Christchurch City Council
AGENDA

Notice of Meeting:

An ordinary meeting of the Christchurch City Council will be held on:

Date:	**Tuesday 23 February 2021**
Time:	**9.30am**
Venue:	**Council Chambers, Civic Offices, 53 Hereford Street, Christchurch**

Membership

Chairperson	Mayor Lianne Dalziel
Members	Deputy Mayor Andrew Turner
	Councillor Jimmy Chen
	Councillor Catherine Chu
	Councillor Melanie Coker
	Councillor Pauline Cotter
	Councillor James Daniels
	Councillor Mike Davidson
	Councillor Anne Galloway
	Councillor James Gough
	Councillor Yani Johanson
	Councillor Aaron Keown
	Councillor Sam MacDonald
	Councillor Phil Mauger
	Councillor Jake McLellan
	Councillor Tim Scandrett
	Councillor Sara Templeton

18 February 2021

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Note: The reports contained within this agenda are for consideration and should not be construed as Council policy unless and until adopted. If you require further information relating to any reports, please contact the person named on the report.

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1. Apologies / Ngā Whakapāha

At the close of the agenda no apologies had been received.

2. Declarations of Interest / Ngā Whakapuaki Aronga

Members are reminded of the need to be vigilant and to stand aside from decision making when a conflict arises between their role as an elected representative and any private or other external interest they might have.

Item 3

3. Draft Long Term Plan 2021-2031

Reference / Te Tohutoro:	21/37334
Report of / Te Pou Matua:	Peter Ryan, Head of Performance Management, Peter.Ryan@ccc.govt.nz Bruce Moher, Head of Financial Management (Acting), Bruce.Moher@ccc.govt.nz
General Manager / Pouwhakarae:	Diane Brandish, General Manager Finance and Commercial (Acting), Diane.Brandish@ccc.govt.nz

1. Purpose of Report

1.1 The purpose of this report is to present to the Council for consideration and adoption of :

1.1.1 The information that provides the basis for preparation of the Council's draft 2021-31 Long Term Plan, and which is relied on to shape the Consultation Document;

1.1.2 The draft LTP Consultation Document (with the report from Audit NZ to follow on 4 March 2020);

1.1.3 The consultation and engagement process to be undertaken by the Council.

2. Officer Recommendations / Ngā Tūtohu

That the Council:

1. Receives the information contained and referred to in the staff report and the documents attached to it, including the draft Consultation Document, Financial Strategy and Infrastructure Strategy;
2. Notes the recommendations of the Council's Audit and Risk Management Committee at its meeting on 19 February 2021;
3. Adopts the information that provides the basis for the Council's draft Long Term Plan 2021-2031 and relied on by the content of the Consultation Document to be adopted by the Council, and which is the information set out in Attachment A;
4. Notes that a full version of this information can be found at:
   a. Long Term Plan 2021–31 : Christchurch City Council (ccc.govt.nz)
5. Adopts the Consultation Document in principle (Attachment B) for consultation, subject to the inclusion of the Auditor-General's report required by s.93C(4) of the Local Government Act (LGA) 2002. The latter will be supplied to the Council meeting of 4 March 2020, at which point formal adoption of both the LTP and audit report can occur;
6. Authorises the General Manager Finance and Commercial and the Chairperson of the Audit and Risk Management Committee to make any non-material amendments to the documents and/or information attached to or referred to in the staff report, as well as amendments that may be required to ensure the documents and/or information align with the Auditor-General's report.
7. Approves the following process for consultation:
   a. Consultation Document available to the public on 12 March 2021;

b. The period for making submissions will run from 9am on 12 March to midnight on 18 April 2021;

c. For people who wish to, opportunities will be provided for them to present oral submissions, the following time allocations will apply:

   i. Community Boards, Te Rūnanga o Ngāi Tahu, Papatipu Rūnanga, Environment Canterbury and other local councils – 10 minutes

   ii. Groups and organisations – 5 minutes

   iii. Individuals – 3 minutes

d. Oral submissions will be heard between 3 May and 19 May 2021 (specific hearing dates to be confirmed);

e. All submissions will then be considered before the Council meets on 21 and 23 June 2021 to adopt its 2021-2031 Long Term Plan.

Secretarial Note: *The Audit and Risk Management Committee's recommendations referred to in recommendation 2 will be provided separately.*

3. Requirement of the Local Government Act 2002

3.1 The Local Government Act (LGA 02) requires local authorities to adopt a Long Term Plan every three years. The Council's current Long Term Plan was adopted in June 2018.

3.2 Each Long Term Plan must be adopted before the commencement of the first year to which it relates, and continue until the close of the third year of the Plan (s 93(3) LGA 02).

3.3 The purpose of the Long Term Plan is to describe the Council's activities and the community outcomes for its district. The Plan is also an opportunity to provide integrated decision-making and co-ordination of the Council's resources, and a long term focus for its activities. It is a basis for accountability to the community (s93(6) LGA 02).

3.4 The Council must prepare and adopt a Consultation Document that will enable the Council to consult with its community on the information the Council intends to include in its 2021-31 Long Term Plan.

3.5 The purpose of the Consultation Document is to provide a fair representation of the matters that are proposed for inclusion in the Long Term Plan. This must be presented in a way that explains the overall objective of the Council's proposals for the next 10 years, the effect of these on rates, debt, and levels of service, and which can be readily understood (s 93B LGA 02).

3.6 Before the Council can adopt the Consultation Document, it must first adopt the information that is relied on by the Consultation Document, and which provides the basis for the preparation of the 2021-31 Long Term Plan (s 93G LGA 02).

3.7 The Auditor-General will report on the quality of this information and the assumptions underlying it and whether the Consultation Document gives effect to the purpose set out in s 93B LGA 02, at the meeting of 4 March 2021.

3.8 The information to be adopted by the Council before it adopts the Consultation Document is set out in Attachment A. Also attached is the Financial Strategy (Attachment C) and Infrastructure Strategy (Attachment D), both of which are key to the Council's proposed approach to meeting the challenges of the next 10 years.

3.9 It is the role of the Mayor to lead the development of the Council's plans, including the Long Term Plan (s 41A(2) LGA 02). The Council delegated to its Finance and Performance Committee the responsibility for advising and supporting the Mayor in her role. This included setting the overall parameters, strategic direction and priorities for the Long Term Plan, and the development of a Consultation Document.

3.10 The Council's Audit and Risk Management Committee (ARMC) met on 19 February 2021. Its Terms of Reference include considering and reviewing the Long Term Plan before it is adopted by the Council. It is to apply similar levels of enquiry, consideration, review and management sign-off as are required for external financial reporting.

4. Process

4.1 The Draft Long Term Plan 2021-2031 has been developed over the last 18 months by staff as well as guidance from the Mayor and Councillors. This included guidance on the overall direction and parameters to apply to the development of the draft Long Term Plan, including expectations for balancing the speed of earthquake recovery with rates affordability.

4.2 Staff worked extensively with Elected Members on a set of strategic priorities to inform the draft, including specific goals and initiatives and linkages to levels of service.

4.3 The LTP process was guided by the Elected Members' Letter of Expectation, which sought improvements over certain aspects of the 2018 process. The new process was approved by the LTP project team, Executive Team, Finance & Performance Committee and Council. It was also considered by ARMC.

4.4 The LTP project team was chaired by the Chief Executive. Work stream leads were appointed to be accountable for the delivery of each component of the LTP.

4.5 In addition, the Council appointed and engaged the services of an External Advisory Group, chaired by former Mayor Garry Moore and comprising subject-matter experts in the areas of asset management, planning, and finance. The group was supported by the Performance Management Unit. The External Advisory Group provided advice and oversight to staff and Elected Members.

4.6 The Council played an active role in reviewing the information that will provide the basis for preparation of the draft Long Term Plan. The Council met regularly from August 2020 to January 2021 to review the key documentation relevant to their particular terms of reference.

4.7 Regular monthly updates have been provided to Finance & Performance Committee and ARMC on both the process and draft content of the developing LTP.

4.8 As the draft LTP evolved, Council staff held a lengthy series of workshops with the Mayor and Councillors to obtain overall direction and to fine-tune specific details. This commenced in July 2020 and concluded in January 2021.

4.9 This provided opportunities for Councillors to debate their priorities for the draft Long Term Plan 2021 and their expectations for matters such as rates increases, level of debt, financial headroom, the capital works programme, levels of service and savings options.

4.10 The LTP contains a focus on Covid-19 recovery and climate change response. In line with the Letter of Expectation it also has a focus on resilience.

4.11 There has been a focus on risk management throughout the Long Term Plan process. This included management sign-off, which required managers accountable for each supporting document to sign off having reviewed the document and it being fit for purpose.

4.12 The draft Long Term Plan recommends (in the opinion of senior management, and based on the advice provided by Councillors) the best balance between financial, risk and service delivery to the community.

4.13 The focus of the Consultation Document will be on the optimal balance described above. Note that other options (including options around greater and lesser spending/rates percentages) were carefully analysed by senior management and councillors, but were considered to have less advantages than the Council's recommended option.

4.14 This is because of the greatly increased risk that goes with higher rates increases/spending (for example, risks around debt, headroom and capital programme delivery) and equally the loss of opportunity that goes with lower rating/spending (impacts on critical asset renewal programmes, loss of capital works, reduction in core levels of service, and failing to support central government in fostering economic growth as part of Covid recovery.)

4.15 This focus on an optimal balance has been considered in detail by the LTP project team, Legal Services, Audit NZ and the ARMC.

4.16 All parties consulted have advised that they accept the logic of this process and approach. Legal advice confirms that it complies with the relevant provisions of the Local Government Act 2002.

4.17 A full Consultation Document for the LTP has been developed by staff. Audit NZ met with staff on 17 February to further discuss this document. They have suggested some changes and staff are actioning these now as a priority.

4.18 However this extra information will take time to collate and verify, which will clash with the notification periods for Council reports. To mitigate this the draft Consultation Document attached to this report contains a placeholder to this effect on page 4. A new version of the Consultation Document containing the extra information will be circulated for councillors to consider prior to their meeting of 23 and 25 February.

4.19 When Council meets to consider the draft Long Term Plan on 23 and 25 February, it is intended that Council will resolve to adopt the information that provides the basis for preparation of the draft LTP (but not the Consultation Document), subject to receipt of the Audit NZ opinion on 4 March.

4.20 Due to resource constraints Audit NZ will then attend Council on 4 March 2021 to deliver their report. The supporting information, Consultation Document and audit opinion will then be formally adopted at that meeting.

5. Financial Implications

5.1 The Financial Strategy seeks to reconcile the relationship between the expenditure required to deliver the levels of service the community expects, and the call on funding from rates and debt.

5.2 These factors are inter-related and movement in one causes movement in at least one of the other variables. For example, if rates are reduced then some combination of reduced or delayed expenditure is required, which in turn will likely result in a reduced level of service being delivered, or increased debt.

5.3 The draft Financial Strategy and Infrastructure Strategy present the Council's proposed solution to these challenges and detail the key financial parameters and limits the Council will operate within over the period of the Long Term Plan 2021-31.

5.4 With some limitation on borrowing capacity prior to 2028 and also taking into account deliverability and affordability, Council has restrained it proposed core capital programme in the first three years. A total programme of $5.7 billion over the Long Term Plan period is proposed.

5.5 Significant operational savings of $34 million are proposed from the first year of the Long Term Plan, additional to the $18 million savings made in the 2020/21 Annual Plan. These are partly in response to a post COVID-19 reduced revenue base and partly from a thorough review of operating costs.

5.6 Residual operational borrowing due to COVID-19 has been minimised by an improved CCHL dividend for 2020/21 and proposed surplus land sales over the next two years.

5.7 An average rates increase to all existing ratepayers of 5.56% is proposed for 2021/22. For residential ratepayers this will be 5.0%. Rates increase are forecast to be over 4% for the following five years before dropping to around 3%. A total cumulative rates increase over the Long Term Plan period of 47.8% is forecast.

5.8 The Council's net debt to revenue ratio increases materially in the 2023 – 2025 period, partly due to Council borrowing taking over from Crown funding for the completion of the Canterbury Multi Use Arena. The ratio reaches a peak in 2028 of 244% before starting to decline. Staff believe current and forecast debt can be serviced comfortably.

5.9 A key feature of the financial strategy is to ensure the ability to access funding through borrowing if the unexpected happens. Minimum debt headroom of $400 million has been maintained in all years except 2026 ($396 million) and 2028 ($384 million).

5.10 The Council has a statutory obligation to ensure prudent stewardship and the efficient and effective use of its resources, with financial prudence being measured by a number of benchmarks.

5.11 The proposed Long Term Plan meets all financial prudence benchmarks across all years except for a marginally unbalanced budget in 2024/25. This is the residual impact of increasing the rating for renewals to an appropriate level over time, within the bounds of ratepayer affordability, which commenced in 2015 and is considered prudent.

5.12 The proposed Long Term Plan does not provide for inflation protecting the principal of the Capital Endowment Fund. Low interest rates mean it is not feasible to do so while still providing funding for economic and community development.

6. Consultation and Hearings Process

6.1 Preparing and adopting a Long Term Plan is a matter of high significance. For this reason the LGA 02 requires the Council to use the special consultative procedure when consulting with its community on adoption of the Plan (s 93(2) LGA 02).

6.2 The requirements for a special consultative procedure are set out in s 83 LGA 02. If approved by the Council, the following process will comply with those requirements:

6.2.1 The Consultation Document will be available to the public on 12 March 2021;

6.2.2 The Consultation Document will advise members of the public where they may obtain the information that is relied on by the document and which provides the basis for the draft 2021-31 Long Term Plan;

6.2.3 The period for making submissions will run from 9am on 12 March to midnight 18 April 2021;

6.2.4 The consultation process will include radio advertising, articles in Council publications, email newsletters to subscribers, a website link to access information. People who wish to will also be able to lodge submissions electronically and to use other e-democracy tools such as Facebook where appropriate;

6.2.5 It is proposed to hold a series of community discussions between 12 March and 18 April 2021. These discussions will allow the community to engage directly with Elected Members and Council officers;

6.2.6 Meetings with stakeholder groups will also be held during this period;

6.2.7 For people who wish to, the opportunity to present their views orally will be available between 3 May and 19 May 2021 (specific dates to be confirmed),the following time allocations will apply;

- Community Boards, Te Rūnanga o Ngāi Tahu, Papatipu Rūnanga, Environment Canterbury and other local councils – 10 minutes
- Groups and organisations – 5 minutes
- Individuals – 3 minutes

6.2.8 All submissions will then be considered before the Council meets on 23 and 25 June 2021 to adopt its 2021-31 Long Term Plan.

Attachments / Ngā Tāpirihanga

No.	Title	Page
A ⇩	LTP 2021 Draft Mayor's Proposal	13
B ⇩	LTP 2021 Draft Consultation Document	24
C ⇩	LTP 2021 Draft Financial Strategy	73
D ⇩	LTP 2021 Draft Infrastructure Strategy	95
E	Auditor-General's Opinion *(Under Separate Cover)*	

In addition to the attached documents, the following information is available:

Document Name	Location / File Link
Draft Long Term Plan 2021- 31	1. Treaty Relationships 2. Financial Overview 3. Funding Impact Statement and Rating Information 4. Financial Prudence Benchmarks 5. Community Outcomes and Strategic Framework 6. Summary of Grants 7. Activities and Services - Statements of Service Provision 8. Capital Programme 9. Potential Disposal of Council-owned properties 10. Prospective Financial Statements 11. Significance and Engagement Policy 12. Revenue, Financing and Rating Policy 13. Liability Management Policy and Investment Policy 14. Council-controlled Organisations 15. Fees and Charges 16. Reserves and Trust Funds 17. Capital Endowment Fund Supporting documents • 38 Draft Activity Plans and 14 Draft Asset Management Plans

Confirmation of Statutory Compliance / Te Whakatūturutanga ā-Ture

Compliance with Statutory Decision-making Requirements (ss 76 - 81 Local Government Act 2002).

(a) This report contains:

(i) sufficient information about all reasonably practicable options identified and assessed in terms of their advantages and disadvantages; and

(ii) adequate consideration of the views and preferences of affected and interested persons bearing in mind any proposed or previous community engagement.

(b) The information reflects the level of significance of the matters covered by the report, as determined in accordance with the Council's significance and engagement policy.

Signatories / Ngā Kaiwaitohu

Authors	Peter Ryan - Head of Performance Management Ian Thomson - Senior Legal Counsel Bruce Moher - Head of Financial Management Ryan McLachlan - Reporting Accountant Diane Brandish - Acting General Manager Finance and Commercial (CFO) Andrew Jefferies - Manager Funds & Financial Policy
Approved By	Helen White - Head of Legal Services Diane Brandish - Acting General Manager Finance and Commercial (CFO) Dawn Baxendale - Chief Executive

Mayor's Proposal

Our situation

Ten years on from the earthquakes, we are on the way to becoming a modern, resilient 21st century city with the capacity to meet present and future challenges.

We know from our experience over the past decade that we need to plan for the unexpected. We have established a good track record of building on what we know and adapting to the challenges we face.

The services, facilities and spaces we provide and the systems we have in place need to be robust yet flexible, so that we can adapt to and deal with whatever shocks and stresses we have to confront. We need to continue to invest in our infrastructure.

This Long Term Plan (LTP) for 2021–31 is set to be a turning point for our city – a plan that is firmly focused on the future.

We need to be in a position to respond and adapt to climate change, as well as prepare for the impact that exponential advances in technology will have on our economy and our lives.

We have momentum on our side, having felt that we were turning a corner at the beginning of 2020, but then the COVID-19 pandemic threw us – and the rest of the world – a curve ball.

Our 'team of five million' has prevented thousands of deaths and protected our health system from being overwhelmed. This has allowed us to regain the freedoms we usually take for granted while many other countries around the world have continued to face tough restrictions. Recent events remind us there is no room for complacency.

From an organisational perspective, the Council lost income during the COVID-19 lockdown. We have received much smaller dividends from our commercial arm Christchurch City Holdings Limited, which has compounded the financial challenge we now face. We also had to temporarily close facilities. Even when facilities were able to re-open, many were forced to operate at reduced capacity because of the need for social distancing and limits on crowd sizes. These steps were all necessary, but they came at a financial cost.

While we have worked hard to find savings and to keep costs down for the ratepayers, we have chosen not to take the austerity path in this draft LTP. We do not want to slow down our economic and social recovery, nor do we want to put our services and the condition of our assets at risk by drastic reductions in investment.

We have attempted to get the balance right in proposing an average residential rates increase of 5 per cent for the 2021/22 financial year. This equates to an extra $142.25 a year or $2.74 a week. The average rates increase for all ratepayers (residential, business and rural) for the 2021/22 financial year will be 5.56 per cent.

We, as a city and region, need to continue to work together to recover and reposition ourselves for the future. We need to build on our partnerships and continue to work with other councils, government agencies, iwi, mana whenua, communities, NGOs and businesses to shift our mindset from looking backwards and seeking to recover what we had. We're focusing on the future and creating a thriving, resilient and prosperous city and region together.

Our investment in ChristchurchNZ will see our city draw on the strengths of our region to meet global opportunities as we reposition ourselves for the future.

A test-bed for innovation, Christchurch is the place for future-focused, sustainable businesses and people who want to do things differently. We are leading the way in global health tech, aerospace and future transport, food fibre and agritech, and hi-tech solutions. These strategic strength sectors, Supernodes, are supported by progressive ecosystems connecting enterprise, education, and government.

Ōtautahi Christchurch is a city of opportunity for all, open to new ideas, new people and new ways of doing things – a city where everything is possible.

Mayoral Proposal

After months of discussions, workshops and briefings with elected members and Council staff, I am recommending a budget that focuses on ensuring the Council continues to deliver key services, invest in core infrastructure, and builds Christchurch and Banks Peninsula's resilience to future challenges.

It is a forward-looking budget that continues to balance the need to be financially prudent while ensuring we maintain our infrastructure in good condition.

There is no simple solution to address our current financial situation. We have to look at a selection of levers available to us. It is a balancing act which focuses on what we can afford and what we can actually deliver in our capital works programme, finding permanent efficiencies in our day-to-day spending and borrowing for new projects that have long-term value. We need to ensure that the debt repayments are spread fairly across the generations of ratepayers who will enjoy them.

We have set our core capital spend at $400 million in the first year, $420 million in the second year and $443 million in the third year, and ensured that we can do all the work we want to deliver in the timeframe we have set. We have also allowed $274 million to complete the Canterbury Multi-Use Arena and Metro Sports Facility.

Economic recovery is part of our COVID-19 response – by locking in the funding for this work, we are able to give confidence to the construction sector keeping people in jobs. For the remaining seven years of this Long Term Plan, our core capital spend will increase to $500 million to $550 million a year.

To address the impact of COVID-19 we've identified savings of $52 million ($18 million to our operational costs in this financial year alone, and additional savings of $34 million in 2021/22) while keeping rate increases as affordable as possible. Over the whole period of the Long Term Plan we have removed $329 million of operating costs.

We are also looking to sell $15 million of additional surplus land to reduce the COVID-19 debt. We are looking at all avenues available to help us make these savings in our Long Term Plan – everything is under scrutiny.

Finding the optimal financial pathway forward requires consideration of a multitude of trade-offs. This means there will be much that the Council can't do immediately so we will need to decide what projects can happen further down the track.

Priority is being given to maintaining existing service and assets and to optimising opportunities to tap into Government stimulus funding for infrastructure work that generates or retains jobs.

Our residents are giving us a very clear message around the need for us to deliver our core services well and rates affordability while needing to invest for the future and bring new facilities on-stream.

We have been and are continuing to invest in protecting and upgrading our water networks – drinking water, storm water and waste water.

A briefing for the Minister of Local Government – a Three Waters Review commissioned by the Department of Internal Affairs – recognised that Christchurch is the only local authority in New Zealand that was investing in its water infrastructure at a level needed to maintain the performance, condition and risk profile of their assets.

We are also investing in roads and transport infrastructure. We're focusing on maintaining and improving the condition of our existing roads, footpaths and cycleways because you've told us that's important to you. We also want to give people better options for getting around, whether by car, public transport, on foot or on a bike or scooter. The safety of our networks is also a priority.

This draft budget proposes an average residential rates increase of 5 per cent for the 2021/22 financial year. This equates to an extra $142.25 a year or $2.74 a week. The average rates increase for all ratepayers (residential, business and rural) for the 2021/22 financial year will be 5.56 per cent. We have challenges and opportunities to enhance our future in several areas. I look forward to hearing your feedback.

Water use
In this proposal I am asking for specific feedback on a proper funding/charging regime for utilising the drinking water infrastructure. Last year, the messages were confused due to the mixing of capital value-based rates and the proposed excess utilisation charges.

We are proposing charging an excess water use targeted rate for households that use significantly more water than the average household to help us manage our water demand better, give us a more secure water supply and reduce pumping costs over summer. This excess charge would apply if a household used more than 700 litres a day. The average household uses 540 litres a day.

We are aware that there will be issues around large families and shared accommodation, which the policy will provide the means to address.

Heritage
We're proposing to introduce a heritage targeted rate instead of including all funding for heritage building in the general rate. In the future, we plan to show this separately on your rates bill. This targeted rate will provide a clear picture of the portion of your rates that you already pay towards specific heritage projects in the city. We're proposing that every ratepayer will pay this rate and it will be calculated as a number of cents per dollar of capital value.

These central city heritage projects include:

- Canterbury Provincial Council Buildings: The targeted rate will help to fund $20 million of capital expenditure in the 2027–28 year.
- Old Municipal Chambers (previously known as Our City Ō-Tautahi): The targeted rate will help to fund up to $8.6 million in capital funding ($2.6 million in 2021–22 and $6 million in 2022–23). This funding will be transferred to the City of Christchurch Trust – a charitable

trust set up by private company Box 112. Box 112 will undertake the strengthening and refurbishment of the building at the direction of the Trust.

- Robert McDougall Art Gallery. The targeted rate will help to fund $13.5 million of restoration work in 2022–23 to 2024–25. Depending on the outcome of consultation on this draft plan, this could also include $11.8 million of funding towards base isolation work.
- Canterbury Museum redevelopment. The targeted rate will contribute to the $23.7 million for the redevelopment in years 2024–27.
- In addition we have been asked to support the Arts Centre, which is the former site of the University of Canterbury that was saved from demolition by local citizens. Before the earthquakes we used to provide financial support for the operational costs of the Arts Centre. Now that they have exhausted their insurance proceeds, they have asked the city to partner with them once more.
  We are proposing to provide the Arts Centre with a capital grant of $5.5 million. We would do this via a targeted rate that would recover the grant cost over 10 years, and would phase in over two years, so the targeted rate would be smaller in 2021/22 than in subsequent years. We are proposing that every ratepayer will pay this rate and it will be calculated as a number of cents per dollar of capital value.

Ōtākaro Avon River Corridor
Regenerating the 602-hectare Ōtākaro Avon River Corridor is a once-in-a-lifetime opportunity to create a legacy that benefits future generations. We are committed to a new co-governance model for the development of the land, in partnership with Mana Whenua.

We have an opportunity in the Ōtākaro Avon Regeneration Area to take an integrated approach to how we manage land, water and natural hazards.

We have committed a total of $337 million of capital development funding across the years 2021–31 to the former residential red zone land regeneration. This includes:

- $316 million for the implementation of the Ōtākaro Avon River Corridor Regeneration Plan.
- $21 million to support future plans for Brooklands, the Port Hills and Southshore former residential red zone land.

The funding will support the following developments – the City to Sea pathway, ecological restoration, cultural and recreational facilities, including landings, flood protection and stormwater management, and the Pages Road bridge.

Work will start on the City to Sea pathway in the 2021/22 financial year. This will include large areas of ecological restoration and wetlands, walking paths, nature trails, cycleways, riverside landings and community spaces such as picnic spots and barbecue areas.

In summary
Climate change and COVID-19 are game changers, but as with any natural hazards that can occur anywhere at any time, they also force us to better manage our challenges and adapt to our changing environment.

I am conscious that COVID-19 pandemic has affected not only the Council's finances but also those of city residents and businesses.

The recommendations in this Draft LTP reflect the need to provide reliable, quality infrastructure and services that support the city's growth. They also reflect the need to keep rates, fees and charges affordable, provide value for money, and build financial resilience.

Lianne Dalziel

Mayor of Christchurch

Issues addressed in our Draft Long Term Plan

Climate action
Climate change is already having a significant impact on our economy, environment and way of life, and we need to meet this challenge through every means available. We have work underway to identify and respond to climate change issues at the local and citywide level, and must work closely with our communities on this.

At the same time as we are consulting on our Draft Long Term Plan, we are also consulting on the Draft Ōtautahi Christchurch Climate Change Strategy which reinforces the Council's commitment to Climate Change leadership and provides a long term framework for climate action.

In 2019, the Council declared a climate emergency. We set a target of net zero greenhouse emissions by 2045 (excluding methane), and to halve our emissions by 2030 from 2016–17 levels. We all need to make changes to the way we travel, the waste we create and the energy we use. We also need to support affected communities to look at measures to mitigate the impact of climate change.

This fits in with the wider picture of what's happening in New Zealand: in February, the Climate Change Commission released its first draft advice to the Government for public consultation. The independent body's report includes advice on the first three emissions budgets covering five-year periods to 2035 and on policy direction for the Government's first emissions reduction plan. Together, these lay out the course for reducing emissions in Aotearoa and set the direction of policy to get there.

Following consultation, the Commission's final recommendations will be released on 31 May, and the Government has until the end of the year to create an emissions reduction plan for meeting any budgets it adopts. We'll need to responds to those changes in policy as they come forward.

Water, wastewater, surface water and waterways
Over the next few years the way that Councils provide water services to people is going to change. We are part of a conversation with the Government and we need to know what our communities, iwi and neighbouring councils think about the future of our 'three waters' services – drinking water, wastewater and stormwater.

Safeguarding our drinking water supply
We have a responsibility to ensure our drinking water supply, infrastructure and water taonga are managed in a way that supports the environmental, social, cultural and economic wellbeing of current and future generations.

We're investing in upgrading the city's drinking water supply network, including upgrading well heads, drilling new and deeper wells, upgrading reservoirs, replacing older pipes, and installing new 'smart' monitoring systems and flow meters. The work we're doing is best practice and will future-proof the network for many years to come.

Safe drinking water, without residual chlorine, is a major priority for the Council, and for the people of Christchurch. We've resolved that, long term, we want to retain the city's untreated water supply system and will seek an exemption from the Government proposal in the Water Services Bill to require residual chlorine treatment.

Much of our water supply pipe network was built during previous building booms. It is ageing and around 14 per cent of pipes are in very poor condition and are expected to fail in the next one to two years. A concerted effort is therefore needed to replace large parts our water supply pipe network to stop it deteriorating further.

In the next 30 years we need to keep protecting our drinking water supply by upgrading and renewing infrastructure and extending the network to supply water to new developments. We propose spending $836 million over the next 10 years, including:

- Water Safety Plan Improvement Programme Asset renewals and replacements.
- Water supply rezoning – this will allow for water pressure to be managed more effectively across the whole city.
- Smart technologies for monitoring and measuring the network's use.

Wastewater

Our main focus will be on replacing poor condition wastewater pipes. Much of our wastewater network is old and leaky, and lets large amounts of groundwater and stormwater into the wastewater system. These pipes are also prone to blockages. Both of these factors can lead to increased overflows of wastewater, which creates a public health risk and isn't good for the environment.

We plan to protect Lyttelton and Akaroa's harbours by removing treated wastewater discharges from them. In 2021, wastewater discharges from three wastewater treatment plants in Lyttelton Harbour will stop, and all wastewater will be pumped to the Christchurch wastewater treatment plant.

Akaroa's current wastewater treatment plant and outfall are in a culturally and historically sensitive place and they are old and need to be replaced. We plan to build a new modern treatment plant and use the reclaimed water to irrigate new areas of native trees in Robinsons Bay, Takamātua and Hammond Point. We plan to use some of the reclaimed water for irrigating public parks and flushing public toilets in Akaroa. We will also work with government agencies, Ngāi Tahu and other water suppliers to develop regulations to allow the use of this water on private properties for irrigating gardens and flushing toilets.

In Duvauchelle, we are also exploring removing the treated wastewater discharge from Akaroa Harbour, and irrigating it to land instead, possibly on the golf course. This would mean an end to treated wastewater discharges to Akaroa Harbour. We will be consulting on the options later in the year.

We propose spending $798 million on wastewater infrastructure over the next 10 years, including:

- Removing treated wastewater discharges from Akaroa Harbour.
- Replacing or renewing ageing or damaged assets that are in poor condition.
- Monitoring the condition of our assets.
- Wastewater overflow reduction.

Transport

We have heard from residents that transport is top priority. It's also the city's biggest contributor of carbon emissions. Around 36 per cent of total greenhouse gas emissions in Christchurch are generated through road transportation and we need to make it easy for people to travel around the city without cars.

Over the next decade we are planning to expand and improve public transport and cycling infrastructure.

In December 2020, the Council endorsed the Greater Christchurch Public Transport Business Case that was developed jointly by Waka Kotahi NZ Transport Agency, Environment Canterbury, Waimakariri District Council, Christchurch City Council and Selwyn District Council.

The business case sets out the investments that are needed to improve the public transport network in Christchurch and to get more people traveling by bus rather than private vehicle.

