



# Christchurch City Council

Cost of the Earthquake to Council

Financial Advisory 

Christchurch City Council  
PO Box 73011  
CHRISTCHURCH 8154

For the attention of: David Adamson

13 December 2017

Dear Sir / Madam

## **Cost of the Earthquake to Council**

We enclose our report prepared for Christchurch City Council setting out the results of our analysis of the costs of the Canterbury Earthquakes to Christchurch City Council (Council).

This report has been prepared in accordance with the terms of our statement of works dated 15 November 2017 and is subject to our Disclaimer and provisions set out in Appendix 1.

The Christchurch City Council has requested that our report be publicly released as part of articulating the costs of the Canterbury Earthquakes. We have consented to this subject to the Important Notice included in Appendix 1.

Yours faithfully



**Scott McClay**

Partner

*Deloitte Limited (as trustee for the Deloitte Trading Trust)*

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# Executive Summary

The total additional cost of the Christchurch Earthquakes is expected to be \$10.5b, of which \$2b has been funded by other parties, leaving Council ~\$8.5b to fund from rates, debt and other sources.

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## Executive Summary

Based on information provided by Council, and our analysis of long term plans, forecasts and actual financial information we note that:

### Cost to Date

- The earthquakes have cost ~\$3.5b to date. However, ~\$0.5b has been offset by deferrals in business as usual expenditure for a net cost of \$3b.
- This has been primarily funded by
  - Crown contributions ~\$1.6b;
  - Insurance ~\$0.4b;
  - Increased rates ~\$0.2b;
  - Capital released from Council companies ~\$0.2b; and
  - Increased Council debt ~\$1b.

### Forecast Future Costs

- In real (current dollar) terms, there is a further \$4b of earthquake related capital investment over the next 30 years.
- Allowing for inflation, this amounts to a further \$5.7b of earthquake related capital expenditure over the next 30 years.
- In addition, there is an expected further \$1.8b of earthquake related operating expenditure over the next 30 years, of which:
  - \$1b relates to the interest costs of servicing the additional debt taken on to date to fund earthquake expenditure; and
  - The other \$0.8b is forecast to occur through to 2025 as the Council carries higher expenditure related to the additional rebuild activities.

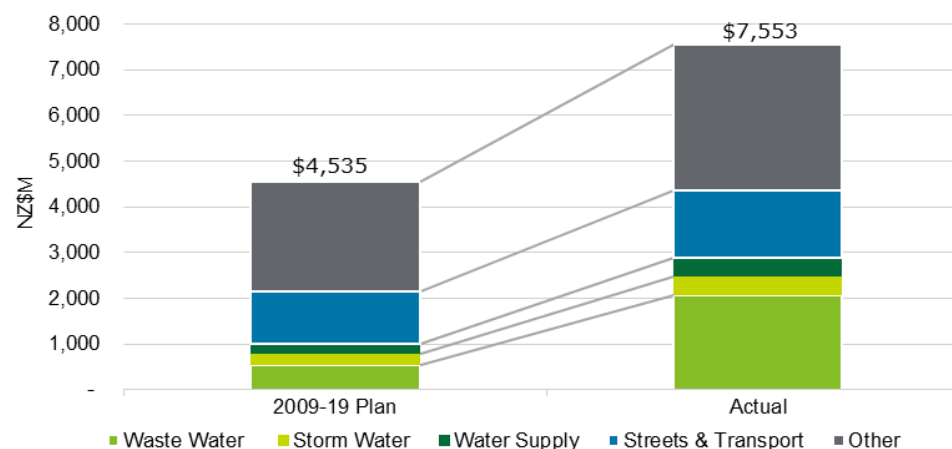
# What have the Earthquakes Cost to Date?

Council has spent ~\$3b more in the period 2011-2017 than anticipated within the pre-earthquakes 2009-2019 plan.

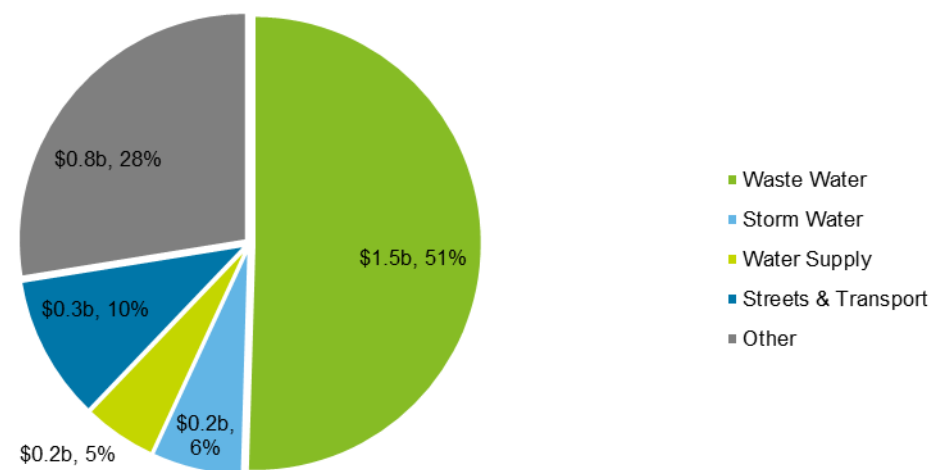
## What have the Earthquakes Cost?

