

Waikato progress indicators – *Tupuranga Waikato*

Summary update June 2021



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1 Purpose

This document summarises latest results from the Waikato Progress Indicators (WPI) – *Tupuranga Waikato* monitoring programme, updated in May 2021. The WPI is an online dashboard of 32 environmental, social, cultural and economic indicators, see www.waikatoregion.govt.nz/wpi/.

The WPI dashboard provides an overview of the economic, social, cultural and environmental wellbeing of the Waikato region and helps gauge progress towards Waikato Regional Council's (WRC's) [Strategic Direction](#). Selected measures relevant to Council's activities are included in WRC's [Annual Report](#).

The data and website information are refreshed annually.

This update compares the latest available data for each of the WPI indicators with 2006-07 baseline results, enabling regional progress to be assessed over more than a decade. Around half of the WPI indicators also have historical data going back to 2001 or earlier, giving a longer-term view. The aim is to inform the Waikato public, planners, and decision-makers of genuine progress against key indicators of wellbeing. Note that the Local Government (Community Well-being) Amendment Act 2019 restored the purpose of local government to be "*to promote the social, economic, environmental, and cultural well-being of communities in the present and for the future*".¹

The structure of this update report is:

1. Purpose
2. Latest results
3. Economic trends
4. Social and cultural trends
5. Environmental trends
6. Impacts of COVID-19
7. Overall progress (experimental indexes).

For background on the development and design of the WPI programme, including the selection of indicators, refer to Killerby and Huser (2014).²

¹ Refer www.legislation.govt.nz/act/public/2002/0084/latest/versions.aspx/

² Refer www.waikatoregion.govt.nz/services/publications/technical-reports/tr/tr201444/

2 Latest results

Results from the WPI monitoring programme are presented through Indicator Report Cards; Waikato Region Scorecard; Circles of wellbeing; and comparisons with other regions and New Zealand.

The 32 indicators are described in Appendix 1 and the results for each indicator (primary dataset 2001 – 2019/20) are tabulated in Appendix 2.

2.1 Indicator Report Cards

Results for each indicator are summarised in online Report Cards, along with supporting information. These are available online at: www.waikatoregion.govt.nz/wpi/. Each of the 32 report cards includes a summary of the current state and recent changes and trends in relation to that indicator (results) and information about what the particular indicator means, why it is important and how the results were obtained (for example, by listing the data source).

2.2 Waikato Region Scorecard

The Scorecard (Figure 1) gives an overview of the Waikato region's progress towards wellbeing since approximately 2006-07.

Positive measured trends over the period approximately 2006-07 to 2019-20 are, in declining order (most positive trend first):

- + Increased road safety – long-run decrease in the social cost of road injury crashes from approximately \$2,000 per capita in 2007 to a low of around \$960 in 2013, before rising to approximately \$1,300 per capita in 2019 (all expressed in 2020 dollars).³
- + Improved air quality – decrease in annual exceedances per year of the regional quality guideline for particulate matter in air, from 20 in 2007 to 13 in 2020.
- + Increase in building activity – increase in real value of new building consents issued per year from \$3,500 per capita in 2007 (expressed in 2020 dollars) to \$4,300 in 2020.
- + Less crime – close to record low levels of recorded victimisations, from around 800 per 10,000 population in 2007 to around 600 in 2020.
- + Higher average incomes – increase in real median weekly household income from around \$1,400 in 2007 (expressed in 2020 dollars) up to \$1,700 in 2020.
- + Better educational attainment – increase in the percentage of school leavers with NCEA level 2 or above from 64% in 2009 to 77% in 2019.
- + Growth in regional GDP – increase in real regional GDP per capita from approximately \$48,000 in 2007 (expressed in 2020 dollars) to almost \$57,000 in 2020.
- + Higher rate of voter turnout – increase in voter turnout for local council, DHB and regional council elections from an average of 38% in 2007 to 42% in 2019.
- + More recycling – increase in the percentage of people who said their household recycles 'all/most of' their waste, from approximately 66% in 2008 to 70% in 2012.⁴
- + Improved perceptions of safety – increase in the percentage of people who report feeling safe walking alone in their neighbourhood after dark, from 60% in 2006 to 62% in 2020.

³ Despite a significant improvement in road safety over the last decade, the Waikato region still has a higher cost of road crashes per person than the national average (see Table 1). This is influenced by the extent of open roads in the Waikato region and the substantial transit traffic through the region.

⁴ Frequency of this recycling question under the General Social Survey (Statistics NZ) supplement framework will likely be at least 10 yearly intervals.

- + Longer life expectancy – currently approximately 80 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.⁵

Negative trends over the period approximately 2006-07 to 2019-20 include, in declining order (most negative trend first):

- Less physical activity – decrease in the percentage of Waikato survey respondents who report having been physically active on five or more of the past seven days, down from 61% in 2006 to 35% in 2020.
- Poorer perceptions of community engagement – decrease in the percentage of Waikato survey respondents who agreed that the public has an influence over the decisions their local Council makes, down from 62% in 2006 to 37% in 2020.
- More residential expansion onto versatile land – increase in residential use of versatile land in the Waikato region, from 13,727 hectares in 2008 to 17,287 in 2017. The greatest amount of subdivision has been occurring on land classed as having higher productive capabilities.
- Higher water use – increase in water allocation as a percentage of primary allocable flow at the Waikato River mouth during the summer months from 67% in 2007 to 83% in 2020.⁶
- Less use of public transport – decrease in public transport boardings per resident per annum from 9.1 in 2007/08 to 7.1 in 2019/20.
- Worse perceived health – decrease in the percentage of survey respondents who rate their overall health positively, down from 90% in 2006 to 79% in 2020.
- Lower levels of social connectedness – decrease in the percentage of survey respondents who agreed that they experienced a sense of community with others in their neighbourhood, down from 63% in 2006 to 56% in 2020.
- Lower levels of cultural respect – decrease in the percentage of survey respondents who agree that New Zealand becoming home for an increasing number of people with different lifestyles and cultures from different countries made their city/area a better place to live, down from 51% in 2006 to 47% in 2020.
- Lower levels of community pride – decrease in the percentage of survey respondents who agree they feel a sense of pride in the way their local area looks and feels, from 70% in 2006 to 67% in 2020.

The remaining WPI indicators do not show a significant change between 2006-07 and 2019-20.

