

# Waikato Economic Projections 2016 Update

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# **Waikato Economic Projections**

2016 Update

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Report author(s): Garry McDonald

Joon Hwan (John) Kim

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# **Contents**

| 1   | INTRODUCTION              | 1  |
|-----|---------------------------|----|
| 2   | REGIONAL LEVEL COMMENTARY | 3  |
| 2.1 | EMPLOYMENT                | 3  |
| 2.2 | VALUE ADDED               | 5  |
| 3   | TA LEVEL COMMENTARY       | 9  |
| 3.1 | EMPLOYMENT                | 9  |
| 3.2 | VALUE ADDED               | 13 |
| 4   | APPENDIX A                | 18 |
| 5   | APPENDIX B                | 19 |



## 1 Introduction

Employment<sup>1</sup> and value added<sup>2</sup> are the key economic indicators used reported on within this study, which builds on the earlier work undertaken by M.E Research in 2015. As a part of the Waikato Region and Future Poof Territorial Authorities Long Term Projections (LTP), ten yearly projections from 2021 to 2061 of for employment and valued added have been generated for future planning purposes. The projections are produced by each Australian New Zealand Industry Classification (ANZSIC) at the 1-Digit industry level<sup>3</sup>, at the Census Area Unit (CAU) level for the Waikato region. The level of detail provided by the projections allows investigation of patterns of industry and spatial change across the whole region, as well as changes in economic structure within the CAUs themselves.

The projections are generated using a Partial Least Squares Regression (PLSR) econometric technique. The technique considers historical employment trends, population demographics, land use patterns, economic demand (both domestically and internationally) for commodities and inter- CAU - linkages. Importantly, the technique takes into account how economic and demographic changes of an area affect economic activities of surrounding areas.

The underlying forces driving the projections are based on long-term structural changes in the Waikato and New Zealand economies arising from technology and population demographic shifts, aspirations of the governing bodies and known major long-term infrastructure development. The projections do not take account short-term fluctuations such as business cycles or global economic conditions.

The main data used in this projection are: i) CAU level land use, and regional employment and value added projections, as produced by the Waikato Integrated Scenarios Explorer (WISE) Spatial Decision Support System (SDSS); ii) CAU level population projections from the National Institute of Demographic and Economic Analysis (NIDEA); and iii) M.E Research historical time series of Modified Employment Counts (MECs). Medium and low employment and value added projections are produced in alignment with the population projections produced by NIDEA.

<sup>&</sup>lt;sup>3</sup> Refer to Appendix A for a full industry list.



1

<sup>&</sup>lt;sup>1</sup> Employment is measured by Modified Employee Counts (MECs). A MEC job year is the employment of one person, measured as one Modified Employment Count, for one year. Statistics New Zealand, under the Business Frame (which matches businesses almost exactly with their employees), collect annual data on employment by meshblock at the 6-digit ANZSIC industry level, one employee is termed an 'EC' or Employee Count. ECs are head counts of people employed in an industry. Thus, if a person is employed in more than one industry then they are counted twice. ECs also do not account for self-employed, business proprietors. For this reason, Market Economics Ltd has created modified employment counts (MECs) based on the EC data, which includes estimates of the numbers of working proprietors for each industry type. Overall, MECs when compared with alternative employment measures, such as the Census of Population and Dwellings, will over count employment, probably in the order of 10 to 15 percent. It must also be noted that the Census of Population and Dwellings which is typically a five yearly survey, dependent upon recipient response, and in the case of employment information has a high no-respondent rate. Neither dataset is therefore completely adequate in measuring employment.

<sup>&</sup>lt;sup>2</sup> All value added figures are presented in constant NZ\$<sub>2007</sub> million dollars, the base year of the modelling.

It is important to note that while the projections are very closely aligned to known actuals for these years, this does not, in any way, ensure that the projections represent the known future. No projection method is capable of predicting the future. The projections developed represent only one, albeit plausible, among a set of futures, developed under a limited set of assumptions. It is also important to note that the projections have a higher degree of certainty in the short run (1 to 5 years) than in the medium to long run (5+ years).

This report provides a brief commentary of the results for employment and value added are presented at the regional (Section 2) and territorial authority (TA) levels (Section 3). Accompanying this report, the Waikato Regional Council, along with all of its constituent Territorial Local Authorities, have been provided with a spreadsheet version of the results which may be queried in detail.



