Commuting patterns in greater Christchurch:
Trends from the Census of Population and Dwellings 2006 and 2013
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1. Purpose and key findings

Purpose

*Commuting patterns in greater Christchurch: Trends from the Census of Population and Dwellings 2006 and 2013* gives an overview of commuting patterns in greater Christchurch using census data. We explain how population changes might have affected commuting patterns, then present our findings on how many people gave a workplace address in greater Christchurch, where they were commuting to and from, and how this may have changed over time.

Greater Christchurch, under the Canterbury Earthquake Recovery Act, comprises the areas of the Christchurch City Council, the Selwyn District Council, and the Waimakariri District Council, and includes the adjacent coastal marine area.

Key findings for 2013

- Commuting patterns changed considerably in greater Christchurch between 2006 and 2013, mainly as a consequence of the 2010/11 earthquakes.
- The rate of growth in the number of people working in Christchurch slowed to 6.0 percent between 2006 and 2013. The 6.0 percent increase contrasts with a 16.2 percent increase between 2001 and 2006.
- The number of people giving a workplace address in the neighbouring Waimakariri and Selwyn districts increased by a much higher percentage than Christchurch city between 2006 and 2013 – by 30.3 percent in Waimakariri district and 43.0 percent in Selwyn district.
- The location of workplaces has become more dispersed in Christchurch city after the earthquakes.
- In 2006, the Cathedral Square area unit had 11,784 workers per square kilometre, but this fell to 4,285 in 2013.
- Company car usage increased between 2006 and 2013 – by 63.0 percent in Selwyn and 40.3 percent in Waimakariri.
- Commutes by bus declined slightly in Christchurch city between 2006 and 2013 – from 5.1 percent to 3.7 percent of people who commuted to work on census day.
- Bus commutes increased slightly in Waimakariri and Selwyn districts, from 0.7 percent to 1.0 percent of people who commuted to work on census day.

For more information about the effects of the earthquakes on greater Christchurch, see *2013 Census QuickStats about greater Christchurch* and *Housing in greater Christchurch after the earthquakes*. 

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For more information about the effects of the earthquakes on greater Christchurch, see *2013 Census QuickStats about greater Christchurch* and *Housing in greater Christchurch after the earthquakes*. 

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2. Introduction: The population of greater Christchurch and Christchurch city

Christchurch is the largest urban centre in the South Island. It is located on the east coast of the Canterbury plains and has strong ties with the surrounding agricultural hinterland.

The Canterbury region plays a significant part in the economy of the South Island. Statistics New Zealand estimated that in 2013, Canterbury produced over half of the South Island’s gross domestic product (56.4 percent).

In 2013, just over half the South Island’s population lived in Canterbury (53.7 percent), a proportion that has been relatively constant over the previous decade (53.1 percent in 2001 and 53.9 percent in 2006).

Especially following the Canterbury earthquakes in 2010/11, populations have grown in surrounding settlements on the Canterbury plains, and more people are commuting into Christchurch.

Over one-third of employed people in the South Island work in Christchurch city

Christchurch city employs over 3 in 10 employed people in the South Island (who had a workplace address coded to a territorial authority level). Greater Christchurch (ie including Selwyn and Waimakariri) employs around 4 in 10 employed people in the South Island – an increase of 2.7 percentage points since 1996.

Figure 1

Areas where South Island residents gave a workplace address\(^{(1)}\)

By selected and grouped territorial authorities

1995–2013 Censuses

Population of Christchurch city decreases but greater Christchurch increases between censuses

Although Christchurch city’s population fell by 2.0 percent between 2006 and 2013, the population of greater Christchurch rose by 2.6 percent. At the 2013 Census, 436,056 people lived in greater Christchurch, compared with 424,935 at the 2006 Census. The increase was driven by increases in the population of Selwyn district (up 32.6 percent, to 44,595 people) and Waimakariri district (up 16.7 percent, to 49,989 people).
The areas with the largest population increases were to the north of Christchurch, especially Pegasus; the south-western outskirts of Christchurch city; and in Rolleston, which is 15 kilometres south-west of Christchurch city in Selwyn district. The areas with the largest population decreases were scattered around the north and east of the city, particularly in areas close to rivers, wetlands, and estuaries, where liquefaction occurred.

