



Waikato regional MARCO Indicators

Data analysis report 2013

Executive Summary

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MARCO's motivation for updating this report is to ensure the most recent community progress data is available to territorial authorities and Waikato Regional Council to support general decision making. Much of the contents from earlier 2007-2012 annual update reports have been retained, with changes resulting only from more recent data, information and feedback.

Since the 2009 update, regional and local data has become increasingly accessible to planners through MARCO's web-based data discovery tool. This full report and the underlying data, graphs and metadata are available online at: www.choosingfutures.co.nz/Publications.

DISCLAIMER

Care has been taken in the production of this report to ensure its contents are as accurate as possible. However, neither APR Consultants nor Waikato Regional Council takes responsibility for any incorrect information or decisions by any persons based on the information herein.

FURTHER INFORMATION

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EXECUTIVE SUMMARY

Introduction

The purpose of this report is to help inform and guide the setting of priorities by key decision-makers in the Waikato Region, to promote better co-ordination and application of community resources. The report identifies current states and historical trends for a carefully selected set of regional indicators, updating information from previous annual reports. Differences between the 2012 and 2013 reports are summarised in Appendix One.

Of the 75 indicators in the monitoring set, 25 were updated as part of this 2013 report. Some additional contextual information was also sourced for other indicators. Many of the remaining indicators relied on the Waikato Regional Perception Survey, New Zealand Census and MSD Social Report, none of which were updated over the past year:

- The cycle for the MARCO Waikato Regional Perception Survey is triennial (i.e. 2007 and 2010). Results from the 2010 survey were previously incorporated. MARCO's annual Work Programme 2012-13 includes planning toward the third triennial MARCO Perception Survey scheduled for June/July 2013.
- The five-yearly national Census was not held in March 2011 as scheduled due to the February 2011 Christchurch earthquake and resulting national state of emergency. The most recent Census was held in March 2013. Results are scheduled to be released from December 2013.
- The MSD Social Report was published annually from 2001 to 2010, but may now only be scheduled for triennial or less frequent updates.
- In addition, Hamilton City Council was a non-participant in the most recent wave of the Quality of Life Survey.

This report identifies states and trends in the Waikato regional MARCO indicators at the regional level. Monitoring progress toward local and iwi outcomes is not addressed by this report; however some tables and graphs as well as the Appendices and supplementary online data provide information at the territorial authority level.

A key change during the years prior to this report is that Franklin District was disestablished on 31 October 2010 and divided between the new Auckland Council and the Waikato and Hauraki districts. For the purpose of this report, Franklin District data has been compiled and reported up to and including 2010 only. An exception is that commercial accommodation tourism data continues to be reported on the basis of accommodation providers that were within the boundaries of the former Franklin District.

Legislative changes and policy responses

A more significant key change has been the Local Government Amendment Act 2010, which repealed sections 91 and 92 of the 2002 Act (ie, councils' obligation to identify, monitor and report on community outcomes). These and other amendments stemmed from proposals by the Local Government Minister to rationalise the 2002 Act, known as the 'Improving Local Government Transparency, Accountability and Fiscal Management' (TAFM) changes¹.

Consultation undertaken by WRC in late 2011 confirmed that local councils within the Region have scaled down and re-focused their monitoring and reporting activities. Councils' monitoring and reporting programmes are now linked more closely with council performance than with community progress, and community outcomes reporting is largely restricted to Annual Reports (although a range of other community and environmental well-being reports may still be regularly published by some councils).

¹ Further amendments in December 2012 (the Local Government Act 2002 Amendment Act 2012) changed the purpose of local government and also changed reference to the term "*well-being*" throughout the LGA2002 (substituted by "*interests of people and communities*").

WRC also consulted territorial authorities on options for the 2012 update report. The options included an update based on the existing 75 indicators (status quo), update based on an expanded set of indicators, or postponement/discontinuation of the reporting programme. In view of the value of the information and councils' past investment in establishing the MARCO programme, and given that the updates were being fully funded by WRC, a decision was made to proceed on the basis of the core set of 75 indicators.

Also as a result of TAFM, WRC adopted four new Community Outcomes: community partnerships, environmental quality, safe and resilient communities and regional economy. The 38 original regional community outcome statements were renamed 'community aspirations' and those relevant to WRC's functions (17 of the 38) are included under the four new Community Outcomes. These changes are reflected in WRC's corporate publications but the previous regime of Community Outcomes remains unchanged within this update report.

In parallel with this annual MARCO update report, and building on the current 75 MARCO indicators discussed here, WRC also initiated a desktop review project to provide recommendations for the development of a monitoring and reporting programme to track progress on key economic, environmental and social/cultural aspects of regional wellbeing (Genuine Progress Index). Decisions by WRC based on these recommendations may have implications for the MARCO programme going forward.

Key results – 2013 data update

- Historical trend data shows a decline in river water quality. Waikato Regional Council's long-term records of river water quality indicate increases in observed nitrogen concentrations in some Waikato River locations, probably resulting from intensification of land use within the catchment. Across the region as a whole, in some rivers and streams increases in concentrations of total nitrogen, nitrate, phosphorus, E. coli and enterococci and a decrease in dissolved oxygen are observed (Waikato Regional Council Technical Report 2013/20 – forthcoming).
- Estimates from New Zealand's annual Greenhouse Gas Inventory for the period 1990-2011 show an increase of 22.1% in national greenhouse gas emissions, including relatively rapid growth in emission levels since 2009. Although regional data is not available, it is likely the Waikato Region contributed substantially to this increase. Emission sources that contributed most to the national increase in total emissions include dairy enteric fermentation (methane emissions produced from ruminant livestock), road transport and agricultural soils.
- Most economic indicators were improving steadily over the long-term and then dropped during the 2008-09 global financial crisis. An economic recovery appeared to have begun during the latter half of 2010, but initial gains have not been maintained. Unemployment has risen and there has been a general decline in the rate of building consents issued since mid 2007. Other signs of the lingering effects of the GFC include a slump in real median weekly earnings for those in paid employment and regional business and employee counts. The number of visitor nights for the Region also dropped during 2008 but appears to have recovered.

Overview of long term progress

Note: In the context of this report, 'long term' refers broadly to a period of at least 5-10 years or more.

1. Sustainable Environment

The Waikato Region generally has a clean and green natural environment, and people are doing more today than they were ten years ago to protect the environment for the future. However there is still room for improvement in terms of river water quality for both ecological health and recreational purposes (particularly in the Hauraki area and lower Waikato River catchment), energy conservation to help address climate change, and urban air quality to improve people's health. Farming has continued to intensify over the past few decades, resulting in increased levels of nitrogen flowing into the Waikato River and other rivers and streams.

2. Quality of Life

Waikato regional communities have an increasing life expectancy, growing early childhood education rates and reducing levels of household crowding. The Region is also making advances in areas where it is behind the national average, including the number of school leavers with formal qualifications and educational attainment of the adult population. The proportion of school leavers in the Waikato Region with no formal qualification has apparently fallen dramatically over the past few years at both the regional and national level. However, aspects of quality of life that require attention include declining levels of home ownership between 1991 and 2006, increasing rental costs as a proportion of household income over a similar period, and a recent decline in the perception by Waikato young people (girls in particular) that they get enough time with at least one parent most of the time.

3. Sustainable Economy

Most economic indicators were improving steadily over the long-term and then dropped during the 2008-09 global financial crisis. An economic recovery appeared to have begun during the latter half of 2010, but initial gains have not been maintained. GDP growth estimates remain low for both the Waikato Region and New Zealand overall. Unemployment has risen since 2006 and there has been a decline in the rate of building consents issued since mid 2007. Other signs of a stagnant economy include a slump in real median weekly earnings for those in paid employment and decline in regional business and employee counts since 2008.

4. Culture and Identity

There is relatively little information available for monitoring cultural wellbeing and strength of identity in the Region, but there are some positive indicators. For example, the number of Māori language speakers has been steadily increasing. The recently passed Waikato River Settlement Act 2010 may promote increased monitoring and reporting of cultural indicators.

5. Participation and Equity

There is also relatively little information available for monitoring participation and equity in the Region. A positive sign is that the Waikato Region has a relatively high level of representation by Māori and women in local authorities. Of possible concern is that the voter turnout rate has been generally declining in the Region, as it has been throughout New Zealand over much of the past two decades.

