

Regional government expenditure

Estimates of core crown spending by region

NZIER report to MBIE and Treasury

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Executive summary

This report provides estimates of central government spending by region in New Zealand.¹ The estimates are based on two different approaches: a direct expenditure approach and a measure based on services. The expenditure approach assigns spending to a region according to where money is spent and the service approach assigns expenditure according to the region for which a service is provided. The estimates are NZIER's and not government estimates.

Table 1 summarises core crown spending (including capital and operating expenditure) by region for each approach.

Table 1 Core Crown spending by region (capex and opex)²

Region	Expenditure approach			Service approach			Population
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita	% share
Northland	2,750	4%	17,359	3,012	4%	19,014	4%
Auckland	24,140	31%	16,012	25,387	32%	16,839	34%
Waikato	6,679	9%	16,048	7,263	9%	17,450	9%
Bay of Plenty	4,707	6%	16,973	5,255	7%	18,952	6%
Gisborne	916	1%	19,565	1,000	1%	21,364	1%
Hawke's Bay	2,583	3%	16,663	2,866	4%	18,493	3%
Taranaki	1,634	2%	14,841	1,887	2%	17,136	2%
Manawatu-Wanganui	4,650	6%	19,999	4,400	6%	18,924	5%
Wellington	11,998	15%	24,481	8,674	11%	17,699	11%
Tasman	694	1%	14,345	801	1%	16,555	1%
Nelson	702	1%	15,062	789	1%	16,942	1%
Marlborough	771	1%	16,862	774	1%	16,937	1%
West Coast	613	1%	18,627	652	1%	19,825	1%
Canterbury	10,092	13%	18,060	10,668	14%	19,092	13%
Otago	3,603	5%	17,058	3,938	5%	18,647	5%
Southland	1,490	2%	15,696	1,645	2%	17,334	2%
New Zealand	78,020	100%	17,602	79,013	100%	17,826	100%

Source: NZIER, various Government departments

The first columns of Table 1 show direct expenditure varies considerably across regions. Wellington receives a comparatively large amount of spending because it is the capital and headquarters of many of the government's core functions such as policy advice.

¹ This report provides estimates of core crown capital and operating expenditure by region in New Zealand to the fiscal year ended 30 June 2012, unless otherwise stated. Core crown spending excludes expenditure by state-owned enterprises and crown companies.

² Values in tables may not sum due to rounding. New Zealand value refers to total regional spend and excludes offshore spending which is 2% of government spending under the expenditure approach and 1% under the service approach.

Table 1 also presents a slightly different picture using measures of spending based on services provided ('service approach'). Wellington's share of expenditure declines considerably under this approach as much of the direct spending in Wellington supports services across New Zealand. Elsewhere, per capita expenditure rises above the national average with 9 out of 16 regions receiving expenditure above the national average, compared to 6 out of 16 regions under the expenditure approach.

Canterbury's per capita share of expenditure is above average due, in large part, to increased spending following the September 2010 and February 2011 earthquakes.

There is not a big difference between the two approaches because most central Government expenditure relates to Social Welfare, Health and Education that mostly reflect the population profiles of different parts of New Zealand (e.g. older populations typically have a higher per capita spend on Health). More generally, spending by region typically reflects population shares.

Using the expenditure method, in the year to June 2012 the Government spent \$78,020 million, 92% of which was operating expenditure. Wellington had the highest per capita operating expenditure (\$22,297) and capital expenditure per capita (\$2,184).

Using the services method, Otago had the highest capital expenditure per person (\$1,993) and Gisborne the highest operating expenditure per person (\$19,578).

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1. Introduction

This report provides estimates of core crown capital and operating expenditure by region in New Zealand to the fiscal year ended 30 June 2012, unless otherwise stated. Core crown spending excludes expenditure by state-owned enterprises and crown companies.³

This report builds on prior studies of crown spending in the Auckland region. The methods used in those earlier studies have been improved through greater use of departmental data on actual expenditure by region. The scope of the work has also been expanded to include all 16 Statistics New Zealand regions in New Zealand.

We applied two conceptual approaches of assigning expenditure to a particular region⁴:

- **expenditure approach:** which assigns expenditure to a region according to where money is spent
- **service approach:** which assigns expenditure according to the region for which a service is provided.

The main difference between these two approaches is that the expenditure approach applies overheads and departmental expenditure to the region where activity takes place even if the service is not region-specific. Consequently Wellington as the capital city receives a large share of expenditure. The service approach apportions overheads and much of departmental expenditure on the basis of population shares because the benefits of such services are widely shared across the regions.

The estimates provided in this report should be considered indicative rather than precise. While some of the estimates are based on actual data on government spending by region, they are also based on assumptions about where spending takes place and where services are provided.

It would be possible to produce more precise estimates, but such research would require departments to engage in more systematic collection of data on expenditure and service delivery by region. Central agencies could help to expedite this by providing guidance to departments on how to assign expenditure on a regional basis and the definitions and principles to use.

More precise information on government spending by region would help determine the extent to which changes to the size and location of government spending might enhance or constrain regional economic development.

Our estimates include operating expenditure and capital expenditure. Operating expenditure is spending that is specific to costs incurred or services provided in a single year. Capital expenditure reflects investment in capacity to provide services beyond the current fiscal year.

³ Core Crown spending includes e.g. Ministers of the Crown, departments, Offices of Parliament, the New Zealand Superannuation (NZS) Fund and the Reserve Bank of New Zealand. More detail on Budget data including appropriation expenditure can be accessed at <http://www.treasury.govt.nz/budget/2012/data>

⁴ More precise definitions and discussion of these two approaches are provided in the section on methodology.

2. Headline results

Table 2 shows direct crown spending by region and type of expenditure while table 3 shows crown services by region and type of expenditure.

Table 2 Direct crown spending by region and type of expenditure ('expenditure approach')

2011/12 dollars per capita.⁵ Operating and capital expenditure.

	Social Security and Welfare	Health	Education	Core Government Services	Law & Order	Transport and Communications	Other ⁶	All expenditure
Northland	6,779	3,774	2,606	492	890	826	1,993	17,359
Auckland	5,250	3,037	2,700	603	813	915	2,695	16,012
Waikato	5,728	3,214	2,447	590	991	1,058	2,020	16,048
Bay of Plenty	6,181	3,687	2,894	559	632	1,054	1,967	16,973
Gisborne	7,036	3,797	4,315	488	757	933	2,240	19,565
Hawke's Bay	5,851	3,552	2,994	488	1,080	676	2,022	16,663
Taranaki	5,625	3,570	2,116	483	473	708	1,866	14,841
Manawatu-Wanganui	6,355	3,750	3,099	484	767	830	4,713	19,999
Wellington	5,859	3,322	3,364	3,290	1,966	1,164	5,517	24,481
Tasman	5,215	3,312	2,239	474	471	721	1,913	14,345
Nelson	5,833	3,320	2,355	484	470	423	2,176	15,062
Marlborough	5,957	3,325	2,067	468	436	571	4,039	16,862
West Coast	5,897	4,493	2,439	541	451	1,318	3,488	18,627
Canterbury	5,760	3,307	2,930	1,849	841	927	2,445	18,060
Otago	6,152	3,260	3,760	528	661	698	1,999	17,058
Southland	5,564	3,222	2,700	569	638	705	2,298	15,696
New Zealand	5,714	3,297	2,854	1,026	925	923	2,863	17,602

Source: NZIER, various Government departments

Government spending is concentrated in Auckland and Wellington which account for nearly half of government spending in absolute terms.

Wellington is also home to the largest amount of expenditure on a per capita basis because it is the capital and the site of much of the government's administrative functions.

⁵ Rows and columns may not sum due to rounding.

⁶ This includes the crown spending functional categories: defence; other economic; heritage, culture and recreation; primary services; housing and community; fuel and energy; finance and other.

Table 3 Crown services provided by region and type of expenditure ('service approach')

2011/12 dollars per capita.⁷ Operating and capital expenditure. Total differs from direct spending due to treatment of overseas spending.