Figure 2 shows the population distribution as at March 2013, while figure 3 shows the percentage change in population density by area unit between 2006 and 2013. These maps give context to the shift in commuting patterns and distribution of employment that occurred after the earthquakes.

**Figure 2**
Population distribution in greater Christchurch at the time of the 2013 Census
Figure 3
Percentage change in population density by area unit between 2006 and 2013 Censuses

Population estimates show changes that happened after earthquakes

While the census measures change in population between censuses, Statistics NZ’s population estimates allow us to look at annual change. These estimates give an idea of changes that happened before and after the earthquakes. Estimates adjust population according to births and deaths, and allow for population undercount in the census (caused by people born after the census, people temporarily overseas during the census, and people that did not respond).

Overall, the 2013 Census showed a 2.0 percent decline in the population of Christchurch city between 2006 and 2013. Population estimates suggest this decline occurred after the earthquakes. Before the earthquakes, Christchurch city’s estimated population had grown steadily – by around 1.0 percent a year between 2006 and 2010. After the earthquakes, the estimated population declined by 5.6 percent (or 21,200 people) over the two years between 30 June 2010 and 30 June 2012.

In contrast, the districts closest to Christchurch increased in population as figure 4 shows. Selwyn increased by 3,400 people (8.3 percent), while Waimakaririri increased by 2,900 people (6.1 percent) between 30 June 2010 and 30 June 2012.
While Christchurch city’s population began to recover by June 2014, Selwyn and Waimakariri have continued to experience higher growth rates.

The growth in population in the districts surrounding Christchurch city is likely to affect commuting flows. These population changes occurred at the same time as a significant motorway development to the south and north of the city, as noted in a Press report in October 2014: ‘The earthquakes have prompted a mass relocation of homes and businesses. The new motorway network acts as a magnet’.

Source: Statistics New Zealand
3. Working in greater Christchurch

This section looks at how many people gave a workplace address in greater Christchurch, where they travel from and to, and how this has changed over time. It briefly discusses commuting in Canterbury. It also explains changes to employment density and the distribution of employment over Christchurch city since the 2010/11 earthquakes.

Small increase in workplace addresses in Christchurch city between 2006 and 2013

While the usually resident population of Christchurch city declined by 2.0 percent between 2006 and 2013, the proportion of New Zealand residents who worked there increased by 6.0 percent.

However, the proportion of Canterbury residents employed in Christchurch city fell slightly between 2006 and 2013 – from 71.4 percent of employed people to 68.9 percent.

The number of workplaces in Selwyn increased by 38.2 percent or 1.8 percentage points. Overall, the proportion of Canterbury people employed in greater Christchurch (Christchurch city, and Selwyn and Waimakariri districts) remained largely unchanged. It fell from 80.8 percent of employed people in Canterbury in 2006 to 80.5 percent in 2013.

Figure 5 shows the proportion of employed people usually resident in Canterbury who gave a workplace address by selected territorial authority

Figure 5

Areas where employed people living in Canterbury gave a workplace address (1)
By selected and grouped territorial authorities 1996–2013 Censuses

1. Some workplace addresses could not be coded to a territorial authority.
Source: Statistics New Zealand
More people commute to Christchurch city from other areas of Canterbury

More people commuted to Christchurch city from the territorial authorities outside it in 2013. The number of people commuting into Christchurch city from Canterbury outside of Christchurch increased by one-third since 2006. This equates to 5,850 more commuters – or 4,704 private or company car, trucks, or vans.

The number of people from Selwyn district commuting to Christchurch city increased by 44.1 percent since 2006. However, the proportion of Selwyn’s employed population commuting to Christchurch city only increased by 2.3 percent, possibly as a result of the increased employment within Selwyn district.

The numbers of people commuting to Christchurch city from Hurunui and Ashburton also increased.
Table 1
Change in number and proportion of people who commuted to Christchurch city from selected territorial authorities
2001–13 Censuses