States and trends

Highlights:

Overall the Waikato Region is progressing well on a number of fronts (in no particular order):

- Increased recycling of waste and other environmental actions.
- Sustained increases in life expectancy.
- Increased numbers of Māori language speakers.
- Relatively high levels of representation of Māori and women on local authorities.
- Improvements in educational participation and attainment.

Areas we could improve as a Region include (in no particular order):

- Continue to investigate ways to reduce the levels of nitrogen and phosphorus flowing into the Region's rivers and streams.
- Foster improved attitudes and actions towards the natural environment, including more energy conservation and further promotion of waste minimisation.
- Reduce the Region's rate of road crashes and casualties.
- Address housing issues such as rising rents and falling home ownership rates.
- Tackle poor urban air quality by promoting cleaner home heating.
- Better understand and investigate ways to promote cultural well-being in the Region.
- Continue to improve education rates, from early childhood education to post-compulsory learning.
- Consider ways to improve voter turnout at local authority and general elections.
- Consider ways to foster the relationships between young people and their parents.
- Tackle persistent socio-economic disparities throughout the Region, particularly for Māori.

States and trends in relation to each of the Waikato regional MARCO indicators are summarised on the following pages. There are still substantial data gaps which, when filled, may highlight additional issues to be addressed. The indicators below have been sorted from favourable to adverse under each theme in terms of their state and long-term trend (previous 5+ years). A high proportion of states are shown as mixed or uncertain (☹), reflecting an absence of comparative data for many of these indicators. Gaps in historical trend information have been highlighted with question marks.

Key:

Unique identifier (Code)	State	Trend
Eg, 1.1.1	☺ Good/satisfactory	↑ Improving/favourable
	☹ Mixed/uncertain	↓ Declining/unfavourable
	⊖ Unsatisfactory	⇒ No significant trend
		? Uncertain, ie, no trend data available

For example:

Indicator	State	Trend
1.1.1 River water quality for ecological health	☹	↓

This means that the indicator 'river water quality for ecological health' (assessed using water quality guidelines and standards) is showing mixed or uncertain results throughout the Region (compared to other regions or New Zealand as a whole), and the long-term trend shows a deterioration in water quality (specifically for the period 1992 to 2011).

Results:

Code	Indicator	State	Trend
1.	Sustainable Environment		
1.6.2	Proportion of recycling	☺	⇒
1.2.2	People's personal environmental actions	☺	↑
1.4.1	Rural subdivision	☹	⇒
1.6.1	Waste to landfills	☹	⇒
1.3.1	Coastal water quality for recreation	☹	⇒
1.1.4	Lakes water quality for contact recreation ²	☹	⇒
1.4.2	Stock density	☹	⇒
1.1.11	Protected native vegetation areas	☹	⇒
1.1.5	Land use	☹	?
1.1.7	Groundwater availability and use	☹	?
1.1.8	Surface water availability and use	☹	?
1.1.9	Protection of natural heritage and landscapes	☹	?
1.1.10	Extent of native vegetation	☹	?
1.3.2	Public access to coast (coastline ownership)	☹	?
1.5.1	Total energy consumption	☹	?
1.5.3	Energy efficiency	☹	?
1.2.1	People's environmental attitudes	☹	↓
1.1.1	River water quality for ecological health	☹	↓
1.1.3	Lakes water quality for ecological health	☹	⇒
1.1.6	Urban air quality	☹	⇒
1.1.2	River water quality for recreation	☹	⇒
1.5.2	Greenhouse gas emissions	☹	↓
2.	Quality of Life		
2.1.1	Life expectancy at birth	☺	↑
2.2.3	Participation in early childhood education	☹	↑
2.3.4	Household crowding (Canadian Crowding Index)	☹	↑
2.2.1	School leavers with no formal qualification	☹	↑
2.2.2	Educational attainment of the adult population	☹	↑
2.1.2	Social deprivation index	☹	⇒
2.1.3	Avoidable mortality and hospitalisation rates	☹	⇒
2.4.3	Road traffic crashes and casualties	☹	⇒
2.6.1	Participation in sport and active leisure	☹	⇒

² For Lake Taupo the state for indicator 1.1.4 is "excellent", while for the shallow lakes it is "poor".

Code	Indicator	State	Trend
2.7.1	Participation in social networks and groups	☺	⇔
2.5.1	Unpaid work	☺	⇔
2.4.1	Criminal victimisation rates	☺	⇔
2.3.3	Home ownership rate	☺	↓
2.7.2	Contact between young people and their parents	☺	↓
2.3.1	Rent to income ratio	☺	?
2.1.4	Overall quality of life	☺	?
2.1.5	Barriers to accessing General Practitioners (GPs)	☺	?
2.2.4	Adult and community education	☺	?
2.2.5	Work opportunities matching skills	☺	?
2.3.2	Housing affordability	☺	?
2.3.5	Proximity to work, study and recreation	☺	?
2.8.1	Youth and older people's engagement in decision-making	☺	?
2.4.2	Perceptions of safety	☺	?
3.	Sustainable Economy		
3.2.2	Unemployment rate	☺	⇔
3.7.1	Total research funding	☺	↑
3.5.1	Regional GDP contributed by primary industries	☺	↑
3.6.4	Employment in the tourism industry	☺	⇔
3.2.4	Number of businesses and employees by industry	☺	⇔
3.2.3	Median weekly earnings for those in paid employment	☺	⇔
3.2.1	Regional Gross Domestic Product (GDP)	☺	⇔
3.7.2	Enrolments at tertiary education institutes	☺	⇔
3.6.1	Visitor nights in commercial accommodation	☺	⇔
3.6.3	Income from tourism (international and domestic)	☺	?
3.6.2	International visitors	☺	?
3.3.1	Drinking water quality	☺	?
3.4.1	Residents' confidence in councils' decision-making	☺	?
3.4.2	Residents' satisfaction with councils' approach to planning and providing services	☺	?
3.2.5	Building consents	☺	↓
3.1.1	Genuine Progress Indicator	☹	⇔
4.	Culture and Identity		
4.1.1	Residents' rating of their sense of pride in the way their city/town looks and feels	☺	?
4.4.1	People employed in the cultural sector	☺	↑
4.3.3	Proportion of council's spending on cultural activities and events	☺	↑

Code	Indicator	State	Trend
4.2.1	Number of buildings and places listed on the Historic Places Trust register	☹️	⇒
4.1.2	Number of Māori speakers (in Māori and total population)	☹️	⇒
4.2.2	Number and proportion of heritage buildings demolished or removed from heritage records	☹️	?
4.2.3	Design of new developments	☹️	?
4.3.1	Residents' satisfaction with cultural facilities provided	☹️	?
4.3.2	Participation in cultural and arts activities	☹️	?
4.1.3	Proportion of population that speak the 'first language' of their ethnic group	☹️	?
5.	Participation and Equity		
5.1.2	Degree of representation by tangata whenua and minority groups on governance and decision-making bodies	☹️	⇒
5.1.1	Percentage of voter turnout at local and general elections	☹️	⇩
5.1.3	Residents' rating of satisfaction with council's provision of opportunities for community involvement in decision-making	☹️	?
5.2.1	Percentage of residents perceiving that cultural diversity makes their region/city/town a better place to live	☹️	?