⁵ Latest available life tables for 2017-19 released in February 2020 show national average male life expectancy at birth was 80.0 years for males and 83.5 years for females. The Waikato region age profile has historically been slightly younger than the national average.

⁶ While increased allocation of water up to 100% of the allocable flow is not necessarily negative, the observed trend of increasing water use towards the total allocable flow puts an added pressure on our water resources. The more rapid increase of water use compared with the economy (GDP growth) in recent years indicates that water is being used less efficiently.

Scorecard 2021

Waikato progress indicators - tupuranga Waikato

The Waikato progress indicators (WPI) measures social, economic and environmental progress in the Waikato region.

This scorecard compares latest data with baseline results for each indicator (2006 - 2007). For each of the 32 indicators, results are shown as improving trends, worsening trends or no significant change over the last 15 years. The indicators are grouped by wellbeing theme - economic, social and environmental wellbeing.



Figure 1 WPI trends – Scorecard for approximately 2006-07 to 2019-20 (refer Appendix 2 for data).

Source: WPI Monitoring Programme database (Waikato Regional Council)

2.3 Circle of Wellbeing

The WPI circle of wellbeing captures trend information about many indicators in one diagram. The central circle represents the WPI score for each indicator in the Waikato region in approximately 2006-07 and the spokes show WPI score progress to 2019-20. Where a spoke extends outside the white circle it means regional wellbeing has improved over the past decade. Where a spoke falls within the circle, regional wellbeing has declined. The length of the spokes reflects the size of change.

As per the overall WPI Scorecard (Figure 1), the most notable positive trends are (in declining order) road safety, air quality, building activity, crime, incomes, educational attainment, regional GDP growth, voter turnout, recycling, perceptions of safety and life expectancy. The largest adverse trends over this period are lower levels of physical activity, poorer perceptions of community engagement, more residential expansion onto versatile land, higher water use, less use of public transport, worse perceived health, lower levels of social connectedness, lower perceptions of cultural respect and lower levels of community pride.

It is only from 2006-07 that there is a robust enough regional data set to cover all the WPI indicators. Over time, as the WPI monitoring programme extends into the future, the diagram below will give an increasingly accurate signal of long-term regional progress.

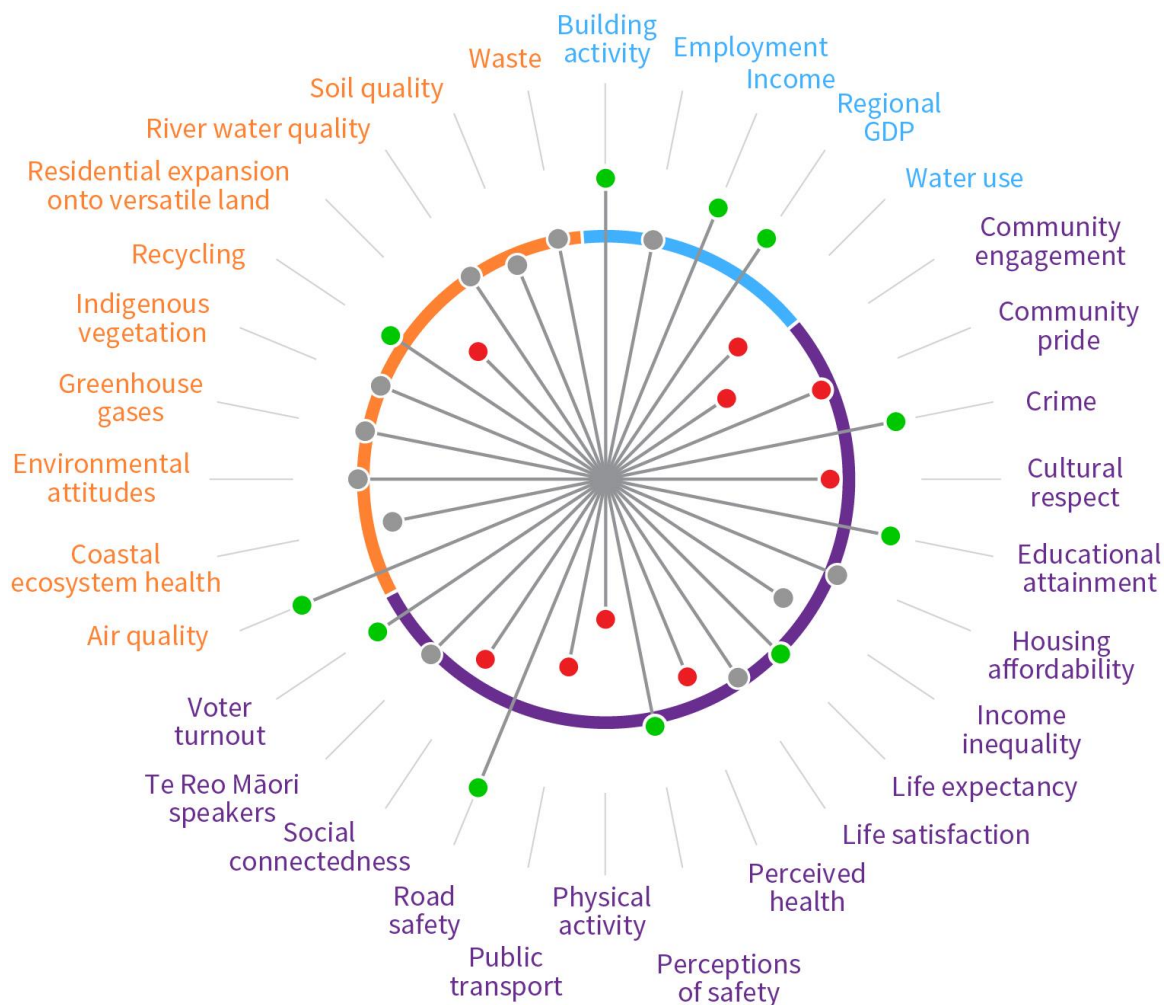


Figure 2 WPI indicator trends 2006-07 to 2019-20, Waikato region

Source: WPI Monitoring Programme database (Waikato Regional Council)

2.4 Comparison of Waikato with other regions and New Zealand

Table 1 and Figure 3 below show the latest indicator comparisons between the Waikato region, selected other regions and the New Zealand average where comparable data is available. This shows that the Waikato region is behind the national average on a range of economic, social, cultural, and environmental wellbeing indicators.