- Council has spent \$3b more than anticipated within the pre-earthquake 2009/19 plan.
- This is made up of:
  - **Capex \$1.9b**; and
  - **Opex \$1.1b**.
- \$1.9b of the additional expenditure was on Three Waters activities.
- Council has disclosed total earthquake related capital expenditure within their activity funding statements of \$2.5b. Our (lower) analysis of \$1.9b extra spend relative to the 2009/19 long term plan is due to Council deferring planned business as usual capex to spend on earthquake repair work.

## Total Expenditure 2011-2017 (Capex & Opex)



## Where was the additional ~\$3b spent?



### Sources of Information:

- Pre Earthquake Plan 2011 - 2017: CCC 2009-2019 Long Term Plan
- Actual Expense 2011 – 2017: CCC Annual Report 2011 to 2017 Funding Impact Statements

### Key Assumption:

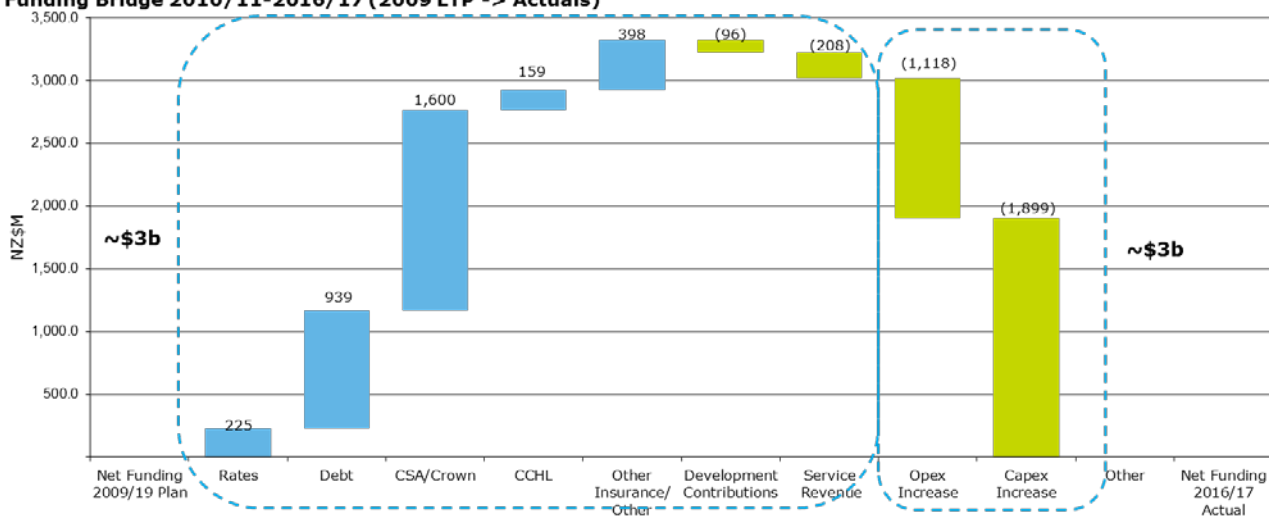
- The difference between 2009 LTP revenue and expenditure and actual annual results is due to the earthquake.

Note: due to changes within the way CCC classify expenditure between plan and actual results we have aggregated activities to be able to provide a meaningful comparison.

# How was the additional expenditure to date funded?

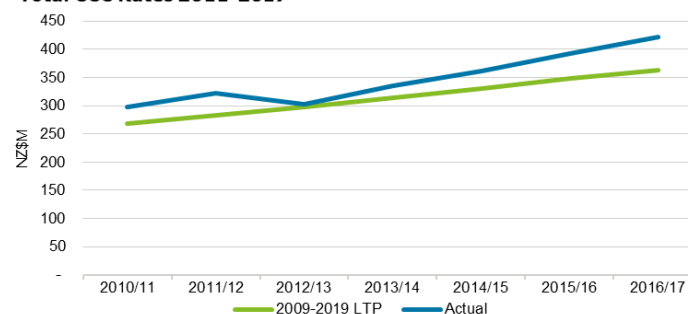
The additional expenditure has been funded primarily via Crown contributions and increased debt, with a smaller contribution from rates and a CCHL capital release.

