



**GREAT LAKE TAUPŌ**  
Taupō District Council



## **CHALLENGES PAPER 2016/2017**

- **WATER; page 4**
- **POPULATION/DEMOGRAPHIC CHANGES; page 6**
- **UNDERGROUND INFRASTRUCTURE; page 9**
- **FUTURE FUNDING; page 10**
- **CLIMATE CHANGE; page 11**
- **GOVERNMENT PROVIDED SERVICES; page 14**
- **LAND DEVELOPMENT; page 15**
- **OTHER FUTURE CHALLENGES; page 19**

## **INTRODUCTION**

The communities of the Taupo District are positive and vibrant, supported by a wide range of council activities. Much of what council does goes unnoticed as long as the water flows out of the tap, the grass on the reserve is mown and the local pool is open for the kids. This discussion is not about the work we do every day, our 'business as usual'. Rather, this discussion is about looking into the future and the challenges that await that might drive changes to the way we deliver those services.

The sooner we get to grips with these challenges the better. There are a number of unknown quantities that may impact on the council too, from economic shocks to central government interventions to world crises, however we need to do the best we can with the knowledge we currently have.

Council has certain legislative responsibilities when it comes to future planning, notably the long-term plan and infrastructure strategy from the Local Government Act 2002 and the district plan from the Resource Management Act 1991. In undertaking this planning, there is a requirement to look to the future and make judgements on what the emerging challenges may be that council has to acknowledge, manage and respond to.

Taupo District 2050 set out a wide ranging plan for addressing emerging challenges. Since its adoption in 2006 the world has moved on and new ideas and issues have developed.

Similarly, the way that we plan has adapted. We have moved from a planning approach where we tried to think of all the relevant things and encapsulate our responses in a comprehensive plan like Taupo District 2050. Now we have more tools available, like infrastructure strategies, and a growing understanding of the need to be more agile and flexible. Gone are the days of a single static plan, now we are constantly evolving through multiple plans and strategies. This makes us more resilient and agile.

This paper is the first step in this process, clarifying the challenges that are likely to impact on council. The paper will not identify all of the challenges the council will face in the next decade or so, but it will clarify some of the critical ones and the tools that are available to address them.

The council has a sphere of influence determined by legislative and political mandates so the assessment of challenges has focused on the areas where we can make a difference to achieve tangible outcomes.

This discussion is not about providing solutions to the emerging challenges. There will be a range of solutions, both big and small. Certain solutions will require significant community involvement and discussion, others may not. Similarly, the tools available to address them may be diverse – for example, some may be addressed through the LTP while others may be addressed through the district plan rolling review. Ultimately, those solutions will be thought through and dealt with at a later date.

Crystal ball gazing can be difficult and we recognise that these challenges will change. For example, 10 years ago the iPhone did not exist, yet today millions of iPhones have been sold and it is now a fundamental component of daily life that many people rely on. Another example is connectedness through social media. Facebook did not exist 10 years ago however today millions of people interact with each other through Facebook and as a council we utilise many social media tools to engage with our community. These are just two examples of significant changes that have occurred within the last decade. What these examples show is that we need to be agile and resilient, while focussing on the challenges we can reasonably foresee and intervene in. We also need to maintain our flexibility and we need to enhance our smallness by utilising it as point of difference that we can use to our advantage. Finally, as many of these challenges are interrelated, integrated planning will be critical to achieving positive, cost-effective outcomes.

# WATER

## **We need to play our part in improving water quality and help our communities adjust to the changes in the way we use land**

Community expectations about having access to good quality freshwater are growing. In part this is driven by economic concerns like the direct use of water for economic purposes, however there is a broader community desire to look after our environment and ensure it is a good place to live.

We have started to tackle this issue through the Protecting Lake Taupo project, which has put in place a long term strategy to improve the water quality of the Lake. This has resulted in significant changes in the way land is used and for Council there has been substantial investment in improved treatment of wastewater.