## 2 Regional Level Commentary

The 2016 version of <u>WISE</u> (version 1.4) has been updated with the latest land use change constraints that have emerged through the WISE modelling processes (in terms of zoning, suitability, accessibility and established spatial relationships that exist). In addition, NIDEA has updated the population projections input into the WISE with a set of low and medium population projections. As such, WISE may be used to produce two projection series i.e. a low and medium projections. In this report, we provide commentary for both projection series and include a brief comparison against the previous 2015 CAU projections. Employment and value added results for the 2016 projections are provided in Appendix B<sup>4</sup>.

## 2.1 Employment

In 2014, there were 198,031 people employed in the Waikato region. Under the medium population scenario, the employment is projected to increase to approximately 234,640 MECs by 2031 and by 2061 it is further projected that 68,000 additional MECs will be added to the Waikato region workforce (from 2014 levels), increasing the current total by 34%, up to ~265,950 MECs by 2061. Under the low population scenario, ~228,990 MECs are projected by 2031 and ~250,860 MECs by 2061, representing a 27% increase in MECs from 2014 levels. Compared to the previous (2015) projections, both the 2016 low and medium employment projections have lower levels of MECs<sup>5</sup>.

The employment projections of the nineteen ANZSIC industries (excluding owner occupied dwellings<sup>6</sup>) for the Waikato region are shown in Figure 1 (medium population projection) and Figure 2 (low population projection). The flatter the curve for each industry, the least change in absolute numbers employed, over the next 50 years (e.g. mining and information, media and telecommunications industries), whereas the steeper the curve, the greater the increase in people employed in that industry (e.g. the construction industry).

In Waikato region as a whole, agriculture, forestry and fishing is the industry with greatest employment as at 2014 (26,312 MECs, or 13.3% of the Waikato workforce), followed by manufacturing (22,366 MECs or 11.3%). These two industries are projected to retain the highest numbers employed for the region in 2061 for both sets of projections. However, their relative share of total regional employment declines slightly (10.5% and 10.4% respectively in medium projection, 11.0% and 10.8% respectively in low projection), indicating relatively higher growth rates of employment in other industries.

<sup>&</sup>lt;sup>6</sup> For value added projections, the component for owner occupied dwellings is extracted from the rental hiring and real estate services industry, and shown as a separate industry. There is no employment activity associated with owner occupied dwellings. It is an imputed value for rent that would be paid if houses were not owned. This imputed rent industry is not shown in employment data, as there are no people employed in this category.



<sup>&</sup>lt;sup>4</sup> The results of the previous 2015 CAU projections are documented in WRC, Technical Report 2016/03.

<sup>&</sup>lt;sup>5</sup> In 2015 projections, it is projected to increase to 236, 248 MECs by 2031 and 272,739 MECs by 2061.

The electricity, gas, water and waste services industries have the highest projected growth rates in employment. Under the medium projection, employment in the industry is projected to increase by 82% by 2061 (compared to 2014) and increase by 76% in the low projection. The professional, scientific and technical services is projected to have the second highest employment growth, where the employment in 2061 is 68% greater than the level at 2014 in the medium projection and 60% in the low projection. In both sets of projections, rental, hiring and real estate services and Information media and telecom are the only two industries with projected declines in the number of people employed from the 2014 base.

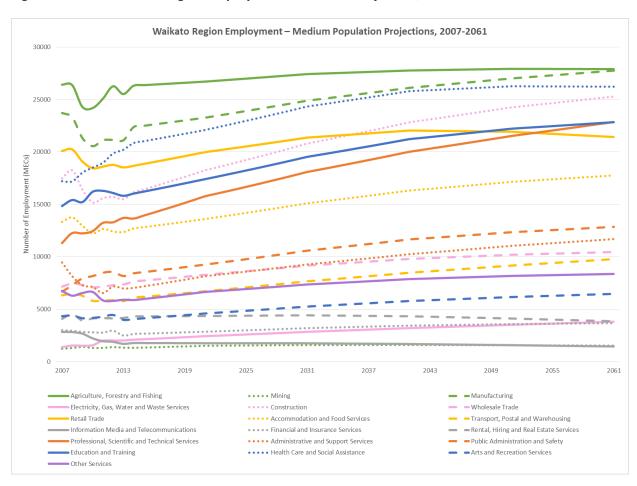


Figure 1 Waikato Region Employment – Medium Projection, 2007 to 2061

 $Note: The\ employment\ figures\ for\ 2007\ through\ to\ 2014\ are\ actuals\ derived\ from\ Statistics\ New\ Zealand's\ 2014\ Business\ Frame.$ 