**Funding Bridge 2010/11-2016/17 (2009 LTP -> Actuals)**



- Rates are now ~16% higher than they were forecast to be pre-earthquakes.

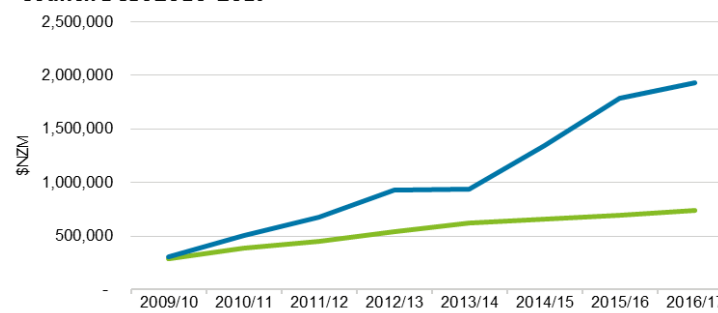
**Total CCC Rates 2011-2017**



Source: CCC 2009-2019 LTP, CCC Annual Reports

- Debt has increased by ~\$1b to fund the additional cost.

**Council Debt 2010-2017**



Source: CCC LTP 2009-2019 and CCC Annual Reports

**Sources of Information:**

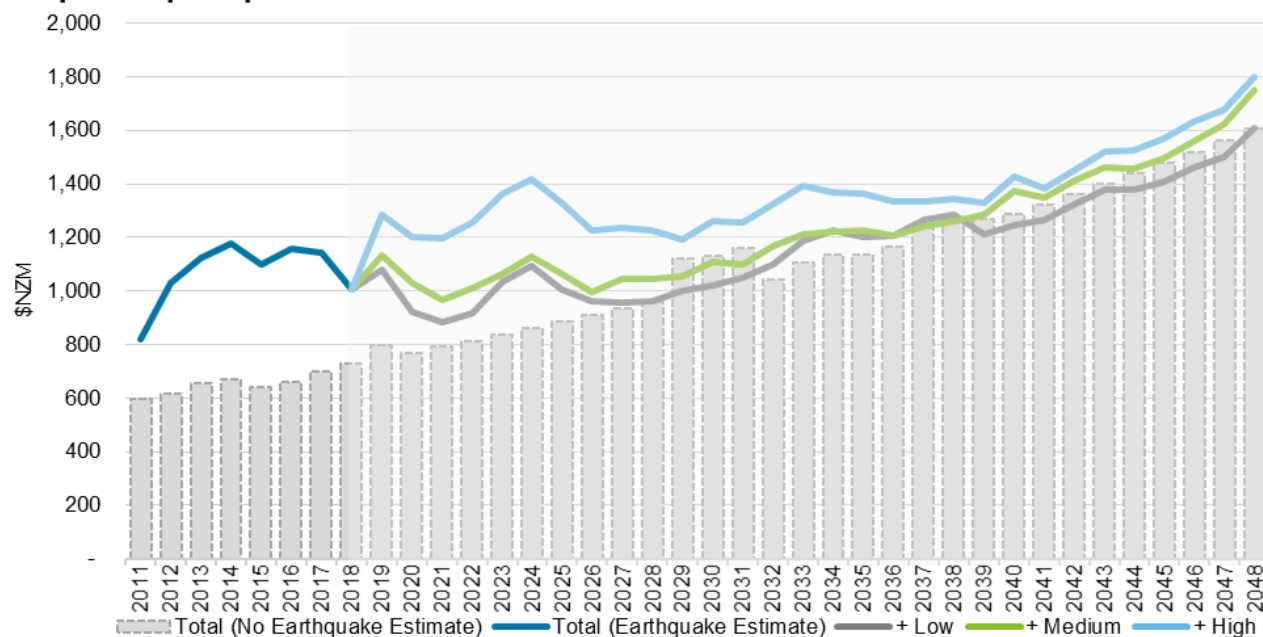
- Pre Earthquake Plan 2011 - 2017: CCC 2009-2019 Long Term Plan
- Actual Expense 2011 - 2017: CCC Annual Report 2011 to 2017 Funding Impact Statements

# Going forward

Spending will be higher.

- The following chart details an extended pre-quake plan total expenditure forecast (light grey bars) versus the actuals and alternative post earthquake capital scenarios through to FY48.