The Council has committed to providing $96.7 million on bus infrastructure improvements over the next 10 years. That funding will be used for new bus lanes, intersection improvements, bus stop and passenger facilities. At the same time Environment Canterbury will increase the frequency of the buses, which will make going by bus a more attractive proposition for people.

We will be completing the major cycleways across the city and ensuring they link in with local cycleways so that going by bike becomes a safe and convenient option for people. We propose spending $235.8 million on all cycling projects/programmes over the next 10 years. This includes a significant portion of funding from "shovel-ready" and Waka Kotahi NZ Transport Agency.

Responding to the feedback from our residents, we also need to invest in the renewal of our roads and footpaths so that we bring them up to a standard that our residents are satisfied with. I am recommending that over the next 10 years we spend $551.8 million on roads, footpaths and road infrastructure renewals. Some of that money will come from the Christchurch Regeneration Acceleration Facility that was set up by the Crown to help speed-up the city's regeneration.

By 2031 we want to have reduced our road toll with at least 40 per cent fewer fatal and serious crashes on our road network compared to 2020. To achieve this we have proposed a mass-action citywide programme of safety works focused on what evidence has told us are the most high risk sites. This programme will focus on the main known safety issues and it is proposed $166.2 million is spent over the next 10 years, including on improvements and renewals.

Solid waste and resource recovery
There are growing community aspirations for sustainable ways to manage and recycle waste and to reduce what goes to landfills.

As a Council we share those aspirations. In 2020 we adopted a new Waste Management and Minimisation Plan that focuses on changing our 'throw-away' culture and reducing the amount of waste we are sending to landfill.

Implementing the actions in that plan are the key drivers of our capital and operational spending in the area of solid resource recovery. Funding of between $2 million and $20 million a year for capital programmes and $56 million to $74 million has been earmarked for operational waste minimisation programmes.

After complaints about the odour from the organics processing plant at Bromley we are going to fully redevelop this facility to address the issue. Funding of $21.5 million has been provided for this project.

An additional, important focus will be on contributing to the Council's zero emissions target through exploring ways to reduce greenhouse gas emissions from waste processing activities, the household kerbside collection vehicle fleet, and the transportation of waste materials.

Facilities

There has been extensive rebuilding and repairs of facilities since the earthquakes, which has resulted in Christchurch having a modern network of well-designed buildings. Now that we have these wonderful new facilities we need to operate them and invest in their ongoing maintenance so that they meet citizen expectations and remain fresh and fit-for-purpose.

To meet our communities' needs, we are building a new library, customer services and recreation and sport centre in Hornby ($31.8 million in our 10-year budget) and a new pool complex, Te Pou Toetoe, at Linwood ($8.3 million in our 10 year budget).

To support our central city's regeneration we are building a new home for The Court Theatre ($34.8 million), a new Metro Sports Facility ($151.3 million, plus Government contribution) and a Multi-Use Arena ($253 million, plus Government contribution). The Metro Sports Facility is scheduled to be completed at the end of 2022 and the Canterbury Multi-Use Arena at the end of 2024.

Investing in our parks

In the next 10 years we will maintain and improve our parks and foreshore. We propose spending $515 million on parks and $60 million on foreshore. A total of 39 per cent of planned spending is on new developments and upgrades while most of the funding (61 per cent) is on renewing what we already have as it reaches the end of its life. Significant areas of expenditure include:

- Residential Red Zone regeneration projects, including the Ōtākaro Avon River Corridor ($170 million)
- Cemeteries, including a new cemetery at Templeton ($31 million)
- Botanic Gardens Master Plan projects and renewals ($27 million)
- Naval Point redevelopment ($27 million)
- Akaroa wharf ($19 million)
- Sports fields ($15 million)
- Redeveloping QEII Park ($14 million)
- Lancaster Park redevelopment ($8 million)
- Hagley Park development and renewals ($8 million)
- Strategic land purchase ($4.5 million)
- Carrs Reserve Kart Club relocation ($3.9 million)
- Rod Donald Trust strategic land purchase ($3 million)

In the first three years, our focus is to look after what we have and prioritise renewals based on the condition and age of the assets. Akaroa Wharf will be one of our most significant renewal projects. Regeneration of the Ōtākaro Avon River Corridor will gather momentum. We will also start to develop aspects of the Christchurch Botanic Gardens Master Plan, continue with development of Ngā Puna Wai Sports Hub, progressively upgrade our sports fields, and reopen Lancaster Park for public use – the first stage of its redevelopment. We'll also deliver numerous smaller community-based projects.

Rates

We're proposing an average residential rates increase of 5 per cent for 2021/22. For an average house with a value of $508,608, the proposed increase is an extra $142.25 a year or $2.74 a week.

The overall average rates increase for 2021/22 is 5.56 per cent. This also means an average increase of 5.91 per cent for the average commercial property, and 5.83 per cent for the average remote rural property that currently pays land drainage rates.

For an average commercial property with a value of $1,858,572, the proposed increase is an extra $786.03 a year or $15.12 a week.

For an average remote rural property currently paying land drainage rates and with a value of $1,039,580, the proposed increase is an extra $178.04 a year or $3.42 a week.

Our total rates income includes rates from new developments around the city. More developments means more ratepayers, and that means the rates burden becomes shared amongst a bigger group – so as long as the number of rateable properties keeps growing, the rates increase for existing ratepayers will be lower than the total increase.

Borrowing

The Council uses debt to finance new long-term assets that benefit future generations of residents. This ensures the upfront cost is fairly shared across generations through debt interest and repayment over time funded by rates. We have also had to do some short-term borrowing to cover the reduced revenue that resulted from COVID-19.

While the Council can service the current and forecast debt comfortably, carrying a relatively high level of debt means we need to restrain the increase in debt to ensure we have financial resilience.

The Council's net debt (our total debt minus our cash holdings and debt that's owed to us) is forecast to be $1.6 billion at 30 June 2022 – $250 million lower than predicted in 2018. Our total assets amount to about $15.6 billion, which gives us a debt-to-asset ratio of around 10 per cent. As an analogy, first home buyers generally borrow 80 to 90 per cent of house value to purchase properties.

Reducing debt is therefore key to the Council regaining an acceptable level of financial resilience and sustainability.

In this Draft LTP our net debt to revenue ratio is forecast to peak in 2028 before reducing over time.

By 2027 we're planning to have repaid all the borrowing we took on to meet the shortfall caused by COVID-19.

Government support

Many of the planned infrastructure projects rely on capital investment from the Government.

For example, nearly all the transport improvement projects that the Council will undertake will be part-funded by Waka Kotahi NZ Transport Agency.

A key focus of this Draft LTP is on optimising opportunities to tap into Government stimulus funding for infrastructure work that generates or retains jobs.

Work on a number of our cycleways has been brought forward in this Draft LTP because the Government has given us funding through its $3 billion 'shovel-ready' infrastructure fund.

Money from that fund also means that we can complete the final stage of the Christchurch Coastal Pathway, around Moncks Bay, between Redcliffs and Shag Rock.

We are also fortunate to have $300 million of funding that the Government has provided through the Christchurch Regeneration Acceleration Facility for projects that will help speed up the city's regeneration.

Social and economic recovery post COVID-19

We have developed a socio-economic action plan to foster the wellbeing of our communities as we recover from the impacts of COVID-19. We need to respond now, recover fast and reposition sustainably and for the long term.

We share overarching leadership of the plan in partnership with mana whenua. Actions are being delivered in collaboration with ChristchurchNZ, the Council family of companies held by Christchurch City Holdings (CCHL), iwi and rūnanga entities, central government agencies and crown entities, regional and local authorities, the private sector and community groups and organisations.

Overview

Over the past decade, our city and region has faced unprecedented challenges – earthquakes, fires, floods and a terrorist attack – and these events have forever impacted our social, economic, cultural, and environmental fabric.

We wouldn't be where we are today without the support we received from the rest of the country. Now we're at a point where we're ready and able to contribute to the country in a way that is befitting our status as the second largest urban centre in the country.

The area we know as Greater Christchurch – the city together with the surrounding towns from Rolleston to Rangiora – is the fastest growing region outside of Auckland. We are a strong economic, logistics, service and knowledge hub for Canterbury, the South Island and New Zealand, with New Zealand's second largest international airport and second largest export seaport.

We're small enough to be a testbed – a place of experimentation where we can afford to take risks – while being big enough to be able to scale innovation for wider success and benefit. In other words, we offer a place that's 'small enough to fail, and big enough to build to scale' – the perfect environment for innovation and creativity to take seed.

Our DNA has effectively changed through each crisis – we're more prepared to take on the challenges each brings, because we have lived the reality, and we have become used to seeking the opportunities that crisis always offers.

We've learned the importance of trusted relationships as the strong foundation for collaboration which always provides the best way forward. Prior to the 2010/11 earthquakes, we had already worked collaboratively with our two neighbouring Districts and the Regional Council to develop the Greater Christchurch Urban Development Strategy. It was this that facilitated a rapid collective response to the earthquakes, with the fast-tracking of its implementation enabling the release of land to house more than 7000 households displaced by the earthquakes. The success of this approach is evidenced by retention and growth of our population and having the most affordable housing options of any large urban centre in New Zealand.

We have built on these partnerships by bringing Te Rūnanga o Ngāi Tahu to the table along with the Canterbury District Health Board. The strength of these arrangements and the lessons we've learned have positioned us to take on the challenges that other shocks may present.

We've recently embarked on a 30-year plan for our area, called Greater Christchurch 2050, to help us reposition ourselves to respond to future challenges we know we need to confront: climate change, technological advances causing disruption, the need to maintain affordability of housing and ensure wellbeing for our people. We have our partners all around the table working together with a commitment to start implementing a plan within a year.

Our plan for the future is a deliberate move to embrace the industries that build on our strengths as a region and take up the global opportunities that exist. We're breaking new ground in aerospace, trials of autonomous vehicles, developments in food and fibre, and making the most of our increasingly diverse economy to make sure we have a solid offering for the generations to come.

We're a hub of innovation and education excellence. Six of the seven Crown Research Institutes are based in Greater Christchurch, we have four quality tertiary institutions, and we have excellent schools.

As we look ahead, there are new challenges to face and new opportunities created: the need for us to respond and adapt to climate change, the impact of technologies on our economy and our lives, the role other global and national changes have on the competitiveness of our businesses, and the attractiveness of the city and region as a place to live, study, do business and invest.

As we evolve and grow, we must constantly seek answers to the same questions: how do we build on and leverage our strengths to ensure everyone in our community enjoys the quality of life so many of us value, and how do we ensure we are well organised and ready to respond to current and future challenges so that our children and grandchildren can enjoy meaningful and fulfilling lives?

In many respects we are a new city with new infrastructure and new community facilities that exceed what a city our size would expect. That has been the legacy of investment decisions made in the wake of a crisis. The legacy of the investment in relationships has also paid off, and we're now ready to develop broader strategic partnerships and consider what we can co-invest in – not just for the good of Greater Christchurch, but for the benefit of the country as a whole.

Version 1

Te Mahere Rautaki Kaurera

Our Draft Long Term Plan

(2021–2031)

Ka whati te tī, ka wana te tī, ka rito te tī, ka tipu te tī.
Whano mai e te tini; whano mai e te mano.
Ko ēnei ōku kete hei koha, ko ēnā ō kete hei koha
Mō te whenua, mō te tāngata
When the tīkouka is broken, it sprouts and throws up shoots and grows.
As we come together, I bring my resources and share them with your resources as a gift for the land and the people

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Mayor's introduction

Ten years on from the earthquakes, we are on the way to becoming a modern, resilient 21st century city with the capacity to meet present and future challenges.

We know from our experience over the past decade that we need to plan for the unexpected. We have established a good track record of building on what we know and adapting to the challenges we face.

The services, facilities and spaces we provide and the systems we have in place need to be robust yet flexible, so that we can adapt to and deal with whatever shocks and stresses we have to confront. We need to continue to invest in our infrastructure.

This Long Term Plan for 2021–31 is set to be a turning point for our city – a plan that is firmly focused on the future.

We need to be in a position to respond and adapt to climate change, as well as prepare for the impact that exponential advances in technology will have on our economy and our lives.

We have momentum on our side, having felt that we were turning a corner at the beginning of 2020, but then the COVID-19 pandemic threw us – and the rest of the world – a curve ball.

Our 'team of five million' has prevented thousands of deaths and protected our health system from being overwhelmed. This has allowed us to regain the freedoms we usually take for granted while many other countries around the world have continued to face tough restrictions. Recent events reminds us there is no room for complacency.

From an organisational perspective, the Council lost income during the COVID-19 lockdown. We have received much smaller dividends from our commercial arm Christchurch City Holdings Limited, which has compounded the financial challenge we now face. We also had to close facilities temporarily. Even when facilities were able to re-open, many were forced to operate at reduced capacity because of the need for social distancing and limits on crowd sizes. These steps were all necessary, but they came at a financial cost.

While we have worked hard to find savings and to keep costs down for the ratepayers, we have chosen not to take the austerity path in this Draft Long Term Plan. We do not want to slow down our economic and social recovery, nor do we want to put our services and the condition of our assets at risk by drastic reductions in investment.

We have attempted to get the balance right in proposing an average residential rates increase of 5 per cent for the 2021/22 financial year. This equates to an extra $142.25 a year or $2.74 a week. The average rates increase for all ratepayers (residential, business and rural) for the 2021/22 financial year will be 5.56 per cent. Over the next 10 years, it will average 4 per cent. The cumulative effect of this is 47.8 per cent over the period of this Long Term Plan.

We, as a city and region, need to continue to work together to recover and reposition ourselves for the future. We need to build on our partnerships and continue to work with other councils, government agencies, iwi, mana whenua, communities, NGOs, businesses to shift our mindset from looking backwards and seeking to recover what we had, towards focusing on the future and creating a thriving, resilient and prosperous city and region together.

Our investment in ChristchurchNZ will see our city draw on the strengths of our region to meet global opportunities as we reposition ourselves for the future.

A test-bed for innovation, Christchurch is the place for future-focused, sustainable businesses and people who want to do things differently. We are leading the way in global health tech, aerospace and future transport, food fibre and agritech, and hi-tech solutions. These strategic strength sectors, Supernodes, are supported by progressive ecosystems connecting enterprise, education, and government.

Ōtautahi Christchurch is a city of opportunity for all – open to new ideas, new people and new ways of doing things – a city where everything is possible.

Lianne Dalziel

Mayor of Christchurch

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Chief Executive's introduction

After months of discussions, workshops and briefings with elected members and Council staff, I am recommending a budget that focuses on ensuring the Council continues to invest in core infrastructure, deliver key services,, and build Christchurch's and Banks Peninsula's resilience to future challenges.

COVID-19 and the consequent economic recession has had a major impact on the Council's finances. Like many households, we have to make savings to our day-to-day spending on operating and maintaining our services and infrastructure.

Christchurch is the largest city in the South Island and is expected to experience ongoing growth. We have to ensure we have the right infrastructure in the right place at the right time to support that growth.

At the heart of the Council's decision-making is the goal of promoting community wellbeing in its widest sense, as well as preparing for the impact of climate change. Balancing our environmental goals and responsibilities with building a caring, welcoming and prosperous community often means making hard decisions.

We've considered what you've told us is important to you – delivering the basics and doing it well – and what we need to do to continue making progress.

We're proposing a forward-looking budget outlined in this Draft Long Term Plan because it represents our best option for how we navigate the balance between meeting our city's needs and keeping ourselves in a strong financial position. If we try to spend more, we won't be able to deliver on our ambitions, and will leave ourselves less financial headroom in the event of another unplanned event like an earthquake or pandemic. If we try to spend less, our city's progress could falter, and not go forward at a time when we need certainty.

Given there is no simple solution to address our current financial situation, we have looked at a selection of 'levers' available to us:

- Focusing on what we can afford and actually deliver in our capital works programme (what we call Capital Spending).
- Finding permanent efficiencies in our day-to-day spending (what we call Operational Spending).
- Borrowing for the new projects that have a long-term value, ensuring that the debt repayments are spread fairly across the generations of ratepayers who'll benefit from them.

We have ensured the draft capital programme is deliverable, in other words making sure we can do all the work we want to deliver in the timeframe we have set. Economic recovery is part of our COVID-19 response – by locking in the funding for this work, we are giving confidence to the construction sector, among others, and stimulating economic activity. We've also identified savings of $52 million – $18 million to our operational costs in this financial year alone, and additional savings of $34 million in 2021/22. Over the whole period of the Long Term Plan, we've saved $329 million of operating costs.

We've managed to do this while keeping rates increases as affordable as possible. This Draft Long Term Plan aligns with the very clear message we are getting from our residents about delivering the basics and doing it well, whilst needing to invest for the future and bring new facilities on-stream. Priority is being given to maintaining existing services and assets and to optimising opportunities to tap into Government stimulus funding for infrastructure work that generates or retains jobs.

We've considered a range of options for how best to achieve what we need to achieve while also keeping the average rates increase as low as possible. It's a balancing act, and we believe this plan represents the best balance.

We now want to hear your feedback. You can influence the decisions we make, and we want to hear from you. I strongly encourage you to have your say.

Dawn Baxendale

Chief Executive Christchurch City Council

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The right game plan for our city

To come up with this game plan for the city, we've considered a whole range of options for how best to achieve what we need to achieve, while also keeping the average rates increases as low as possible.

What we've come up with is a budget that we consider to be the best balance of delivering our ambitions, while also giving ourselves enough financial headroom to weather unplanned events.

We aren't presenting multiple options because they wouldn't be 'real' options. Spend more and not only would the rates increase place additional hardship on the most vulnerable citizens in our community, we'd also struggle to find the capacity to deliver the projects on time.

Spend less and we'd be doing a disservice to this city – passing on failing infrastructure to future generations, dropping our levels of service, pausing the development of our major community facilities, and putting our city's ongoing economic growth at risk.

[note: more information to come in updated draft of Consultation Document]

Here's a summary of our key proposals:

- A $13.1 billion budget over 10 years, with $3.9 billion of that planned to be spent in the next three years before we prepare our next Long Term Plan 2024-34. It's a budget that sets out to be a turning point for our city. We need to be in a position to respond and adapt to climate change, and prepare for the impact that advances in technology will have on our economy and our lives.

- For the first three years of this Long Term Plan, we've set our core capital spend at $400 million in the first year, $420 million in the second year, and $443 million in the third year, to ensure we can do all the work we want to deliver in the timeframe we've set.

- In addition to the core programme we have between $145 million and $241 million in each of the first three years on projects that are being delivered and/or funded by the Crown and others. This includes the Canterbury Multi-Use Arena, Metro Sports Facility, part of the Ōtākaro Avon River Corridor programme, Shovel Ready and Water Reform stimulus funding packages.

- A residential rates increase of 5 per cent for an average-valued house ($508,608) for the 2021/22 financial year. This equates to an extra $142.25 a year or $2.74 a week. For 2021–31, the average annual rates increase for all ratepayers will be 4 per cent. The cumulative rates increase over the 10 years this Long Term Plan covers will be 47.8 per cent.

- Investing in roads and transport infrastructure. We're focusing on maintaining and improving the condition of our existing roads, footpaths and cycleways because you've told us that's important to you. For the first three years of our Draft Long Term Plan we

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propose we will spend $18.3 million a year on road resurfacing (asphalt, chip seal and pavement reconstruction) – increasing to a total of 5.3 per cent of the city's roads from the current 2 per cent. This funding will increase to nearly $24 million a year from the fourth year.

- Investing in protecting and upgrading our water networks – drinking water, stormwater and wastewater. We're proposing to invest 41 per cent of our proposed capital spend on water infrastructure.

- Charging an excess water use targeted rate for households that use significantly more water than the average household. This excess charge would apply if a household used more than 700 litres a day – the average household uses 540 litres a day.

- Spending $5.6 billion on day-to-day services the Council provides. To address the impact of COVID-19, we're finding more efficient ways of doing things, including looking at better matching the services we provide to where the demand is. We've already found significant savings and will continue to look for more savings before this plan is signed off.

- Borrowing $2.4 billion for the capital programme, and repaying $1 billion of existing debt.

- Savings of $52 million – $18 million to our operational costs in this financial year alone, and additional savings of $34 million in 2021/22. Over the whole period of the Long Term Plan, we've saved $329 million of operating costs.

Throughout this document you'll find more information about these and other proposals.

Have we got the game plan right? We want to hear what you think

What do you think of our proposals? Have we got the balance right?

Have we prioritised the right things? If not, what changes would you like to see?

Have your say at ccc.govt.nz/longtermplan

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[Breakout info box]

What is a Long Term Plan?

Christchurch City Council's Long Term Plan 2021–31 is our budget for the next 10 years.

It sets out what we plan to achieve over the next decade, and how it will be funded. It's our commitment to delivering the services and infrastructure our city needs to thrive, and an opportunity for everyone to shape the future of our city for the next 10 years.

Although the plan covers a 10 year period, we go through this process every three years – and it's something that all local authorities must do. The next Long Term Plan will be for 2024–2034.

Each Long Term Plan focuses on the 'big picture' – our opportunities and challenges – and how we plan to manage them.

We review our plans regularly to make sure they're still appropriate. Any future changes can be incorporated into our Annual Plans, and give us an opportunity to change course more quickly if we need to, instead of waiting for the next Long Term Plan.

Things to consider

We need action on climate change

Climate change is the biggest intergenerational challenge of our time. As a district, we need to reduce our carbon emissions and do what we can to mitigate the effects of climate change.

Climate change is already having a significant impact on our economy, environment and way of life, and we need to meet this challenge through every means available. We have work underway to identify and respond to climate change issues at the local and citywide level, and must work closely with our communities on this.

In 2019, the Council declared a climate emergency and set a target of net zero greenhouse emissions by 2045 (excluding methane), and to halve our emissions by 2030 from 2016–17 levels. We all need to make changes to the way we travel, the waste we create and the energy we use. We also need to support affected communities to look at measures to mitigate the impact of climate change.

This fits in with the wider picture of what's happening in New Zealand: in February, the Climate Change Commission released its first draft advice to the Government for public consultation. The independent body's report includes advice on the first three emissions budgets covering five-year periods to 2035 and on policy direction for the Government's first emissions reduction plan. Together, these lay out the course for reducing emissions in Aotearoa and set the policy directions for getting there.

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Following consultation, the Commission's final recommendations will be released on 31 May, and the Government has until the end of the year to create an emissions reduction plan for meeting any budgets it adopts. We'll need to responds to those changes in policy as they come forward.

Our climate change response

An important focus of this budget is on reducing greenhouse gas emissions – through making changes to the way we travel, the waste we create and the energy we use. We will also invest in developing our understanding of the impacts of climate change so we can better prepare and respond to these together with our communities, and to meet Government's requirements.

During the period covered by the Long Term Plan 2021–2031, our action to meet this challenge will include:

- Working with Ngāi Tahu and Papatipu Rūnanga, businesses, organisations and the community to develop and implement actions in our draft Ōtautahi Christchurch Climate Change Strategy.
- Adaptation planning with communities that will be impacted by sea level rise through coastal erosion, coastal inundation and rising groundwater. We'll engage with all communities across Christchurch and Banks Peninsula to understand and develop responses to sea level rise impacts.
- Supporting Christchurch residents to take their own climate change action, with advice and tools on sustainability.
- Supporting climate-focused community projects through the annual $380,000 Sustainability Fund.
- Supporting the improvement of biodiversity outcomes across the city through the annual $190,000 Biodiversity Fund.
- Spending $13.1 million on planting across the city. A big focus of the next 10 years will be providing the millions of plants required for the ecological restoration of the Ōtākaro Avon River Corridor.
- Improving our ability to cope with more extreme rain and flooding. We'll put $421 million into measures that will reduce the risk from flooding and improve our waterways.
- Improving the sustainability and resilience of our transport network – we're prioritising the environment, safety, access, and affordability. In this Draft Long Term Plan, $347.9 million is allocated to projects that support better environmental outcomes, including:
  - $235.8 million on all cycling projects and programmes, which includes $87.3 million in in 'shovel ready' funding from the Government to deliver a number of major cycleways and complete the Coastal Pathway.
  - $4.3 million charging facilities within Council parking buildings.
  - $90.7 million to improve our public transport facilities across the city.
  - The balance of projects are planned to improve our central city networks.
- Further improvements to the Council vehicle fleet, working towards electrification and nil emissions by 2030.
- Managing Council facilities to reduce the energy they use.
- Investigating options to monitor and reduce emissions associated with our wastewater services.
- Producing biogas, and generating energy from biogas, at our Bromley wastewater treatment plant.

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- Reducing the carbon footprint of our water supply network by changing the design of our infrastructure, building it in a different way with different materials, and looking at the energy efficiency and fuel use.
- Investing in using highly treated wastewater from Akaroa to irrigate new areas of native trees at Robinson Bay, Takamātua and Hammond Point.
- Exploring infrastructure solutions that reduce the amount of embodied carbon, such as water tanks made of steel with a high proportion of recycled metal.

This is our first Long Term Plan to include a climate change lens over everything, and it won't be the last. More work needs to be done, and future Long Term Plans will reflect this.

Our challenges

The only certainty is uncertainty

If Christchurch knows how to deal with anything, it's change. We know from our experiences over the past decade that we need to plan for the unexpected. We also have a good track record of building on what we know and adapting to the challenges that we face.

Climate change and COVID-19 are game changers, but, like earthquakes, floods, fires and other natural hazards that can occur anywhere and anytime, they also force us to better manage our challenges and adapt to our changing world.

Along with many of our ratepayers, the Council has been hit hard financially by the COVID-19 pandemic. This comes at a time when we have some other key challenges facing us.

To keep our rates increases as low as possible, there are hard decisions and trade-offs to make. Given our financial situation, we can't do everything right away, so we'll need to decide what projects can happen further down the track. That's where you can help us to prioritise what's important.

Lost income caused by COVID-19

We've received smaller dividends from our investments held by Council-owned company Christchurch Holdings Limited, which has been significantly impacted by the COVID-19 pandemic and continuing restrictions worldwide.

We've lost income during the COVID-19 lockdown while our facilities, such as recreation and sport centres, were temporarily closed. Our revenue levels continued to be impacted as we moved down through the alert levels because, in line with Government guidelines, there were limits on the number of people being able to use our facilities at one time. The number of people visiting some of our facilities has still not returned to pre-COVID-19 levels.

This all comes at a time when we're trying to make rates increases as affordable as possible.

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We need to keep our infrastructure – and our economy – healthy

When it comes to infrastructure, we're already a few steps ahead of other places in New Zealand. We've spent the past decade rolling out a massive programme of repairs, replacements and rebuilds.

That said, like the rest of the country, some of our infrastructure, like our water and wastewater pipes, are nearly 100 years old. Large parts of the infrastructure networks are aging – they're still functional, having withstood a number of earthquakes, but will need to be replaced earlier than they might otherwise have needed to be. To fund our new investment over the past decade, we've put off renewing some of this infrastructure. With a lot of this coming to the end of its lifespan, our focus now needs to be on pipe renewals to avoid further deterioration.

We also have to get on with the work that's still needed to continue to maintain a safe water supply and wastewater network. Because the population of Christchurch is expected to increase, and new housing developments continue to increase with it, we need the right infrastructure in the right place at the right time to support this growth. Investing in our city helps stimulate the economy, which is even more important in a COVID-19 world, and serve these growing communities. However, like everything else, this comes at a cost, particularly with the impact of COVID-19 factored in.

These factors put pressure on our existing infrastructure, and on the Council financially.

We need to finish building our major community facilities

Our residents have told us that the facilities we provide are an important part of all our lives, and make a big contribution to wellbeing and a sense of community. We're undertaking an ambitious community facility investment programme – continuing to replace facilities lost as a result of the earthquakes, and provide facilities that meet the needs of our growing communities. The current community facilities construction programme is planned to be completed by 2025, and will see new developments like Te Pou Toetoe: Linwood Pool, the planned library, pool and customer services facility in Hornby, Metro Sports Facility, Canterbury Multi-Use Arena and more.

If our proposals are adopted, new debt will increase by $1.2 billion over the first four years of the Long Term Plan 2021–31, with a peak debt-to-revenue ratio of 244 per cent forecast for 2027/28. Investment in these facilities will contribute to that figure – and there are also ongoing operational costs to run these facilities once they're open.

Our Strategic Framework

Our Strategic Framework provides a big picture view of what the Council is trying to achieve for Christchurch. The wellbeing of our communities is at the heart of what we do, and this Framework spells out our commitment to social, economic, environmental and cultural wellbeing. The Strategic Framework provides the foundation for our Long Term Plan and guides the allocation of our effort and resources.

Our Strategic Priorities are areas of the Council's operations where elected members want to see a change in approach or increase in focus over this Council term and beyond.

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We face immediate challenges like COVID-19 but we also need to look beyond those challenges and plan for the future. We need to continue to build our resilience to future disruptions and challenges. Resilience is not simply about preparing our infrastructure or built environment – it's about understanding the risks, challenges and opportunities we face and developing ways to adapt together. The strength of our resilience lies in us, not just as individuals but as whānau and communities.

[Include Strategic Framework graphic here]

Whakataukī

Whiria ngā whenu o ngā papa, honoa ki te maurua tāukiuki.

Whakataukī/proverbs play an important role in Māori oration and writing, explaining important ideas often by metaphor or poem. The whakataukī in our Strategic Framework sums up the mutual commitment between the Council and Ngāi Tahu/Papatipu Rūnanga to a governing partnership relationship based on understanding and respect. This partnership commits us to working together to improve social, economic, environmental and cultural wellbeing for all.

Strategic Priorities

The Mayor and Councillors identified five Strategic Priorities at the start of this Council term, reflecting key issues and priorities of Christchurch residents. The Strategic Priorities are areas of the Council's operations where elected members want to see a change in approach or increase in focus over this Council term and beyond. While the Priorities don't specifically refer to all Council activities and services, they highlight issues which many Council work programmes have an ability to progress. The priorities are our focus for improvement – where we need to intensify our work and align our skills and resources, collaborating across the Council to deliver better services to the communities we serve.

Greater Christchurch 2050

[this section to be featured in 'breakout box' or some visual equivalent]

The Greater Christchurch Partnership is creating a new plan for our sub-region with everyone who has an interest in the area. Greater Christchurch 2050 will describe the kind of place we want for our future generations, and the actions we need to take over the next 30 years to make it happen.

Looking beyond our boundaries

While our main focus as a Council is on Christchurch and Banks Peninsula, we also need to be thinking beyond our boundaries. We are part of Greater Christchurch, which includes the city, and nearby areas within the Selwyn and Waimakariri districts, from Rolleston in the south to Rangiora in the north.

Our Greater Christchurch partners are our neighbouring district councils – Selwyn and Waimakariri – along with Environment Canterbury, Te Rūnanga o Ngāi Tahu, Canterbury District Health Board, Waka Kotahi NZ Transport Agency and the Department of Prime Minister and Cabinet (Greater Christchurch Group).

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Greater Christchurch is the second biggest urban centre in this country – 10 per cent of New Zealand's population call this place home. It's an area that's growing fast. Our population has grown 15.1 per cent since 2006. Only Auckland has grown more quickly. By 2048 Greater Christchurch is expected to grow to about 640,000 – that's around 150,000 more people than today. We're also becoming more diverse. More than 20 per cent of our current population was born overseas, and a quarter of the population now identifies as non-European.