The focus is now shifting toward the Waikato River catchment, where the Vision and Strategy for the Waikato River is likely to drive land use change. Healthy Rivers: Plan for Change/Wai Ora: He Rautaki Whakapaipai i is seeking a “reduction, over time, of sediment, bacteria and nutrients (nitrogen and phosphorus) entering water bodies (including groundwater) in the Waikato and Waipa River catchments.”<sup>1</sup> Changes in land use, particularly away from intensive farming, will lead to economic impacts for the broader community. They may also require further improvements in the way that we manage wastewater in the wider catchment.

Although the improvement of water quality is an 80 year project, Council needs to be cognisant of the direct effects on our asset management and investment, as well as the broader effects of the district’s economy and the social fabric of communities.

### **Tools**

- Long-term plan
- Asset management plans
- Infrastructure strategy
- Advocacy

## **We need to use our water more efficiently**

Freshwater resources are coming under increasing pressure through declining water quality in places and growing demand for water, often for economic purposes like pastoral irrigation. Waikato Regional Council is responsible for allocating water and they have identified that all of the water in Lake Taupo and the upper Waikato River is already allocated.

This over allocation of the resource will place increasing pressure on users to make more efficient use of the water. This is likely to result in pressure on us to improve our water demand management. Although we have made some improvements in this area the expectation is that a more aggressive approach may well be needed.

---

<sup>1</sup> <http://www.waikatoregion.govt.nz/healthyivers/>

Some councils around the country are actively using water metering for example as a means of controlling usage particularly in the dry summer months. We have seen demand peak at record levels in the last couple of summers, and with changes in climate likely to lead to more droughts, the supply is likely to come under unprecedented demand. We need to address demand as this future pressure comes on and look at the various options available to reduce demand.

Coupled with this pressure from a regulatory perspective, there is a corresponding pressure on water use from a cost perspective. Supplying our communities with good quality drinking water costs a significant amount each year. If we can use our water resources more efficiently we could reduce this supply cost. There is also a co-benefit from reduced use with less water used meaning less water going into our wastewater system. This provides a cost-saving on two fronts.

Another component of water demand is from an economic development perspective. Certain industries require significant volumes of water in order to operate. If supply levels are dropping and availability of water is reduced (both through over-use and increased regulatory standards), it may impact on the decision making of businesses either looking to expand their operations within the district or even locating here at all.

## **Tools**

- Long-term plan
- Asset management plans
- Infrastructure strategy

# POPULATION AND DEMOGRAPHICS

## AGEING POPULATION

AT LEAST 1 IN 4 PEOPLE WILL BE AGED 65+ BY 2051



DISTRICT'S HOUSING THAT IS HOLIDAY HOMES (APPROXIMATE PERCENTAGE)

## POPULATION CHANGE



POPULATION PEAKS AT 39,100 IN 2038

# POPULATION/DEMOGRAPHIC CHANGES

## **We need to have a flexible approach to changing demands for housing type and location**

A critical question facing many councils around New Zealand is how to deal with the prospect of population growth or decline. While some are facing significant growth, a large majority are facing a future of a declining population. Within our district we are likely to see areas growing and areas declining. On top of this, the demographic trends show that the population is aging, with a much higher proportion of people aged over 65 likely to be living in the district within the next 25-35 years. The population variation combined with an aging population may lead to changes in the way councils plan for housing demand, notably in relation to location and type.

The first group of baby boomers (generation born between 1946 and 1965) are now retiring and this will continue for the next 20 years. This will have a significant effect on the country in a variety of different ways. One effect may be the demand for different housing in different places. Interestingly this phenomenon isn't one that will come to an end anytime soon. Once the baby boomer generation has passed on, their children will fill the void and then their grandchildren will fill the void. This will mean, according to Statistics NZ, that more than a quarter of the population will be aged 65+ by 2051. What we want to try and understand is whether their needs for housing are going to change. Do we expect that they will want to own large properties with large gardens or might they want to build a 2 bedroom flat on their children's property?

### **Tools**

- District Plan
- Taupo District 2050

## **We need our public places to adapt over time to meet the changing demands of users**

Council may also need to look at certain public places and council facilities in relation to ageing populations. There may be increased demands for a higher standard of footpath for example that will enable mobility scooters to be ridden more easily. We may need to think outside the square when it comes to funding and design of such facilities. Will we need as many parks? Or will we need more footpaths? Will library demands increase?