	Social Security and Welfare	Health	Education	Core Government Services	Law & Order	Transport and Communications	Other ⁸	All expenditure
Northland	6,756	3,840	2,735	973	963	841	2,906	19,014
Auckland	5,291	3,077	2,729	976	923	928	2,917	16,839
Waikato	5,796	3,251	2,552	981	874	1,073	2,923	17,450
Bay of Plenty	6,249	3,736	2,989	973	1,008	1,069	2,928	18,952
Gisborne	7,109	3,863	4,274	973	1,163	948	3,034	21,364
Hawke's Bay	5,978	3,617	3,120	973	1,166	690	2,948	18,493
Taranaki	5,782	3,630	2,303	973	844	723	2,883	17,136
Manawatu-Wanganui	6,423	3,792	3,157	973	844	845	2,891	18,924
Wellington	5,527	3,083	2,942	973	901	1,053	3,220	17,699
Tasman	5,308	3,379	2,372	973	935	735	2,853	16,555
Nelson	5,909	3,372	2,442	973	935	438	2,874	16,942
Marlborough	6,022	3,391	2,179	973	936	585	2,850	16,937
West Coast	5,747	4,559	2,635	1,011	937	1,332	3,604	19,825
Canterbury	5,785	3,353	2,936	2,237	896	941	2,943	19,092
Otago	6,169	3,292	3,682	973	930	713	2,889	18,647
Southland	5,648	3,287	2,794	973	932	719	2,981	17,334
New Zealand	5,721	3,311	2,854	1,134	925	923	2,958	17,826

Source: NZIER, various Government departments

Beyond Wellington, other notable regional per capita results are:

- Auckland had a comparatively small share of per capita spending largely due to its relatively young population and efficiencies in provision of services in a large urban centre⁹
- West Coast had a comparatively high share of spending, albeit affected by two expenditure categories (Transport and Health)
- Manawatu-Wanganui, has relatively high social welfare spend and high “other” spending related to defence
- Gisborne, with a high share of social welfare spending

⁷ Rows and columns may not sum due to rounding.

⁸ This includes the crown spending functional categories: defence; other economic; heritage, culture and recreation; primary services; housing and community; fuel and energy; finance and other.

⁹ These observed efficiencies from scale (economies of scale) mainly reflect the high fixed cost (per capita) of providing services in sparsely populated regions e.g. the West Coast.

- Canterbury expenditure is above average partly due to remedial spending following 2010/11 earthquakes.¹⁰

Some context is needed to understand these results. Government expenditure comprises three broad kinds of expenditure:

- **Transfers or benefits:** where the Crown distributes money to people without expectation of a service of any kind to be provided (as distinct from providing funding for which a public service is to be provided such as R&D funding)
- **Provision of public services:** which includes both direct government provision of services such as health and education as well as funding others to provide these services
- **Administration:** which includes spending to provide policy advice, construct and enforce regulation, standard setting, and other administration related to the core functions of government.

Each of these has somewhat different drivers which affect where expenditure is concentrated. The first category consists mainly of welfare and NZ Super payments. These payments are driven principally by demographics, although some regions have structurally higher beneficiary rates than others regardless of demographics.

Public services are also driven by demographics, though in some instances they also reflect accidents of history, the unique geography of some regions and efficiency gains which may be achieved by concentrating services in one area (economies of scope and scale). One example of this is the fact that spending on naval forces is concentrated in Auckland. Similarly it is much more cost effective to offer some national health services in Auckland rather than replicate such services in smaller regions around the country.

Public administration, such as the purchase of policy advice or core crown auditing functions, tends to be concentrated in Wellington. This is because administrative functions tend to have economies of scope and scale and the clients of policy advice are predominantly in Wellington.

Spending on public services is also concentrated in Wellington (relative to population size), however this is generally restricted to smaller expenditure items and services such as export promotion (excluding international expenditure) as opposed to the large public services like health and education.

In some respects, Wellington is a special case and it can be misleading to compare Wellington against other regions. These estimates underscore Wellington's distinctiveness in terms of the centrality of central government spending to the Wellington region. In Wellington, 1 in 12 jobs (8%) is in industries directly connected to central government as compared to 1 in 50 jobs (2%) nationally.¹¹ One consequence is that there are naturally fewer people working in other industries.

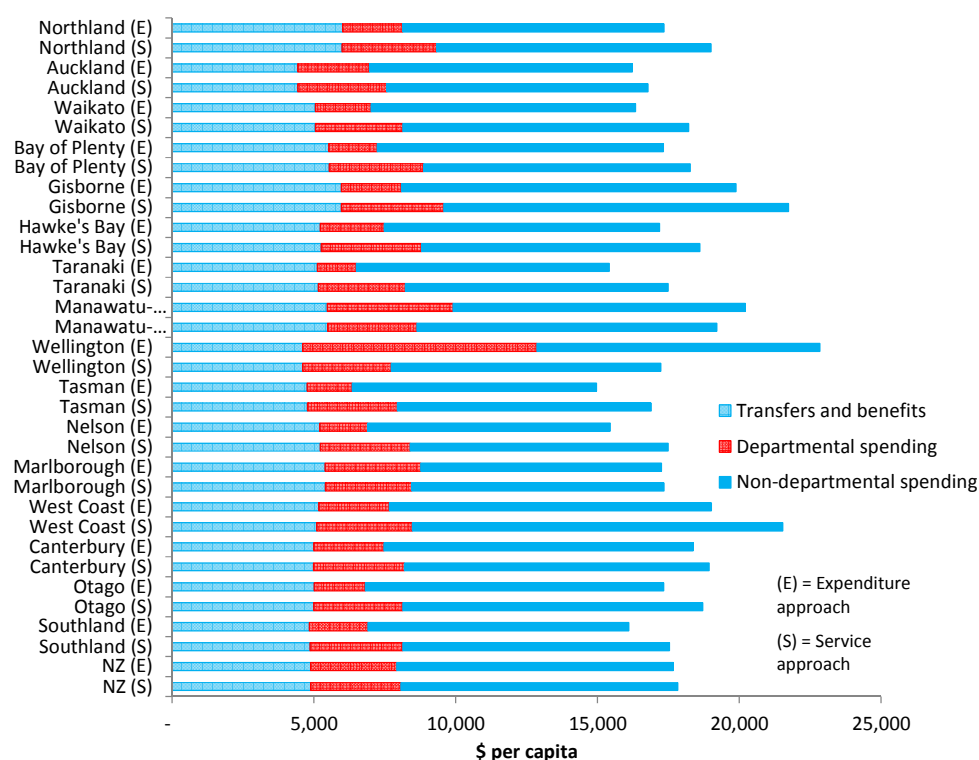
Comparison of our two different methods for attributing regional expenditure – the expenditure approach and the service approach – further illustrate these issues. This

¹⁰ Note that capital spending (e.g. on re-construction) in Canterbury is not prominent in figures in this report for a variety of reasons including the timing of the large infrastructure spending and that spending which ends up being used for capital projects will be counted as operating expenditure for accounting reasons (e.g. in the case of some transport spending).

¹¹ Based on employee counts in Statistics New Zealand's business demography database. We have defined central government employees as those working in 'Central Government Administration' and 'Regulatory Services' industries (ANZSIC06).

can be seen in Figure 1 where we show estimates of regional expenditure per capita according to whether the expenditure is benefit-related, department related or non-departmental. Departmental spending figures include a large proportion of government overhead which is attributed to Wellington under an expenditure approach but relates to services provided across the whole country under the services approach. Accordingly the Wellington share of government spending is much higher under the expenditure approach.

Figure 1 Expenditure by broad category and allocation approach



Totals are not the same under the expenditure and services approach due to the exclusion of all overseas spending from regional spending under the expenditure approach and more limited exclusions under the service approach.

Tables 4 and 5 show core crown operating expenditure and core crown capital expenditure by region. Variation in the kinds of drivers which affect expenditure can also be seen in the distribution of capital expenditure relative to operating expenditure. Northland, for example, is home to a higher than average share of crown operating expenditure at \$16,503 per capita but it has a lower than average share of capital expenditure. Under the expenditure approach, Auckland's per capita share of operating expenditure is 10% lower than the national average while the region's share of per capita capital expenditure is less than 1% below the average. These results reflect higher population growth and infrastructure needs in Auckland but lower benefit spend as compared to Northland.

The West Coast stands out as major centre of government operating expenditure relative to its population size (excluding Wellington). This reflects a high amount of expenditure on public services in the West Coast principally through high spending

on Transport and Communications, Health and Heritage, Culture and Recreation (i.e. Conservation).

Table 4 Core Crown operating expenditure by region¹²

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	2,614	4%	16,503	2,835	4%	17,899
Auckland	21,977	31%	14,578	23,065	32%	15,299
Waikato	6,125	9%	14,716	6,610	9%	15,883
Bay of Plenty	4,394	6%	15,844	4,863	7%	17,537
Gisborne	844	1%	18,034	916	1%	19,578
Hawke's Bay	2,461	3%	15,878	2,704	4%	17,446
Taranaki	1,549	2%	14,073	1,763	2%	16,009
Manawatu-Wanganui	4,231	6%	18,200	4,078	6%	17,540
Wellington	10,928	15%	22,297	7,875	11%	16,069
Tasman	662	1%	13,673	757	1%	15,645
Nelson	667	1%	14,305	740	1%	15,881
Marlborough	716	1%	15,676	725	1%	15,865
West Coast	584	1%	17,758	619	1%	18,825
Canterbury	9,308	13%	16,657	9,834	14%	17,598
Otago	3,219	4%	15,242	3,517	5%	16,654
Southland	1,384	2%	14,579	1,527	2%	16,087
New Zealand	71,663	100%	16,168	72,429	100%	16,341

¹² Includes benefits and other unrequited expenditure and debt servicing costs.