Our challenge is that the opportunity of Greater Christchurch is not well understood – as a place to live, work and invest. What contribution and role do we have in the future of our region, our island and the country?

People tell us that the thing they love most about living here is the lifestyle. We have space to grow, but we need to work together with our Greater Christchurch partners to make the most of our strengths and attract and retain people, business and investment while protecting what's important to us.

For the past year, the Partnership has focused on setting a new strategic direction for Greater Christchurch. Greater Christchurch 2050 is the project established by the Partnership to develop a clear, shared view of our future, and a plan for how we get there. We need to look ahead and make sure we have the right plans, tools and resources to support the health and wellbeing of the people who live here, and the environment we live in.

During October and November 2020, the Partnership asked people about their priorities and concerns for Greater Christchurch in 2050.

We heard that people want Greater Christchurch to be sustainable, green, safe and affordable – a place where it's easy to get around using public transport, walking or cycling, and where nature is protected and respected.

People were most concerned about not enough being done to offset the impacts of climate change, that we will have pollution and waste management issues, that traffic congestion will be worse, that our natural ecosystems and indigenous biodiversity will be threatened, and that there will be a lack of affordable and quality housing options.

We know that our ability to maintain the lifestyle many of us love and to afford the services, technologies and infrastructure that will provide the future we aspire to, requires a strong economic foundation. We need meaningful employment opportunities, ongoing private sector investment and a solid rating base to fund public infrastructure and services. We also know our city, towns and communities face some difficult decisions ahead. If we don't start to plan and get ready for the future now, we may end up with some of the challenges other cities face of unaffordable housing and congestion, or we may not have the resources to make the investments necessary to support our future.

What we've heard will help the Partnership develop a plan for what we need to do, collectively and individually, to achieve the future we want for our future generations.

As a Council, we're also committing through this Long Term Plan to take some initial steps to help address the issues identified through Greater Christchurch 2050, and move us towards our shared aspiration for the future.

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Our social recovery

Along with our partners, we have developed the Ōtautahi Christchurch Recovery Plan to foster the socio-economic wellbeing of our communities as we recover from the impacts of COVID-19, and reposition our city for a brighter future.

The Ōtautahi Christchurch Recovery Plan sets out our story for Ōtautahi Christchurch; what has happened as a result of COVID-19, our goal for recovery, how we're tracking, how we will know the impact our actions are having and our plan to get there.

In partnership with mana whenua, the Council has worked with a number of agencies in the development of the plan. Those agencies include ChristchurchNZ, Canterbury Employers' Chamber of Commerce, Ministry of Social Development, Community and Public Health and Christchurch City Holdings Limited.

Read more at ccc.govt.nz/ocrp

Ōtākaro Avon River Corridor

There is enormous potential to transform the Ōtākaro Avon River Corridor into the jewel in Christchurch's crown, creating a place for residents and visitors to explore, play, connect and learn. Regenerating the 602-hectare Ōtākaro Avon River Corridor is a once-in-a-lifetime opportunity to create a legacy that benefits future generations.

We're committed to a new co-governance model for development of the land, in partnership with Mana Whenua. We've budgeted for a total of $337 million of capital development funding across years 2021–2031 to the former residential red zone land regeneration (Ōtākaro Avon River Corridor, Brooklands, Southshore and the Port Hills)

A riverside landing and three pedestrian bridges across the Ōtākaro Avon River have been funded by a $13.7 million grant from the Christchurch Earthquake Appeal Trust. The Medway Street and Snell Place bridges reinstate a pedestrian/cycle connection across the Ōtākaro Avon River, which has been missing since the earthquakes. The Avondale Bridge is a new bridge that will provide a connection to the future Eastern Reach wetland restoration area. Work on constructing the bridges is expected to start in early 2021.

The riverside landing at Dallington (east of Gayhurst Road) will have a 'picnic in the forest' theme and construction is expected to start in the second quarter of 2021.

We've allocated $40 million from the Christchurch Regeneration Acceleration Facility to develop 'green spine' elements. There's $7.7 million for pathways and connections, $6.6 million for basic public facilities and landings, and $25.7 million for ecological restoration.

Staff are determining priority areas for development, such as stopbank placement, and ecological and wetland areas to improve water quality.

We're engaging with community groups and organisations to determine the placement of the City To Sea Pathway and network, and design work is under way for a large stormwater facility and tidal wetland in Bexley. Detailed design work on this is nearing completion, with a tender due to go out early 2021, so that construction can begin next year.

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Investment includes:

- $316 million for the implementation of the Ōtākaro Avon River Corridor Regeneration Plan.
- $21 million to support future plans for Brooklands, the Port Hills and Southshore former residential red zone land.

We've also budgeted $ 2.8 million a year for the management and maintenance of the entire former residential red zone.

Ōtākaro/Avon River Corridor funding has been allocated across the following Council activities:

- Parks $149 million
- Transport $81 million
- Land drainage $86 million

This funding will support the following developments:

- The City To Sea Pathway
- Ecological restoration
- Cultural and recreational facilities, including landings
- Floodplain management and stormwater treatment
- Pages Road bridge

We've aligned funding in the Regeneration Plan to the different sections of the Ōtākaro/Avon River Corridor, known as 'reaches'. The funding allocation per reach is as follows:

- Ōtākaro Loop Reach $94 million
- Horseshoe Lake Reach $86 million
- Eastern Reach $86 million

A further $50 million is allocated across the entire green spine for flood and stormwater priority works.

For more information: https://dpmc.govt.nz/sites/default/files/2019-08/Otakaro%20Avon%20River%20Corridor%20Regeneration%20PlanReducedSize.pdf

[Breakout info box]

What else is going on?

We're consulting on two other proposals at the same time as the Draft Long Term Plan consultation - our Climate Change Strategy and Development Contributions Policy. These have implications for our Long Term Plan, which is why it makes sense to combine the conversations.

Draft Ōtautahi Christchurch Climate Change Strategy

The Draft Ōtautahi Christchurch Climate Change Strategy will reinforce Christchurch City Council's commitment to climate change leadership, and provides a long-term framework for collective action. It is based on the latest scientific advice, underpinned by government legislation, and driven by increased calls from the community for action.

Draft Development Contributions Policy 2021
Charging development contributions enables the Council to recover a fair, equitable, and proportionate share of the cost of the capital investment needed to service growth development from those who cause and/or benefit from that investment.

You can find out more about these consultations at ccc.govt.nz/haveyoursay

Our capital programme

Economic recovery is part of our COVID-19 response. Locking in the funding for this work means we can give confidence to the construction sector, among others, and in turn stimulate economic activity.

For the first three years of this Long Term Plan, we've set our core capital spend at $400 million in the first year, $420 million in the second year, and $443 million in the third year. We're making sure we can do all the work we want to deliver in the timeframe we've set. We have deliberately set our capital programme at this level, because we want to ensure it is deliverable – that we can do all the work we want to deliver in the timeframe we have set.

In addition to the core programme we have between $145 million and $241 million in each of the first three years on projects that are being delivered and/or funded by the Crown and others. This includes the Canterbury Multi-Use Arena, Metro Sports Facility, part of the Ōtākaro Avon River Corridor programme, Shovel Ready and Water Reform stimulus funding packages.

For the remaining seven years of this Long Term Plan, our core capital spend will increase to between $500 million and $550 million a year.

In our first three years, we're particularly focused on investing in our roads and water – two of the issues we hear about most from the community. We're proposing to spend more on maintaining and improving the condition of our existing roads, footpaths and cycleways, and protecting and upgrading our water networks.

[Insert pie graph showing capex using info from table below]

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Capex Spend - 10 years		
Three Waters	40.9%	2,329,304
Transportation	25.4%	1,445,089
Other - including Multi Use Arena	14.0%	799,162
Parks, Heritage & Coastal Environment	11.1%	632,685
Communities and Citizens:		
- Recreation and Sport	3.5%	199,267
- Libraries	2.2%	122,854
- Art Gallery / Museums	0.3%	14,863
- Communities and Citizens - other	0.4%	22,896
Housing	1.1%	61,634
Solid Waste & Resource Recovery	1.0%	58,452
Strategic Planning & Policy	0.2%	10,092
Regulatory & Compliance	0.0%	798
	100%	**5,697,096**

Maximising our external funding

On top of our own spending on capital projects, we have external funding totalling $194 million to complete water, transport and environmental projects that will help support the city's ongoing regeneration and overall future:

- ### Water reforms

We're getting $40.5 million to spend by March 2022 to help us deliver our part of Tranche 1 of the Government's nationwide water reforms. These funds will help us to increase the investment in our drinking water and wastewater networks, and also conduct a needs assessment for water services across our district.

Regardless of any outcome, we know for a fact that our community needs the 'three waters' services – drinking water, wastewater and stormwater.

The water reform programme includes making regulatory improvements and the Government has signalled it wants to see councils joining forces at a regional or multi-regional level to set up new entities to deliver water services. We've signed a Memorandum of Understanding which committed us to working with the Government and other parties to look at the future delivery of our water services.

During this first stage of the reform, we're working with the Canterbury Mayoral Forum to explore different ways of delivering these water services across Canterbury and the South Island. We're also providing detailed information about our water networks to the Government as part of a nationwide assessment of water services delivery.

We expect Cabinet to make policy decisions around the water reform programme in May 2021, which will allow legislation to be prepared. The Government and local authorities, including Christchurch City Council, will engage with local communities about the proposed changes later in the year and more information will be available at that time. The next stage of the

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reforms will likely happen in the 2023/24 financial year, and the Council with its communities will need to decide what is best for the delivery of our three waters.

For more on how we propose to invest in our drinking water network, please see page XX of this document.

- **Shovel-ready projects**

For the first three years of this Long Term Plan, we'll take advantage of funding opportunities provided by the Government's stimulus programmes to fast-track infrastructure work that creates or keeps jobs. We're calling this work our 'shovel-ready' projects, and they cover projects ranging from six major cycleways to projects that future-proof the resilience of our water supply.

We've also been able to take advantage of the Government's funding package for local authorities to provide immediate COVID-19 stimulus, to maintain and improve drinking water and wastewater infrastructure), and provide information to influence and inform the government water reform programme.

- **Christchurch Regeneration Acceleration Facility**

The city's regeneration has been given a boost with the $300 million in funding from the Government. The funding went towards three projects that will contribute significantly to our future as a city:

- $40 million for improving roads and footpaths, safety initiatives, and bus priority measures on key public transport routes.
- $40 million for 'green spine' elements of the Ōtākaro Avon Corridor.
- $220 million towards the Canterbury Multi-Use Arena.

Looking after what we've got

As well as optimising opportunities to tap into Government stimulus funding for infrastructure work that generates or retains jobs, we're focusing on maintaining existing services and assets.

To keep our work programme affordable and deliverable, we'll focus on maintaining, renewing and replacing our assets. The reality is that we simply cannot afford, at this point in time, to do all the renewal work that is needed.

Although there is uncertainty about the Government's reform of Three Waters and what our involvement in the delivery of three water services may be in the long term, we're continuing to invest in three waters infrastructure, giving priority to drinking water and wastewater services and continuing to protect public health.

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Our operational costs

Operational expenditure is money spent to keep the city running from day-to-day. Most of our spending is on providing services. Everything we build, own and provide requires people to get the work done. Ongoing costs to operate a library, for example, or to service our parks and waterways includes staff salaries and maintenance and running costs, such as electricity.

While some money comes in through fees and charges, most of our operational costs are met through rates.

Operational costs include Council staffing costs. This Long Term Plan will determine how the Council functions. The organisation will be right-sized in 2021 to ensure it can effectively deliver the ambitions set out in this Long Term Plan.

To address the impact of COVID-19, we're reducing budgets. As we've already mentioned, we've identified savings of $18 million in this financial year, and we're planning to save an additional $34 million in 2021/22. Many of these will be ongoing permanent savings, totalling $329 million over the period of this Long Term Plan. We believe we've got the balance right between making savings and maintaining our levels of service.

[Insert pie graph of opex using info from table below]

Opex Spend - 10 years	%	$000
Three Waters	20.8%	1,327,687
Communities and Citizens:		
- Recreation and Sport	8.6%	547,494
- Libraries	6.7%	428,652
- Art Gallery / Museums	3.7%	234,428
- Communities and Citizens - other	4.3%	271,669
Transportation	14.0%	889,446
Solid Waste & Resource Recovery	9.9%	628,874
Parks, Heritage & Coastal Environment	8.8%	559,022
Regulatory & Compliance	8.1%	513,527
Strategic Planning & Policy	6.7%	428,281
Other	3.8%	244,196
Governance	2.9%	186,933
Housing	1.7%	110,073
	100%	**6,370,282**

[Breakout info box]

What's the difference between operational and capital spending?

Our capital spending funds physical infrastructure projects such as community facilities or roads. As these projects will be enjoyed by generations of people, we borrow a good part of the money to pay for them and pay it back over 30 years.

Operational spending funds the day-to-day services that the Council provides. It is funded mainly through rates, therefore it has a direct impact on the level of rates we charge.

Capital and operational spending have different effects on rates because we mostly borrow for one, and rate for the other. For example, a total of $5.5 million of operational funding has a 1 per cent impact on rates while every $125 million that is spent on capital projects has a 1 per cent impact due to rating for the interest and principal repayment, similar to a mortgage payment.

See page X of this document for more on our financial strategy.

Our Financial Strategy and rates proposals

It's a balancing act

The Financial Strategy describes the Council's current and future financial position. It explains the revenue and investment needed to sustainably and responsibly fund our LTP work programme and budget.

In setting our Financial Strategy, we need to balance the costs of delivering our projects and services with the funding available from rates and borrowing. These three variables – cost, rates and debt – are interrelated. Any change in one needs to be offset by changes in at least one of the others, for example, if we reduce our rates increase, we need to reduce our costs (by deferring projects or reducing our levels of service), and/or take on more debt.

Where does our money come from?

Rates are the main source of funding for the Council's activities. In the 2021/22 financial year we're proposing to collect $594.8 million in rates. This is supplemented with funding from fees and charges, Government subsidies, borrowing, development contributions, interest and dividends from Christchurch City Holdings Limited subsidiaries.

[Include additional infographic or table showing income over 10 years, i.e. pie graph]

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Where our funding will come from over the next 10 years

Funding Sources	%	$m
Rates	57%	7,457
Borrowing	18%	2,432
Fees, charges and operational subsidies	13%	1,684
Capital contributions, grants and subsidies	5%	627
Dividends and interest received	5%	611
Development contributions	2%	245
Disposal of surplus properties	<1%	21
	100%	**13,077**

What will we spend money on over the next 10 years?

Where our funding will go

	%	$m
Three Waters	28%	3,657
Transportation	18%	2,335
Communities and Citizens:		
- Recreation and Sport	6%	747
- Libraries	4%	552
- Art Gallery / Museums	2%	249
- Communities and Citizens - other	2%	295
Parks, Heritage & Coastal Environment	9%	1,192
Other	8%	1,003
Debt repayment	8%	996
Solid Waste & Resource Recovery	5%	687
Regulatory & Compliance	4%	514
Strategic Planning & Policy	3%	438
Governance	2%	187
Housing	1%	172
2020/21 capital carry forwards	<1%	40
Transfer to Reserves	<1%	13
	100%	**13,077**

**Other includes $456 million of interest costs either externally received or not allocated to groups of activities, and $454 million for the Canterbury Multi-Use Arena.*

What we're proposing

The financial impacts of the earthquakes, and more recently the COVID-19 pandemic, have reinforced the need for us to be in a financial position where we can respond to unexpected events.

To achieve financial resilience, we need to retain the ability to borrow funds at short notice to soften the impact of any fiscal emergency. This will ensure we can continue to deliver appropriate services without a big impact on rates.

In the short term, this gives us the ability to borrow close to $400 million to deal with any unexpected events.

To help us reach long term financial resilience, we're planning to achieve:

A balanced budget
In the past, we haven't always had a balanced budget due to our rating for asset renewals being historically too low. We've been addressing this progressively since 2015 and will have a balanced budget again in all years except 2024/25.

Managing debt prudently
We normally use debt to finance new long-term assets that benefit future generations of residents. This ensures the upfront cost is shared fairly across the generations who'll be using them. We've also had to do some short-term borrowing to cover reduced revenue that resulted from COVID-19.

While we can service our current and forecast debt comfortably, carrying a relatively high level of debt means we need to restrain the increase in debt to ensure we have financial resilience.

The Council's net debt (our total debt minus our cash holdings and debt that's owed to us) is forecast to be $1.6 billion at 30 June 2022 – $250 million lower than predicted in 2018. Our total assets amount to about $15.6 billion, which gives us a debt-to-asset ratio of around 10 per cent. As an analogy, first home buyers generally borrow 80 to 90 per cent of house value to purchase properties.

Our net debt to revenue ratio is forecast to peak in 2028 before reducing over time.

By 2027, we're planning to have repaid all the debt we took on to meet the shortfall caused by COVID-19.

Provide cost-effective infrastructure and facilities
We need to ensure we have sufficient revenue to continue the following, while always ensuring that rates are affordable and sustainable:

- Funding the remaining repair and replacement of infrastructure and facilities damaged in the 2010/11 earthquakes.
- Funding infrastructure and facilities that are reliable and cost-effective.
- Providing infrastructure and facilities that support population and economic growth.
- Limiting investment to what we need, what we can deliver and what we can afford.

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Quantified limits

We're required to set maximum limits, called quantified limits, for rates and debt increases. We plan to be under these limits shown below. For more information on these please see the Financial Strategy ccc.govt.nz/long term plan

	2021/ 22	2022/ 23	2023/ 24	2024/ 25	2025/ 26	2026/ 27	2027/ 28	2028/ 29	2029/ 30	2030/ 31
Rates increase limit	7.7%	6.0%	6.2%	6.2%	7.4%	5.9%	4.7%	5.4%	3.8%	5.0%
Quantified debt limit ($m)	3,269	3,505	3,085	3,061	3,133	3,186	3,266	3,360	3,437	3,563

Other options considered

We looked at the impacts of having higher rates rises, which would enable accelerated delivery of asset renewals. A further $20 million of capital spend per annum would cause an ongoing rates increase of 0.15 per cent. This option was ruled out because we wouldn't have the capacity to deliver the projects nor borrow for additional capital works. Furthermore, higher rates rises would place additional hardship on the most vulnerable citizens in our community.

We also looked at making even more severe cuts to budgets to achieve lower rates rises. However, this wouldn't enable us to look after our assets and would have meant we were passing on failing infrastructure to future generations. We would not be able to complete the major community facilities underway nor grow our city. It would also have required a drop in the levels of service we are able to provide. Some of the options also involved loss of subsidy we receive or additional short term costs like redundancy. In the interests of community wellbeing and our responsibilities to look after our assets, we opted not to take this approach.

Some of the specific options considered were:

- A 25 per cent reduction in specific road maintenance areas, amounting to a 10 per cent or $4.5 million annual reduction in overall road maintenance. Savings areas would include landscaping, amenity mowing, lichen removal, litter removal, road sweeping, drainage inspections and clearing, surface repairs and markings across roads, footpaths and cycleways. This would involve an annual loss of $2.7 million in Waka Kotahi NZ Transport Agency subsidies, and impact two important levels of service – resident satisfaction and our target of reducing customer service requests about the condition of our roads.
- Deferring or discontinuing the new Hornby facility, resulting in annual operating cost savings of $2.2 million. Both options would be very contentious with the local community. Deferral would lead to cost escalation estimated at $850,000 per year with discontinuing requiring a write-off of costs already incurred.

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Rather than present capital programmes and budget options that would undermine the overall wellbeing of our communities and not be prudent, the Council is proposing a single work programme and budget, for community feedback.

Our rates proposals

We're very aware that many of our residents and businesses are hurting financially as a result of the COVID-19 pandemic so we're focused on meeting community expectations while keeping rates affordable.

We aim to strike the right balance between keeping rates increases as low as possible, while continuing to provide core services, invest in our city and adapt to the impact of climate change.

Average rates increase

We're proposing an average residential rates increase of 5 per cent for 2021/22. For an average house with a value of $508,608, the proposed increase is an extra $142.25 a year or $2.74 a week.

The overall average rates increase for 2021/22 is 5.56 per cent. This also means an average increase of 5.91 per cent for the average commercial property, and 5.83 per cent for the average remote rural property that currently pays land drainage rates.

For an average commercial property with a value of $1,858,572 the proposed increase is an extra $786.03 a year or $15.12 a week.

For an average remote rural property currently paying land drainage rates and with a value of $1,039,580 the proposed increase is an extra $178.04 a year or $3.42 a week.

Over the course of the 10 years of this Long Term Plan, proposed rates increases average 4 per cent a year, or 47.8 per cent cumulatively.

Our total rates income includes rates from new developments around the city. More developments means more ratepayers, and that means the rates burden becomes shared amongst a bigger group – so as long as the number of rateable properties keeps growing, the rates increase for existing ratepayers will be lower than the total increase.

Although rates increases over recent years have been significant, the cost of rates in Christchurch remains comparable to that of other metropolitan councils.

Table 1. Annual rates increase for existing ratepayers

	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Proposed Rates increase	5.56%	4.19%	4.39%	4.37%	5.59%	4.07%	2.93%	3.59%	2.03%	3.18%

Table 2. Projected debt over the 10 years

$million	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Proposed net debt	1,600	1,790	2,100	2,283	2,408	2,526	2,624	2,677	2,711	2,739
Debt headroom	1,063	1,220	595	442	395	401	382	449	489	584

Table 3: Projected net debt/revenue ratio over the 10 years

2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
180.3%	175.4%	225.9%	238.7%	240.4%	241.5%	244.2%	239.6%	236.9%	230.4%

How does our budget affect your rates?

Residential

CV	2020/21 Rates	2021/22 Rates	Annual increase ($)	Weekly increase ($)	Change (%)
200,000	*$ 1,337.57*	**$ 1,392.97**	**$ 55.40**	$ 1.07	4.14%
300,000	*$ 1,825.17*	**$ 1,908.71**	**$ 83.54**	$ 1.61	4.58%
400,000	*$ 2,312.77*	**$ 2,424.45**	**$ 111.68**	$ 2.15	4.83%
500,000	*$ 2,800.37*	**$ 2,940.20**	**$ 139.83**	$ 2.69	4.99%
600,000	*$ 3,287.97*	**$ 3,455.94**	**$ 167.97**	$ 3.23	5.11%
700,000	*$ 3,775.57*	**$ 3,971.68**	**$ 196.11**	$ 3.77	5.19%
800,000	*$ 4,263.17*	**$ 4,487.42**	**$ 224.25**	$ 4.31	5.26%
1,000,000	*$ 5,238.37*	**$ 5,518.91**	**$ 280.54**	$ 5.40	5.36%
1,500,000	*$ 7,676.37*	**$ 8,097.63**	**$ 421.26**	$ 8.10	5.49%
2,000,000	*$ 10,114.37*	**$ 10,676.34**	**$ 561.97**	$ 10.81	5.56%
3,000,000	*$ 14,990.37*	**$ 15,833.77**	**$ 843.40**	$ 16.22	5.63%
Average House					
508,608	***$ 2,842.34***	**$ 2,984.59**	**$ 142.25**	**$ 2.74**	**5.00%**

Business

CV	2020/21 Rates	2021/22 Rates	Annual increase ($)	Weekly increase ($)	Change (%)
200,000	*$ 1,753.93*	**$ 1,837.72**	**$ 83.79**	$ 1.61	4.78%
400,000	*$ 3,145.48*	**$ 3,313.95**	**$ 168.47**	$ 3.24	5.36%
600,000	*$ 4,537.04*	**$ 4,790.19**	**$ 253.15**	$ 4.87	5.58%
800,000	*$ 5,928.59*	**$ 6,266.42**	**$ 337.83**	$ 6.50	5.70%
1,000,000	*$ 7,320.15*	**$ 7,742.66**	**$ 422.51**	$ 8.13	5.77%
1,500,000	*$ 10,799.04*	**$ 11,433.25**	**$ 634.21**	$ 12.20	5.87%
2,000,000	*$ 14,277.93*	**$ 15,123.84**	**$ 845.91**	$ 16.27	5.92%
3,000,000	*$ 21,235.71*	**$ 22,505.02**	**$ 1,269.31**	$ 24.41	5.98%
5,000,000	*$ 35,151.27*	**$ 37,267.38**	**$ 2,116.11**	$ 40.69	6.02%
Average Business					
1,858,572	***$ 13,293.91***	**$ 14,079.93**	**$ 786.03**	**$ 15.12**	**5.91%**

Remote Rural

CV	2020/21 Rates	2021/22 Rates	Annual increase ($)	Weekly increase ($)	Change (%)
200,000	*$ 838.90*	**$ 873.83**	**$ 34.93**	$ 0.67	4.16%
400,000	*$ 1,366.40*	**$ 1,435.41**	**$ 69.01**	$ 1.33	5.05%
600,000	*$ 1,893.89*	**$ 1,997.00**	**$ 103.11**	$ 1.98	5.44%
800,000	*$ 2,421.39*	**$ 2,558.58**	**$ 137.19**	$ 2.64	5.67%
1,000,000	*$ 2,948.88*	**$ 3,120.17**	**$ 171.29**	$ 3.29	5.81%
1,500,000	*$ 4,267.62*	**$ 4,524.14**	**$ 256.52**	$ 4.93	6.01%
2,000,000	*$ 5,586.35*	**$ 5,928.10**	**$ 341.75**	$ 6.57	6.12%
3,000,000	*$ 8,223.82*	**$ 8,736.03**	**$ 512.21**	$ 9.85	6.23%
5,000,000	*$ 13,498.76*	**$ 14,351.89**	**$ 853.13**	$ 16.41	6.32%
Average Remote Rural Property					
1,039,580	***$ 3,053.27***	**$ 3,231.31**	**$ 178.04**	**$ 3.42**	**5.83%**

What's the right game plan?

We've considered a range of options for how best to achieve what we need to achieve while also keeping the average rates increase as low as possible. The balancing act of delivering our ambitions, while also giving ourselves enough financial headroom to weather unplanned events, leaves us with one clear option.

What do you think of this plan for an average residential rates increase of 5 per cent for 2021/22 and an overall rates increase of 4 per cent over the next 10 years?

Have your say at ccc.govt.nz/longtermplan

Changes to how we rate

We're also consulting on some proposed changes to existing rates, and some new rates. You can find out more information about these proposed changes to existing rates and the new rates in the from page xxx of the Draft Long Term Plan: ccc.govt.nz/longtermplan and also on ccc.govt.nz/longtermplan.

Excess water targeted rates for households

We're proposing a new excess water charge for households. This is set through our rating system. You can find out more information about this on page xxx of this document.

A heritage targeted rate

We're proposing to introduce a heritage targeted rate, instead of including all funding for heritage buildings in the general rate. In the future, we plan to show this funding separately on your rates bill. This targeted rate will provide a clear picture of the portion of your rates **that you already pay** towards specific heritage projects in the central city. We're proposing that every ratepayer will pay this rate and it will be calculated as a number of cents per dollar of capital value.

These central city heritage projects include:

[include images of these facilities]

- Canterbury Provincial Council Buildings: The targeted rate will help to fund $20 million of capital expenditure in the 2027–28 year.
- Old Municipal Chambers (previously known as Our City Ō-Tautahi): The targeted rate will help to fund up to $8.6 million in capital funding ($2.6 million in 2021–22 and $6 million in 2022–23). This funding will be transferred to the City of Christchurch Trust – a charitable trust set up by private company Box 112. Box 112 will undertake the strengthening and refurbishment of the building at the direction of the Trust, and will maintain the building over 50 years at no cost to Council.
- Robert McDougall Art Gallery. The targeted rate will help to fund $13.5 million of restoration work in 2022–23 to 2024–25. Depending on the outcome of consultation on this draft Long Term Plan, this could also include $11.8 million of funding towards base isolation work. See page xxx of this document for more details.
- Canterbury Museum redevelopment. The targeted rate will contribute to the $23.7 million redevelopment in years 2024–27.

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The rate would recover those costs over 30 years, and would phase in over three years, so will be smaller in 2021/22 and 2022/23 than in subsequent years.

A targeted rate specifically for the Arts Centre Te Matatiki Toi Ora

We're proposing a new targeted rate specifically for the Arts Centre Te Matatiki Toi Ora to provide a $5.5 million capital grant to help with restoration. We're proposing that every ratepayer will pay this rate and it will be calculated as a number of cents per dollar of capital value. You can find out more information about this on page xxx of this document.

A Central City Business Association targeted rate

We're proposing a targeted rate on business properties in the central city to help fund our annual grant to the Central City Business Association (CCBA).

The grant is currently funded from the general rate, which means all ratepayers in Christchurch and Banks Peninsula contribute. Under this new proposal, only central city businesses in an identified area (pictured) would contribute.

[include map of identified area]

It is proposed that the rate is levied as a fixed charge rate. All business properties with land valued at $50,000 or higher will pay the same amount. There are currently 623 rating units in the defined area.

The budgeted cost of the grant for 2021/22 is $150,000. This means each business property would pay $276.89 towards it in the next rating year – which comes to $5.32 per week.

The proposed change would allocate the cost to those who benefit from the activities of the CCBA. Of the options we've considered, a fixed rate charge on each business rating unit in the central city is considered the most fair and efficient.

Potential future rate for vacant sites in the central city

We're also looking at ways we can support owners of vacant land in the central city to bring forward development or, where development is still a long way off, to improve the visual appearance of the land in the short term.

The Council recently agreed a Vacant Sites Programme that reflects the community's views. They feel the visual appearance of vacant sites has a significant influence on negative perceptions of central Christchurch – and this perception is deterring people from the central city and stifling new investment on nearby sites.

We want property owners to improve their sites. The Vacant Sites Programme has already identified a range of tools it will use to help owners do this, and you can review these at ccc.govt.nz/vacant-sites

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We're also considering other support tools and funding arrangements, such as a targeted rate for vacant central city land. We'll be talking more about this with the community and owners of vacant sites in the coming months.

Land drainage targeted rate

We want to change who pays the land drainage targeted rate to better reflect the population that benefits from the Council's land drainage work.

This rate funds the operating costs of the Council's stormwater drainage and flood protection and control works. At the moment the only ratepayers that have paid this rate have been those with properties in the 'serviced area' – all the developed land within the district or where there is a land drainage service. The rate is calculated as a number of cents per dollar of capital value.

However, because these services enable all of us to get around more easily without surface flooding and make our city a pleasant place to live, we think all of Christchurch benefits from these works. To make things fair, we want to move to all ratepayers meeting this cost over the next three years. The other option would be to leave the way we charge this rate unchanged, but we don't think this is fair to all ratepayers.

If we don't make this change, we'd need to consider expanding the way we measure developed land, which we haven't always rated consistently. We'd also need to expand the way we measure the 'serviced area' to cover the full range of land drainage services such as swales, wetlands, river clearing and flood protection – not just stormwater pipes.

We're proposing that ratepayers who already pay this rate will continue to do so, but the cost will be shared across all ratepayers.

The remaining ratepayers who haven't been paying this rate would now start paying this rate, starting at 33 per cent of the full targeted rate for 2021/22.

This will increase to 67 per cent of the full rate for 2022/23 and reach 100 per cent for 2023/24 onwards.

This will better share the cost over all ratepayers. You can see which properties are in what category on the map (pictured).