### **Tools**

- Asset management
- Infrastructure Strategy
- Long-term Plan

## **We need to balance the needs for growth in population with the anticipated decline**

How we deal with a peak in population will be a challenge we need to face. It is projected that the district's population will peak in the late 2030s. Dealing with this peak will be a

challenge as we know the decline will follow. Therefore building new housing and providing new infrastructure could be challenging when you know the population is going to increase for a short period before declining. There are likely to be implications for the level of capacity we build into our infrastructure and the amount of land that is zoned for residential development.

## **Tools**

- District Plan
- Taupo District 2050
- Infrastructure Strategy
- Long-term Plan

## **We need to be flexible in responding to how our housing stock is used**

The district is in an unusual position in relation to the volume of holiday housing we currently have. Census data estimates that approximately 30 per cent of the district's housing is holiday homes. What we don't know is whether this is likely to continue into the future or whether it will change. Will the current owners pass these properties onto their children or relatives? Or is it possible that future generations will look to sell them once the current owners move on? Given the high percentage of housing we have in this bracket, it could lead to a massive impact on housing stock and supply. For example, if 15 per cent of these owners chose to sell, we would see a glut of properties for sale and therefore the likely impact on pricing would be significant. This is a very uncertain area but one we need to be conscious of given its uniqueness to the district.



# UNDERGROUND INFRASTRUCTURE

## **We need to better understand the condition of our underground infrastructure**

There is some uncertainty about the current state and condition of much of the council's underground infrastructure (water, wastewater and stormwater). This is a key area and we need to increase our knowledge around the overall condition and make a reasonable assessment as to how we may approach replacement or repair.

The 2015-25 LTP states that “a coordinated CCTV programme will assess at least 10 per cent of the underground network per year. This will enable us to match age with condition and to develop an accurate forecast of the renewal required for the underground network.” While some parts are relatively young, others are not. This could pose a financial risk if it is discovered that extensive parts of the network need replacing within a short period of time to enable continued service delivery. This is of particular concern in both Mangakino and Turangi where it is thought that much of the network (across all ‘three waters’) is nearing the end of its useful life.

## **Tools**

- Long-term plan
- Asset management plans
- Infrastructure strategy

# FUTURE FUNDING

## **We need to ensure that council services are financially sustainable**

The majority of the services that we provide are exclusively, or at least in part, funded through rates revenue. There is an increasing divide between what it costs to provide those services and the amount that people are willing to pay.

Local Government New Zealand released a discussion paper on funding options in February 2015.<sup>2</sup> Options included local income tax, sharing revenue to align incentives, local expenditure tax, selective taxes, and regional fuel taxes. Implementing fundamental changes to the way local government is funded will require a partnership approach with Central Government.

One of the likely effects associated with the ageing of the population is a growing proportion of ratepayers who have fixed incomes, notably New Zealand Superannuation (NZ Super). This is likely to impact on what those residents are able to pay in rates, which will then have flow on effects for services we provide.

## **Tools**

- The setting of levels of service
- Long-term plan
- Infrastructure Strategy

At the moment, property prices in many parts of the country are at record levels particularly in Auckland. This 'Auckland effect' is also evident in the Taupo district. The numbers show that district wide monthly property sales volumes are matching levels not seen since 2002/03 and prices are back up to levels seen in early 2008. The debate about if or when the property market is going to face a correction is the subject of significant debate currently across the country and around the world. There will be an impact on the district in a number of ways and one of those will be from the number of new ratepayers we may inherit and their ability and willingness to pay for services. Affordability is one component linked to population/demographic changes.

---

<sup>2</sup> <http://www.lgnz.co.nz/home/our-work/our-policy-priorities/3.-sustainable-funding/local-government-funding-review/>

# CLIMATE CHANGE

## TAKE A PROACTIVE APPROACH?

- Are we as council doing enough to ensure our assets are resilient to natural hazards?
- Are we prepared to respond and recover when the event has occurred?