Indicator	Waikato	Auckland	Wellington	Bay of Plenty	New Zealand
Building activity (\$m)	\$4,342	\$4,695	\$2,928	\$3,223	\$3,928
Employment	67.1%	66.6%	69.9%	65.3%	67.0%
Income	\$1,712	\$1,918	\$2,055	\$1,630	\$1,743
Regional GDP	\$56,664	\$71,978	\$74,785	\$56,623	\$64,079
Water use	83%	n/a	n/a	n/a	n/a
Community engagement	37%	31%	43%	n/a	31%
Community pride	67%	61%	71%	n/a	63%
Crime	627	491	500	652	519
Cultural respect	47%	54%	63%	n/a	64%
Educational attainment	76.6%	82.9%	85.5%	76.3%	78.8%
Housing affordability	19.9%	23.4%	20.5%	20.7%	20.8%
Income inequality	0.419	0.475	0.432	0.399	0.435
Life expectancy	81.4	82.7	81.9	81.2	81.8
Life satisfaction	88%	83%	85%	n/a	87%
Perceived health	79%	78%	81%	n/a	74%
Perceptions of safety	62%	62%	75%	n/a	64%
Physical activity	35%	37%	42%	n/a	35%
Public transport	7.1	47.9	60.9	7.1	27.3
Road safety	\$1,257	\$566	\$475	\$1,411	\$920
Social connectedness	56%	50%	57%	n/a	50%
Te Reo Māori speakers	5.9%	2.4%	3.5%	8.6%	4.0%
Voter turnout	42.4%	35.0%	43.5%	43.5%	43.0%
Air quality	13	n/a	n/a	n/a	n/a
Coastal ecosystem health	0.36	n/a	n/a	n/a	n/a
Environmental attitudes	87%	n/a	n/a	n/a	n/a
Greenhouse gases	12,646,982	n/a	n/a	n/a	n/a
Indigenous vegetation	27.1%	n/a	n/a	n/a	n/a
Recycling	70.3%	86.1%	79.2%	72.6%	80.1%
Residential expansion onto versatile land	17,287	n/a	n/a	n/a	n/a
River water quality	29%	n/a	n/a	n/a	n/a
Soil quality	82%	n/a	n/a	n/a	n/a
Waste	220,741	n/a	n/a	143,523	n/a

Table 1 Comparison of WPI with selected other regions and New Zealand

Source: WPI Monitoring Programme database (Waikato Regional Council)

Note: Several indicators do not have comparable regional and/or national results (n/a) because either: (1) the WPI data are from a Waikato regional-specific survey (e.g. environmental attitudes) or (2) comparable regional data are not collected or comparison is not meaningful (e.g. soil quality, river water quality) or (3) scale-related data rather than dimensionless data are being used for the WPI indicator (e.g. residential expansion onto versatile land, greenhouse gases).

Comparisons of the Waikato region with New Zealand average for specific key indicators are shown in Figure 3 using latest available data. In this diagram, the central circle represents national average wellbeing. Where a spoke extends outside the white circle it means regional wellbeing is better than the national average, and where it falls within the white circle, wellbeing is worse than the national average.

The diagram shows that the Waikato region:

- has a relatively high percentage of Te Reo Māori speakers, high level of social connectedness (sense of community experienced), relatively good housing affordability, above-average levels of community engagement (perception of public's influence on Council decision making), life satisfaction (overall quality of life) and community pride;
- but is behind the national average on a range of indicators, including GDP, crime, cultural respect, road safety and recycling.



Figure 3 Comparison Waikato region with New Zealand (selected indicators only)

Source: WPI Monitoring Programme database (Waikato Regional Council)

Note: Excludes indicators that do not have comparable regional or national results. Information based on latest measured data (i.e. no imputed or estimated missing values).

3 Economic trends

Latest WPI results suggest the New Zealand economy has been relatively resilient throughout 2020 despite the COVID-19 pandemic:

- + The per capita value of new building consents, a lead indicator of economic activity, was slightly lower than 2019 record levels (Figure 4).
- + Real median weekly household income also decreased slightly (Figure 5).
- + Regional GDP per person increased slightly, from \$56,091 in 2019 (in 2020 dollars) to \$56,664 in 2020 (Appendix 2).

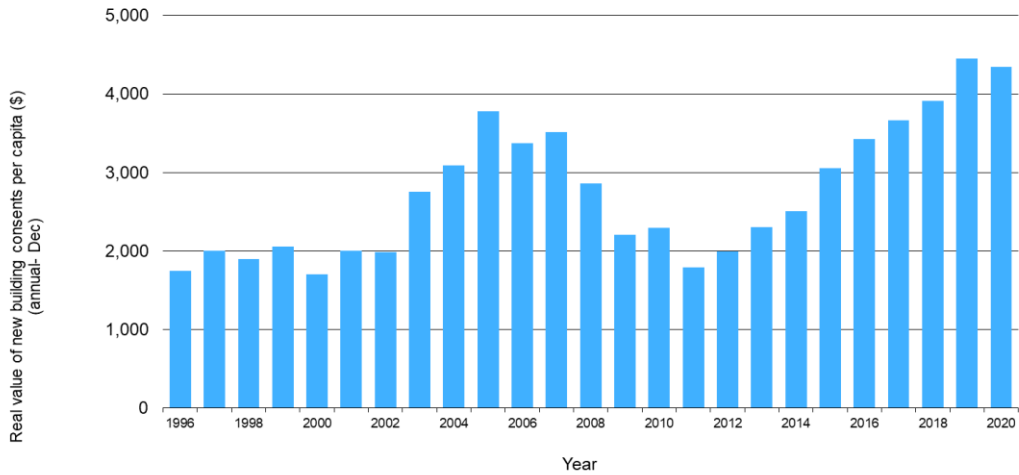


Figure 4 Real value of new building consents authorised per capita (\$) (annual – Dec)

Source: WPI Monitoring Programme database (Waikato Regional Council)