## Capex & Opex Spend - 30 Year View



Source: Management information

The draft infrastructure plans are forecast to cost \$1.1b to \$7.2b more than the extrapolated 2009/19 plan over the next 30 years.

## Incremental Expenditure 2018-2048

\$m	2018-2048	Infrastructure Condition
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### Scenario:

Low	1,148	Deteriorates over time
Medium	3,042	Retains 2017 condition
High	7,218	Returns to pre earthquake standards over 30 years

Source: Deloitte Analysis

Refer to appendix 3 for reference to the condition assessment achieved under each scenario and detailed tables within appendix 2.

### Sources of Information:

Pre Earthquake estimate 2018 - 2048:

- CCC 2009-2019 Long Term Plan extended for 30 years with input from senior Council Management who were in Council in 2009. Inflation is at 2009 LTP expectations of 3.1% pa for capex and 2.6% pa for opex

Post-Earthquake estimate 2018 - 2048:

Capex:

- Draft Infrastructure Plan 2018-2048 Capex High, Medium and Low Options. The High option is based on returning infrastructure to pre earthquake conditions by 2048. The Medium and Low options are based on a lower standard of infrastructure in 30 years, with Medium based on maintaining existing 2017 condition (with allowance for city growth) and Low based on lowering costs but with infrastructure deteriorating from current 2017 standards over time. Inflation is included in these options at Council current capex inflation forecast of 3.3% declining to 2.7%.

Opex:

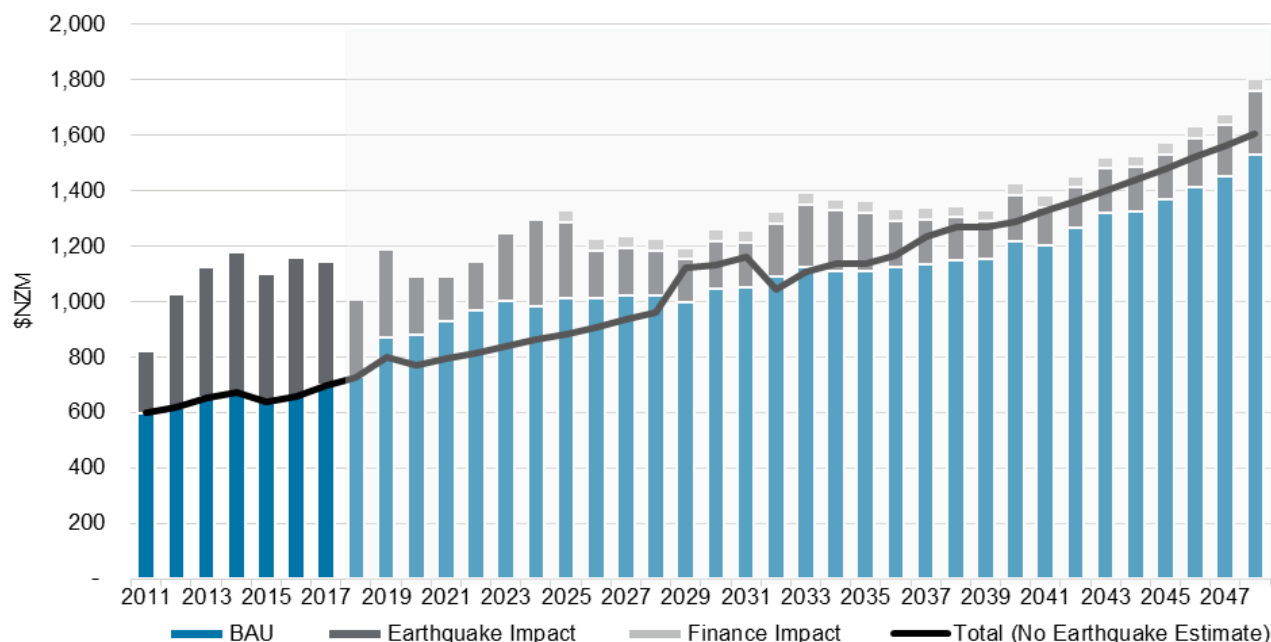
- 2018-2025: Based on CCC 2017 Long Term Plan update.
- 2026-2048: 2009-19 Long Term Plan 2019 operating costs inflated. Current opex is higher than pre earthquake actual and planned opex. This approach assumes that opex will revert to more business as usual levels after 2025. Inflation is at 2.6% consistent with the pre-earthquake opex forecasts.
- Interest: An interest charge at 4.5% is added on the increased debt taken on by Council to 2017 to fund earthquake repair work (\$939m). This excludes the cost of any future debt taken on to fund expenditure.