Waikato Region Employment – Low Population Projections, 2007-2061

25000

20000

20000

20000

20000

20000

20000

20000

2007

2013

2019

2025

2031

2037

2043

2049

2055

2061

Agriculture, Forestry and Fishing
Electricity, Gas, Water and Waste Services
Refull Trade
Reful

Figure 2 Waikato Region Employment – Low Projection, 2007 to 2061

Note: The employment figures for 2007 through to 2014 are actuals derived from Statistics New Zealand's 2014 Business Frame.

Both projection series exhibit similar employment growth patterns overall. Compared to the low population scenario, employment growth of education and training and professional, scientific and technical services industries exhibit higher growth patterns in the medium projection. Overall, the latest employment projections exhibit similar patterns to the previous 2015 projection series. However, the latest projections have a flatter curve, indicating a lower annualised change across time.

## 2.2 Value Added

Value added for the Waikato region was estimated at  $\$_{2007}11.9$  billion in 2007, increasing to  $\$_{2007}12.9$  billion in 2014. Under the medium projection value added is projected to reach  $\$_{2007}16.6$  billion in 2031 and  $\$_{2007}22.2$  billion in 2061 (Figure 3). Under the low projection, value added increases to  $\$_{2007}16.6$  billion in 2031 and  $\$_{2007}21.1$  billion in 2061 (Figure 4). The value added contributions in all industries are projected to increase over time under the both sets



of projections. Compared to the previous 2015 projections, both projections exhibit lower value added figures. This is perhaps not surprising as value added is directly calculated from the employment projections, albeit at a higher level of disaggregation.

Manufacturing, which includes dairy manufacturing, is the largest industry (16.9% of total) in terms of contribution to value added or contribution to the region's GDP with  $\$_{2007}2.2$ bn in 2014. The industry value added is projected to increase under both the medium and low projection series, reaching  $\$_{2007}3.7$ bn and  $\$_{2007}3.6$ bn by 2061 respectively. The industry value added under both projection scenarios are slightly lower than the previous projections, where value added was projected to reach  $\$_{2007}3.9$ bn in the previous projection.

Agriculture, forestry and fishing industry had the second largest value added contribution to regional value added in 2014 ( $$_{2007}$ 1.5bn) and remains the second largest contributor under both projections where value added is projected to reach approximately  $$_{2007}$ 2.2bn by 2061 in both sets of projections.

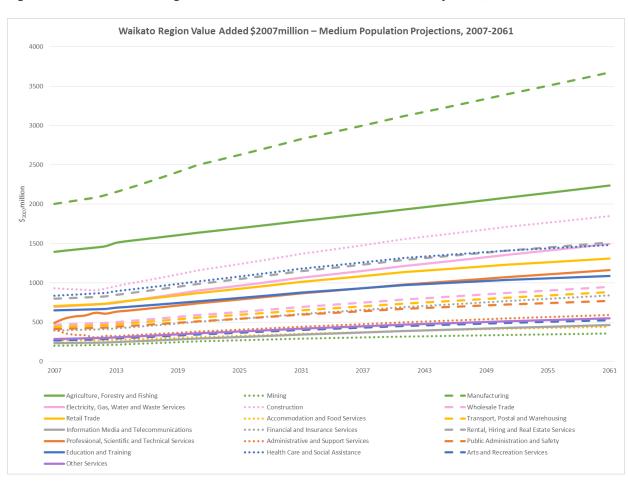


Figure 3 Waikato Region Value Added \$2007 million – Medium Projection, 2007 to 2061

Note: The value added figures for 2007 to 2014 are estimates based on M.E's multi-regional input-output table for the financial year ending March 2007 as derived from the latest available Statistics New Zealand Inter-Industry Study of the New Zealand economy.