Table 5 Core Crown capital expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	136	2%	856	177	3%	1,115
Auckland	2,163	34%	1,435	2,322	35%	1,540
Waikato	554	9%	1,332	652	10%	1,567
Bay of Plenty	313	5%	1,129	392	6%	1,415
Gisborne	72	1%	1,531	84	1%	1,787
Hawke's Bay	122	2%	785	162	2%	1,047
Taranaki	85	1%	768	124	2%	1,128
Manawatu-Wanganui	418	7%	1,799	322	5%	1,385
Wellington	1,070	17%	2,184	799	12%	1,630
Tasman	33	0.5%	672	44	1%	911
Nelson	35	1%	757	49	1%	1,061
Marlborough	54	1%	1,186	49	1%	1,072
West Coast	29	0.4%	868	33	0.5%	999
Canterbury	784	12%	1,403	834	13%	1,493
Otago	383	6%	1,816	421	6%	1,993
Southland	106	2%	1,117	118	2%	1,247
New Zealand	6,357	100%	1,434	6,583	100%	1,485

3. Method

Our estimates of regional expenditures are based on various data sources. National data is sourced directly from Estimates of Appropriations for 2011/12 published on the Treasury web site (<http://www.treasury.govt.nz/budget/2012/data> released on 24 May 2012).

We regionalise national government spending at the level of individual spending appropriations – a parliamentary authorisation for the Crown or an Office of Parliament to incur expenses or capital expenditure. In 2012 there were 970 appropriations ranging from billion dollar appropriations – the largest being the \$9.5 billion approved for New Zealand Superannuation – through to appropriations of several thousand dollars, such as a \$30,000 appropriation for ‘Payments in respect of the Weathertight Services Loan Guarantees’.

Appropriations fall into three broad types¹³:

- **benefit spending**, which includes the unemployment benefit, accommodation supplement, and New Zealand Superannuation (formally referred to as “Benefits and other unrequited transfers”)
- **departmental spending**, which is generally related to government administration and includes policy advice provided to Ministers as well as services provided directly by government departments such as energy information and statistics provided by the Ministry of Business Innovation and Employment (MBIE)
- **non-departmental spending**¹⁴, which is spending on outputs which are not provided directly by departments or Offices of Parliament such as expenditure by New Zealand Trade and Enterprise (subject to oversight by a government appointed board which includes representatives from some government departments).

We have produced two sets of estimates which involve different high level allocation principles:

- **expenditure approach**, where spending is allocated according to where money is spent
- **service based approach**, where spending is allocated according to where transfers are received or services ‘acquired’.¹⁵

In the case of the expenditure approach:

- benefits are allocated according to the region of residence of recipients

¹³ The categories described here reflect both the functions of government and accounting methodologies. They relate to lines of accountability for government spending. They are not the same as the purely functional categories described in Section 2: transfers, public services, and administration.

¹⁴ Appropriations given by Parliament directly for Ministers' transactions on the Crown's behalf (e.g., purchases, grants or investments) are called non-departmental appropriations.

¹⁵ The term ‘acquired’ is used here to reflect our adoption of criteria used by statistical agencies to assign the value of economic flows to a particular location (based on the IMF Balance of Payments Manual, <http://www.imf.org/external/pubs/ft/bopman/bopman.pdf>). This criteria allocates spending to the region in which the beneficiaries of services are resident. This contrasts with the expenditure approach which is related to an alternative approach of assigning spending to the region where the service is produced.

- spending by government departments is allocated by location of relevant cost centre (where this is identifiable)
- non-departmental spending is allocated by:
 - Location of third party recipient of Core Crown spending based on where the third party is head quartered unless more specific locational information is available
 - Location of asset for capital expenditure (where possible, otherwise location of third party).

All offshore expenditure, including subscriptions to international organisations, is excluded from allocation under the expenditure approach.

Allocation of spending using the service approach differs from the expenditure approach in three key ways, all of which cause a larger amount of expenditure to be allocated by population compared to the expenditure approach:

- services which are ‘public goods’ are deemed to be acquired by all New Zealanders equally and so spending on these services is allocated according to population shares
 - ‘public goods’ are goods and services where one person’s use of the service does not reduce the amount available for others and people cannot be excluded from receiving these services
 - a classic example of a public good is security provided by the state through defence spending
- spending on policy advice, staff at departmental offices and departmental overheads are apportioned according to population shares as these functions do not relate to specific services acquired in specific regions
- some services may be region-specific but the basis for allocation becomes unclear when we shift from an expenditure approach to a service approach
 - prison spending, for example, is allocated according to the location of prison populations under an expenditure approach but is prorated by population under a service approach because assigning the acquisition of corrections services to a particular region is judged too complex.

Examples of in-principle implications of these different allocation methods are summarised in Table 6.

In practical terms, appropriations are distributed across regions using (in order of preference):

- actual data, e.g. spending by District Health Boards
- estimates based on key drivers of expenditure, e.g. counts of numbers of beneficiaries by region
- estimates based on economic and social indicators, e.g. education building consents for education capital expenditure
- population.

Data for producing these estimates was obtained from government departments (financial information and departmental and ministry annual reports) and Statistics New Zealand.

Table 6 Implications of different approaches for allocation methods

Illustrative examples

Expenditure item	Allocated based on...	
	...expenditure approach	...service approach
Passenger clearance	Regions with airports and ports	National (security is a public good)
Goods clearance	Regions with airports and ports	National (security and biosecurity are public goods)
R&D funding	Regions with R&D capability (e.g. Crown Research Institutes)	National
Defence	Regions with military bases	National (security is a public good)
Transport	Regions where road building and maintenance or public transport spending takes place ¹⁶	
Business grants	Region of headquarters of recipient	
Management of crown minerals	Location of government staff (e.g. Wellington)	Location of reserves or exploration activity ¹⁷
NZ conservation estate	Regions with significant conservation estate	National (assuming service is primarily a public good)
Welfare expenditure	Regions where benefit recipients are resident	
Education	Regions where students are resident	
Policy advice	Location of staff	National or apportioned by share of non-departmental spend if sufficient data, which there typically is not.

Source: NZIER

Where data was lacking, we apportion expenditure by population shares. In most instances this was in small categories, so the impact on the aggregate estimates is minor. Even where precise data is used, spending share is often similar to population share.

Table 7 summarises the balance of high level methods used to apportion expenditure. The service based approach apportioned a much larger amount of expenditure by population than the expenditure based approach. This reflects both assignment of departmental overheads on a per capita basis and the public good nature of many government services.

¹⁶ Some of the service provided by roads in a region is acquired by people throughout New Zealand. This is particularly so for State Highways. Disentangling the national and regional elements of transport spending would, however, require considerable in-depth analysis and we leave this for future work.

¹⁷ The activity measure we have used in practice is 'prospecting and exploration expenditure' published by NZ Petroleum and Minerals.

The service based approach also includes much of the offshore spending which is excluded under the expenditure approach. This is because spending on, for example, New Zealand embassies in other countries is deemed to provide a service to all New Zealanders while expenditure takes place outside New Zealand. Under the service approach the only expenditure considered to be outside New Zealand are transfers to developing countries i.e. overseas development assistance (ODA) spending.

Table 7 Methods for apportioning spending by region

% of spending category

	Expenditure approach			Service approach		
	Actual data or activity	Population basis	Outside regions	Actual data or activity	Population basis	Outside regions
Core Government Services	51.4	36.4	12.3	13.2	79.5	7.3
Defence	95.0	2.8	2.1	0.0	100.0	0.0
Education	94.3	5.7	0.0	93.2	6.8	0.0
Finance	0.0	100.0	0.0	0.0	100.0	0.0
Fuel and Energy	90.7	8.3	1.0	35.2	64.8	0.0
Health	89.2	10.8	0.0	87.2	12.8	0.0
Heritage, Culture & Recreation	33.2	66.3	0.4	2.4	97.6	0.0
Housing and Community	31.8	68.2	0.0	12.7	87.3	0.0
Law & Order	89.4	10.6	0.0	30.0	70.0	0.0
Other	1.0	94.7	4.3	0.0	100.0	0.0
Other Economic	43.9	56.0	0.1	19.1	80.9	0.0
Primary Services	33.9	65.7	0.4	2.1	97.9	0.0
Social Security and Welfare	74.3	25.6	0.1	84.3	15.7	0.0
Transport and Communications	82.4	17.6	0.0	79.6	20.4	0.0
Overall	74.2	24.6	1.2	68.9	30.7	0.4

Source: NZIER

Our methods and results are discussed further below with reference to individual ‘functional’ categories of government spending.

