64	0.31
58	Mackenzie Dist	1,610	8	22	1.36	0.17	0.00	0.36	14.82	1.67	0.14	1.34	0.14	0.99	0.00	0.44	7.5%	0.00	1.63	0.17
59	Selwyn Dist	7,151	6	51	1.00	0.37	0.01	1.27	44.52	2.11	0.15	0.86	0.29	2.56	5.80	0.65	4.4%	0.00	2.07	0.13
60	Timaru Dist	9,617	13	48	1.06	0.42	0.19	2.72	89.54	3.42	0.14	1.10	0.28	1.91	0.90	0.80	11.8%	0.05	3.21	0.56
61	Waimakariri Dist	7,152	11	47	1.28	0.61	0.46	1.72	37.81	3.35	0.24	1.15	0.32	1.75	5.34	0.87	12.6%	0.00	3.26	0.61
62	Waimate Dist	2,291	3	54	0.67	0.05	0.02	0.94	14.94	1.31	0.08	0.10	0.06	0.74	0.00	0.17	13.1%	0.00	1.27	0.23
63	Buller Dist	3,409	17	37	2.51	0.00	0.16	1.54	41.65	3.69	0.55	0.71	0.32	0.84	0.00	1.10	10.3%	0.00	3.48	0.55
64	Grey Dist	4,463	21	52	1.78	0.30	0.10	2.58	56.08	4.05	0.55	0.60	0.32	1.84	0.00	1.31	8.9%	0.00	3.72	0.53
65	Westland Dist	3,106	9	47	2.02	0.00	0.10	1.87	77.33	3.59	0.16	1.19	0.17	1.64	0.00	0.57	10.4%	0.00	3.15	0.48
66	Central Otago Dist	5,234	7	20	0.63	0.50	0.01	1.69	110.54	1.78	0.41	0.75	0.13	1.34	0.00	0.69	12.6%	0.00	1.57	0.35
67	Clutha Dist	11,795	5	24	1.55	0.95	0.10	1.87	83.40	3.26	0.11	0.72	0.13	1.56	0.00	0.32	10.5%	0.00	3.11	0.42
68	Dunedin City	19,972	40	36	3.24	1.07	0.40	2.22	366.77	6.84	0.81	1.18	0.84	1.53	11.00	2.68	14.7%	0.94	6.97	1.64
69	Queenstown-Lakes Dist	8,645	23	44	2.94	1.29	0.25	3.87	126.22	7.14	1.14	0.91	0.49	1.14	0.00	2.07	7.3%	0.00	6.79	0.73
70	Waitaki Dist	5,666	9	36	1.05	0.20	0.12	2.23	15.23	2.29	0.11	1.08	0.13	1.38	0.33	0.44	12.1%	0.00	2.27	0.38
71	Gore Dist	3,096	9	34	0.89	0.36	0.29	2.60	37.22	2.61	0.20	0.76	0.13	0.63	0.00	0.45	11.3%	0.00	2.56	0.39
72	Invercargill City	6,865	49	59	2.21	1.99	0.60	4.15	41.84	8.18	0.22	0.70	0.78	2.37	20.77	2.50	7.9%	0.00	8.08	0.92
73	Southland Dist	17,485	5	37	1.40	0.70	0.01	1.66	34.04	2.85	0.08	0.83	0.16	0.73	0.00	0.29	10.9%	0.00	2.76	0.39
74	Chatham Islands	2,254	4	3	6.26	3.13	0.39	0.00	466.34	10.32	0.14	4.68	0.56	0.45	0.00	0.86	3.1%	0.00	9.78	0.36

[1] Proportion of network length classed as urban in %.

[2] Proportion of the rural network length that is sealed in %.

[3] $000 per kilometre of road.

[4] $000 per kilometre of sealed roads.

[5] $ per metre of bridge.

[6] $000 per kilometre of urban sealed network.

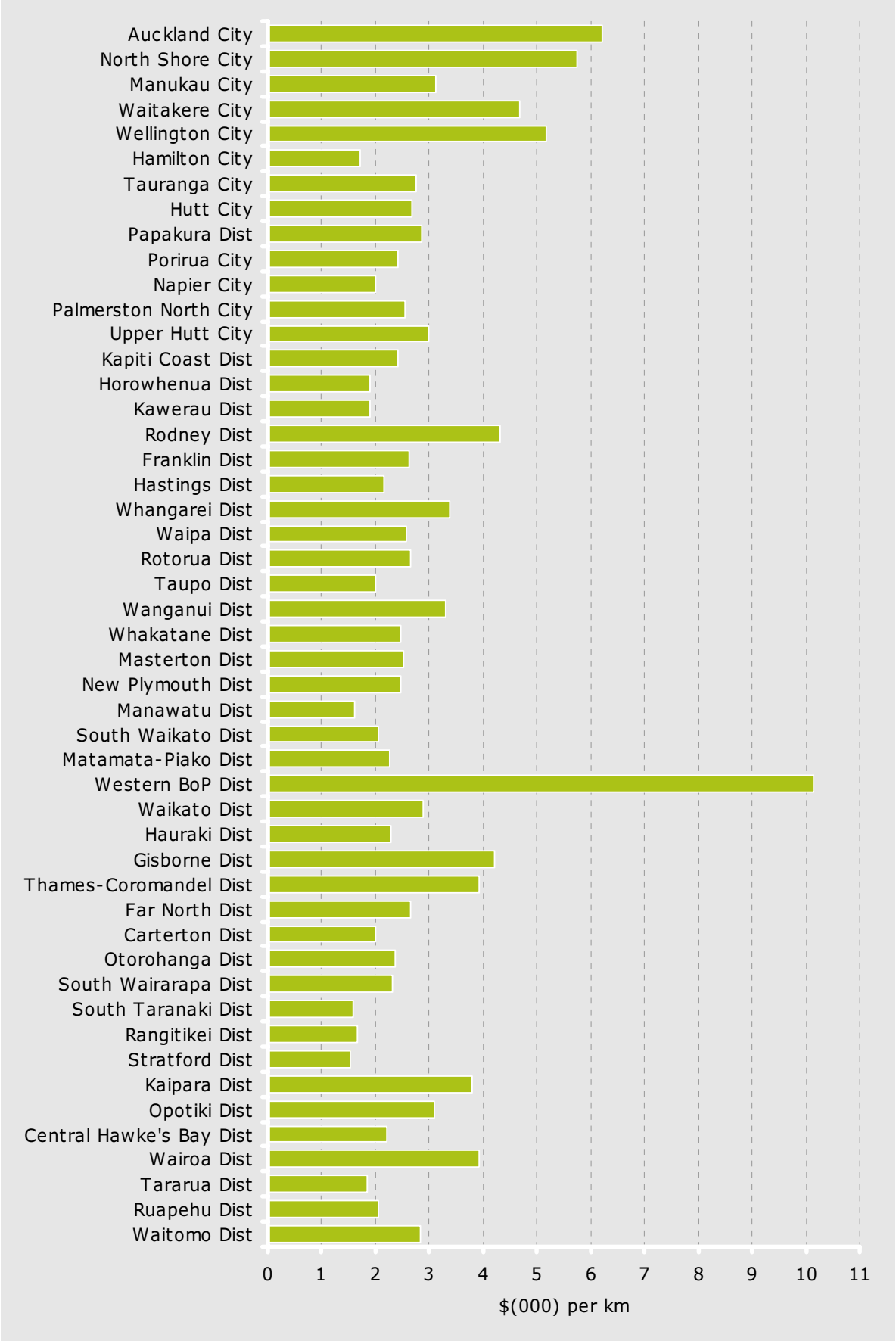
[7] $000

[8] % of total maintenance block allocation (WCs 1 –17)

Pavement maintenance - work category 1

Actual expenditure per kilometre of road ($000/ km)

North Island

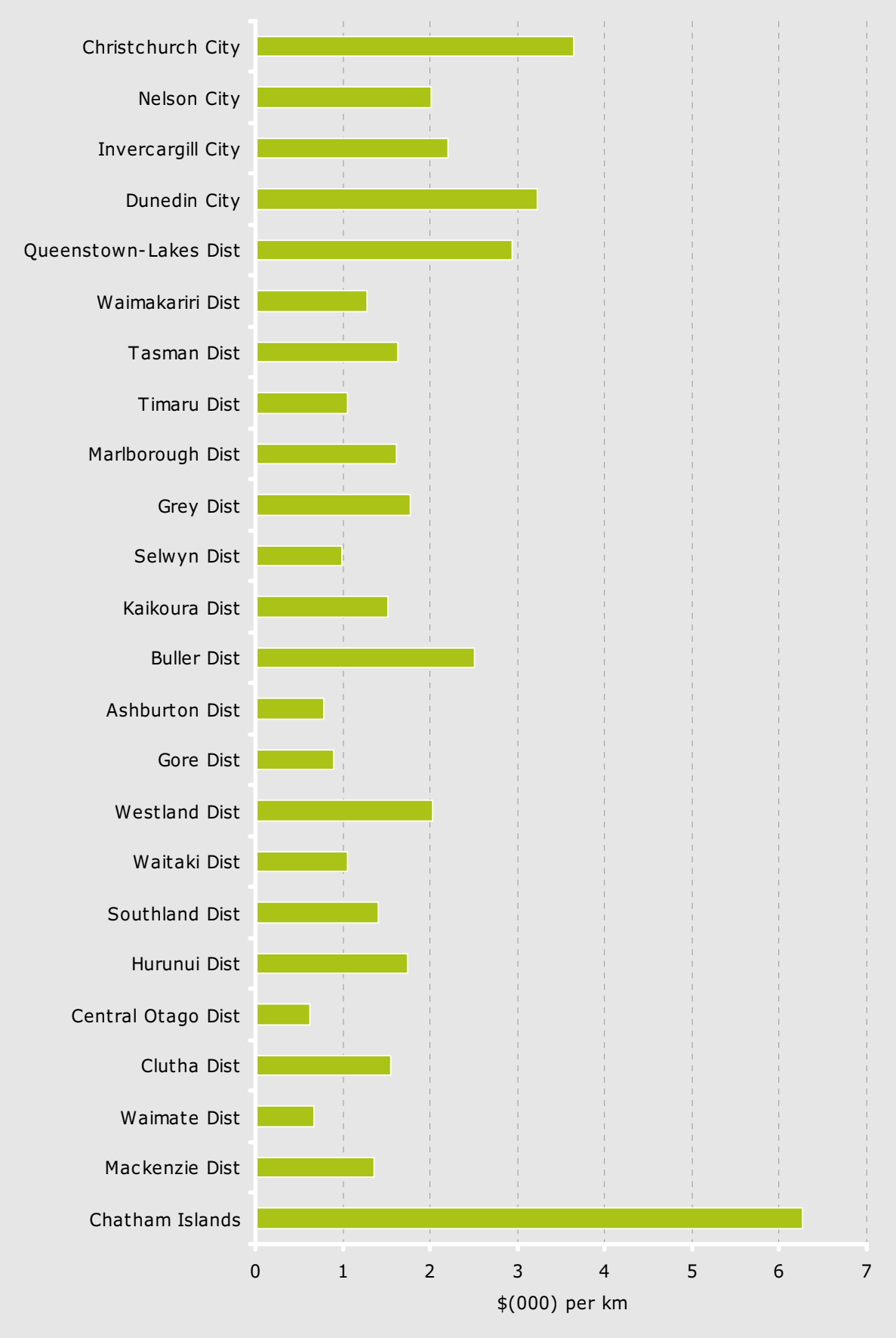


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Pavement maintenance - work category 1

Actual expenditure per kilometre of road ($000/ km)

South Island



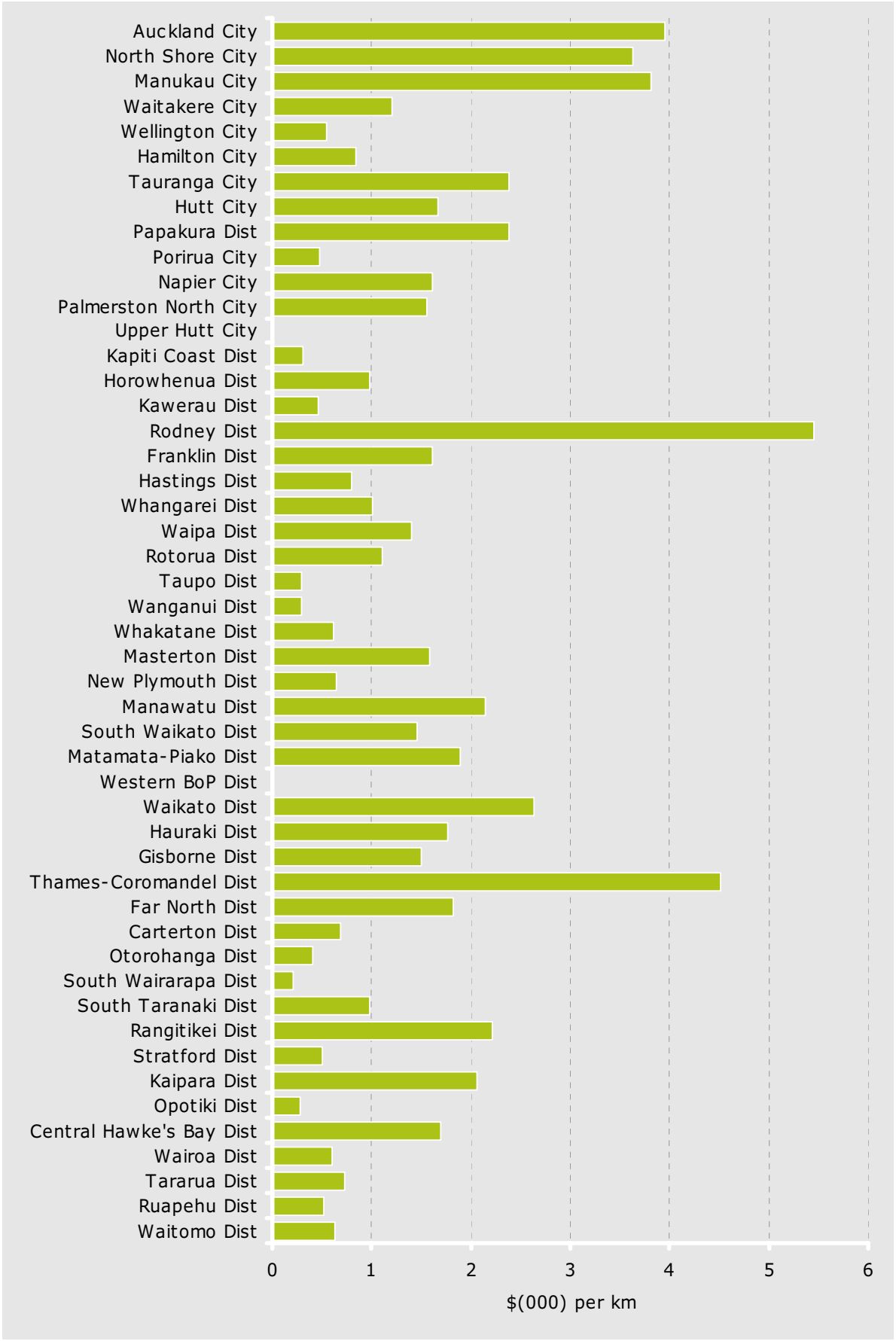
Note 1: Authorities are listed from highest to lowest average traffic density