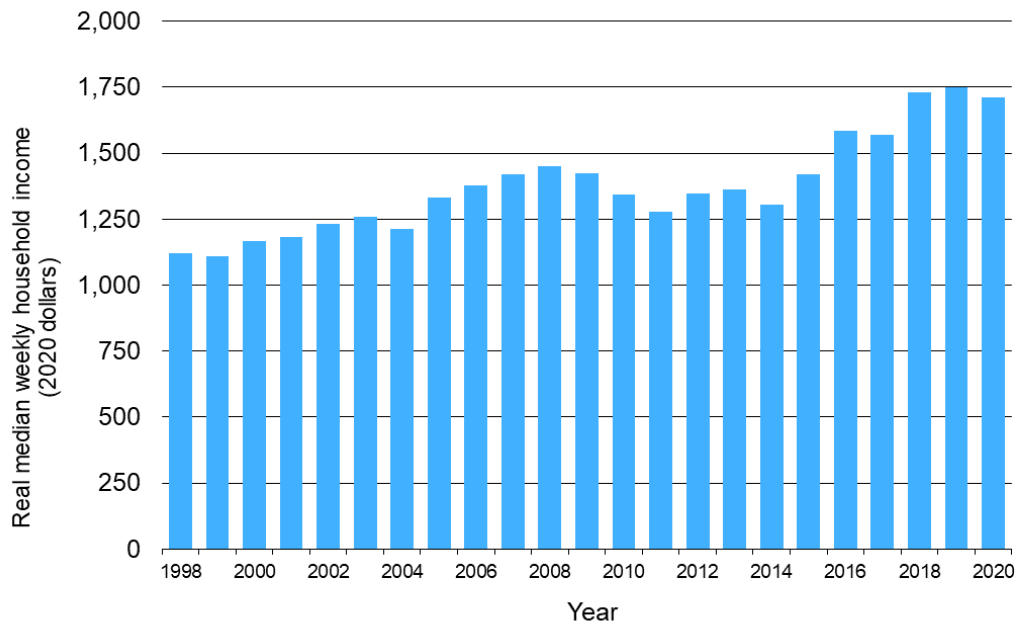


Figure 5 Real median weekly household income (2020 dollars)

Source: WPI Monitoring Programme database (Waikato Regional Council)

4 Social and cultural trends

A notable difference compared to last year's WPI update is that social connectedness is now a worsening trend. Following a long period of stability in the measure of Waikato people's sense of community, 2020 results showed a rapid decline (Figure 6). Compared to 2006, a lower percentage of Waikato regional survey respondents agree they experience a sense of community with others in their neighbourhood (56% in 2020 compared to 63% in 2006).

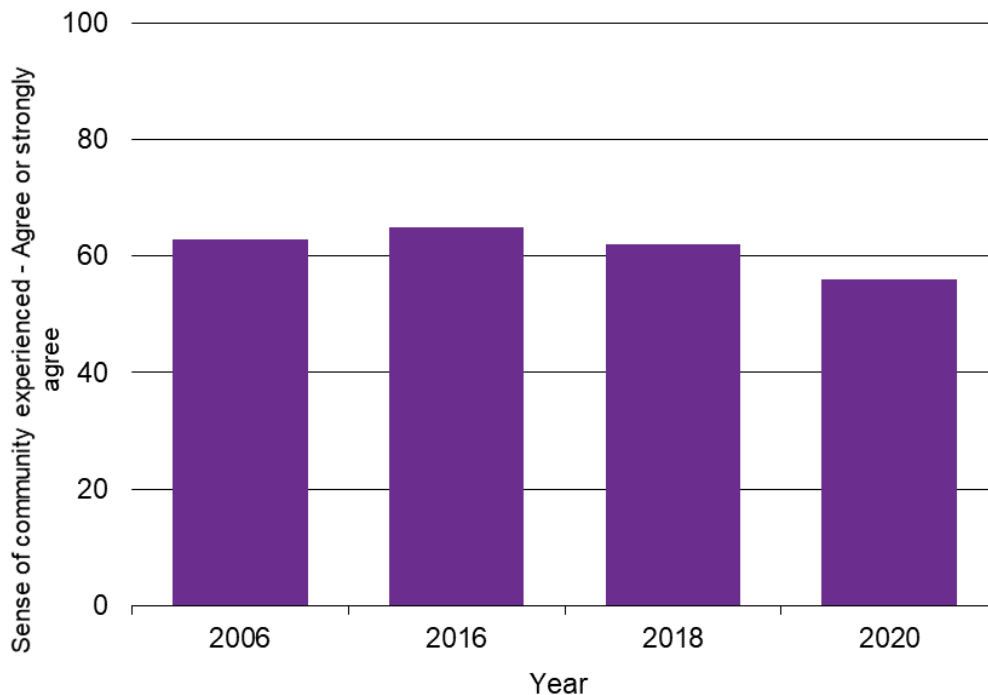


Figure 6 Percent of people who agree they experience a sense of community

Source: WPI Monitoring Programme database (Waikato Regional Council)

Overall, the latest WPI results show a mix of positive and negative social and cultural trends over the past decade.

Positives include:

- + Decrease in the social cost of road injury crashes.
- + Reduction in annual reported rate of criminal victimisations.
- + Increase in the percentage of school leavers with NCEA level 2 or above.
- + Increase in voter turnout for local council, DHB and regional council elections.
- + Increase in the percentage of people who report feeling safe walking alone in their neighbourhood after dark.
- + Longer life expectancy.

Negative social and cultural trends include decreases in the percentage of people who:

- Are physically active on a regular basis.
- Agree the public has an influence over the decisions their local Council makes.
- Use public transport.
- Rate their overall health positively.
- Experience a sense of community with others in their neighbourhood.
- Agree that New Zealand becoming home for an increasing number of people with different lifestyles and cultures from different countries makes their city/area a better place to live.
- Feel a sense of pride in the way their local area looks and feels.

5 Environmental trends

Latest WPI results show a mix of positive and negative environmental trends over the past decade.

Positives include:

- + Decrease in the number of annual exceedances per year of the regional air quality guideline for particulate matter.
- + Increase in recycling between 2008 and 2012 (most recent data available).

Negatives include:

- Increase in residential expansion onto versatile land (Figure 7).