Note that, in what follows, government debt servicing costs fall within (and dominate) the “Other” functional category. We do not discuss this further and all such spending is apportioned to regions based on population shares.

Capital expenditure is not recorded as having a functional classification in the government’s accounts. In order to assign capital expenditure to one functional classification or another we label that expenditure according to the predominant functional classification in each agency’s spending, where this is clear e.g. education, we allocate all capital expenditure to the Education Category. Where departments

operate across a range of equally important functional areas (as is the case for the then Ministry of Economic Development) we simply allocate this spending to the catch-all category of Core Government Services.

4. Spending by category

4.1. Social welfare

The largest of all expenditure categories, social welfare spending has grown in recent years to be 32% of crown spending, up from 30% in 2009.

Spending on social welfare includes:

- benefits administered by the Ministry of Social Development (MSD) such as
 - superannuation (38%)
 - invalid and sickness benefits (8%)
 - the domestic purposes benefit (7%)
 - and unemployment benefits (3%)
- in-work welfare payments and family support (e.g. Working For Families) administered by the Inland Revenue Department (13% of social welfare spend)
- provision of social housing (2%) administered by the Department for Building and Housing and
- other payments administered by other agencies such as education grants.

Regions with younger populations and more dynamic economies tend to have lower shares of expenditure in this category. There is regional variation, with social welfare spending targeted towards varying need across regions, although superannuation is a universal benefit and is measure of population age rather than need.

The main data sources and methods are:

- benefits are apportioned by shares of benefit recipients
- supplementary benefits are apportioned according to the share of main beneficiaries in a region and the national share of those receiving a supplementary benefit
- spend on the accommodation supplement is scaled up or down by region-specific rates of entitlement (e.g. in Auckland)¹⁸
- departmental (Ministry of Social Development) spending on head office functions such as policy advice and forecasting is apportioned
 - to Wellington under the expenditure approach
 - on a per capita basis under the service approach
- student loans and allowances are apportioned according to a region's share of tertiary education expenditure
- social housing (specifically 'Purchase of Housing and Related Services for Tenants Paying Income Related Rent') is apportioned using regional shares of Housing New Zealand's housing assets in their annual reports and apportioned by population where regional aggregation is higher.

¹⁸ We assume first that all regions receive the same average entitlement and then adjust shares according to each region's typical entitlement rate relative to the average (based on payment rates published by MSD). Major urban areas have their share of expenditure adjusted up and smaller more rural regions have their share of spending adjusted down.

Table 8 Social welfare operating expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	1,047	4%	6,607	1,044	4%	6,589
Auckland	7,349	31%	4,875	7,411	31%	4,916
Waikato	2,258	10%	5,424	2,286	10%	5,491
Bay of Plenty	1,651	7%	5,955	1,670	7%	6,022
Gisborne	289	1%	6,174	292	1%	6,246
Hawke's Bay	883	4%	5,698	902	4%	5,821
Taranaki	605	3%	5,498	622	3%	5,648
Manawatu-Wanganui	1,363	6%	5,864	1,379	6%	5,930
Wellington	2,615	11%	5,337	2,453	10%	5,004
Tasman	251	1%	5,184	255	1%	5,274
Nelson	262	1%	5,631	266	1%	5,705
Marlborough	263	1%	5,754	266	1%	5,818
West Coast	189	1%	5,755	185	1%	5,617
Canterbury	2,967	13%	5,310	2,982	13%	5,337
Otago	1,079	5%	5,109	1,083	5%	5,128
Southland	500	2%	5,267	508	2%	5,349
New Zealand	23,573	100%	5,318	23,602	100%	5,325

Table 9 Social welfare capital expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	27	1.5%	172	27	1.5%	168
Auckland	565	32.2%	375	565	32.2%	375
Waikato	126	7.2%	303	127	7.2%	305
Bay of Plenty	63	3.6%	226	63	3.6%	227
Gisborne	40	2.3%	861	40	2.3%	863
Hawke's Bay	24	1.3%	153	24	1.4%	157
Taranaki	14	0.8%	127	15	0.8%	134
Manawatu-Wanganui	114	6.5%	491	115	6.5%	493
Wellington	256	14.6%	522	256	14.6%	523
Tasman	1	0.1%	31	2	0.1%	33
Nelson	9	0.5%	202	9	0.5%	204
Marlborough	9	0.5%	203	9	0.5%	204
West Coast	5	0.3%	142	4	0.2%	130
Canterbury	251	14.3%	449	251	14.3%	448
Otago	220	12.6%	1,043	220	12.5%	1,042
Southland	28	1.6%	297	28	1.6%	300
New Zealand	1,754	100%	396	1,755	100%	396

4.2. Health

Health spending mainly comprises:

- expenditure administered by the Ministry of Health (92%) including payments to district health boards (DHBs, 73%) and national disability support services (7%)
- expenditure administered by the then Department of Labour (now the Ministry of Business, Innovation and Employment (MBIE)) (7%) mainly comprising ACC expenditure
- health research funding (1%) administered by the then Ministry of Science and Innovation (now MBIE).

Most of this spending can be regionalised very accurately, including because individual DHBs have their own appropriations in the government accounts.¹⁹

DHB funding is based on a funding formula which identifies need based on a population's size, age profile, socio-economic status²⁰, ethnicity and additional costs which come from meeting the needs of overseas visitors and rural populations. Thus DHB spending, on a per capita basis, tends to be higher in rural regions and regions with relatively high social welfare spend.

The main data sources and methods of apportioning regional health spending are:

- DHB-specific appropriations although the Southern, Lakes and Nelson Marlborough DHBs span multiple regions and in these cases expenditure has been apportioned based on population shares by territorial local authority
- the main departmental (Ministry of Health) spending is apportioned according to
 - reported staff numbers (FTEs) by region under the expenditure approach
 - population shares under the service approach
- expenditure on national level (non DHB specific) disability support services (~\$1 billion) are apportioned according to relative shares of DHB-specific expenditure
- capital expenditure is apportioned using expenditure reported in DHB annual reports (although the latest figure we found for Auckland DHB was for 2010/11)
- ACC expenditure is apportioned by population shares
- research funding is apportioned according to data provided by MBIE.

¹⁹ For simplicity we have not taken account of inter-DHB transfers.

²⁰ Based on deprivation indices.

Table 10 Health operating expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	591	4%	3,731	601	4%	3,796
Auckland	4,498	31%	2,984	4,557	32%	3,023
Waikato	1,292	9%	3,103	1,308	9%	3,142
Bay of Plenty	1,002	7%	3,613	1,016	7%	3,663
Gisborne	176	1%	3,768	179	1%	3,833
Hawke's Bay	547	4%	3,530	557	4%	3,593
Taranaki	376	3%	3,419	383	3%	3,483
Manawatu-Wanganui	863	6%	3,710	872	6%	3,751
Wellington	1,599	11%	3,263	1,482	10%	3,024
Tasman	159	1%	3,286	162	1%	3,351
Nelson	154	1%	3,295	156	1%	3,344
Marlborough	151	1%	3,299	154	1%	3,363
West Coast	147	1%	4,455	149	1%	4,520
Canterbury	1,798	13%	3,217	1,824	13%	3,264
Otago	678	5%	3,209	684	5%	3,240
Southland	301	2%	3,170	307	2%	3,235
New Zealand	14,331	100%	3,233	14,391	100%	3,247

Table 11 Health capital expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	7	2%	43	7	2%	44
Auckland	81	28%	53	81	29%	54
Waikato	46	16%	111	45	16%	109
Bay of Plenty	20	7%	74	20	7%	73
Gisborne	1	0.5%	28	1	0.5%	30
Hawke's Bay	3	1%	23	4	1%	25
Taranaki	17	6%	151	16	6%	147
Manawatu-Wanganui	9	3%	40	9	3%	41
Wellington	29	10%	59	29	10%	59
Tasman	1	0.4%	26	1	0.5%	28
Nelson	1	0.4%	26	1	0.5%	28
Marlborough	1	0.4%	26	1	0.4%	28
West Coast	1	0.4%	38	1	0.5%	39
Canterbury	51	18%	91	50	17%	89
Otago	11	4%	51	11	4%	52
Southland	5	2%	51	5	2%	52
New Zealand	285	100%	64	285	100%	64

4.3. Education

Spending mainly comprised expenditure administered by:

- the Ministry of Education (95%) including operational funding and payments for
 - early childhood education (10%)
 - primary school education (22%)
 - secondary school education (16%)
 - tertiary education (18%)²¹
 - school property management (11%)
- the Ministry of Social Development (6%) for study related benefits and grants including student allowances and for management of student loans.

Ministry of Education spending also includes a range of smaller spending items often targeted to particular population groups and organisations.

There is not a great deal of difference between the results of the expenditure versus and services approaches. This is because most of the expenditure on education is to a particular service or student in a specific region.