Note 2 : Expenditure taken from final claim

Area wide pavement treatment - work category 2

Actual expenditure per kilometre of road ($000/ km)

North Island

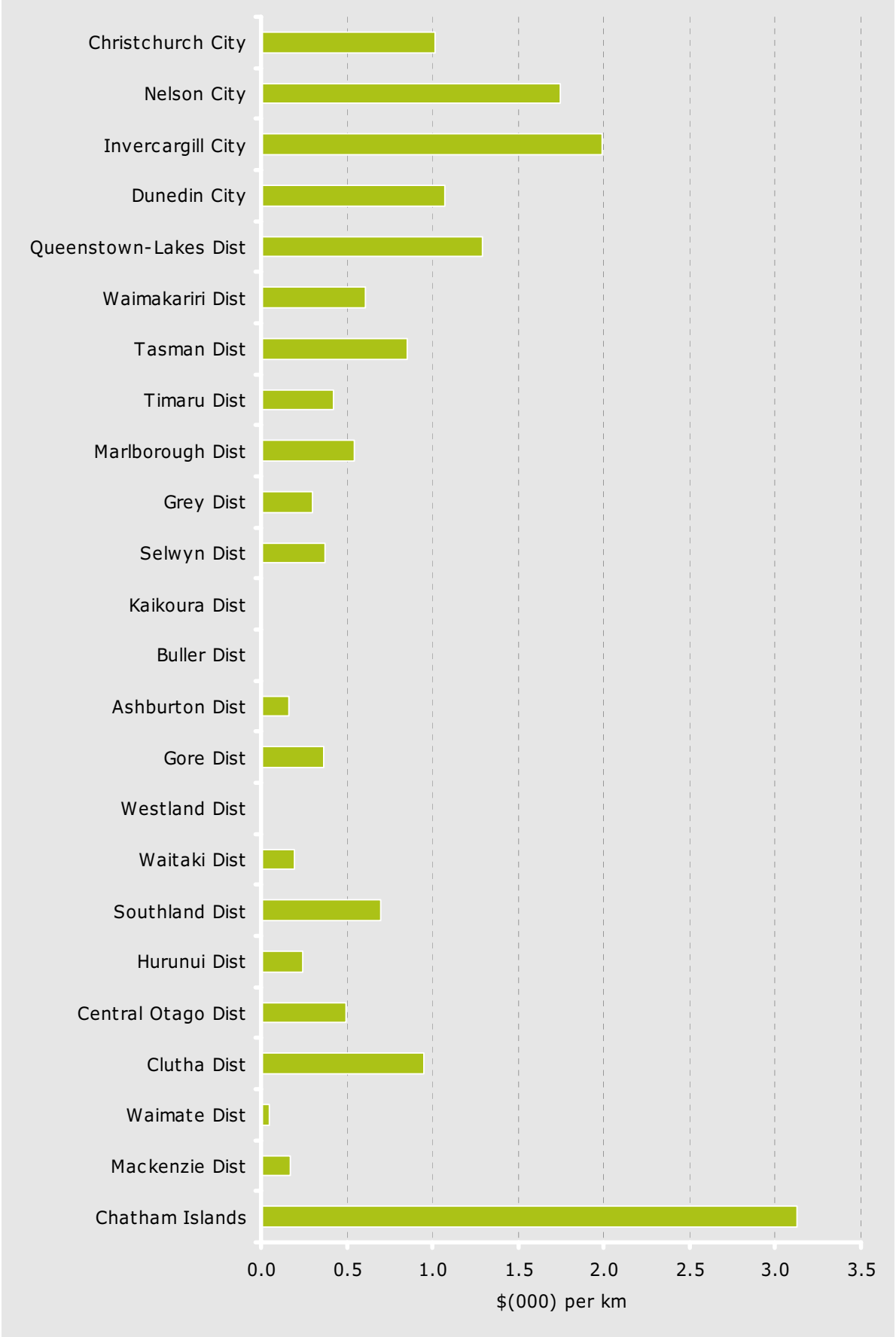


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Area wide pavement treatment - work category 2

Actual expenditure per kilometre of road ($000/ km)

South Island



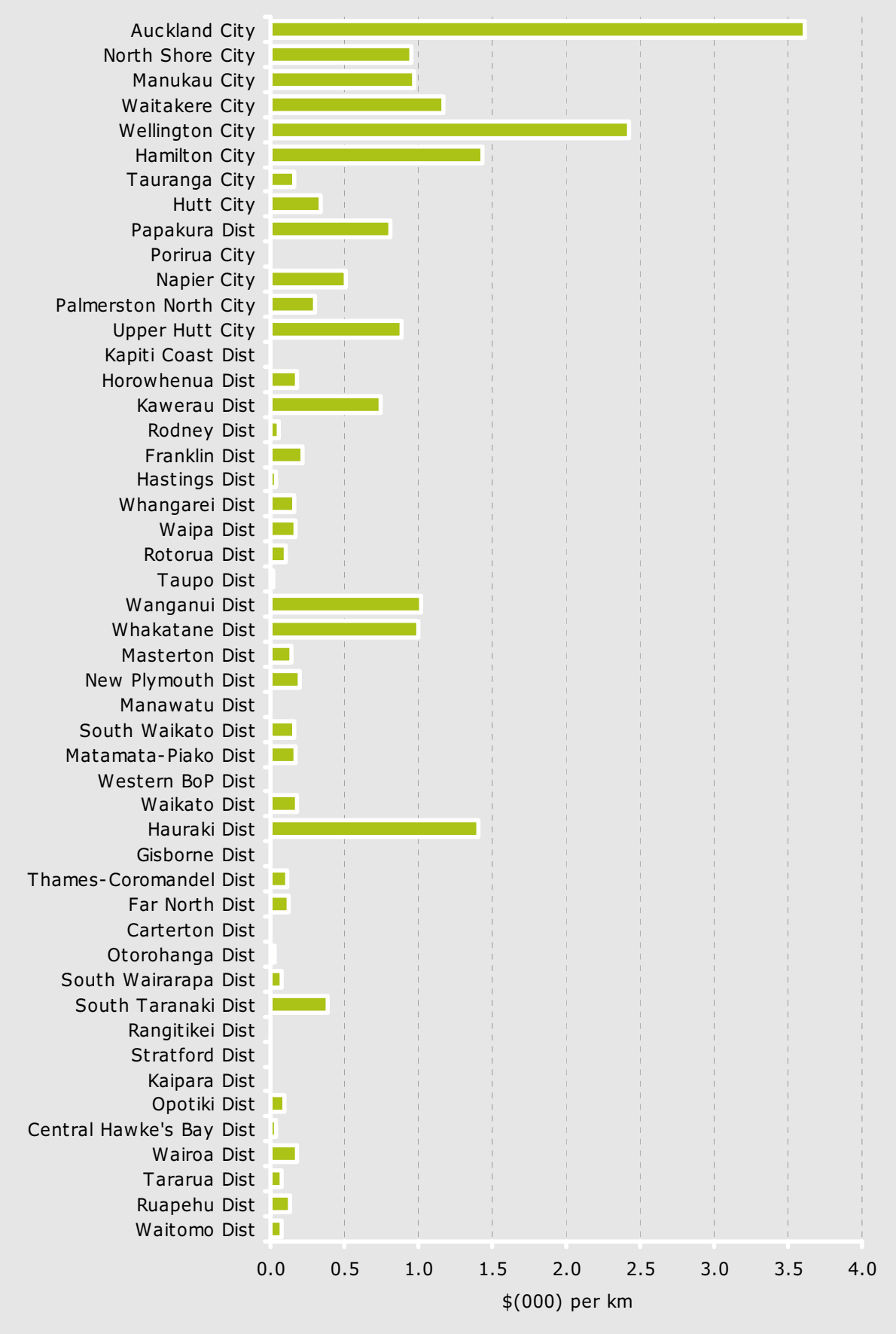
Note 1: Authorities are listed from highest to lowest average traffic density

Note 2 : Expenditure taken from final claim

Major drainage control - work category 3

Actual expenditure per kilometre of road ($000/ km)

North Island

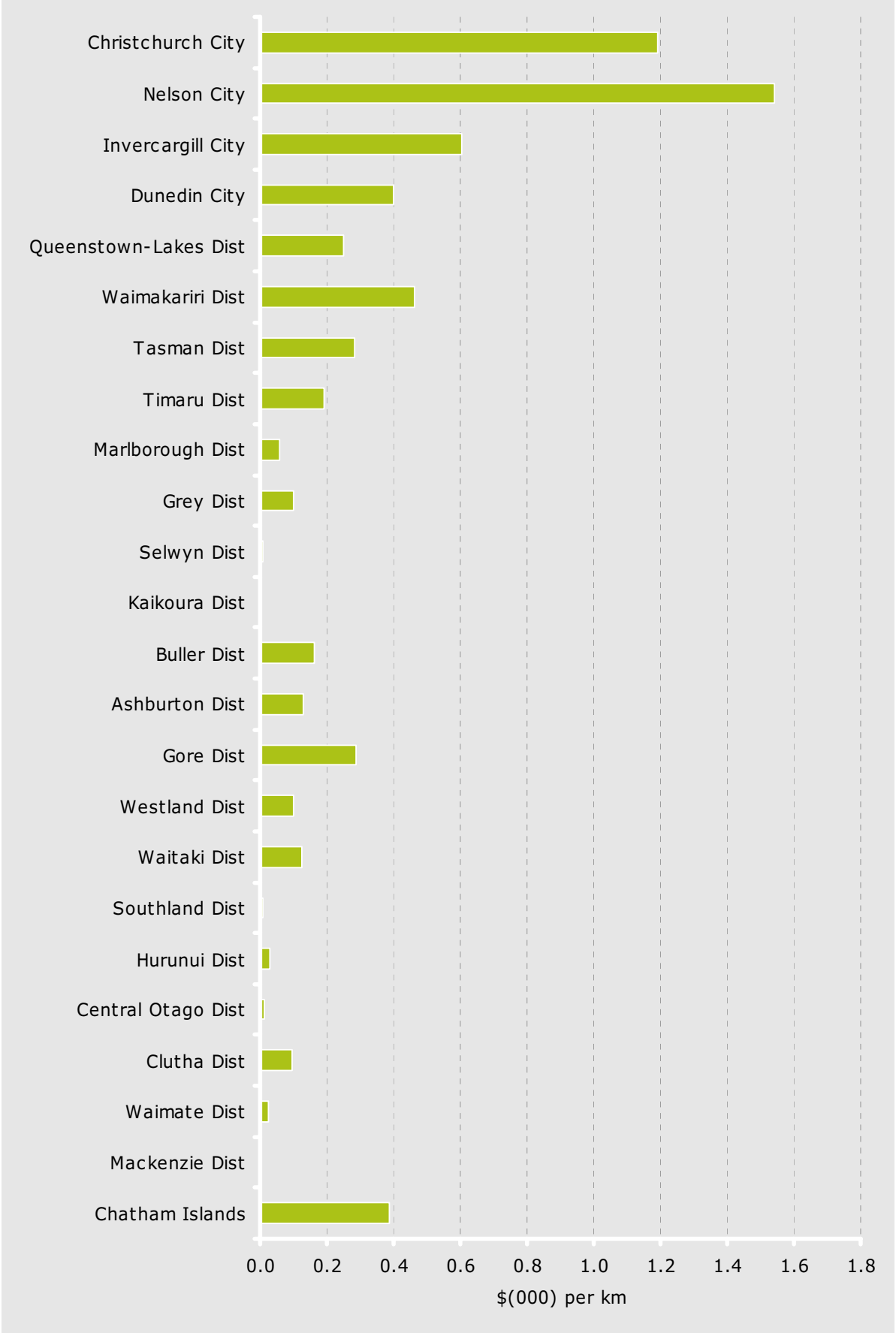


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Major drainage control - work category 3

Actual expenditure per kilometre of road ($000/ km)

