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Making career choices



Making career decisions is both challenging and exciting. Making one that is “right” depends on finding the right information. On the one hand, a person needs to know which occupations would best suit his/her interests. On the other hand, information about factors such as the nature of the job, future work opportunities, education and training expectations are also important. Career choices can be especially challenging in today’s fast-paced labour market where demand for different skills can change quickly, with new types of occupations appearing as quickly as others disappear. Understanding the labour market is an important step towards making informed personal career choices.

Auckland has a third of all New Zealand jobs - the highest concentration of jobs, and as the largest urban area, has opportunities not found elsewhere in New Zealand. This guide provides the distribution of projected jobs by occupational groups across the industry sectors that make up the Auckland economy.

The purpose of this guide is to:

- provide background information on industry and occupational employment trends in Auckland, and the key factors that determine industry and occupational employment patterns over time.
- look at Auckland’s employment characteristics by industry. Auckland has a diverse mix of industries, and each with a unique occupational make-up. As industries grow and change, there are corresponding changes in their occupational composition.
- look at expected future trends in the distribution of new jobs across industry sectors and by occupational groups in Auckland.

This guide is intended to assist:

- Students and those in the labour force assessing career options, by making choices about what to study and what skills they need to enable them to have rewarding and challenging career opportunities.
- Career advisors and vocational counsellors on the future skills needs of Auckland by providing background information on major trends in the economy and labour market.

A modelling tool

The projections in this guide are taken from the Economic Futures for the Auckland region report.¹ This report examines economic scenarios for the Auckland region using the Auckland region Economic Futures Model – an economic forecasting tool.

The baseline scenario Horizon 2031 in the Economic Futures report, represents the best interpretation of the likely economic future of the region given current knowledge and understanding of the regional economy. This scenario considers past trends analysing how industries have changed over time, takes into account planned and expected changes from new government policies, investments and changes in the region's environment. Interviews with businesses, industry leaders, policy makers and key stakeholders to capture what they expect Auckland's economy will look like in the future were also taken into account in the modelling.

In the Horizon 2031 scenario, the main drivers assumed to be shaping Auckland's economic landscape are:

- **Demographic dynamics** – According to the Auckland Regional Council's medium population projections, an additional half a million people are

expected to live in Auckland by 2031. Population characteristics, such as age, gender and cultural background, can determine the demand for various products and services.

- **Changes in labour force** – Auckland's labour force profile is changing with the labour force ageing and becoming more ethnically diverse. Population growth, demographics and changes in the labour force determine the level of demand for particular skills.
- **Internationalisation** – Auckland plays an essential role in New Zealand's connection with the world. Increased international trade contributes to economic growth. A growing economy means more people are working and have more money to spend. Companies respond to increased business activity by investing to expand further to meet customer demands. As a result, new jobs are created across a wide range of occupations.
- **Business innovation** – Knowledge and innovation are increasingly important drivers of productivity and competitiveness. Auckland's economic growth in the future depends largely on business innovation. Technological innovations in the production, distribution and sale of goods and services play a key role in both the types of jobs available and the skills that are needed.

- **Sustainable development** – The increased focus on sustainable development is expected to open new business opportunities at home and overseas, and to create new jobs in the areas of environmental technology and advice, waste reduction and recyclable/advanced materials.

This guide provides projected job opportunities by occupational group across the industry sectors in the region. In this guide:

- The 48 sectors in the Economic Futures Model have been aggregated into 15 main industry sectors for ease of reading (refer to Attachment 1 for a full list of the sectors).
- The employment projections are based on full-time equivalent jobs which is total hours worked divided by average annual hours worked in full-time jobs.
- The period is 2006 to 2016, a ten year period as there are likely to be major changes in occupations over a longer time frame. The Economic Futures report provides longer term employment projections to 2031.

This guide was put together when the Auckland economy was experiencing a period of economic slowdown in 2009. The extent of the slowdown and the impact it may have on the trends in this guide is not known, hence the projections presented here may be used only as a guide for job opportunities in Auckland to 2016.

¹ Information on the Economic Futures for the Auckland region reports can be found on:http://www.arc.govt.nz/economy/economic-futures/economic-futures_home.cfm

Which industries are today's jobs in?

Auckland's economy has changed dramatically over the past decades. The economy has evolved from one based on primary industries to a manufacturing economy, to one that today is driven by high technology manufacturing and services. The kinds of jobs available have undergone similar changes - away from occupations related to agriculture, forestry or mining to a wide variety of professional, technical and service occupations.

Figure 1 shows the percent share of employment in Auckland by industry sector for 2009.

In 2009, more than 600,000 Aucklanders were working in hundreds of different occupations - web designers, engineers, teachers, technicians, plumbers, machinists or construction labourers, just to name a few. Whether working full or part-time, for a company or self-employed, the labour market offers a wide variety of career choices.

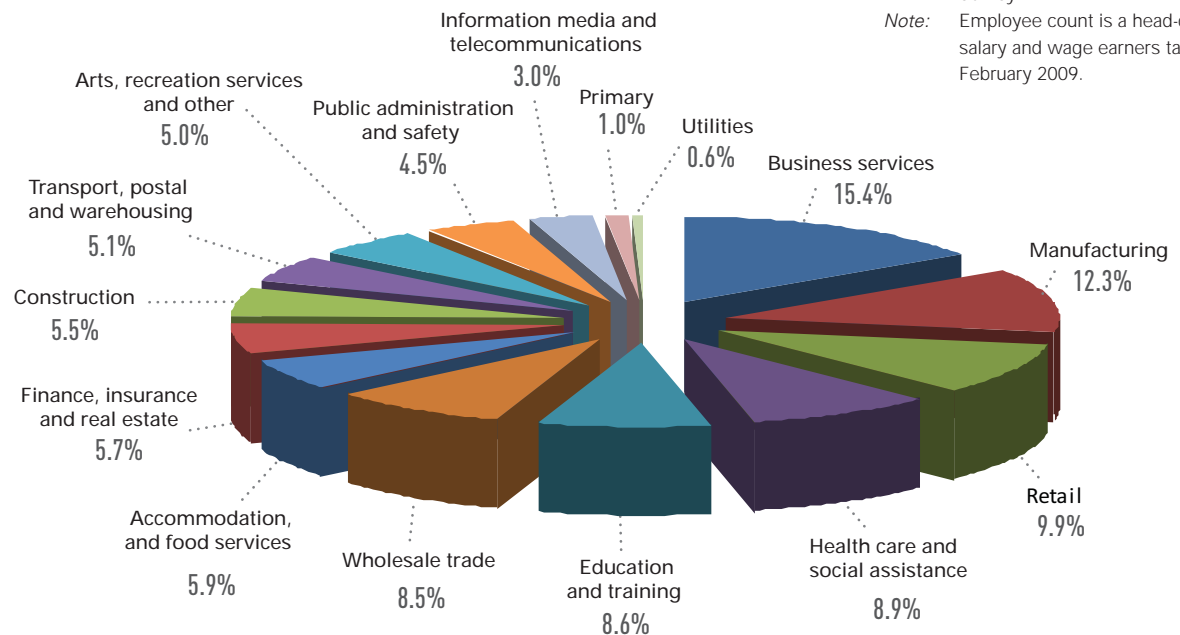
In 2009, the business services sector was the main employer in the Auckland region employing a total of 95,970 workers in various occupations including project and finance managers, accountants, lawyers and customer service clerks. Manufacturing industries have the second largest share of employment in Auckland with 76,220 workers producing a variety of consumer and industrial products that are key to Auckland's wealth including boats, steel, food and composites. Retail and wholesale trades are largely dependent on

population growth and increased incomes. In 2009, these sectors provide 18 percent of all jobs in the region.