The main data sources and methods we used for apportioning spending are:

- school expenditure (including property management) apportioned using shares of expenditures for 2010 provided by the Treasury
- tertiary education apportioned using actual institutional funding (published by the Tertiary Education Commission) with funding to multi-site providers (e.g. Massey) applied to the share of students at each main campus
- early childhood spending is apportioned using actual spend data published by the Ministry of Education
- capital expenditure is apportioned according to regional shares of education-related building consents.

²¹ Includes performance based research funding which is 2% of education expenditure.

Table 12 Education operating expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	401	3%	2,533	414	3%	2,615
Auckland	3,860	32%	2,561	3,935	32%	2,610
Waikato	984	8%	2,364	1,013	8%	2,434
Bay of Plenty	774	6%	2,791	796	7%	2,869
Gisborne	196	2%	4,194	194	2%	4,154
Hawke's Bay	452	4%	2,913	465	4%	3,000
Taranaki	229	2%	2,082	240	2%	2,184
Manawatu-Wanganui	702	6%	3,019	706	6%	3,038
Wellington	1,584	13%	3,231	1,384	11%	2,824
Tasman	100	1%	2,076	109	1%	2,253
Nelson	107	1%	2,288	108	1%	2,324
Marlborough	92	1%	2,021	94	1%	2,062
West Coast	78	1%	2,379	83	1%	2,515
Canterbury	1,556	13%	2,784	1,574	13%	2,818
Otago	764	6%	3,618	753	6%	3,564
Southland	246	2%	2,592	254	2%	2,675
New Zealand	12,126	100%	2,736	12,126	100%	2,736

Table 13 Education capital expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	12	2.2%	73	19	4%	120
Auckland	210	39.8%	139	179	34%	119
Waikato	35	6.6%	83	49	9%	118
Bay of Plenty	28	5.4%	103	33	6%	120
Gisborne	6	1.1%	121	6	1%	121
Hawke's Bay	13	2.4%	81	19	4%	120
Taranaki	4	0.7%	34	13	2%	119
Manawatu-Wanganui	19	3.5%	80	28	5%	119
Wellington	65	12.3%	132	58	11%	118
Tasman	8	1.5%	163	6	1%	119
Nelson	3	0.6%	67	6	1%	119
Marlborough	2	0.4%	46	5	1%	118
West Coast	2	0.4%	60	4	1%	119
Canterbury	82	15.5%	146	66	13%	119
Otago	30	5.7%	142	25	5%	118
Southland	10	1.9%	108	11	2%	119
New Zealand	527	100%	119	527	100%	119

4.4. Core government services

Core government services, which account for almost 7% of government spending, covers a very wide range of services from production of statistics (Statistics New Zealand is 2% of this spending category) to foreign policy advice (the Ministry of Foreign Affairs and Trade (MFAT) makes up 19% of this spending category).

The key result in this category is that much of these services are located in Wellington (33% of operating expenditure), in terms of where expenditure actually takes place, and once we move to a service based estimation approach the lion's share of spending is allocated on a population basis. This is true for both capital expenditure and operating expenditure.

There is a large difference between total regional expenditure on an expenditure basis versus a service basis as this category includes much of the government's offshore spending on e.g. embassies and diplomats. We used shares of staff numbers by international region to divide MFAT spending between New Zealand and overseas (data from MFAT annual report 2011/12).

Many of the appropriations within this category are specific to Wellington in terms of expenditure (e.g. the Parliamentary Commissioner for the Environment). In other cases core government services are provided by regional offices and where we have data on the relative size of these offices we have apportioned expenditure accordingly. For example:

- Statistics New Zealand core government services expenditure is apportioned using information from the most recent State Services review of Statistics New Zealand (in 2011)²²
- MBIE data relating to regional offices.

Canterbury had a relatively large share of spending in June year 2012, reflecting the Government's on-going response to major earthquakes in Canterbury (September 2010 and February 2011). Appropriations relating to earthquake response, including establishment of the Canterbury Earthquake Recovery Authority (CERA), amounted to \$618 million or 15% of Canterbury's share of crown spending in this category.²³

²² This review noted that 50% of staff are in Wellington, 25% are in Christchurch and the remainder is spread around NZ – we apportion the remainder based on population shares.

²³ Note that capital spending (e.g. on re-construction) in Canterbury is not prominent in figures in this report for a variety of reasons including the timing of the large infrastructure spending and that spending which ends up being used for capital projects will be counted as operating expenditure for accounting reasons (e.g. in the case of some transport spending).

Table 14 Core government services operating expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	71	2%	450	137	3%	866
Auckland	836	20%	554	1,309	29%	869
Waikato	234	6%	561	364	8%	874
Bay of Plenty	141	3%	508	240	5%	866
Gisborne	21	1%	452	41	1%	866
Hawke's Bay	70	2%	449	134	3%	866
Taranaki	49	1%	447	95	2%	866
Manawatu-Wanganui	106	3%	455	201	4%	866
Wellington	1,349	33%	2,752	425	9%	866
Tasman	22	1%	446	42	1%	866
Nelson	21	1%	456	40	1%	866
Marlborough	20	0.5%	443	40	1%	866
West Coast	16	0.4%	480	30	0.7%	904
Canterbury	1,004	25%	1,796	1,191	26%	2,131
Otago	96	2%	455	183	4%	866
Southland	42	1%	446	82	2%	866
New Zealand	4,097	100%	924	4,554	100%	1,027

Table 15 Core government services capital expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	7	1%	42	17	4%	106
Auckland	74	16%	49	162	34%	107
Waikato	12	3%	28	44	9%	106
Bay of Plenty	14	3%	50	30	6%	106
Gisborne	2	0.4%	36	5	1%	106
Hawke's Bay	6	1%	39	16	3%	106
Taranaki	4	1%	36	12	2%	106
Manawatu-Wanganui	7	1%	29	25	5%	106
Wellington	264	59%	538	52	11%	106
Tasman	1	0.3%	28	5	1%	106
Nelson	1	0.3%	28	5	1%	106
Marlborough	1	0.3%	25	5	1%	106
West Coast	2	0.4%	61	4	1%	106
Canterbury	29	6%	52	60	13%	106
Otago	15	3%	73	22	5%	106
Southland	12	3%	123	10	2%	106
New Zealand	450	100%	102	473	100%	107

4.5. Law and order

Spending on law and order, which comprises 5% of government spending, spans 10 different government agencies and a range of services, mainly:

- spending on prisons, remand facilities and sentences served in the community (Department of Corrections makes up 31% of Law and Order spending)
- the judicial system, administered by the Ministry of Justice (Ministry of Justice spending is 24% of law and order spending) and which includes cost of legal aid and salaries and allowances of judges
- police (38% of spending).

In our estimates spending has, in the main, been apportioned primarily on the basis of actual data or activities strongly linked to expenditure:

- expenditure on prison services is apportioned according to prison population by region, although
 - under a service based approach we apportion these costs on a per capita basis and
 - spending related to sentences served in the community are apportioned according to population shares under both the expenditure and service approaches
- Ministry of Justice spending apportioned based on actual data provided by Ministry of Justice under the expenditure approach and apportioned by population under the service approach
- under both the service and expenditure approaches police expenditure is apportioned according to staff numbers by Police District with expenditure for multiple regions within a Police District (e.g. Southern, incorporating Otago and Southland) is apportioned according relative population sizes.

Law and order also encompasses most of the spending of the New Zealand Customs Service (3% of law and order spending). This spending is apportioned according to regional shares of trade and passenger movements by region, with volumes of trade and passenger numbers weighted according to Customs' estimates of average cost per passenger processed (Customs Annual report 2011/12, \$4.81 per passenger) and the overall cost of goods clearance relative to trade value (0.64%)

Table 16 Law and order operating expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	129	3%	813	143	4%	902
Auckland	1,164	30%	772	1,305	34%	865
Waikato	367	10%	882	342	9%	821
Bay of Plenty	166	4%	597	262	7%	943
Gisborne	33	1%	711	51	1%	1,084
Hawke's Bay	152	4%	980	169	4%	1,087
Taranaki	49	1%	446	87	2%	793
Manawatu-Wanganui	161	4%	693	185	5%	794
Wellington	927	24%	1,892	414	11%	845
Tasman	21	1%	443	42	1%	877
Nelson	21	1%	443	41	1%	876
Marlborough	19	0%	410	40	1%	878
West Coast	14	0%	425	29	1%	878
Canterbury	439	11%	785	470	12%	841
Otago	128	3%	604	184	5%	872
Southland	56	1%	588	83	2%	874
New Zealand	3,845	100%	867	3,845	100%	867

Table 17 Law and order capital expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	12	5%	77	10	4%	61
Auckland	61	24%	41	86	34%	57
Waikato	45	18%	109	22	9%	53
Bay of Plenty	10	4%	35	18	7%	65
Gisborne	2	1%	46	4	1%	79
Hawke's Bay	15	6%	100	12	5%	79
Taranaki	3	1%	27	6	2%	51
Manawatu-Wanganui	17	7%	75	12	5%	51
Wellington	36	14%	74	27	11%	56
Tasman	1	1%	27	3	1%	59
Nelson	1	0%	27	3	1%	59
Marlborough	1	0%	26	3	1%	59
West Coast	1	0%	26	2	1%	59
Canterbury	31	12%	56	31	12%	55
Otago	12	5%	57	12	5%	58
Southland	5	2%	50	6	2%	58
New Zealand	256	100%	58	256	100%	58

4.6. Transport and communications

Transport and communications services are 5% of government spending. The two agencies involved in this area are:

- the Ministry of Transport (which accounts for 96% of this category) which administers:
 - central government funding for transport infrastructure including public transport, road building and maintenance and
 - the tax systems set up to help fund transport infrastructure
- the then Ministry of Economic Development (MED) (now MBIE) (4%) which administers, for example:
 - telecommunications regulations
 - crown-owned radio spectrum and
 - funding for broadband infrastructure programmes.