<table>
<thead>
<tr>
<th>Area (territorial authority) of usual residence</th>
<th>Number who gave a workplace address in Christchurch city</th>
<th>Percentage change (number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waimakariri district</td>
<td>7,452</td>
<td>8,931</td>
</tr>
<tr>
<td>Christchurch city</td>
<td>127,872</td>
<td>146,922</td>
</tr>
<tr>
<td>Selwyn district</td>
<td>5,487</td>
<td>7,752</td>
</tr>
<tr>
<td><strong>Total greater Christchurch</strong></td>
<td>140,811</td>
<td>163,608</td>
</tr>
<tr>
<td>Hurunui district</td>
<td>516</td>
<td>543</td>
</tr>
<tr>
<td>Ashburton district</td>
<td>231</td>
<td>297</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area (territorial authority) of usual residence</th>
<th>Proportion of employed population who gave a workplace address in Christchurch city (%)</th>
<th>Percentage change (proportion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waimakariri district</td>
<td>47.8</td>
<td>47.9</td>
</tr>
<tr>
<td>Christchurch city</td>
<td>96.3</td>
<td>95.9</td>
</tr>
<tr>
<td>Selwyn district</td>
<td>42.5</td>
<td>47.9</td>
</tr>
<tr>
<td><strong>Total greater Christchurch</strong></td>
<td>87.3</td>
<td>87.1</td>
</tr>
<tr>
<td>Hurunui district</td>
<td>12.1</td>
<td>11.5</td>
</tr>
<tr>
<td>Ashburton district</td>
<td>2.0</td>
<td>2.3</td>
</tr>
</tbody>
</table>

**Note:** This data has been randomly rounded to protect confidentiality. Individual figures may not add up to totals, and values for the same data may vary in different tables.

**Source:** Statistics New Zealand

Most Canterbury towns and rural centres show increase in commuters to Christchurch city

Christchurch city attracts workers from surrounding small towns and rural centres. The most dramatic change in commuting was in Pegasus township. Pegasus is a fairly new township; it was just being developed in 2006, and had a population of only 33 people. By Census 2013 it had grown to 1,050 people. Pegasus is 25 kilometres from Christchurch, so like Rolleston to the south, it is accessible for commuters to Christchurch city.
Table 2
Change in number of people who commuted to Christchurch city from selected Canterbury urban and rural areas
2006 and 2013 Censuses

<table>
<thead>
<tr>
<th>Area of usual residence</th>
<th>Number who gave workplace address in Christchurch city</th>
<th>Percentage change 2006–13</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
<td>2013</td>
</tr>
<tr>
<td><strong>Urban area</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amberley</td>
<td>102</td>
<td>147</td>
</tr>
<tr>
<td>Woodend</td>
<td>732</td>
<td>720</td>
</tr>
<tr>
<td>Rangiora</td>
<td>1,884</td>
<td>2,727</td>
</tr>
<tr>
<td>Oxford</td>
<td>180</td>
<td>231</td>
</tr>
<tr>
<td>Darfield</td>
<td>249</td>
<td>321</td>
</tr>
<tr>
<td>Lincoln</td>
<td>588</td>
<td>915</td>
</tr>
<tr>
<td>Leeston</td>
<td>204</td>
<td>255</td>
</tr>
<tr>
<td>Rolleston</td>
<td>1,650</td>
<td>3,114</td>
</tr>
<tr>
<td><strong>Rural centres</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waikuku</td>
<td>189</td>
<td>234</td>
</tr>
<tr>
<td>Pegasus</td>
<td>9</td>
<td>354</td>
</tr>
<tr>
<td><strong>Total other rural areas</strong></td>
<td>6,336</td>
<td>9,078</td>
</tr>
</tbody>
</table>

Note: Urban areas are statistically defined areas and are designed to identify concentrated urban settlements, without the distortion of administrative boundaries. This data has been randomly rounded to protect confidentiality. Individual figures may not add up to totals, and values for the same data may vary in different tables.

Source: Statistics New Zealand

Figure 7
Proportion of commuters to Christchurch city who came from smaller urban centres
By selected urban centre of usual residence
2006 and 2013 Censuses

Employment more dispersed in Christchurch after earthquakes
Following the 2010/11 earthquakes, employment has become more dispersed in Christchurch, with a greater concentration of employment to the south and west of the central city. The central city consists of the area units of Cathedral Square, Hagley Park,
Commuting patterns in greater Christchurch: Trends from the Census of Population and Dwellings 2006 and 2013

In 2006, 39,213 people worked in these area units (25,047 in Cathedral Square, 8,847 in Hagley Park, and 4,728 in Avon Loop). By 2013, the total for these areas had halved, to just 19,419 people.