South Island

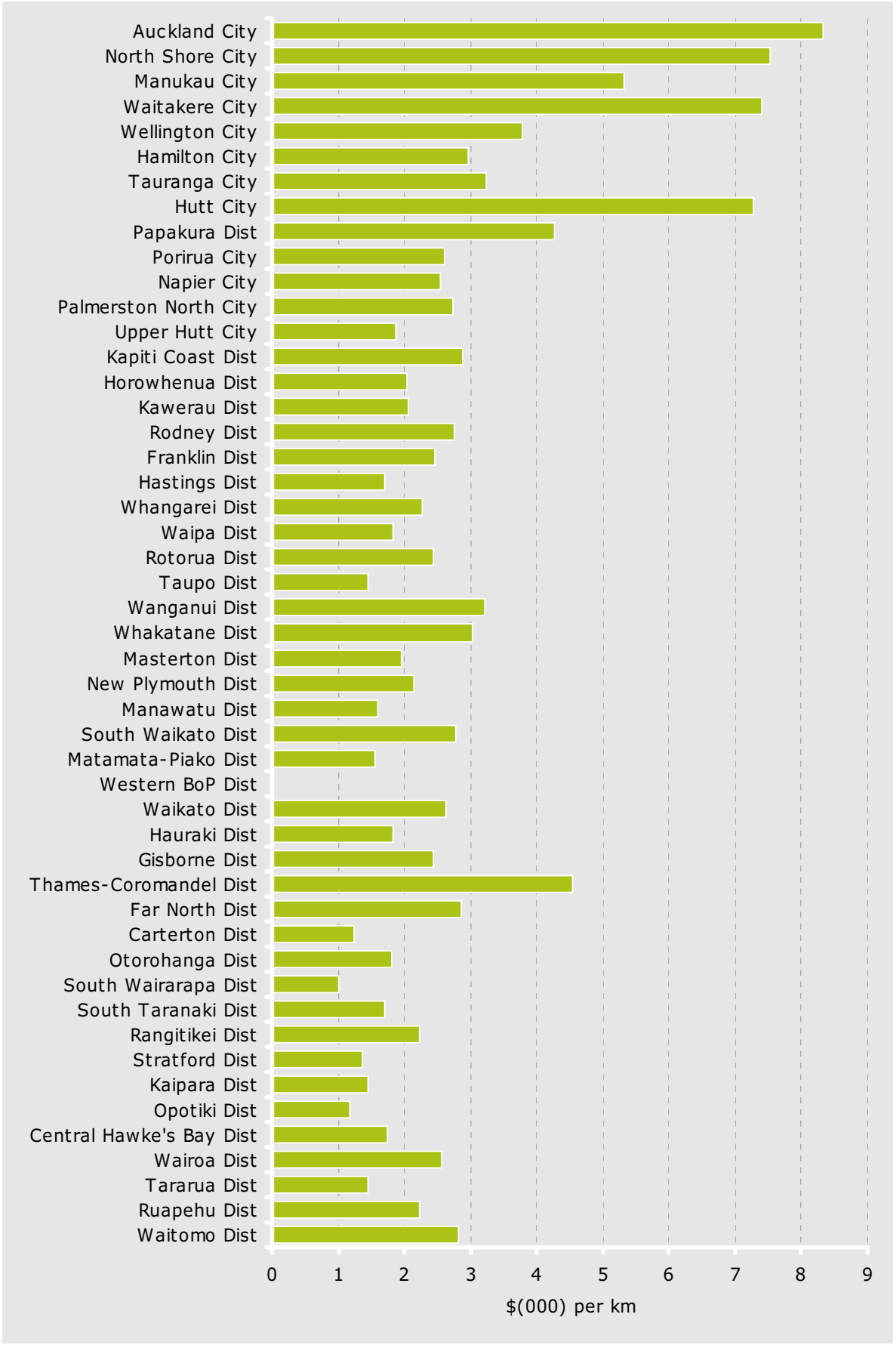


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Reseals - work categories 4 - 6

Actual expenditure per kilometre of sealed road ($000/ km)

North Island

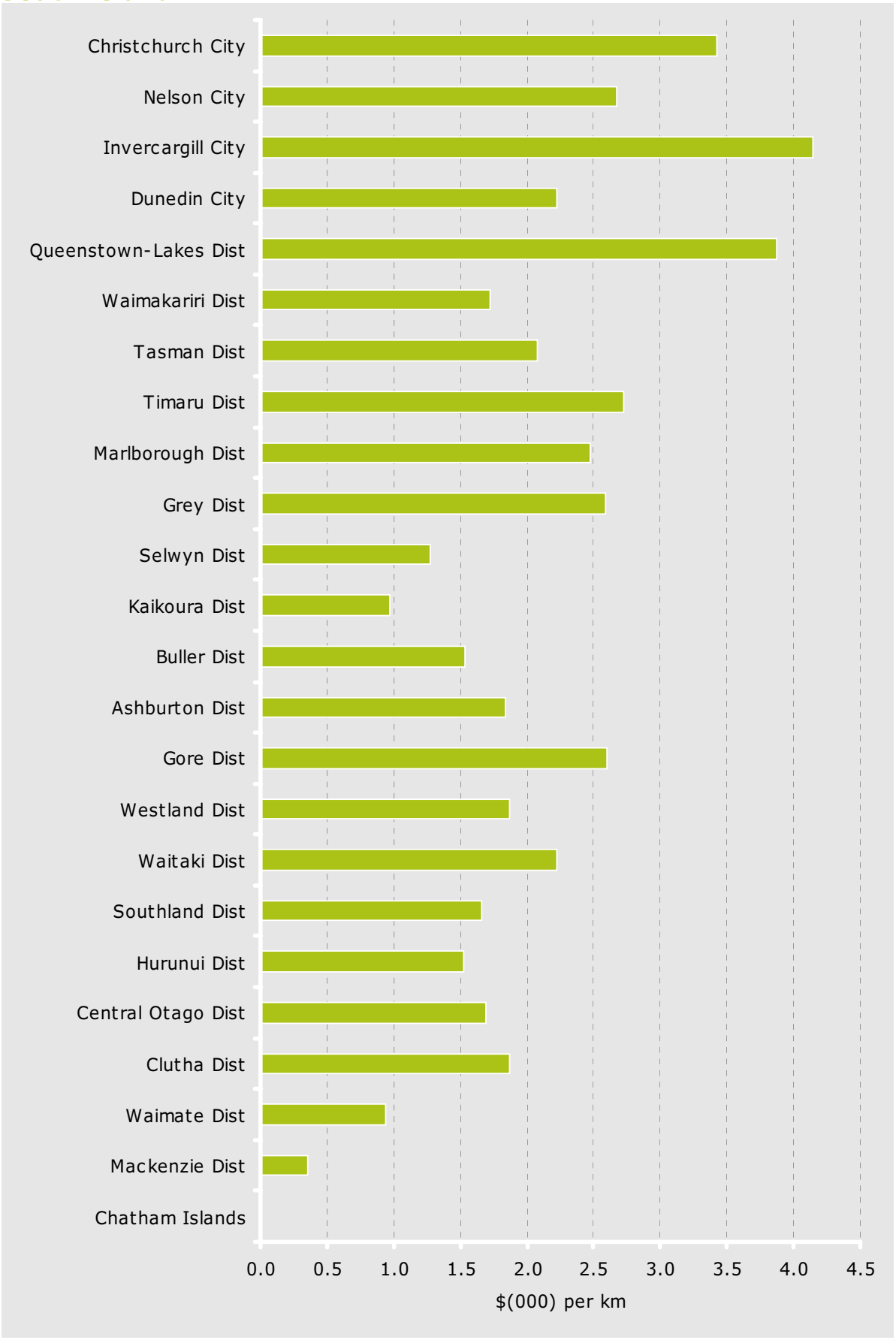


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Reseals - work categories 4 - 6

Actual expenditure per kilometre of sealed road ($000/ km)

South Island

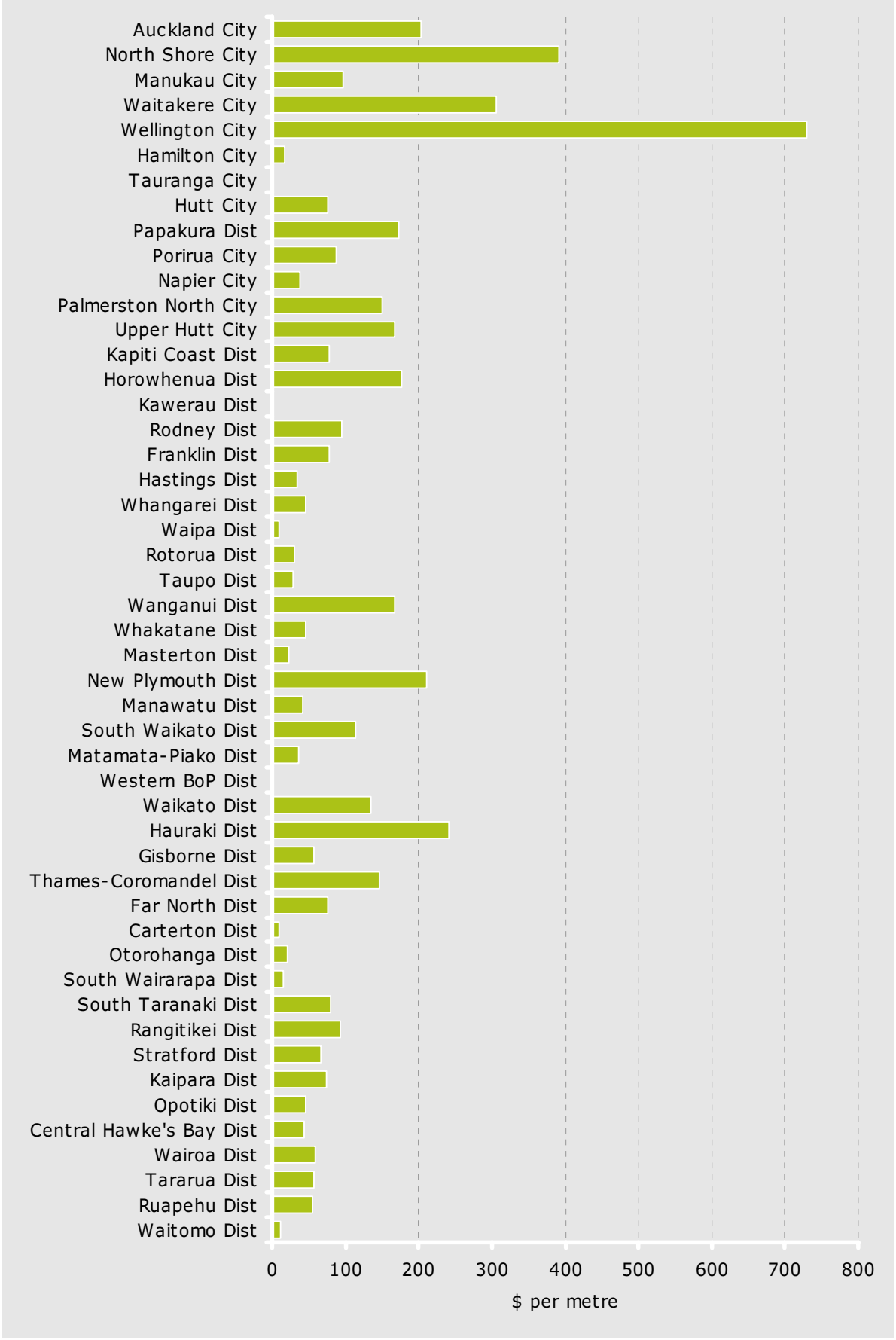


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Bridge maintenance - work category 7

Actual expenditure per metre of bridge ($/ m)

North Island

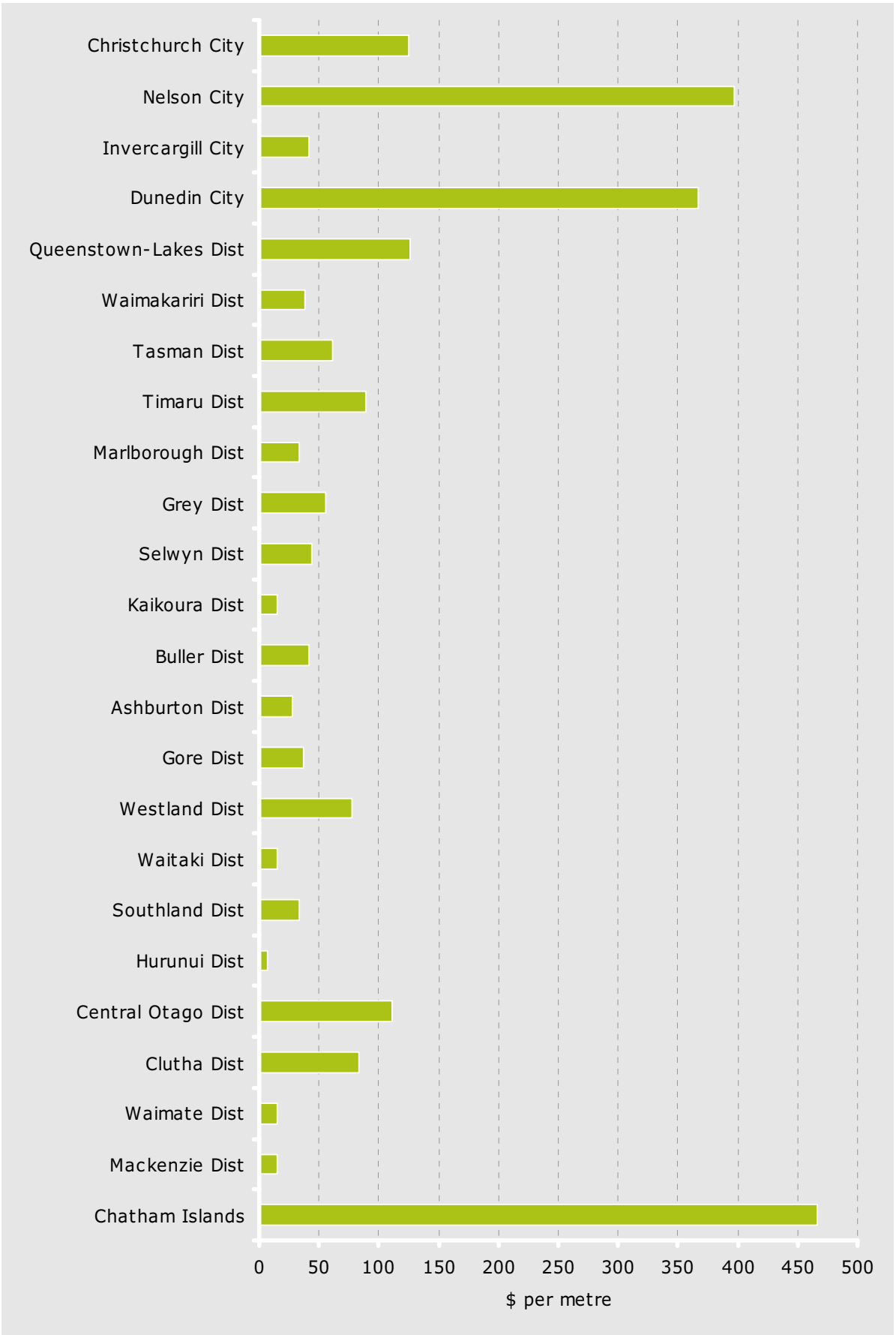


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Bridge maintenance - work category 7