Waikato Region Value Added \$2007 million – Low Population Projections, 2007-2061 4000 3500 3000 1500 2025 2031 2037 • Agriculture, Forestry and Fishing •••• Mining Electricity, Gas, Water and Waste Services • • • • • Accommodation and Food Services - Transport, Postal and Warehousing Information Media and Telecommunications Rental, Hiring and Real Estate Services • • • • • Administrative and Support Services

Figure 4 Waikato Region Value Added \$2007 million – Low Projection, 2007 to 2061

Note: The value added values for 2007 to 2014 in figure 3 and figure 4 are estimates based on M.E's multi-regional input-output table for the financial year ending March 2007 as derived from the latest available Statistics New Zealand Inter-Industry Study of the New Zealand economy.

All three projections, the two current (2016) projections and the previous 2015 projection, have similar value added growth patterns. Similar to the employment projections, the 2016 projections have a slightly flatter curve than the previous 2015 projection, indicating lower annualised change across time.



# 3 Territorial Local Authority Level Commentary

In the previous section, the latest runs of the WISE employment and value added projections of Waikato region are discussed. What is novel is how the regional level employment and value added growth projections are distributed across the eleven Territorial Local Authorities (TAs) within the Waikato region, and indeed across the CAUs of each TA.

The relatively smooth growth projections of the region mask the changes that can be significantly volatile within separate areas, as industries evolve, respond to local conditions (particularly land use change constraints), and possibly relocate. For this reason, it is important to acknowledge that the results presented in this Section are projections and not predictions – it is not possible to predict the future.

## 3.1 Employment

Table 1 and Table 2 shows, medium and low projections respectively, the numbers of MECs in each TA, with projected changes to 2031 and 2061, and the compound annual growth rate for the periods 2014-2031 and 2014-2061. A large proportion of the employment in the region is located in Hamilton City, where in 2014, 43% of the regional employment is in the Hamilton City. Under both sets of employment projections, the proportion of the region's employment in Hamilton City increases. Under both sets of projections, 45% (~105,110 MECs under the medium projection and ~102,560 MECs under the low projection) of the region's employment is in the Hamilton City by 2031 and 46% by 2061 (~121,160 MECs and ~116,080 MECs).

The Waikato and Waipa Districts, which surrounding Hamilton City have respectively the second and third largest total employment figures in all projected years from 2014 to 2061. Although the Waipa District has the second largest employment in 2016, the Waikato District is projected to overtake the Waipa District by 2031 under both sets of projections. By 2061, the Waikato District is projected to employ around 35,000 MECs (13.2% of the region's employment) under the medium projection and 31,500 MECs (12.6%) under the low projection. By comparison, the Waipa District, is projected to employ around 27,700 MECs (10.4% of the region's employment) under the medium projection and 26,100 MECs (10.4%) under the low projection.

Employment in the South Waikato District and the Rotorua District (i.e. only the part in Waikato Region) is projected to decrease over time. Under the medium projection, employment in South Waikato District is 0.3% (2.2% under the low projection) lower in 2031 than 2014, and 6.5% (10.9%) lower by 2061. Similarly, employment in the Rotorua District (i.e. only the part in Waikato Region) is 13.2% under the medium projection (and 13.7% under the low projection) lower in 2031 than 2014, and 21.9% (23.3%) lower by 2061.



The employment in all TAs excluding Hamilton City, South Waikato District and Rotorua District (i.e. only the part in Waikato Region) is greater in the current 2016 medium projection compared to the previous 2015 projection. In Hamilton City, the current medium employment projection decreased substantially compared to the previous projection, from ~110,930 to ~105,110 in 2031 and from 136,530 to ~121,160 in 2061. The decrease between the 2015 projection and 2016 medium projection is largely attributed to Hamilton City.. Similarly, under the low projection, employment in the TAs excluding Hamilton City are roughly similar to the previous 2015 projection in both 2031 and 2061. Employment in the Hamilton City is however substantially lower under the 2016 low projection at~8,000 MECs by 2031 and 20,000 MECs by 2061.