[include map] and [insert link]

Remote rural properties

The Council's general rates, based on the value of a property, make up most of the Council's total rates requirement.

Remote rural properties pay 75 per cent of the standard rate. We want to make a change to how we define remote rural properties to remove some unfairness in the way it currently works.

The way we measure remote rural properties is by how close they are to our wastewater system – it's a simple way of defining how far they are from the city and its amenities. At the moment, if a ratepayer's large rural property is within the area serviced by our wastewater pipes, the ratepayer isn't considered 'remote rural', and so isn't eligible for the lower remote rural rate. This is unfair to very large rural properties where the wastewater system passes close by one corner of the property, making the whole property ineligible for the lower rate.

We want to broaden this category so that if a property is bigger than 20 hectares and within the wastewater-served area – and even if a farmhouse on the property is connected to the wastewater system – it will be eligible for the lower remote rural rate, provided it meets the other criteria.

Revenue and Financing Policy and Rates Remission Policy

We are proposing a new Revenue and Financing Policy. While much of the Policy is the same, there are some key changes, many of which relate to proposed rates changes mentioned on pg xxx of this document. There are also a number of minor changes being made, so we're providing a whole new Policy for you to comment on.

We're also proposing three amendments to the Rates Remission Policy.

- Amending Remission 1 (which applies to not-for-profit community based organisations) so that organisations with high cash balances will no longer be eligible for the remission. **This focuses the Council's resources on organisations that most need rates relief.** This proposal better balances the interests of not-for-profit community-based organisations with the interests of other ratepayers who fund those remissions. Some not-for-profit community-based organisations are non-rateable, for example, churches, which normally pay only sewer and water targeted rates. In some cases we provide remissions to those properties, further reducing their rates obligations. The proposal applies to non-rateable properties just the same as for other properties, except that if they do not qualify for remission in 2021/22, they will still just pay sewer and water rates. Schools do not receive remissions (unless part of the property is being used for some other purpose) so won't be affected by the proposal.
- A minor amendment to Remission 5 (residential Pressure wastewater system electrical costs). It clarifies that in addition to a subdivision consent, if a system was required post 1 July 2013 under a land use consent or building consent, the remission is not available.
- Updating Remission 7 (Excess water rates) to align with proposed changes in the LTP, providing for a new excess water rate for residential customers. In addition to requiring proof of leaking pipes being fixed, we're proposing a remission where an individual requires water for medical purposes.

More detail on the amendments to both policies is available at ccc.govt.nz/longtermplan

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What's the right game plan?

What do you think of our proposed changes to existing rates, and new targeted rates?

Have we got it right? If not, what changes would you like to see?

Have your say at ccc.govt.nz/longtermplan

Our Infrastructure Strategy

This Infrastructure Strategy is our game plan for infrastructure investment that will continue to build our resilience over the next 30 years. Our ability to adapt to the impacts of climate change will define our future city and lives, and disruptions must be expected.

The Infrastructure Strategy sets out how we will provide, maintain and manage the infrastructure that supports drinking water, wastewater, stormwater and flood protection, roads, rubbish, recycling and organics, community facilities, parks and information technology.

Our infrastructure is worth billions of dollars, so we take a 30-year view to plan as much as we can for future costs and spread the work out so it is manageable to both do and fund.

COVID-19 has put pressure on our immediate financial situation. This means that in the short-term, we've had to reduce or defer some work programmes and projects. In the long term, our aim is to ensure that communities and infrastructure in our city and Banks Peninsula are both able to deal with the challenges we face, and are great places to live.

We're also committed to looking after, and making greater use of, what we already have, and balancing our community's needs and expectations with what we can afford.

Our main priorities for the future of our infrastructure are:

- Maintaining a viable infrastructure network.
- Moving ahead with projects already underway or committed to.
- Taking advantage of available external funding.
- Undertaking important policy work, such as confirming our approach to infrastructure provision in coastal and low-lying areas affected by the impacts of climate change.
- Working alongside local communities that need to adapt to natural hazards.
- Finding pathways for reducing our emissions.
- Working in partnership with mana whenua and all our strategic partners to protect waterways.
- Finding a shared strategic direction for our urban areas through the Greater Christchurch Partnership, with a clear vision for the city and districts we want by 2050.

[Infographic showing infrastructure spend Capex]

Water, wastewater, surface water and waterways

One of our core responsibilities is to provide and maintain the wells, pipes, reservoirs, treatment plants and pump stations for drinking water and manage the collection, treatment and disposal of wastewater and stormwater.

This infrastructure is essential to the health of our city and our residents. It contributes to the health of our rivers, streams and harbours and it is the most costly service we provide. The capital cost of water infrastructure and services accounts for 41 per cent of our proposed capital spending for this Long Term Plan.

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Many of our water supply pipes are ageing and vulnerable to leaks – modelling shows that leaks have increased by a third in the past two years and we lose the equivalent of 90 Olympic-size swimming pools each week. We need to renew more of our pipes to reduce our leakage rates.

Over the next few years, the way councils provide water services to people is going to change. We're part of the conversation with the Government, and we're talking to iwi and neighbouring councils about the future of our 'three waters' services – drinking water, wastewater and stormwater. There will be a public consultation process later in the year.

Excess water use targeted rate for households

We're proposing introducing an excess water use charge for households that use significantly more water than the average. This charge would apply to any household that uses more than 700 litres per day.

Christchurch's water use in summer is about double that in winter. This is mostly due to people watering their lawns and gardens. As there is no cost to residents for doing this – and there are practical difficulties in enforcing water restrictions – we have to appeal to people's goodwill to reduce their water use.

The average Christchurch household uses 540 litres per day, and we have the highest household water use of all the larger cities in New Zealand. As a rough guide, if you were to take seven baths a day, you would use roughly 540 litres of water.

In the past two summers, demand on the water supply network has been so high that the system has been at risk of not being able to supply enough water to properties. If this happened, it could have serious implications for public health, as well as public safety in the event of a significant fire.

Charging for excess water use would help us manage our demand better and also reduce our pumping costs over summer. It would also mean, long term, we wouldn't need to spend as much money on expanding our water supply network just to cater for the small proportion of very high users. It would also improve the sustainability of our water supply, which aligns with our climate change goals.

[Include below graphic from Updated Annual Plan 2020-21, p.17]

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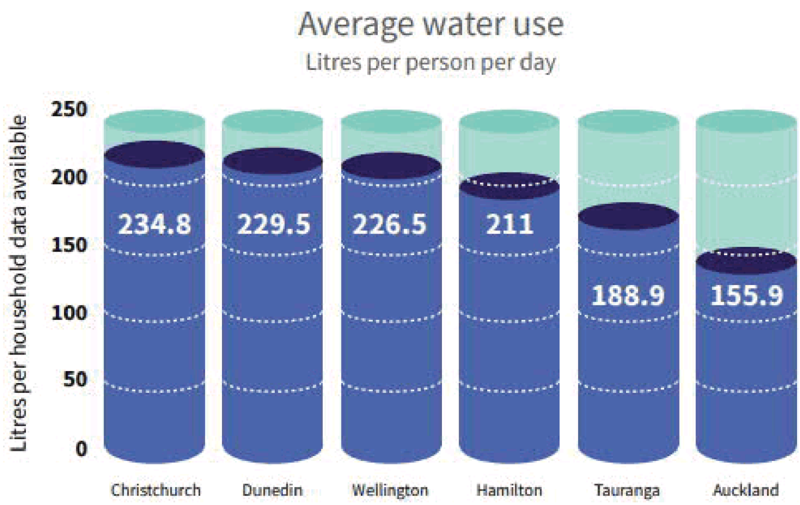

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How this targeted rate would work

We charge for the delivery of water, rather than for the water itself, based on the capital value (CV) of a property. This means the higher the CV of a property, the more the property owner pays for their water supply. This is the water supply targeted rate.

In addition to this rate, we propose charging high residential water users a fixed amount of $1.35 per 1000 litres for any water use over 700 litres per day. This means those properties that regularly place a high demand on the public water supply network would contribute to the extra cost of supplying them with water.

The charge would come into effect from July 2021. All residential water metres in the Christchurch district would be read and recorded every three months (quarterly). A property's water usage would be calculated based on the average daily use over that period. Property owners would be notified of their usage for the period (generally between 80 and 100 days), and if they exceeded the limit, they would also receive a bill.

In practice, we'd only expect to bill high-use properties over the summer months, because that's when water use is at its highest.

Where multiple rating units are served by a single meter, the Council won't invoice for rates until separate meters can be installed, unless there is a special agreement in force specifying which rating unit/ratepayer is responsible for payment.

The new charge would initially affect between 20,000 and 30,000 properties, depending on changes in demand, and bring in revenue of about $2 million to the Council in the first year. Over time, we expect fewer properties to be affected as high-use households reduce their water use.

There would be some exemptions to the charge, such as:

- Unexpected high use due to an unknown water leak (following proof of leak repair).
- Water use for medical purposes.

Find out more information about these exemptions and see the proposed changes to the Rates Remission Policy on page x of this document.

We also considered other options for how this rate could work and you can read more about that in the background information on ccc.govt.nz/longtermplan.

[include below as pullout box]

Did you know? The top 20 per cent of household water users in Christchurch use half of the total residential water supplied to the city.

[Please include amended 'Putting it in perspective' graphic from Updated Annual Plan 2020–21, p. 16]

[New graphic will show: Average daily household water use (per year) in Christchurch – 540 litres, and average daily household water use that would trigger the proposed targeted rate – 700 litres].

Crunching the numbers

The proposed excess water use targeted rate would apply to any household that uses, on average, more than 700 litres per day during a three-month billing period.

Example: Let's say a household uses, on average, 1200 litres of water per day during a billing period.

The average daily limit is 700 litres per day, so the household has used 500 litres more per day, on average, than the limit.

Calculated over the three-month billing period, this works out to be 48,660 litres more than the limit of 63,840 litres.

The proposed excess charge is $1.35 per 1000 litres, so 48,660 extra litres is equal to 48.66 x $1.35, a total charge of $65.69.

What's the right game plan?

We're proposing introducing an excess water use targeted rate for properties that use more than 700 litres per day, in order to help us manage our water demand better, give us a more secure water supply, and reduce our pumping costs over summer.

Have we got it right? If not, what changes would you like to see?

Have your say at ccc.govt.nz/longtermplan

Drinking water

We have a responsibility to ensure our drinking water supply, infrastructure and water taonga are managed in a way that supports the environmental, social, cultural and economic wellbeing of current and future generations.

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We're investing in upgrading the city's drinking water supply network, including upgrading well heads, drilling new and deeper wells, upgrading reservoirs, replacing older pipes, and installing new 'smart' monitoring systems and flow meters. The work we're doing is best practice and will future-proof the network for many years to come.

Safe drinking water, without residual chlorine, is a major priority for the Council, and for the people of Christchurch. We've resolved that, long term, we want to retain the city's untreated water supply system and will seek an exemption from the Government proposal in the Water Services Bill to require residual chlorine treatment.

Much of our water supply pipe network was built during previous building booms. It is ageing and around 14 per cent of pipes are in very poor condition and are expected to fail in the next one to two years. A concerted effort is therefore needed to replace large parts our water supply pipe network to stop it deteriorating further.

In the next 30 years we need to keep protecting our drinking water supply by upgrading and renewing infrastructure and extending the network to supply water to new developments. We propose spending $836 million over the next 10 years, including:

- Water Safety Plan Improvement Programme Asset renewals and replacements.
- Water supply rezoning – this will allow for water pressure to be managed more effectively across the whole city.
- Smart technologies for monitoring and measuring the network's use.

Surface water and waterways

We're committed to maintaining the health of our waterways across our district, and to working with our communities to reduce the pollutants that can enter our urban streams and rivers.

Our drainage and stormwater networks include our pipes, manholes, sumps, inlets, outlets; natural waterways such as rivers, streams and creeks, constructed drainage channels, in-channel structures, lining and retaining walls. Our pump stations and water flow control devices and structures such as valve stations, stopbanks, tide gates and basins and water quality treatment devices such as basins, wetlands, tree pits, raingardens and filtration devices are also included.

Our focus will be on delivering the floodplain management and stormwater quality elements of the Ōtākaro Avon River Corridor work programme.

We propose spending $695 million on infrastructure over the next 10 years, including:

- Implementation of Ōtākaro Avon River Corridor Regeneration Plan. A major part of this is temporary or permanent stopbanks work ($86million).
- New or retrofitted stormwater treatment facilities ($369 million).
- Renewing and replacing pump stations, pipes, drains, swales, waterway linings ($240 million).

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Our wastewater

Wastewater is the used water that leaves our homes and businesses – from kitchens, laundries, bathrooms and toilets. A healthy city depends on an efficient wastewater system to collect, treat and dispose of wastewater and to help protect our waterways.

The wastewater network collects and carries wastewater to the Christchurch wastewater treatment plant at Bromley, or one of seven wastewater treatment plants across Banks Peninsula.

Our main focus will be on replacing poor condition wastewater pipes. Much of our wastewater network is old and leaky, and lets large amounts of groundwater and stormwater into the wastewater system. These pipes are also prone to blockages. Both of these factors can lead to increased overflows of wastewater to the environment, which creates a public health risk and isn't good for the environment.

We plan to protect the Lyttelton and Akaroa harbours by removing treated wastewater discharges from them. In 2021, wastewater discharges from three wastewater treatment plants in Lyttelton Harbour will stop, and all wastewater will be pumped to the Christchurch wastewater treatment plant.

Akaroa's current wastewater treatment plant and outfall are in a culturally and historically sensitive place and they are old and need to be replaced. We plan to build a new modern treatment plant and use the reclaimed water to irrigate new areas of native trees in Robinsons Bay, Takamātua and Hammond Point. We plan to use some of the reclaimed water for irrigating public parks and flushing public toilets in Akaroa. We will also work with Ngāi Tahu, government agencies, and other water suppliers to develop regulations to allow the use of this water on private properties for irrigating gardens and flushing toilets.

In Duvauchelle, we are also exploring removing the treated wastewater discharge from Akaroa Harbour, and irrigating it to land instead, possibly on the golf course. This would mean an end to treated wastewater discharges to Akaroa Harbour. We will be consulting on the options for Duvauchelle later in the year.

We propose spending $798 million on wastewater infrastructure over the next 10 years, including:

- Removing treated wastewater discharges from Akaroa Harbour ($69 million).
- Replacing or renewing ageing or damaged assets that are in poor condition ($626 million).
- New or retrofitted wastewater reticulation and treatment facilities ($103 million).

What's the right game plan?

What do you think of our proposed investment in upgrading and protecting our city's water networks?

Have we got the balance right? If not, what changes would you like to see?

Have your say at ccc.govt.nz/longtermplan

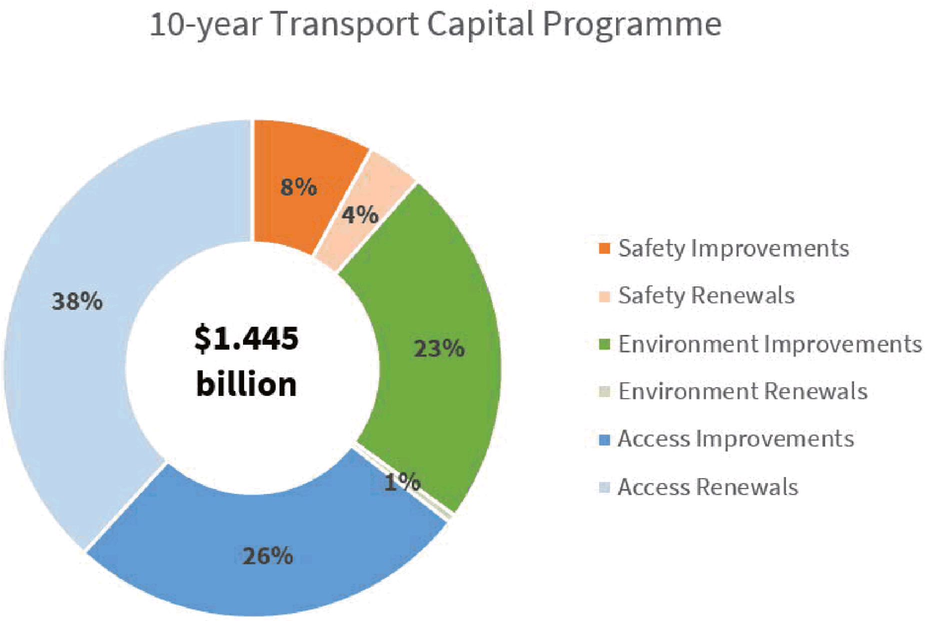
Transport

The Council owns, plans and operates our city's network of roads, footpaths, cycleways and bus lanes. We also own and operate key transport assets ranging from bus shelters to traffic lights.

We've heard from residents that transport is a top priority. It's also the city's biggest contributor to carbon emissions. With a growing and shifting population, and the congestion that comes with it, the next 10 years of transport planning is critical.

We want to give people better options for getting around, whether by car, public transport, on foot or on a bike or scooter. We also want to ensure our networks are safe.

We are also concerned about the environment – around 36 per cent of greenhouse gas emissions in Christchurch are generated by traffic on our roads. We therefore need to make it easy for people to choose alternative travel options to move around the city.



The capital cost of transport infrastructure improvements accounts for 57 per cent of our proposed capital spending on transport for this Long Term Plan. Renewals account for the remaining 43 per cent. Improvements are effectively new infrastructure while renewals are upgrades to existing infrastructure.

Christchurch residents want us to get the basics right, and have identified the condition of the roads and footpaths around the city as a big concern. We're focusing on what you're telling us is important:

- Maintaining and improving the condition of our existing roads, footpaths and cycleways;
- Making the transport network safer to use;

- Addressing the impact transport has on our environment.

The Council has also received Government funding to finalise some ongoing earthquake-related issues and support economic development in the COVID-19 environment. This includes:

- $40 million from the Christchurch Regeneration Acceleration Facility (CRAF). Funding of $30 million is earmarked for road and footpath upgrades, as well as safety and accessibility improvements in different locations within five areas of the city most affected by the earthquakes – Richmond, New Brighton, Linwood/Woolston, Spreydon/Somerfield, Waltham/Beckenham, and Riccarton. The remaining funding is made up of $5 million for targeted road safety initiatives, and $5 million for bus priority measures on key public transport routes.
- $87.3 million in 'shovel-ready' funding to deliver a number of cycleways and complete the Coastal Pathway.

In addition to this Government funding, Council will also be seeking funding from Waka Kotahi NZ Transport Agency for a range of programmes and projects across the transport network.

Safety

We want safe and healthy communities, and for people to get where they want to go safely, whether on foot, in a car, on a bike or scooter, and everything in between. By 2031 we want to see at least 40 per cent fewer fatal and serious injury crashes on our road network compared to 2020. To help achieve this, we've proposed a programme of safety works at the city's most high-risk sites. We're also focusing on protecting pedestrians and cyclists, safer school zones and key intersection improvements.

We propose to spend $166.2 million on this over the next 10 years. Waka Kotahi NZ Transport Agency has endorsed this programme and will provide between 51 per cent and 75.5 per cent of the funding.

Roads and footpaths

We're focusing on catching up on renewing our damaged roads and footpaths, bringing them up to a standard our communities are satisfied with and helping Christchurch develop into a 21st century city.

We propose spending $551.8 million on roads, footpaths and road infrastructure renewals over the next 10 years. This is about 42 per cent of what we're spending across all aspects of the road network. This covers:

- Road smoothing (asphalt surface) - $47 million
- Road resealing (chip seal) - $136.2 million
- Road renewals (pavement reconstruction) - $40.8 million
- Street upgrades - $46.4 million
- Footpath renewal - $59.5 million
- Kerb and channel renewals - $68.2 million
- Pages Road bridge, Marshland Road bridge and Fitzgerald Avenue twin bridges replacements - $56.8 million

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- Other transport assets (traffic signals, lighting, bridge renewals, road metalling, signs, parking facilities, guardrails, landscaping, etc.) - $96.9 million

As outlined above, we're accelerating spending for the first three years of the Long Term Plan 2021–31 for resealing and upgrading roads, and spending $138.9 million in this period on renewing transport assets. This represents more than 52 per cent of the core transport budget. A total of $30 million of the CRAF funding will be spent on improving local roads in parts of five areas of the city in the first three years of the Long Term Plan 2021–31.

For the first three years of this Draft Long Term Plan, we'll spend $18.3 million a year on road resurfacing (asphalt, chip seal and pavement reconstruction) – increasing our level of service to a total of 5.3 per cent of the city's roads from the current 2 per cent. This funding will increase to nearly $20 million a year from the fourth year.

Central city projects

Our central city transport projects support the successful implementation of anchor projects, such as Te Pae Christchurch Convention Centre, Metro Sports Facility and the Canterbury Multi-Use Arena, as well as central city residential and commercial development, by helping people to travel to them easily and make the most of them. This work will include street upgrades, improving walking networks, public transport interchange extension and linking the major cycleway routes to the central city. We propose spending $146 million on this over 10 years.

Supporting cycling

Getting more people cycling is key to addressing climate change, creating healthier communities and reducing congestion. The major cycle routes and other cycleways are designed to encourage people to ride because they can see it's a safe, convenient option to get where they want to go.

Most of the Government's 'shovel-ready' funds over the first three years will be used to deliver the Major Cycle Routes programme. We'll deliver five of these cycleways by 2024: Rapanui–Shag Rock, Northern Line, Nor'West Arc, South Express and Heathcote Expressway. We will also complete the Coastal Pathway between Ferrymead and Sumner.

The delivery of the Wheels to Wings has been brought forward to allow construction to start in 2022. The remaining three Major Cycle Routes – Avon-Ōtākaro Route, Ōpāwaho River Route and Southern Lights – will be constructed between 2025–2029 in stages.

We also have a 'local connections' programme to link key community places to our Major Cycle Routes, and the City to Sea recreational cycleway along the Ōtākaro-Avon River Corridor's green spine.

All up, we propose spending $235 million on all cycling projects/programmes over the next 10 years. This includes a significant portion of 'shovel-ready' and Waka Kotahi NZ Transport Agency funding.

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Public transport infrastructure

The public transport service for Greater Christchurch is provided by Environment Canterbury. We support the public transport network in Christchurch city by providing infrastructure such as bus stops, shelters and bus lanes.

We want to encourage as many people as possible to use this service. This will support our goals around transport choice and climate change. The Council is part of the Greater Christchurch Public Transport Futures business case programme (PT Futures), which describes how the Greater Christchurch public transport system will develop over the next decade. It sets out a recommended investment programme.

We propose spending $96.7 million on bus infrastructure improvements and renewals over the next 10 years. These include bus lane priority, intersection improvements, central city bus interchange upgrades and bus stop improvements to support planned increases in bus frequency. Further funding is recommended beyond 2031.

To reduce ongoing operational costs, Council is proposing to close the Riccarton Road bus lounge. This kind of suburban facility is not provided anywhere else in Christchurch, and our future planning, which we've undertaken with our public transport partners, hasn't identified a remaining need for these lounges or for any similar facilities in the city.

Growth

To meet the needs of new land development and subdivisions, we're proposing a growth programme, which includes $42.1 million of intersection and corridor improvements over the next 10 years.

Main changes to our plans

To help us make the above changes and meet our goals, a number of changes have to be made to the size or schedule of some projects.

We've managed to accelerate the delivery of five Major Cycle Routes using 'shovel-ready' funds from the Government. These projects have been brought forward and condensed in the first few years of the programme. We've also increased the amount of resurfacing work that we're doing across the city. At the same time, we've reviewed our more complex projects over this period, and we've changed some of the timeframes to be more realistic.

The main projects affected are:

- Pages Road Bridge Renewal (part of the Ōtākaro Avon River Corridor): delayed by two years to 2025.
- The Palms Public Transport Facilities: delayed by four years to 2024.
- Central City Projects – Salisbury and Kilmore streets: delayed by six years to 2031.

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- Some projects relating to the following Master Plans have been delayed to the end of the 10 year period:
    - Sydenham Master Plan
    - Main Road Master Plan
    - Sumner Master Plan
    - Ferry Road Master Plan

What's the right game plan?

What do you think of our proposed investment in our city's network of roads, footpaths, cycleways and bus lanes?

Have we got the balance right? If not, what changes would you like to see?

Have your say at ccc.govt.nz/longtermplan

Rubbish, recycling and organics

Resource recovery

Waste minimisation is fundamental to helping achieve our climate change goals. In 2018, 9 per cent of our carbon footprint for the Christchurch community was caused by waste disposal. As a society, reducing the waste we create is our collective responsibility. The Council's role is to lead and facilitate solutions to help reduce waste.

In Christchurch, more than 200,000 tonnes of waste is sent to landfill each year, the equivalent of 538 kilograms per person (excluding special waste). Another 115,000 tonnes is processed through our recycling and organics facilities (diverted from landfill).

There are growing community aspirations for sustainable ways to manage our resources, such as recycling and composting to reduce these materials going to landfills.

The Council shares those aspirations. In 2020 we adopted a new Waste Management and Minimisation Plan that focuses on changing our 'throw-away' culture and reducing the amount of waste we are sending to landfill.

Implementing the actions in that plan are the key drivers of our capital and operational spending in the area of resource recovery. Funding for the activity includes between $2 million and $20 million a year for capital programmes, and $56 million to $74 million for operational programs.

Another important focus will be on contributing to the Council's zero emissions target through exploring ways to reduce greenhouse gas emissions from waste processing activities, the household kerbside collection vehicle fleet, and the transportation of waste materials.

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Rubbish, recycling and organics

Christchurch has had a successful three-bin kerbside system since 2009, diverting approximately 65 per cent of household recyclable and organic materials from landfill. Through the kerbside collection service, Christchurch residents contribute approximately 20 per cent of the general waste sent to Kate Valley Landfill each year. We are proposing to invest in our recycling and organics facilities to enable more future diversion of waste to landfill.

Rubbish

Our kerbside red bin service delivers approximately 45,000 tonnes of rubbish per year to landfill. In addition our public EcoDrops and transfer stations around Christchurch and Banks Peninsula receive almost 70,000 tonnes of rubbish each year. Upgrading our transfer stations will ensure we provide safe and accessible facilities for disposal of rubbish, while investing in resource recovery centres at each site and education programmes will help divert more waste from landfill.

We propose spending $18.5 million on transfer station infrastructure over the next 10 years, including:

- Upgraded facilities building at Barrys Bay Transfer Station ($0.3 million)
- Transfer station stormwater treatment ($0.25 million)
- Transfer station upgrades ($9 million)
- Equipment (including renewals) ($9 million)

Recycling

Our kerbside recycling yellow bin service produces approximately 34,000 tonnes per year. We're facing significant challenges to divert recyclable items from landfill. We need to reduce our yellow kerbside bins from being contaminated with rubbish, and increase our sorting capabilities to meet new quality standards required by international recycling markets. We also need to work with the Government and industry to promote processing materials in New Zealand where possible. Failing to reduce contamination to acceptable levels could mean we don't have an export or local market for our recycling.

We propose spending $18.4 million on recycling infrastructure over the next 10 years, including:

- $1.6 million on capital renewals.
- $16.8 million on Materials Recovery Facility upgrades – funded by the Government, with assets vested to the Council once the contract is completed.

Organics

We are upgrading our organics processing plant in Bromley to ensure odour and dust standards are met, and to future-proof the plant's capacity.

We propose spending $25 million on organics infrastructure over the next 10 years, including:

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- Organics processing plant upgrades ($21.5 million).
- Building and fixed plant renewals ($3.5 million).

The first three years will focus on the upgrades at the organics processing plant and Materials Recovery Facility sites. Major contracts for these facilities expire in January 2024. Ongoing management of these sites will determine further investment.

What's the right game plan?

What do you think of our proposed investment in the way we manage our city's rubbish, recycling and organics?

Have we got the balance right? If not, what changes would you like to see?

Have your say at ccc.govt.nz/longtermplan

Our facilities

Our investment supports a network of community facilities across Christchurch and Banks Peninsula that are fit for a range of activities. They include all sorts of things – recreation and sport centres, libraries, community halls and centres, voluntary libraries, early learning centres, statues, jetties and more. They range in size and scale from toilet blocks to major facilities like Christchurch Town Hall, Christchurch Art Gallery Te Puna o Waiwhetū, and Tūranga.

The next 10 years will also see us completing earthquake repairs to many of our damaged facilities, and delivering the Performing Arts Precinct, which will include The Court Theatre, public realm area and landscaping.

The capital cost of community facilities accounts for 19 per cent of our proposed capital spending for this Long Term Plan. We also need to invest in the ongoing maintenance of our facilities so that they meet our community's expectations and remain fit-for-purpose.

[infographic or table showing all projects and proposed 10 year spend]

Community housing

The Ōtautahi Community Housing Trust manages our community housing portfolio. It handles tenancy and maintenance. The Council owns the assets. We are expecting these to go over to the Ōtautahi Community Housing Trust in June 2021. This is all self-funding and doesn't impact our rates – funding comes from the rent paid by the Trust, and they get their income from rent from tenants and government subsidies.

We propose spending $171.7 million on community housing over the next 10 years, including:

- $52.8 million on maintenance.
- $61.6 million on capital renewals and replacements.

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We've recently completed earthquake repairs, as well as insulating and making our community housing warmer and drier. This will remain our main focus for the next 10 years – maintaining and improving the quality of our existing stock.

By leveraging our land holdings, we also hope to work with others to increase the amount of community housing in Christchurch. This year we have facilitated the building of a total of 90 homes.

New community facilities

Over the past 10 years, we've completed a massive programme of repairs and rebuilds to our earthquake-damaged facilities. In addition to new facilities planned by the Council to meet the needs of growing communities around our city, we're also investing in replacing damaged facilities. We propose spending $550.3 million, with a further $197.7 million coming from the Government, on new community facilities over the next 10 years. This includes:

- Te Pou Toetoe: Linwood Pool ($8.3 million remaining)
- Hornby library, customer services and south-west leisure centre ($31.8 million)
- Performing Arts Precinct ($34.8 million)
- Metro Sports Facility ($21 million remaining, as well as funding from the Government)
- Canterbury Multi-Use Arena ($253 million, as well as $197.7 million from the Government)

Existing community facilities

There's a comprehensive existing network of Council and community-owned facilities across Christchurch and Banks Peninsula, covering all geographic areas. Our strategy is to operate and maintain these facilities so they remain valued and well-used places for our community to come together. We propose spending $541 million on existing community facilities over the next 10 years, including:

- Libraries
- Recreation and Sport Centres
- Parks
- Public toilets
- Wharves
- Community centres
- Community halls
- Voluntary libraries
- Early Learning Centres

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Changes to our levels of service

We're proposing a number of changes to our levels of service for community facilities.

Libraries

We've looked at when our libraries are at their busiest and when we can reduce opening hours with minimal impact on how, and when, residents like to use their local library. These changes would also mean that library opening hours are more consistent across the city.

Proposed changes include:

- Tūranga closing at 7pm, rather than 8pm, on weekdays, but we're looking at opening for some public holidays.
- Aranui and Matuku Takotako: Sumner Centre library close on Sundays to align with our other small libraries.
- All larger libraries will be open until 6pm on weekdays. South Library, Te Hāpua: Halswell Centre are currently open until 7pm. Linwood Library is open until 7pm one day a week and Fendalton and Upper Riccarton libraries currently shut at 8pm.
- Reducing the Fingertip Library phone service to a five-day (Monday to Friday) service from the current seven-day operation.
- Discontinuing the weekly Mobile Library from July 2022, to coincide with the retirement of the mobile van. Consultation with current users of the service will be undertaken to explore alternative service options to meet their needs.