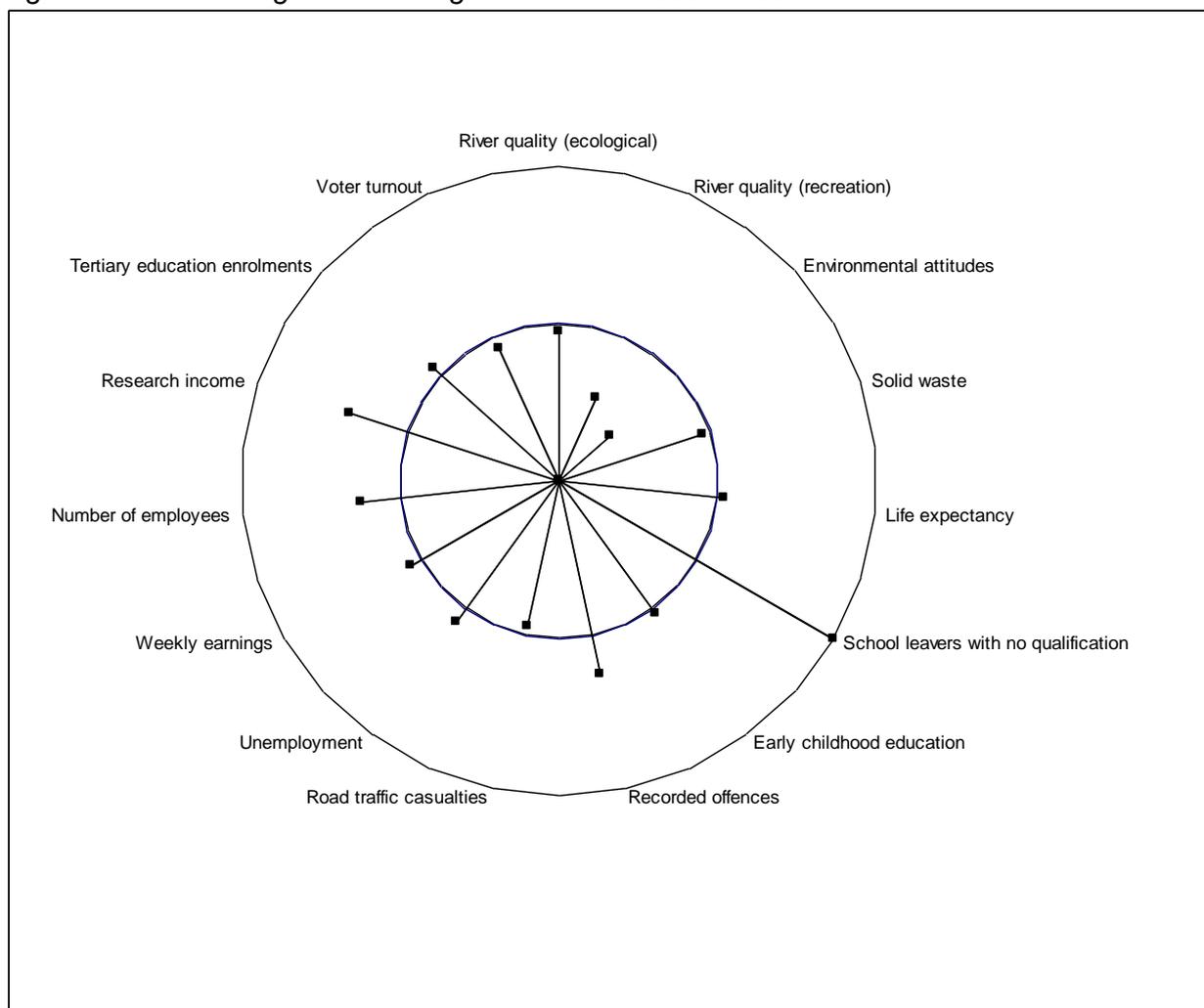
Circles of well-being:

Key trends for the Region over the past ten year period are summarised in Figure 1. This shows only indicators for which suitable time series data is available.

The central circle represents community wellbeing in the Waikato Region in the mid-late 1990s and the spokes show progress to the late 2000s/early 2010s. Where a spoke extends outside the circle it means community wellbeing has improved. Where a spoke falls within the circle, community wellbeing has declined.

Figure 1 illustrates that between the periods 1996-2005 and 2007-2012 there were substantial net improvements in a range of social and economic indicators, including increased levels of education, reduced unemployment and higher average income. This was despite an extended economic slump due to the 2008-09 global financial crisis. Indicators that deteriorated over this period were primarily environmental in nature, including river water quality and surveyed environmental attitudes. A significant trend not shown on the diagram, due to the absence of regional data, is that greenhouse gas emissions were approximately 22% higher in 2011 than they were in 1990. Note that this diagram will be expanded when the latest Census results next become available.

Figure 1: Waikato Region well-being trends 1996-2005 to 2007-2012



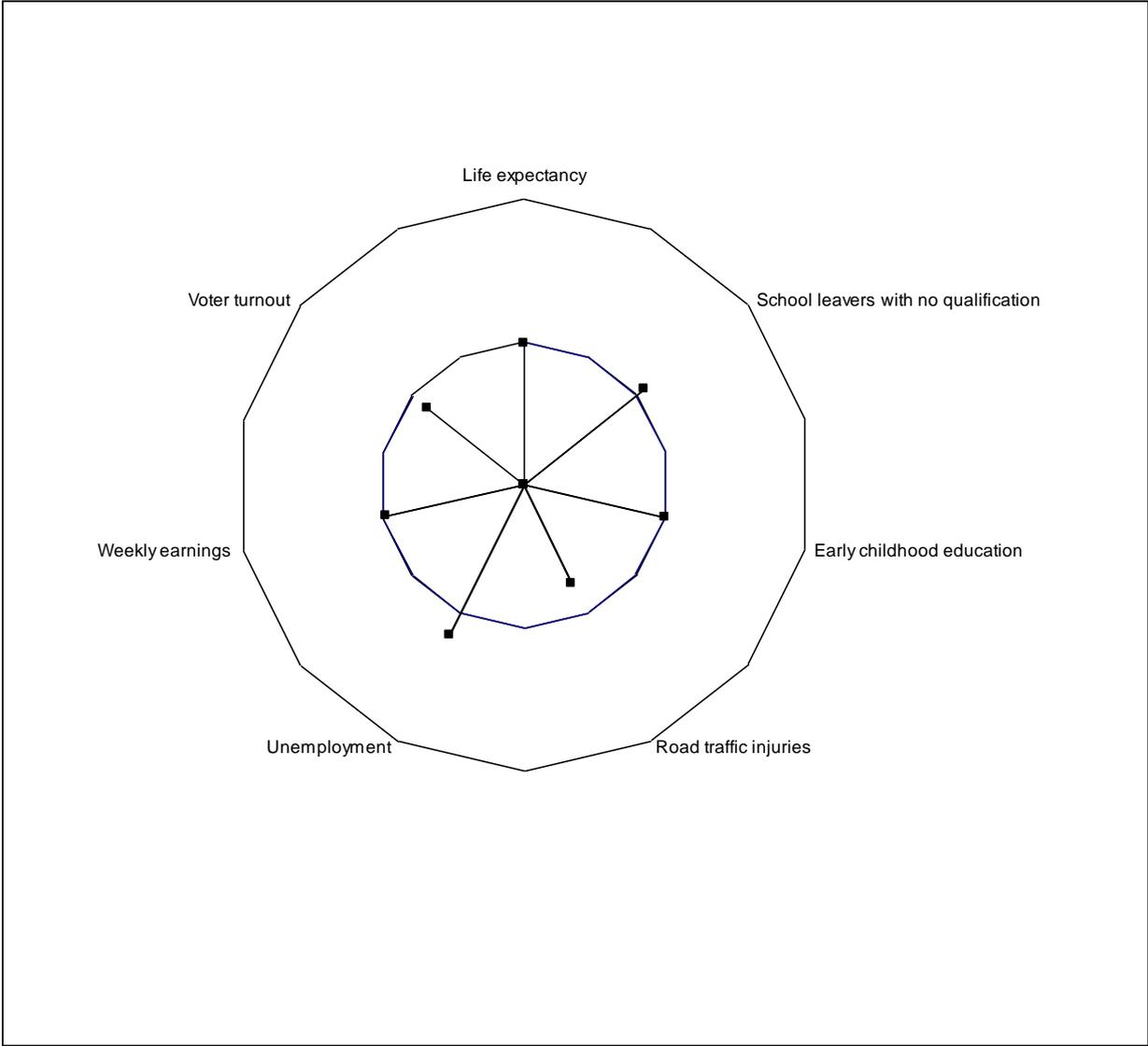
Source: Waikato regional MARCO data

Note: Indicator selection was based on the availability of reliable Waikato Region time series data from approximately 1996-2005 to approximately 2007-2012.