Where these industries are located is useful in order to identify the potential for career and job opportunities in specific areas. Manufacturing tends to be concentrated in certain parts of the region. Manukau city and the surrounding area is home to much of the food and beverage manufacturing industry. The transport equipment manufacturing industry is largely based in the Waitakere area,



Figure 1: Percentage of employee counts by industry sector, 2009



Source: Statistics NZ, Business Demography Survey.

Note: Employee count is a head-count of all salary and wage earners taken as at February 2009.

What are the job trends to 2016?

while the advanced manufacturing industry is largely located around the Tamaki area. Some service industries also tend to be more regionalised than others. For example, employment in finance and insurance is largely concentrated in the Central Business District (CBD) area. The same holds true for professional, scientific and technical services as well as public administration, although the latter is also prevalent in the larger cities, such as Manukau, Waitakere and North Shore cities. Employment in industries such as retail trade, however, is more evenly distributed around the region in proportion to population.

It is not possible to predict with accuracy which occupations will be in demand in the future and how many jobs will be created in these occupations. Economic conditions, technological developments, demographics and consumer behaviour will continue to influence the labour market, the occupational composition, and the kinds of job opportunities that will be available. For example, no one knew 20 years ago the effect the internet would have on how we do business, nor foresee the jobs such as web-design, electronic information management and ICT development which would be

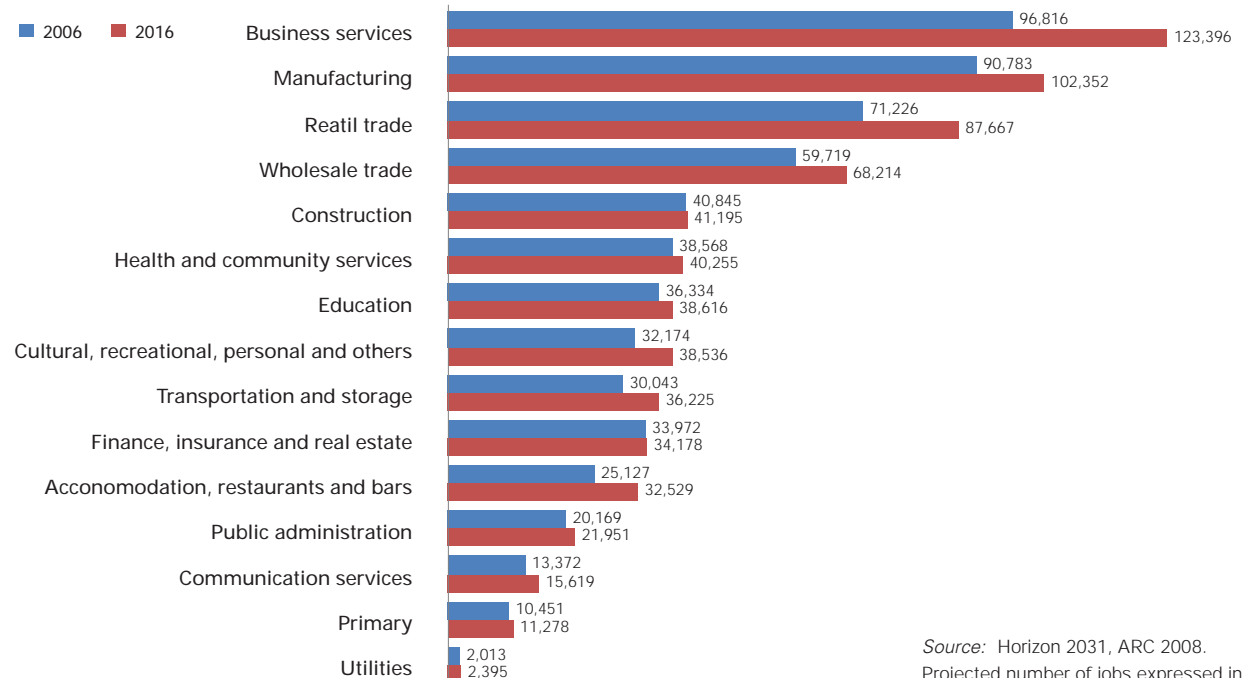
created. Similarly there are likely to be exciting jobs in emerging new industries that do not yet exist.

It is possible however to assess industry trends as a first step in figuring out the potential for growth or decline in occupations. Some industries will require a minimum number of workers based on our population, for example doctors, nurses, teachers, educators, builders, plumbers, and electricians.

Between 2006 and 2016, an estimated 92,794 jobs will be required across all sectors in the region. This



Figure 2: Projected number of jobs within industry sectors in 2006 and 2016



Source: Horizon 2031, ARC 2008.
Projected number of jobs expressed in full time equivalents.

represents an increase of 15 per cent over 2006. As shown from Figure 2:

- Over a quarter of this growth (or 26,580 jobs) will be in the business services sector. Any new occupations, based on advanced technology will likely fall into this category.
- The third largest employer retail trade is expected to have the second highest number of job opportunities with over 16,000 jobs followed by the manufacturing sector with 11,569 job opportunities.

Within the manufacturing sector, the more traditional sectors are expected to witness a net decline in jobs. These include textile and apparel

manufacturing with 321 job losses, basic metal manufacturing with 252 job losses and printing, publishing and recorded media with 114 job losses.

The high value added manufacturing sectors however are expected to experience strong employment growth offsetting these job losses. These include:

- Machinery and equipment manufacturing with 3,904 job opportunities,
- Other food manufacturing with 2,497 job opportunities, and
- Rubber, plastics and other chemical manufacturing with 1,647 job opportunities.