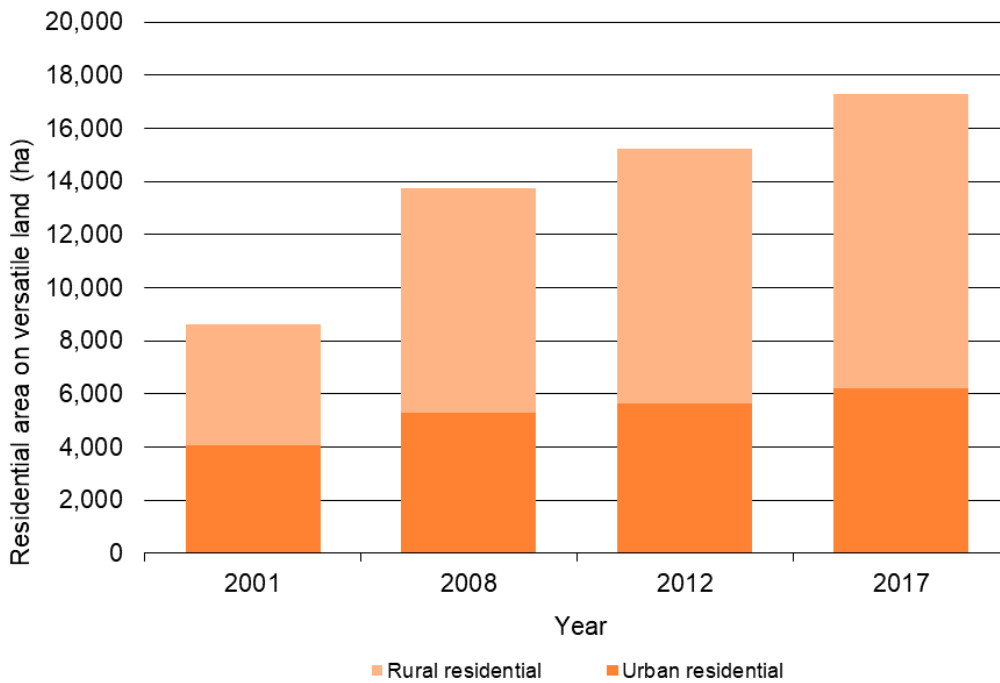


Figure 7 Residential area on versatile land (LUC 1-4) by time step (ha)

Source: WPI Monitoring Programme database (Waikato Regional Council)

6 Impacts of COVID-19

The WPI is a long-term comprehensive initiative that provides an overall picture across all the four wellbeings. It is not designed to analyse and report on specific events such as COVID-19. However, COVID-19 is reflected in some of the latest WPI data.

Timeliness of data availability is a significant issue for responsive and evidence-based decision-making, especially time lags associated with environmental data. The COVID-19 crisis has triggered the analysis and publishing of real-time data portals (mainly economic data):

- [Statistics NZ](#) – Latest available data for key economic, health and social indicators.
- [Treasury](#) – Weekly economic dashboard.
- [Ministry of Business and Employment](#) – Data for industry sectors and regions.
- [Te Waka Economic Radar](#) – Updates and information for businesses.
- [Hamilton City Council](#) – Economic dashboard.
- [Impacts on transport](#) – information related to transport.

In New Zealand, although less than in most other countries, COVID-19 had considerable economic impacts, including a significant drop in employment and income for many people, and for regional and national GDP overall, with particularly strong impacts in some industries such as tourism, hospitality, and the international education sector. The long-term social and economic impacts are uncertain.

The COVID-19 health Impacts have been most severe amongst elderly people and people with underlying medical conditions. The successful management of COVID-19 in New Zealand means that impacts on life expectancy and (perceived) health are minimal.

The pandemic has fundamentally changed aspects of our society, such as increased working from home and use of technology, and reduced use of public transport. More difficult to predict is the pandemic's impact on measures such as social connectedness, community pride and cultural respect, particularly as communication technologies are being used more than ever.

A small number of WPI indicators have shown improvements due to the pandemic, at least temporarily, including better air quality, less greenhouse gas emissions and improved road safety due to lower traffic volumes.

7 Overall progress (wellbeing index)

Work has been undertaken to investigate methods for deriving a composite index using the WPI dataset (Huser *et al.* 2016).⁷ This has involved combining all 32 WPI indicators into a single composite index. Approaches explored to derive an experimental Waikato Wellbeing Index have included Principal Components Analysis (PCA) and the Canadian Index of Wellbeing (CIW) reference-year method (Michalos *et al.* 2011). Both approaches show a common pattern.

As illustrated below (Figure 8), the gap between GDP and the Wellbeing Index grows from 2003 to 2009, then narrowed and eventually grew again as the economy rebounded after the global financial crisis (GFC). By 2019 there was a sizeable gap between the regional GDP measure and WPI overall wellbeing index, and based on provisional data this gap further expanded in 2020.

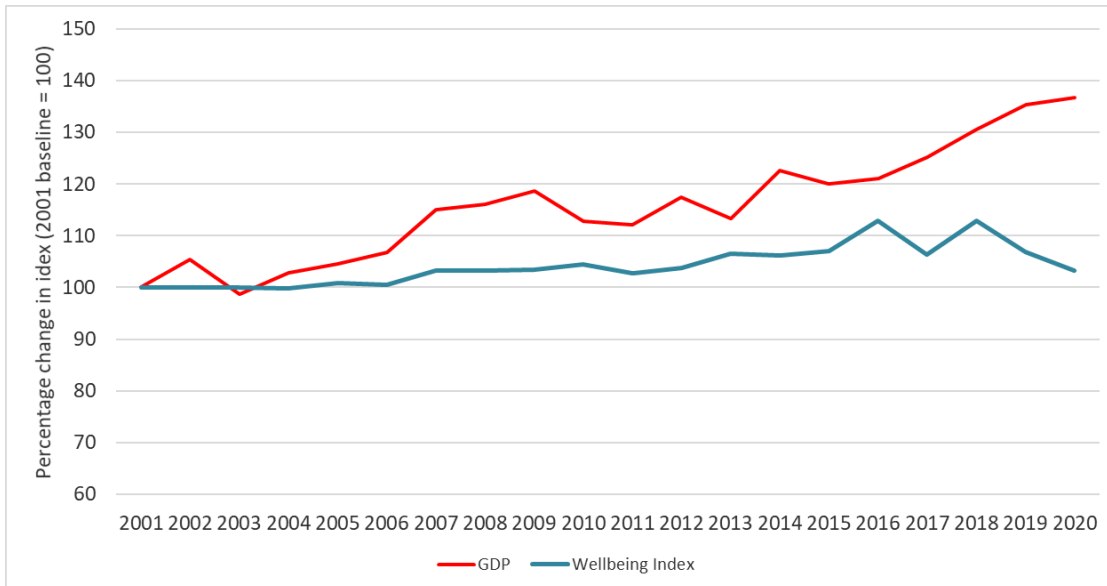


Figure 8 GDP vs Waikato Wellbeing Index (CIW method) 2001-2020 (provisional)

Source: WPI Monitoring Programme database (Waikato Regional Council)

Note: Based on actual and imputed data (2020 index is provisional).