Comparisons of the Waikato Region to New Zealand average figures for specific key indicators in the late 2000s/early 2010s are shown in Figure 2. In this case the circle in the middle represents national average wellbeing in the late 2000s/early 2010s. Where a spoke extends outside the circle it means regional/local community wellbeing is better than the national average, and where it falls within the circle, community wellbeing is worse than the national average.

In summary, Figure 2 illustrates that the Waikato Region is similar to the national average on many of the available indicators. Results for road traffic injuries and voter turnout are all slightly worse when compared with national data. Note that this diagram will be expanded when the latest Census results next become available.

Figure 2: Waikato Region compared to New Zealand, late 2000s/early 2010s

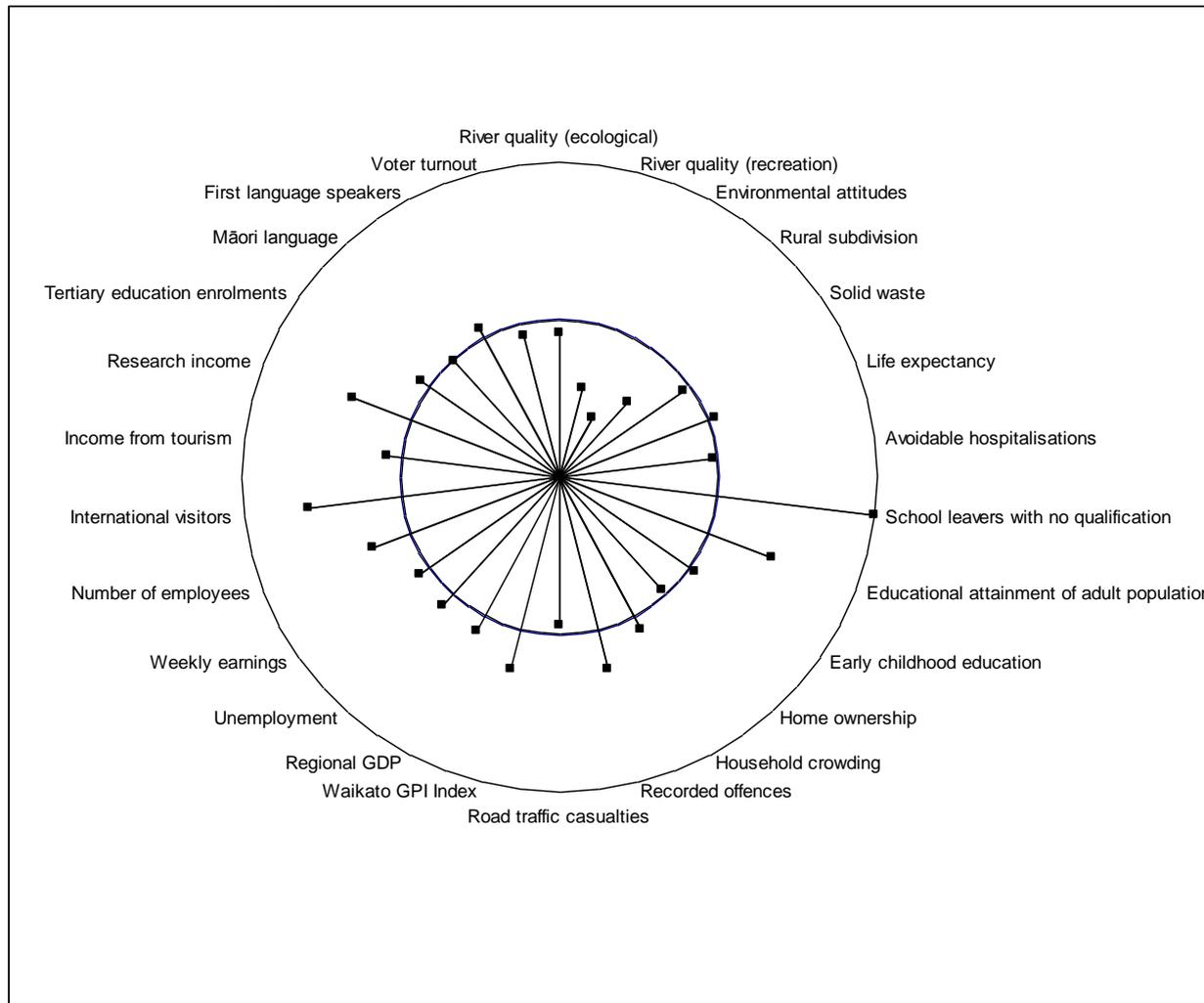


Source: Waikato regional MARCO data
Note: Indicator selection was based on the availability of comparative data at the national level.

Circles of well-being (including 2006 latest data):

Note that the circles of well-being above have excluded a substantial number of potential indicators due to a prolonged period without data updates. This is particularly the case for 2006 Census data but also for a small number of other indicators. This will be remedied next year, at which point there will be a substantial number of additional spokes. The graphs below include 2006 Census data and other items previously reported. Care should be undertaken in interpreting these graphs due to the wide variation in timing for different observations.

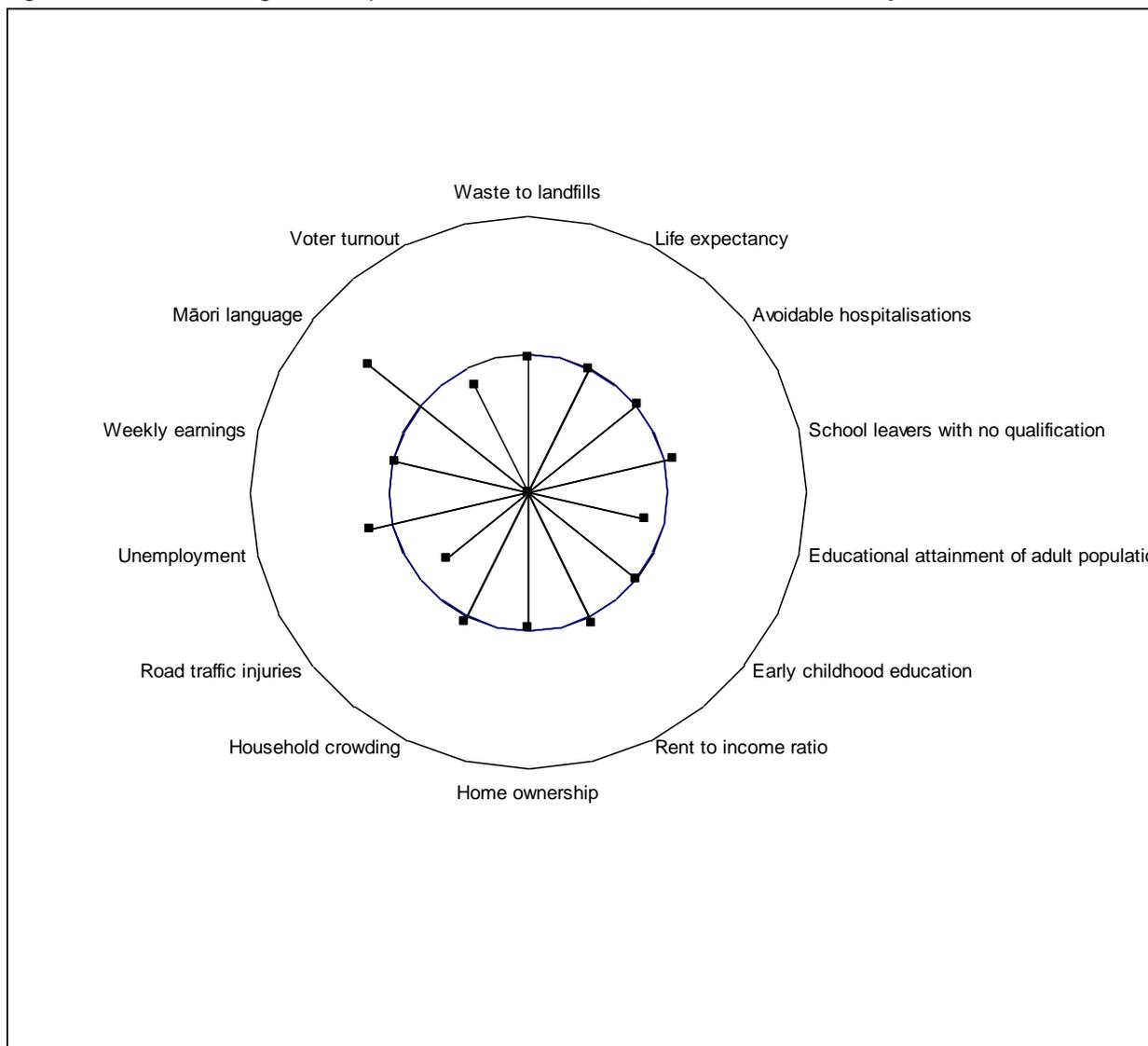
Figure 3: Waikato Region well-being trends 1996-2005 to 2006-2012



Source: Waikato regional MARCO data

Note: Indicator selection was based on the availability of reliable Waikato Region time series data from approximately 1996-2005 to approximately 2006-2012.