Transport expenditure is allocated based on detailed data (provided by NZTA) on where money is spent under the National Land Transport Programme (\$2.4 billion or 59% of expenditure in this category).

Transport spending in 2012 featured a number of large region specific appropriations such as \$133 million for upgrades of Auckland rail infrastructure (operating expenditure) and \$117 million for rail and infrastructure projects in Wellington (operating expenditure).

Capital expenditure figures shown here understate the amount of money which ends up being invested in infrastructure. This is because spending on assets that are not owned by the Crown (i.e. not on the Crown's balance sheet) is classified as operating expenditure and not capital expenditure.

It is also the case that the underlying budget data is estimated actuals rather than final actual spend. Given the lumpiness of capital expenditure for large transport projects there may be a difference between the final actual expenditure, when it is recorded in the crown accounts, and estimated actual expenditure shown here.

Spending on broadband initiatives (85% of communications spending) is allocated using our default assumption of regional population shares. The default assumption is used because there is no objective basis for apportioning spending by regions during the early stages of these programmes, which are due to be completed in 2020, and which include significant co-investment by the private sector.

Table 18 Transport & communications operating expenditure

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	90	4%	570	93	4%	584
Auckland	672	28%	446	692	29%	459
Waikato	226	9%	544	233	10%	559
Bay of Plenty	163	7%	589	168	7%	604
Gisborne	33	1%	704	34	1%	718
Hawke's Bay	74	3%	475	76	3%	489
Taranaki	54	2%	494	56	2%	508
Manawatu-Wanganui	142	6%	613	146	6%	628
Wellington	369	15%	753	315	13%	643
Tasman	25	1%	513	26	1%	528
Nelson	11	0.5%	235	12	0.5%	249
Marlborough	17	1%	371	18	1%	385
West Coast	37	2%	1,130	38	2%	1,144
Canterbury	353	15%	632	361	15%	645
Otago	93	4%	439	96	4%	454
Southland	49	2%	516	50	2%	530
New Zealand	2,409	100%	543	2,410	100%	544

Table 19 Transport & communications capital expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	41	2%	256	41	2%	256
Auckland	708	42%	469	708	42%	469
Waikato	214	13%	514	214	13%	514
Bay of Plenty	129	8%	465	129	8%	465
Gisborne	11	1%	230	11	1%	230
Hawke's Bay	31	2%	201	31	2%	201
Taranaki	24	1%	214	24	1%	214
Manawatu-Wanganui	51	3%	218	51	3%	218
Wellington	201	12%	411	201	12%	410
Tasman	10	1%	208	10	1%	208
Nelson	9	0.5%	189	9	0.5%	189
Marlborough	9	0.5%	200	9	0.5%	200
West Coast	6	0.4%	188	6	0.4%	188
Canterbury	165	10%	296	165	10%	296
Otago	55	3%	259	55	3%	259
Southland	18	1%	189	18	1%	189
New Zealand	1,681	100%	379	1,681	100%	379

4.7. Defence

Defence spending makes up around 4% of government spending and it is highly location specific from the perspective of an expenditure approach but provides a service which is broadly national in nature (i.e. a public good). Consequently there is a big difference in the distribution of expenditure by region depending on whether an expenditure or service approach is adopted.

Under the service approach expenditure per capita is precisely the same across all regions, by definition.

Under an expenditure approach, we have apportioned spending according to personnel numbers. Spending is concentrated in Auckland, and the Manawatu-Wanganui regions. These are regions which have proportionately very large shares of New Zealand Defence Force personnel. Auckland is home to more than three quarters of New Zealand's naval personnel and 40% of the air force personnel. Manawatu-Wanganui has around a quarter of the air force personnel and 40% of army personnel.

Marlborough also stands out as having a large share of expenditure on a per capita basis (due to the presence of an Air Force base) but this is due as much to the small population as to the size of defence spending in the region.

Table 20 Defence operating expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	3	0.2%	20	81	4%	511
Auckland	903	43%	599	770	34%	511
Waikato	16	1%	39	213	9%	511
Bay of Plenty	7	0.3%	24	142	6%	511
Gisborne	1	0.05%	21	24	1%	511
Hawke's Bay	4	0.2%	27	79	3%	511
Taranaki	2	0.1%	21	56	2%	511
Manawatu-Wanganui	477	23%	2,054	119	5%	511
Wellington	413	20%	844	250	11%	511
Tasman	1	0.0%	18	25	1%	511
Nelson	1	0.1%	24	24	1%	511
Marlborough	74	3.5%	1,613	23	1%	511
West Coast	1	0.03%	18	17	0.7%	511
Canterbury	202	10%	361	286	13%	511
Otago	7	0.3%	32	108	5%	511
Southland	2	0.1%	18	48	2%	511
New Zealand	2,114	100%	477	2,265	100%	511

Table 21 Defence capital expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	0	0%	1	21	4%	132
Auckland	194	35%	128	200	34%	132
Waikato	2	0.4%	5	55	9%	132
Bay of Plenty	1	0.1%	2	37	6%	132
Gisborne	0.1	0.01%	1	6	1%	132
Hawke's Bay	0.4	0.1%	3	21	3%	132
Taranaki	0.1	0.02%	1	15	2%	132
Manawatu-Wanganui	159	28%	684	31	5%	132
Wellington	116	21%	237	65	11%	132
Tasman	0	0%	0	6	1%	132
Nelson	0.1	0.01%	1	6	1%	132
Marlborough	21	4%	458	6	1%	132
West Coast	0	0%	0	4	1%	132
Canterbury	66	12%	117	74	13%	132
Otago	1	0.2%	5	28	5%	132
Southland	0	0%	0	13	2%	132
New Zealand	560	100%	126	587	100%	132

4.8. Heritage, Culture and Recreation

Heritage, culture and recreation (HC&R) is a diffuse spending category. It makes up 3% of government spending administered by 13 government agencies with the majority of spending being administered by:

- Ministry for the Environment (37%)
- Department of Conservation (20%)
- Ministry for Culture and Heritage (17%)

The majority of expenditure has been apportioned by population shares. In the case of the expenditure approach this is done in the absence of data on regional expenditure. In the case of the service approach this is done for nearly all expenditure because the spending typically also has a strong public good basis.

A major exception in the way we have allocated expenditure is in the case of Department of Conservation (DOC) spending where good data is available on expenditure by region (i.e. by 'conservancy'). Under the expenditure approach we apportion DOC spending using this information (except where Wellington head office spending is involved).