# What is the anticipated ongoing cost of the Earthquakes?

The ongoing cost of the Earthquake to restore Christchurch infrastructure to pre earthquake conditions is estimated to be ~\$7.5b. ~\$1b is due to the interest on increased debt taken on to fund the repairs and rebuild during 2011-17.

- The following chart details the High Infrastructure plan total expenditure (stacked columns) versus the 2009/19 extended plan. The dark grey and light grey shaded columns identify the Earthquake and Finance cost impacts directly attributable to the Earthquake.
- Council Management have identified the component of the High Infrastructure plan that is Earthquake related.

## Earthquake Impact - 30 Year View



Source: CCC information and Deloitte analysis

## What will the Earthquakes Cost Council?

- We estimate that Council will spend an additional \$7.2b more than anticipated within the extended pre-quake 2009/19 plan.

### Earthquake Related - \$7.5b

- **Capex ~\$5.7b**; Council identified that \$5.7b of the capex is related to Earthquake replacements and renewals.
- **Opex ~\$1.8b**; of which
  - the cost of funding the additional debt taken on between 2011 and 2017 accounts for \$1b; plus
  - \$0.8b related to the 2017/18 LTP modelled increase in opex costs (through to FY25).

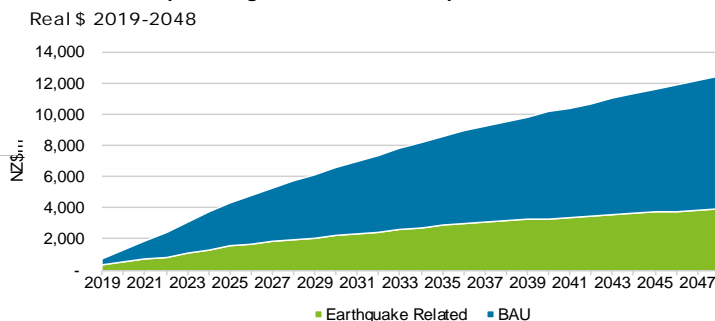
This assumes Council adopt the High capital scenario to return the Horizontal Infrastructure to pre-earthquake condition over the next 30 years.

### Non earthquake related -0.3b

- This is offset to a small degree by slightly less forecast expenditure than pre earthquake forecasts.

In real terms (\$2018) the increased capital expenditure (excluding opex) related to the Earthquakes amounts to **\$3.96b**.

## Cumulative Capex - High Infrastructure Option



Source: Management information

# Appendix: 1. Restrictions, Reliance on Information, Disclaimer

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- We reserve the right, but not the obligation, to review all calculations included or referred to in this report and, if we consider it necessary, to revise our assessment in the light of any information existing which becomes known to us after the date of this report.

## Reliance on Information

- In preparing this analysis we have relied upon and assumed, without independent verification, the accuracy and completeness of all information that is available from public sources and all information that was furnished to us by Council.
- We have evaluated that information through analysis, enquiry and examination for the purposes of forming assessment. However, we have not verified the accuracy or completeness of any such information. We have not carried out any form of due diligence or audit on the accounting or other records of Council. We do not warrant that our enquiries have identified or revealed any matter which an audit, due diligence review or extensive examination might disclose.

## Disclaimer

- This report has been prepared with care and diligence and the statements and conclusions in this report are given in good faith and in the belief, on reasonable grounds, that such statements and conclusions are not false or misleading. However, in no way do we guarantee or otherwise warrant that any forecasts of future expenditure or cash flows of Council will be achieved.
- Forecasts are inherently uncertain. They are predictions of future events that cannot be assured. They are based upon assumptions, many of which are beyond the control of Council and its management. Actual results will vary from the forecasts and these variations may be significantly more or less favourable.
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## Important Notice to Reader

- Notwithstanding the 'Restrictions' outlined on this page, Council has asked for, and we consented to, release of this report in connection with articulating the costs of the Canterbury Earthquakes to Council. This Important Notice sets out the terms on which we are prepared to allow other parties ("You" / "Your") access to the report. If You do not agree to the terms of this Notice You may not read the report.
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    - solely for its benefit and not for any other person;
    - for the purpose set out in the transmittal letter of this report and not for any other purpose; and
    - in accordance with our statement of work dated 15 November 2017.
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## Appendix: 2. Detailed Table – All Scenarios