Table 1 Total Growth in Employment by Territorial Local Authority, 2014 to 2031, and 2014 to 2061 – Medium Projection

| Territorial Authority              | Actual MECs in 2014 | Projected MECs<br>in 2031 | Compounded<br>Annual Growth<br>Rate (2014-2031) | Projected MECs<br>in 2061 | Compounded<br>Annual Growth<br>Rate (2014-2061) |
|------------------------------------|---------------------|---------------------------|---|---------------------------|---|
| Hamilton City                      | 85,754              | 105,113                   | 1.20%   | 121,161                   | 0.74%   |
| Waipa District                     | 20,119              | 24,141                    | 1.08%   | 27,729                    | 0.68%   |
| Waikato District                   | 20,008              | 26,210                    | 1.60%   | 35,055                    | 1.20%   |
| Taupo District                     | 16,728              | 18,899                    | 0.72%   | 19,328                    | 0.31%   |
| Matamata-Piako District            | 16,127              | 18,413                    | 0.78%   | 19,607                    | 0.42%   |
| Thames-Coromandel District         | 11,503              | 12,766                    | 0.62%   | 12,788                    | 0.23%   |
| South Waikato District             | 9,008               | 8,980                     | -0.02%  | 8,424                     | -0.14%  |
| Hauraki District                   | 7,179               | 8,064                     | 0.69%   | 9,523                     | 0.60%   |
| Waitomo District                   | 5,004               | 5,431                     | 0.48%   | 5,700                     | 0.28%   |
| Otorohanga District                | 4,484               | 4,781                     | 0.38%   | 4,986                     | 0.23%   |
| Rotorua District (part in Waikato) | 2,118               | 1,839                     | -0.83%  | 1,654                     | -0.53%  |
| Total                              | 198,031             | 234,636                   | 1.00%   | 265,954                   | 0.63%   |

Table 2 Total Growth in Employment by Territorial Local Authority, 2014 to 2031, and 2014 to 2061 – Low Projection



| Territorial Authority              | Actual MECs in 2014 | Projected MECs in 2031 | Compounded<br>Annual Growth<br>Rate (2014-2031) | Projected MECs<br>in 2061 | Compounded<br>Annual Growth<br>Rate (2014-2061) |
|------------------------------------|---------------------|------------------------|---|---------------------------|---|
| Hamilton City                      | 85,754              | 102,557                | 1.06%   | 116,075                   | 0.65%   |
| Waipa District                     | 20,119              | 23,531                 | 0.93%   | 26,154                    | 0.56%   |
| Waikato District                   | 20,008              | 25,208                 | 1.37%   | 31,514                    | 0.97%   |
| Taupo District                     | 16,728              | 18,650                 | 0.64%   | 18,428                    | 0.21%   |
| Matamata-Piako District            | 16,127              | 17,972                 | 0.64%   | 18,394                    | 0.28%   |
| Thames-Coromandel District         | 11,503              | 12,495                 | 0.49%   | 12,103                    | 0.11%   |
| South Waikato District             | 9,008               | 8,807                  | -0.13%  | 8,026                     | -0.25%  |
| Hauraki District                   | 7,179               | 7,875                  | 0.55%   | 8,221                     | 0.29%   |
| Waitomo District                   | 5,004               | 5,368                  | 0.41%   | 5,549                     | 0.22%   |
| Otorohanga District                | 4,484               | 4,693                  | 0.27%   | 4,766                     | 0.13%   |
| Rotorua District (part in Waikato) | 2,118               | 1,829                  | -0.86%  | 1,627                     | -0.56%  |
| Total                              | 198,031             | 228,985                | 0.86%   | 250,858                   | 0.50%   |

In terms of the TA level industry composition: Hamilton City employs most of its workforce in the health care and social assistance industry; in Taupo District most people are employed in accommodation and food services industry; in Matamata-Piako District most people are employed in manufacturing (diary) industries; and in Thames-Coromandel District, most people are employed in retail trade than any other industry. For the rest of the TAs agriculture, forestry and fishing industry is the dominant industry.

Under both sets of projections, TA level industry composition remains similar to 2014 over the projection period. There are two exceptions: (1) for all TAs other than Waikato and Hauraki Districts, employment in the retail trade industry peaks by 2031 and experiences a slow decline in subsequent years; and (2) agricultural industry employment slowly declines or reach a steady-state over the projection years except for the Waikato and Waitomo Districts. For all TAs except for the Hauraki District, employment in most of the industries reaches a steady-state or increases at a much slower rate by 2061. The industry composition pattern in the current projection is similar to the previous projection.