Table 22 HC&R operating expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	73	3.5%	463	73	3%	459
Auckland	520	25%	345	700	34%	464
Waikato	176	8%	422	207	10%	498
Bay of Plenty	111	5.4%	400	132	6%	476
Gisborne	26	1.24%	551	21	1%	459
Hawke's Bay	68	3.3%	440	71	3%	460
Taranaki	43	2.1%	395	50	2%	459
Manawatu-Wanganui	99	5%	427	107	5%	459
Wellington	454	22%	926	225	11%	459
Tasman	22	1.1%	457	22	1%	459
Nelson	28	1.3%	593	21	1%	459
Marlborough	24	1.1%	517	21	1%	459
West Coast	52	2.49%	1,567	25	1.2%	763
Canterbury	220	11%	393	264	13%	473
Otago	93	4.5%	439	97	5%	459
Southland	64	3.1%	672	44	2%	461
New Zealand	2,072	100%	467	2,081	100%	470

Table 23 HC&R capital expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	5	6%	30	3	4%	19
Auckland	4	5%	3	26	31%	18
Waikato	6	7%	14	8	10%	20
Bay of Plenty	3	4%	12	5	6%	18
Gisborne	2	3%	46	1	1%	18
Hawke's Bay	4	4%	24	3	3%	18
Taranaki	2	2%	15	2	2%	18
Manawatu-Wanganui	5	6%	21	4	5%	18
Wellington	19	22%	38	9	10%	18
Tasman	1	2%	27	1	1%	18
Nelson	3	3%	55	1	1%	18
Marlborough	2	2%	40	1	1%	18
West Coast	6	7%	192	1	1%	18
Canterbury	6	7%	11	10	12%	18
Otago	5	6%	23	4	4%	18
Southland	13	15%	136	8	9%	83
New Zealand	85	100%	19	85	100%	19

4.9. Other economic

This category is 3% of spending and a catch-all for expenditure within the economy which is typically facilitating or promoting sound business practices and private commercial and financial decisions with public benefit and also providing services to help people find jobs. It is dominated by:

- Inland Revenue Department administered expenses related to KiwiSaver subsidies (28%)
- Treasury administered injections of equity into Crown owned Assets (20%)
- the then MED (now MBIE) spending (20% of “Other economic”) on:
 - Export promotion (including Tourism)
 - Business development grants and investment promotion
 - Sector specific initiatives and strategies (e.g. Establishment of the Food Innovation Network)
 - Major event funding (e.g. Rugby World Cup)
 - Market facilitation, regulation and standard setting (e.g. Commerce Commission funding and granting of intellectual property rights)
- the then Department of Labour (now MBIE) spending (10%) on:
 - employment relations services
 - immigration services (79% of Department of Labour spending in this category)
- Ministry of Social Development spending (10%) on services to help people find work
- the then MSI (now MBIE) spending (7%), primarily on research into high value manufacturing and services.

IRD and Treasury spending has been apportioned according to population shares.

Under the expenditure approach MED, Immigration and MSI spending have all been apportioned using actual data provided by MBIE. The services approach apportions much of this expenditure on population shares as the expenditure is largely targeted at providing services with public good qualities (e.g. research, security, and offshore marketing).

Ministry of Social Development expenditure on work assistance has been apportioned to regions on the basis of regional shares of unemployment beneficiaries.

Table 24 Other economic operating expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	44	2%	275	67	3%	425
Auckland	569	30%	377	664	33%	440
Waikato	127	7%	306	167	8%	401
Bay of Plenty	76	4%	274	111	6%	400
Gisborne	13	1%	276	20	1%	418
Hawke's Bay	41	2%	265	64	3%	411
Taranaki	26	1%	234	43	2%	388
Manawatu-Wanganui	73	4%	314	96	5%	411
Wellington	653	34%	1,333	320	16%	653
Tasman	11	1%	223	19	1%	387
Nelson	13	1%	288	19	1%	403
Marlborough	10	1%	219	17	1%	382
West Coast	12	1%	359	17	1%	520
Canterbury	175	9%	313	235	12%	420
Otago	60	3%	284	85	4%	403
Southland	25	1%	266	40	2%	419
New Zealand	1,927	100%	435	1,982	100%	447

Table 25 Other economic capital expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	18	3%	113	19	4%	119
Auckland	193	37%	128	181	34%	120
Waikato	47	9%	113	49	9%	119
Bay of Plenty	31	6%	113	33	6%	119
Gisborne	5	1%	113	6	1%	119
Hawke's Bay	18	3%	113	18	3%	119
Taranaki	12	2%	113	13	2%	119
Manawatu-Wanganui	26	5%	113	28	5%	119
Wellington	59	11%	121	58	11%	119
Tasman	5	1.0%	113	6	1.1%	119
Nelson	5	1%	113	6	1%	119
Marlborough	5	1%	113	5	1%	119
West Coast	4	1%	113	4	1%	119
Canterbury	63	12%	113	66	13%	119
Otago	24	5%	113	25	5%	119
Southland	11	2%	113	11	2%	119
New Zealand	529	100%	119	529	100%	119

4.10. Primary services

Spending in this category, which is less than 1% of government spending, relates to government initiatives to promote and safeguard activity in the primary sector. The vast majority of expenditure falls within the domain of two agencies:

- Ministry for Primary Industries (MPI) expenditure (84% of Primary Services) on:
 - management of fisheries and forestry resources
 - biosecurity monitoring and enforcement
 - economic development initiatives (e.g. the Primary Growth Partnership)
- MSI (now MBIE) expenditure (16%) on (primarily) biological industry research.

Table 26 Primary services operating expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	16	2%	102	24	4%	154
Auckland	197	28%	130	232	33%	154
Waikato	55	8%	131	64	9%	154
Bay of Plenty	43	6%	156	52	8%	189
Gisborne	10	1%	209	12	2%	261
Hawke's Bay	16	2%	104	24	3%	154
Taranaki	11	2%	103	17	2%	154
Manawatu-Wanganui	26	4%	111	36	5%	154
Wellington	200	29%	409	75	11%	154
Tasman	5	1%	102	7	1%	154
Nelson	6	1%	121	7	1%	154
Marlborough	5	1%	102	7	1%	154
West Coast	3	0.5%	102	5	1%	154
Canterbury	66	10%	118	86	12%	154
Otago	24	4%	116	32	5%	154
Southland	10	1%	102	15	2%	154
New Zealand	693	100%	156	696	100%	157

Under the expenditure approach:

- MSI spending has been apportioned using data provided by MBIE on the location of research funding recipients
- approximately one-third of MPI spending is attributed to 'head office' functions in Wellington and the remainder is apportioned on the basis of population shares by default.

Under the service approach the vast majority (98%) of expenditure has been apportioned on the basis of population shares.

We have not provided a table of our estimates of primary services capital expenditure because this expenditure category includes very little capital expenditure in fiscal year 2012 and what little there is has been apportioned on a population basis.

4.11. Housing and community

Housing and community spending (1% of spending) relates to the functions of:

- the then Department of Building and Housing (79%) (now MBIE) and its role in facilitating a sound housing and accommodation market and safeguarding the rights of people in that market e.g. through
 - building regulations and
 - residential tenancy services
- the Department of Internal Affairs (16%) and its role in supporting community organisations via a range of grants, secretariat support and other services.

Much of the government's provision of social housing is not recorded in this spending category but in Social Welfare. One exception to this, which at least partly drives very high spend in Wellington, is that there is a specific appropriation for provision of housing by Wellington Council.

Capital expenditure in this category is mostly apportioned by population shares so there is little variation by region or between our two estimation approaches.

Table 27 Housing and community operating expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	6	2%	37	9	3%	60
Auckland	56	17%	37	90	28%	60
Waikato	15	5%	37	25	8%	60
Bay of Plenty	10	3%	37	17	5%	60
Gisborne	2	1%	37	3	1%	60
Hawke's Bay	6	2%	37	9	3%	60
Taranaki	4	1%	37	7	2%	60
Manawatu-Wanganui	9	3%	39	14	4%	61
Wellington	162	51%	331	73	23%	149
Tasman	2	1%	37	3	1%	60
Nelson	2	1%	37	3	1%	60
Marlborough	2	1%	37	3	1%	60
West Coast	1	0.0%	37	2	1%	60
Canterbury	32	10%	57	45	14%	80
Otago	8	2%	37	13	4%	60
Southland	4	1%	37	6	2%	60
New Zealand	320	100%	72	320	100%	72

Table 28 Housing and community capital expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	7	3%	45	7	3%	45
Auckland	67	32%	45	67	32%	45
Waikato	19	9%	45	19	9%	45
Bay of Plenty	12	6%	45	12	6%	45
Gisborne	2	1%	45	2	1%	45
Hawke's Bay	7	3%	45	7	3%	45
Taranaki	5	2%	45	5	2%	45
Manawatu-Wanganui	10	5%	45	10	5%	45
Wellington	22	11%	46	22	10%	45
Tasman	2	1%	45	2	1%	45
Nelson	2	1%	45	2	1%	45
Marlborough	2	1%	45	2	1%	45
West Coast	1	1%	45	1	1%	45
Canterbury	37	18%	66	37	18%	66
Otago	9	4%	45	9	4%	45
Southland	4	2%	45	4	2%	45
New Zealand	210	100%	47	210	100%	47

4.12. Fuel and energy

Spending on Fuel and Energy matters (less than 1% of spending) is administered by MBIE (in 2011/12 MED (95%) and MSI (5%)). Much of this expenditure relates to:

- centralised (predominantly Wellington) management of
 - crown minerals
 - energy information
 - industry regulation
- assets or resources located in a region (not necessarily crown owned) e.g. mineral and mining deposits.²⁴

Expenditure has been apportioned accordingly (except in the case of the services approach where centralised management is apportioned according to population shares). A number of expenditure items, including some grants for improving energy efficiency, relate to activity spread across New Zealand and have been apportioned based on population shares. Others are based on actual expenditure statistics (e.g. the Warm Up New Zealand grants programme).