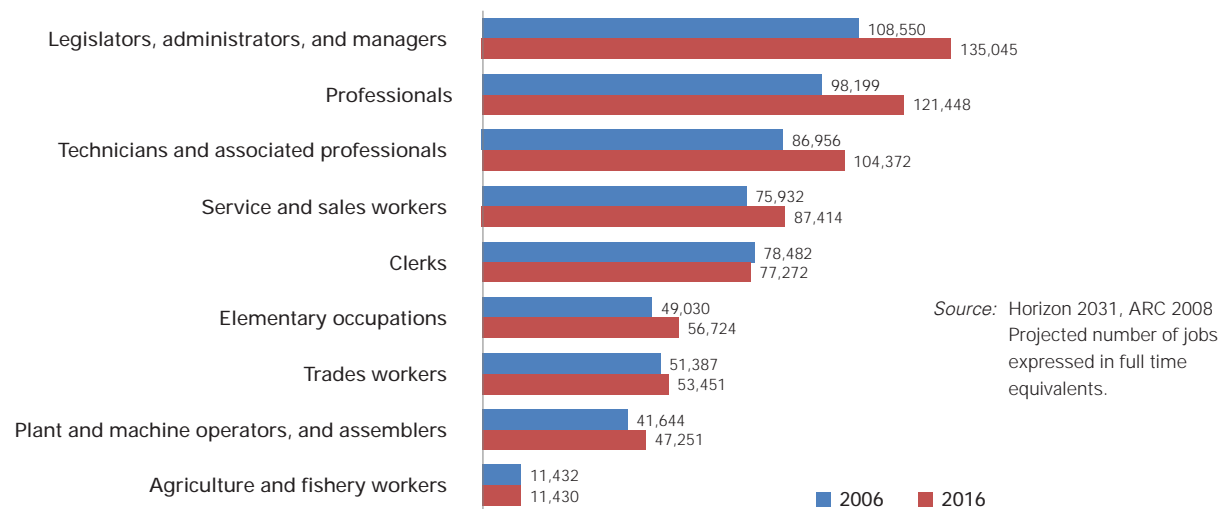
Figure 3 shows the jobs in 2006 and those projected to 2016 by occupation. A breakdown of the types of jobs that make up the nine occupational groups in Figure 3 are provided in Attachment 2.

Among the occupational categories that will contribute a substantial share of projected new jobs in Auckland are the following:

- Occupations in the professionals, technicians and associate professionals categories are expected to account for about 44 percent of additional jobs (or over 40,000) between 2006 and 2016.
- Managers (including legislators and administrators) are expected to account for 29 percent of all additional jobs.
- Plant and machine operators and assemblers are expected to contribute six percent of additional jobs.
- About two percent of additional jobs are expected to be created among trades workers.
- About 11,400 job opportunities will be created for service and sales workers and about 7,700 projected for elementary occupations.

The next section looks at these projected additional jobs within the nine occupational groups by industry sector in more detail.

Figure 3: Projected number of jobs within occupations in 2006 and 2016



Legislators, administrators, and managers

This group includes legislators, senior government administrators, senior business administrators, special-interest organisation administrators, general managers and specialised managers.

Between 2006 and 2016, over 24,000 additional managerial jobs will be created in Auckland. This includes all general managers and specialised managers such as production and operation managers, finance and administration managers, human resource managers and advertising and public relations managers. The industry sectors projected to require the most of these additional management jobs are:

- Business services (5,470 additional managers),
- Retail (4,305 additional managers),
- Accommodation, restaurants and bars (2,409 additional managers),
- Wholesale (2,347 additional managers), and
- Manufacturing (2,155 additional managers). Within the manufacturing sector, 793 additional managers are projected in food and beverage manufacturing and 442 in machinery and equipment manufacturing.

In the primary sector, 449 additional managers are projected by 2016, 238 of which will be in horticulture and fruit growing.

Skills requirements for managers vary, depending on the industry. Senior managers in large corporations and in government often have extensive post-secondary education and training. Nowadays with the highly competitive and mobile labour market, all management positions require some formal qualification or training and a certain number of years of experience.

Job opportunities for for legislators, administrators and managers by industry sector, 2006 to 2016

Industry sector	Legislators & administrators	Corporate managers
Primary	4	449
Manufacturing	394	2,155
Utilities	0	43
Construction	52	464
Wholesale	583	2,347
Retail	343	4,305
Accommodation, restaurants & bars	55	2,409
Transportation and storage	128	1,273
Communication services	39	1,130
Finance, insurance and real estate	48	1,208
Business services	523	5,470
Public administration	-27	638
Education	22	343
Health and community services	15	219
Cultural, recreational, personal and other	241	1,622
Projected number of jobs	2,420	24,075

Source: Horizon 2031, ARC 2008



Professionals

This group includes physicists, architects, engineers, life science professionals, health professionals (except nursing), tertiary teaching professionals, secondary teaching professionals, legal professionals, archivists, librarians and related information professionals.

As the Auckland economy develops and becomes increasingly knowledge-based the demand for professionals will also increase with a projected 23,000 job opportunities by 2016.

Over 11,000 of these will be for the 'other professionals' group which includes accountants, market research analysts, financial advisers, barristers and solicitors, economists and psychologists. The majority of other professionals will be employed in business services with 5,203 job opportunities projected and over 1,000 in the manufacturing and wholesale industry sectors each.

Physical, mathematical and engineering science professionals which includes architects, engineers, planners and surveyors are also projected to be employed largely in the business services sector with just over 4,000 additional job opportunities created by 2016.

Teaching professionals and life science and health professionals are projected to have greater job opportunities in the education and health and community services sectors with 1,482 and 891 job opportunities respectively.

Most industries employ some professional and technical staff related to the products and services produced. Even within the "non-service" industries, professional and technical occupations

are becoming increasingly important. A significant number of workers in these occupations are employed in organisations that provide consulting services to business, such as for management, engineering or information technology. Others,



such as lawyers, may be self-employed and provide services directly to people. In general, these jobs require post-secondary (i.e., university diploma or degree) and even post-graduate education.

Job opportunities for professionals by industry sector, 2006 to 2016

Industry sector	Physical, mathematical and engineering science professionals	Life science and health professionals	Teaching professionals	Other professionals
Primary	3	7	1	31
Manufacturing	1,002	68	7	1,010
Utilities	39	-2	0	80
Construction	132	3	3	39
Wholesale	852	74	34	1,183
Retail	330	485	44	427
Accommodation, restaurants & bars	40	5	12	108
Transportation and storage	343	27	22	356
Communication services	510	1	7	363
Finance, insurance and real estate	169	-21	7	519
Business services	4,025	327	249	5,203
Public administration	194	-31	56	810
Education	44	-97	1,482	149
Health and community services	22	891	160	143
Cultural, recreational, personal and other	173	102	201	826
Projected number of jobs	7,878	1,839	2,285	11,247

Source: Horizon 2031, ARC 2008

Technicians and associate professionals

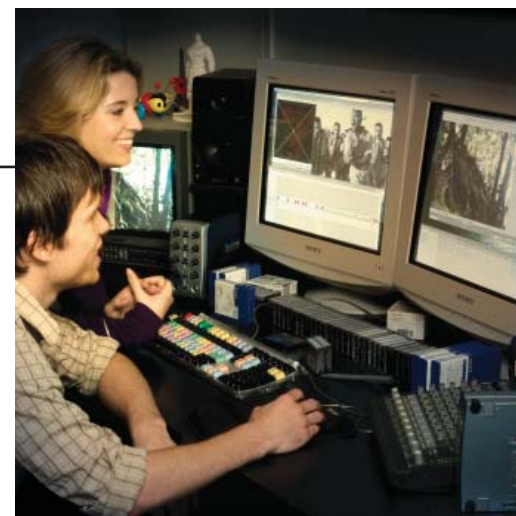
This group includes physical science and engineering technicians, computer equipment controllers, life science technicians and related workers, nursing associate professionals finance and sales associate professionals, administrative associate professionals, social work associate professionals, careers and employment advisers.

Technicians and associate professionals are projected to have the third highest number of job opportunities to 2016 with 17,416 additional jobs.