Figure 5 and Figure 6, which respectively show the medium and low projections by detailed industry grouping, graphically show the projected growth rates in the 10 key Waikato TAs (ie. excluding the Rotorua District part in Waikato region). This enables a comparison of the main employment trends in each TA as well as a graphical representation of the projected changes. The employment data presented between 2007 and 2014 is actual data, whereas the data from 2015 to 2061 is projected from the modelling. These pseudo-comparable graphics clearly shows the TAs where there are one or two dominant industries (e.g. Otorahanga and Waitomo Districts), and those with more diversified industry employment (e.g. Hamilton City and Thames-Coromandel District). Note that the vertical scale measuring the number of MECs varies between the TA.



Figure 5 Projected Employment by Industry Grouping in Waikato Region's Territorial Local Authorities – Medium Projection, 2007 to 2061



Note: The vertical scale on the each line charts varies. The employment figures for 2007 through to 2014 are actuals derived from Statistics New Zealand's 2014 Business Frame.



Figure 6 Projected Employment by Industry Grouping in Waikato Region's Territorial Authorities – Low Projection, 2007 to 2061



Note: The vertical scale on the each line charts varies. The employment figures for 2007 through to 2014 are actuals derived from Statistics New Zealand's 2014 Business Frame.



#### 3.2 Value Added

Tables 3 and 4, show for the medium and low projections respectively, the relative size of each TA in terms of value added or GDP contribution, currently, in 2031, and in 2061. They also provide the compound annual growth rates for each TA between 2014 and 2031, and then between 2014 and 2061. There are higher growth rates in value added within the next seventeen years in most of the TAs, in comparison to the following period from 2014 to 2061.

Table 3 Projected Changes in Value Added, 2014, 2031 and 2061, with Compound Annual Average Growth Rates for Intervals – Medium Projection

| Territorial Authority              | Value Added in 2014 | Projected Value<br>Added in 2031 | Compounded<br>Annual Growth<br>Rate (2014-2031) | Projected Value<br>Added in 2061 | Compounded<br>Annual Growth<br>Rate (2014-2061) |
|------------------------------------|---------------------|----------------------------------|---|----------------------------------|---|
| Hamilton City                      | 5,318               | 7,127                            | 1.74%   | 9,460                            | 1.23%   |
| Waipa District                     | 1,270               | 1,688                            | 1.69%   | 2,238                            | 1.21%   |
| Waikato District                   | 1,343               | 1,976                            | 2.30%   | 3,074                            | 1.78%   |
| Taupo District                     | 1,161               | 1,467                            | 1.39%   | 1,785                            | 0.92%   |
| Matamata-Piako District            | 1,198               | 1,550                            | 1.53%   | 1,925                            | 1.01%   |
| Thames-Coromandel District         | 647                 | 783                              | 1.12%   | 886                              | 0.67%   |
| South Waikato District             | 697                 | 801                              | 0.82%   | 883                              | 0.50%   |
| Hauraki District                   | 468                 | 576                              | 1.23%   | 797                              | 1.14%   |
| Waitomo District                   | 379                 | 459                              | 1.13%   | 565                              | 0.85%   |
| Otorohanga District                | 297                 | 348                              | 0.93%   | 405                              | 0.66%   |
| Rotorua District (part in Waikato) | 158                 | 157                              | -0.02%  | 171                              | 0.17%   |
| Total                              | 12,936              | 16,931                           | 1.60%   | 22,190                           | 1.15%   |

Table 4 Projected Changes in Value Added, 2014, 2031 and 2061, with Compound Annual Average Growth Rates for Intervals – Low Projection

| Territorial Authority              | Value Added in 2014 | Projected Value<br>Added in 2031 | Compounded<br>Annual Growth<br>Rate (2014-2031) | Projected Value<br>Added in 2061 | Compounded<br>Annual Growth<br>Rate (2014-2061) |
|------------------------------------|---------------------|----------------------------------|---|----------------------------------|---|
| Hamilton City                      | 5,310               | 6,956                            | 1.60%   | 9,107                            | 1.15%   |
| Waipa District                     | 1,269               | 1,652                            | 1.56%   | 2,125                            | 1.10%   |
| Waikato District                   | 1,342               | 1,914                            | 2.11%   | 2,809                            | 1.58%   |
| Taupo District                     | 1,160               | 1,458                            | 1.36%   | 1,718                            | 0.84%   |
| Matamata-Piako District            | 1,197               | 1,527                            | 1.44%   | 1,868                            | 0.95%   |
| Thames-Coromandel District         | 646                 | 771                              | 1.05%   | 855                              | 0.60%   |
| South Waikato District             | 696                 | 786                              | 0.72%   | 846                              | 0.41%   |
| Hauraki District                   | 467                 | 567                              | 1.15%   | 694                              | 0.85%   |
| Waitomo District                   | 379                 | 457                              | 1.10%   | 558                              | 0.83%   |
| Otorohanga District                | 297                 | 344                              | 0.87%   | 399                              | 0.63%   |
| Rotorua District (part in Waikato) | 158                 | 157                              | -0.02%  | 170                              | 0.17%   |
| Total                              | 12,920              | 16,589                           | 1.48%   | 21,148                           | 1.05%   |