Actual expenditure per metre of bridge ($/ m)

South Island

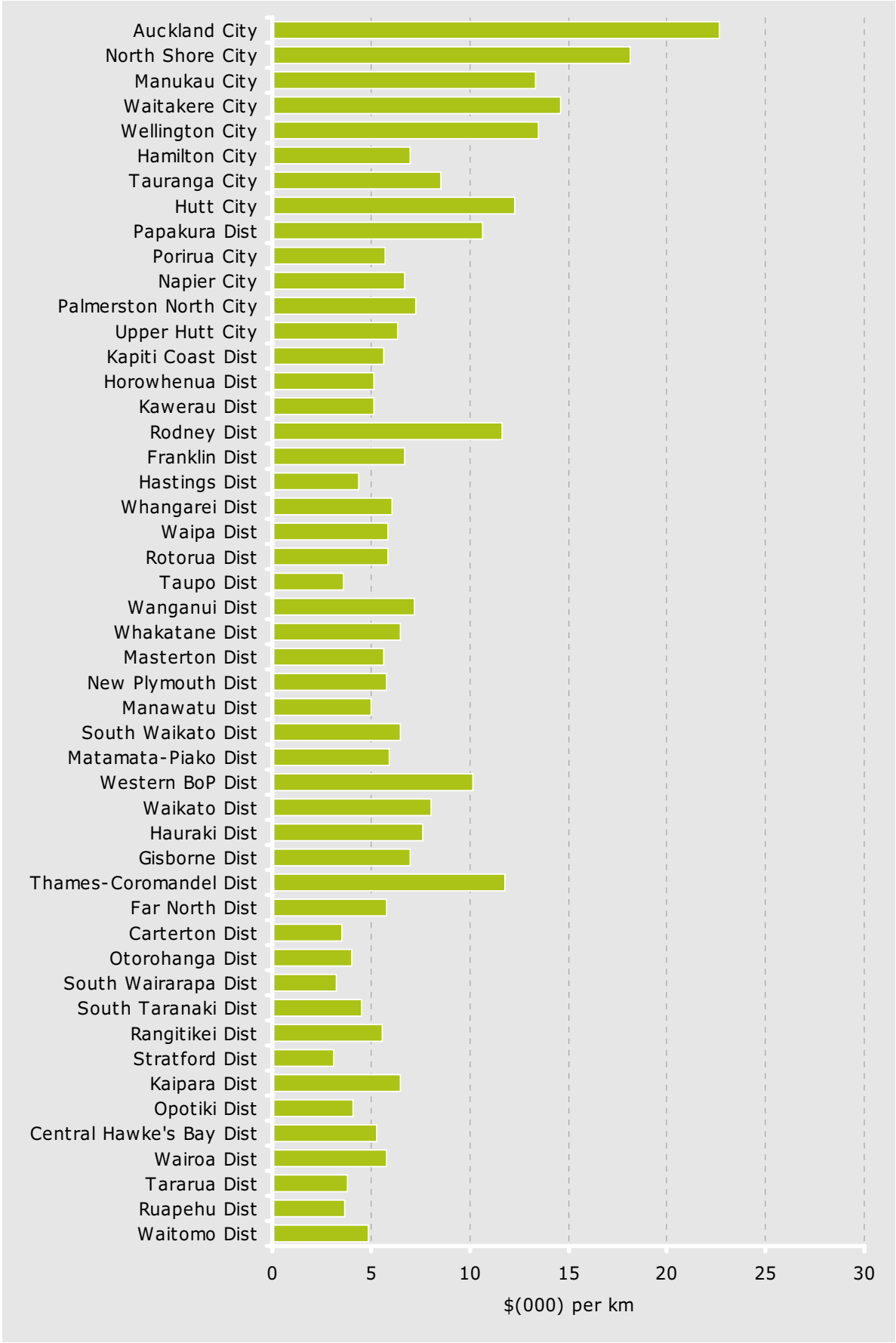


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Total structural maintenance - work categories 1—7

Actual expenditure per kilometre of road ($000/ km)

North Island

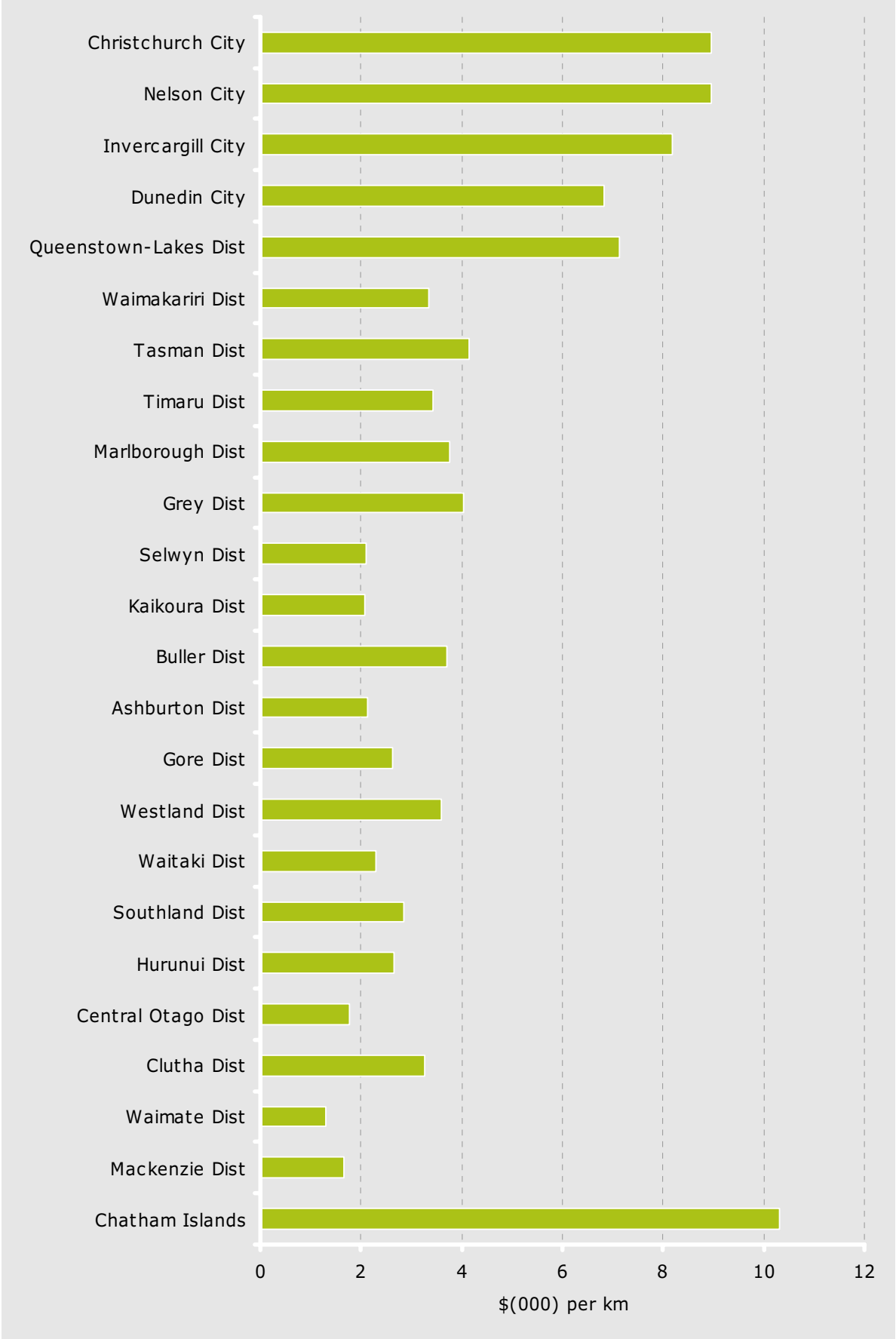


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Total structural maintenance - work categories 1—7

Actual expenditure per kilometre of road ($000/ km)

South Island

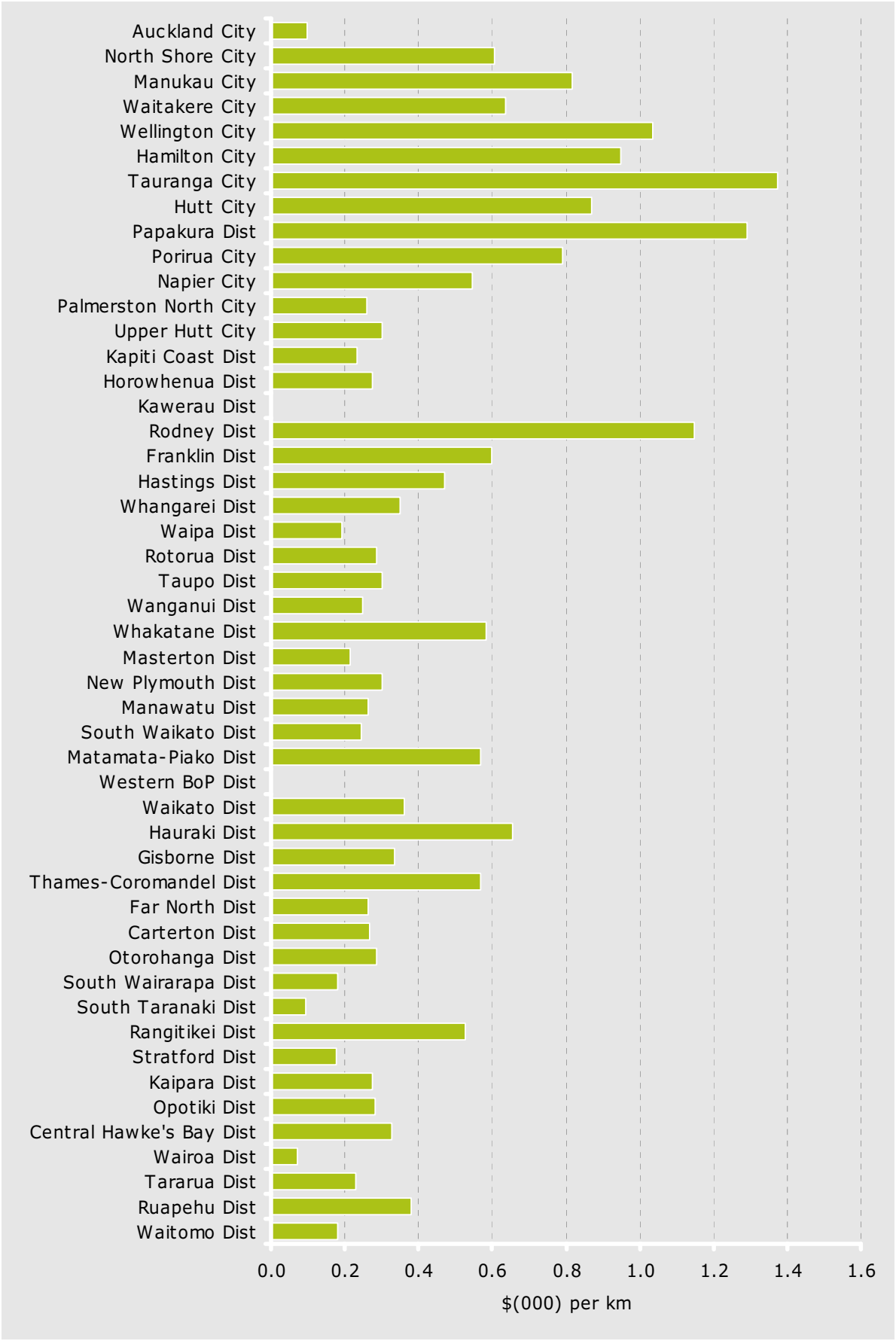


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Amenity/Safety Maintenance - work category 10

Actual expenditure per kilometre of road ($000/ km)