Variations to Pre-Earthquake Plan	Actuals since Quake			Forecast to 2025			37 Year View			Forward View			Forward View			
	2011->2017			2018->2025			2011->2048			2018-2048			2018-2048			
\$Millions	2009 - 2019 LTP	Actuals	Variance	No Quake Estimate	2017/18 LTP	Variance	No Quake Estimate	High	Variance	No Quake Estimate	High	Variance	Low	Low Variance	Medium	Medium Variance
<b>Capital Expenditure (Inclusive of SCIRT Non Cash)</b>																
Waste Water	338	1,582	1,244	556	492	-64	3,208	5,336	2,128	2,870	3,754	884	2,621	-249	2,640	-230
Storm Water	134	277	143	228	66	-162	1,432	3,929	2,497	1,298	3,652	2,355	1,693	395	2,835	1,537
Water Supply	109	215	106	238	238	-1	1,325	2,510	1,185	1,216	2,295	1,079	1,504	288	1,455	238
Streets & Transport	649	860	211	853	970	117	5,568	5,995	426	4,920	5,135	215	3,476	-1,443	3,936	-984
Other	465	660	195	544	1,413	869	3,469	4,598	1,128	3,004	3,937	933	3,409	405	3,733	729
<b>Total Capex</b>	<b>1,695</b>	<b>3,594</b>	<b>1,899</b>	<b>2,418</b>	<b>3,179</b>	<b>760</b>	<b>15,003</b>	<b>22,368</b>	<b>7,365</b>	<b>13,308</b>	<b>18,774</b>	<b>5,466</b>	<b>12,704</b>	<b>-605</b>	<b>14,598</b>	<b>1,289</b>
<b>Operating Expenses (Includes Interest, Excludes Depreciation)</b>																
Waste Water	204	483	279	324	368	44	1,936	2,259	323	1,731	1,776	44	1,776	44	1,776	44
Storm Water	93	145	52	132	163	31	800	883	83	707	738	31	738	31	738	31
Water Supply	124	176	52	187	204	17	1,126	1,194	69	1,002	1,019	17	1,019	17	1,019	17
Streets & Transport	506	606	99	772	698	-74	4,611	4,637	26	4,105	4,031	-74	4,031	-74	4,031	-74
Other	1,913	2,550	636	2,649	3,370	721	16,086	17,442	1,357	14,172	14,893	721	14,893	721	14,893	721
Interest on Incremental Debt Burden	<i>Accounted for within Activities</i>			<i>Accounted for within Activities</i>			1,014		1,014	1,014		1,014	1,014		1,014	1,014
<b>Total Opex</b>	<b>2,841</b>	<b>3,959</b>	<b>1,118</b>	<b>4,064</b>	<b>4,803</b>	<b>738</b>	<b>24,559</b>	<b>27,430</b>	<b>2,871</b>	<b>21,718</b>	<b>23,471</b>	<b>1,752</b>	<b>23,471</b>	<b>1,752</b>	<b>23,471</b>	<b>1,752</b>
<b>Totals</b>	<b>4,535</b>	<b>7,553</b>	<b>3,018</b>	<b>6,483</b>	<b>7,981</b>	<b>1,499</b>	<b>39,562</b>	<b>49,798</b>	<b>10,236</b>	<b>35,026</b>	<b>42,245</b>	<b>7,218</b>	<b>36,174</b>	<b>1,148</b>	<b>38,068</b>	<b>3,042</b>
<b>Impact of EQ on Capex Expenditure</b>	<b>0</b>	<b>2,454</b>	<b>2,454</b>													