Figure 4: Waikato Region compared to New Zealand, mid-late 2000s/early 2010s



Source: Waikato regional MARCO data

Note: Indicator selection was based on the availability of comparative data at the national level.

1. Sustainable Environment – summary

Why is this important?

Quality air, land and water, native flora and fauna, natural landscapes and resources are an important part of the regional identity and sustain both ecological and human health. Natural resources and the services they provide are vital for the regional economy and the wellbeing of people and communities.

How are we doing?

The Waikato Region generally has a clean and green natural environment. However there is room for improvement in terms of energy conservation, urban air quality (particulates) and river water quality for recreation (particularly in the Hauraki area and lower Waikato River catchment). Farming has continued to intensify over the past few decades, resulting in increased levels of phosphorus and nitrogen flowing into the Waikato River. Also of some concern is an apparent decline in pro-ecological values throughout the Region, according to results from Waikato Regional Council surveys. At present there is little historical information available on which to gauge the Region's overall progress towards environmental well-being. It is also difficult to compare many environmental indicators for the Waikato Region with equivalent data at the national level.

Air, land, water quality and biodiversity

River water quality for ecological health is generally good across the Region. However in areas where land use is more intensive, water quality for ecological health is poorer (for example, Hauraki and the lowland tributaries of the Waikato River). This is mainly because of the greater intensity of land use in the lowland parts of the Region. Monitoring of regional rivers over the past 20 years shows mixed results. Overall, 17 per cent of water quality measures improved at individual sites, and 37 per cent deteriorated.³ The records of temperature, dissolved oxygen, biological oxygen demand, dissolved colour, arsenic and enterococci have generally remained stable. Trends show an improvement in Chlorophyll a overall, with less algae in the river. But water clarity has shown an overall decline, with a rate of change of about 1 per cent per year from 1995 to 2011. Levels of total nitrogen increased at several sites along the river, probably as a result of land use changes over recent decades. Pressures from wastewaters have generally decreased over the past 20 years, but agricultural land use has continued to intensify. As the region continues to grow and develop, putting pressure on the river's catchment, careful management is needed to maintain and improve the quality of the Waikato River.

River water quality for contact recreation is good in some parts of the Region (eg, the upper Waikato River and tributaries of Lake Taupo). However, in the lowland areas river water quality is not satisfactory (eg, Hauraki and the lowland tributaries of the Waikato River). This largely reflects the greater intensity of land use in the lowland parts of the Region, with higher levels of faecal bacteria and fine silts, and highlights the impact of non-point sources of contamination such as runoff from agricultural land and urban areas. Waikato Regional Council's long-term records of river water quality indicate increases in observed nitrogen concentrations in some Waikato River locations, probably resulting from intensification of land use within the catchment (Waikato Regional Council Technical Report 2013/20 – forthcoming).

The Waikato Region's shallow lakes are generally nutrient enriched as assessed by Waikato Regional Council, resulting in a relatively high trophic state and low oxygen levels. The trophic state of most lakes remained unchanged or deteriorated between 1995 and 2010. Water quality for ecology in Lake Taupo remains largely satisfactory to excellent.

Water quality for contact recreation such as swimming is satisfactory to excellent in Lake

³ These figures are currently being updated (Waikato Regional Council Technical Report 2013/20 – forthcoming).

Taupo, although bacterial levels are sometimes high near urban areas (eg, Taupo foreshore, Te Moenga Bay and Acacia Bay).

An indicator of regional land use is currently under development at the national level. According to 2007 regional data from the Statistics New Zealand Agricultural Production Census, the main types of land use in the Waikato Region are grassland (71%), plantations of exotic trees intended for harvest (18%), mature native bush (4%) and native scrub and regenerating native bush (3%).

Levels of fine particulate matter in the air, mostly from wood burners, exceed the regional guideline for a few days each year in the urban areas currently monitored. Communities are required to comply with the new National Environmental Standard for air quality by specific dates (depending on the state of local air quality)⁴. Of the urban areas monitored, Tokoroa exhibits the largest number of exceedances per annum.

Groundwater levels in most parts of the Waikato Region are under low stress, with less than 10% of available groundwater being used. Some areas which have been investigated in the Region are under high stress, with more than 30% of available groundwater being used. These include the far north of the Region near Pukekohe, plus Tokoroa and the Waihi Basin.

During 2009/10, a Waikato Regional Landscape Assessment was commissioned by Waikato Regional Council. This shows that the Waikato Region has a number of historically and aesthetically important landscape assets, providing a baseline for future monitoring and management of landscapes within the Region.

Around 69% of the Waikato Region is planted in non-native vegetation. This is primarily due to the prevalence of pastoral farming and plantation forestry. The highest proportion of land in indigenous forest in the Region is in the Thames-Coromandel District (65%) and the lowest is in Hamilton City (3%).

As at July 2009, 401,300 ha of land in the Waikato Region (17.0%) was legally protected for the primary purpose of conserving biodiversity. Between 2006 and 2009, legally protected conservation land in the Waikato Region increased by 1,400 ha or 0.4%.

Environmental attitudes and behaviours

A 2008 survey by Waikato Regional Council using the 'New Environmental Paradigm Scale' (NEP) showed that 16% of people in the Region had pro-ecological values. This was lower than in 2004 when 19% had pro-ecological values, and significantly lower than in 2000 when 36% had pro-ecological values.

According to survey results, the main actions that Waikato people undertake to protect the environment are recycling, planting trees and composting. A smaller number of people said they also reduced plant and animal pests and saved electricity.

Coastal environment

Coastal water quality for contact recreation such as swimming is usually satisfactory or better. Occasionally some beaches have high bacteria levels.

Overall, 35.6% of the Region's harbours and open coast are in public ownership. A further 9.0% of the coastline is used for roads. Of the total length of coastline in the Waikato Region (1,175 km), 19% along the West coast is in public ownership, 22% on the west Coromandel and 65% along the east Coromandel. Coastline with road frontage makes up 5% of the total coastline along the West Coast, 26% along the west Coromandel and 6% of east Coromandel.

⁴ 2011 Amendment to the National Environmental Standards for Air Quality:
<http://www.mfe.govt.nz/laws/standards/air-quality/review/index.html>

Rural environment

Between 2001 and 2006, 2,936 hectares of land changed from a low-density rural land use to a more intensive use. Two-thirds of the land affected by subdivision has a 'high productive capability for pastoral use' (Classes I-IV). The greatest amount of subdivision is occurring on the land with the higher productive capabilities (Classes II, III and IV). Rural subdivision is occurring most rapidly in the Waikato District, Hamilton City, Thames-Coromandel District, Franklin District, Taupo District, Hauraki District and Waipa District. Lower rates of rural subdivision are also occurring within South Waikato District and Matamata-Piako District.

Highest stock densities are in the Lower Waikato, Hauraki, Waipa River and Upper Waikato water catchment zones. Lowest stock densities are in the Taupo, West Coast and Coromandel water catchment zones. Between 2001 and 2008 there appears to have been an increased proportion of farms adopting lower stock density, however some farms have also been adopting increased stock density.

Energy

The main sources of energy in the Waikato Region are electricity, coal, wood, natural gas, petrol, diesel and other oil products. Around 57,246 terajoules (TJ) of energy were used in the Region during 2007, mainly by industry (59%), commercial and private transportation (30%) and households (11%). Average energy use per person was 123 gigajoules (GJ) for the Waikato region and 144 GJ for the Hamilton city area. About 21 per cent of the total energy consumed came from renewable sources.