⁷ Towards a wellbeing index for the Waikato Region. New Zealand Planning Quarterly, Issue 200, March 2016.

8 Next steps

The results of the WPI programme provide a robust basis for discussing regional challenges and opportunities and identifying priorities for closer collaboration and partnerships. Results from the WPI help monitor and inform Council's strategic direction and other region-wide initiatives, such as the [Waikato Plan](#), [economic development](#) and [Future Proof/Spatial Metro Plan](#). Selected individual indicators that reflect Waikato Regional Council's functions and roles are also included as performance measures in Council's Long-Term Plan and Annual Report, and other relevant council reports. Such multiple use of the WPI data ensures cost effective and consistent use of information.

The WPI wellbeing framework and measures build on and are aligned with relevant national initiatives. Treasury has developed a [Living Standards Framework and associated Dashboard](#) to monitor intergenerational wellbeing and support Government's Wellbeing Budgets. This is underpinned by Statistics NZ's set of wellbeing indicators ([Ngā Tūtohu Aotearoa - Indicators Aotearoa New Zealand](#)).

A priority for the WPI monitoring programme in 2021/22 will be to continue working with Treasury, Statistics NZ and Local Government NZ/Taituarā to align national, regional and local data and indicators. Further work is ongoing towards indicator improvements, better accessibility and communication of indicator results and more harmonised monitoring in New Zealand. This includes working with other regional councils through the Land, Air, Water Aotearoa (LAWA) organisation⁸, and with the Ministry for the Environment and Statistics NZ on environmental reporting.⁹

A continuing focus for the WPI programme will be engaging with strategic regional and local partners to share data, align indicators and combine knowledge to tell progress and wellbeing stories from different perspectives. Partners include Iwi, Hamilton City Council, district councils, Waikato Mayoral Forum, Waikato Plan, Waikato District Health Board, Te Waka: Waikato's Economic Development Agency and other business and sector groups, New Zealand Transport Agency, The Treasury, Statistics New Zealand, Ministry for the Environment, Ministry of Social Development, Ministry of Business, Innovation and Employment, universities and Crown Research Institutes, community trusts (WEL Energy Trust, Trust Waikato, Momentum/Vital Signs¹⁰) and other non-government organisations.

In addition to the 32 high level measures, the WPI programme compiles secondary indicators and data broken down by territorial authority (where available) to support more detailed analysis and develop 'progress stories' about how and why levels of wellbeing are changing over time in the Waikato region. This includes information about distributional aspects, such as by age, gender, ethnicity, income, or locality.

The Waikato Quality of Life survey 2020, undertaken jointly with Hamilton City Council, provides information about people's views and perceptions at the district council level (Killerby and Huser, 2021). The next Waikato Quality of Life survey will be undertaken in 2022.

Regional data can mask local trends so information at the community level is critical, for example the mix of drivers for deprivation across the territorial authorities are totally different. The report *Socioeconomic Deprivation in the Waikato Region – using the Index of Multiple*

⁸ Land, Air, Water Aotearoa (LAWA): <https://www.lawa.org.nz/about/>

⁹ Environmental indicators: http://archive.stats.govt.nz/browse_for_stats/environment/environmental-reporting-series/environmental-indicators/Home.aspx

¹⁰ Waikato Vital Signs® identifies and communicates key priorities and aspirations of Waikato communities: <https://momentumwaikato.nz/vital-signs>

Deprivation (Chiang, Colbert, and Exeter, 2021) shows that areas within the Waikato region rank among the most deprived communities in New Zealand. The New Zealand Index of Multiple Deprivation (IMD), developed by the University of Auckland, comprises of 28 indicators which are grouped into seven domains of deprivation: employment, income, crime, housing, health, education and access to services. It measures deprivation at the neighbourhood level (average 712 people per data zone).

At the global level, the Sustainable Development Goals (SDGs)¹¹ adopted in 2015 by all the 193 UN member countries, provide a yardstick to evaluate, assess and measure progress from now to 2030. The SDGs include 17 Goals and 169 targets, and over 230 indicators (under development). The SDGs aim to end poverty, protect the planet, and ensure prosperity for all as part of a new sustainable development agenda with specific targets to be achieved by 2030. Governments, communities, corporates, and business are adopting the SDGs to demonstrate their relevance and value. Work has started to map and align the WPI with the SDG indicators as they are being developed.

The WPI monitoring programme will also continue to work with the Waikato Wellbeing Project¹², a collaborative initiative to achieve a cleaner, greener, fairer Waikato by 2030. Phase One of the project, the development of a defined set of widely agreed wellbeing targets for the Waikato based on the UN Sustainable Development Goals, was completed in February 2020.¹³ An Executive Director for the Waikato Wellbeing Project has been appointed in January 2021 to progress the project's operating model and working towards establishing the advisory board, and to assist the implementation of the approved wellbeing targets.

¹¹ Sustainable Development Goals (SDGs): <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

¹² Waikato Wellbeing Project: <https://www.waikatowellbeingproject.co.nz/>

¹³ <https://www.waikatowellbeingproject.co.nz/waikato-wellbeing-summit>

References

- Huser B, Killerby P, Patterson M 2016. Towards a wellbeing index for the Waikato Region. New Zealand Planning Quarterly, Issue 200, March 2016.
- Killerby P, Huser B 2014. Development of the Waikato Progress Indicators (WPI). Waikato Regional Council technical report 2014/44. Hamilton, Waikato Regional Council.
www.waikatoregion.govt.nz/services/publications/tr201444/
- Killerby P, Huser B 2021. Quality of Life Survey 2020: Waikato results. Waikato Regional Council technical report 2021/07. Hamilton, Waikato Regional Council.
<https://www.waikatoregion.govt.nz/services/publications/tr202107/>
- Chiang A, Colbert, J, Exeter D 2021. Socio-economic deprivation in the Waikato Region: Using the 2018 versions of the NZ Deprivation Index (NZDep18) and the Index of Multiple Deprivation (IMD18) to understand drivers of deprivation in the Waikato Region and its Districts. Waikato Regional Council technical report 2021/14. Hamilton, Waikato Regional Council.
<https://www.waikatoregion.govt.nz/services/publications/tr202114/>
- Michalos AC, Smale B, Labonté R, Muharjarine N, Scott K, Moore K, Swystun L, Holden B, Bernardin H, Dunning B, Graham P, Guhn M, Gadermann AM, Zumbo BD, Morgan A, Brooker A-S, Hyman I 2011. The Canadian Index of Wellbeing. Technical Report 1.0. Waterloo, ON: Canadian Index of Wellbeing and University of Waterloo.
https://uwaterloo.ca/canadian-index-wellbeing/sites/ca.canadian-index-wellbeing/files/uploads/files/Canadian_Index_of_Wellbeing-TechnicalPaper-FINAL.pdf