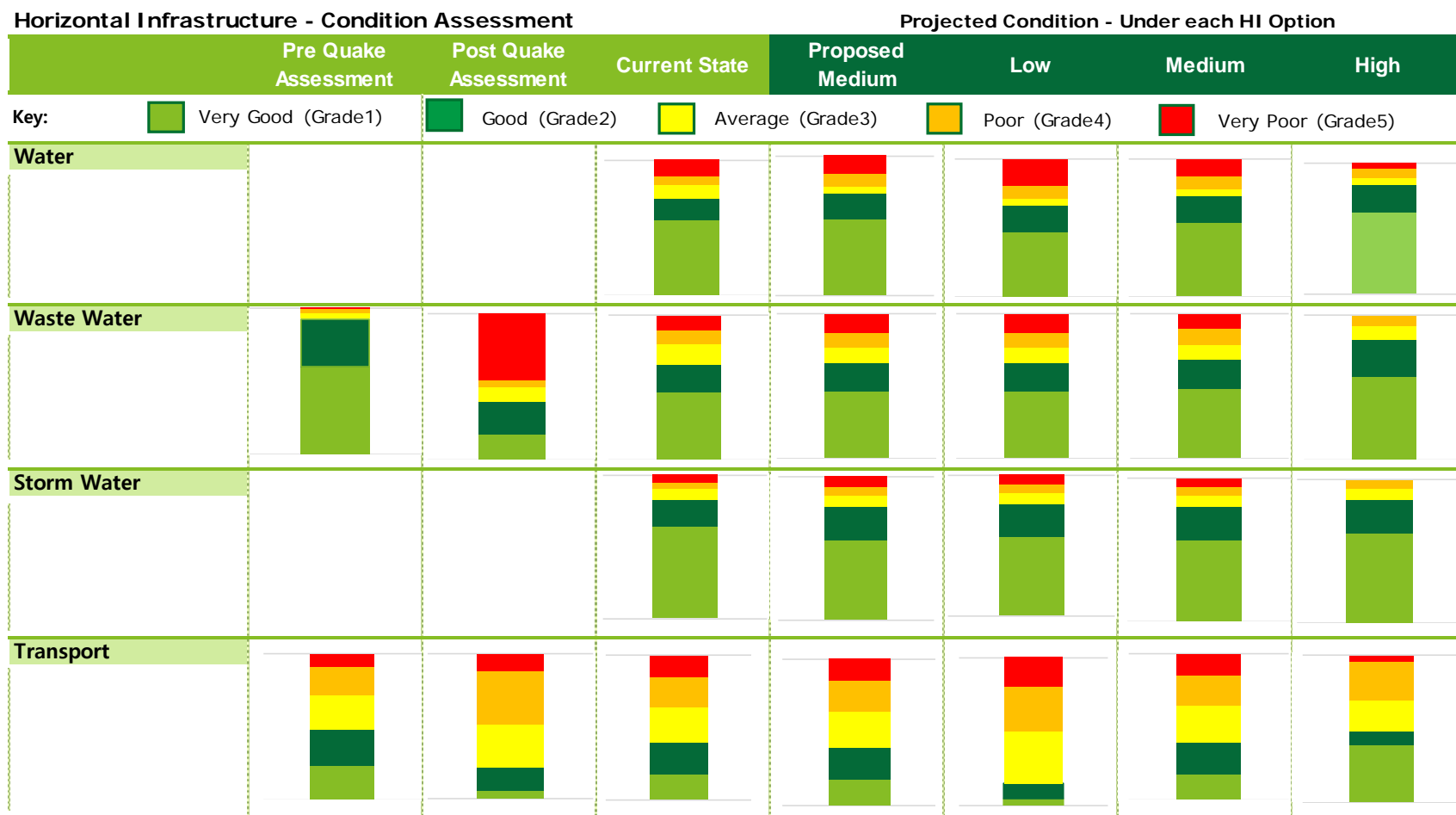
Inflation in No Earthquake estimate is at 2009 LTP projections of 3.1% for capex and 2.6% for opex. Inflation in the High, Medium and Low option is at Council's current estimate of 3.3% declining over time to 2.7% for capex and opex at 2.6% consistent with the 2009 LTP extended estimates.

# Appendix: 3. Condition Assessment

## Condition Assessment

- The following table details the current condition and anticipated condition of Horizontal Infrastructure assets under the alternative Horizontal Infrastructure options.

### Horizontal Infrastructure - Condition Assessment



Source: Christchurch City Council 30 Year Infrastructure Strategy 2018-2048 (Draft)

- Low Option** – a reduced budget option compared to the medium option, with reduced renewals and some projects deferred. Infrastructure would deteriorate under this option.
- Medium Options(s)** – under this option infrastructure asset condition is maintained, legal requirements are met, infrastructure projects to support imminent growth are provided and commitments are kept (e.g. cost share agreements and commitments made by Council through the previous Annual and Long-term plans).
- High Option** – an increased budget compared to the medium option, with additional projects to restore infrastructure to its pre-earthquake condition, provide for medium and long term growth areas, and to reduce operational costs.