In 2001 and 2006, the Cathedral Square area unit had the most workers in Canterbury and was the third-largest employment centre in New Zealand – as figure 8 shows. The earthquakes caused extensive damage to the city centre. As a consequence, the number of people employed in Cathedral Square declined by 63.6 percent between 2006 and 2013.

Figure 8

Area units in New Zealand where largest numbers of people gave a workplace address (1)
2006 and 2013 Censuses

<table>
<thead>
<tr>
<th>Area unit</th>
<th>2006 (000)</th>
<th>2013 (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lambton</td>
<td>42</td>
<td>35</td>
</tr>
<tr>
<td>Auckland Central West</td>
<td>30</td>
<td>28</td>
</tr>
<tr>
<td>Cathedral Square</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Auckland Central East</td>
<td>20</td>
<td>19</td>
</tr>
<tr>
<td>Willis Street-Cambridge Terrace</td>
<td>10</td>
<td>9</td>
</tr>
</tbody>
</table>

1. Some workplace addresses could not be coded to an area unit.
Source: Statistics New Zealand

The Middleton area unit, in the west of the city, now employs more people than Cathedral Square. In 2013, Middleton employed 11,007 people, compared with 9,447 for Cathedral Square.

Employment density in the central city has also declined. In 2006, the employment density for Cathedral Square was 11,784 people per square kilometre. This fell to 4,285 in 2013. Riccarton South, south-west of Cathedral Square, is now the area unit with the greatest employment density. In 2013, it had 5,598 workers per square kilometre.
Figure 9
Employment density in greater Christchurch
2006 Census

Source: Statistics New Zealand
Change in mix of work types in central city

At the time of the 2013 Census, buildings were still being demolished in the central city. Cathedral Square had fewer office buildings, hotels, and retail outlets. This change is reflected in the different mix of employment in this area unit compared with 2006. In particular, the numbers of people engaged in accommodation and food, financial services and insurance, and professional and technical services all declined substantially – by over 2,000 people – between 2006 and 2013.
While the numbers in most industries declined substantially, the number of people working in electricity, water, and waste services rose from 36 to 156. The number of people working in arts and recreation services also rose, from 258 to 432.

Conversely, the nearby Middleton area unit experienced large increases in the numbers of people working in public administration and safety, and professional, scientific, and technical services.
Figure 12

Change in number who gave workplace address in
Middleton area unit
By selected industry
2006–2013 Censuses

Source: Statistics New Zealand
Table 3
Percentage of workers in the top industry of area units in greater Christchurch
For area units with largest numbers of workplace addresses
2006 and 2013 Censuses

<table>
<thead>
<tr>
<th>Area unit of workplace address</th>
<th>Number of workplace addresses</th>
<th>Top industry 2006</th>
<th>Percentage of workers in that industry</th>
<th>Top industry 2013</th>
<th>Percentage of workers in that industry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
<td>2013</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middleton</td>
<td>7,374</td>
<td>11,007</td>
<td>Manufacturing</td>
<td>31.7</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>Wigram</td>
<td>4,233</td>
<td>5,793</td>
<td>Manufacturing</td>
<td>33.5</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>Islington</td>
<td>3,207</td>
<td>4,938</td>
<td>Manufacturing</td>
<td>41.1</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>Hornby North</td>
<td>3,999</td>
<td>4,815</td>
<td>Manufacturing</td>
<td>32.3</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>Cathedral Square</td>
<td>25,980</td>
<td>9,447</td>
<td>Professional, scientific, and technical services</td>
<td>15.8</td>
<td>Retail trade</td>
</tr>
<tr>
<td>Riccarton</td>
<td>4,074</td>
<td>5,514</td>
<td>Retail trade</td>
<td>33.8</td>
<td>Retail trade</td>
</tr>
<tr>
<td>Sydenham</td>
<td>8,427</td>
<td>8,754</td>
<td>Manufacturing</td>
<td>23.6</td>
<td>Construction</td>
</tr>
<tr>
<td>Hagley Park</td>
<td>8,982</td>
<td>7,641</td>
<td>Health care and social assistance</td>
<td>32.3</td>
<td>Health care and social assistance</td>
</tr>
<tr>
<td>Yaldhurst</td>
<td>2,997</td>
<td>5,052</td>
<td>Transport, postal, and warehousing</td>
<td>35.9</td>
<td>Transport, postal, and warehousing</td>
</tr>
<tr>
<td>Russley</td>
<td>3,000</td>
<td>4,599</td>
<td>Manufacturing</td>
<td>21.4</td>
<td>Professional, scientific, and technical services</td>
</tr>
<tr>
<td>Riccarton South</td>
<td>2,190</td>
<td>4,464</td>
<td>Professional, scientific, and technical services</td>
<td>18.3</td>
<td>Financial and insurance services</td>
</tr>
</tbody>
</table>

Note: This table only includes employed people whose workplace address could be coded to the area unit level. Percentages for industry are calculated from total people who stated their main industry of this employer. Data has been randomly rounded to protect confidentiality.