## RAINFALL

Will vary locally within the region. The largest changes will be for particular seasons rather than annually. Winter rainfall projections:

**Ruakura:** 4% to 8% ↑

**Taupo:** 4% to 7% ↑

## WIND

The frequency of extremely windy days is likely to decrease:

↓ 2 to 3%



## TEMPERATURE

Compared to 1995, temperatures are likely to be warmer by:

**2040:** 0.7° to 1.1°C ↑

**2090:** 0.7° to 3.1°C ↑

# CLIMATE CHANGE

## **We need to be a leader in our community when it comes to dealing with climate change**

The climate is changing. All recent scientific data shows that the globe is warming and this is starting to impact on the climate. A telling fact is that as the atmosphere warms, it can hold more moisture – about 7% for every 1°C.<sup>3</sup> What this means long-term is hard to specifically pinpoint, but indications are that rainfall events will worsen, droughts will occur more often and seas will rise. While sea level rise isn't a major concern for the Taupo District (at least from a direct impact standpoint), we need to be acutely aware of what the other impacts might be.

The Ministry for the Environment has released its climate change projections for the next 100 years. Projections for the Waikato region are:

- Temperature - compared to 1995, temperatures are likely to be 0.7°C to 1.1°C warmer by 2040 and 0.7°C to 3.1°C warmer by 2090.
- Rainfall - will vary locally within the region. The largest changes will be for particular seasons rather than annually. Winter rainfall in Ruakura is projected to increase by 4 to 8 per cent by 2090. In Taupo, winter rainfall is projected to increase by 4 to 7 per cent by 2090.
- Wind - The frequency of extremely windy days is likely to decrease by 2 to 3 per cent.
- Storms - Future changes in the frequency of storms are likely to be small. However the ex-tropical cyclones will likely be stronger and cause more damage as a result of heavy rain and strong winds.
- Sea level rise - New Zealand tide records show an average rise in relative mean sea level of 1.7 mm per year over the 20th Century, and further rise is expected in the future.

Central government has committed to international agreements to reduce the contribution that New Zealand makes to international greenhouse gases. The challenge is a major one requiring a coordinated and sustained effort. The government will lead that effort, however the local government sector is likely to also have a part to play in mitigating greenhouse gases to help achieve the national targets. We will need to be mindful of what role we can play and balance the cost implications of action with our leadership role in the community..

### Tools

- Advocacy
- Asset management
- Procurement

---

<sup>3</sup> Preparing New Zealand for rising seas: Certainty and Uncertainty November 2015 - Parliamentary Commissioner for the Environment <http://www.pce.parliament.nz/publications/preparing-new-zealand-for-rising-seas-certainty-and-uncertainty>

## **We need to make sure that our communities and assets are resilient to climate change**

We need to determine if more can be done by council to ensure our communities in particular are resilient to natural hazards, particularly given the effects we're likely to see from climate change e.g. more intense storm events. This is also relevant to council's assets, given the importance of them during and after events (e.g. a resilient water supply that people can rely on). The Christchurch earthquakes showed how communities can be significantly impacted and that planning ahead of an event is critical for how a community can cope. An example of council ensuring our community is more resilient is the Flood Hazard Plan Change, which should see less development in areas identified as being flood prone. It certainly seems central government are more acutely aware of the risks posed by natural hazards and councils will need to front up in increasing the community's resilience. This is also linked to how we respond and recover, notably through our role in Civil Defence and also owners of community infrastructure.

### **Tools**

- District Plan
- Infrastructure Strategy

# GOVERNMENT PROVIDED SERVICES

## **We need to help our communities access the services they need from central and local government**

Both central and local government provide a wide range of often complementary services. Following the global financial crisis central government has cut back in the provision of some services with a growing trend of centralisation to cut costs. This has implications for communities who may find it harder to access the services they need, particularly rural and small communities. This may also increase people's reliance on council to help address issues at a local level.

We have an important role to play as advocates and champions on behalf of our ratepayers and residents. The council does not have a direct impact on the services provided in our community by central government, however we can work with central government to ensure that the needs of our communities are recognised and addressed.