North Island

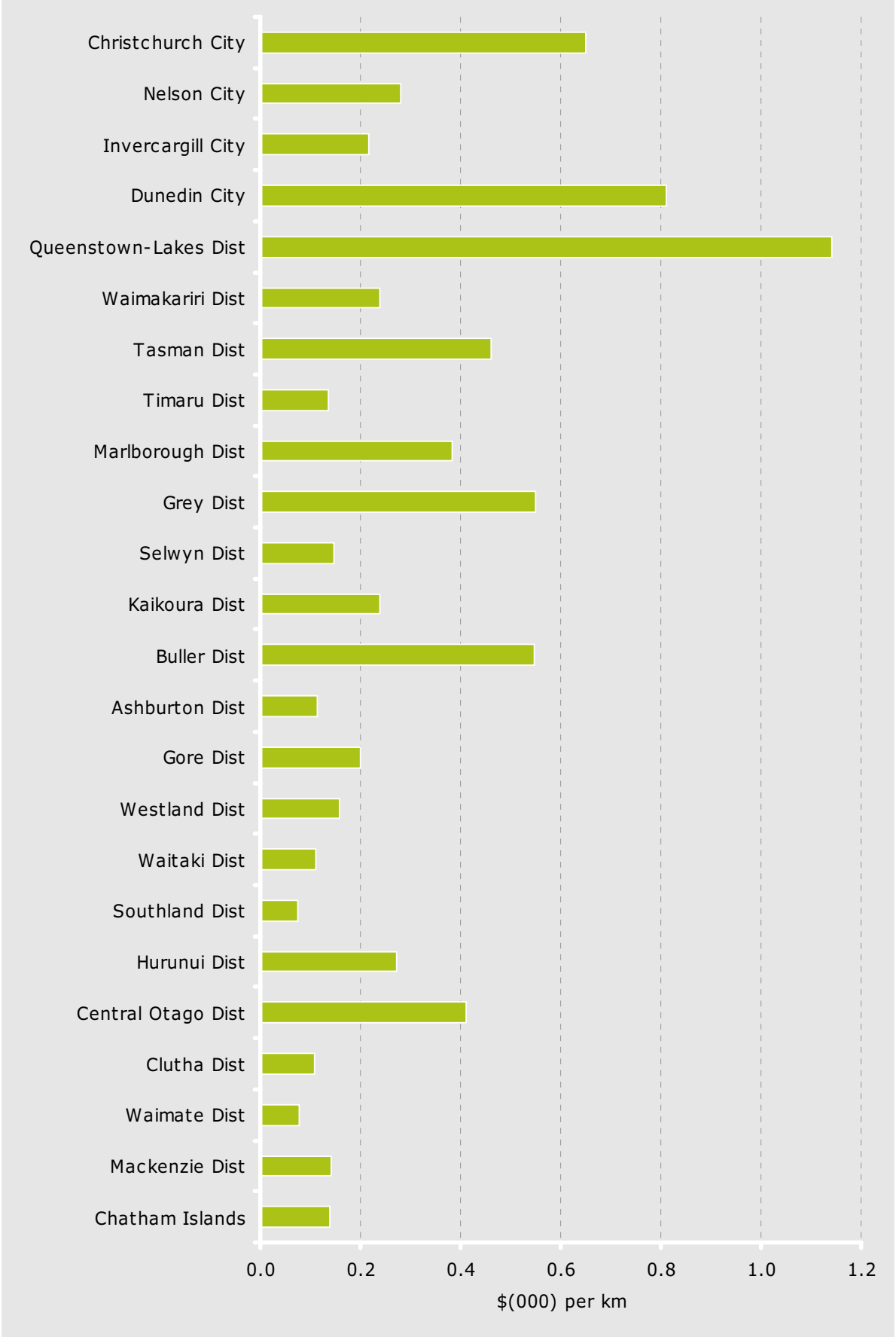


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Amenity/Safety Maintenance - work category 10

Actual expenditure per kilometre of road ($000/ km)

South Island

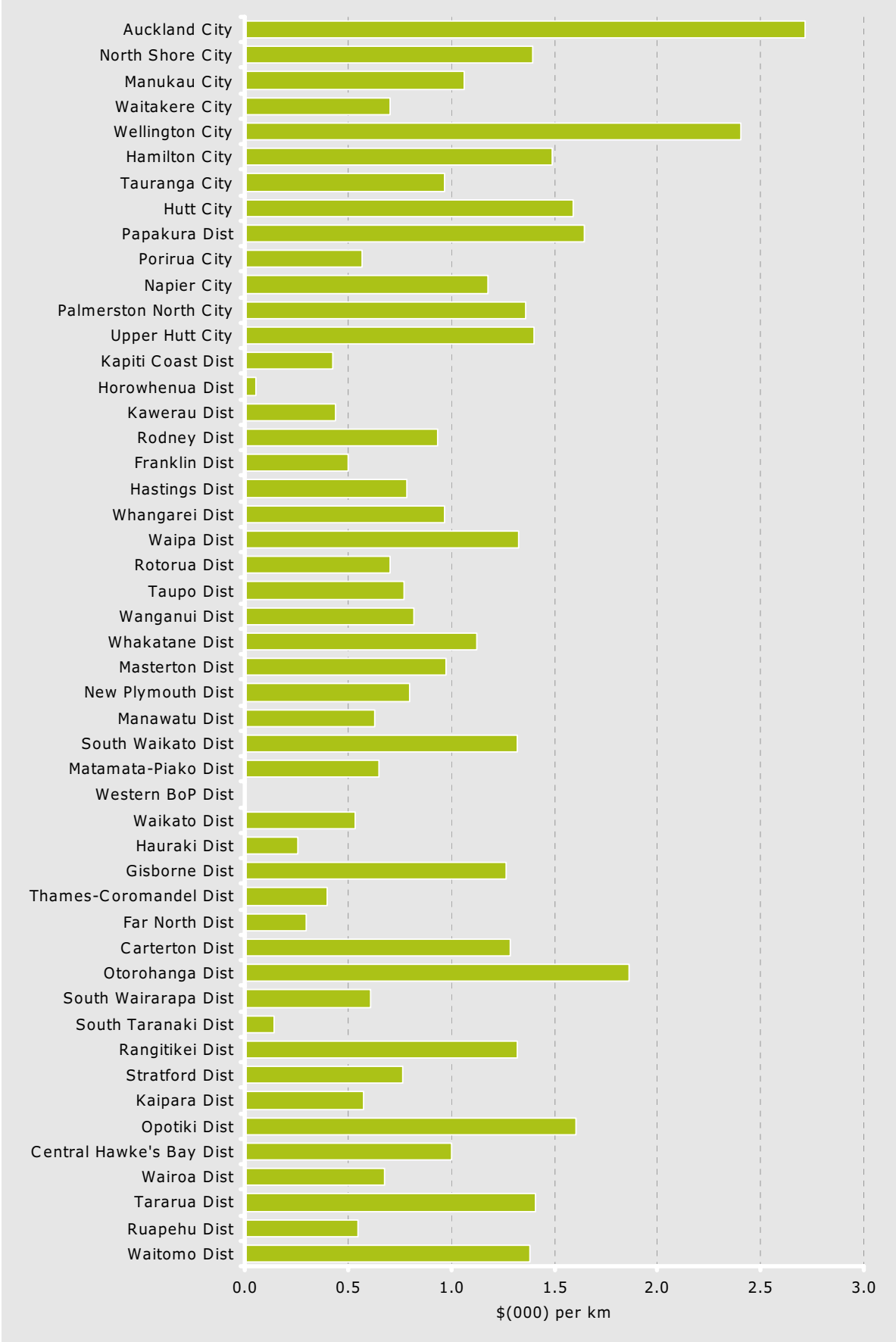


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Street Cleaning - work category 11

Actual expenditure per kilometre of urban sealed road ($000/ km)

North Island

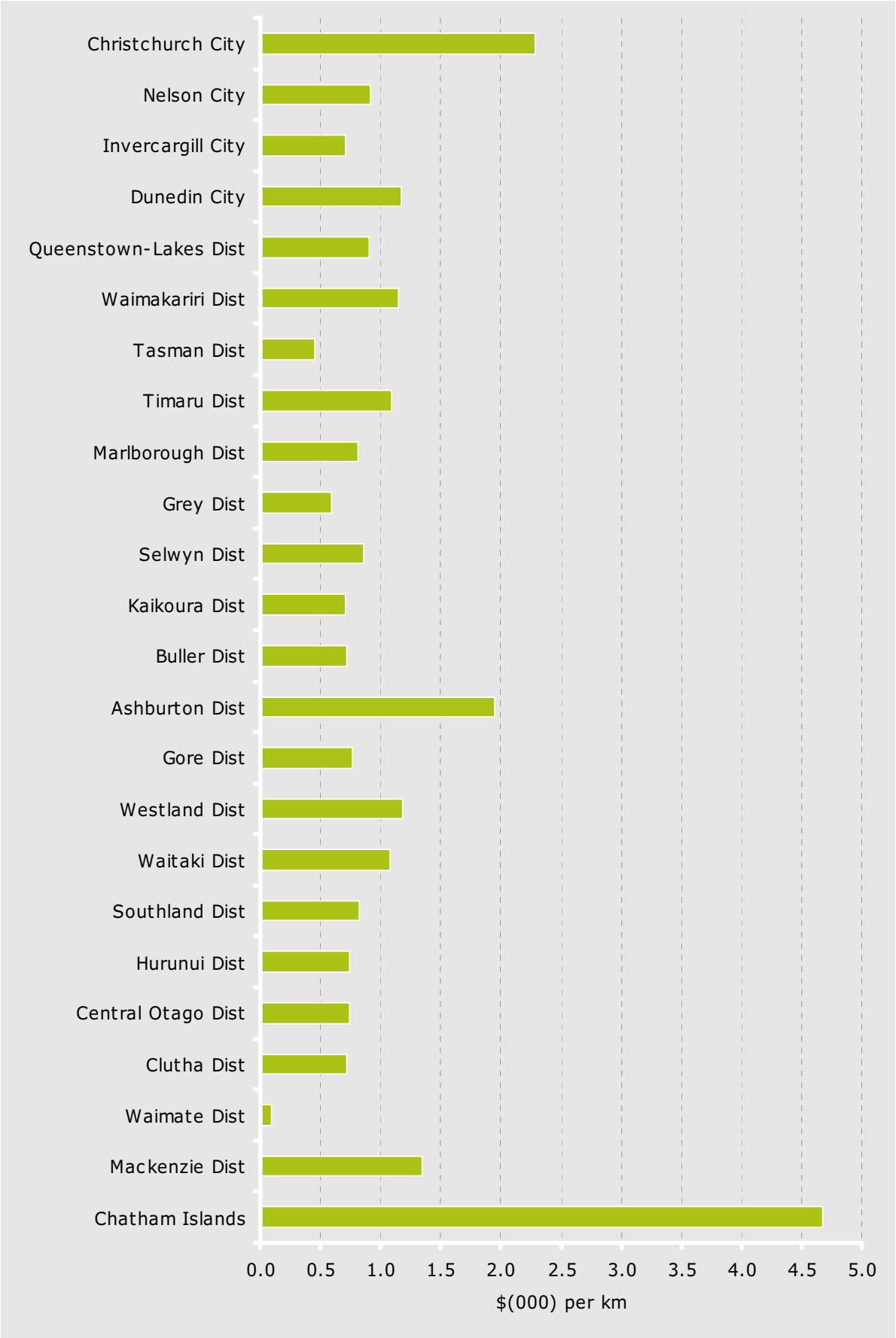


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Street Cleaning - work category 11

Actual expenditure per kilometre of urban sealed road ($000/ km)

South Island

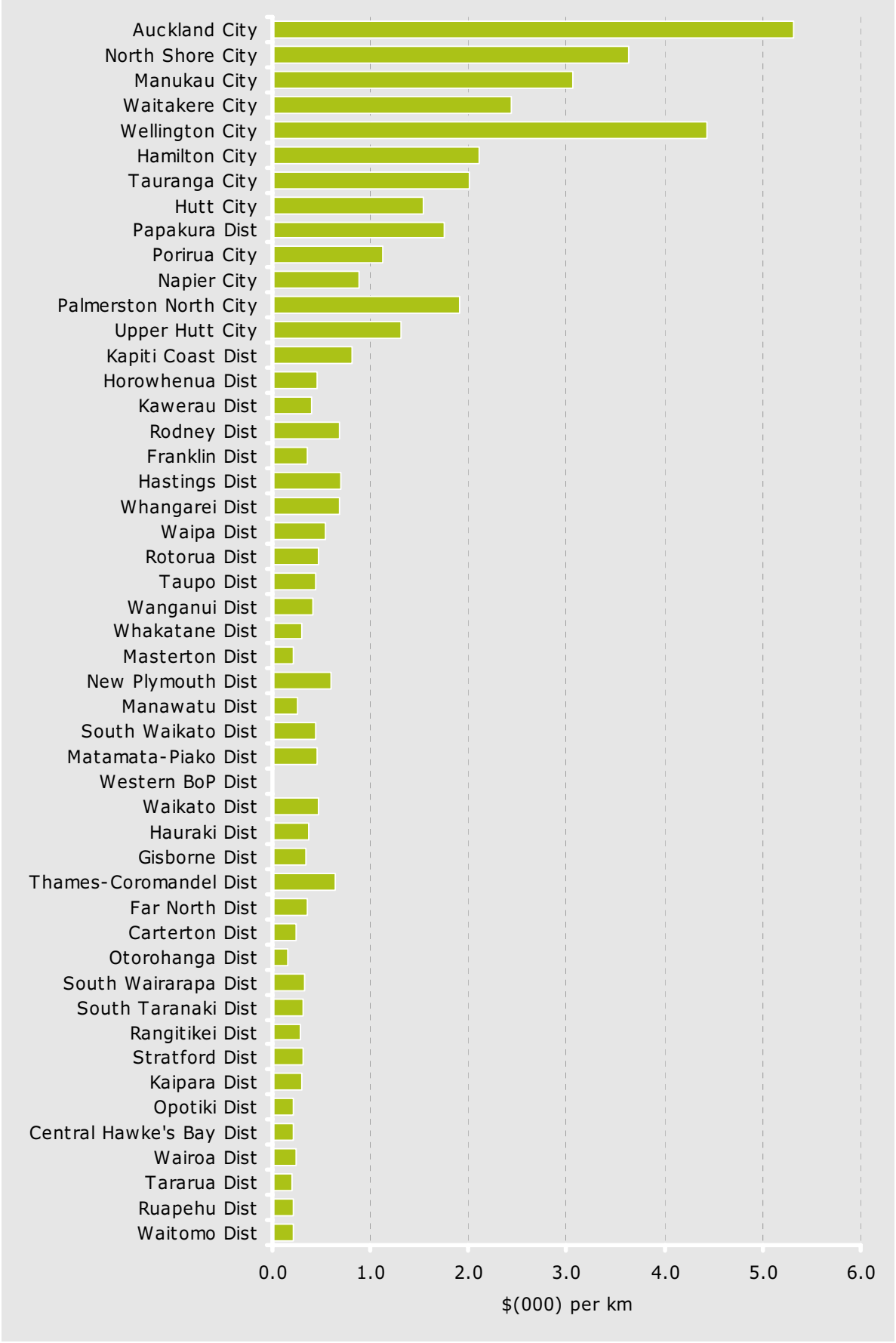


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Traffic Services - work category 12