Service desks

Most people now choose to use our online and phone services to make payments to the Council. With that number growing, we've reviewed the demand across the city for face-to-face financial transactions at our service desks. Although we still have high demand at 10 of our 12 locations – in particular ones that include New Zealand Post services – the service desks at Akaroa and Lyttelton have minimal transactions. We are therefore proposing to close these service desks. All other existing services at these locations, such as the library services at Lyttelton, will remain unchanged.

Christchurch Art Gallery Te Puna o Waiwhetū

The ongoing border closures as a result of COVID-19 mean Christchurch Art Gallery is currently welcoming fewer overseas visitors. Combined with the pandemic's impact on the Council's finances overall, this has meant we've had to take a close look at the affordability of the Gallery's services.

Proposed changes include:

- Reducing the Gallery's weekly Wednesday late night opening hours to one late Wednesday a month.
- Reducing the programmes the Gallery offers to the public and school groups by 25 per cent a year.

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Riccarton Road Bus Lounges

We're proposing to close the Riccarton Road Bus Lounges, which would save approximately $600,000 a year. This includes around $300,000 of Waka Kotahi NZ Transport Agency subsidies, and is made up mostly of maintenance, operational and security costs.

This kind of suburban facility is not provided anywhere else in Christchurch, and our future planning, which we've undertaken with our public transport partners, hasn't identified a remaining need for these lounges or for any similar facilities in the city.

What's the right game plan?

What do you think of our proposed investment in Council-owned facilities across Christchurch and Banks Peninsula, and in our changes to levels of service?

Have we got the balance right? If not, what changes would you like to see?

Have your say at ccc.govt.nz/longtermplan

Heritage, parks and foreshore

The capital cost of heritage, parks and foreshore accounts for 11 per cent of our proposed capital spending for this Long Term Plan.

Heritage

The buildings, places and stories of Christchurch and its people are part of our city's identity and treasures to be shared, celebrated and retained for future generations. Christchurch has a long and proud history of protecting and respecting our heritage.

Over the past decade, we've carried out a massive programme of repairs and restorations, but we still have some work left to do. In the next 10 years we will continue to restore our own buildings and support private development of heritage buildings.

We propose spending $57 million on heritage items, including:

- **Old Municipal Chambers repair and refurbishment (previously known as Our City O-Tautahi).** Up to $10 million in capital funding ($1.5 million in 2020/21, $2.5 million in 2021/22 and $6 million in 2022/23). This funding will be transferred to the City of Christchurch Trust – a charitable trust set up by private company Box 112. Box 112 will undertake the strengthening and refurbishment of the building at the direction of the Trust, and will maintain the building over 50 years at no cost to Council.
- **Robert McDougall Art Gallery strengthening and weather tightness.** This is additional funding to that required for the base isolation of the building.
- **Cuningham House restoration in the Botanic Gardens.**
- **Yew Cottage conservation works in Akaroa.**
- **Lancaster Park Memorial Gates repair.**

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- **Refurbishment of various artworks, monuments and other heritage items throughout the city.**

Heritage can take many forms. Some you can see, like buildings and trees, and some you can't, like our shared history and stories. We've reaffirmed our commitment to work with iwi to protect and celebrate this heritage in the community – whatever form it may take.

In the first three years, significant repair projects include the Robert McDougall Art Gallery, Lancaster Park Memorial Gates, Yew Cottage, Cuningham House, and the Old Municipal Chambers. We also plan to continue renewing particular components of heritage buildings as needed; address weather tightness issues at the Sign of the Takahe; refurbish ageing artworks, memorials and heritage items to keep them in good condition; undertake conservation works on the Chalice in Cathedral Square and Jubilee Clock Tower in Victoria Street, and purchase Neil Dawson's 'Spires' artwork.

Funding for the Arts Centre Te Matatiki Toi Ora

Over two-thirds of The Arts Centre Te Matatiki Toi Ora site has now been rebuilt, strengthened and restored after the 2010–11 earthquakes as part of a $255 million restoration project. However, the Arts Centre's revenue was severely impacted by COVID-19 and the subsequent lockdown, and it is now seeking funding to carry out the remaining restoration work.

We are proposing to provide the Arts Centre with a capital grant of $5.5 million. We would do this via a targeted rate that would recover the grant cost over 10 years, and would phase in over two years, so the targeted rate would be smaller in 2021/22 than in subsequent years. We're proposing that every ratepayer will pay this rate and it will be calculated as a number of cents per dollar of capital value.

Do you support the Council funding $5.5 million for the Arts Centre? This proposal is currently accounted for in our proposed rates increase of 5.56 percent. If the decision was made not to proceed, rates would drop by 0.04 per cent.

Yes / No

Comments:

Funding for base isolation of the Robert McDougall Art Gallery

Canterbury Museum considers the base isolation of Robert McDougall Art Gallery to be a key part of the Museum's redevelopment.

In July 2019, the Council agreed in principle to support the base isolation of Robert McDougall Art Gallery at a cost of $11.8 million.

As the cost of the proposed work is significant, it was agreed that this in-principle decision would be subject to public consultation in the Long Term Plan 2021–31. If base isolation gets the green light, it will be undertaken at the same time as the strengthening work that's also needed. Canterbury Museum has also applied for Crown funding to support the redevelopment of the museum.

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Base isolation is the recognised industry standard and is the only existing technology that would protect the museum's valuable heritage collections and enable international lenders to exhibit in the building. If it was to go ahead, the Robert McDougall Art Gallery would achieve 100 per cent of the current New Zealand Building Standard.

For more information about Canterbury Museum's redevelopment, visit: www.canterburymuseum.com/about-us/museum-redevelopment-key-documents

Do you support the Council funding base isolation of the Robert McDougall at a cost of $11.8 million? This proposal is not currently accounted for in our proposed rates increase of 5.56 per cent so if a decision is made to fund base isolation, there would be a 0.07 per cent impact on rates.

Yes / No

Comments.

We're proposing to introduce a heritage targeted rate, instead of including all funding for heritage buildings in the general rate. In the future, we plan to show this funding separately on your rates bill. This targeted rate will provide a clear picture of the proportion of your rates **that you already pay** towards specific heritage projects in the central city. You can read more about this on page x of this document.

Parks and foreshore

In the next 10 years we will maintain and improve our parks and foreshore. We propose spending $515 million on parks and $60 million on foreshore. A total of 39 per cent of planned spending is on new developments and upgrades while most of the funding (61 per cent) is on renewing what we already have as it reaches the end of its life. Significant areas of expenditure include:

- Parks-related Residential Red Zone regeneration projects, including the Ōtākaro Avon River Corridor ($170 million)
- Cemeteries, including a new cemetery at Templeton ($31 million)
- Botanic Gardens Masterplan projects and renewals ($27 million)
- Naval Point redevelopment ($27 million)
- Akaroa wharf ($19 million)
- Sports fields ($15 million)
- Redeveloping QEII Park ($14 million)
- Lancaster Park redevelopment ($8 million)
- Hagley Park development and renewals ($8 million)
- Strategic land purchase ($4.5 million)
- Carrs Reserve Kart Club relocation ($3.9 million)
- Rod Donald Trust strategic land purchase ($3 million)

In the first three years, our focus is to look after what we have and prioritise renewals based on the condition and age of the assets. Akaroa Wharf will be one of our most significant renewal projects. Regeneration of the Ōtākaro Avon River Corridor will gather momentum. We will also start to develop aspects of the Christchurch Botanic Gardens Master Plan, continue with development of

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Ngā Puna Wai Sports Hub, progressively upgrade our sports fields, and reopen Lancaster Park for public use – the first stage of its redevelopment. We'll also deliver numerous smaller community-based projects.

What's the right game plan?

What do you think of our proposed investment in Council-owned facilities across Christchurch and Banks Peninsula?

Have we got the balance right? If not, what changes would you like to see?

Have your say at ccc.govt.nz/longtermplan

Potential disposal of surplus Council-owned properties

The Council has a small number of properties, including two heritage buildings, that are no longer being used for the purpose they were originally acquired for. We want your feedback as part of this Draft Long Term Plan to help us decide the future of each property. A full list of the properties and more information can be found at ccc.govt.nz/longtermplan.

[landing page will link to https://gis.ccc.govt.nz/portal/apps/webappviewer/index.html?id=63be645c6b8f4f4ab2a3e8f2627949f4]

The properties we're putting up for consideration make up less than one per cent of the Council's overall portfolio and aren't likely to affect current levels of service. The Council owns many types of properties of all different shapes and sizes. Owning property comes at a cost, and it's good financial practice to continually review the portfolio and decide whether to keep or dispose of them.

First we identify the properties and assess them against the criteria for retention. These criteria include whether the property is being used for the purpose it was originally acquired for, its cultural or heritage value, and whether it can meet any of the Council's immediate or longer-term needs. Properties that don't meet the retention criteria go onto the shortlist to be considered for disposal.

If, following consultation, this proposal is adopted and included in the Long Term Plan 2021-31 all properties determined to be surplus will be disposed of in a manner as set out in Council's policy and normal practices:

- Policy – publicly tendering properties for sale unless there is a clear reason for doing otherwise.
- Practice – in an open, transparent, well-advertised and public manner at market value. This may include methods other than tender, such as auction, deadline sale or general listing.

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This consultation process also covers the consultation we need to do for the land identified in the list of properties as 'park' (land acquired or used principally for community, recreational, environmental, cultural, or spiritual purposes: section 138 Local Government Act 2002).

The properties in the list that are reserves under the Reserves Act 1977 will not be disposed of until any relevant requirements in that Act have been met.

The list includes the following two heritage properties:

- Coronation Hall 71 Domain Terrace situated on Spreydon Domain Reserve 3824 CB657/52
- 5 Worcester Street previously leased to the YHA Lot 1 DP 496200 Identifier 729712

These are the only two properties on this list classed as strategic assets under the Council's Significance and Engagement Policy. A decision to dispose of these assets must be explicitly provided for in the Long Term Plan: section 97 Local Government Act 2002. The information for each property (as required by section 93E Local Government Act 2002) can be found at ccc.govt.nz/longtermplan

What's the right game plan?

We have a small number of properties, including two heritage buildings, that are no longer being used for the purpose they were originally acquired for. These surplus properties make up less than one per cent of Council's overall property portfolio.

What do you think of this proposal to dispose of surplus properties? Help us decide the future of these properties by giving your feedback at ccc.govt.nz/longtermplan

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Auditor's report

[To come from the Auditor]

How to have your say

We'd like your feedback on the draft Long Term Plan 2021–31 and the matters we have raised in this consultation document.

There are a number of ways you can give feedback:

Written feedback

Written submissions can be made from Friday 12 March until Sunday 18 April 2021.

- Fill out our online submission form at ccc.govt.nz/ltp ***(preferred)***

- Fill out a submission form *(available from libraries and service centres)*.
- Email your feedback to ccc-plan@ccc.govt.nz
- Post a letter to:

  Freepost 178 (no stamp required)

  Annual Plan Submissions

  Christchurch City Council

  PO Box 73017

  Christchurch 8154

- Or deliver to the Civic Offices at 53 Hereford Street. *(To ensure we receive last-minute submissions on time, please hand deliver them to the Civic Offices).*

You need to include your **full name, postal address, postcode and email address** on your submission. If you wish to speak to your submission at the public hearings, please also provide a daytime phone number.

If you are completing your submission on behalf of a group or organisation, you need to include your organisation's name and your role in the organisation.

Social media

Informal feedback, which is not counted as a submission, can be made in the following ways:

- Go to our Facebook page facebook.com/christchurchcitycouncil and include #cccplan in your post.
- Tweet us your feedback using #cccplan

Want to talk to us in person?

Come along to one of the Have Your Say events put on by your local Community-Board. **[Insert calendar of events].**

Alternatively, you can give us a call on (03) 941 8999, provide your details and a good time for us to call, and one of our managers will be in touch.

Hearings

Public hearings will be held in **May 2021**.

Submissions are public information

Subject to the provisions of the Local Government Official Information and Meetings Act 1987, we will make all submissions publicly available, including all contact details you provide on your submission. If you consider there are reasons why your contact details and/or submission should be kept confidential, please contact us by phoning (03) 941 8999 or 0800 800 169.

[summary of key questions to think about when making submissions]

Financial Strategy 2021-31

Our Council's financial direction over the next 10 years strikes a balance between providing reliable infrastructure networks, facilities and services and addressing the financial impacts of COVID-19. At the same time, we need to maintain financial prudence, and build long term financial resilience within affordable rates and charges.

Getting this balance right means we can achieve our goals, to:

- Build long-term financial resilience
- Provide cost-effective infrastructure and facilities, and
- Ensure rates are affordable and sustainable.

We have had to consider trade-offs to find the optimal financial pathway forward and prioritise what we do. The Financial Strategy promotes a sound financial position where our citizens can look forward to the second quarter of the 21st century and beyond, with confidence, pride and optimism.

About the Financial Strategy

Purpose and scope

The Financial Strategy describes our proposed approach to securing the revenue to support investment that will sustainably and responsibly fund the services and activities, specific projects and programmes of work we provide for in the Long Term Plan 2021-31 (LTP 2021-31).

The Strategy is part of the LTP 2021-31 and sits alongside the 30-year Infrastructure Strategy, along with supporting documents such as the Revenue and Financing Policy, which details how the operating and capital costs of each Council activity will be funded, and the Significant forecasting assumptions. The Infrastructure Strategy describes the significant infrastructure issues for Christchurch over the next 30 years and identifies the principal options for managing these issues along with their implications. The priority work programmes identified in the Infrastructure Strategy are grounded in the Council achieving the levels of service agreed with our community and meeting required standards (such as for drinking water) within a prudent financial framework.

There is inevitably tension between the Infrastructure Strategy and the Financial Strategy, requiring trade-offs between proposed work programmes and cost. The Financial Strategy must recognise the direction and priorities of the Infrastructure Strategy and plots a course that provides the funding required to best meet the aims of the Infrastructure Strategy within a wider limited financial context. Achieving this balance hasn't been easy and we have gone through the budgets and work programmes in detail to reach what we see as the most favourable proposal that achieves community wellbeing for our citizens and businesses while providing the best value for money possible.

Our approach and proposed option

We are proposing what we see as the optimal work programme and budget for community feedback. As a consequence of COVID-19 the Council received and is forecasting to receive much smaller dividends in the short term from our commercial arm Christchurch City Holdings Limited (CCHL), and we lost some revenue through facilities operating at reduced capacity. The draft LTP 2021-31 rebalances operating income and expenditure to achieve the best outcomes possible from a reduced revenue base. We have identified further temporary and permanent annual savings in operating expenditure following the $18 million of savings built into the Annual Plan 2020/21. These amount to $329 million over the LTP 2021-31 period, with $34.2 million being in the first year 2021/22. Savings have been achieved across the full range of Council activities without impacting levels of service provided to the community.

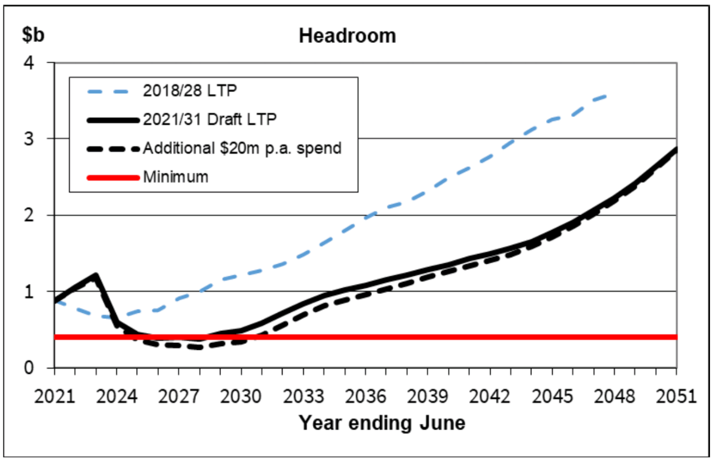
The core features of the proposed Financial Strategy are:

- Capital funding is sufficient to deliver a core annual capital expenditure programme in today's dollars of $400-423 million for the first 3 years, rising to an average of $457 million per year thereafter. This enables us to deliver the capital renewals necessary to protect the condition of our infrastructure networks.
- Capital funding is also sufficient to deliver one-off capital expenditure to deliver major community facilities and shovel-ready projects. This commitment unlocks third-party Government funding contributions for the Metro Sports facility, Canterbury Multi Use Arena (CMUA), Regeneration Acceleration Fund projects and the approved Transport shovel-ready projects.
- Operational expenditure in the early years has been reduced or reprioritised over the long term to accommodate the short term loss of revenue from CCHL dividends post COVID-19, and the new operational expenditure that will occur when the Metro Sports and CMUA are up and running.
- Operational costs have been further reduced in the 2021/22 year with an additional $26 million cut on top of the $18 million cut in the 2020/21 year. Further reductions would reduce the levels of service we can deliver to the community and put at risk our ability to deliver the capital renewals programme required to protect our infrastructure networks.
- Debt headroom, (our ability to borrow in the event of an emergency and remain within debt covenant limits) has been maintained at a minimum $400 million throughout the LTP 2021-31 other than 2026 ($395 million) and 2028 ($382 million).
- Our debt to revenue ratio increases until 2028 when the pace of increasing debt declines. This increases debt headroom from that time (our ability to borrow within debt covenant limits).
- Rates will remain affordable though annual increases are likely to be higher than some ratepayers would prefer. The proposed level of rates revenue gives us the ability to protect our infrastructure, deliver major new community facilities, keep debt levels manageable and maintain overall levels of service.

We made some tough decisions following our evaluation of priorities and relevant trade-offs and borrowing limitations. The average rates increase at 5.56 per cent for 2021/22 is higher than we wanted in the post- COVID-19 environment, despite the significant operating saving made.

In arriving at the level of capital expenditure programme proposed, we have taken into account the need to prevent further deterioration in our asset networks with resulting significantly higher future maintenance costs. We have had to restrain the programme level and resultant borrowing in the first three years to preserve a prudent amount of debt headroom around the 2025/28 period where the net debt ratio peaks.

A further $20 million of capital spend per annum would cause an ongoing rates increase of 0.15 per cent, but more critically, would drop prudent debt headroom below the minimum $400 million for an extended period as shown in the graph below.



Rather than present capital programmes and budget options that would undermine the overall wellbeing of our communities and not be prudent, we are proposing a single work programme and budget for community feedback.

While operational savings options of $35 million were considered, only $26 million is proposed. Similarly limiting the core capital programme to $370 million by not replacing water supply and wastewater renewal funding that had been reprioritised to Water supply wells/wellheads and water security priorities was considered but found to be unpalatable in terms of continued deterioration of key network infrastructure and resultant significantly increasing maintenance costs and increasing the risk to public health.

Other options considered

We looked at the impacts of having higher rates rises, which would enable accelerated delivery of asset renewals. This option was ruled out because we wouldn't have the capacity to deliver the projects nor borrow for additional capital works, and higher rates rises would place additional hardship on the most vulnerable citizens in our community.

We also looked at making even more severe cuts to budgets to achieve lower rates rises. However, this wouldn't enable us to look after our assets and would have meant we were passing on failing infrastructure to future generations. We would not be able to complete the major community facilities underway nor grow our city. It would also have required a drop in the levels of service we are able to provide. Some of the options also involved loss of subsidy we receive or additional short term closure costs. In the interests of community wellbeing and our responsibilities to look after our assets, we opted not to take this approach.

Some of the specific options considered and discarded were: ***(this section is being further developed following audit advice)***

- Make a 25% reduction in specific roading maintenance areas, amounting to a 10% or $4.5 million annual reduction in overall roading maintenance. Savings areas include landscaping, amenity mowing, lichen removal, litter removal, road sweeping, drainage inspections and clearing, surface repairs and markings across roads, footpaths and cycleways. This involved a loss of NZTA subsidy of $2.7 million annually and would have impacted on two important levels of service - resident satisfaction and our target of reducing customer service requests on road condition.
- Defer or discontinue the new Hornby facility, resulting in annual operating cost savings of $2.2 million. Both options would be very contentious with the local community. Deferral would lead to cost escalation of about $0.85 million per year for the period of the delay, while discontinuing would require a write-off of costs already incurred of more than $0.7 million.

Key opportunities and challenges

This Financial Strategy has been prepared at a time of constrained budgets and resources. We face four key challenges.

1. Ensuring we have reliable and resilient infrastructure networks

Our infrastructure networks need to be fit-for-purpose to deliver social, cultural, environmental and economic wellbeing for our citizens. There are three key drivers influencing our investment and funding decisions to ensure we provide the right infrastructure at the right time while providing best possible value for money.

Asset condition and renewals

Infrastructure assets have a finite life after which they need to be replaced to avoid increasing service interruption and/or costly repair and maintenance. Significant proportions of our water supply and wastewater infrastructure networks are either at or coming towards the end of their economic life and need replacing.

The increasing proportion of post-World War II infrastructure needing replacement has coincided with the earthquake recovery programme, forcing us to make some difficult decisions regarding investment priorities.

Earthquake-related infrastructure repairs undertaken by SCIRT focused on restoring services. This included replacement of badly damaged critical infrastructure and largely patch-repairing the remainder.

In an attempt to keep debt and rate rises to acceptable levels over the past 10 years, we deferred some infrastructure renewals to enable delivery of prioritised replacement infrastructure and facilities. As a result, large parts of the core infrastructure networks are functional but carry a risk of failure. The risks are most acute in the water, wastewater and stormwater networks and to a lesser extent roads and footpaths.

Providing for growth

We expect to experience ongoing population growth. We need to make sure we have the right infrastructure available at the right time to support this and aligns with local and sub-regional growth scenarios.[1] We will need to take into account additional infrastructure required to support the National Policy Statement for Urban Development and enable development capacity.

We primarily fund the provision of infrastructure to service growth from development contributions. Infrastructure within a subdivision development is provided by the developer at no cost to us as a condition of the resource consent. We aim to keep the rates contribution to fund growth infrastructure to a minimum.

2. Completing delivery of major community facilities

We are near completion of an ambitious community facility investment programme, driven by the need to replace facilities lost as a result of the 2010/11 earthquakes and providing facilities that appropriately cater for a significant and growing city.

The community facilities construction programme is planned to be completed by 2024/25. This will see the completion of five major new facilities:

- Metro Sports Facility - (co-funded by Government), opening 2022
- Te Pou Toetoe – Linwood Pool - opening in late 2021
- Hornby Centre multi-use facility - opening in late 2022
- Canterbury Multi-Use Arena - (co-funded by Government) opening late 2024
  Performing Arts Precinct - to be completed by 2024.

Our investment in these facilities is initially funded from borrowing which is repaid from rates over 30 years. Investment in these facilities contributes to new debt increasing by $1.2 billion over the first 4 years with a peak debt to revenue ratio of 244 per cent forecast in 2027/28.

3. Ōtākaro Avon River Corridor

We have commenced implementing the Ōtākaro Avon River Corridor Regeneration Plan, and taking a co-governance approach by partnering with mana whenua and the community The Regeneration Plan signals overall investment in the order of $1.2 billion

[1] Our Space 2018-2048 growth strategy and the Ōtautahi Christchurch Spatial Plan (along with other Council plans, such as Project 8011)

for network infrastructure and development of the Green Spine over 30 years. Over the next 10 years we have allocated $316 million of capital development funding across Parks, Transport and Three Waters. Fully implementing the Regeneration Plan is a long-term commitment, and will focus on land transfer, partnership-building, option identification and planning over the next three years.

4. Prioritising climate change adaptation and mitigation

In 2019 the Council declared a climate and ecological emergency, acknowledging the urgent need for the Council and community to address climate change issues. We have set targets to reduce the district's emissions, and from our own infrastructure.

Our Climate Change Strategy (we're asking the community for feedback on the draft, as part of this LTP 2021-31) sets the direction of change and prioritises actions. We have some climate change initiatives underway but this is a long term commitment that will emerge in more detail over the coming three years.

The LTP 2024-34 will include a more comprehensive suite of initiatives to address climate change mitigation and adaptation that could require investment.

Overview of our current financial position

Our current financial position is solid. Rate increases in the last two Annual Plans have been lower than predicted in the LTP 2018-28, while debt is forecast to be $2.11 billion at 30 June 2021, which is $140 million lower than predicted in 2018.

Since the last Financial Strategy was adopted in 2018, the impact of the earthquake legacy in terms of underground infrastructure with shorter life has become clearer. And now, in the last year the economic impacts of COVID-19 have emerged.

The impact of COVID-19 on our finances has largely been felt by the short term loss of dividend income from CCHL. In preparing the 2020/21 revised Draft Annual Plan, operating savings of $35 million over the years 2020/21 to 2021/22 were identified, with the intention to borrow $102 million over the 2019/20 to 2021/22 years to fund the shortfall and avoid unacceptable rates increases. It was also recognised further operational savings would be required in the LTP. Currently the expectation is to borrow a total of only $49.6 million. An improved dividend from CCHL in 2020/21 and proposed sales of surplus land have assisted this reduction. This debt is scheduled to be repaid within five years in order not to burden future generations.

A thorough review of operational costs was commenced in January 2020. This review examined the source and necessity for all operational costs that were being incurred with the purpose of stripping out any excess and inefficiency in processes. This work proved immensely valuable and provided some upside to enable the COVID-19 impact to be addressed without a double digit rates impact.

We are also conscious of the desire to reduce rate increases, while being aware that better infrastructure asset condition data was indicating higher levels of maintenance would be required to maintain a functioning network without significantly higher capital investment in renewals. In addition, once the major community facilities under construction are complete, they would require significant operating expenditure to cover running costs.

Debt

Our current debt is lower than planned in the LTP 2018-28. However, while we can service current and forecast debt comfortably, our ability to borrow to respond to unexpected events is more constrained than previously. This is due to:

- ***Earthquake recovery*** – We are carrying significant debt used to fund investment in infrastructure and facilities repair and replacement. This debt will be repaid from rates over the next 20 – 30 years. Our net debt will continue to increase as we fund construction of the remaining major community facilities. In addition, our horizontal infrastructure has shorter remaining life post-earthquake and higher levels of renewal are required.
- ***Funding asset renewals*** - The path to funding core infrastructure asset renewals from rates will continue with a decreasing portion of asset renewals funded from borrowing through the LTP 2021-31 period. The expected completion date has moved out from 2029 to 2031. Moving to more appropriately funding renewals from rates rather than borrowing will ensure current ratepayers are not subsidised by future generations.
- ***Growth*** - New development areas, particularly in the south of the city (Wigram, Halswell and Yaldhurst) and the north (Prestons and Belfast), have offset the loss of red zoned residential areas along the Avon-Otakaro corridor and provided opportunities for new residents and businesses. While this investment is largely funded from development contributions in the long run, it is funded initially from borrowing.

Carrying a relatively high level of debt means that we must focus on retaining our financial resilience and having access to funds at short notice in order to respond to unexpected events. A key feature of this Strategy is to keep minimum available borrowing (headroom) to as close to $400 million as possible to provide for this. Restraining the increase in debt through the LTP 2021-31 period is therefore key to us maintaining a prudent minimum level of financial resilience and sustainability.

Capital expenditure

In the 2020/21 Annual Plan the core capital programme was set at a deliverable $400 million. An in depth review of the future capital programme was undertaken, considering deliverability and affordability. Deliverability considerations included taking into account the additional work planned relating to shovel ready (Transport) projects, Water Reform, Canterbury Regeneration Acceleration Fund projects, Metro Sports and the Multi Use Arena which averages over $210 million p.a. for the next three years.

From a rates affordability perspective, the size of the core capital programme has long term impacts. It is not possible to reduce the capital programme enough to generate a significant rates reduction in the short term; there would be increasing operational maintenance as an increasingly ageing network infrastructure begins to fail. We regard the maintenance and improvement in reliability and resilience of our infrastructure networks as critical, to ensure we deliver the core services our community demands and maintain public health.

We are proposing in today's dollars, core capital expenditure of $400 – 423 million p.a. in the first three years of the LTP, taking into account the additional projects spend above, and then stepping expenditure up to an average of $470 million for the next four years before dropping slightly to an average of $439 million for the remaining three years. The step up largely relates to increased Water Supply and Wastewater renewals. This level of spend and resultant borrowing enables us to maintain minimum debt headroom at close to $400 million whilst avoiding increased maintenance costs due to failing waters infrastructure.

Our financial goals

Our key strategic financial goals for years 2021 - 2031

The funding decisions we made in the LTP 2021-31 provide our pathway forward towards achieving these goals. Achieving them required prioritising expenditure and carefully considering trade-offs in order to keep rate increases to a minimum.

1. Build long-term financial resilience

The financial impacts on the Council from the 2010/11 earthquakes, and lately the COVID-19 pandemic, have reconfirmed the need for us to be in a financial position to respond to unexpected events. Key to achieving financial resilience is the ability to borrow funds at short notice to soften the effects of a fiscal emergency and continue to deliver appropriate services without the need to pass on these usually short-term costs to rates.

While we have ensured that we have maintained a debt headroom margin of close to $400 million in the short term to provide sufficient financial capacity to deal with any unexpected event other than a significant disaster, long-term financial resilience will require ongoing prudent financial management to achieve the following goals:

- ***Balanced budget.*** The LTP 2018-28 contained an unbalanced budget for the period 2020/21 to 2023/24 due to rating for asset renewals being historically too low. Since 2015 we have been addressing this by transitioning to fully funding renewals from rates by 2029. In the proposed LTP 2021-31 this is still occurring at a slightly higher pace to ensure minimum debt headroom is maintained, and has been extended to 2031. In conjunction with projected significant Crown revenues over the next three years, all years now have a balanced budget other than 2024/25 (99.3%).
- ***Ensure an acceptable minimum amount of debt capacity (headroom) is maintained.*** We must have the ability to access funding through borrowing if the unexpected happens. The earthquakes of 2010/11 taught us the value of overall financial resilience through being able to access cash when needed. Our net debt ratio is forecast to peak in 2028 at 244%. Minimum debt headroom of $400 million has been maintained in all years except 2026 ($396 million) and 2028 ($384 million). After 2028 the net debt ratio is budgeted to gradually improve and we will have the ability to borrow at least $580 million without breaching debt covenants by 2031. The net debt/ revenue ratio falls below 180 per cent around 2045.

2. Provide cost-effective infrastructure and facilities

This requires us to balance the quality and reliability of infrastructure and facilities with what we can afford. The financial strategy needs to ensure we have sufficient revenue to deliver the following:

- ***Fund the residual repair and replacement of infrastructure and facilities damaged in the 2010/11 earthquakes.*** The SCIRT repair programme focussed on patch repairing infrastructure to ensure functionality. Large sections of the infrastructure networks remain in need of more permanent repair or replacement. This work has been integrated into our asset renewal programme.
- ***Provide infrastructure and facilities that support growth.*** Christchurch is the largest city in the South Island and is expected to experience ongoing growth. We need to ensure we have the right infrastructure in place at the right time to support growth.
- ***Limit investment to what we need, what we can deliver and what we can afford.*** We have continued to invest in the management of its infrastructure assets and as we learn more about asset condition and useful life we can make better decisions about provision and maintenance.