Two critical areas of community demand will likely be around health and education. We currently have Taupo Hospital, which recently underwent an approximately \$15.5 million upgrade to bring the facilities in line with more modern hospitals.<sup>4</sup> The district also currently has 21 schools including 11 within the Taupo town area.<sup>5</sup> We have a role in ensuring the future government decisions on the provision of these and other services are in keeping with the needs of the community.

### **Tools**

- Advocacy
- Taupo District 2050
- Long-term Plan

---

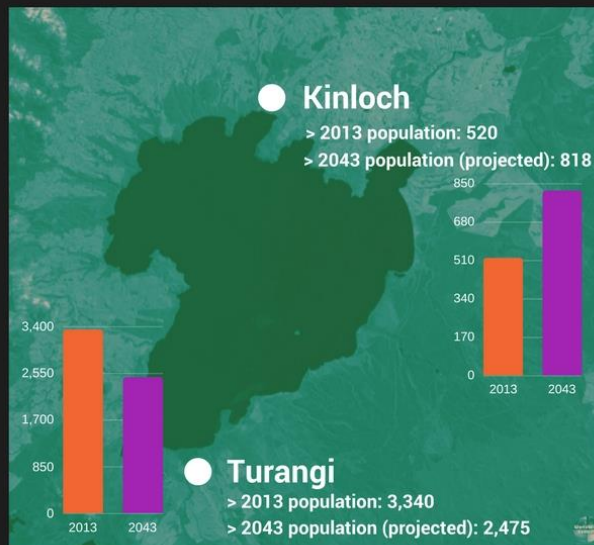
<sup>4</sup> <http://www.lakesdhb.govt.nz/Article.aspx?Mode=1&ID=3003&ESID=8937>

<sup>5</sup> <http://www.educationcounts.govt.nz/find-school/schools?region=3&district=21>

# LAND DEVELOPMENT

- Are we utilising our infrastructure in the most cost effective way, through the way we plan for land use?
- What do we do with Mapara (and other 'red blobs')?
- Clarity over if we need the future urban growth areas.
- What is the future of Turangi's town centre?
- Do we have sufficient industrial land?
- More enablement of opportunities for alternate uses of geothermal technologies

## CHANGING NEEDS



## KINLOCH

*Future considerations for a growing population...*



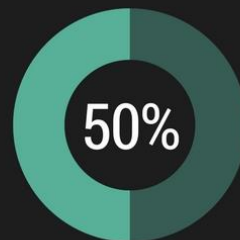
More education?



Better roading?



Commercial development?



Approximate population growth between

2006 & 2013

# LAND DEVELOPMENT

## **We need to make the best use of our existing investment in infrastructure**

We have made significant investments in a wide range of infrastructure to support the development of our urban communities. As an example, the Taupo community has invested approximately \$25 million in the upgrading of the water treatment plant which opened in 2014. Given that and other similar investments in roading, reserves, stormwater and wastewater it is critical that new development utilises the established infrastructure rather than driving the need for further investment.

This challenge is directly applicable to new greenfield development, however there may also be opportunities to look at the way the District Plan is pushing people to develop in places like Kinloch. The census area unit saw growth of around 50 per cent in the period between 2006 and 2013.<sup>6</sup> This increased population will likely eventually lead to increased demand for facilities such as schools, roading and commercial development. The Kinloch Community Structure Plan (KCSP) was completed in 2004 and didn't foresee the current increase in population.

### **Tools**

- Taupo District 2050
- District Plan
- Infrastructure Strategy

## **We need to ensure we have the right amount of land available for urban development**

In 2006 we adopted TD2050, which identified a future land use pattern for the district and identified a number of future urban growth areas. Where these required further detailed planning they were identified as red circles with an expectation that structure planning would establish densities of development and infrastructure requirements. A number of these areas have been structured planned and carried through into the District Plan through plan changes.

Since 2006 we have experienced the global financial crisis and there has been more detailed modelling of likely changes in the district's population. This new knowledge will change our understanding of how much land we require for urban development. We need to revisit our preferred land use pattern in Taupo District 2050 and establish whether it is still sufficient or whether it may need to be altered.

