

SECTION 4

Significant Assumptions and Risks

He Whakapae,
he Whakatūpatotanga

SIGNIFICANT ASSUMPTIONS AND RISKS

A number of significant assumptions about underlying future conditions and events have been made in this 10 Year Plan, particularly in the Infrastructure Strategy and Financial Strategy. This section outlines all assumptions that impact on our activities, or make a material difference to GWRC's overall forecast financial position. The assumptions are considered reasonable, based on the information available at the time of drafting. Where there is a high level of uncertainty the potential effects of the assumptions are also identified.

Assumptions concerning the useful life of significant assets and sources of funds for replacing significant assets are included in the statement of significant accounting policies.

FINANCIAL ASSUMPTIONS

| Assumption | Level of uncertainty | Estimate of potential effects | | | | | | | | | | | | | | | | | | | | | | |
|--|----------------------|-------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------|--|
| <p>Debt</p> <p>The existing and future debt can be raised at levels noted in the plan on a timely basis, and within the cost assumptions of the plan.</p> <p>Debt is drawn down according to the forecast for the June 2015 year, as this underpins the interest cost assumption.</p> | Medium | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Insurance</p> <p>The budgeted insurance premiums are in line with the actual premiums struck.</p> | Medium | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Inflation</p> <p>Moderate inflation over the period of this 10 Year Plan. We use the cost adjustors provided by Business and Economic Research Ltd (BERL) which are calculated specifically for local authorities. BERL adjustors are used by the majority of local authorities. Over the life of the plan the index averages 2.9% per annum</p> <table border="1"> <thead> <tr> <th>2016/17</th> <th>2017/18</th> <th>2018/19</th> <th>2019/20</th> <th>2020/21</th> <th>2021/22</th> <th>2022/23</th> <th>2023/24</th> <th>2024/25</th> <th>2025/26</th> </tr> </thead> <tbody> <tr> <td>2.3%</td> <td>2.5%</td> <td>2.6%</td> <td>2.7%</td> <td>2.9%</td> <td>3.0%</td> <td>3.1%</td> <td>3.3%</td> <td>3.4%</td> <td>3.6%</td> </tr> </tbody> </table> <p>For the Infrastructure Strategy years 2026-2045 we have assumed a flat 2% per annum. Estimates this far out are uncertain at best, 2% balances continued inflation expectations with productivity gains expected over the longer term.</p> | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | 2025/26 | 2.3% | 2.5% | 2.6% | 2.7% | 2.9% | 3.0% | 3.1% | 3.3% | 3.4% | 3.6% | Medium | | | |
| 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | 2025/26 | | | | | | | | | | | | | | | |
| 2.3% | 2.5% | 2.6% | 2.7% | 2.9% | 3.0% | 3.1% | 3.3% | 3.4% | 3.6% | | | | | | | | | | | | | | | |
| <p>Interest rates</p> <p>GWRC has used a composite forecast based on the Reserve Bank of New Zealand (RBNZ) 90-day bank bill rate forecast and the implied market based 90-day forward rates for its floating interest rate projections.</p> <p>The fixed interest rate is based on the existing pay fixed interest rate swaps in place.</p> <p>Added to both of these is the market determined credit margin to borrow funds. This has been budgeted at 0.80% over the forecast period.</p> <table border="1"> <thead> <tr> <th>2015/16</th> <th>2016/17</th> <th>2017/18</th> <th>2018/19</th> <th>2019/20</th> <th>2020/21</th> <th>2021/22</th> <th>2022/23</th> <th>2023/24</th> <th>2024/25</th> <th>2025/26</th> </tr> </thead> <tbody> <tr> <td>5.25%</td> <td>5.70%</td> <td>5.90%</td> <td>5.90%</td> <td>5.90%</td> <td>5.90%</td> <td>5.90%</td> <td>5.90%</td> <td>5.90%</td> <td>5.90%</td> <td>5.90%</td> </tr> </tbody> </table> <p>For the Infrastructure Strategy years 2026-2045 we have assumed a flat 5.6% per annum. Estimates this far out are uncertain at best.</p> | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | 2025/26 | 5.25% | 5.70% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | Medium | |
| 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | 2025/26 | | | | | | | | | | | | | | |
| 5.25% | 5.70% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | | | | | | | | | | | | | | |
| <p>Emissions Trading Scheme</p> <p>No sale of emissions credits. The Emissions Trading Scheme (ETS) was established by the Climate Change Response Act 2002 and creates an incentive for New Zealanders to develop and apply carbon-friendly techniques and technologies. GWRC has emissions credits and may sell the credits at a future date but no sales have been assumed in this 10 Year Plan.</p> | Low | | | | | | | | | | | | | | | | | | | | | | | |