3. Ensure rates are affordable and sustainable

This requires us to always consider the effects its decisions will have on the rates requirement. At the same time we need to generate sufficient revenue to sustain appropriate investment in infrastructure, facilities and services that deliver broad wellbeing benefits to our citizens and businesses.

- ***Operating expenditure*** savings budgeted to be achieved without lowering external levels of service.
- ***Repay short-term debt*** incurred post COVID-19 to cover the reduction in dividend revenue. This debt is budgeted to be fully repaid by 2027.
- ***Continue to incrementally increase rating for asset renewals*** to around 80 per cent of depreciation by 2031. This increases the rating required for renewals through to that date. Other external revenue, mainly from NZTA, funds 4 per cent of our renewal programme.
- ***Set rates at a fair level***, balancing the need for sufficient revenue to provide quality, cost-effect services and infrastructure while recognising that rates affordability can be an issue for some residents and businesses.

Context to developing the Financial Strategy

Population and household growth

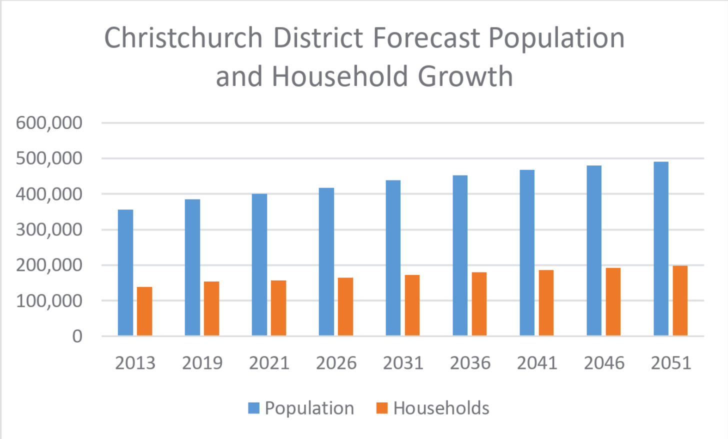
Greater Christchurch is the second biggest urban centre in the country. Our population has grown 15.1 per cent since 2006. Only Auckland has grown more quickly.

In 2019 our city's population was 385,500 people, and it is expected to grow to around 490,000 in the next 30 years. Selwyn and Waimakariri Districts have a combined population of 128,400 (2019), and this is projected to grow to 210,000 over the next 30 years.

Annual population growth is forecast to be approximately 0.9 per cent for the LTP 2021-31 period, compared with national growth of around 1.03 per cent. Our slower growth rate is due primarily to our ageing population compared with some other parts of New Zealand, particularly Auckland.

As our population ages, the average household size will reduce over time. This means the number of households is expected to grow proportionately faster than the population and it is anticipated there will be around 197,000 by 2051.[2]

Figure 1. Forecast Population and Household Growth for Christchurch 2021 - 2051



While growth in the number of homes and businesses increases our rating base and spreads the cost of our services across a larger number of ratepayers, the increase in the number of older residents will see a larger proportion of households living on a fixed income, which is likely to impact on resident's ability and/ or willingness to pay rates.

Land use and planning for growth

We are a member of the Greater Christchurch Partnership which, through its Urban Development Strategy, has an integrated future growth plan for the Greater Christchurch region.

The land use and growth management aspects of the Urban Development Strategy are primarily implemented through the Resource Management Act 1991 Documents. These include the Canterbury Regional Policy Statement, Regional Plans, Mahaanui Iwi Management Plan, and District Plans.

The Partnership has recently undertaken a review of the strategic land use planning framework for Greater Christchurch. Our Space 2018-2048: Greater Christchurch Settlement Pattern Update outlines land use and development proposals to ensure there is sufficient development capacity for housing and business growth across Greater Christchurch to 2048.

Collectively, the district plans for Christchurch City, Selwyn and Waimakariri already allow for a substantial number of new dwellings to be built in and around their urban areas. This development capacity is provided through greenfield housing areas (new subdivisions) and the redevelopment of existing housing areas. Some additional capacity also exists in rural locations surrounding the main towns in Selwyn and Waimakariri. Most of the capacity

[2] Updated Statistics New Zealand figures are expected to be released later in 2021, which will inform updated population projections

(around 80%) in Greater Christchurch is currently provided in the City, with only about 13% provided in Selwyn and 6% in Waimakariri.

For us, the significant capacity in the City is expected to be sufficient over the next 30 years, even with a higher share of growth apportioned to the City over the long term period. The Capacity Assessment undertaken in 2018 shows Christchurch has a housing development capacity of 59,950 homes, providing a medium term (2018 – 2028) excess capacity of 38,875, and a long term (2018 – 2048) excess capacity of 4,000. The report noted that in the medium term, capacity for around 3,500 dwellings in Christchurch is constrained by the provision of necessary infrastructure.

Most residential growth in Christchurch is planned to be through infill development in the central city and medium density zones. These areas generally have infrastructure in place to support growth or have infrastructure planned. Greenfield residential development in the north and south of the city will require investment in infrastructure network extensions and capacity increases to be accommodated.

We have provided for $620 million of growth related capital expenditure over the LTP period, with the first three years averaging $68 million per annum.

Economic environment

We are in a challenging economic environment over the short to medium term. The global recession following the COVID-19 pandemic has seen unemployment rise, consumption contract, and business failures increase. At a local level the tourism sector and accommodation, hospitality and transport in particular, along with retail have been hit hard. However Christchurch has a diverse local economy and sectors such as manufacturing, agricultural support, health sciences and services and business focussed on technology and innovation have shown a high degree of resilience to the overall economic environment.

The big unknown at present is how the global economy will perform with some countries still experiencing varying degrees of lockdown and production, productivity and demand all weak.

Christchurch's current and likely future economic performance is hard to establish with confidence as the metrics tell conflicting stories.

The city's overall economic growth has been slowing as the post-earthquake rebuild has wound down. From the end of the March Quarter 2015 Christchurch GDP growth has been consistently below that of New Zealand as a whole. This performance lag has continued in the post-COVID-19 period with Christchurch GDP declining more than New Zealand as a whole. Overall though the picture remains mixed with some positive and some negative trends.

Specific metrics show varying results:

- The number of building consents for residential developments in Christchurch has remained strong following COVID-19 indicating confidence in the residential property markets. However the value of building activity for residential development was down slightly. There has been a significant drop in the number and value of consents for commercial development over the past year.[3]

- Job seeker support recipients in Canterbury increased 45 per cent from 14,555, in January 2020 (Pre-COVID), to 21,057 in November 2020. The tourism and hospitality sectors have been particularly hard hit.
- Average weekly earnings in Canterbury over the year to September 2020 increased 1 per cent (to $1,045), half average increase for New Zealand as a whole (average wage $1,118).[4]
- Domestic visitor spending in Christchurch increased 35 per cent (to $197 million) when comparing October 2019 to October 2020. International visitor spending In Christchurch October on October fell 64 per cent (to just $31 million).[5]

In the wider context, interest rates and inflation are both at historic lows. Since March 2020 the Government has looked to stimulate the national economy through increasing the money supply through quantitative easing. This has seen national GDP rebound strongly after the COVID-19 lockdown with unemployment significantly below earlier estimates.

While the individual data are varied the overall trend evident at the current time is that Christchurch is continuing a slow slide in economic performance compared to New Zealand as a whole as well as the larger cities we benchmark against.

The Council's response has been to look to maintain its investment in the city's infrastructure and facilities, to take advantage of low interest rates and to restructure spending profile in favour of capital expenditure over operational expenditure.

Three Waters service delivery

Over the past three years, central and local government have considered solutions to the challenges facing delivery of Three Waters services. This has seen the creation of Taumata Arowai, a national water services regulator, to oversee and enforce a new drinking water regulatory framework, with additional oversight of wastewater and stormwater networks.

The Council has signed a memorandum of understanding between the Crown and local authorities that commits us to work together to explore future service delivery options.

This Financial Strategy, the Infrastructure Strategy and the LTP 2021-31 have been based on the assumption that we will continue to provide water and wastewater services as there is not enough information at this stage on which to base any alternative delivery model. Given the community will continue to require Three Waters services to be delivered, regardless of whether the Council does this or not, the core issues, work programmes and budgets will remain relevant.

If, in future, these services are to be provided by a new entity this will significantly change our financial position as revenue, costs and debt along with asset ownership associated with provision of water and wastewater services transition out of the Council's books. This would

[3] Statistics New Zealand data http://archive.stats.govt.nz/infoshare/
[4] Statistics New Zealand data http://archive.stats.govt.nz/infoshare/
[5] https://www.mbie.govt.nz/immigration-and-tourism/tourism-research-and-data/tourism-data-releases/monthly-regional-tourism-estimates/

require significant changes to the Financial Strategy, either as part of the process to develop the LTP 2024-34 or as an amendment to this LTP 2021-31.

It is too early in the process to determine the effects should the water and wastewater services be floated off to a new entity.

Capital works programme

The capital works programme reflects the analysis of the city's infrastructure requirements which was undertaken in preparing the Infrastructure Strategy, Activity Plans and Asset Management Plans that underpin the LTP 2021-31.

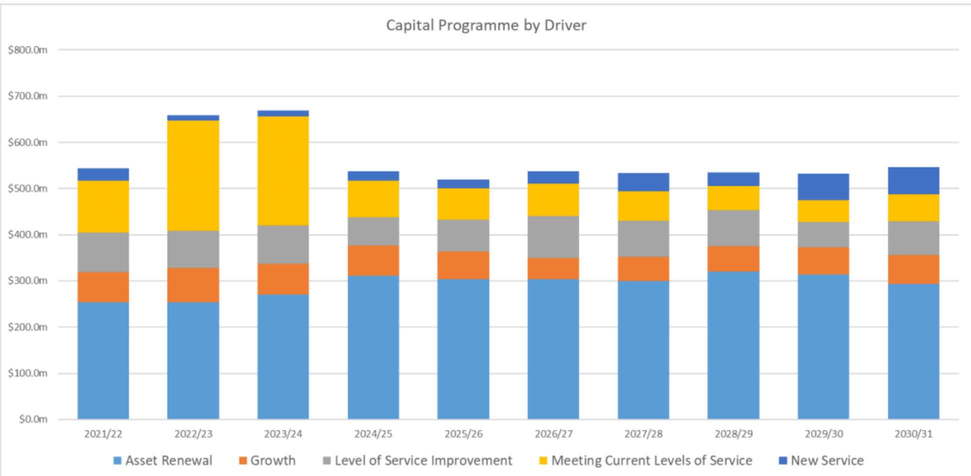
The Infrastructure Strategy details a 30 year plan for our water supply, wastewater, stormwater (including flood protection), transport, parks, facilities, solid waste and communication technology assets.

The capital works programme (other than renewals) is funded from borrowing to provide intergenerational equity – ensuring today's ratepayers don't fund the full cost of infrastructure that will provide benefit to future ratepayers.

We have capped the capital works programme, plus inflation, for the years 2021-31. This is to enable us to manage, then reduce, the debt to revenue ratio over time. This will result in increasing debt headroom, which is the amount we can borrow without breaching debt covenants for unforeseen requirements, thereby providing financial resilience to shocks.

The capital works programme is the largest area of our expenditure where there are clear options available around the level of investment, albeit with consequences on our ability to provide reliable infrastructure, meet the demands of growth, meet the community's expectations in terms of the levels of service provided, and comply with regulatory requirements too.

Figure 2. Proposed capital expenditure 2021-31



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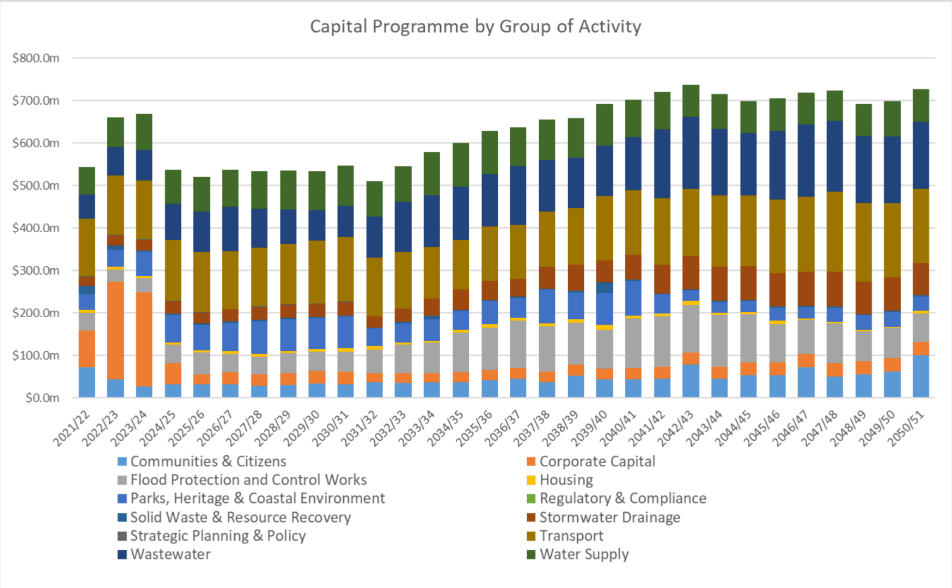
Asset renewals includes planned capital expenditure of $175-$200 million per annum in the first three years on network infrastructure, flood protection, and flood control works required to maintain existing levels of service. For the following seven years the average spend is over $230 million.

The proposed capital expenditure programme (inflated) for the next 30 years is shown in the graph below.

Figure 3. Capital spend for the next 30 years, by Group of Activity



The total capital programme for the ten years of the LTP 2021-31 includes infrastructure, as well as non-infrastructure programmes for community facilities and internal services such as Information Technology, vehicle fleet and corporate accommodation. It includes a provision for the renewal of existing assets, plus additional capacity to meet demand growth and increasing levels of service.

Rates projections and limit

Annual Rates Increases

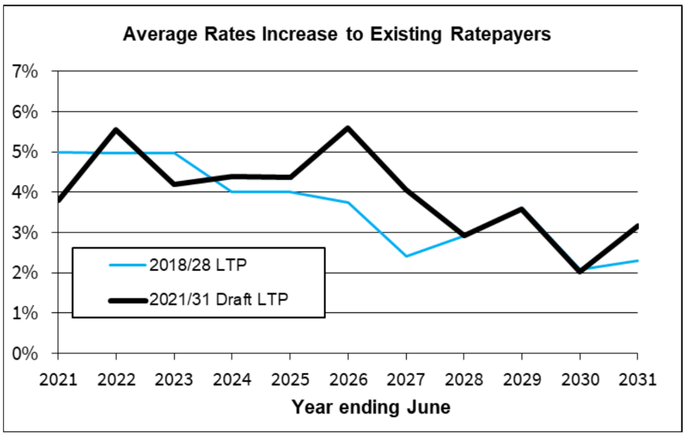
We propose a rates increase of 5.56 per cent in the 2021/22 year. This enables a capital investment programme to be delivered progressing the major facilities and prioritised water and wastewater infrastructure renewals, while also accommodating repayment of debt relating to the short term reduction in our dividend revenue.

The table below indicates the proposed increases to existing ratepayers over the period of the LTP.

Table 1. Annual rates increase for existing ratepayers

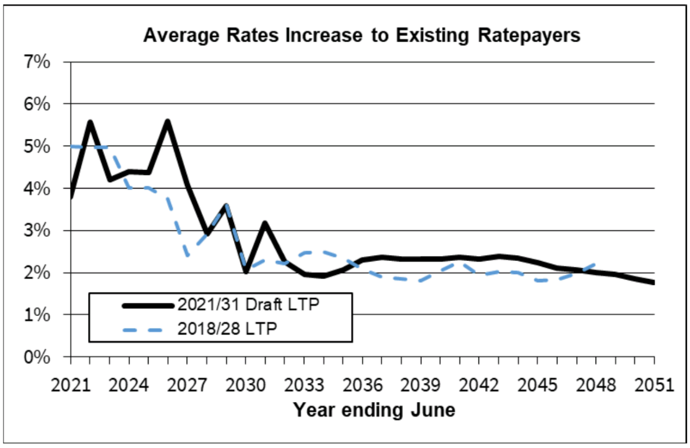
	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Proposed Rates increase	5.56%	4.19%	4.39%	4.37%	5.59%	4.07%	2.93%	3.59%	2.03%	3.18%

Figure 4: Average annual rates increase for existing ratepayers – 2021 - 2031



Over the longer term, average annual rates increases are forecast to settle at around 2.3 per cent for existing ratepayers as the level of new borrowing reduces. The peak in 2025/26 is largely due to a higher than normal CCHL dividend planned for 2024/25.

Figure 5: Average annual rates increase for existing ratepayers – 2021 - 2051



Rates changes

We are consulting on a number of targeted rates changes in the LTP 2021-31. These include new targeted rates for Heritage, a grant to the Arts Centre, a grant to the Central City Business Association, and grants to improve the visual appearance of vacant sites in the inner city. We're also consulting on expanding the Land Drainage rate to a city wide rate to be phased in over three years. Details of these proposed rates can be found in the Funding Impact Statement – rating information.

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It is also proposed to limit rates remissions to only those charities that have more limited funds on hand, (relative to their rates). Please refer to the proposed Rates Remission Policy for details.

Rates affordability benchmark

We meet our statutory rates affordability benchmark if actual or planned rates increases for any year are equal or less than the quantified limit on rates increases.

We have set limits on total annual rate increases at 1 per cent higher than the rate increases proposed in the LTP 2021-31, as shown in the table below. This provides some flexibility in the event of unexpected adverse developments in our financial position or operating environment. The limit is a 'soft limit' in that we can choose to exceed it in any year but must explain why we believe it is prudent to do so. We report on compliance with rates limits through the Annual Report and the Pre-Election Report.

Importantly, they also based on total rates income (i.e. including natural growth from the development of new properties) – the increase to existing ratepayers will always be lower as long as the number of ratepayers continues to grow. For this reason, existing ratepayers should focus on the previous table as an indicator of likely future rates increases rather than the table below.

	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Proposed increase	6.7%	5.0%	5.2%	5.2%	6.4%	4.9%	3.7%	4.4%	2.8%	4.0%
Rates increase limit	7.7%	6.0%	6.2%	6.2%	7.4%	5.9%	4.7%	5.4%	3.8%	5.0%

Debt projections and limits

Use of debt

Debt is a key funding tool as it enables capital investment in infrastructure to be paid for by both today's ratepayers and those of the future. This approach provides intergenerational equity, a key principle that underpins the Revenue and Financing Policy.

While we use debt as a beneficial tool to promote equity, there needs to be a balance between what we would like and what we can afford. We need to ensure balance is in place in both the short and the longer term.

Our ability to borrow is limited by the willingness of lenders to provide credit and the ability and willingness of ratepayers to service interest costs and principal repayments.

Projected debt level

Gross debt is the total debt we are carrying. Net debt has cash holdings and debt (advances) owed to us deducted.

We propose to materially increase debt over the next four years (as shown in Figure 6 below) to enable the funding of the proposed capital investment programme, while retaining budget flexibility in the event of unexpected adverse developments in our position or operating environment.

Debt levels are initially lower due to the Crown funding the initial costs of the Canterbury Multi Use Arena, but increase in the medium term due to continuing borrowing for asset renewals and improvement in infrastructure. By the end of the LTP 2021-31 period debt levels stabilise at around $3 billion for a period of time.

Gross debt is closer to net debt than in the LTP 2018-28 due to CCHL intending to borrow directly for its own requirements in future rather than via us.

Figure 6: Forecast gross and net debt – 2021 - 2051

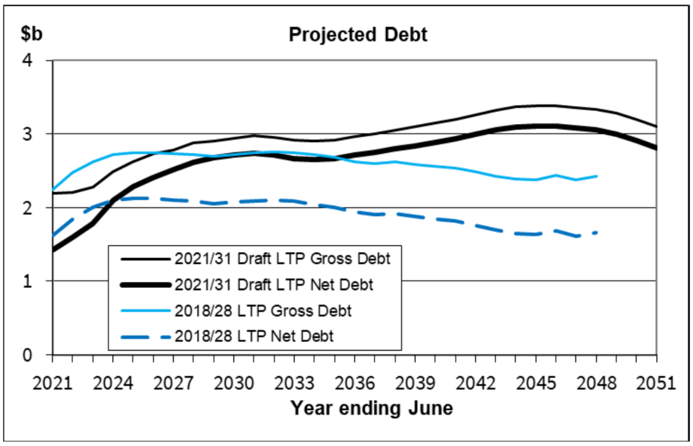


Table 2. Proposed net debt and capacity to borrow (debt headroom)

$million	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Proposed net debt	1,600	1,790	2,100	2,283	2,408	2,526	2,624	2,677	2,711	2,739
Debt headroom	1,063	1,220	595	442	395	401	382	449	489	584

Limit on debt to revenue ratio

The debt to revenue ratio is an indicator of debt affordability.

The Council maintains several covenants with lenders which set specific limits on borrowing – most importantly, that total net debt may not exceed 300 per cent of total operating revenue in the 2021/22 year, then dropping 5 per cent a year before settling at a new longer term limit of 280 per cent from 2026. The higher short-term limit is to enable councils to invest in infrastructure as part of the COVID-19 economic recovery process.

A prudent debt strategy should restrict planned borrowing to materially less than this covenant limit, to provide budget flexibility in the event of unexpected adverse changes to our financial position or operating environment.

The maximum debt to revenue ratio proposed over the 2021-31 period is 244 per cent in 2027/28, well under the 280 per cent LGFA limit. At this peak we retain “headroom” (the ability to borrow more if required without breaching financial covenants) of $382 million.

Figure 7: Forecast net debt to total revenue ratio – 2021 - 2051

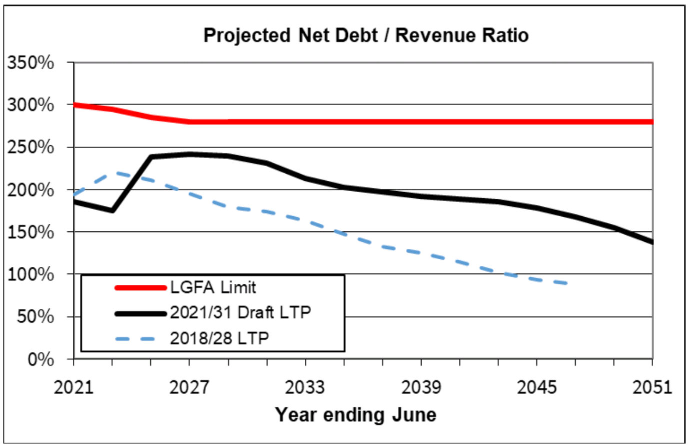


Table 3. Net Debt as a % of Total Revenue

2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
180.3%	175.4%	225.9%	238.7%	240.4%	241.5%	244.2%	239.6%	236.9%	230.4%

Debt affordability benchmark

Legislation requires local authorities to state a maximum debt limit over the LTP period. We meet the debt affordability benchmark for a year if actual or planned borrowing for the year is within each quantified limit on borrowing.

Quantified debt limits are shown in the table below. These have been set at the LFGA limits described above. The limits are a "worst case" maximum borrowing scenario.

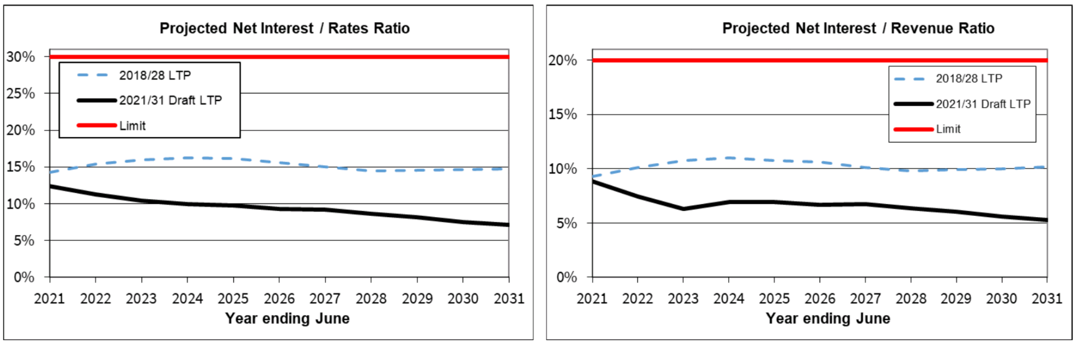
Table 4. Proposed gross debt and quantified limit

$million	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Proposed gross debt	2,207	2,285	2,489	2,620	2,737	2,785	2,885	2,911	2,949	2,979
Quantified debt limit	3,269	3,505	3,085	3,061	3,133	3,186	3,266	3,360	3,437	3,563

Limits on interest costs

The cost of interest to rates revenue ratio and the cost of interest to total revenue ratio are both further debt affordability indicators. The two graphs in Figure 8 below show interest costs remain well within our limits.

Figure 8: Net interest to revenue 2021 - 2031



Current and forecast low interest rates contribute to the reduced cost of interest relative to both rates and total revenue.

Other considerations

Rating base growth

We expect the number of rating units will grow each year due to the development of new subdivisions and buildings. This will increase demand for Council services and infrastructure.

This Financial Strategy assumes growth in the number of rating units (including residential and commercial) will tend to grow at a rate of 0.8 per cent per annum, slightly less than the pace of household growth. This assumption results in the following projections for the number of rating units in the LTP 2021-31 period.

June Years	2021	2022	2023	2024	2025	2026/	2027	2028	2029	2030
Rating Units	177,146	178,563	179,992	181,432	182,883	184,346	185,821	187,307	188,806	190,316

Inflation

We use the BERL Local Government Cost Adjustors which are the basis of inflation forecasts for most New Zealand councils. We used the “mid-scenario” adjustors as this is considered to best align with the economic and population growth expected for Christchurch district over the next 10 years. Forecast inflation ranges between 2.1 - 2.9 per cent per year and is included in the Significant Assumptions section of this LTP.

Interest

Interest rates are important to us as borrowing (usually over a 30 year term) is used to fund new capital asset investment and for some of the cost of asset renewals. Borrowing to fund capital assets ensures today’s ratepayers don’t fund all of the costs of assets that will provide benefits over a long period.

We are in a period of low interest rates with future interest rates forecast to remain below 2.2 per cent over the coming 10 years. This is reducing the cost of borrowing over time as fixed rate debt is refinanced or repaid.

Forecast interest rates used in the LTP are included in the Significant Assumptions section of this LTP.

Insurance

We have gradually increased our insurance cover on assets as insurance providers have re-entered the Christchurch market following the 2010/11 earthquakes and as insurers gain more confidence in the resilience of our assets. Based on external modelling we identified the maximum probable loss of above ground infrastructure and current insurance provide for two significant events.

In the event of another significant earthquake, we will rely on a combination of insurance and borrowing to fund the 40 per cent share of the cost of damage repair. The remaining 60 per cent would be funded by the Government under the National Civil Defence and Emergency Management Plan, depending on eligibility. This provides approximately $6.7 billion of cover for assets with a replacement value of $10.4 billion. To put this into context, the Council has spent around $3 billion on repairing or replacing underground assets following the 2010/11 earthquakes.

Local Government Funding Authority (LGFA) – debt limits

The LGFA is our main source of loan funding. It raises funds by issuing bonds and onlends to councils, usually at a sub-market rate. To manage its risk the LGFA requires councils to operate within prescribed debt to revenue ratio limits. In June 2020 LGFA shareholders approved changes to allow the Net Debt to Total Revenue financial covenant ratio limit applying to councils with a credit rating of “A” equivalent or higher to increase from 250 per cent annual revenue to 300 per cent for the 2020/21 and 2021/22 financial years. The limit will then reduce 5 per cent per year until it reaches the new long term limit of 280 per cent in the 2025/26 financial year.

Credit rating

The Council’s credit rating affects our access to lending and the interest rate charged. This Financial Strategy seeks to support the retention of our current “AA- (Stable)” Standard & Poor’s credit rating. This credit rating may be at risk in later years due to increasing debt levels.

Any downgrade in the credit rating would have only a marginal impact on interest rates charged but could increase annual interest costs by as much as $1.1 million in the later years of the LTP 2021-31. Should a downgrade occur, it is expected that our credit rating would be restored over time as the net debt/revenue ratio returns to more conservative levels by the early 2040s.

Security on borrowing

Borrowing is secured by way of a charge over future rates revenue. Security may be offered by providing a charge over one or more specified assets but will only be done where there is a direct relationship between the debt and the purchase or construction of the asset being funded, such as an operating lease or project finance, and the Council considers a charge over the asset to be appropriate. There are no such arrangements currently in place.

Financial investments and equity securities

Working capital

We routinely holds a significant working capital cash balance to fund timing differences between income and expenditure.

Our Investment Management Policy requires a conservative approach to external investment of these balances – generally limited to cash and short-term bank deposits, reflecting the funds being needed relatively frequently to meet payment requirements.

Reserves and special funds

We hold funds in various Reserves and Special Funds. These are listed in this LTP. When not immediately required for the purpose they are held these are used as working capital. The exception is the Capital Endowment Fund (CEF) which is lent internally or invested in bank deposits to provide an ongoing income stream that is applied in place of rates to fund economic development activities, community events and projects. The projected returns of the CEF in 2022 is $3.2 million, declining through the LTP period to $2.5 million p.a.

Borrower notes

Under the terms of its shareholding in the Local Government Funding Agency (LGFA), each time we borrow from LGFA we must invest a portion of the borrowing back into LGFA in the form of Borrower Notes. This ensures the stability of LGFA's financial position and provides a high level of confidence that the LGFA will continue to be a cost-effective source of the bulk of our long-term borrowing requirements. At 30 June 2021 $35.1 million is expected to be invested with projected returns of $0.3 million in 2022, increasing through the LTP 2021-31 period to $0.8 million annually.

Community loans

From time to time we make loans to community groups to enable them to pursue their stated objectives. The return on these loans ranges from interest free through to 2 per cent, depending on when they were granted and the conditions imposed. The total face value of these loans at 1 July 2020 was $7.3 million.

Equity investments

Our main investment is in Christchurch City Holdings Limited (CCHL) which holds equity investments on behalf of the City to provide dividend returns which we use to reduce the rate requirement and/or reduce debt. The dividend yield on our CCHL investment has averaged 2.2 per cent in the last three years and 2.4 per cent in the last ten years.

We have shareholdings in a further six companies. These are held principally to achieve efficiency and promote community outcomes and wellbeing rather than for a financial return on investment. The risk to us of investing in these companies is low.

Any equity investment carries risk in that the value of the investment and the dividend paid can go down. The COVID-19 lockdown and recession has had a significant negative impact on the earnings of some of the companies in the portfolio resulting in lower dividend payments for the years 2020 – 2023.

To mitigate future risk, we will look to structure the use of dividend income to minimise the impact on our business if dividend income unexpectedly reduces.

Further information on CCHL's subsidiary companies is provided in this LTP and in the companies' Statements of Intent.