## Appendix: 4. What is the anticipated cost of Infrastructure Option - High

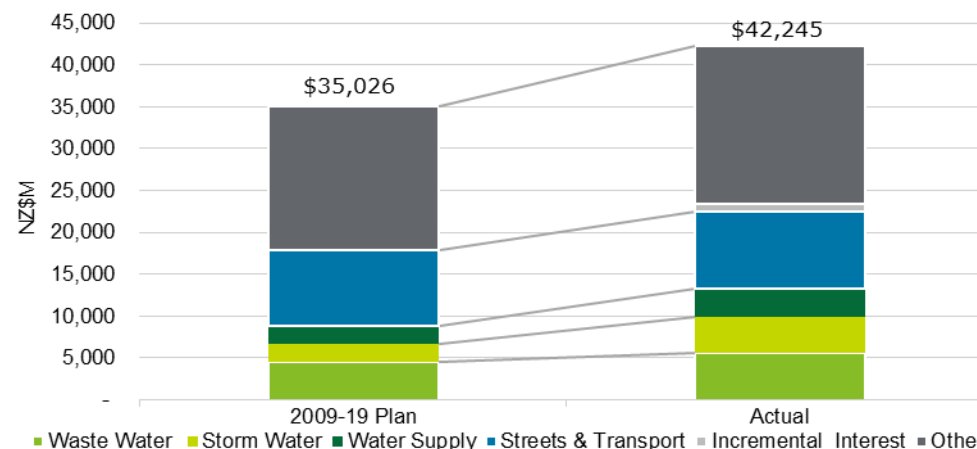
The High Infrastructure Option is estimated to be ~\$7.2b more than would have been anticipated within the extended 2009/19 plan. ~\$1b is due to the interest on increased debt taken on to fund the repairs and rebuild during 2011-17.

- We estimate that Council will spend an additional \$7.2b more than anticipated within the extended pre-quake 2009/19 plan made up of:
  - **Capex \$5.7b;**
  - **Opex \$1.8b;** of which
    - the cost of funding the additional debt taken on between 2011 and 2017 accounts for \$1b; plus
    - \$0.8b related to the 2017/18 LTP modelled increase in opex costs through to FY25).

This assumes Council adopt the High capital scenario to return the Horizontal Infrastructure to pre-earthquake condition over the next 30 years.

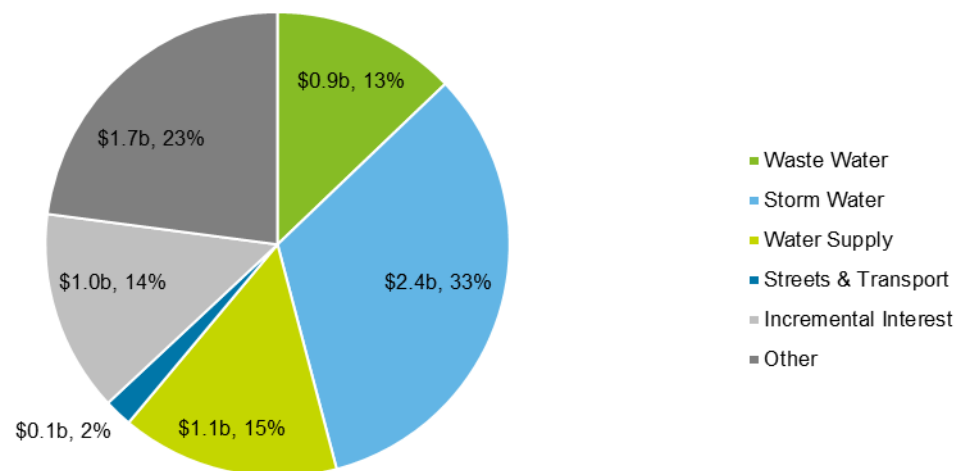
This is offset to a small degree by slightly less forecast business as usual expenditure (~\$0.3b) than pre earthquake forecasts.

**Estimated Total Expenditure 2018-2048 (Capex & Opex)**



Source: Deloitte Analysis

**Where the additional ~\$7.2b will be spent?**



Source: Deloitte Analysis

*Sources of Information:*

Pre Earthquake estimate 2018 - 2048:

- CCC 2009-2019 Long Term Plan extended for 30 years with input from senior Council Management who were in Council in 2009, taking account of the 2009 LTP and the understood asset conditions and remaining lives at that time. Inflation is included at 3.1% pa for capex and 2.6% pa for opex as per the 2009 LTP.

Post-Earthquake estimate 2018 – 2048:

- Capex: Draft Infrastructure Plan 2018-2048 Capex High Option which is planned to return the state of Christchurch infrastructure to pre earthquake levels in 30 years.
- Opex:
  - 2018-2025: Based on CCC 2017 Long Term Plan update.
  - 2026-2048: 2009-19 Long Term Plan 2019 operating costs inflated. Current opex is higher than pre earthquake actual and planned opex. This approach assumes that opex will revert to more business as usual level after 2025.
  - Interest: An interest charge at 4.5% is added on the increased debt taken on by Council to 2017 to fund earthquake repair work (\$939m). This ignores any future debt taken on to fund expenditure.
  - Inflation: Inflation is included at 3.3% pa declining to 2.7%pa for capex as per Councils estimates and at 2.6% pa for opex (consistent with the Pre-Earthquake estimates).

Note: due to changes within the way CCC classify expenditure between plans and actual results we have aggregated activities to be able to provide a meaningful comparison.

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