Appendix 1 The Waikato Progress Indicators

Key questions	Topic	Indicator	Definition (current as at May 2021)
Economy			
How prosperous is our region? How are we planning for a prosperous future?	Wealth and income	Building activity	Real value of total new building consents issued per annum (year to December)
How many people have a job? How many are unemployed - and how long	Employment	Employment	Employment rate - the proportion of total working age population who are employed
How wealthy are we?	Wealth and income	Income	Real median weekly household income
How prosperous is our region? How are we planning for a prosperous future?	Economic growth	Regional GDP	Real (inflation adjusted) regional Gross Domestic Product (GDP) per capita
How do we use our natural resources? How much water do we use? How much have we got?	Resource use	Water use	Water allocation as a percent of primary allocable flow – Waikato River mouth during summer months
Society			
Are we satisfied with our opportunity to participate in (council) decision making?	Civic engagement	Community engagement	Percentage of people who agree that the public have 'large' or 'some' influence over the decisions that their local Council makes
Are we proud about where we live and our community?	Social connectedness	Community pride	People's reported sense of pride in the way their city/town looks and feels
How safe are we?	Community safety	Crime	Rates of recorded victimisations per 10,000 population (year to December)
Do we know and respect other cultures?	Cultural identity	Cultural respect	Level of agreement by survey respondents that New Zealand becoming home for an increasing number of people with different lifestyles and cultures from different countries makes their area a better place to live
What are the educational opportunities How qualified and skilled is our workforce? Are education opportunities accessible and adequate	Education	Educational attainment	Percentage of school leavers with NCEA level 2 or above
Are we satisfied with our housing? How accessible, adequate and affordable is our housing?	Housing	Housing affordability	Ratio of housing costs to household disposable income
Wealth and income	Wealth and income	Income inequality	Gini coefficient – a measure of the concentration of income within the region
How healthy are we?	Health	Life expectancy	Life expectancy at birth (from Life Tables estimated using Census data)

Key questions	Topic	Indicator	Definition (current as at May 2021)
Are we generally happy with our life? How satisfied are we with our work life balance?	Life satisfaction	Life satisfaction	Percentage of people who rate their overall quality of life positively
How do we feel about our health and wellbeing?	Health	Perceived health	Percentage of people who rate their overall health good, very good or excellent
Do we feel safe?	Community safety	Perceptions of safety	Percentage of adults who feel safe walking alone in their neighbourhood after dark
How much do we participate in sports, leisure and arts?	Leisure and recreation	Physical activity	Percentage of people who say they were physically active on five or more of the past seven days
Does our infrastructure cope with current and increasing demand? What services are available?	Infrastructure	Public transport	Public transport volumes per capita – average number of passenger transport boardings per resident per annum
How safe are we?	Community safety	Road safety	Estimated annual social costs of road injury crashes per capita
How well connected are we with our family, neighbourhood and community?	Social connectedness	Social connectedness	Percentage of people who agree or strongly agree that they experience a sense of community with others in their neighbourhood
Do we recognise and protect our cultural heritage and distinctive identity? How comfortable do we feel about expressing our cultural practices?	Cultural identity	Te Reo Māori speakers	Percentage of Te Reo Māori speakers in the total population
Are we involved in our community? How much do we participate in decision making?	Civic engagement	Voter turnout	Average voter turnout in local council, DHB and regional council elections
Environment			
How clean is our air?	Air and climate	Air quality	Urban air quality – number of exceedances per year of the regional guideline for particulate matter (all monitoring sites total)
How healthy is our coastal and marine environment? How safe are our beaches for swimming?	Coastal and marine	Coastal ecosystem health	Traits Based Index (TBI) of the biological traits of sediment-dwelling animal communities in three estuaries the southern Firth of Thames, Whaingaroa (Raglan) Harbour, and Tairua Harbour
How much do we value our environment? Can we sustain a healthy environment <u>and</u> grow our economy? What do we value most? What are the threats to our environment?	Environmental values	Environmental attitudes	Average regional NEP (New Environmental Paradigm) Scale score
Is the climate changing?	Air and climate	Greenhouse gases	Regional annual total greenhouse gas emissions – from the Waikato Region Comprehensive Greenhouse Gas Inventory
How much of our environment is protected? What is the health and condition of our ecosystems?	Biodiversity	Indigenous vegetation	Extent of indigenous vegetation on land

Key questions	Topic	Indicator	Definition (current as at May 2021)
How much of our waste do we recycle?	Waste	Recycling	Self-reported prevalence of household recycling
How much land is sub-divided/paved every year? How much of this is fertile soil?	Land and water	Residential expansion onto versatile land	Area (hectares) of versatile land (Land Use Capability classes 1-4) in urban and rural residential use in the Waikato Region
How good is our water quality?	Land and water	River water quality	River water quality for ecological health – percentage of unsatisfactory river water samples for ecological water quality in Waikato rivers and streams (all sites average)
How healthy are our soils? How resilient are we to food production?	Land and water	Soil quality	Percentage of soil monitoring sites meeting five or more soil quality targets - Waikato Region
How much pollution and waste do we produce? What sort of waste do we produce? How much per GDP/product?	Waste	Waste	Estimated tonnage of waste to landfill per annum

Appendix 2 WPI time series data 2001 to 2020

Key:

Grey cell indicates imputed or extrapolated data

White cell indicates measured data

Note that the trend direction for some of these indicators has a negative interpretation (e.g. crime).