Company and activity	Council shareholding	Principal reason(s) for investment	Value of investment[6]	Targeted return
Christchurch City Holdings Limited (CCHL) (consolidated) • Holding company for our equity investments	100%	• Return on investment	$2,133 million	Dividends of $16.1 - $64.2 million per annum. Heavily impacted by COVID-19 in the next two years.
Vbase Limited • Venue management and event hosting	100%	• Promote local economic development	$178 million	Nil in LTP 2021-31 period
Civic Building Limited • Holds our 50 per cent investment in the joint venture that owns the Civic Building offices.	100%	• Strategic property Investment	$8 million	Nil in LTP 2021-31 period
ChristchurchNZ Holdings Limited • Promotes tourism, major events, city profile and economic development.	100%	• Promote local economic development • Visitor attraction/ destination management	$4 million	Nil
Transwaste Canterbury Limited • Kate Valley Canterbury regional landfill owner/ operator	38.9%	• Shared service provider (co-owned with all other Canterbury local authorities)	Circa $44 million	$3.3 - $3.8 million per year
New Zealand Local Government Funding Agency • Lends money at sub-market rates to member councils	8.3%	• Access to borrowing at preferential rates • Shared service provider (co-owned with most other NZ local authorities)	$7 million	$65,000 per year
Civic Financial Services Limited • Supplies local government with financial services such as superannuation, Kiwisaver	12.9%	• Access to specialised financial services • Shared service provider (co-owned with most other NZ local authorities)	$1 million	Nil
Theatre Royal Charitable Foundation • Operates the Isaac Theatre Royal facility		• Promote local economic development	$1 million	Nil
Endeavour Icap	12.8%	• Economic Development	$0.2 million	Nil

[6] The value of the investments in CCHL, Vbase Limited, Civic Building Limited and ChristchurchNZ Holdings Limited were assessed by independent valuers, Deloitte as at 30 June 2020.

Christchurch City Council
Long Term Plan 2021-31

DRAFT Infrastructure Strategy 2021-51

The strategy for managing Christchurch's infrastructure assets over the next 30 years

For public consultation, *9 February 2021 version for Performance Management circulation*

Attachment D Item 3

Contents

Checklist – meeting the requirements of the Local Government Act 2002, Section 101B Infrastructure Strategy

LGA Section	Relevant section/s in the Strategy	Page number
(1) Adopt an infrastructure strategy for 30 years	*Completed as part of the LTP's development and adoption*	*June 2021*
(2)(a) Significant issues	Our significant infrastructure issues	p 17-28
(2)(b) Principal options for managing issues and implications	A strategic response to managing our assets	p 29-34
(3)(a) – (e) Management of assets	A strategic response to managing our assets and Most likely scenario for investment over 30 years	p 29-34 and p 38-59
(4)(a) (i) - (ii) Most likely scenario	Our scenario for investment over 30 years	p 35-57
(4)(b) (i) – (iv) Significant decisions	Significant decisions section in the Most likely scenario	p 37-40
(4)(c) and (d) Assumptions and degree of uncertainty	Appendices 4 and 5, and references throughout document	p 72-80
(5) option of a joint infrastructure/financial strategy	*N/A – separate strategies*	*N/A*
(6)(a)-(b) inclusion of required activities and others at discretion	Introduction explains the required and discretionary activities within the scope of the strategy	p 6

Executive summary

This Infrastructure Strategy is our plan for infrastructure investment that will build our resilience and improve community wellbeing over the next 30 years. Looking ahead, we face uncertainties, disruptions must be expected and we need to manage risks responsibly. Our ability to adapt to the impacts of climate change will define our future city and lives.

The Strategy is about these infrastructure assets: water supply, wastewater, surface water and waterways, transportation, resource recovery, facilities, parks and information technology. It identifies the significant infrastructure issues we face, outlines the strategic response and principal ways we will address these, and sets out the major decisions, programmes and projects required to deliver the most likely scenario for infrastructure investment through to 2051 (see Appendix 1 for a summary). It forms part of the Long Term Plan (LTP) 2021-31, along with the Financial Strategy and Activity Plans. They have all been developed during the COVID-19 pandemic and so reflect the pressures on the Council's budgets and need for socio-economic recovery.

The Strategy focuses on how we address six significant issues for infrastructure investment:

1. Looking after what we've got
2. Responding to community needs and expectations, as we grow
3. Adapting to climate change
4. Reducing greenhouse gas emissions
5. Responding to changing regulatory and commercial environments
6. Delivering within financial constraints.

In the early years of the LTP (years 1-3), our progress in addressing these issues will be tempered by our financial position, which is affected by COVID-19, and reflects current investment commitments and priorities. In the context of COVID-19, the size of some work programmes and projects have had to be reduced and/or deferred so that they are affordable and deliverable.

Maintaining a viable infrastructure network is the foremost priority, along with progressing projects already underway or committed to and optimising available external funding. At the same time, we need to do some important policy work, such as confirming our approach to infrastructure provision in areas vulnerable to the impacts of climate change, working alongside vulnerable communities to adapt to natural hazards, finding pathways for reducing our emissions, and defining the future urban form we want for our city.

To guide our investment in and management of infrastructure assets and risks, we need to:

- *Focus on resilience*: Growing a resilient and liveable city, by responding to climate change, reducing emissions and preparing for disruption

- *Focus on condition and performance*: Being careful stewards by investing responsibly in developing and maintaining our city's assets, managing demand through greater use of existing assets, and balancing our community's needs and expectations with what we can afford.

We want to work closely with all our strategic partners – in particular working in partnership with mana whenua to protect land and water, and finding a shared strategic direction for our urban areas through the Greater Christchurch Partnership 2050 work, which will influence our infrastructure planning.

Purpose and scope

The Infrastructure Strategy is one of several key 'ingredients' in the LTP 2021 -31.[1] It has a much longer horizon than the LTP as it describes the significant infrastructure issues for Christchurch over the next 30 years and our principal options for managing these issues, their costs and implications. As required by the Local Government Act 2002 (the LGA), we take into account:

- the need to renew or replace assets
- growth or decline in the demand for services reliant on those assets
- planned increases or decreases in Levels of Service provided through those assets
- the need to maintain or improve public health and environmental outcomes or mitigate adverse effects
- the need to provide for the resilience of infrastructure assets by identifying and managing risks relating to natural hazards and making appropriate financial provision for those risks.

The Strategy provides direction for this planning, as well as for activity planning, capital prioritisation and budgets, but does not replicate the detail in Asset Management Plans.[2] The Strategy frames and guides the approach taken to developing the capital programme and operational decisions about maintenance of assets. It reflects the complexity of our current and emerging environment, is firmly embedded in the context of risk and resilience as a measure for investment, and is mindful of consequential operational expenditure.

This Strategy covers the core infrastructure areas identified in the LGA:

- Water supply
- Sewerage and the treatment and disposal of sewage (termed wastewater in this Strategy)
- Stormwater drainage (termed surface water and waterways in this Strategy)
- Flood protection and control works (termed surface water and waterways in this Strategy)[3]
- Roads and footpaths (all as required by the Local Government Act 2002).

It also covers solid waste and resource recovery, facilities, parks, and information technology (IT) (These areas are included as they are important infrastructure for community wellbeing).

The Council's critical assets include those associated with water supply and wastewater, flood protection and control, and certain transportation avenues that act as lifeline routes.[4] Assets that support wellbeing and serve to connect our communities, for example parks and facilities, and that enable the Council to connect with its people, are also significant. Our IT assets, for example business-critical software, also provide critical support for the basic services listed above, the provision of which would be compromised if these assets were to fail. Any failure of these assets would cause significant disruption in services, and carry a financial, environmental, and/or social cost, therefore they warrant a higher level of management. Our portfolio of assets is significant and the current replacement value is approximately $17 billion (see Appendix 3).

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[1] The key components documents of the LTP and their inter-relationships are explained in Appendix 8. The process followed in developing the strategy is summarised in Appendix 9.
[2] There are 14 Asset Management Plans encompassing the range of Council assets. They set out what assets the organisation manages and maintains, the cost of doing so, and signals forthcoming capital/operational expenditure.
[3] For the purposes of this Strategy, the water-related infrastructure asset classes are divided into the following three categories: Water supply, Wastewater, and Surface water and waterways. This terminology is consistent with the Council's Te wai ora o tāne Integrated Water Strategy, adopted in late 2019.
[4] The Council has also identified its 'strategic assets' as part of its Significance and Engagement Policy, ccc.govt.nz/assets/Documents/The-Council/Plans-Strategies-Policies-Bylaws/Policies/Consultation/Significance-and-Engagement-Policy-November-2019.pdf

Introduction

Being ready for the unexpected

In our conversation with the community about the LTP 2031-31 we talked about finding the right game plan for the changing world we live in. This will set us up for the 30-year lifespan of the Infrastructure Strategy, so that we are resilient and ready to deal with disruptions, uncertainty, changing financial contexts. Our ability to adapt to the impacts of climate change will define our future city and communities.

Disruptions

As we have learnt in recent years, we need to be ready for the unexpected disruptions that can throw us off course and put new or changing demands on our infrastructure. Christchurch has been confronted by a number of acute shocks and chronic stresses over the past decade – foremost the 2010-11 Canterbury earthquakes and aftermath, Port Hills fires, flooding, the terror attacks, and loss of secure drinking water status. The COVID-19 pandemic has once again forced us to absorb an enormous shock, and deal with an unprecedented situation with widespread impacts on our economy and wellbeing.

This is the first infrastructure strategy since the earthquakes in which recovery and regeneration momentum are not the primary focus of our asset investment in the future. The earthquakes are still a legacy, but this Strategy's focus is on our resilience - anticipating disruption, managing uncertainty, and adapting to the impacts of climate change.

Uncertainties

Being mindful of risks underpins our decision-making about assets. At this time, however, we need to also consider uncertainty - we don't know the duration and breadth of the social and economic impacts of the COVID-19 pandemic. Based on recovery from earlier economic recessionary times, we can assume that over the medium to longer term, growth will resume at the rate predicted.

In addition to the uncertainty created by the pandemic, the Government's current programme of reforms to the management and delivery of water services to communities is likely to bring significant change to the way in which water-related infrastructure and delivery of services is currently delivered to the city. The full implications of the reforms are still unknown but we will have a better understanding within the next two years. The reforms are further discussed in the chapter on significant issues.

Financial constraints

The Council's strategy for budgeting for the LTP 2021-31 period has been heavily influenced by the need to reflect and respond to the impacts of COVID-19 and consequent financial constraints. We need to make savings, so have prioritised some programmes and projects and deferred others.

Although it is anticipated that we will be able to return to a more sustainable and resilient financial position by the middle of the decade (debt is forecast to peak in 2026 before reducing over time), the requisite financial constraints on spending in the first years of the LTP will clearly temper the pace at which we address some of our infrastructure issues. In particular it will increase the likelihood of reactive operational costs, where pre-emptive renewals and replacements work has not been able to be go ahead.

Delivering infrastructure within financial constraints is one of the six key issues identified in the Strategy. There is further discussion on the impacts and implications of these constraints in the significant issues section.

Resilience

To prepare for these disruptions and uncertainties, our systems, communities and infrastructure need to be display the key characteristics of resilience - reflective, resourceful, robust, redundant, flexible, inclusive and/or integrated.[5]

As part of preparing the Asset Management Plans and Activity Plans for the LTP 2021-31, we took a close look at how we manage risk by improving and embedding resilience into our infrastructure and services. We need to make sure that the materials we use in our infrastructure are robust and flexible and our public and community spaces and places are designed to be inclusive and integrated, and ensure our assets are fit-for-purpose and designed with an appropriate level of redundancy.

"Developing resilience in the 21st century" is the overarching goal of the Council's Strategic Framework. Increasing our resilience to disruptions is really important to us as a city. We need to strengthen our capacity and systems so that the people living and working here can survive, adapt and thrive, no matter what kinds of shocks and stresses are experienced.

In Christchurch, the sorts of acute or sudden shocks that we need to prepare to cope with include earthquakes, flooding, coastal erosion, storm surge, wind and tsunamis, along with widespread events like the pandemic.

Climate change, availability of affordable, quality housing and the ageing of our population are examples of chronic stresses that can weaken the fabric and functioning of the city day-to-day or in waves. Often it is a combination of shocks and stresses that challenge us individually, as communities, and the systems we have in place. The impacts of COVID-19 are an example of this – the health-focused response of the lockdown and closure of borders created an immediate shock but the ensuing economic and social impacts are ongoing and risk exacerbating existing vulnerabilities of some groups in our community.

Our current infrastructure and context

What our community says

Reliability and safety are fundamental expectations the community has of our infrastructure. Communities also expect their neighbourhoods to be liveable, safe and green and have places to relax, play, and engage with others. Our infrastructure needs to be able to meet these expectations, and at the same time recognise we are changing from a suburban to a more urban city. Our citizens know well how important resilient buildings, infrastructure, workplaces, communities, homes and households are to being able to live well and safely, and to respond to and recover from disruptions.

We hear our community's views on the infrastructure and services provided by the Council through regular phone and point-of-contact surveys. The surveys measure degrees of satisfaction with the Levels of Service we commit to in our LTP. The latest surveys were undertaken in early 2020. The results tell us that, in relation to infrastructure provision and related services, residents are most satisfied with rubbish collection, libraries, recreation, sports, community facilities; arts and events; and are least satisfied with the condition of our roads and footpaths, stormwater drainage, on-street parking facilities, and the quality of water supplies. Residents

[5] Resilience characteristics defined by the global Resilient Cities Network (of which we are a member)

are moderately satisfied with wastewater collection, treatment and disposal, and the reliability and responsiveness of water services.[6]

These surveys provide a means of engaging the community that informs and influences this Infrastructure Strategy. We will also hear our community's views on this Strategy, and take these into account, through the public consultation on the LTP.

How our infrastructure is performing

A summary of the current state of each infrastructure asset portfolio is in Appendix 2. The overall value of the Council's asset portfolio, broken down by infrastructure area, can be found at Appendix 3. There are some common threads that run through these asset summaries: the continuing legacy of damage caused by the Canterbury earthquakes; a decade of extraordinary, intense rebuild and repair of built and horizontal assets; the compounding impact on some assets' condition from reduced capital and operational expenditure, including the increase in reactive maintenance across key networks (in some cases, accounting for approximately 70% of the maintenance costs); and increasing community and government expectations for asset provision and performance. These issues and their implications are discussed further below.

We measure the performance of our infrastructure and services against targets or Levels of Service (LoS) for each activity type. Performance against the LoS are reported on regularly, and a summary is provided each year as part of the Council's Annual Report. The LoS reflect how we are going in meeting both our community's expectations and asset performance against agreed measures or compliance with national standards.

It is important that we understand and respond to those areas where we are failing to meet our LoS, especially for our critical assets that underpin the provision of core services, and where there is widespread citizens' dissatisfaction.

- The critical area of water supply recorded some failures to reach its LoS targets for the 2019-20 year.[7] Notably, with regard to infrastructure asset planning, the Council failed its target set for *Council water supply networks and operations demonstrate environmental stewardship*, due to a recorded 23% of real water loss from the water supply network. This percentage has steadily increased from 11.7% in 2016 (the target is set at no more than 15%). The proportion of residents' satisfaction with the quality of water (48%) continued to fail the set LoS (≥70%) but trended upwards on the previous year (37%), which is likely a reflection of the diminishing level of chlorine in the water supply network.
- The 2020 Annual Report indicates that the Council did not achieve its resident satisfaction targets for road and footpath condition. The average satisfaction level with the condition of our roads continued to be low at 26% (the LoS target is 39%), and satisfaction with footpaths sat at 40% (LoS target is ≥53%). Safety issues with the transport network are evidenced by the continued failure to meet LoS targets around reducing the number of crashes on the road network (including involving cyclists and pedestrians).
- The community's perceptions about the condition of playgrounds and public conveniences did not meet the targeted LoS (82% achieved, against a target of ≥ 90%). Satisfaction with the presentation of community parks has continued to decline in recent years (falling to 57% satisfaction, against a target of ≥ 75%), but there is increasing satisfaction with the range and quality of recreation facilities in parks,

[6] Christchurch City Council, *Summary of point of contact levels of service results 2019- 2020*; and *Summary of general service satisfaction survey levels of service results 2020*, https://christchurch.infocouncil.biz/Open/2020/05/CNCL_20200528_AGN_4756_AT.PDF
[7] 2020 Annual Report was adopted by the Council on 10 December 2020, ccc.govt.nz/assets/Documents/The-Council/Plans-Strategies-Policies-Bylaws/Plans/Annual-reports/2020-Annual-Report.pdf

albeit still falling below the targeted LoS (75% in 2020, against a target of ≥ 85%, but improving from 63% in 2017).

- Our failure to achieve the LoS for amount of recyclable materials collected for processing at the Materials Recovery Facility (91.07kg per person/year compared to LoS of 104kg per person/year which we have exceeded in recent years) illustrates the impact that a disruption such as the pandemic can have on household habits and consequently on Council activities: processing of recyclable materials had to cease during lockdown and since it recommenced there have been unacceptable levels of contamination in materials collected, and it is taking time for revert to earlier 'good' behaviours, and again reduce the amount of waste having to go to landfill.
- Resident satisfaction with community, sports and recreation facilities, art gallery and museum and libraries is high overall, and despite their hours of opening being reduced due to COVID-10 closures during lockdown, most were on track to achieve related LoS.

The earthquakes' legacy

The 2010-11 Canterbury earthquakes caused considerable damage to our public infrastructure, including roads, bridges, underground reticulation network, and community facilities. The cost of the earthquake rebuild has been estimated at an additional (to pre-event budgets) $10 billion expenditure for the Council,[8] including between $2 billion and $3.4 billion to repair infrastructure. Additionally, a further $4 billion earthquake-related capital expenditure is expected over the next 30 years.[9] (The total economic loss and cost of the earthquakes including the Crown, insurers and other parties is estimated at $40 billion.[10])

Much of the Council's horizontal infrastructure was repaired by the SCIRT alliance (Stronger Christchurch Infrastructure Rebuild Team[11]). Its $2.22 billion, five-and-a-half year programme involved more than 740 individual projects across the city, repairing and rebuilding underground water and wastewater pipes, surface water and waterways, wastewater pump stations, and roads, bridges and retaining walls. Not all damage to the Council's horizontal infrastructure was surveyed nor repaired by SCIRT and remaining earthquake repairs now form part of the Council's renewal programme.

As part of the massive recovery programme of repairs and rebuilding, the Council has invested heavily in increasing the resilience of its assets and reducing the risk of future damage from natural disaster events.

- New buildings are constructed to the higher building code (e.g. Tūranga public library's design features have won national and international accolades for their resilience).
- Existing buildings have been strengthened when repaired (e.g. the Christchurch Art Gallery).
- Modern, flexible materials have replaced older brittle materials in underground pipe networks.
- Alternative technologies have been used in underground networks (e.g. new vacuum and pressure sewer system technology for wastewater has replaced the old gravity network in some areas).
- Ground and structural improvements made during repairs to the wastewater treatment plant mean it will have the strength and flexibility to perform better in future events.

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[8] Deloitte, *Cost of the earthquake to the Council*, December 2017, https://ccc.govt.nz/assets/Documents/The-Council/Plans-Strategies-Policies-Bylaws/Strategies/Global-Settlement/Cost-of-the-earthquakes-Deloitte-Report-Final.pdf
[9] Crown and Christchurch City Council, *Global Settlement Agreement*, 23 September 2019, https://ccc.govt.nz/assets/Documents/The-Council/Plans-Strategies-Policies-Bylaws/Strategies/Global-Settlement/CCC-Release-Global-Settlement-Agreement-23-Septmeber-2019.pdf
[10] The Treasury's advice, reported variously following the earthquakes
[11] A significant programme of assessment and rebuilding followed the Canterbury earthquakes, carried out by the SCIRT alliance. Alliance members included the Council, Christchurch Earthquake Recovery Authority, NZ Transport Agency, McConnell Dowell, Downer, Fletcher Construction, City Care, and Fulton Hogan.

- Pipes joining structures have been designed to withstand differential settlement following land movement or liquefaction, and well heads have been raised above ground.
- There has been greater investment in transport infrastructure that provides for more resilient modes, such as cycleways.

Assessing condition

We use a range of tools to understand the condition of other assets, including the Asset Assessment Intervention Framework (AAIF) for understanding the condition of our underground pipes and the RAM data base to capture data (including about condition), of transportation assets. The most broadly applicable tool is the AAIF: it assists us to better understand asset condition and the risks of failure, which in turn helps determine priority of renewals and replacements' programmes.

Asset Assessment Intervention Framework

For some assets (such as water supply and wastewater), we now have much more accurate condition data than ever before, but in other areas (such as facilities) we still lack the robust information to inform budgets for maintenance and renewals. The AAIF has improved our understanding of the condition and performance of our water supply, wastewater and stormwater pipes. The AAIF uses condition and criticality information to inform the programming of asset renewals within available budgets, and helps us understand and reduce risks of asset failure. It takes into account expected theoretical useful life, actual condition, repair history, rate of deterioration, the risk/impact of failure, and amount of maintenance required to keep the keep the pipe operational – thus helping establish an appropriate renewal year. The AAIF data increases our asset management capability considerably and given that reticulation assets represent approximately 75% of the total water asset portfolio.

Looking ahead, the AAIF could be used as a renewal planning tool for other Council assets, such as water supply pump stations and other asset portfolios. If applied across different asset portfolios it would enable consistent evaluation of high priority projects across assets, which could optimise programme spending. Continued investment in CCTV (closed circuit television) inspections of the wastewater and stormwater network is required to ensure the accuracy of the data collected.

Strategic context

Working in partnership

The Council is committed to working in partnership with Ngāi Tahu. Since 2015, the Te Hononga Council – Papatipu Rūnanga Committee provides a formal relationship (a 'governing partnership') between the Council and the six Ngā Papatipu Rūnanga who have takiwā over areas within our district. The standing committee provides a strategic framework to lead the development of an enduring collaborative relationship between elected members of the parties involved.

The mana whenua values of Ngāi Tahu and the Papatipu Rūnanga are an important aspect of our planning for future infrastructure and carry statutory responsibilities, under the LGA and the Resource Management Act 1991, in particular. The Council and Ngā Rūnanga have a common goal of supporting the environmental, social, cultural and economic wellbeing of the district for the benefit of the community. The values and policies of the

Mahaanui Iwi Management Plan[12] and other Rūnanga guidance and views will continue to need to be recognised as significant in our infrastructure planning.

In November 2019, Ngāi Tahu released Ngāi Tahu Rangatiratanga (full authority) over Freshwater Strategy,[13] setting out the aspirations for the tribe's full authority of water across the Ngāi Tahu takiwā. Ngāi Tahu is opposed to Taumata Arowai (the Government water authority and Water Services Bill). If a wider water service provider is established as a result of the water reforms, Ngāi Tahu would prefer one entity to cover the tribal takiwā, with the expectation that Ngāi Tahu would have the opportunity to co-govern at that level, as a reflection of the Treaty partnership.

The Council works closely with our strategic partners in the Greater Christchurch Partnership. The Greater Christchurch 2050 strategic direction being developed by the Partnership is likely to influence our infrastructure planning. We talk about this further below.

At the outset of the Strategy's development we asked some of our strategic partners/stakeholders[14] for their views about local infrastructure issues. These covered a range of issues and emphasised the need to adapt to climate change and manage growth sustainably. Their views are summarised in Appendix 10.

Strategic alignment

The early analysis that fed into development of the Infrastructure Strategy built in the Council's Strategic Priorities and Community Outcomes, which are set out in the Council's overall Strategic Framework. A range of activity or outcome-focused plans and strategies link the high-level Community Outcomes and Strategic Priorities with the Council's work programmes.

Additionally, the Council endorses strategies or plans developed at a regional level. Some of these provide strong direction for Council infrastructure investment. A list of strategies and plans that are relevant to the Infrastructure Strategy is in Appendix 6. National direction for infrastructure planning and provision also heavily influences our strategic infrastructure planning, in what is a rapidly changing regulatory environment. This is discussed further on in this Strategy, in the significant infrastructure issues section, and in Appendix 7.

Previous infrastructure strategies

The Infrastructure Strategies in the two previous LTPs largely focused on addressing issues brought about by the earthquakes, along with asset renewals, climate change and affordability.

The Infrastructure Strategy for the LTP 2015-2025 was the first to be written under the newly-introduced legislative requirement to prepare an infrastructure strategy. Priorities focused on repair or replacement of earthquake-damaged assets, renewal of assets as they reached the end of their useful lives, and ensuring replaced and repaired infrastructure was more resilient.

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[12] Ngāi Tūāhuriri Rūnanga Te Hapū o Ngāti Wheke (Rāpaki) Te Rūnanga o Koukourārata Ōnuku Rūnanga Wairewa Rūnanga Te Taumutu Rūnanga, *Iwi Management Plan, 2013, https://www.mkt.co.nz/wp-content/uploads/2019/08/Full-Plan.pdf*

[13] Te Rūnanga o Ngāi Tahu, *Ngāi Tahu Rangatiratanga over Freshwater*, November 2019, https://ngaitahu.iwi.nz/wp-content/uploads/2019/11/Wai-Maori-Strategy-web.pdf

[14] Problem identification workshops at the outset of the Infrastructure Strategy's development included external attendees from Canterbury District Health Board, ChristchurchNZ, Citycare, Environment Canterbury, Fulton Hogan, Lyttelton Port Company, Ministry of Education, Waka Kotahi: New Zealand Transport Agency, Orion, Selwyn District Council, Waimakariri District Council, and some individual infrastructure sector experts (apology from Ngāi Tahu invitee); they were joined by a range of Christchurch City Council infrastructure managers and asset experts.

The Infrastructure Strategy for the LTP 2018-28 also focused on post-earthquake recovery and renewing ageing assets. Other priorities included climate change leadership, providing greater resilience in infrastructure assets, managing and building resilience to the impacts natural hazards, and continuing to support regeneration planning and central city regeneration.

Looking ahead

Christchurch is the largest city in the South Island and the second largest in New Zealand. The district includes the metropolitan area of Christchurch city, Banks Peninsula and surrounding rural areas. In 2019 our population was 385,500 people, and it is expected to grow to 490,000 in the next 30 years.[15] Selwyn and Waimakariri Districts have a combined population of 128,400 (2019), and this is projected to grow to 210,000 over the next 30 years. Around 40% of workers who live in Selwyn and Waimakariri travel to Christchurch city for work.

The Avon Ōtākaro and Heathcote Ōpāwaho Rivers wend their way through the city, meaning that much of the city is built on low-lying land and some areas are vulnerable to flooding and/or coastal hazards. The same is true for some of the urban settlements on Banks Peninsula. In coastal and low-lying inland areas these risks are expected to be exacerbated by the effects of climate change, particularly sea level rise.

Our future will be influenced by global social, demographic, and economic trends, climate change and other environmental shifts, and regulatory changes. This section of the Strategy indicates the changing context in which our infrastructure planning must take place, and assumptions (see Appendices 4 and 5) about our likely trajectory.

2050 plan for Greater Christchurch

The Greater Christchurch Partnership[16] has recently been focused on setting a 30-year strategic direction for our urban areas (Christchurch City, Waimakariri and Selwyn districts) – Greater Christchurch 2050. This direction will give us a clear, shared view of our future, and a plan for how we get there that supports the health and wellbeing of people living here, and the environment we live in.

During October and November 2020, the Partnership asked people about their priorities and concerns for Greater Christchurch in 2050. What mattered most to people included:

- having accessible and affordable public transport, walking and cycling, so it's easy to get around
- being able to live, work and invest in a sustainable, green, safe and affordable place
- protecting and respecting nature.

People's concerns for the future included:

- not enough being done to offset the impacts of climate change
- pollution and waste management issues
- worsening traffic congestion
- threats to our natural ecosystems and indigenous biodiversity

[15] Updated Statistics New Zealand figures are expected to be released later in 2021, which will inform updated population projections
[16] Comprises Christchurch city, Waimakariri and Selwyn districts, along with along with Environment Canterbury, Te Rūnanga o Ngāi Tahu, Canterbury District Health Board, Waka Kotahi (New Zealand Transport Agency) and the Department of Prime Minister and Cabinet (Greater Christchurch Group)

- lack of affordable and quality housing options.

Our infrastructure planning needs to take these perspectives into account and we need to make sure we make the necessary investments to support our desired future.

Climate change and natural hazards

The Ministry for the Environment and Stats NZ Environment Aotearoa 2019 report states all aspects of life in New Zealand will be impacted by climate change.[17] This Infrastructure Strategy assumes that climate change impacts will occur in accordance with the Intergovernmental Panel on Climate Change's greenhouse gas representative concentration pathway (RCP) 8.5 scenario.[18] Our response to climate change encompasses adaptation (responding to the impacts on communities and infrastructure), and mitigation (slowing the rate of climate change through measure to reduce emissions).

Different areas of Christchurch and Banks Peninsula will be affected by different hazards that are exacerbated as a result of climate change. Christchurch is recognised as the most exposed large urban area in New Zealand to sea level rise. Across the Canterbury region, according to current projections, a substantial number of settlements and urban communities are at risk in low-lying areas, as well as key infrastructure.[19]

The Council has committed to ambitious targets to reduce the greenhouse gas emissions of the organisation and the city as a whole. This Strategy signals a need for action to identify priorities for emissions reduction, and especially how we can reduce the emissions generated by the construction and operation of our infrastructure assets. These issues are further detailed in the significant issues section of this Strategy.

GNS Science assumes that the Alpine Fault has a greater than 30% chance of a magnitude 8.0 earthquake in the next 50 years.[20] The effects on infrastructure across the South Island would likely be significant, albeit the rebuilding of resilient infrastructure in post-earthquake Christchurch means that we are better placed to recover more quickly and could provide leadership in a wider response.

Global influences

This century has continued to shape Christchurch into a more globally connected city that shares technological, economic, social and cultural opportunities (as well as challenges) with the rest of the world. This affects the way we build and interact with public infrastructure. For example, new global standards and preferences for greener building practices and urban living can reduce waste and impacts on our stormwater and surface water. Emerging transportation alternatives from overseas, such as e-scooters, have begun to affect the way people travel around the city. Our city is dependent on global trade: this dependency carries with it both positive and negative risk. When the Chinese government stopped accepting the world's recyclable

[17] Ministry for the Environment, *Environment Aotearoa 2019*, https://www.mfe.govt.nz/environment-aotearoa-2019
[18] This methodology is accepted by the Council as a key assumption for the Infrastructure Strategy, https://www.mfe.govt.nz/publications/climate-change/arotakenga-huringa-%C4%81huarangi-framework-national-climate-change-risk
[19] Tonkin+Taylor, *Interim Canterbury Climate Change Risk Screening report*, April 2020, https://www.canterburymayors.org.nz/wp-content/uploads/Attachment-1-Canterbury-climate-change-risk-screening-interim-report.pdf
[20] GNS Science, Alpine Fault, https://www.gns.cri.nz/Home/Learning/Science-Topics/Earthquakes/Major-Faults-in-New-Zealand/Alpine-Fault

plastics, Christchurch was indirectly affected as the value of recovered material dropped significantly across the global recycling market.

Internet and mobile connectivity has been changing the way many businesses operate for several years, and with the COVID-19 pandemic, technology became absolutely essential for working and accessing goods and services. The digital age has meant that people have come to expect the instant access to information and services across a range of sectors, including when interacting with Council infrastructure and services.

Social and demographic influences

Christchurch's median age is slightly older than the national average, although this is expected to change significantly in coming decades. The number of residents in Christchurch aged over 65 will nearly double by 2048, with half our projected population growth expected to be in the 75 years and over age group. Over 80% of demand for housing is projected to be in one and two person households and 58,000 people are expected to be living alone in the city around 2050. These changes are likely to see demand shifts for types and locations of housing. Smaller homes will result in changing demands for infrastructure, for example, water infrastructure.