Source: Statistics New Zealand
4. Commuting and modes of transport

This section discusses how people got to work on census day. The data comes from the census question about the respondent's main means of travel to work on census day. Main means of travel to work is the method a person aged 15 years and over used to travel the longest distance to their place of employment (for example, by bicycle, bus, walking, or jogging).

The question also asks whether people worked from home or did not go to work on census day.

The data does not necessarily indicate a person's usual mode of travel to work and it does not indicate the main means of travel to work for people who did not go to work on census day.

Changes in how people in greater Christchurch travelled to work

The following sections describe commuting patterns for people who travelled to work on census day in 2013 – that is, excluding people who worked at home or did not go to work that day.

We would expect to see changes in commuting patterns in Christchurch city after the earthquakes, and the consequent movement of workplaces from the central city to surrounding areas. However, changes in modes of transport between 2006 and 2013 were generally small, with the largest rise being in the proportion of people who went to work in a company car.

- Car transport remained the dominant mode of commuting, with almost two-thirds of people in Christchurch city taking a private car, truck, or van to work on census day.
- The proportion of people taking a company car to work was higher in districts around Christchurch city, with around 1 in 5 people in Waimakariri and Selwyn districts travelling to work by company car on census day.
- Bus use fell in Christchurch city between 2006 and 2013, from 5.1 percent to 3.7 percent of people who went to work on census day.

Car transport dominant mode of commuting in greater Christchurch

Car transport was the dominant mode of commuting in greater Christchurch, with a slight increase between 2006 and 2013 – from 82.3 percent to 84.0 percent. An increase in company car use largely drove this increase. The percentage of people driving a private car to work remained relatively unchanged in Christchurch city (from 63.9 percent in 2006 to 64.1 percent in 2013). However, private car use fell slightly in Selwyn (from 66.9 percent to 64.6 percent) and Waimakariri (from 68.9 percent to 66.6 percent).
Figure 13

**Selected main means of travel for people who went to work on census day**

For employed people living in Christchurch city, 2001–13 Censuses

Car use higher in districts surrounding Christchurch

Car use was greatest for people who lived in surrounding districts and worked in the Christchurch urban area.

Company car use was also highest for commuters who came in to the Christchurch urban area but lived outside it.

Urban areas are statistically defined areas designed to identify urban settlements, without the distortion of administrative boundaries. For example, Christchurch city territorial authority includes a large area of rural land, including Banks Peninsula. Christchurch urban area excludes this rural land.

Figure 14

**Selected main means of travel for people working in Christchurch urban area**

By selected territorial authority of usual residence

2013 Census

Source: Statistics New Zealand

[Diagram showing selected main means of travel for people working in Christchurch urban area by territorial authority of usual residence]
Mapping car use shows how dominant cars are as a form of transport. This contrasts with higher public transport use in areas surrounding Wellington city (see Commuting patterns in Wellington). Wellington has extensive public transport options and a more concentrated employment in the central city.

The following maps show how people got to work, by the area unit where they usually reside.

**Figure 15**
Percentage of people who drove a private car, truck, or van to work, by area unit of usual residence in greater Christchurch
2013 Census

Large increase in company car usage

Between 2006 and 2013, the most notable change in how people commuted to work in greater Christchurch was the increase in company car usage. The number of people using a company car to travel to work increased by 40.2 percent in Waimakariri district and by 63.0 percent in Selwyn district.

Figure 16 shows the workplace areas where company car usage is most concentrated. Sydenham, Middleton, Wigram, and Cathedral Square area units all had over 1,000 people working there who drove a company car to work. The industries common in these areas are those in which workers are most likely to commute in a company car. For example, the areas have large proportions of workers in construction and wholesale.
trade. In 2013, people in these industries were the most likely to drive a company car to work, as table 4 shows.