The Waikato Region produces approximately 20% of New Zealand's total greenhouse gas emissions. According to latest national-level results, New Zealand's total greenhouse gas emissions in 2011 were 22.1% higher than in 1990. There has been a relatively rapid increase in national annual net emissions since 2009.

The Region's ratio of energy use to GDP is approximately 12.1 megajoules (MJ) per dollar. Almost 30% of the energy used in the Region is for transport and domestic purposes.

Solid waste

According to data presented in a 2013 Waste Stocktake report, it is estimated that 226,887 tonnes of waste are disposed of to landfill annually from the Waikato Region, along with more than twice as much being disposed of to other land disposal sites (eg, cleanfill and industrial fills). The quantity of waste being disposed from the Waikato and Bay of Plenty regions combined appears essentially unchanged over the period 2006 to 2012.

Dry recyclables/commodities, including kerbside recycling (both by councils and privately), drop-off points at transfer stations and recycling depots, and commodities collected from commercial premises are estimated at 0.133 tonnes per person within the Waikato and Bay of Plenty regions combined. Taking into account available data on other diverted materials in the Waikato and Bay of Plenty and regions, it appears the total quantity of diverted materials is of a similar order of magnitude to the quantity of waste disposed to landfill.

2. Quality of Life – summary

Why is this important?

Waikato communities want a region that is a great place to live, providing services and opportunities to live well. Health, education, housing, safety and many other factors contribute to overall quality of life.

How are we doing?

Waikato regional communities have an increasing life expectancy, growth in early childhood education rates and reducing levels of household crowding. The Region is also making advances in areas where it has fallen behind the national average, including the number of school leavers with formal qualifications and educational attainment of the adult population. The proportion of school leavers in the Waikato Region with no formal qualification has fallen dramatically over the past few years at both the regional and national level.

However, aspects of quality of life that require attention include declining levels of home ownership between 1991 and 2006, and increasing rental costs as a proportion of household income over a similar period. Also, according to results from a national youth survey a decreasing proportion of secondary school students feel they are getting enough time with their parents.

Health

Life expectancy in the Region is similar to the national average of 79 years for males and 83 years for females. Gains in life expectancy since the mid-1980s can be attributed to better living standards and improved health care. There remain marked differences in life expectancy between different ethnic groups, with the life expectancy for Māori at around 7.3 years less than non-Māori, however the gap continues to narrow over time.

Much of the Waikato Region scores relatively well on the NZDep socio-economic deprivation index, however throughout the Region there are pockets of deprived meshblocks. Based on population-weighted average, the overall NZDep2006 score for the Waikato Region is approximately 6 (ie, slightly more deprived than the national median), with territorial authorities scores ranging from approximately 4 (Franklin and Waipa) to 8 (South Waikato).

The overall number of avoidable hospitalisations has been decreasing in the Waikato Region since the late 1990s while the level of avoidable mortality has been increasing over the same period. Part of this increase may be due to population growth and ageing.

According to results from the MARCO Waikato Regional Perception Survey 2010, the majority of regional residents (88%) are happy with their quality of life. The 'Happiness Index' (a weighted score across the quality of life scale) was 82.0 points for the Waikato Region overall, with some variation between territorial authority areas.

Respondents to the MARCO Waikato Regional Perception Survey 2010 were also asked 'Has there been any time in the last 12 months when you or a member of your household wanted to go to a GP, but didn't'. One fifth of the sample (19.7%) said there was a time in the last 12 months when they or a member of their household wanted to go to a GP, but didn't. Respondents most likely to report having barriers to health care were under 35 years of age, on lower incomes, of Māori descent, and who rated their overall quality of life at a score of between 0 and 6 (with 10 being maximum score). The main reported barriers were cost (7%) and availability (5%).

Education

The proportion of school leavers with no formal qualification has fallen apparently dramatically over the past few years at the regional and national level. There were 5,734 school leavers in the Waikato Region in 2011, of whom 319 (5.6%) left school with little or no formal attainment. The comparative figure for 2003 was around 20%. There is considerable variation between territorial authority areas throughout the Region which likely reflects differences in underlying socio-economic status. There are also persistent levels of poor formal academic attainment by Māori and Pacific Islands school leavers, although the disparity has reduced over the past decade.

Over the period 1996 to 2006 there was a general increase in the proportion of the adult population in the Waikato Region with post-compulsory academic qualifications but the Region still has a slightly below average proportion of adults with either a secondary school qualification or degree qualification. There is considerable variation throughout the Region, with more people having higher qualifications in Hamilton City compared to surrounding rural and provincial areas. More frequent sample data to 2009 confirms the regional trend above, and shows the proportion of Waikato Region adults with at least upper secondary school level education is slightly behind the national average.

There has been an increasing rate of participation by Waikato children in Early Childhood Education (ECE) services, however the ECE participation rate of Māori children remains relatively low compared to other ethnic groups.

There is no administrative data currently available for monitoring Adult and Community Education (ACE). At the national level, Government funding for ACE was reduced in 2009. Respondents to the MARCO Waikato Regional Perception Survey 2010 were asked about their level of satisfaction with the 'availability of community or tertiary education in your area'. Results were highest for Hamilton and lower for more remote areas.

There was a regional average of 80.7 points on the Agreement Index in the MARCO Waikato Regional Perception Survey 2010 for respondents who were satisfied that their jobs were making good use of their skills, training and experience. This was similar to the 2007 results.

Housing

The rent to income ratio in the Waikato Region increased from 19.9% in 1991 to 26.6% in 2001. For comparison, the rent to income ratio for the Auckland Region in 2001 was 30.8%. The rent to income ratio throughout the Waikato Region ranged from a low of 17.7% in the Waitomo District to a high of 33.0% in Hamilton City as at March 2001. Comparable figures for 2006 at the sub-national level have not yet been sourced.

On average, households in the Waikato Region spend around 16% of their household expenditure on housing costs (not including household utilities). This is similar to the national average and around two percentage points lower than Auckland.

Home ownership in the Waikato Region fell by 6.0 percentage points in the Waikato Region between 1991 and 2006, reflecting a wider national trend towards lower rates of home ownership. The trend away from home ownership has occurred to a greater or lesser extent in all territorial authority areas throughout the Waikato Region. In Hamilton City, the home ownership rate fell from 70.7% in 1991 to 60.7% in 2006. Districts that have been least affected are Otorohanga, Franklin and the Waikato District.

The level of household crowding in the Waikato Region has declined over the past two decades and is marginally below the national average rate of crowding. Average crowding levels vary throughout the region but all districts have experienced some decline in crowding over the past

twenty year period. Note that part of the reason for 'household crowding' in New Zealand may be due to cultural preferences for extended households by a proportion of Māori and Pacific Islands families relative to other ethnic groups.

Results from the MARCO Waikato Regional Perception Survey 2010 showed that the majority of respondents (72%) were satisfied with 'proximity to schools' but this dropped to only 47% for 'proximity to other educational facilities'. Thames-Coromandel and Franklin respondents were the least satisfied with 'proximity to other educational facilities'. Those who live in towns were more satisfied than those who are living in the country with all the proximity factors except 'proximity to where you work'.

Community safety

There is currently no criminal victimisation survey data available at the Waikato regional level. However, at the national level, approximately 36% of New Zealand adults aged 15 and over experienced some form of victimisation in 2009, which was similar to results from the 2006 national survey. Where changes did occur, they were typically small and signalled a reduction in the extent and impact of crime on victims. A rough proxy for regional victimisation rates, the number of recorded offences in the Waikato Police District generally increased over the period 2004 to 2012 although this is partly attributed to increased reporting of family violence. The most substantial percentage increases were in violence-related categories.

Respondents to the MARCO Waikato Regional Perception Survey 2010 were asked: 'Thinking now about issues of crime and safety, please tell me how safe or unsafe you would feel in the following situations'. The majority of respondents felt safe in their community during the daytime but relatively less safe at night, particularly women. The Waikato Region results were comparable to national results for all New Zealanders. The sub-regional results vary by location but it seems that Thames-Coromandel and Otorohanga are perceived as the safest places by residents.