| | Assumption | Level of uncertainty | Estimate of potential effects | | | | | | | | | | |
|------------------------------------|--|----------------------|---|-----------------------|-----|---------------|---------|--------------------------------|---|------------------------------------|------|------|---|
| FAR rates | <p>NZTA co-funding is provided at the agreed financial assistance rate (FAR) for all eligible transport planning activities and that there are no unexpected changes to FARs.</p> <p>All transport projects and services will receive funding assistance from the NZ Transport Agency, at the following levels (percentage of cost):</p> <table border="0"> <tr> <td>Rail services</td> <td>56% in 2015/16 reducing by 1% per year to 51%</td> </tr> <tr> <td>Total Mobility scheme</td> <td>60%</td> </tr> <tr> <td>Rail projects</td> <td>51%-60%</td> </tr> <tr> <td>All other transport activities</td> <td>52% in 2015/16 reducing to 51% thereafter</td> </tr> <tr> <td>Network track renewals (specified)</td> <td>100%</td> </tr> </table> | Rail services | 56% in 2015/16 reducing by 1% per year to 51% | Total Mobility scheme | 60% | Rail projects | 51%-60% | All other transport activities | 52% in 2015/16 reducing to 51% thereafter | Network track renewals (specified) | 100% | High | NZTA reviews FAR rates periodically. If the rates change, GWRC will review budgets in subsequent Annual Plans |
| Rail services | 56% in 2015/16 reducing by 1% per year to 51% | | | | | | | | | | | | |
| Total Mobility scheme | 60% | | | | | | | | | | | | |
| Rail projects | 51%-60% | | | | | | | | | | | | |
| All other transport activities | 52% in 2015/16 reducing to 51% thereafter | | | | | | | | | | | | |
| Network track renewals (specified) | 100% | | | | | | | | | | | | |

In addition to the potential effects associated with the above assumptions not being borne out, we have identified the following risks:

- The credit margin may increase and that floating rates may rise around the assumed composite tract. A 1% increase in interest rates above budgeted levels, assuming expenditure is in accordance with Long-Term Plan, is around \$0.5 million for the 2015/16 year.
- Insurance rates are volatile and moving in an upward path. The biggest risk is around the Material Damage & Business Interruption premium. A review of insurance and risk around loss in relation to property has been undertaken. This will see GWRC retaining more risk, however, this should be ameliorated via lower or stabilised premiums.
- Contract prices for physical works rise as a result of Transmission Gully and other Roads of National Significance projects being constructed over the next 5-10 years.

NON-FINANCIAL ASSUMPTIONS

| | Assumption | Level of uncertainty | Estimate of potential effects |
|----------------|--|----------------------|-------------------------------|
| Climate change | <p>That the main effects of climate change will be more frequent and increasing severe storm events with rain and westerly winds. A number of climate change scenarios have been developed both internationally and regionally which provide a range of possible climate change impacts including:</p> <ul style="list-style-type: none"> - 0.8m sea level rise by 2090 or approximately 1m by 2115 (compared to 1990) - 2-5% increased frequency of extreme winds in winter, and a similar decrease in summer, over this century - A small increase in rainfall in the west of the region and a decrease in the east. More frequent very heavy rainfall events. - Temperatures of around 0.9°C warmer by 2040 and 2.1°C warmer by 2090, compared to 1990.¹ <p>Current technical guidance for flood protection around climate change remains unchanged.</p> | Medium | |