Figures 7 and 8 (medium and low projections respectively) on the following page presents the projected growth rates by industry grouping in the 10 Waikato TAs, enabling a comparison of the main value added trends in each TA as well as understanding of the projected changes. This information is shown in one A3 size page, and although difficult to determine details, it serves to highlight the diversity of industry change across the TAs in the Waikato Region. Note, the scales (in monetary terms) differ for each TA and, as the level of economic activity across the TAs has a wide range.



Figure 7 Projected Value Added by Industry in Waikato Region's Territorial Local Authorities – Medium Projection, 2007 to 2061



Note: The vertical scale on the each line charts varies. The value added figures for 2007 to 2014 are estimates based on M.E's multi-regional input-output table for the financial year ending March 2007 as derived from the latest available Statistics New Zealand Inter-Industry Study of the New Zealand economy.



Figure 8 Projected Value Added by Industry in Waikato Region's Territorial Local Authorities – Medium Projection, 2007 to 2061



Note: The vertical scale on the each line charts varies. The value added figures for 2007 to 2014 are estimates based on M.E's multi-regional input-output table for the financial year ending March 2007 as derived from the latest available Statistics New Zealand Inter-Industry Study of the New Zealand economy.





# **Appendix A**

## Australian New Zealand Industry Classification (ANZSIC) 2006 1-Digit Industry

| Division code | Division description                            |
|---------------|---|
| Α             | Agriculture, Forestry and Fishing               |
| В             | Mining  |
| С             | Manufacturing                                   |
| D             | Electricity, Gas, Water and Waste Services      |
| E             | Construction                                    |
| F             | Wholesale Trade                                 |
| G             | Retail Trade                                    |
| Н             | Accommodation and Food Services                 |
| 1             | Transport, Postal and Warehousing               |
| J             | Information Media and Telecommunications        |
| K             | Financial and Insurance Services                |
| L             | Rental, Hiring and Real Estate Services         |
| M             | Professional, Scientific and Technical Services |
| N             | Administrative and Support Services             |
| 0             | Public Administration and Safety                |
| P             | Education and Training                          |
| Q             | Health Care and Social Assistance               |
| R             | Arts and Recreation Services                    |
| S             | Other Services                                  |
| T             | All industries                                  |