Deaths and injuries from motor vehicle crashes have declined substantially since 1986. However, over the shorter-term, the rate of motor vehicle deaths and injuries per 100,000 population on Waikato Region roads has risen slightly since 2001. This is at least partly because of better recording of traffic incidents by Police. Casualty rates are relatively higher in rural areas, particularly those with state highway corridors, due to the increased speed of vehicles involved.

Community participation

The most frequent form of unpaid activity in New Zealand is household work, cooking, repairs, gardening, etc, for own household, followed by looking after a child who is a member of own household. As at the 2006 Census, rates of unpaid activity in the Waikato Region were similar to the national average. There was no significant change in the pattern of unpaid activities in the Waikato Region over the period 2001 to 2006.

Sport and leisure

Waikato young people's overall levels of physical activity showed little change between 1997 and 2001. Boys tend to be more active, although not significantly so. The overall proportion of Waikato adults who were active also remained fairly constant between 1997 and 2001. More recent baseline data for Waikato regional communities was collected through the MARCO Waikato Regional Perception Survey 2010 commissioned by MARCO and Choosing Futures Waikato, where an average 87% of respondents throughout the Region reported having undertaken brisk walking, running, gardening or other physical activities at least once per week.

Family and community cohesion

Data on the groups or social networks that matter most to people is available for Hamilton City residents and New Zealand as a whole. Of the total Hamilton respondents during the 2010 Quality of Life Survey, 21% said they relate mostly to people with same interests, culture or beliefs, 15% said they relate mostly to people living in the same area, and 63% said it was a mixture of both. According to the 2010 survey results, the most common social networks to which New Zealand residents belong, apart from family, are work or school (57%), online communities such as Facebook and Twitter (50%), and hobby or interest groups (34%). The profile for Hamilton City is similar to the national average. Notable over the period 2008 to 2010 was a rapid rise in the proportion of people belonging to online communities and interest groups.

According to results from the national Youth'07 Survey, 57% of secondary school students in New Zealand reported that they get enough time with at least one parent most of the time. This was a smaller proportion than in 2001 (62%). Similarly, results for the Waikato Region were approximately 56% in 2007 compared to 62% in 2001. The decline has been particularly notable from the perspective of female young people.

Youth and older people

Strong family relationships can help enhance personal development including education and sense of belonging. No data source has yet been identified for this indicator.

3. Sustainable Economy – summary

Why is this important?

Economic development underpins prosperity and quality of life. Strong businesses and industry create employment opportunities, profits and wages for the Region.

How are we doing?

Most economic indicators were improving steadily over the long-term and then dropped during the 2008-09 global financial crisis. An economic recovery appeared to have begun during the latter half of 2010, but initial gains have not been maintained. Unemployment has risen since 2006 and there has been a decline in the rate of building consents issued since mid 2007. Other signs of the lingering effects of the global financial crisis include a slump in real median weekly earnings for those in paid employment and a decline in regional business and employee counts since 2008. The number of visitor nights for the Region also dropped during 2008 but appears to have recovered.

Sustainable development

Initial estimates of Genuine Progress Indicators (GPI) for New Zealand and the Waikato Region have been undertaken in 2009/10. For the period 1990 to 2006, the Waikato Region GPI grew by an annual average rate of 1.42% compared to the region's GDP which grew by an annual average rate of 2.29%. A related indicator is that of 'Ecological footprint'. This measures how much productive land it takes to support the lifestyle of an individual, a city, region or country in today's economy. It is calculated as the land use required for production and consumption of goods and services. Based on data from 2003-2004, the ecological footprint of an average Waikato Region resident is 5.8 ha, which is slightly smaller than the national average. However compared to most other countries, New Zealanders have a large ecological footprint – five to ten times larger than people living in India or China, and larger than Japan and many European nations.

Economic prosperity

Based on estimates by Statistics New Zealand, the Waikato Region contributed approximately \$16.2 billion or 8.5% of national GDP in 2010. Based on the National Bank's Regional Economic Activity Index, the Waikato Region has tended to slightly outperform national average economic growth over much the period since the late 1980s. Following a relatively lengthy period of sustained growth, the rate of economic growth entered a recessionary period during 2008-2009. An economic recovery appeared to have begun during the latter half of 2010, but initial gains have not been maintained. As at September 2011, annual average percent growth in economic activity was estimated at 0.1% for the Waikato Region and 0.6% for New Zealand.

Estimates from the quarterly Household Labour Force Survey indicate that the Waikato regional unemployment rate reached a long-term low of 2.6% in December 2006 but rebounded up to 8.6% in the March 2012 quarter. Latest figures reflect a general economic slow-down during the period 2008-2012.

Real median weekly income in the Waikato Region is similar to the national average, with a value of \$552 as at June 2011. After adjusting for inflation, median weekly income in the Waikato Region has increased by about 36% since 1998, however this follows a slump associated with the global financial crisis and resulting recession. The median weekly income for males in the Region as at June 2011 was \$700 and for females \$433. The disparity between male and female median weekly incomes increased significantly over the period 1998 to 2005 and has since fluctuated between \$250-300 per week. There are also persistent disparities between ethnic groups, with Māori and Pacific Peoples earning a lower median weekly income than the European/Pākehā ethnic group.

The number of business units in the Waikato Region increased from 43,352 in 2000 to 50,764 in 2012, though the number has been shrinking over the last few years. The rate of growth in the number of business units in the Region has been slightly slower than the national average over this period. There is a similar pattern for employee counts, with the number of employees in the Region increasing from 132,790 in 2000 to 166,770 in 2012. For the Waikato Region, the employee count grew more quickly than the number of businesses over this period. The Waikato Region employee profile is concentrated more heavily towards primary and secondary industries than in many other regions. Primary industries and manufacturing are strongly prevalent in provincial areas, while service oriented industries are focused around Hamilton City.

Since mid-2007 there has been a general decline in the trend for the number of new housing units. According to Statistics New Zealand figures, for the Waikato Region there were 1,717 building consents issued in the year to February 2012, increasing to 1,865 for the year to February 2013.

Transport, infrastructure and services

Many drinking water community supplies are listed as having a Public Health Grading of "U", or Ungraded. There is a push for grading to happen annually (driven by the Ministry of Health) but this has not yet occurred.

The number of motor vehicle crashes and injuries on Waikato Region roads has risen slightly since 2001, reflecting a national trend.

Regional planning

Survey data shows that Waikato regional communities have a reasonably high level of confidence in their councils' decision-making. This indicator varies between territorial authority areas.

No data source has yet been identified for monitoring residents' satisfaction with councils' approach to planning and providing services.

Land-based industries

In the year ended March 2010, the Waikato Region contributed approximately 8.5% of national GDP. Of this, approximately 11.3% (\$1.8 billion) was agricultural production. The proportion contributed by agriculture has increased since 2007 when it was 8.3%. The Waikato Region accounted for 20% of the national agriculture industry in 2010, the highest of any region, including 25% of New Zealand's dairy industry.

Tourism

An estimated 4.5 million guest nights were recorded in commercial accommodation in the Waikato Region in the year to February 2013, including guest nights in Rotorua. The Waikato Region contributes approximately 9% of New Zealand's overall guest nights in commercial accommodation (excluding the Rotorua area). In February 2013 compared with February 2012, total monthly guest nights in New Zealand increased 1.5% to 3.26 million.

For the year ended December 2012 there were 2.565 million international visitor arrivals to New Zealand, down 1.4% on the previous year. For the Waikato Region, international visitor numbers and nights steadily increased between 1998 and 2006 but dipped slightly in 2007. The average length of stay for international visitors has increased substantially since the 1990s.

An estimated \$1.40 billion was spent by international and domestic visitors in the Waikato Region during 2009, up from \$1.27 billion in 2004. The former Ministry of Tourism projected that by 2016 total visitor expenditure in the Region will rise to an estimated \$1.604 billion. However, significant changes to the global economy over the past few years mean that these forecasts need to be treated with caution.

At the national level, an estimated 6.2% of full-time equivalent employees were directly engaged in producing goods and services purchased by tourists in 2012. No known data is available at the regional level for this indicator.