Indicator	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Building activity	2,007	1,984	2,756	3,095	3,779	3,375	3,515	2,863	2,204	2,297
Employment	66.7%	66.7%	66.7%	66.7%	66.7%	66.7%	67.1%	66.8%	64.7%	63.6%
Income	\$1,181	\$1,232	\$1,259	\$1,211	\$1,331	\$1,379	\$1,421	\$1,452	\$1,425	\$1,344
Regional GDP	\$41,467	\$43,688	\$40,895	\$42,676	\$43,376	\$44,281	\$47,709	\$48,123	\$49,215	\$46,755
Water use	67%	67%	67%	67%	67%	67%	67%	65%	64%	69%
Community engagement	62%	62%	62%	62%	62%	62%	60%	59%	57%	56%
Community pride	70%	70%	70%	70%	70%	70%	70%	70%	69%	69%
Crime	832.3	840.5	780.4	720.5	769.7	833.5	797.8	760.5	828.8	802.8
Cultural respect	51%	51%	51%	51%	51%	51%	50%	49%	49%	48%
Educational attainment	64.2%	64.2%	64.2%	64.2%	64.2%	64.2%	64.2%	64.2%	64.2%	66.6%
Housing affordability	20.5%	20.5%	20.5%	20.5%	20.5%	20.5%	20.5%	18.6%	20.5%	17.7%
Income inequality	0.373	0.373	0.373	0.373	0.373	0.373	0.373	0.435	0.340	0.379
Life expectancy	78.5	78.8	79.0	79.3	79.5	79.8	80.0	80.1	80.3	80.5
Life satisfaction	90%	90%	90%	90%	90%	90%	89%	89%	88%	88%
Perceived health	90%	90%	90%	90%	90%	90%	89%	89%	88%	88%
Perceptions of safety	60%	60%	60%	60%	60%	60%	61%	61%	62%	62%
Physical activity	61%	61%	61%	61%	61%	61%	60%	58%	57%	55%
Public transport	4.2	4.3	4.5	4.9	5.1	5.5	7.3	9.1	11.1	11.0
Road safety	1,521	1,521	1,521	1,521	1,834	1,607	1,993	1,718	1,508	1,406
Social connectedness	63%	63%	63%	63%	63%	63%	63%	63%	64%	64%
Te Reo Māori speakers	6.4%	6.3%	6.2%	6.0%	5.9%	5.8%	5.7%	5.7%	5.6%	5.5%
Voter turnout	37.6%	37.6%	37.6%	37.6%	37.6%	37.6%	37.6%	38.9%	40.2%	41.5%
Air quality	17	17	27	50	38	47	20	28	38	22
Coastal ecosystem health	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Environmental attitudes	77%	77%	77%	77%	79%	81%	83%	86%	86%	87%
Greenhouse gases	11,876,718	12,021,027	12,165,337	12,309,646	12,453,956	12,598,265	12,742,575	12,704,460	12,666,345	12,628,231
Indigenous vegetation	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%
Recycling	66.2%	66.2%	66.2%	66.2%	66.2%	66.2%	66.2%	66.2%	68.9%	71.5%
Residential expansion onto versatile land	8,613	9,344	10,074	10,805	11,535	12,266	12,997	13,727	14,098	14,470
River water quality	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%
Soil quality	85%	85%	85%	84%	84%	84%	86%	86%	80%	84%
Waste	222,000	222,000	222,000	222,000	222,000	222,000	222,815	223,629	224,444	225,258

Appendix 2 cont.

Indicator	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Building activity	1,790	1,992	2,305	2,507	3,058	3,425	3,667	3,910	4,448	4,342
Employment	64.6%	62.5%	63.6%	64.2%	64.2%	65.2%	69.0%	70.0%	68.0%	67.1%
Income	\$1,276	\$1,348	\$1,361	\$1,303	\$1,421	\$1,584	\$1,568	\$1,731	\$1,751	\$1,712
Regional GDP	\$46,475	\$48,726	\$47,002	\$50,874	\$49,793	\$50,216	\$51,885	\$54,089	\$56,091	\$56,664
Water use	72%	76%	87%	86%	86%	86%	85%	86%	85%	83%
Community engagement	54%	52%	51%	49%	48%	46%	41%	36%	37%	37%
Community pride	69%	69%	69%	68%	68%	68%	65%	62%	65%	67%
Crime	806.9	738.9	722.2	652.5	582.5	624.8	624.6	589.1	659.0	626.8
Cultural respect	47%	46%	45%	45%	44%	43%	42%	41%	44%	47%
Educational attainment	69.3%	72.0%	73.5%	76.0%	77.6%	79.5%	77.5%	77.7%	76.6%	76.6%
Housing affordability	18.3%	20.1%	17.2%	20.3%	18.9%	20.4%	19.9%	20.2%	19.6%	19.9%
Income inequality	0.418	0.440	0.371	0.406	0.470	0.413	0.417	0.395	0.419	0.419
Life expectancy	80.6	80.8	81.0	81.0	81.1	81.2	81.3	81.4	81.4	81.4
Life satisfaction	87%	86%	86%	85%	85%	84%	86%	87%	88%	88%
Perceived health	87%	86%	86%	85%	85%	84%	82%	79%	79%	79%
Perceptions of safety	63%	63%	64%	64%	65%	65%	65%	64%	63%	62%
Physical activity	54%	53%	51%	50%	48%	47%	44%	40%	38%	35%
Public transport	10.4	10.6	10.2	10.1	9.8	9.0	8.6	8.4	8.3	7.1
Road safety	1,383	1,238	956	1,099	1,310	1,294	1,297	1,339	1,257	1,257
Social connectedness	64%	64%	64%	65%	65%	65%	64%	62%	59%	56%
Te Reo Māori speakers	5.4%	5.4%	5.3%	5.4%	5.5%	5.7%	5.8%	5.9%	5.9%	5.9%
Voter turnout	40.9%	40.3%	39.7%	38.8%	37.8%	36.9%	38.7%	40.6%	42.4%	42.4%
Air quality	20	17	12	11	10	5	12	2	5	13
Coastal ecosystem health	0.40	0.40	0.38	0.38	0.38	0.41	0.40	0.39	0.36	0.36
Environmental attitudes	88%	88%	89%	89%	88%	88%	88%	87%	87%	87%
Greenhouse gases	12,590,116	12,552,002	12,513,887	12,475,772	12,437,658	12,399,543	12,482,023	12,564,502	12,646,982	12,646,982
Indigenous vegetation	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%
Recycling	70.9%	70.3%	70.3%	70.3%	70.3%	70.3%	70.3%	70.3%	70.3%	70.3%
Residential expansion onto versatile land	14,841	15,213	15,627	16,042	16,457	16,872	17,287	17,287	17,287	17,287
River water quality	29.0%	29.0%	29.0%	28.0%	27.9%	28.0%	28.0%	29.0%	29.0%	29.0%
Soil quality	82%	82%	79%	79%	79%	84%	86%	82%	82%	82%
Waste	226,073	226,887	227,499	228,111	228,723	224,732	220,741	220,741	220,741	220,741