The group 'other associate professionals' are projected to account for 91 percent of these job opportunities which spans across a wide range of occupations including finance and sales associate professionals, administrative associate professionals and government associate professionals. Half of these jobs will be in the business services, cultural, recreational, personal and others and retail sectors. Demand is also high for other associate professionals in the manufacturing, wholesale, transportation and storage and public administration sectors with over 1,000 job opportunities each to 2016.

For physical science and engineering associate professionals, 778 job opportunities are projected in the business services sector. This includes physical science and engineering technicians, computer equipment controllers and optical and electronic equipment controllers.

In general, technicians and associate professionals require a New Zealand certificate or other advanced vocational qualification.



Job opportunities for technicians and associate professionals by industry sector, 2006 to 2016

Industry sector	Physical science and engineering associate professionals	Life science and health associate professionals	Other associate professionals
Primary	7	11	39
Manufacturing	247	216	1,576
Utilities	-3	0	256
Construction	149	2	134
Wholesale	-284	58	1,650
Retail	365	9	2,431
Accommodation, restaurants & bars	-25	2	396
Transportation and storage	51	6	1,157
Communication services	-216	3	807
Finance, insurance and real estate	-29	5	-176
Business services	778	127	2,796
Public administration	-164	-20	1,610
Education	-32	-63	466
Health and community services	91	-146	229
Cultural, recreational, personal and other	379	47	2,474
Projected number of jobs	1,314	257	15,845

Source: Horizon 2031, ARC 2008

Clerks

This group includes secretaries and keyboard operating clerks, numerical clerks, material recording and transport clerks, library, mail and related clerks, cashiers, tellers and related clerks and client information clerks.

The demand for clerical occupations is on the decline. By 2016 it is projected that there could be 1,210 fewer jobs in this occupational group compared to the level in 2006. Technological changes driven by fast and efficient communication linkages is largely responsible for the declining demand for clerical works.

Office clerks are projected to decline with 2,616 job losses to 2016. This group includes secretaries and keyboard operating clerks, numerical clerks, material recording and transport clerks, library, mail and related clerks. The use of the internet and just in time productions² has seen a decline in office clerks in wholesaling, public administration and manufacturing. In the manufacturing sector, fewer office clerks are projected in printing, publishing and recorded media (239 job losses), sheet and fabricated metal product manufacturing (119 job losses) and transport equipment manufacturing (80 job losses).

Customer services clerks however, are projected to increase by an additional 1,406 jobs by 2016. The strong growth projected in the business services and retail sectors are expected to provide for 1,080

and 1,473 additional customer services clerks in these two sectors respectively. These opportunities include those working as checkout operators, patient receptionist and telephone switchboard operators. The finance sector on the other hand is projected to reduce its customer services clerks by

1,351. This is a result of the increased usage and coverage of on-line and phone banking and ATMs.

The skills required for clerical occupations is changing with computer literacy fast becoming part of "general literacy" requirements in most jobs.

Job opportunities for clerks by industry sector, 2006 to 2016

Industry sector	Office clerks	Customer services clerks
Primary	154	4
Manufacturing	-718	16
Utilities	-5	-3
Construction	-101	37
Wholesale	-1,370	51
Retail	-79	1,473
Accommodation, restaurants & bars	32	374
Transportation and storage	570	76
Communication services	-260	-128
Finance, insurance and real estate	-482	-1,351
Business services	228	1,080
Public administration	-862	-214
Education	111	48
Health and community services	-20	-42
Cultural, recreational, personal and other	186	-15
Projected number of jobs	-2,616	1,406

Source: Horizon 2031, ARC 2008

² Just in time is a 'pull' system of production, so actual orders provide a signal for when a product should be manufactured.

Service and sales workers

This group includes travel attendants and guides, housekeeping and restaurant services workers, personal care workers, other personal services workers, protective services workers, salespersons and demonstrators, street vendors and fashion and other models.

Service and sales workers are projected to have the fourth largest job opportunities in the region to 2016, with 11,482 additional jobs. Over half of these jobs will be in the retail and accommodation, restaurants and bars sectors.

Personal and protective services workers include all tourism sector workers such as travel attendants, tour and travel guides, waiters, chefs, as well as ambulance officers, hairdressers, police and prison officers, fire fighters and security officers. A total of 7,464 job opportunities are projected for these occupations to 2016. Over 40 percent of these will be in accommodation, restaurants and bars, followed by the retail sector with 2,083 job opportunities and business services with 1,090 additional personal and protective services workers.



A total of 4,018 additional jobs are projected for the salespersons, demonstrators and models group to 2016, with 2,532 jobs expected in the retail and wholesale trade sectors. This includes sales assistants, forecourt attendants, street vendors and related workers.

Skills required vary widely in nature and in levels. As service and sales workers, the basic and most common skill required is communication, while certain jobs require very nuanced skills required by the industry.

Job opportunities for service and sales workers by industry sector, 2006 to 2016

Industry sector	Personal and protective services workers	Salespersons, demonstrators and models
Primary	103	-12
Manufacturing	416	527
Utilities	0	0
Construction	31	28
Wholesale	224	926
Retail	2,083	1,606
Accommodation, restaurants & bars	3,199	-53
Transportation and storage	167	148
Communication services	30	62
Finance, insurance and real estate	42	113
Business services	1,090	541
Public administration	-134	0
Education	117	10
Health and community services	244	8
Cultural, recreational, personal and other	-148	114
Projected number of jobs	7,464	4,018

Source: Horizon 2031, ARC 2008

Agriculture and fishery workers

This group includes market farmers and crop growers, market-oriented animal producers, forestry and related workers, fishery workers, hunters and trappers.

Job opportunities for market oriented agricultural and fishery workers to 2016 are projected to be in:

- Business services (161 additional jobs),
- Construction (100 additional jobs), and
- Retail (97 additional jobs).

As shown in the table, 423 job losses are projected for market oriented agricultural and fishery workers in the primary sector driven largely by a reduction of 397 workers in horticulture and fruit growing. This includes field crop and vegetable growers, fruit growers and gardeners and nursery growers. This could be the result of competing use for land in the region, increased capital investment in the sector with labour efficiency gains expected and a possible movement of the sector to regions outside of Auckland. Services to agriculture, hunting and trapping within the primary sector however are projected to have 119 additional job opportunities for agriculture and fishery workers to 2016.

Agriculture and fishery workers require a combination of education, on-the-job training and experience.

Job opportunities for agriculture and fishery workers by industry sector, 2006 to 2016

Industry sector	Market oriented agricultural and fishery workers
Primary	-423
Manufacturing	47
Utilities	0
Construction	100
Wholesale	43
Retail	97
Accommodation, restaurants & bars	32
Transportation and storage	39
Communication services	4
Finance, insurance and real estate	-7
Business services	161
Public administration	-13
Education	-39
Health and community services	-3
Cultural, recreational, personal and other	-40
Projected number of jobs	-2

Source: Horizon 2031, ARC 2008



Trades workers

This group includes building frame and related trades workers, building finishers and related trades workers, electricians, metal moulders, sheet-metal and related workers, precision instrument makers and related workers, food and related products processing trades workers.