Research and innovation

Total research and development expenditure in New Zealand for 2012 was estimated at around \$2.6 billion. This compares with \$1.11 billion in 1998, an increase of 70% on an inflation-adjusted basis over a fourteen year period. R&D expenditure increased as a percentage of overall national GDP over the period 1998 to 2012. R&D expenditure was 1.27% of GDP in the 2012 reference year compared with 1.09% in 1998. Despite these increases, New Zealand's total R&D expenditure continues to be relatively low compared with other countries in the OECD. Australia's R&D expenditure made up 2.20% of GDP in 2010, and the OECD average was 2.38% for 2010. Research income by the University of Waikato increased by around 39% in real terms over the period 2002 to 2012. Research income contributed approximately 13.3% of total revenues for the University of Waikato in 2012.

The total number of Effective Full-Time Equivalent Students (EFTS) increased at both Waikato Institute of Technology (Wintec) and the University of Waikato over the period 2001 to 2005 but has subsequently been lower. In 2011 there were approximately 16,500 effective full-time students (EFTS enrolled at both institutes combined).

4. Culture and Identity – summary

Why is this important?

Cultural heritage, diversity and wellbeing have been identified as both strengths and issues for the Region. Increased cultural wellbeing and strength of identity is integral to improved overall community wellbeing.

How are we doing?

There is relatively little information available for monitoring cultural wellbeing and strength of identity in the Region. There are some positive indicators: for example the number of Māori language speakers has been steadily increasing. The recently passed Waikato River Settlement Act 2010 may promote the monitoring and reporting of cultural indicators.

Regional identity and pride

Survey results show that most Waikato residents feel a sense of pride in their district or city.

The proportion of Waikato Region residents who spoke te reo Māori at the time of the 2006 Census was above the national average (6.2% compared to 4.2%). This is at least partly due to the above average proportion of Māori residents in the Waikato regional population. Within a number of territorial authority areas in the Region, the proportion of Māori language speakers increased between 1996 and 2001 but then fell again between 2001 and 2006. The highest proportions of Māori language speakers in the Region are in the Rotorua District (12.6%), Waitomo District (12.1%) and Waikato District (9.3%). The Waikato Region has the fourth-highest proportion of Māori residents who speak te reo Māori (25.4%) out of all regions in New Zealand, behind Gisborne, Bay of Plenty and Northland. The proportion of Māori who speak te reo Māori is substantially higher for older age groups, however the proportion of Māori aged 50 and over who speak te reo decreased over the period 1996 to 2006.

The proportion of people who can hold everyday conversations in the first language of their ethnic groups varies widely between ethnic groups, from 16% of Cook Islands Māori to 84% of Koreans. The Waikato Region average was 51.7% in 2006, up slightly from 48.3% in 2001. Within the Region, the proportion of first language speakers ranges from around 30% in the Waitomo and South Waikato districts to a high of 60% in Hamilton City. These differences may be for a range of factors, including the length of time families from specific ethnic groups have been established in New Zealand.

Historic buildings and places

There were 535 buildings and places listed on the Historic Places Trust Register in Waikato Region territorial authority areas as at April 2013, compared with 474 that were counted on the online register in May 2008.

As at May 2006, approximately 60 Category 2 buildings and/or sites had been removed from the Historic Places Trust Register. Category 2 places are "of historical or cultural heritage significance or value". No comparable quantitative data has subsequently been requested. The New Zealand Historic Places Trust website now includes a section called 'Heritage Lost'. This allows the reader to explore stories about various registered heritage places that have been lost due to development, fires, neglect, storms and other natural disasters.

According to survey results, more than half of the Region's residents agree that new developments and subdivisions are sustainably designed, but a substantial proportion of other residents are in disagreement with this statement.

Culture and recreation

In 2010, survey results showed a Waikato regional Satisfaction Index of 62.2 points for ‘cultural facilities and opportunities provided in your area’. This was similar to the 2007 survey results.

At present there is only national-level data available on people’s participation in cultural and arts activities. However there are plans at the local and regional level to collect similar survey data. At the national level the most frequently cited cultural activities in the four weeks prior to the survey were purchasing books, visiting public libraries and purchasing music. The most frequently cited cultural activities in the 12 months prior to the survey were art galleries/museums, popular live music and purchasing handmade craft.

Indicative national data compiled from territorial authority annual reports show that council spending on cultural activities generally increased over the period 1999/00 to 2003/04, particularly in relation to the provision of library services. Robust local and regional data is not currently available.

Creativity

Indicative data at the national level shows that around 127,000 people in New Zealand were engaged in cultural employment in 2006. Cultural employment appears to be growing faster than overall employment. Local and regional data sets are not currently available but are likely to reflect the national trend.

5. Participation and Equity – summary

Why is this important?

Waikato regional communities aspire towards a culture that encourages people and communities to play their part. Civic engagement and equity make an important contribution to overall quality of life.

How are we doing?

There is relatively little information available for monitoring participation and equity in the Region, but future data collection should help fill this gap. A positive sign is that the Waikato Region has a relatively high level of representation by Māori and women in local authorities. Of possible concern is that the voter turnout rate has been declining in the Region, as it has throughout New Zealand over much of the past two decades. For almost all local authorities in New Zealand and the Waikato Region, voter turnout in the 2007 local authority elections was the lowest since 1989.

Civic participation

Voter turnout in local authority elections peaked in 1989 and then steadily declined, with the exception of the 1998 elections, dropping to 44% in 2007 (a level comparable with pre-1989 election turnout). However, there was an increase in voter turnout for the most recent 2010 local authority elections. Local authority voter turnout tends to be generally higher for councils with a smaller constituency. Voter turnout for national general elections has also been declining in the long-term, reaching a low in 2002 for New Zealand overall, rebounding for the 2005 and 2008 elections and then reaching a new record low in 2011. Only 68% of those eligible to cast a ballot actually did so.

The percentage of Māori elected members in local government across New Zealand increased substantially from 2.5% in 1992 to 6.0% in 1998 but subsequently declined to approximately 4.8% in 2007. Data is not yet available for this item for 2010. There has been a long run

increase in the proportion of female elected members in elected positions in New Zealand, but this stabilised at around 30 per cent since the late 1990s. Many of the territorial authorities in the Waikato Region have a relatively high proportion of female elected members, ranging from 50% in the South Waikato District to a low of 13% in the Thames-Coromandel District, reflecting a similar pattern to the 2004 and 2007 local body election results.

Survey results show that a substantial number of residents throughout the Region would like more of a say in what their Council does.

Cultural well-being

Most people in the Waikato Region agree with the statement 'Your family are knowledgeable and show respect for the many and diverse cultures of the people who live here'. A slightly smaller proportion agree that 'Your neighbourhood are knowledgeable and show respect for the many and diverse cultures of the people who live here'. Many survey respondents said that they there feel are no cultural problems and people are accepted as part of the community. However a relatively small proportion of respondents felt that different cultures were not welcomed by the community, while a few had issues with other races or chose not to mix.

WHERE TO FROM HERE

The brief for this 2013 MARCO data analysis project was to update data and metadata spreadsheets for monitoring progress toward Waikato Regional Community Outcomes, based on the existing set of MARCO indicators – including data collection and analysis at the territorial authority level where available. Project outputs included:

1. Updated spreadsheet supplied by WRC with data and graphs
www.choosingfutures.co.nz/Publications/
2. Update any relevant regional report cards on the Choosing Futures Waikato website using Episerver CMS, see www.choosingfutures.co.nz/MARCO-indicators/.
Note: This did not include district-level report cards.
3. Updated Data Analysis Report 2013 (refer www.choosingfutures.co.nz/Publications/).
4. Documentation of changes/differences from Data Analysis Report 2012 (refer Appendix One of this report).

The next update of this Waikato regional MARCO indicators data analysis report will be undertaken in early 2014. A number of the indicators will be updated as the 2013 Census data will and results from the collaborative MARCO Perception Survey 2013 will become available.

In 2013/14 the Waikato Regional Council will also use selected MARCO indicators (and possibly other data/information) to develop a comprehensive and balanced picture of regional progress and wellbeing (Genuine Progress Index, GPI), by considering some key economic, environmental and social/cultural aspects relevant to our region.

FURTHER INFORMATION

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For information about local community outcomes contact your local council.