Actual expenditure per kilometre of road ($000/ km)

North Island

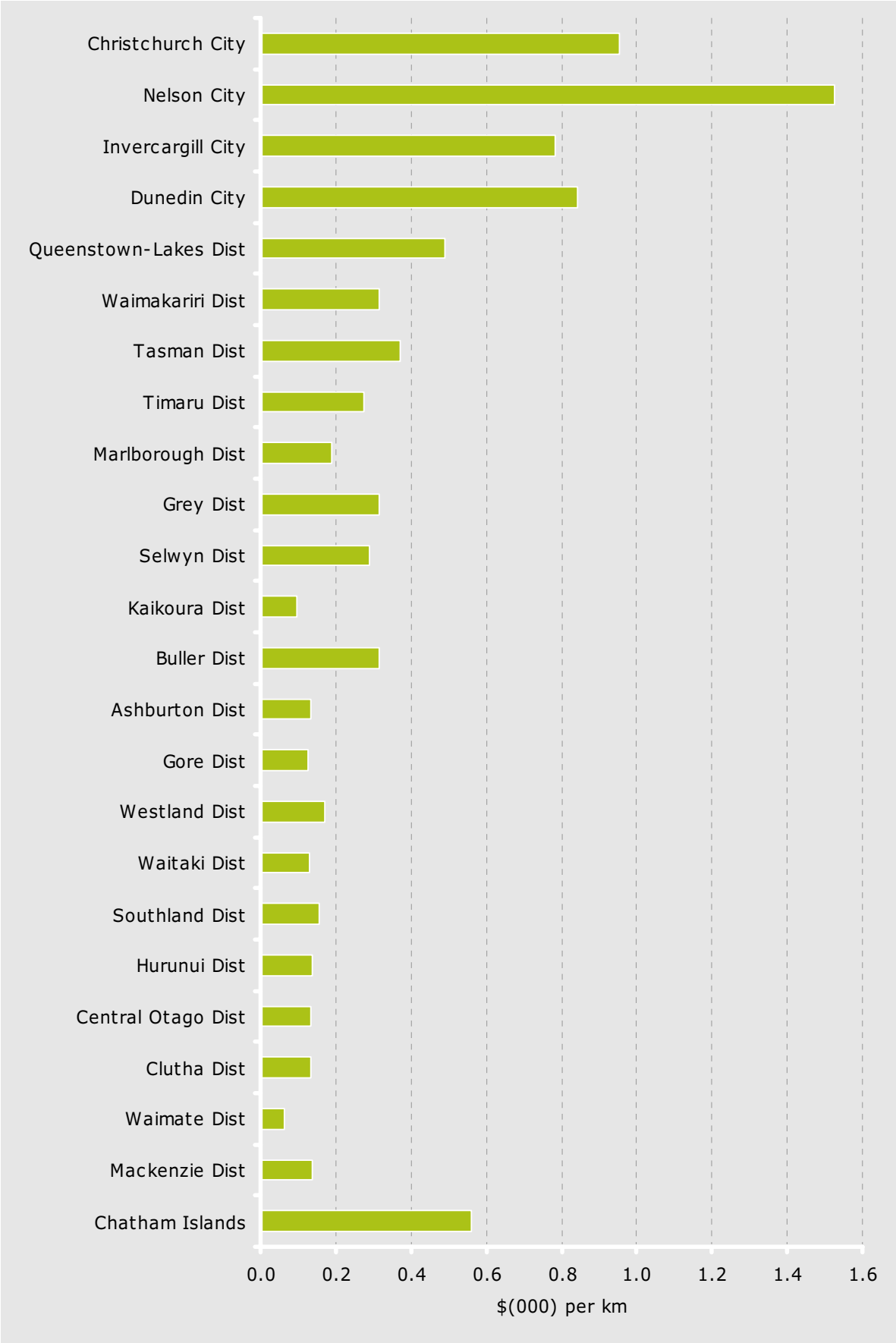


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Traffic Services - work category 12

Actual expenditure per kilometre of road ($000/ km)

South Island

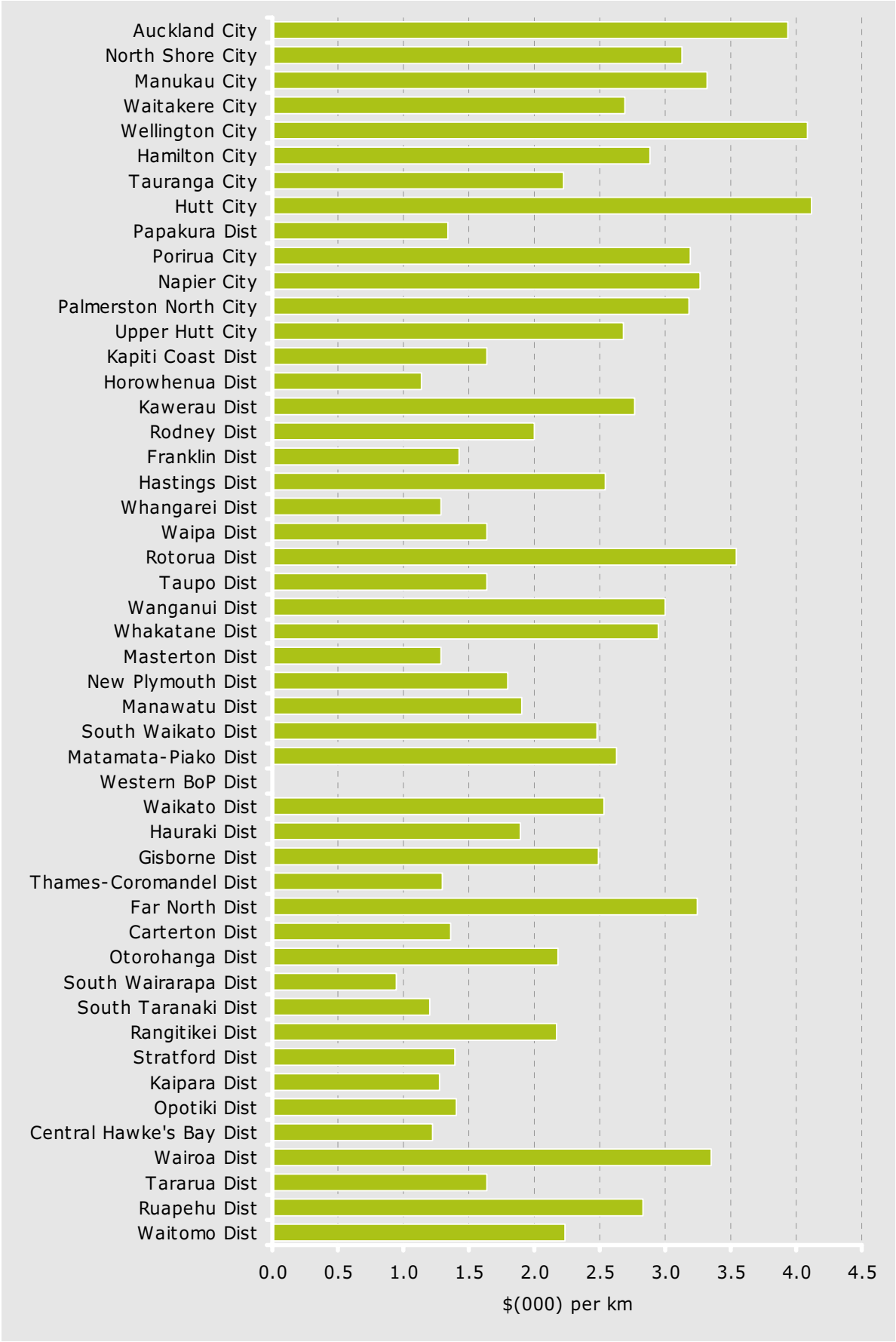


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Carriageway Lighting - work category 13

Actual expenditure per kilometre of urban road ($000/ km)

North Island

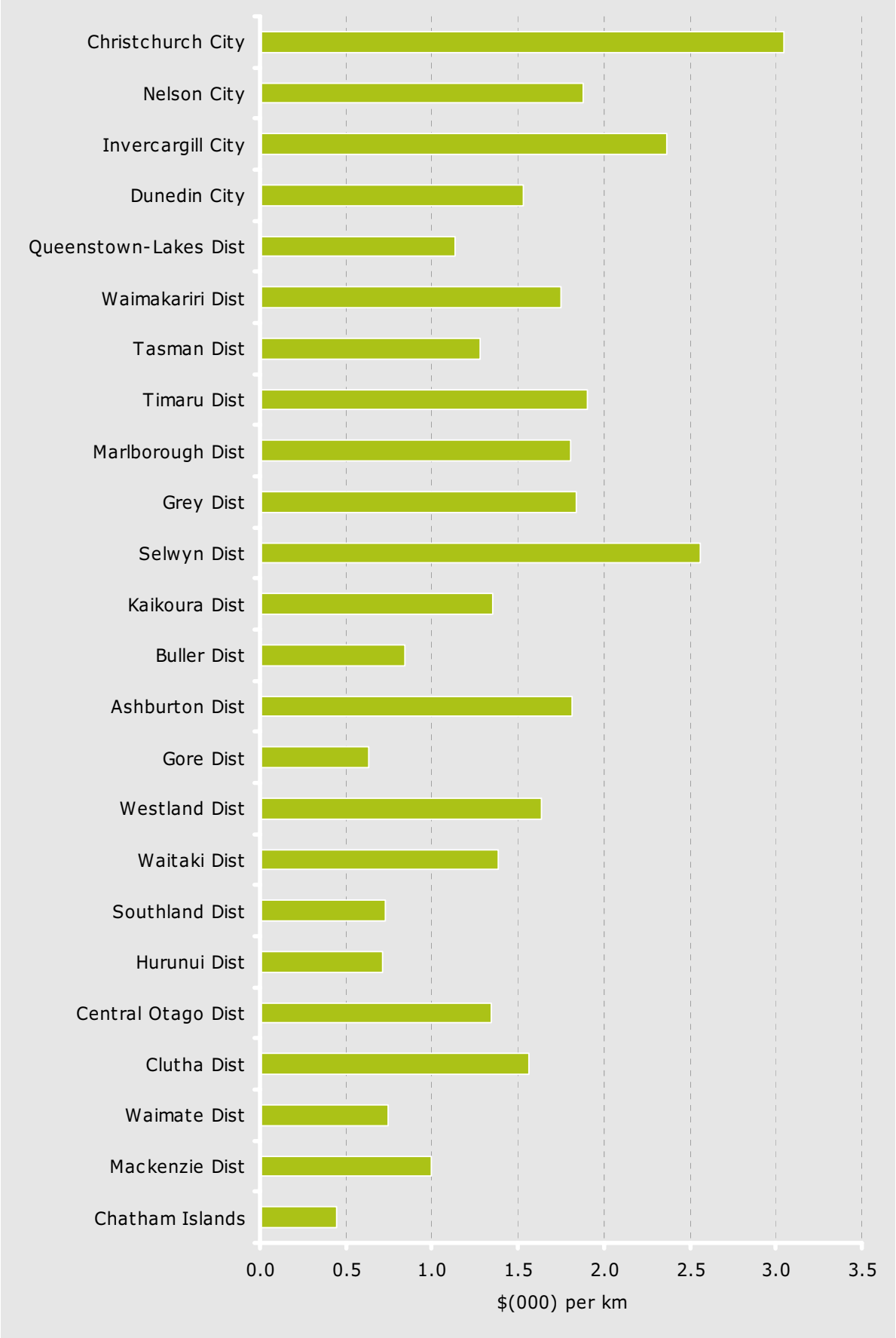


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Carriageway Lighting - work category 13

Actual expenditure per kilometre of urban road ($000/ km)