Over 2,000 additional trades workers jobs are projected from 2006 to 2016. They will be mainly building trades workers with 1,157 job opportunities and metal and machinery trades workers with 1,067 job opportunities.

Building trades workers have been the most affected by the 2008/2009 housing and credit crunch crisis with 1,445 job losses in the construction sector. This occupational group includes carpenters and joiners, boatbuilders, plumbers, electricians and painters. The manufacturing sector however is projected to have over 1,700 additional jobs for



building trades workers. Over 1,000 of these jobs will be in transport equipment manufacturing mainly for boat building reflecting the strong growth and comparative advantage of the marine industry in the region.

For metal and machinery trades workers, 932 additional workers are projected to be employed in the business services sector. This includes blacksmiths, toolmakers and related workers, machinery mechanics and fitters and electrical and electronic instrument mechanics and fitters. In the manufacturing sector, 211 job losses are projected for metal and machinery trade workers with 160 job losses in the transport equipment manufacturing subsector. This could be the result of labour to capital substitution with new advanced materials and more sophisticated technology used in boat building.

Job losses are also projected in the manufacturing sector for precision trades workers with the printing, publishing and recorded media sector projected to have 598 less workers to 2016. This group includes printing trades, binding trades and printing engravers and etchers.

Found in construction, manufacturing and service sector industries (such as auto parts or hardware, tool and cutlery industries) trades workers require a combination of education and on-the-job training and experience. In some trades completion of an apprenticeship program is required. In other trades apprenticeship training is available but not required for entry to the occupation. Examples of skilled trades are tool and die makers, bricklayers, electricians, and machinery and motor service mechanics.

Some trade skills are still in shortage in Auckland. Those on New Zealand Immigration Service's immediate skills shortage list for Auckland as at November 2009 include arborists, electricians (electrical mechanic/fitter), fire alarm technicians, gasfitter and plastics technicians.

Job opportunities for trades workers by industry sector, 2006 to 2016

Industry sector	Building trades workers	Metal and machinery trades workers	Precision trades workers	Other craft and related trades workers
Primary	3	5	-1	0
Manufacturing	1,772	-211	-306	39
Utilities	-2	-3	0	0
Construction	-1,445	84	39	-98
Wholesale	146	198	58	-89
Retail	210	932	-48	82
Accommodation, restaurants & bars	7	-6	4	47
Transportation and storage	22	-14	6	3
Communication services	1	6	3	0
Finance, insurance and real estate	-11	2	7	3
Business services	415	150	32	47
Public administration	-14	-42	0	0
Education	16	-9	3	2
Health and community services	-22	2	-5	1
Cultural, recreational, personal and other	59	-27	4	7
Projected number of jobs	1,157	1,067	-204	44

Source: Horizon 2031, ARC 2008

Plant and machine operators and assemblers

This group includes mining and mineral processing plant operators, metal-processing plant operators, metal and mineral products processing machine operators, chemical products machine operators, rubber and plastics products machine operators, railway engine drivers and related workers, ships' deck crews and related workers, building and related workers.

Plant and machine operators and assemblers are projected to have 5,607 job opportunities to 2016. The manufacturing sector are projected to employ 2,533 and the transportation and storage sector 1,141.

Over 3,000 are projected to be employed as stationary machine operators and assemblers of which 2,195 are projected in the manufacturing sector. This includes machine operators for chemical products, metal and mineral products, rubber and plastics products, paper products and food processing. In the manufacturing sector, 1,406 job opportunities are projected for stationary machine operators and assemblers in food and beverage manufacturing and 751 in machinery and equipment manufacturing.

An estimated 1,964 additional drivers and mobile machinery operators are projected in the region from 2006 to 2016, with 1,061 projected to be employed in the transport and storage sector.

Depending on the nature and the level of the job, most plant and machine operators and assemblers require on-the-job training and in some cases a level of experience.

Job opportunities for plant and machine operators and assemblers by industry sector, 2006 to 2016

Industry sector	Industrial plant operators	Stationary machine operators and assemblers	Drivers and mobile machinery operators	Building and related workers
Primary	1	33	13	0
Manufacturing	88	2,195	195	55
Utilities	-3	-3	-2	0
Construction	41	147	87	190
Wholesale	-32	-117	139	15
Retail	34	425	-8	18
Accommodation, restaurants & bars	9	106	35	1
Transportation and storage	27	45	1,061	8
Communication services	1	8	117	1
Finance, insurance and real estate	11	19	16	2
Business services	50	219	271	48
Public administration	0	-2	-14	0
Education	1	3	-25	1
Health and community services	1	14	4	0
Cultural, recreational, personal and other	20	-47	75	10
Projected number of jobs	249	3,045	1,964	349

Source: Horizon 2031, ARC 2008

Elementary occupations including residual

This group includes building caretakers and cleaners, messengers and doorkeepers, refuse collectors and related labourers, packers and freight handlers and labourers.

Nearly 8,000 job opportunities are projected for elementary occupations including residuals to 2016. Occupations not elsewhere included account for 46 percent of this total.

Labourers and related elementary service workers are projected to have 4,181 job opportunities to 2016. These workers include caretakers and cleaners, courier and deliverers, refuse collectors, packers and freight handlers. The business services sector is projected to employ an additional 2,031 workers and the wholesale sector 1,334 to 2016.

Similar to plant and machine operators and assemblers, elementary occupations are generally entry level with most requiring on-the job training



Job opportunities for elementary occupations including residual by industry sector, 2006 to 2016

Industry sector	Labourers and related elementary service workers	Not elsewhere included
Primary	149	244
Manufacturing	362	409
Utilities	-3	-3
Construction	168	60
Wholesale	1,334	470
Retail	212	667
Accommodation, restaurants & bars	363	249
Transportation and storage	461	203
Communication services	-248	7
Finance, insurance and real estate	45	73
Business services	2,031	722
Public administration	-75	84
Education	-364	96
Health and community services	-157	36
Cultural, recreational, personal and other	-97	196
Projected number of jobs	4,181	3,513

Source: Horizon 2031, ARC 2008

Conclusion

The occupational structure is highly dynamic: changes in the industrial composition of the economy, in technology, and in business practices have a major impact on demand for occupations, making exact forecasts difficult. However, we can look at past trends to assess occupational requirements based on how many people live in the region and emerging trends and forecasts to get an idea of occupations which will be in demand over the coming year.

In Auckland the industry sectors that are projected to have the most job opportunities to 2016 are:

- Business services with over half of the additional jobs in the business services sector or 13,505 projected for professionals, technicians and associate professionals.
- Retail sector with 16,443 additional jobs, 26 percent of which are projected for managers whereas office clerks will be reduced by 79 jobs. This shows that future job opportunities in the retail sector will be largely for occupations in the higher end of the salary scale.

- Manufacturing is projected to remain the second largest employer in the region with 102,352 jobs in 2016. Half of the additional 11,569 jobs projected in the manufacturing sector will be for stationary machine operators and assemblers, managers and building trades workers. Declining occupations are expected for office clerks, precision trades workers and metal and machinery trades workers.
- Wholesale trade is projected to have the fourth highest job opportunities to 2016 (about 8,500) and is also projected to have the biggest reduction in office clerks of 1,370. The use of the internet and just in time productions is a driving factor behind the decline in office clerks in wholesaling.