¹ Please note that these climate change assumptions are based on regional downscaling of the Intergovernmental Panel on Climate Change (IPCC) AR4 report from 2007. A more recent report (AR5) has recently been released, however the projected climate change effects have not yet been downscaled to the regional level. These assumptions will be updated once that information is available later this year.

| | Assumption | Level of uncertainty | Estimate of potential effects |
|--|--|----------------------|-------------------------------|
| Economic growth ² | <p>Employment in the region is projected to grow from 226,600 full-time equivalents (FTEs) in 2013 to 285,300 FTEs in 2041. This equates to an annual growth rate of 0.82% (which is 0.33% below the national average).</p> <p>GDP in the region is projected to grow from \$23,020 million in 2013, to \$44,180 million in 2041. This equates to an annual growth rate of 2.36% (which is 0.15% below the national average).</p> | Medium | |
| Emergency events | <p>There will be no natural (or human-induced) hazard events that impact on planned business as usual in a major way (however, we continue to plan and prepare for hazard events).</p> <p>There will be no events, such as contamination of the water catchments, major failure of treatment processes, or contamination of the bulk distribution network, that would compromise compliance with the New Zealand drinking water standards.</p> <p>There will not be any flood events in the next 10 years, where repair costs exceed available contingency funding and reserves.</p> <p>There will be no serious damage to forests from fires, insect attacks, fungal attacks or significant storm or flood damage.</p> | Medium | |
| Indicative areas of urban growth / intensification | <p>Our assumptions on where urban growth and intensification will take place are based on the best publically available information from territorial authorities various urban growth / development strategies including:</p> <ul style="list-style-type: none"> • Kāpiti Coast: Choosing Futures - Development Management Strategy 2007 (Kāpiti Coast District Council) • Proposed Kāpiti Coast District Plan 2012 (Kāpiti Coast District Council) • 2007 Urban Growth Strategy (Upper Hutt City Council) – under review • 2012-2032 Urban Growth Strategy (Hutt City Council) • Wellington Urban Growth Plan 2014-2043 (Wellington City Council) • Porirua Development Framework 2009 (Porirua City Council) • Operative Wairarapa Combined District Plan (Masterton, Carterton and South Wairarapa District Councils) – Subdivision, Land Development & Urban Growth chapter. | Medium | |
| Population trends | <p>That the regional population will continue to grow at the medium growth rate as projected by Statistics New Zealand and will reach approximately 538,700 by 2026 and 559,900 by 2046.³</p> <p>Natural increase is the primary driver for growth. More than three quarters of the region's projected growth will be at 65+ years. Population decline is expected at the 0-4 and 15-29 year age groups. The ratio of elderly (65+ years) to children (0-14 years) will increase rapidly from the current 0.64 (six elderly for every ten children), to 1.16 (12 elderly for every ten children) by 2031.</p> <p>Only modest changes to the overall ethnic composition of the region. The 'European / Other' ethnic group is expected to decrease slightly to 67.7% by 2021. Maori, Pacific Island, and Asian groups will increase slightly.⁴</p> <p>The above population change is expected to have the most impact on our assets and services in the longer term (30 years +).</p> | Medium | |

2 Source: BERL economics, August 2014, Growth scenarios for the Wellington Region: Towards 2041

3 Source: Projections produced by Statistics New Zealand according to assumptions agreed by GWRC. 2006 base year

4 More details, including breakdowns by territorial authority are included in Professor Natalie Jackson's report for GWRC - Greater Wellington – Socio-Demographic Profile 1986-2031, August 2012