**Figure 16**
Percentage of people who drove a company car, truck, or van to work in greater Christchurch, by area unit of workplace address
2013 Census
### Table 4
**Number and percentage of people who took a company car to work, by industry**
For people living in Christchurch city, and Waimakariri and Selwyn districts
2013 Census

<table>
<thead>
<tr>
<th>Industry (level 1)</th>
<th>Waimakariri district</th>
<th>Christchurch city</th>
<th>Selwyn district</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>Agriculture, forestry, and fishing</td>
<td>222</td>
<td>23.9</td>
<td>192</td>
</tr>
<tr>
<td>Mining</td>
<td>12</td>
<td>28.6</td>
<td>21</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>384</td>
<td>15.4</td>
<td>1,842</td>
</tr>
<tr>
<td>Electricity, gas, water, and waste services</td>
<td>84</td>
<td>32.2</td>
<td>168</td>
</tr>
<tr>
<td>Construction</td>
<td>1,512</td>
<td>48.4</td>
<td>7,314</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>444</td>
<td>42.9</td>
<td>2,154</td>
</tr>
<tr>
<td>Retail trade</td>
<td>225</td>
<td>11.8</td>
<td>1,233</td>
</tr>
<tr>
<td>Accommodation and food services</td>
<td>33</td>
<td>5.4</td>
<td>285</td>
</tr>
<tr>
<td>Transport, postal, and warehousing</td>
<td>147</td>
<td>15.7</td>
<td>819</td>
</tr>
<tr>
<td>Information media and telecommunications</td>
<td>21</td>
<td>11.5</td>
<td>195</td>
</tr>
<tr>
<td>Financial and insurance services</td>
<td>90</td>
<td>17</td>
<td>651</td>
</tr>
<tr>
<td>Rental, hiring, and real estate services</td>
<td>90</td>
<td>19.4</td>
<td>486</td>
</tr>
<tr>
<td>Professional, scientific, and technical services</td>
<td>162</td>
<td>14.8</td>
<td>1,290</td>
</tr>
<tr>
<td>Administrative and support services</td>
<td>114</td>
<td>21.3</td>
<td>750</td>
</tr>
<tr>
<td>Public administration and safety</td>
<td>117</td>
<td>14.4</td>
<td>537</td>
</tr>
<tr>
<td>Education and training</td>
<td>39</td>
<td>2.8</td>
<td>246</td>
</tr>
<tr>
<td>Health care and social assistance</td>
<td>75</td>
<td>4.6</td>
<td>492</td>
</tr>
<tr>
<td>Arts and recreation services</td>
<td>33</td>
<td>13.6</td>
<td>165</td>
</tr>
<tr>
<td>Other services</td>
<td>174</td>
<td>21.1</td>
<td>828</td>
</tr>
<tr>
<td>Total stated</td>
<td>3,975</td>
<td>20.8</td>
<td>19,677</td>
</tr>
<tr>
<td>Not elsewhere included</td>
<td>54</td>
<td>15.7</td>
<td>225</td>
</tr>
<tr>
<td>Total</td>
<td>4,026</td>
<td>20.7</td>
<td>19,902</td>
</tr>
</tbody>
</table>

Data has been randomly rounded to protect confidentiality.

**Source:** Statistics New Zealand

### Drop in people bussing to work in Christchurch city

Both the number and proportion of people taking a bus to work in Christchurch city declined between 2006 and 2013. This is most likely because of the disruption caused by the earthquakes and the decreased concentration of employment in the central city. On census day in 2013, 5,154 people took a public bus to work. This compares with 7,227 people in 2006. People living in Riccarton, Linwood, and Phillipstown had the highest rates of commuting by bus in 2013.

Between 2006 and 2013, the percentage of commuters bussing to work:

- declined slightly for people living in Christchurch city – from 5.1 percent to 3.7 percent
- increased slightly for people living in Waimakariri and Selwyn districts – from 0.7 percent to 1.0 percent.
1 in 3 employed people living in central city walk or jog to work

Active commutes are common for people living in the central city, with almost 1 in 3 people who lived in the central city area units of Cathedral Square and Hagley Park walking or jogging to work in 2013.