Table 29 Fuel and energy operating expenditure by region

Region	Expenditure approach			Service approach		
	\$ millions	% share	\$ per capita	\$ millions	% share	\$ per capita
Northland	4	2%	26	9	4%	58
Auckland	31	12%	20	73	28%	48
Waikato	11	4%	25	25	10%	59
Bay of Plenty	6	3%	23	15	6%	54
Gisborne	3	1%	57	4	2%	88
Hawke's Bay	13	5%	84	18	7%	115
Taranaki	3	1%	24	8	3%	74
Manawatu-Wanganui	6	2%	26	13	5%	57
Wellington	154	60%	314	28	11%	58
Tasman	1	0.2%	12	2	1%	46
Nelson	1	0.4%	20	2	1%	50
Marlborough	1	0.3%	16	2	1%	48
West Coast	6	2.3%	176	12	5%	359
Canterbury	9	4%	16	26	10%	46
Otago	6	2%	26	14	5%	65
Southland	3	1%	30	7	3%	75
New Zealand	256	100%	58	258	100%	58

We have not provided a table of our estimates of capital expenditure because this expenditure category includes very little capital expenditure and what little there is has been overwhelmingly attributed to Wellington or on a population basis.

²⁴ The activity measure we used to account for spending directly related to mineral and mining deposits is prospecting and exploration expenditure (see also footnote 17 and <http://www.nzpam.govt.nz/cms/minerals/facts-and-figures>). This measure captures regional differences in both mineral reserves and reflects the Crown's role in supporting new finds.

5. Comparison with past Auckland estimates

Past estimates of regional opex in Auckland, shown in Table 30, suggest that Auckland's share of expenditure has been stable over time, although it appears to be rising with population growth and there have been some fluctuations, namely:

- Auckland's share of social welfare spending has risen, which is likely to be the result of a combination of increasing NZ expenditure on working age benefits and Auckland's increased share of the New Zealand population (from 33% in 2009 to 34% in 2012)
- transport spending has fluctuated, partly reflecting lumpy infrastructure spending which finds its way into opex figures because some of the resulting infrastructure is owned locally rather than by the Crown²⁵
- health spending shares have increased, likely due to Auckland's increase in the share of the population, although these are still lower than average on a per capita basis
- education spending has declined but this may simply reflect improved underlying data compared to past estimates.

Table 30 Expenditure in Auckland over time²⁶

Estimated share of national spending by functional classification, operating expenditure

	2005	2007	2009	2012
Social welfare	30%	30%	30%	31%
Health	30%	32%	31%	32%
Education	32%	32%	34%	32%
Core Government service	34%	33%	33%	34%
Law and order	32%	33%	29%	30%
Defence	34%	33%	33%	34%
Transport and communications	27%	32%	30%	29%
Other ²⁷	32%	30%	32%	32%
Total	31%	31%	31%	32%

Capex in the Auckland has grown by 11% since 2009, the first time it was measured, although the region's share of total capex has fallen from 37% to 35%.

²⁵ Auckland has historically received much larger shares of crown capital expenditure in the Transport sector than operating expenditure. For example, in 2009 Auckland received ~50% of NZTA spending on new and improved road infrastructure and in 2012 this figure was 41%.

²⁶ The comparisons in Table 30 are mainly based on the services approach to measuring expenditure as this is most comparable with past methods. There are two exceptions. All of core government services have been allocated by population share, to match the earlier methods, and law and order spending figures for 2012 reflect the expenditure methodology.

²⁷ This is a catch-all category used in past reports. It contains expenditure not covered in the preceding categories. It does not align with the other "Other" categories used elsewhere in this report.

6. Tracking regional spending in future

Estimates of regional government expenditure could be significantly improved, in terms of cost of production and accuracy, if standards were laid out for the collection and assessment of expenditure information on a regional basis.

Standards would need to be based a set of consistent principles or definitions regarding, for example:

- purpose i.e. what the data is intended to show
- definitions of geographic entities and regional boundaries
- how best to assign expenditure where location is ambiguous.

The most important element is purpose. A well-defined purpose is essential for guiding data collection and decisions around how expenditure is allocated to regions. As shown in our estimates, the purpose or overall approach can dramatically affect the data and the way it is interpreted.

Even seemingly straight forward data collection requires a carefully defined purpose to inform measurement. Employment statistics, for example, are defined and collected in several different ways and users need to be mindful of what the data is intended to show. The number of jobs is not the same thing as the number of people employed depending on whether one adopts the perspective of the firm or the perspective of an individual or household. Furthermore, a job may exist in a single region or in several regions and the individual employed to carry out that job may live in another region entirely. These kinds of considerations also come into play when thinking about regional government expenditure.

Data collection standards would be best established through collaboration amongst key economic and statistical agencies i.e. Treasury, MBIE, and Statistics New Zealand. Each of these agencies has distinctive perspectives and competencies which would need to be taken into account to ensure that any on-going data collection is useful and consistent over time. Amongst these agencies we see the involvement of Statistics New Zealand as essential given the organisation's strong capability in setting out consistent and tightly defined standards for data collection.

We see little practical reason why collection could not be carried out, on an on-going basis, as a census of all government spending at the level of individual budget appropriations. Our work has demonstrated the feasibility of this, albeit with much more reliance on estimates and assumptions than would be necessary if locational assignment of expenditure was standardised and standard practice within government agencies.

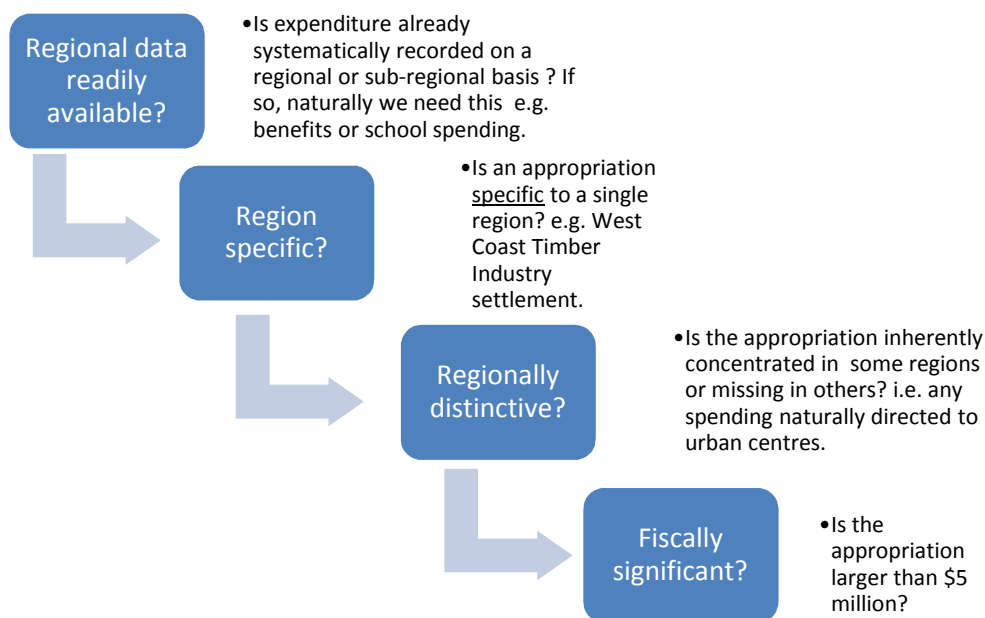
It may be that the cost of collecting expenditure data on a census basis is prohibitive relative to the importance or size of expenditure information being collected. If that is the case some form of guidance may be in order, so that agencies have a means of objectively determining which expenditure items are material and which are not.

We have constructed a framework for defining materiality which could inform central government standards for collecting expenditure data on a regional basis. Materiality

has four key elements to it – as described in Figure 2. In general terms, we start with the objective of obtaining systematic regionalised data if it exists, whether in terms of financial information or funding formulas. We then move to ensuring that we identify region specific appropriations. We then identify which items of expenditure are distinctively regional (i.e. likely to vary materially across regions) and ensure we pursue regionalised data on these appropriations, whether from cost-centre based measures or some other means.

For any other remaining appropriation we then focus on the fiscal significance (i.e. size of the spending). A high level evaluation of appropriations shows that 99% of Core Crown expenditure (by value) is covered by a threshold of \$5 million while 50% of appropriations (by number) would be excluded.

Figure 2 Appropriation level prioritisation



Source: NZIER

The reason that we do not start with a fiscal significance threshold is that big differences in population size and institutional characteristics across regions could create considerable bias in spending estimates if we don't consider appropriations for reasons other than prioritising based on values. A handful of small appropriations may be immaterial in the context of overall government spending but they could well be material in the context of a region with a small population.

Providing standards and guidance to Ministries and Departments could also facilitate the provision of regional information where this already exists in some form. When we discussed regional spending with some Ministries we struck a reluctance to pass on information due to uncertainty about how to shape the information.