South Island

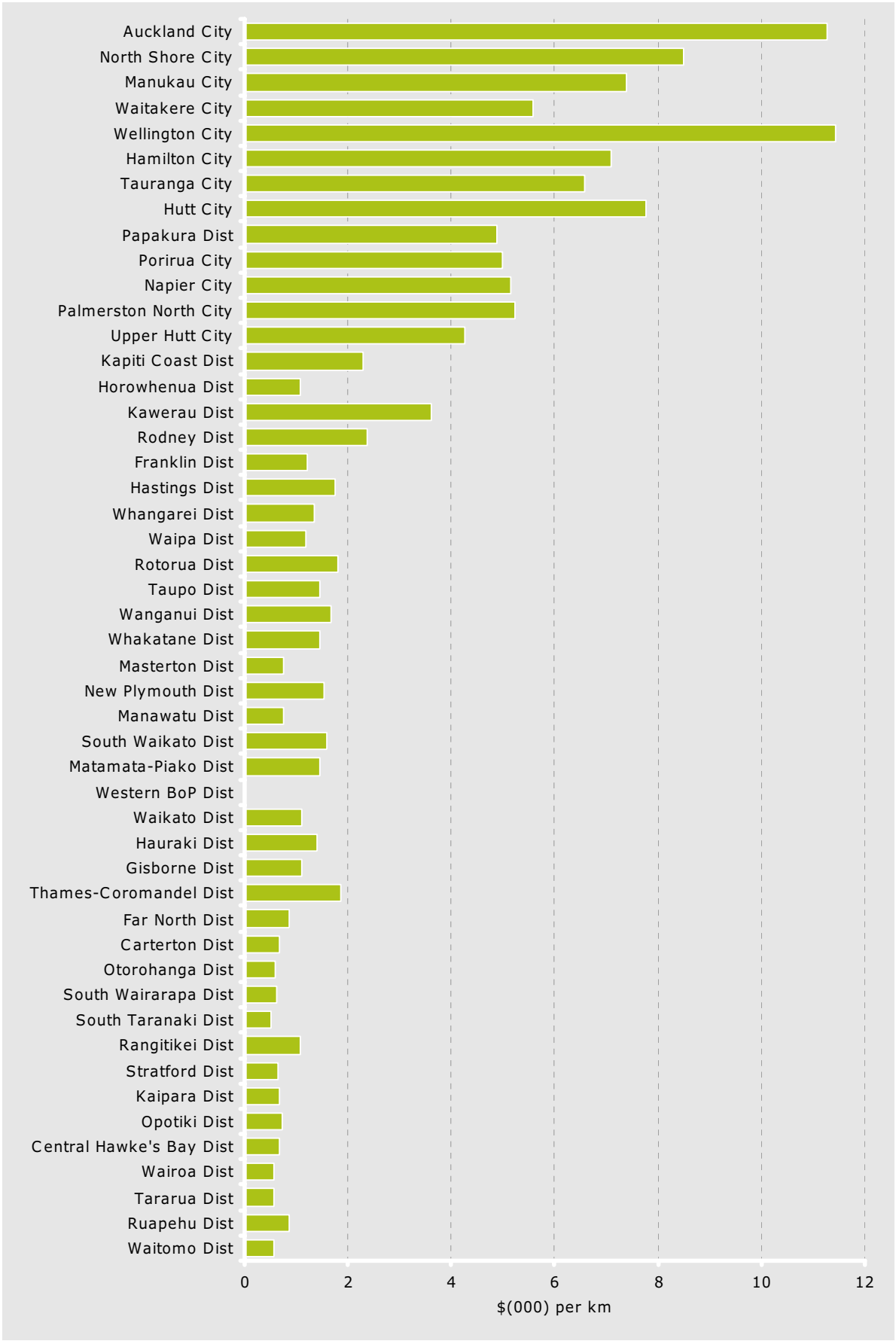


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Total Corridor Maintenance - work categories 10 - 13

Actual expenditure per kilometre of road ($000/ km)

North Island

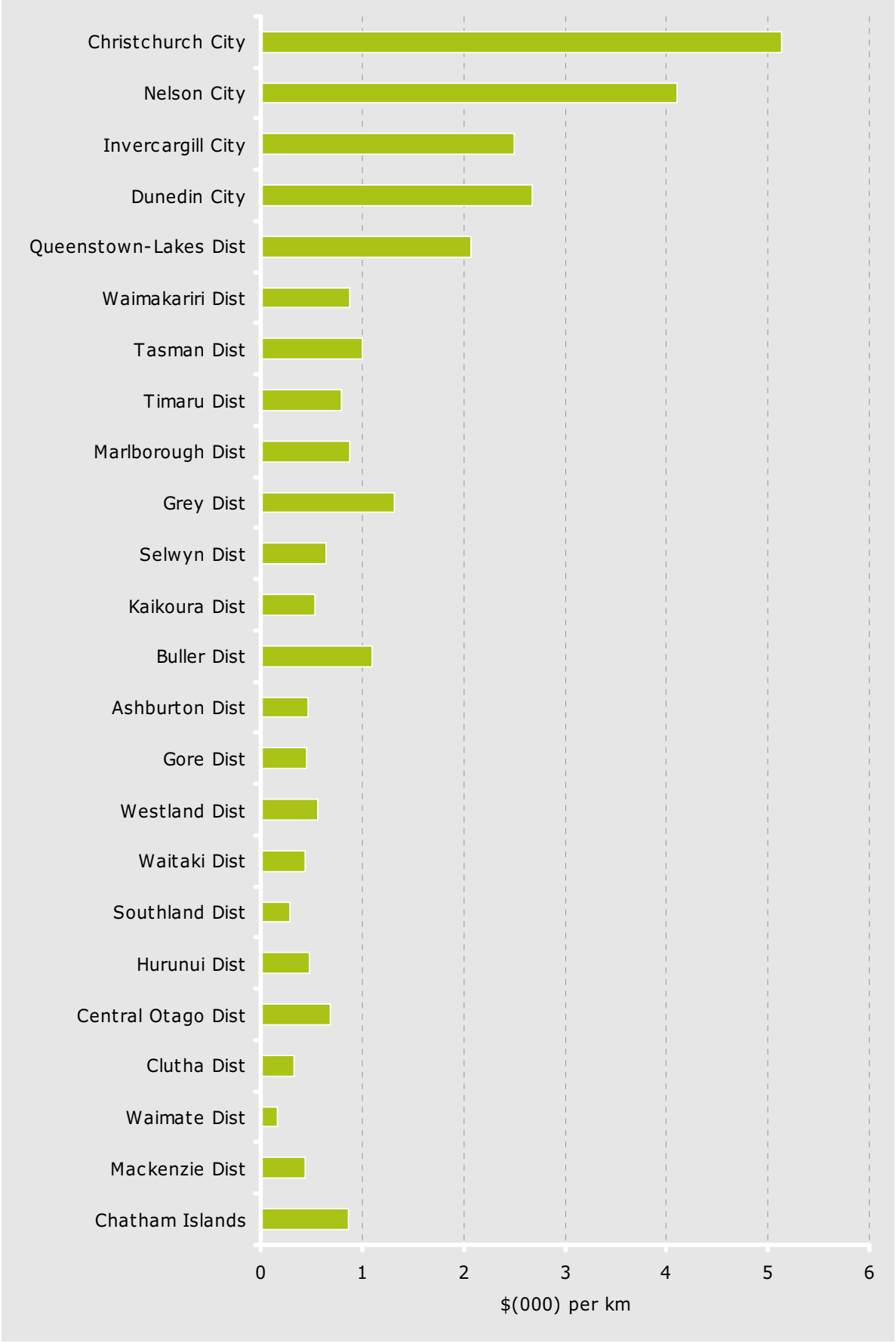


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Total Corridor Maintenance - work categories 10 - 13

Actual expenditure per kilometre of road ($000/ km)

South Island

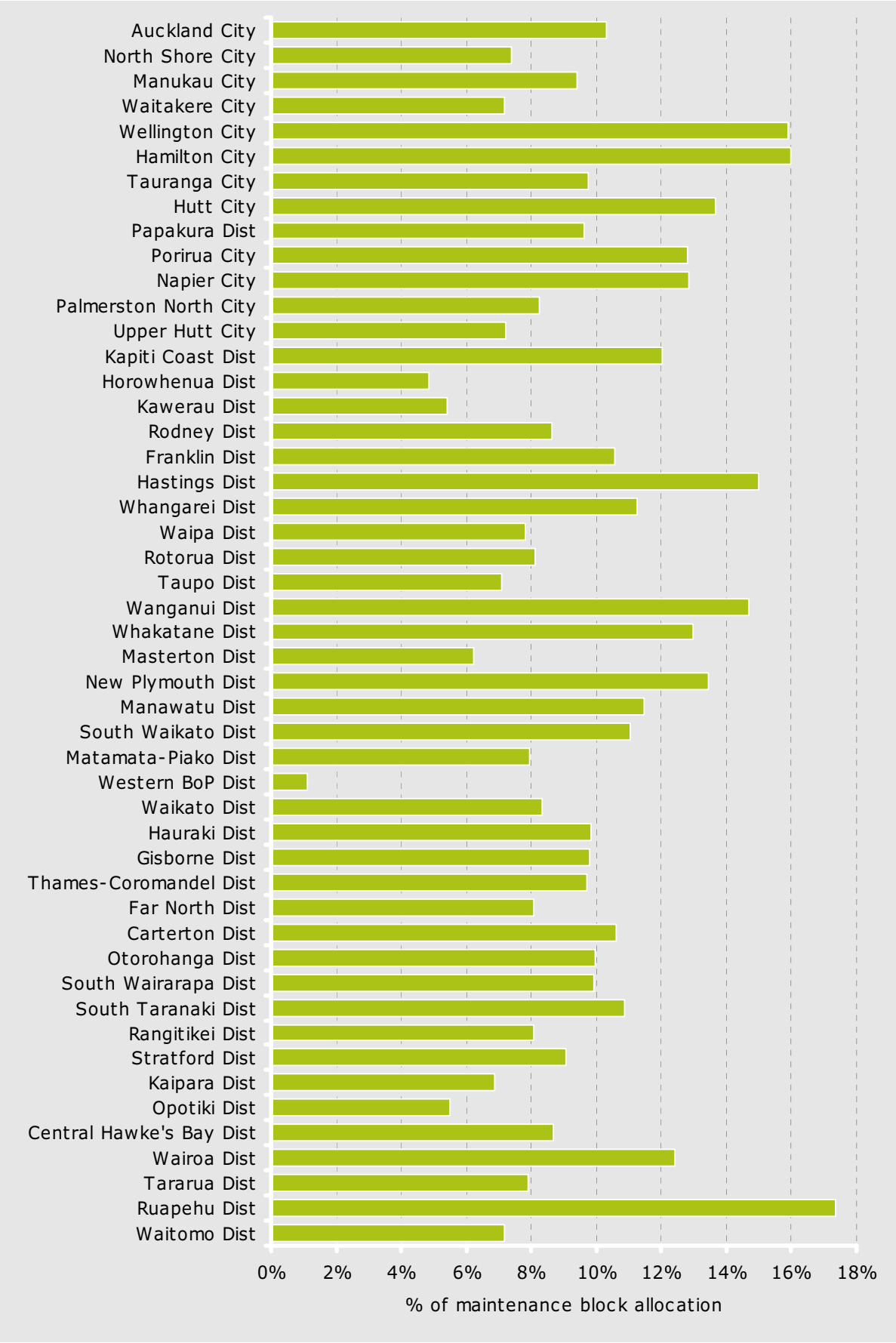


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Professional Services - work category 17

as a % of maintenance block allocation (work categories 1—17)

North Island

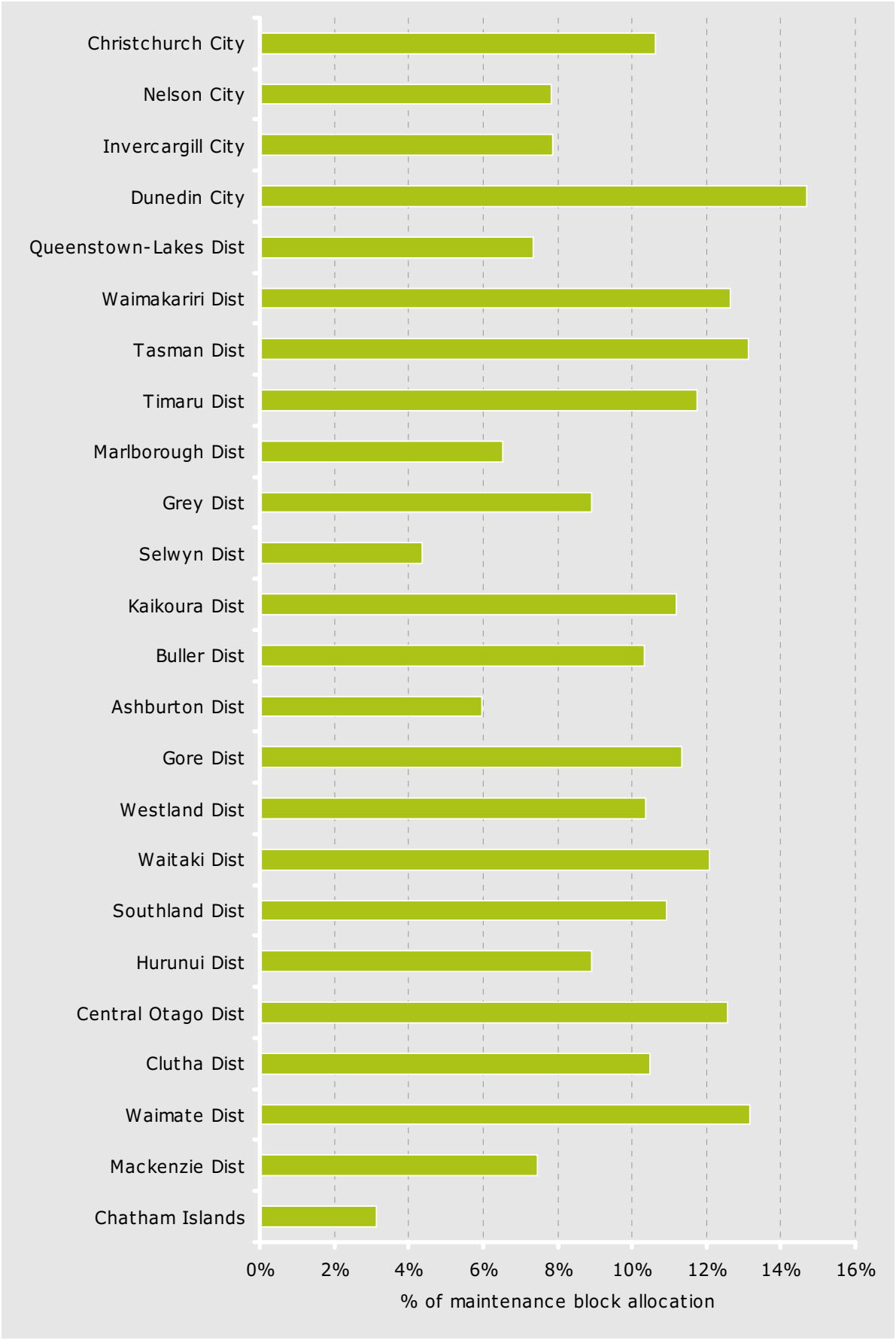


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Professional Services - work category 17

as a % of maintenance block allocation (work categories 1—17)