Burnham Military Camp area unit had the highest proportion of people who walked or jogged to work, probably because of the close proximity of work and home in this area.
More people cycle to work in area units close to the central city

Christchurch, because of its largely flat terrain, has traditionally had a high proportion of people cycling to work, especially in the central city. On census day in 2013, 7.0 percent (9,804 people) of people living in Christchurch city cycled to work – up from 6.5 percent (9,093 people) in 2006.
Differences in how men and women travel to work

Some transport modes in greater Christchurch showed considerable differences by sex. These differences are also observable nationally.

On census day in 2013, men in greater Christchurch were much more likely to:

- take a company car to work (86.4 percent of people taking a company car to work were men)
- use a motor cycle (85.8 percent of motor cycle users were men)
- take a bicycle to work (69.0 percent were men).

In contrast, women in greater Christchurch were more likely to:

- take a public bus (59.1 percent of people taking a public bus were women)
- walk (53.4 percent of people who walked or jogged to work were women).

Just under two-thirds of people that did not go to work on census day in 2013 in greater Christchurch were women (15,777 people, or 63.8 percent).
Working at home on census day more common for people in rural areas

Not all employed people are commuters, and a greater percentage of people in rural districts work at home (see 2013 Census QuickStats about transport and communications).

We define a rural district as a territorial authority with a high proportion of its population living in rural areas. In 2013, 86.3 percent of people in Hurunui, 53.1 percent of people in Selwyn, and 38.8 percent of people in Waimakariri district lived in a rural area.

Nationally, 44.1 percent of people working in agriculture worked at home on census in day 2013, compared with 8.8 percent of all workers.

- In greater Christchurch, Christchurch city had the lowest percentage of people that worked at home, at just 5.9 percent. This is compared with 11.2 percent in Waimakariri and 13.3 percent in Selwyn.
- In rural districts around greater Christchurch, working at home was more common. 1 in 4 people in Hurunui district (25.9 percent) worked at home.
- 1 in 6 people of people in Ashburton district (15.5 percent) worked at home.

Figure 20 shows the concentration of people that worked at home in rural areas.
Did the earthquakes affect the number of people working at home?

Was there an increase in people working at home after the earthquakes? Certainly, immediately after the 22 February 2011 earthquake, people in some businesses had to work from home temporarily or find alternative premises. But by the time of the census many businesses are likely to have made more permanent accommodation choices.

The proportion of people working at home increased very slightly between 2006 and 2013 in Christchurch city (from 5.6 percent to 5.9 percent) and Waimakariri district (from 11.0 percent to 11.2 percent). However, in the Selwyn district the proportion fell (from 15.0 percent to 13.3 percent).
5. Conclusion

The 2010/11 Canterbury earthquakes affected the location of workplaces and commuting patterns in Christchurch city and surrounding districts. Christchurch city lost employment and population in the two years after the earthquakes.

Some of the population of Christchurch city moved to the neighbouring districts of Selwyn and Waimakariri. This population shift led to an increase in the number of people who commuted into Christchurch from surrounding districts – not just from neighbouring Selwyn and Waimakariri, but also from Hurunui and Ashburton. However, employment also grew in the neighbouring districts, with an increase in the number of workplace addresses in Selwyn and Waimakariri.

Employment density and the number of workplace addresses in central Christchurch have declined in response to the extensive damage to buildings in the city centre. This affects, for example, public transport – as employment has become more dispersed, public transport use has declined. With an increase in people living in districts surrounding the city, people are likely to be experiencing longer commutes.

Employment increased to the south and west of the city centre, with the area unit of Middleton now employing more people than the area unit of Cathedral Square. In 2013, Riccarton South had the highest employment density – 5,598 workplace addresses per square kilometre. This employment density was still considerably lower than the 11,784 workplace addresses per square kilometre in Cathedral Square in 2006.

The types of employment in various locations have also changed. For example, the top industry in Riccarton South in 2013 was financial and insurance services – in 2006 it was retail trade. This shift in employment has affected transport patterns, with a decline in commutes by bus between 2006 and 2013.
References


More information

**Other census information**

- [2013 Census](http://www.stats.govt.nz)
- [2013 Census QuickStats about transport and communications](http://www.stats.govt.nz)
- [Commuting patterns in Auckland: Trends from the Census of Population and Dwellings 2006–13](http://www.stats.govt.nz)
- [Commuting patterns in Wellington: Trends from the Census of Population and Dwellings 2006 and 2013](http://www.stats.govt.nz)
- [2013 Census products and services release schedule](http://www.stats.govt.nz)
- [2013 Census information by variable](http://www.stats.govt.nz)
- [2013 Census definitions and forms](http://www.stats.govt.nz)
- [2013 Census tables in NZ.Stat](http://www.stats.govt.nz)

**For more information contact our Information Centre:**

Email: [info@stats.govt.nz](mailto:info@stats.govt.nz)

Phone: 0508 525 525 (toll-free in New Zealand)

+64 4 931 4600 (outside New Zealand)
Appendix 1: About commuting data

The information in this report comes from usual residence, workplace address, and main means of travel to work information in the census.