The Mapara Valley is the most significant urban growth area that has yet to be developed. It was intended to cater for approximately 2000 people and would require massive investment in new infrastructure. To assist with the future development in the Valley we designated a route for a new road, the WeKA. That designation is due to lapse in 2020. We need to understand whether this growth area, and others around the district, are still required and to what extent.

---

<sup>6</sup> Long-term Plan 2015-25, pg. 122



## Tools

- Taupo District 2050
- District Plan
- Infrastructure Strategy
- Demographic Snapshot

### **We need to ensure we have sufficient industrial land available**

We developed the Taupo Urban Commercial and Industrial Structure Plan (2011), which identified the likely future industrial land requirements around the Taupo urban area. At the time we worked closely with Contact energy to ensure that the town's aspirations for growth aligned with Contact Energy's ongoing utilisation of the Wairakei Tauhara geothermal field.

The expectation at the time by both Council and Contact was that the encumbrances limiting development of some of the newly identified industrial land would be removed. Subsequent investigation by Contact Energy, and some uncertainty around the details of their future operation of the field, has meant that encumbrances over some of the land are expected to remain. We need to assess if there is an ongoing need for industrial land and where might be the logical place for this development to occur, in an area unaffected by the encumbrances.

## Tools

- Taupo District 2050
- District Plan
- Demographic Snapshot

### **More enablement of opportunities for alternate uses of geothermal activity**

While there are challenges associated with the encumbrances mentioned above, there are also opportunities that come with the geothermal environment. The district sits in an area that is very geologically active, particular in regard to geothermal activity. This is a key point of difference to many other areas in the country and opens up various opportunities for the district. While there has been extensive development and use of this resource (e.g. Contact Energy, Mighty River Power and Iwi), there may be scope for council to enable more diverse development in this area. One way this could be done is through the district plan and allowing various uses of the land to take advantage of this point of difference. An example of a unique use of geothermal activity is that done by Gourmet Mokai Ltd. Tomatoes and capsicums are grown in 12 hectares of geothermally-heated glasshouses. The heat for the glasshouse is supplied from geothermal fluids discharged from well MK-2, owned by the Tuaropaki Power Company.<sup>7</sup> There may be a number of other uses that haven't been thought of yet but looking ahead we need to look at using this to our advantage.

---

<sup>7</sup> <http://www.gns.cri.nz/Home/Learning/Science-Topics/Earth-Energy/Using-Earth-Energy/Direct-Heat-Use/Horticulture>

## **We need to ensure Turangi has a sustainable and vibrant town centre**

The town of Turangi was originally designed for approximately 8000 people and its town centre, built around the mall, was intended to support them. Since the completion of the Tongariro power scheme the population of the town has been in decline with the current population of approximately 3300 expected to drop to approximately 2500 by 2043. The town centre has changed with the population decline, as shops have closed or chosen to move out of the mall.

We need to understand what the changing population of Turangi and surrounding settlements means for the future of Turangi's town centre. It is clear that the town is transitioning from its old service role, and is trying to build a more sustainable economic future based on the visitor industry. We need to establish how we can help with this transition.

There are many tools available to council when it comes to planning and we may need to be creative to ensure that the town centre is vibrant and sustainable. This will require working with the community and key agencies like Go Tongariro to ensure the 'depopulation dividend' is realised as soon as possible.

# OTHER FUTURE CHALLENGES

## **We need to be cognisant of other challenges sitting outside our sphere of influence**

There are a number of other challenges that council may encounter over the coming years that are considered to be outside our sphere of influence. These include the likes of local government structural changes and technological developments. Local government changes could include anything from further development of council-controlled organisations (CCOs) through to large-scale reorganisations. Similarly technological developments may bring significant changes, however it is uncertain what this may look like. Already many workplaces are increasing the use of automation. In time, this may lead to a situation where many jobs become redundant as automation takes the place of human labour.

The difficulty with these examples and others that are similar is that they are hard to predict and therefore difficult to control. While we know for certain these things will occur, a response will only be possible when the extent is known. It is however important that we ensure they are still on our radar.