| | Assumption | Level of uncertainty | Estimate of potential effects |
|--------------------------------|--|----------------------|--|
| Legislative change | <p>There will be no major change to key legislation that affects GWRC's mandate or has funding implications (including for the provision of infrastructure in the region). Key legislation includes the Local Government Act 2002, the Land Transport Management Act 2003, Resource Management Act, the Reserves Act 1977, Health Act 1956, Soil Conservation and River Control Act.</p> <p>The new Natural Resources Plan for the Wellington region (under development) will not significantly affect the allocation of water for public water supply purposes. Resource consents for water takes expire between 2033 and 2036.</p> <p>Proposed changes to the Biosecurity Act 1993 and pending National Policy Direction will not require significant changes to the Regional Pest Management Strategy 2002-22</p> <p>That central government support for policies under the Climate Change and Sustainable Land Management framework will not alter significantly.</p> <p>There are no changes to the national framework for flood risk management which have potential funding implications for GWRC.</p> <p>Implementation of the National Policy Statement for Freshwater does not identify any substantial new requirements to those already known.</p> | High | Major change to the organisation of local government may significantly impact our requirements, responsibilities or funding arrangements. Any change of this level would require a variation to the LTP. |
| Treaty of Waitangi settlements | That Treaty settlements with iwi are finalised as expected, and settlement of claims will not significantly affect GWRC's functions or ability to undertake activities. | Moderate | |
| Technology | That there will be no significant disruptive technologies over the life of this Plan. | Medium | |
| Resource Consents | That the necessary resource consents for GWRC activities, including capital improvements and routine operations and maintenance on significant infrastructure, will be obtained or renewed as they fall due. | Medium | |

REGIONAL LEADERSHIP



| | Assumption | Level of uncertainty | Estimate of potential effects |
|---------|---|----------------------|-------------------------------|
| Funding | Matched funding from Ministry of Primary Industries is successfully applied for and received for the next phase of the Wairarapa Water Use Project. | Low | |

In addition to the potential effects associated with the above assumptions not being borne out, we have identified the following risks:

- An acceptable solution for the Basin Reserve is unable to be found and this requires a comprehensive review of the Ngauranga to Airport Corridor Strategy to be brought forward and changes made to the Regional Land Transport Plan.

PARKS



| | Assumption | Level of uncertainty | Estimate of potential effects |
|---|---|----------------------|-------------------------------|
| Revenue | That revenue from existing Parks and Forestry leases and licenses continues without significant alteration. | Low | |
| <p>In addition to the potential effects associated with the above assumptions not being borne out, we have identified the following risks:</p> <ul style="list-style-type: none"> • Volunteer support for managing the parks network declines • Increasing pressure of a wider range of uses in the parks network displaces current activities or degrades the overall experience • New roading infrastructure constructed by NZTA significantly degrades the visitor experience in some parks and results in some current activities not being viable • The cost of maintaining and renewing assets in parks becomes unaffordable to the community and levels of service have to be reduced. | | | |

PUBLIC TRANSPORT



| | Assumption | Level of uncertainty | Estimate of potential effects |
|-----------------------------------|--|----------------------|-------------------------------|
| Inflation on diesel bus contracts | <p>GWRC has entered into a number of bus contracts to supply public transport services. Included in these contracts are cost indices requiring GWRC to adjust payments depending on the movement of the indices. The indices are calculated on a number of factors, including the New Zealand dollar price for diesel, staff costs, etc.</p> <p>For the 2015/16 year, the cost of oil is assumed to be US\$65 per barrel (WTI) and the NZ/US exchange rate is assumed to be \$0.70. For subsequent years the payments to bus operators are assumed to increase at the level of inflation.</p> | Medium | |
| Debt funding | Passenger transport infrastructure investment and other capital expenditure will be partly funded by debt. Debt repayments have been estimated in accordance with the Treasury Risk Management Policy. | Medium | |
| Rates | GWRC will not rate the community to fund depreciation or impairment of transport infrastructure and passenger rail rolling stock. Rates will only fund debt repayment on GWRC's share of capital expenditure. | Medium | |
| Fare revenue | No increase in fares is proposed for 2015/16. For each year between 2016/17 and 2020/21 fare revenue will increase by 1% above inflation (this equates to our commitment to the government to plan for fare increases that average 3% per annum as per the 2011 Wellington Rail Package). Thereafter fare revenue will increase with inflation. | Medium | |
| Growth in Patronage | <p>Growth in passenger numbers on rail services has been assumed at 3% for 2015/16 and 2.0% per annum in 2016/17 to 2018/19, then 1.5% per annum until 2025/26 to align with growth projection targets.</p> <p>Growth in passenger numbers on bus and ferry services has been assumed at 0.9% per annum until 2018/19 then 1.5% per annum until 2025/26 to align with growth projection targets.</p> <p>Growth in the use of the Total Mobility Scheme is assumed at 2.3% per annum for 2015/16 to 2017/18, reflecting recent strong growth levels. From 2018/19 growth is assumed to be 0.5% per annum.</p> | Medium | |