# **Appendix B**

## Waikato region employment and value added projections – Medium population projections

|                      |   | Employment (MECs) |        |        | Value Added (\$ <sub>2007</sub> mil) |       |       |
|----------------------|---|-------------------|--------|--------|--------------------------------------|-------|-------|
| <b>Division code</b> | Division description                            | 2014              | 2031   | 2061   | 2014                                 | 2031  | 2061  |
| Α                    | Agriculture, Forestry and Fishing               | 26,312            | 27,422 | 27,897 | 1,529                                | 1,786 | 2,238 |
| В                    | Mining  | 1,320             | 1,588  | 1,531  | 218                                  | 290   | 356   |
| C                    | Manufacturing                                   | 22,366            | 24,884 | 27,752 | 2,194                                | 2,827 | 3,673 |
| D                    | Electricity, Gas, Water and Waste Services      | 2,094             | 2,848  | 3,810  | 767                                  | 1,066 | 1,496 |
| E                    | Construction                                    | 16,154            | 20,809 | 25,292 | 987                                  | 1,369 | 1,848 |
| F                    | Wholesale Trade                                 | 7,649             | 9,167  | 10,463 | 511                                  | 694   | 952   |
| G                    | Retail Trade                                    | 18,674            | 21,365 | 21,424 | 768                                  | 1,013 | 1,309 |
| Н                    | Accommodation and Food Services                 | 12,705            | 15,105 | 17,765 | 282                                  | 352   | 440   |
| 1                    | Transport, Postal and Warehousing               | 6,096             | 7,670  | 9,798  | 485                                  | 652   | 883   |
| J                    | Information Media and Telecommunications        | 1,784             | 1,752  | 1,450  | 253                                  | 343   | 464   |
| K                    | Financial and Insurance Services                | 2,657             | 3,210  | 3,684  | 429                                  | 602   | 839   |
| L                    | Rental, Hiring and Real Estate Services         | 4,307             | 4,412  | 3,847  | 863                                  | 1,149 | 1,517 |
| M                    | Professional, Scientific and Technical Services | 13,644            | 18,089 | 22,855 | 645                                  | 867   | 1,163 |
| N                    | Administrative and Support Services             | 7,043             | 9,273  | 11,675 | 333                                  | 444   | 594   |
| 0                    | Public Administration and Safety                | 8,418             | 10,581 | 12,846 | 453                                  | 598   | 773   |
| P                    | Education and Training                          | 16,029            | 19,528 | 22,836 | 694                                  | 876   | 1,088 |
| Q                    | Health Care and Social Assistance               | 20,846            | 24,318 | 26,204 | 910                                  | 1,180 | 1,480 |
| R                    | Arts and Recreation Services                    | 4,058             | 5,251  | 6,458  | 302                                  | 405   | 528   |
| S                    | Other Services                                  | 5,875             | 7,363  | 8,365  | 314                                  | 418   | 550   |

#### Waikato region employment and value added projections – Low population projections

|                      |   | Employment (MECs) |        |        | Value A | Value Added (\$2007 mil) |       |  |
|----------------------|---|-------------------|--------|--------|---------|--------------------------|-------|--|
| <b>Division code</b> | Division description                            | 2014              | 2031   | 2061   | 2014    | 2031                     | 2061  |  |
| Α                    | Agriculture, Forestry and Fishing               | 26,312            | 27,294 | 27,564 | 1,529   | 1,782                    | 2,224 |  |
| В                    | Mining  | 1,320             | 1,580  | 1,511  | 218     | 288                      | 351   |  |
| C                    | Manufacturing                                   | 22,366            | 24,617 | 27,080 | 2,193   | 2,803                    | 3,601 |  |
| D                    | Electricity, Gas, Water and Waste Services      | 2,094             | 2,801  | 3,677  | 766     | 1,054                    | 1,459 |  |
| E                    | Construction                                    | 16,154            | 20,603 | 24,728 | 986     | 1,355                    | 1,806 |  |
| F                    | Wholesale Trade                                 | 7,649             | 8,989  | 10,013 | 511     | 681                      | 911   |  |
| G                    | Retail Trade                                    | 18,674            | 20,600 | 19,621 | 767     | 977                      | 1,199 |  |
| Н                    | Accommodation and Food Services                 | 12,705            | 14,667 | 16,510 | 282     | 342                      | 409   |  |
| 1                    | Transport, Postal and Warehousing               | 6,096             | 7,546  | 9,443  | 484     | 641                      | 851   |  |
| J                    | Information Media and Telecommunications        | 1,784             | 1,708  | 1,369  | 252     | 334                      | 438   |  |
| K                    | Financial and Insurance Services                | 2,657             | 3,128  | 3,480  | 429     | 586                      | 792   |  |
| L                    | Rental, Hiring and Real Estate Services         | 4,307             | 4,301  | 3,624  | 862     | 1,120                    | 1,429 |  |
| M                    | Professional, Scientific and Technical Services | 13,644            | 17,712 | 21,838 | 644     | 849                      | 1,111 |  |
| N                    | Administrative and Support Services             | 7,043             | 9,085  | 11,066 | 332     | 435                      | 563   |  |
| 0                    | Public Administration and Safety                | 8,418             | 10,148 | 11,607 | 452     | 574                      | 699   |  |
| Р                    | Education and Training                          | 16,029            | 18,700 | 20,467 | 692     | 839                      | 975   |  |
| Q                    | Health Care and Social Assistance               | 20,846            | 23,230 | 23,364 | 908     | 1,128                    | 1,320 |  |
| R                    | Arts and Recreation Services                    | 4,058             | 5,099  | 6,022  | 302     | 393                      | 493   |  |
| S                    | Other Services                                  | 5,875             | 7,177  | 7,876  | 313     | 407                      | 517   |  |

