

Regional government expenditure

Estimates of core crown spending by region

NZIER report to MBIE and Treasury

April 2013

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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.

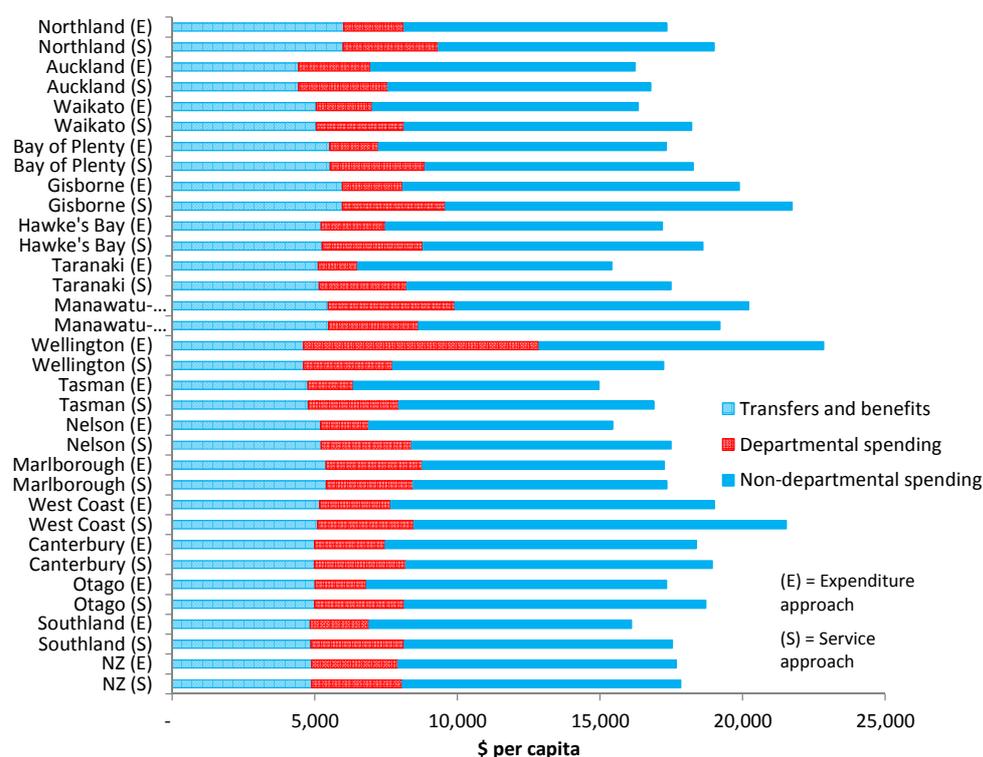
Comparison of our two different methods for attributing regional expenditure – the expenditure approach and the service approach – further illustrate these issues. This

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.

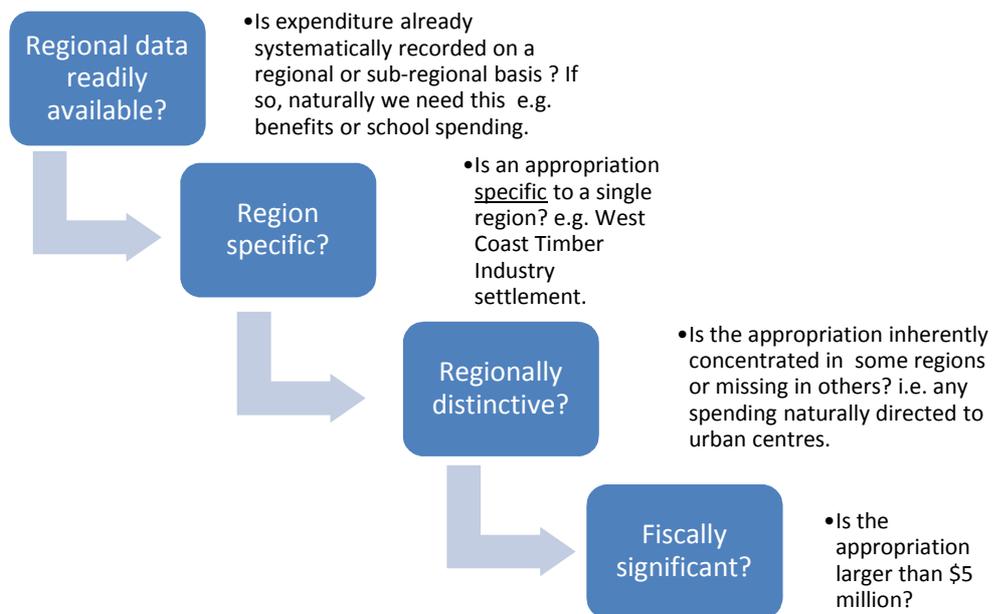
It may be that the cost of collecting expenditure data on a census basis is prohibitive relative to the importance or size of expenditure information being collected. If that is the case some form of guidance may be in order, so that agencies have a means of objectively determining which expenditure 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.