| | Assumption | Level of uncertainty | Estimate of potential effects |
|------------------------------|---|----------------------|-------------------------------|
| Trolley buses | Trolley bus services will be discontinued at 30 June 2017. The new fleet required as a consequence of this will include high capacity hybrid vehicles. A rough projection of expected costs for these vehicles are included, but are subject to confirmation as to amount and timing once decisions have been made about the procurement approach | Medium | |
| Integrated fares & ticketing | Expenditure on the integrated fares and ticketing project has been estimated based on the limited information available from a similar project underway in Auckland. An investigation has begun in 2014 which will further inform expenditure levels. | Medium | |

WATER SUPPLY



| | Assumption | Level of uncertainty | Estimate of potential effects |
|-------------|---|----------------------|-------------------------------|
| Population | The urban population of the four cities we supply will follow the current Statistics New Zealand medium growth projection. It is expected that the population supplied will reach approximately 446,000 by 2036. | Medium | |
| Consumption | Gross consumption will not exceed 374 litres per person per day. Many factors contribute to the actual demand for water which adds uncertainty to this assumption. | Low | |
| Supply | The design standard for security of supply is that the probability of a shortfall in any year is no more than 2% (i.e. one in 50 years on average). This is assessed using a model that compares supply and demand scenarios. A "shortfall" is defined as a supply shortage lasting a single day or more. | Low | |
| Levy | The water levy will be adjusted accordingly to meet the impact of any significant changes to interest rates and to maintain debt at sustainable levels | Medium | |

In addition to the potential effects associated with the above assumptions not being borne out, we have identified the following risks:

- Our ability to meet "normal" demand could be severely compromised by drought, source failure or an unanticipated significant increase in demand
- Damage to the water supply infrastructure resulting from a catastrophic event such as an earthquake, tsunami, flooding or major landslide could severely compromise our ability to maintain supply
- Damage to the water supply infrastructure resulting from vandalism or an act of terrorism could also compromise our ability to maintain supply

ENVIRONMENT



| | Assumption | Level of uncertainty | Estimate of potential effects |
|--------------------|---|----------------------|-------------------------------|
| Revenue / Funding | <p>Amendments to the RMA Charging policy, particularly in relation to the State of the Environment monitoring charges, are successfully implemented and actual revenue is in line with expectations.</p> <p>Funding partners such as territorial authorities, QEII National Trust and landowners continue to support sustainable land management programmes.</p> <p>The TBfree New Zealand's bovine Tb vector-control programme in the region is maintained at current levels and GWRC is successful in maintaining preferred contractor status and securing contracts.</p> | Medium | |
| Community support | <p>The public remain supportive of pest management practises, including continued use of pesticides.</p> <p>Volunteers continue to make themselves available to assist with biodiversity and land management activities</p> <p>Demand for services and products from the Akura Conservation Centre will be maintained</p> | Low | |
| Economic situation | The rural economic situation does not change significantly, particularly the ability of landowners to maintain investment in sustainable land management programmes | Medium | |

In addition to the potential effects associated with the above assumptions not being borne out, we have identified the following risks:

- Legal expenses exceed our legal reserves due to our decisions being appealed or from undertaking enforcement action
- The number of consent applications reduces to a point where the revenue generated from processing consents is significantly less than planned for, affecting our overall budget
- The development of the Regional Plan requires additional resources in the area of mana whenua values
- The development of the Regional Plan raises community expectations for higher levels of service
- Additional harbour hulks become GWRC's responsibility and require disposal

The GWRC Infrastructure Strategy (Section Three) outlines in more detail the significant infrastructure issues for GWRC over the next 30 years including issues of resilience; affordability; community expectations; population change and health and safety. The Infrastructure Strategy also outlines the principles and approach GWRC will take in managing the Council's infrastructure assets.

The GWRC Financial Strategy (Section Four) outlines how we intend to fund our responses to the key issues outlined above and the infrastructure issues outlined in the Infrastructure Strategy.