In summary, jobs in Auckland will increasingly require higher levels of skills as reflected by the changes in the occupational structure. Lower skilled roles will however remain highly important and integral to a well-functioning economy.

In an ageing world and in the context of shrinking working-age populations, Auckland will be competing with many others for skilled workers, and in retaining its own workers. In the context of increasing international competition for skilled labour and the region's demographic dynamics, the need for educating and constantly up-skilling the regional labour force to meet business demand remains a key challenge for Auckland.



Attachment 1: Industry sectors classification

15 Industry sectors used in the guide	48 Industry sectors in the Economic Futures Model
1 Primary	1. Horticulture & fruit growing
	2. Livestock & cropping farming
	3. Dairy cattle farming
	4. Other farming
	5. Services to agriculture, hunting & trapping
	6. Forestry & logging
	7. Fishing
	8. Mining & quarrying
	9. Oil & gas exploration & extraction
2 Manufacturing	10. Meat & meat product manufacturing
	11. Dairy product manufacturing
	12. Other food manufacturing
	13. Beverage, malt & tobacco manufacturing
	14. Textile & apparel manufacturing
	15. Wood product manufacturing
	16. Paper & paper product manufacturing
	17. Printing, publishing & recorded media
	18. Petroleum & industrial chemical manufacturing
	19. Rubber, plastic & other chemical manufacturing
	20. Non-metallic mineral product manufacturing
	21. Basic metal manufacturing
	22. Sheet & fabricated metal product manufacturing
	23. Transport equipment manufacturing
	24. Machinery & equipment manufacturing
	25. Furniture & other manufacturing

15 Industry sectors used in the guide	48 Industry sectors in the Economic Futures Model
3 Utilities	26. Electricity generation & supply
	27. Gas supply
	28. Water supply
4 Construction	29. Construction
5 Wholesale trade	30. Wholesale trade
6 Retail trade	31. Retail trade
7 Accommodation, restaurants & bars	32. Accommodation, restaurants & bars
	33. Road transport
8 Transportation and storage	34. Water & rail transport
	35. Air transport, services to transport & storage
	36. Communication services
9 Communication services	37. Finance
10 Finance, insurance and real estate	38. Insurance
	39. Services to finance & investment
	40. Real estate
	41. Owner-occupied dwellings
11 Business services	42. Business services
12 Public Administration	43. Central government
	44. Local government
13 Education	45. Education
14 Health & community services	46. Health & community services
15 Cultural, recreational, personal and other	47. Cultural & recreational services
	48. Personal & other community services

Attachment 2: Occupations classification³

1. Legislators, Administrators, and Managers	
Legislators and Administrators	Legislators, Senior Government Administrators, Senior Business Administrators, Special-Interest Organisation Administrators
Corporate Managers	General Managers, Specialised Managers
2. Professionals	
Physical, Mathematical and Engineering Science Professionals	Physicists, Chemists and Related Professionals, Mathematicians, Statisticians and Related Professionals, Computing Professionals, Architects, Engineers and Related Professionals
Life Science and Health Professionals	Life Science Professionals, Health Professionals (except Nursing), Nursing and Midwifery Professionals
Teaching Professionals	Tertiary Teaching Professionals, Secondary Teaching Professionals, Primary and Early Childhood Teaching Professionals, Special Education Teaching Professionals, Other Teaching Professionals
Other Professionals	Business Professionals, Legal Professionals, Archivists, Librarians and Related Information Professionals, Social and Related Science Professionals, Religious Professionals
3. Technicians and Associate Professionals	
Physical Science and Engineering Associate Professionals	Physical Science and Engineering Technicians, Computer Equipment Controllers, Optical and Electronic Equipment Controllers, Ship and Aircraft Controllers and Technicians, Safety and Health Inspectors
Life Science and Health Associate Professionals	Life Science Technicians and Related Workers, Health Associate Professionals, Nursing Associate Professionals
Other Associate Professionals	Finance and Sales Associate Professionals, Administrative Associate Professionals, Government Associate Professionals, Social Work Associate Professionals, Careers and Employment Advisers, Writers, Artists, Entertainment and Sports Associate Professionals, Non-ordained Religious Associate Professionals, Environmental Protection Associate Professionals
4. Clerks	
Office Clerks	Secretaries and Keyboard Operating Clerks, Numerical Clerks, Material Recording and Transport Clerks, Library, Mail and Related Clerks
Customer Services Clerks	Cashiers, Tellers and Related Clerks, Client Information Clerks
5. Service and Sales Workers	
Personal and Protective Services Workers	Travel Attendants and Guides, Housekeeping and Restaurant Services Workers, Personal Care Workers, Other Personal Services Workers, Protective Services Workers
Salespersons, Demonstrators and Models	Salespersons and Demonstrators, Street Vendors, Fashion and Other Models

³ According to the 1999 New Zealand Standard Classification of Occupations (NZSCO)

6. Agriculture and Fishery Workers

Market-Oriented Agricultural and Fishery Workers

Market Farmers and Crop Growers, Market-Oriented Animal Producers, Forestry and Related Workers, Fishery Workers, Hunters and Trappers

7. Trades Workers

Building Trades Workers

Building Frame and Related Trades Workers, Building Finishers and Related Trades Workers, Electricians

Metal and Machinery Trades Workers

Metal Moulders, Sheet-Metal and Related Workers, Blacksmiths, Toolmakers and Related Workers, Machinery Mechanics and Fitters, Electrical and Electronic Instrument Mechanics and Fitters

Precision Trades Workers

Precision Instrument Makers and Related Workers, Glass Cutters and Related Workers, Printing Trades Workers

Other Craft and Related Trades Workers

Food and Related Products Processing Trades Workers, Cabinetmakers and Related Workers, Tailors and Dressmakers, Leather Goods Makers

8. Plant and Machine Operators and Assemblers

Industrial Plant Operators

Mining and Mineral Processing Plant Operators, Metal-Processing Plant Operators, Glass and Ceramics Kiln and Related Plant Operators, Wood Processing and Papermaking Plant Operators, Chemical Processing Plant Operators, Power Generating and Related Plant Operators

Stationary Machine Operators and Assemblers

Metal and Mineral Products Processing Machine Operators, Chemical Products Machine Operators, Rubber and Plastics Products Machine Operators, Wood Products Machine Operators, Paper Products Machine Operators, Textile Products Machine Operators, Food and Related Products Processing Machine Operators, Leather and Related Products Processors, Assemblers

Drivers and Mobile Machinery Operators

Railway Engine Drivers and Related Workers, Motor Vehicle Drivers, Agricultural, Earthmoving and Other Materials Handling Equipment Operators, Ships' Deck Crews and Related Workers

Building and Related Workers

Building and Related Workers

9. Elementary Occupations (incl Residuals)

Labourers and Related Elementary Service Workers

Building Caretakers and Cleaners, Messengers and Doorkeepers, Refuse Collectors and Related Labourers, Packers and Freight Handlers, Labourers