See 2013 Census information by variable for detailed information.

Usual residence

Usual residence is the address of the dwelling where a person considers themselves to usually reside.

We provide guidelines for respondents who aren’t sure what to give for a usual address – for example, for children in shared care. See the guidelines at 2013 Census information by variable – Usual residence

In the case of Christchurch residents, we also provided special guidelines for people affected by the earthquakes.

Question 5: Usual address

How should I answer if my address has been affected by the Canterbury earthquakes?

Give the address you are currently living at, unless you are temporarily living somewhere and will be moving back to your earthquake affected address (once your home has been repaired or rebuilt, for example). In that case, give that address you will be moving back to.

Workplace address

Workplace address is the physical location of a workplace. Distinguishing details can include the building name; street number, name and type; suburb or rural locality; and city, town, or district.

The census data on workplace address relates to the workplace address for the main job an individual holds. This is the job in which a person worked the most hours.

The data comes from Question 39 on the census individual form.

Respondents such as milk vendors and sales representatives who have no fixed workplace are asked to state the address of the depot, headquarters, or reporting point from which they operate.

Respondents who have no fixed workplace address at all are asked to respond that they have ‘no fixed workplace address’.

See 2013 Census information by variable – Workplace address

The variable workplace address does not have a non-response category

Respondents who were employed but did not state a workplace address were classified as ‘New Zealand not further defined’. Respondents who stated a workplace address that could not be coded were also classified as ‘New Zealand not further defined’.

In 2013, 8.5 percent of responses were coded to the ‘New Zealand not further defined’ category. Respondents who state that they work across multiple areas (eg builders) are coded to ‘No fixed address’. 0.4 percent of responses were coded to this category in 2013.
In 2013, most of the problems with workplace address stemmed from coding issues. Sometimes these were caused by respondents supplying insufficient detail to workplace addresses to be coded. Where possible, workplace addresses were coded using Statistics NZ's Business Frame.

An issue from previous censuses with regional offices being coded to head offices was resolved for most cases in 2013 (as these occurred in Auckland, Wellington, and Christchurch). However, some cases of apparent long-distance commutes between other regional centres may be due to miscoding. This situation would have occurred in previous censuses.

2013 Census workplace data is broadly comparable with data from the 2006 and 2001 Censuses. Changes in the data over this time period may be partly due to changes in the collection, definition, or classification of the data rather than to real change.

The Business Frame match rate for workplace address has increased from 60.2 percent in 2006 to 64.6 percent in 2013. This will improve the quality of both workplace address and industry/sector coding relative to 2006.

An issue occurred in 2006 where usable responses were coded to 'New Zealand not further defined' instead of the correct meshblock, leading to a higher 'New Zealand not further defined' count. This has affected the comparability of the data over time. In 2001, 12.5 percent of the subject population was coded to 'New Zealand not further defined', compared with 14.5 percent in 2006. Due to better coding, only 8.5 percent of responses were coded to 'New Zealand not further defined' in 2013.

**Main means of travel to work**

Main means of travel to work is the method a person aged 15 years and over used to travel the longest distance to their place of employment on census day (for example, by bicycle, bus, walking, or jogging).

As this data relates to the main means of travel on census day, it does not necessarily indicate a person's usual mode of travel to work and it does not indicate the main means of travel to work for people who did not go to work on census day. In 2013, 10.8 percent of those who answered the question indicated that they did not go to work on census day, compared with 10.8 percent in 2006 and 11.7 percent in 2001.

Data is for New Zealand resident adults employed full or part time. Note that inconsistencies can occur when comparing 'Worked at home' counts from travel to work variable with 'Work at home' for workplace address indicator variable, due to differences in the reference period.

See 2013 Census information by variable – Main means of travel to work