South Island

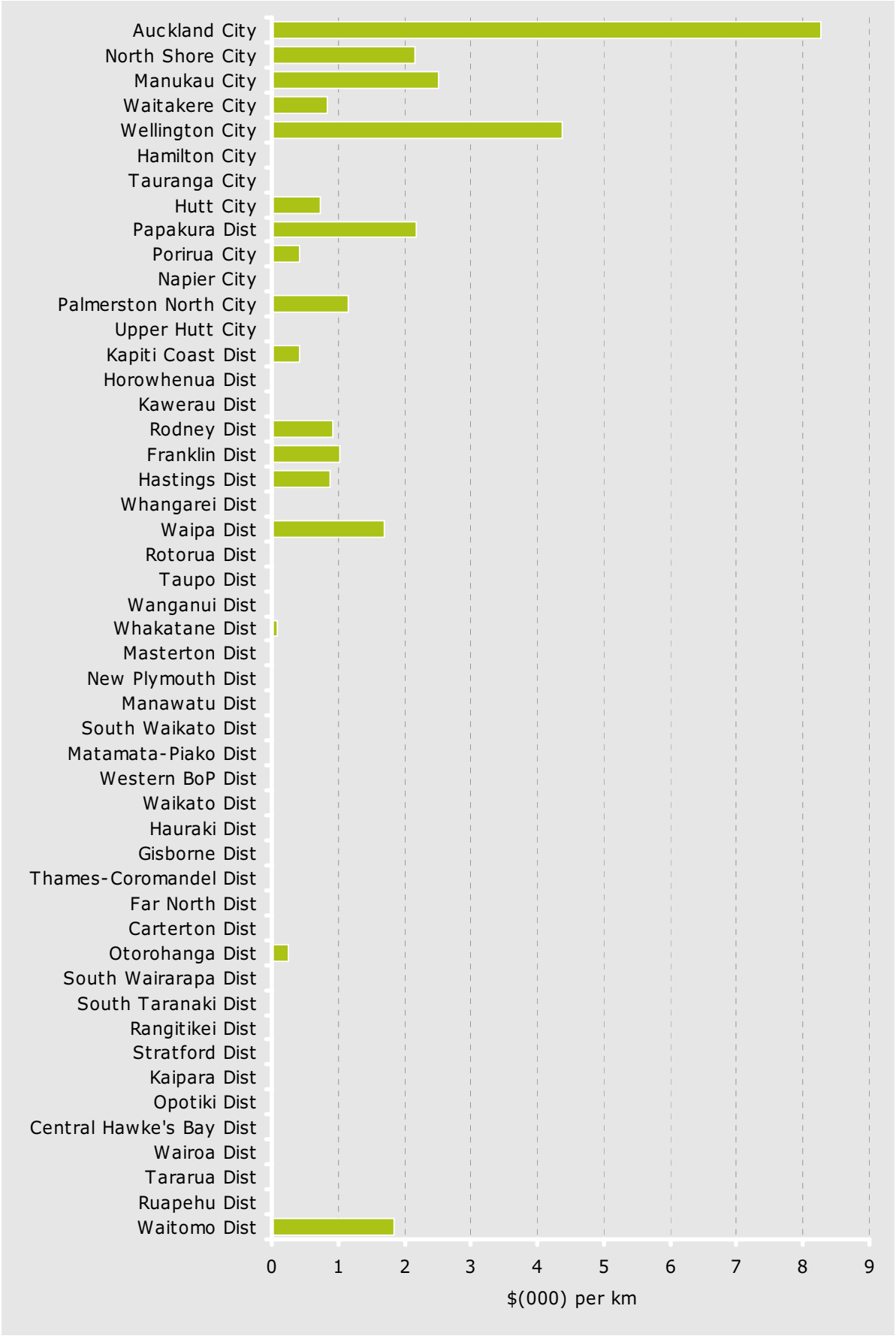


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Pavement smoothing - work category 40

Actual expenditure per kilometre of road ($000/ km)

North Island



Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Pavement smoothing - work category 40

Actual expenditure per kilometre of road ($000/ km)

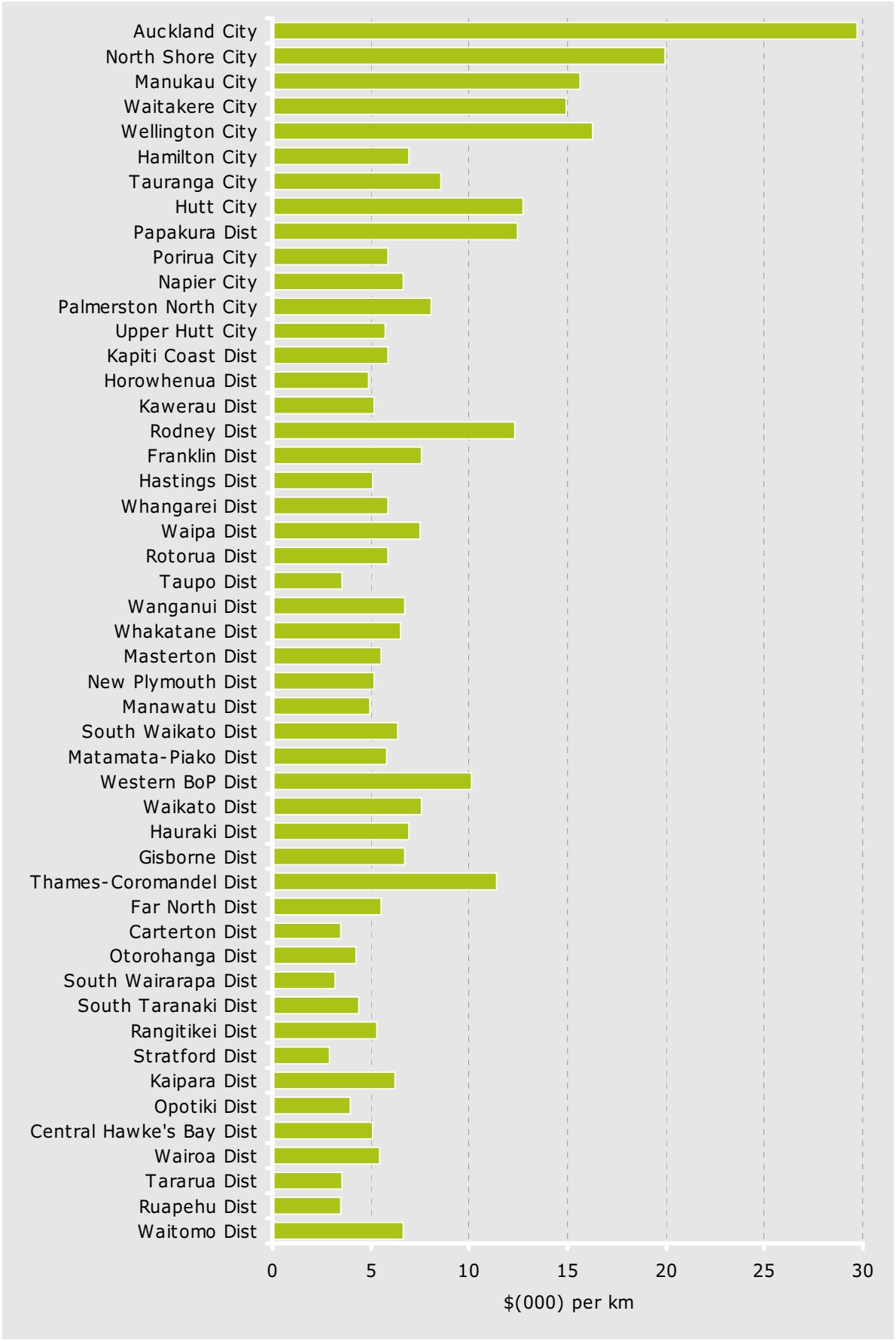
South Island

Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Total pavement and drainage mtce - work categories 1—6 & 40

Actual expenditure per kilometre of road ($000/ km)

North Island

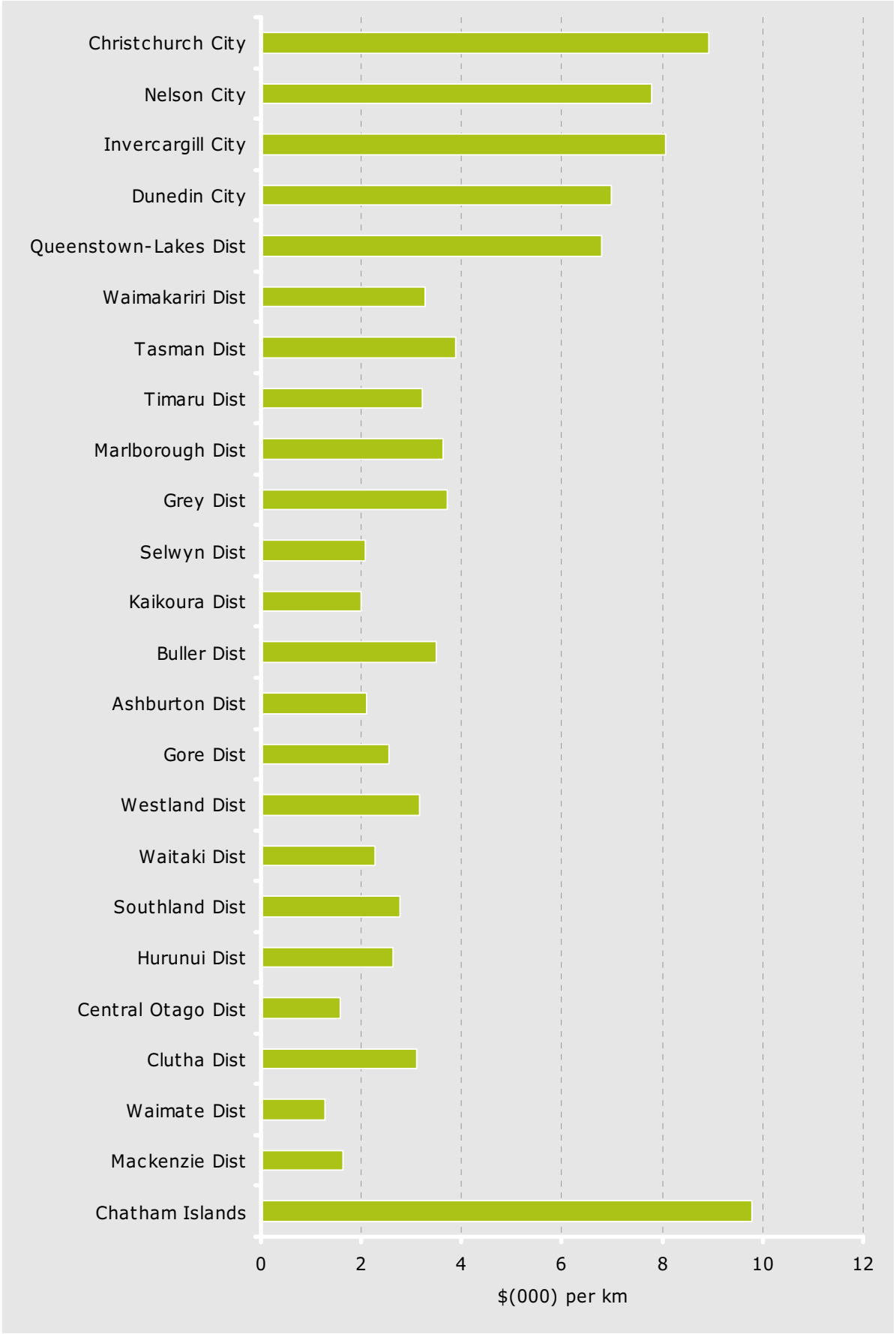


Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim

Total pavement and drainage mtce - work categories 1—6 & 40

Actual expenditure per kilometre of road ($000/ km)

South Island



Note 1: Authorities are listed from highest to lowest average traffic density
Note 2 : Expenditure taken from final claim


WORKS END