Not elsewhere included

Attachment 3: Job opportunities by industry sector, 2006 to 2016

Occupation	Horticulture and fruit growing	Livestock and cropping farming	Dairy cattle farming	Other farming	Services to agriculture, hunting & trapping	Forestry and logging	Fishing	Mining & quarrying
Legislators, administrators, and managers	238	32	101	30	36	-16	9	23
Legislators & Administrators	0	0	1	-1	4	-1	0	1
Corporate Managers	238	32	100	31	32	-15	9	22
Professionals	27	0	3	-4	18	-5	2	1
Physical, Mathematical and Engineering Science Professionals	1	0	0	-1	5	-3	0	1
Life Science and Health Professionals	0	0	1	-1	7	-1	1	0
Teaching Professionals	0	0	0	0	1	0	0	0
Other Professionals	26	0	2	-2	5	-1	1	0
Technicians and associated professionals	27	7	2	-4	20	-2	5	2
Physical Science and Engineering Associate Professionals	0	-1	0	-1	7	-1	2	1
Life Science and Health Associate Professionals	0	0	0	-1	12	0	0	0
Other Associate Professionals	27	8	2	-2	1	-1	3	1
Clerks	63	-7	79	-3	-1	-4	6	25
Office Clerks	63	-7	78	-3	-4	-3	5	25
Customer Services Clerks	0	0	1	0	3	-1	1	0
Service and sales workers	69	12	1	-3	10	-2	3	1
Personal and Protective Services Workers	85	12	1	-1	5	-1	2	0
Salespersons, Demonstrators and Models	-16	0	0	-2	5	-1	1	1
Agriculture and fishery workers	-397	-82	16	-52	119	-47	20	0
Market Oriented Agricultural and Fishery Workers	-397	-82	16	-52	119	-47	20	0
Trades workers	1	-4	2	-2	11	-3	1	1
Building Trades Workers	1	-3	1	0	5	-1	0	0
Metal and Machinery Trades Workers	0	-1	0	0	5	-1	1	1
Precision Trades Workers	0	0	0	-1	0	0	0	0
Other Craft and Related Trades Workers	0	0	1	-1	1	-1	0	0
Plant and machine operators, and assemblers	55	-2	4	-3	2	-8	7	-8
Industrial Plant Operators	0	0	1	-1	0	-3	0	4
Stationary Machine Operators and Assemblers	1	-1	2	-2	28	-1	5	1
Drivers and Mobile Machinery Operators	54	-1	1	0	-27	-3	2	-13
Building and Related Workers	0	0	0	0	1	-1	0	0
Elementary occupations	148	77	109	-9	53	-4	11	8
Labourers and Related Elementary Service Workers	71	30	3	-6	38	-3	9	7
Not Elsewhere Included	77	47	106	-3	15	-1	2	1
TOTAL	231	33	317	-50	268	-91	64	53

Job opportunities by industry sector, 2006 to 2016 cont'

Occupation	Meat and meat product	Dairy product	Other food	Beverage, malt and tobacco	Textile and apparel	Wood product	Paper and paper product	Printing publishing & recorded media	Petroleum and industrial chemical	Rubber, plastic & other chemical	Non-metallic mineral product	Basic metal	Sheet & fabricated metal product	Transport equipment	Machinery and equipment	Furniture and other
Legislators, administrators, and managers	5	27	587	203	-94	10	86	195	-13	341	76	-10	289	76	575	196
Legislators & Administrators	1	0	23	5	-15	3	-3	62	-2	18	-2	-6	104	58	133	15
Corporate Managers	4	27	564	198	-79	7	89	133	-11	323	78	-4	185	18	442	181
Professionals	7	4	243	36	60	35	14	190	-10	213	-7	3	5	34	1109	151
Physical, Mathematical and Engineering Science Professionals	3	-3	56	-26	34	7	-4	90	-4	58	-15	-28	-53	-54	884	57
Life Science and Health Professionals	0	-1	2	3	0	0	0	-1	0	59	-1	-1	1	0	7	0
Teaching Professionals	0	0	0	0	-1	0	0	-1	0	1	0	0	0	0	7	1
Other Professionals	4	8	185	59	27	28	18	102	-6	95	9	32	57	88	211	93
Technicians and associated professionals	8	-19	285	12	258	92	31	173	47	150	15	-6	204	127	436	226
Physical Science and Engineering Associate Professionals	8	-15	-17	-2	21	2	41	-65	-5	-28	-17	-29	94	101	147	11
Life Science and Health Associate Professionals	1	-1	6	1	0	0	0	0	-1	76	0	-1	1	0	134	0
Other Associate Professionals	-1	-3	296	13	237	90	-10	238	53	102	32	24	109	26	155	215
Clerks	-12	-19	-42	38	-64	-16	-23	-293	-29	-40	-47	-47	-81	-80	-30	83
Office Clerks	-13	-18	-49	31	-57	-17	-21	-235	-26	-48	-45	-45	-119	-80	-25	49
Customer Services Clerks	1	-1	7	7	-7	1	-2	-58	-3	8	-2	-2	38	0	-5	34
Service and sales workers	4	-3	331	70	56	0	-2	107	-4	44	-10	-7	135	-5	179	48
Personal and Protective Services Workers	3	-1	245	52	-3	1	0	-2	-2	10	-2	-1	42	-15	87	2
Salespersons, Demonstrators and Models	1	-2	86	18	59	-1	-2	109	-2	34	-8	-6	93	10	92	46
Agriculture and fishery workers	4	-2	-12	-10	-2	1	0	0	-1	4	-1	-1	1	0	32	34
Market Oriented Agricultural and Fishery Workers	4	-2	-12	-10	-2	1	0	0	-1	4	-1	-1	1	0	32	34
Trades workers	-9	-3	104	-1	-61	106	-37	-615	-9	281	56	-124	321	1021	218	46
Building Trades Workers	1	-1	1	6	39	-28	-4	-9	-1	64	27	-22	286	1057	142	214
Metal and Machinery Trades Workers	4	-2	-24	-10	-18	17	-10	-8	-5	58	22	-93	-7	-160	56	-31
Precision Trades Workers	0	0	3	3	-4	0	-23	-598	0	156	8	-7	39	1	17	99
Other Craft and Related Trades Workers	-14	0	124	0	-78	117	0	0	-3	3	-1	-2	3	123	3	-236
Plant and machine operators, and assemblers	201	-36	1133	139	-396	-22	-45	159	-5	220	-6	10	271	-38	913	35
Industrial Plant Operators	0	-1	7	2	-3	-2	-10	-1	-12	-37	-101	-112	185	33	138	2
Stationary Machine Operators and Assemblers	197	-33	1108	134	-388	-48	-38	133	-18	237	58	107	49	-67	751	13
Drivers and Mobile Machinery Operators	4	-2	16	3	-4	27	3	27	25	17	38	-26	38	-5	15	19
Building and Related Workers	0	0	2	0	-1	1	0	0	0	3	-1	41	-1	1	9	1
Elementary occupations	157	10	-133	88	-85	-42	-43	-29	-31	435	-33	-73	97	-91	473	71
Labourers and Related Elementary Service Workers	105	13	-94	41	-64	-69	-35	-45	-25	326	-12	-49	123	-58	168	37
Not Elsewhere Included	52	-3	-39	47	-21	27	-8	16	-6	109	-21	-24	-26	-33	305	34
TOTAL	365	-41	2,496	575	-328	164	-19	-113	-55	1,648	43	-255	1,242	1,044	3,905	890

Job opportunities by industry sector, 2006 to 2016 cont'

Occupation	Electricity generation & supply	Gas supply	Water supply	Construction	Wholesale trade	Retail trade	Accommodation, restaurants and bars	Road transport	Water and rail transport	Air transport, services to transport & storage	Communication services
Legislators, administrators, and managers	19	1	23	516	2,930	4,648	2,464	280	170	951	1,169
Legislators & Administrators	0	0	0	52	583	343	55	38	4	86	39
Corporate Managers	19	1	23	464	2,347	4,305	2,409	242	166	865	1,130
Professionals	111	2	4	177	2,143	1,286	165	103	64	581	881
Physical, Mathematical and Engineering Science Professionals	28	1	10	132	852	330	40	17	21	305	510
Life Science and Health Professionals	0	0	-2	3	74	485	5	26	0	1	1
Teaching Professionals	0	0	0	3	34	44	12	13	0	9	7
Other Professionals	83	1	-4	39	1,183	427	108	47	43	266	363
Technicians and associated professionals	257	0	-4	285	1,424	2,805	373	188	52	974	594
Physical Science and Engineering Associate Professionals	-3	0	0	149	-284	365	-25	55	-21	17	-216
Life Science and Health Associate Professionals	0	0	0	2	58	9	2	3	0	3	3
Other Associate Professionals	260	0	-4	134	1,650	2,431	396	130	73	954	807
Clerks	-6	1	-3	-64	-1,319	1,394	406	-95	178	563	-388
Office Clerks	-5	1	-1	-101	-1,370	-79	32	-79	153	496	-260
Customer Services Clerks	-1	0	-2	37	51	1,473	374	-16	25	67	-128
Service and sales workers	0	0	0	59	1,150	3,689	3,146	101	-5	219	92
Personal and Protective Services Workers	0	0	0	31	224	2,083	3,199	98	-14	83	30
Salespersons, Demonstrators and Models	0	0	0	28	926	1,606	-53	3	9	136	62
Agriculture and fishery workers	0	0	0	100	43	97	32	16	9	14	4
Market Oriented Agricultural and Fishery Workers	0	0	0	100	43	97	32	16	9	14	4
Trades workers	-3	0	-2	-1,420	313	1,176	52	-10	-11	38	10
Building Trades Workers	-2	0	0	-1,445	146	210	7	10	8	4	1
Metal and Machinery Trades Workers	-1	0	-2	84	198	932	-6	-23	-19	28	6
Precision Trades Workers	0	0	0	39	58	-48	4	1	0	5	3
Other Craft and Related Trades Workers	0	0	0	-98	-89	82	47	2	0	1	0
Plant and machine operators, and assemblers	-4	0	-4	465	5	469	151	521	43	577	127
Industrial Plant Operators	-1	0	-2	41	-32	34	9	5	0	22	1
Stationary Machine Operators and Assemblers	-3	0	0	147	-117	425	106	21	0	24	8
Drivers and Mobile Machinery Operators	0	0	-2	87	139	-8	35	494	41	526	117
Building and Related Workers	0	0	0	190	15	18	1	1	2	5	1
Elementary occupations	-1	0	-5	228	1,804	879	612	245	-96	515	-241
Labourers and Related Elementary Service Workers	0	0	-3	168	1,334	212	363	185	-113	389	-248
Not Elsewhere Included	-1	0	-2	60	470	667	249	60	17	126	7
TOTAL	373	4	9	346	8,493	16,443	7,401	1,349	404	4,432	2,248

Job opportunities by industry sector, 2006 to 2016 cont'

Occupation	Finance	Insurance	Services to finance and investment	Real estate	Business services	Central government	Local government	Education	Health & community services	Cultural & recreational services	Personal & other community services
Legislators, administrators, and managers	501	288	253	214	5,993	384	227	365	234	1,042	821
Legislators & Administrators	18	0	18	12	523	-7	-20	22	15	119	122
Corporate Managers	483	288	235	202	5,470	391	247	343	219	923	699
Professionals	318	157	179	20	9,804	750	279	1,578	1,216	560	742
Physical, Mathematical and Engineering Science Professionals	85	49	22	13	4,025	123	71	44	22	102	71
Life Science and Health Professionals	8	0	2	-31	327	-55	24	-97	891	42	60
Teaching Professionals	3	0	1	3	249	57	-1	1,482	160	74	127
Other Professionals	222	108	154	35	5,203	625	185	149	143	342	484
Technicians and associated professionals	295	-259	295	-531	3,701	1,291	135	371	174	2,359	541
Physical Science and Engineering Associate Professionals	40	-25	-13	-31	778	-88	-76	-32	91	347	32
Life Science and Health Associate Professionals	2	0	0	3	127	-19	-1	-63	-146	23	24
Other Associate Professionals	253	-234	308	-503	2,796	1,398	212	466	229	1,989	485
Clerks	-1,352	-222	6	-265	1,308	-862	-214	159	-62	-69	240
Office Clerks	-52	-192	-45	-193	228	-700	-162	111	-20	98	88
Customer Services Clerks	-1,300	-30	51	-72	1,080	-162	-52	48	-42	-167	152
Service and sales workers	49	25	16	65	1,631	-131	-3	127	252	-98	64
Personal and Protective Services Workers	21	0	0	21	1,090	-131	-3	117	244	-17	-131
Salespersons, Demonstrators and Models	28	25	16	44	541	0	0	10	8	-81	195
Agriculture and fishery workers	4	0	1	-12	161	5	-18	-39	-3	70	-110
Market Oriented Agricultural and Fishery Workers	4	0	1	-12	161	5	-18	-39	-3	70	-110
Trades workers	29	0	6	-34	644	-55	-1	12	-24	54	-11
Building Trades Workers	11	0	3	-25	415	-13	-1	16	-22	47	12
Metal and Machinery Trades Workers	11	0	2	-11	150	-42	0	-9	2	-4	-23
Precision Trades Workers	5	0	0	2	32	0	0	3	-5	15	-11
Other Craft and Related Trades Workers	2	0	1	0	47	0	0	2	1	-4	11
Plant and machine operators, and assemblers	52	0	3	-7	588	-16	0	-20	19	67	-9
Industrial Plant Operators	9	0	1	1	50	0	0	1	1	5	15
Stationary Machine Operators and Assemblers	32	0	2	-15	219	-2	0	3	14	25	-72
Drivers and Mobile Machinery Operators	10	0	0	6	271	-14	0	-25	4	32	43
Building and Related Workers	1	0	0	1	48	0	0	1	0	5	5
Elementary occupations	64	16	16	22	2,753	71	-62	-268	-121	102	-3
Labourers and Related Elementary Service Workers	35	0	5	5	2,031	-35	-40	-364	-157	10	-107
Not Elsewhere Included	29	16	11	17	722	106	-22	96	36	92	104
TOTAL	-40	5	775	-528	26,583	1,437	343	2,285	1,685	4,087	2,275

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