Our city is also becoming more diverse, with the number of residents born overseas increasing. This means that preferences for housing, community facilities and other services are likely to be different from that of today, and reflect the diversity of lifestyle and cultural preferences that enrich our communities.

Impact of growth on infrastructure

Our infrastructure needs for our current levels of growth are well planned for. Our growth scenario for Greater Christchurch is set out in Our Space 2018-2048. This directs 65% of housing demand be met in Christchurch city, with the remaining 20% in Selwyn and 15% in Waimakariri.[21] Christchurch's housing demand will be met through a balance of greenfield development and redevelopment of existing urban areas, with an increasing reliance on higher densities being achieved around centres and along public transport corridors.[22] Urban growth, form and design are stated as core strategic objectives in our District Plan, recognising the need to provide a well-integrated pattern of development and infrastructure, a consolidated urban form (intensification), and a high quality urban environment to support growth.

The Council is developing the Ōtautahi Christchurch Spatial Plan, which (along with other Council plans, such as Project 8011) will identify areas where intensification (additional redevelopment of housing and businesses, and population growth) can occur and is desirable, to meet medium and high growth scenarios. This is key to ensuring our infrastructure is integrated to support growth. Changes in national direction also set the direction for infrastructure provision. The National Policy Statement on Urban Development (NPS-UD) requires us to enable maximum development capacity within a walkable catchment from the city centre, and six-storey development within a walkable catchment from any metropolitan centre and any mass transit stop. At this stage it is not known whether additional infrastructure will be required to support additional capacity, and we will therefore need to be flexible and adaptable in response to land use changes.

[21] Greater Christchurch Partnership, *Our Space 2018-2048: Greater Christchurch Settlement Pattern Update*, July 2019, https://greaterchristchurch.org.nz/assets/Documents/greaterchristchurch/Our-Space-final/Our-Space-2018-2048-WEB.pdf
[22] Greater Christchurch Partnership, *Greater Christchurch Housing Capacity Assessment: Reports 1: An Overview of Housing Demand*, February 2018, https://greaterchristchurch.org.nz/assets/Documents/greaterchristchurch/Our-Space-consultation/Greater-Christchurch-Housing-Capacity-Assessment-reports-1-4.pdf

Economic challenges

Christchurch serves an important economic role for the country, accounting for about 9% of national Gross Domestic Product (GDP) and acting as the tourism and export hub for the South Island. Over time the city's economy has evolved from being a market town, supporting and processing primary goods, to a more mature urban economy with specialised industries. Population growth from migration has been a key contributor to GDP in recent years.

The COVID-19 pandemic has put significant pressures on some parts of the Christchurch economy, especially those areas focused on tourism (including hospitality, retail and accommodation sectors) and small and medium-sized enterprises. However, the city's strong regional and international connections and export trade through the Lyttelton port and international airport, crown research institutes, manufacturing base and essential service businesses (including primary industries) are helping it withstand the impacts and the city continues to perform relatively well.

The Ōtautahi Christchurch Recovery Plan,[23] led by the Council in partnership with mana whenua and iwi, is driving socio-economic recovery actions with central government and a range of local agencies and community organisations – focussing on both social and economic recovery. Stimulating productive infrastructure that creates jobs, such as fast-tracking 'shovel ready' projects that have gained Government support, is one of nine workstreams identified in the Plan that will impact on longer term infrastructure provision in the city.

[23] Christchurch City Council, *Ōtautahi Christchurch Recovery Plan*, December 2020, https://resilientcitiesnetwork.org/ is

Our significant infrastructure issues

The Infrastructure Strategy must answer the following question: What are the significant infrastructure issues across all Council assets over the next 30 years?[24]

Significance is defined in the Local Government Act 2002. The significant issues in this Infrastructure Strategy are essentially those that rank highly in terms of cost, impact on Levels of Service, risk, correlation to the Council's Strategic Priorities, and community interest. They are:

1. Looking after our assets
2. Responding to community needs and expectations, as we grow
3. Adapting to climate change
4. Reducing greenhouse gas emissions
5. Responding to changing regulatory and commercial environments
6. Delivering within financial constraints.

These issues are not new and most were reflected in the Council's two previous infrastructure strategies in some way. Our city's programme of recovery and regeneration also provides context for these infrastructure issues. However, given the progress made in recent years, legacy issues from the earthquakes now form part of the context for the significant issues, rather than being a stand-alone issue.

1. Looking after our assets

Each one of our assets has a finite lifespan and comes with a lifetime of operational costs set at a specified standard of maintenance. Some of our assets are old and in very poor condition. Continuing to defer both renewals and maintenance to manage budget pressures means that the condition of our assets is deteriorating and it will be increasingly harder to meet levels of service and there will be a greater risk of failure.

In 2015, the Treasury identified the need for renewal of ageing infrastructure as a serious nationwide issue.[25] The Treasury also acknowledged that one of the biggest challenges facing the sector is trying to understand what the true costs are and when they will be incurred. Deferred renewals for ageing assets was identified as an issue in both our 2015 and 2018 infrastructure strategies. We now have an increasing proportion of deferred renewals.

The continued deferral of renewals has created a bow wave of capital expenditure and increases the risk of failure of poor condition and/or earthquake-prone infrastructure. Deferring renewals also increases operational expenditure as poor condition assets generally require more maintenance to keep them functioning at an acceptable standard until they are renewed. For example, multiple repairs on a poor condition water pipe incur the cost of digging up the pipe to repair it and pose other costs where levels of service, such as interruptions to water supply, are not met. It also increases the risk of contaminating the water

[24] SOLGM (2009) *Dollars and Sense* p.25.
[25] The Treasury (2015) *Thirty Year New Zealand Infrastructure Plan 2015* p.16.
https://treasury.govt.nz/publications/infrastructure-plan/thirty-year-new-zealand-infrastructure-plan-2015

supply. Similarly, the increased patching of potholes on degrading, ageing road surfaces is increasing operational costs and impacting on community satisfaction.

These issues are exacerbated as the size of our asset base increases, both through planned construction and vesting of assets by developers and central government. In the case of recreational, sports and library facilities and transport assets, operational and maintenance budgets have not kept up with the programme of new and replaced buildings that has occurred in the last decade following the earthquakes. In some places there is an imbalance between the number, size and standard of community facilities, and usage by the local community. Roads built either as part of greenfield developments, or as former state highways that have devolved to council control, also bring increased operating costs. We also have a legacy backlog of earthquake-related repairs to roads and footpaths that continues to attract public dissatisfaction. An increasing asset base will also create future capital expenditure liability for renewals.

Insufficient whole-of-life costing is another contributor to budget pressures. We do not always ensure that operational costs are fully integrated in funding discussions from the inception of projects and carefully managed over the lifetime of assets. When capital assets are constructed or inherited, operational expenditure is not always obvious or budgeted for. Savings in capital expenditure at design-and-build phase of new infrastructure sometimes come at the expense of whole-of-life operational efficiencies and sustainability of maintaining the assets.

Deferred renewals and maintenance, our increasing asset base, and insufficient whole of life costing are key contributors to this issue. A number of other factors add to the pressure on our expenditure requirements:

- Community expectations regarding a high standard and ready availability of infrastructure (see issue 2).
- Increased exposure to climate change stresses and events, particularly as Christchurch is a low-lying coastal city and at risk of sea level rise impacts through rising ground water, coastal erosion, and coastal inundation (see issue 3).
- New regulatory requirements for certain assets (see issue 5 for a discussion of new requirements for three waters).
- Increasingly, IT assets are cloud-based service contracts, rather than purchased products. The relatively short lifespan (around 5 years) of these cloud-based products means they require regular upgrading/renewal to remain fit for purpose. This makes them particularly vulnerable to decreases in operational funding.
- The difficulty in divesting assets that are no longer required (for example no longer economically viable), but which are interdependent with other assets (for example, roads and water/utility infrastructure).
- The difficulty in coordinating maintenance when interdependent assets are managed and funded in separate parts of the organisation.

2. Responding to community needs and expectations, as we grow

> We need to accommodate a growing population and respond to their changing needs and way of life. At the same time, we need to find the balance between managing citizens' demands and high expectations for our services while retaining an affordable level of investment in infrastructure, so that we deliver broad wellbeing benefits to our citizens and businesses.

Our population is growing, and the needs and expectations of our communities are changing. We need to provide for this growth and meet demand sustainably.[26] Infrastructure has an important role to play in shaping our neighbourhoods and ensuring growth demand is met. We need to plan for an expected population increase, an ageing and increasingly diverse community, and expanded suburban areas; encourage residential intensification; make public and active transport networks safer, viable and attractive; and reduce growth-associated risks such as contaminants reducing the quality of waterways.

In recent years, there has been particular community dissatisfaction with the condition of our roads and footpaths. Current and historical land use and transport investment decisions encourage high levels of car usage, making sustainable modes less attractive. We need to balance the need to maintain our roads and footpaths to a condition that meets community expectations and addresses safety issues, with investing in public and active transport that will help us to provide for growth sustainably and in a way that helps us to meet our greenhouse gas emissions targets for the city.

Although as part of the rebuild we have been able to improve the amenity of some central city streets, most of our streets are currently designed for cars rather than people, making our city a less attractive place to live in, work and visit. In the last decade we have not achieved a comprehensive approach to street renewal that supports more effective use of street space, particularly in areas identified for medium and high residential development. As we seek to increase residential densities, it is increasingly important we transform our places and neighbourhoods to be resilient to environmental stresses and events, functional, and sustainable.

Another challenge we face in the next 30 years, in light of population growth, is managing the demand for water. At present, the large seasonal variability in demand for water supply means that during winter the capacity of infrastructure is more than sufficient and during particularly warm, dry periods in the summer it cannot keep up with demand, leading to water restrictions. Our infrastructure is generally sized to deliver peak demands, and the Council will thus need to consider ways to manage these demands on our infrastructure, such as volumetric charging and summer water conservation campaigns.

On Banks Peninsula, the Koukourārata and Ōnuku Rūnanga (in particular) have identified a lack of water infrastructure to support papakāinga/kāinga nohoanga development. We have committed to advance outstanding works to escalate repairs to Akaroa wastewater ($2.8 million) and Duvauchelle wastewater ($1.8 million) to reduce infiltration and overflows to the environment. We have also committed approximately $66 million for a new wastewater scheme for Akaroa, where reclaimed water will be irrigated to new areas of native trees. In Duvauchelle, we are also exploring options to remove the discharge of treated wastewater from the

[26] Predicting future growth rates is difficult due to a lack of certainty. Historically, projections are often not realised, and this impacts on our planned infrastructure response to meeting demand for housing and business capacity. This Strategy will therefore need to be adaptable to changing growth projections.

harbour and have budgeted $12 million for a land-based scheme. We have also committed to further work with the Rūnanga to find infrastructure solutions to support papakāinga/kāinga nohoanga development.

We are finding both increasing number and range of demands for our parks and sports facilities. They are greatly valued by the community but there are high expectations for their standards and level of amenity. At the same time, the community's expectations and preferences regarding the way they use parks are changing. For example, the growth in popularity of sports such as mountain biking, the emergence of new sports, and an increasing environmental awareness are some of the factors driving these changing expectations. Maintaining fit-for-purpose facilities and spaces will require us to respond to these changing demands and adapt where possible.

The way in which we grow is becoming increasingly important. The continuation of current settlement and travel patterns will result in increased travel costs, congestion, reduced accessibility to economic and social opportunities, and increased carbon emissions from transport if communities remain reliant on cars as a primary means of transport. Furthermore, ongoing greenfield development will negatively impact the environment and further deteriorate stormwater quality. Deteriorating stormwater quality and in-stream health is caused by a contaminant load that increases in proportion to development. For example, additional impermeable surfaces increase stormwater flows and channel runoff, which often contains heavy metals, into drains and rivers. Even without added greenfield development, the Council is struggling to meet national standards for stormwater quality (see issue 5).

Our plan is to grow up more, and out less. However, intensification can lead to poor wellbeing outcomes for communities where it is poorly planned and/or the infrastructure is insufficient to support it. We need to provide infrastructure to service growth in a way that promotes high quality urban environments, in order to achieve high liveability and amenity, improve environmental conditions and protect our highly versatile soils for future generations, and reduce the need to travel as people live in greater proximity to the opportunities they seek.

3. Adapting to climate change

> Climate change is putting our communities and infrastructure at risk. We need to develop an approach to adaptation that will shape the future of affected communities and guide investment in and provision of infrastructure.

Climate change is the biggest challenge of our time. It is already affecting our weather, people's health and wellbeing, our natural environment, taonga species, mahinga kai, food production, health, biosecurity, infrastructure, and the economy. It was an emerging issue in our 2015-45 Infrastructure Strategy and had become a significant issue by the time of our 2018-48 Infrastructure Strategy. The scientific evidence that our planet is in crisis is irrefutable and the criticality of this issue for all of New Zealand is clearly outlined in a number of core central government strategic documents.[27] Our Climate Change Survey in 2019 indicated 77% of people surveyed thought that climate change was an extremely important issue. For these reasons, the Council declared a climate and ecological emergency in 2019 and agreed to prioritise 'meeting the challenge of climate change through every means available'.

Climate change threatens critical infrastructure including buildings, roads, and pipes, as well as having major impacts on people and communities. Our immediate major issues are:

- Flooding of coastal and low-lying areas in the east and parts of Banks Peninsula, as well as rising ground water levels. This affects low-lying inland communities as well as coastal communities.
- High temperatures and drought for our living assets
- Increasing demand for water with increasing temperatures
- Landslides and fire in the Port Hills and Banks Peninsula.

From current climate change impact assessments, we can assume the following scenarios will affect our infrastructure this century.

- Sea level rise of 0.3 m by 2050, and 1.0 m by 2115.[28] At the 1.0 m increment the Canterbury region has exposed water infrastructure valued at more than $630 million. This includes 650 km of water pipes and over 120 pump stations.[29]
- Average temperatures will rise from 0.5°C to 1.5°C by 2040, and by 3.0°C in 2090 (relative to 1986-2005 mean baseline).
- Rising groundwater in coastal and low-lying areas and saltwater incursion may accelerate degradation of some types of pipes. Modelling of coastal flooding that includes a one in 100 year storm surge suggests that by 2065, around 300 km of roads could be flooded, and by 2120, the same storm would flood more than 400 km of road.[30]

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[27] *Op cit.* see footnotes 17-21
[28] NIWA Report 2019339WN, *Climate Change Projections for the Canterbury Region*, February 2020, Macara, G, Wolley, J-M, Pearse, P,Wadhwa, S, Zammit, C, Sood, A, Stevens, S
[29] LGNZ, *Vulnerable: The quantum of local government infrastructure exposed to sea level rise*, 2019, https://www.lgnz.co.nz/our-work/publications/vulnerable-the-quantum-of-local-government-infrastructure-exposed-to-sea-level-rise/
[30] Tonkin + Taylor, *Coastal Hazard Assessment for Christchurch and Banks Peninsula*, 2017, https://www.ccc.govt.nz/assets/Documents/Environment/Land/Costal-Hazards/2017-Coastal-Hazards-Report.pdf; and NIWA, *Coastal Flooding Exposure under future sea-level rise for New Zealand*, March 2019, https://www.deepsouthchallenge.co.nz/sites/default/files/2019-08/2019119WN_DEPSI18301_Coast_Flood_Exp_under_Fut_Sealevel_rise_FINAL%20%281%29_0.pdf

- Akaroa's potable water is supplied by surface water. With increasing frequency and intensity of drought, and increasing numbers of very hot days, when demand tends to increase significantly, ensuring water supply will become a more serious issue.
- Many species of plants in our parks and streets will become stressed by drought, rising temperatures, and rising groundwater, and there will also be increased fire risk.

Infrastructure has a role to play in managing the increasing risk posed by climate change to people and property. Major capital expenditure could be required to support infrastructure upgrades and/or relocations as part of the adaptation process. We are underway with work to identify and respond to climate change issues at the local and citywide level, and must work with the community closely on this. There are two key components to this programme: identifying exposure of assets to natural hazards resulting from climate change, and the consequence of this exposure; and determining how best to adapt to climate change.

We are partway through a first pass climate change risk screening that covers the built and natural domains. Our first challenge is to complete this work, and identify gaps where we need more work to understand our exposure. A new coastal hazards assessment is likely to be completed by mid-2021. This will be released alongside a decision-making framework for working with communities to identify adaptation pathways, and the funding of these over time, and will initiate a city-wide conversation about the expected impacts of coastal hazards.

We are facing a particular challenge in the lack of a clear direction for making asset renewals decisions to take into account adaptation to the impacts of climate change. Examples of critical decisions that are required include:

- How to direct spending for major renewals of assets designed to last 100 or more years in areas that will become highly susceptible to coastal hazards well before their end of life.
- How to balance the costs of renewing infrastructure in areas significantly affected by hazards against community expectations of maintained levels of service – and in extreme cases, how to withdraw services where these become unsustainable.
- How to manage just transition issues where levels of service are reduced or infrastructure is withdrawn.
- How to manage sea level rise and increased storm surge risk on our legacy assets, in particular, 15 of the 46 closed landfills that the Council owns are in coastal areas and may need ongoing management to mitigate pollution risk and potential environmental damage.
- Whether to use seawalls and other hard protection, or whether to use other adaptive methods such as natural defences that are more ecologically sensitive.

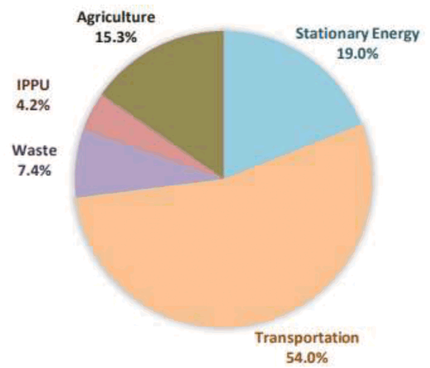
An interim approach to managing asset replacement and renewals is urgently needed to guide decisions and investment, in order to achieve consistency based on the same principles. This work needs to be completed by the Council in good time to inform the 2024-34 LTP. It will inform, and in turn be informed by, the collaborative adaptation planning processes being undertaken as part of the Coastal Hazards Adaptation Planning programme.

Adaptation planning with specific communities that will be affected by the impacts of sea level rise is set to begin in 2021, and will be carried out in tranches over a number of years across the 23 communities that have been identified as having higher levels of exposure. We need to work with communities to understand the impacts and the values the communities place on their assets, and co-create area-specific adaptation pathways.

4. Reducing greenhouse gas emissions

Our infrastructure directly and indirectly generates greenhouse gas emissions. We now need to develop a comprehensive plan to achieve the required emissions' reductions and manage our infrastructure accordingly.

Climate change is causing the atmosphere to heat, resulting in a long-term rise in our planet's temperature caused by increased concentrations of greenhouse gases in the atmosphere, mainly from human activities such as burning fossil fuels, deforestation and farming. The graph below summarises Christchurch's gross greenhouse gas emissions, by sector, for the financial year 2018/19. In the 2018/19 financial year, we emitted an estimated 2,723,016 gross tonnes of carbon dioxide equivalent (tCO_2-e) – a gross increase of 2.2% from 2016/17. That equates to 7.1 tCO_2-e per person. The largest contributor to our city's emissions is transportation, accounting for 54% of Christchurch's greenhouse gas emissions, with on-road transportation producing 36% of total gross emissions. Greenhouse gas emissions related to stationary energy made up the second largest emissions sector of the district (19%).[31]



Christchurch District's gross GHG emissions, by sector, for the financial year 2018/19

We have set a number of ambitious targets to reduce organisation and district-wide emissions. In 2019 the Council adopted the following targets for Christchurch:

- Net zero greenhouse gas emissions by 2045 (excluding methane), 5 years ahead of the national target
- 50% reduction from 2016-17 baseline levels by 2030 (excluding methane)
- For methane, at least a 25% reduction by 2030 and 50% reduction by 2045 (from baseline year 2016-17)

The Council has also set a target of being net carbon neutral for its own operations by 2030. We are developing a Climate Change Strategy to replace our Climate Smart Strategy 2010. At the same time as the formal consultation on the proposals in the draft LTP, we are asking the community for their views on the proposed strategic direction, goals and climate action programmes. The draft strategy directs us towards four goals:

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[31] AECOM, *Christchurch Greenhouse Gas Emissions Inventories for Financial Years 2018/19 and 2016/17,* October 2020, https://ccc.govt.nz/assets/Documents/Environment/Climate-Change/AECOM-Christchurch-GHG-Emission-Inventories-for-Financial-Years-201819-and-201617.pdf

- Net zero emissions Christchurch
- We understand and are preparing for ongoing impacts of climate change
- We have a just transition to an innovative low-emission economy
- We are guardians of our natural environment and taonga.

We need to develop a comprehensive plan to achieve the required reductions and manage our infrastructure accordingly. In the immediate term, the focus on infrastructure to respond to the recession caused by the COVID-19 pandemic has triggered fears that emissions could be exacerbated. The Climate Change Commission, established in 2019 to guide the Government to carbon neutrality, has expressed concern that the wrong investments will make people and costly infrastructure more exposed to damage from climate change. The Commission urged a climate change lens be applied to the economic response to the pandemic, cautioning against long-term investments that lock New Zealand into a high-emissions development pathway, and encouraging climate-friendly projects that support a low-emissions and climate-resilient economy.[32]

We need to grapple with and resolve similar tensions in terms of the programme of works put forward in the 2021-2024 planning period. We also need to ensure we make the most of opportunities already available within our asset classes to reduce our emissions. For example, opportunities exist with the creation of wetland facilities and forest cover of eroding hill land for stormwater works to absorb carbon and improve biodiversity (and at the same time assist with recreational and landscape amenity). Diverting more organic waste from landfills can reduce the amount of emissions and leachate from landfills. Moreover, some landfills use the gas to generate energy. For example, landfill gas from the closed Burwood Landfill in Christchurch is used to heat the QEII swimming pool and sports complex (though this is a short-term measure only and is due to run out in the near future).

The focus on mode shift from single occupancy, fossil-fuelled vehicles to active and public transport also offers an opportunity to reduce emissions. Research suggests however, that this will not be sufficient. To reduce transport emissions, a full range of tools needs to be considered. These could include congestion pricing, parking policies, travel demand management and other behavioural change strategies, measures to support the transition to more environmentally-friendly electric vehicles, and a sustainable urban form.

In terms of meeting our organisation’s emissions’ reduction target, we face decisions about how to manage wastewater treatment, as our wastewater treatment plant accounts for nearly 50% (FY2019/20) of our organisational emissions (although only an estimated 0.4% of Christchurch’s overall greenhouse gas emissions). We may be able to reduce the plant’s carbon footprint through changes in its operation and construction of new assets. However any such option is likely to be extremely expensive, and we will need to consider whether this money could potentially be better spent in other ways, to reduce more emissions overall.

Finally, our infrastructure is also responsible for large amounts of embedded carbon or emissions (carbon produced in the production of an asset such as concrete, or carbon embedded in an asset such as timber framed buildings), as well as for emissions produced by the energy that our infrastructure uses. At present, there is no clear plan to reduce these emissions in the future, although whole-of-life carbon emissions are considered at the options stage of some large projects. We need to develop a plan, in time to inform the 2024-34 LTP, for how we are going to reduce emissions so that we work towards meeting our emissions reduction targets.

[32] New Zealand Climate Change Commission, *Letter to the Government*, April 2020, https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/Climate-Commission-advice-re-stimulus.pdf

5. Responding to changing regulatory and commercial environments

> Changing regulatory requirements impose new and higher standards on our infrastructure and fluctuating commercial environments remove or alter market opportunities. Higher standards benefit our communities but they also increase costs. Lost market opportunities can increase our costs, reduce our revenue, and adversely impact on our environment.

Many forms of infrastructure last for generations. Councils aim to think ahead when planning and investing, but it is difficult to predict future regulatory and market changes, and technological advances. Infrastructure tends to be built to present day standards and needs, taking account of affordability. Over time, there has been an increasing emphasis on improving health and safety, which presents a significant opportunity to improve community wellbeing. At the same time, increasing regulatory standards can pose a financial burden on ratepayers, particularly when solutions require fundamental changes to assets.

At present, nowhere is the need to manage a changing regulatory environment more apparent than for Three Waters assets and services, most of which we own and deliver in Christchurch City. The Three Waters Review, commissioned by the Government in mid-2017, identified public health concerns for drinking water, and environmental issues for wastewater and stormwater systems. As a consequence of the review, the Government is introducing a new regulatory regime for Three Waters. In August 2020, the Council agreed to sign a Memorandum of Understanding with central government, committing it to stage one of the Government's water reforms, looking into different ways to deliver water services. Central government proposes to consult on the proposed reforms in 2021.[33]

Drinking water quality

The Havelock North Drinking Water Inquiry found that there was a risk of contaminants entering bore water through unsecure below-ground well heads.[34] The inquiry led to a much lower tolerance for risk across drinking water suppliers, expert assessors and regulatory agencies, and an immediate tightening of the regulatory environment.

We have strict hygiene procedures in place for the safe operation of our drinking-water supply network, and have traditionally provided untreated drinking water safely and securely to Christchurch, Lyttelton Harbour and Wainui. In December 2017, however, we lost our bore security status. This was a response to an assessment of the risk of contamination rather than a change in actual water quality. We subsequently commenced a temporary chlorination programme and initiated a $35 million wellhead improvement programme, with the aim of returning to supplying unchlorinated water. However, the Government's proposed changes to drinking water regulations may mean that we need to permanently chlorinate the water supply.

To date, the Council (with strong community support) has opposed changes to the regulatory policy for drinking water that would require permanent chlorination and, if such a policy is introduced, is likely to seek an exemption. Seeking an exemption, however, will likely require meeting a higher standard for both infrastructure and operational procedures, which will demand more complex and costly security measures to be put in place. A decision on how the Council will continue to operate a safe drinking water supply is signalled as one of the upcoming significant decisions later in this Infrastructure Strategy.

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[33] www.dia.govt.nz/diawebsite.nsf/Files/Three-waters-reform-programme/$file/Reform-timeline-December-2020.pdf

[34] The inquiry followed an outbreak of gastroenteritis in Havelock North in August 2016, where 5,000 people were estimated to have fallen ill and four died as a result.

We have undertaken a significant amount of work to address government concerns; however, uncertainty remains about the work still required to obtain an exemption from permanent chlorination. Government concerns about potential contamination risk to Christchurch's drinking water also remain, in particular due to long-term pre-existing factors, such as a backlog of infrastructure renewals resulting in an increase in leaks and service interruptions.

Wastewater disposal

Targeted regulatory reforms to improve the environmental performance of wastewater systems will include a new national environmental standard for wastewater discharges. The objectives are to stop sewage ending up on beaches, rivers and lakes, as well as to protect freshwater and marine environments. The Christchurch wastewater treatment plant processes the wastewater from all of the city. At the end of the process, the treated wastewater from the maturation ponds is discharged through a long outfall pipe which discharges three kilometres off New Brighton beach. Alternatives to direct discharges to water are possible but may be impractical or unrealistically cost prohibitive.

In 2021, all treated wastewater discharges to Lyttelton Harbour will cease, and the wastewater will be piped to the Christchurch wastewater treatment plant for treatment and disposal. For Akaroa, we have already decided to remove the treated wastewater discharge from Akaroa Harbour and instead use the reclaimed water to irrigate new areas of native trees and public parks, and to flush public toilets. The new scheme will also result in a significant reduction in overflows to Akaroa's beaches. We are also considering options to remove Duvauchelle's treated wastewater discharge from Akaroa Harbour and expect to consult on this in 2021. If this discharge was also removed, there would be no treated wastewater discharges to Akaroa Harbour.

Stormwater treatment

There is a significant risk that contamination of stormwater and waterways will increase with population growth. The main pollutants are, in order of impact:

- sediment, which smothers habitat and food and is sometimes contaminated (the main sources are construction, land erosion, roads and vehicles, earthquake liquefaction)
- metals, in particular copper and zinc, which have toxic effects on ecosystems and deplete food chains (the main sources are brake pads, tyres and building claddings)
- bacteria affecting human health (the main sources are ducks, dogs and wastewater overflows)
- nutrients, in particular nitrogen and phosphorous, which can have toxic effects (the main sources are leaves and fertilisers).

The new Comprehensive Stormwater Network Discharge Consent has set a requirement for ongoing infrastructure investment over the next 25 years to reduce the stormwater contaminants entering the waterways. This will be difficult to achieve, and relies on retrofitting the older existing urban developments with stormwater treatment at source or in downstream facilities. Developers must meet new subdivision infrastructure requirements; however, the cost of retrofit infrastructure is met by ratepayers.

Solid waste and resource recovery

We collect and process approximately 35,000 tonnes of recyclables, over 50,000 tonnes of organics, and over 40,000 tonnes of residual waste per annum. Based on government figures, New Zealand's waste generation per capita is likely to increase, unless significant changes are implemented. Our quality of life, both now and in the future, is affected by the way we manage our solid waste and recovery of resources. Cost-effective waste minimisation is necessary for a sustainable and affordable way of life, and to support community wellbeing and environmental outcomes.

The regulatory and commercial environment for solid waste is highly dynamic and is expected to change significantly, both now and in the future. Managing solid waste is not simply an issue for Christchurch; it is a national and global issue. On the regulatory side, we are anticipating higher standards and cost increases. In particular, the Government is proposing to increase the landfill levy from $10 per tonne to $50/60 per tonne and apply it to more types of waste. By minimising waste, businesses and households would reduce the impact of the levy increases – but otherwise costs will increase.

On the commercial side, we are experiencing difficulties as global markets for our recycling fall away, in particular the export markets for mixed plastics and paper. We are now unable to sell into some offshore markets because destination countries have changed their policies and have banned imports of plastic and paper or have introduced very strict contamination thresholds. This is a significant change from the stable global recycling markets of the past decade.

We are investing in our organics processing plant so that we can continue to collect and compost organics and increase throughput, and to ensure the plant's operations meet the requirements of the resource consent with regards to discharges to air including odour emissions.

An uncertain future

The matters above outline changes in the regulatory and commercial environments that we are already aware of. It is much more difficult to anticipate and plan for longer-term changes. However, there is a clear trend in the regulatory environment toward environmentally sustainable infrastructure, as well as infrastructure that attains high health and safety standards, which we need to take account of throughout the term of this strategy.

It could be that, over the 30-year term of this Infrastructure Strategy, councils that own and operate infrastructure that damages the environment will be increasingly penalised. The potential for future carbon charges and other stringent climate change measures following a tangible and significant climate change shock is something we need to be aware of as we make planning and investment decisions that commit us to long-lasting infrastructure. Ideally, our planning and investment need to be sufficiently agile to anticipate and respond to future changes so that we do not increase our dependency on the use of assets that are likely to come under increasing scrutiny.

6. Delivering within financial constraints

We have to cut our budgets for investing in infrastructure because of the effects of the economic recession. We need to keep our work programme affordable and deliverable, especially over the first three to five years of the LTP 2021-31. This means less work than preferred is able to be undertaken on maintaining, renewing and replacing our assets, and slows down our progress in addressing some of our significant issues.

The Infrastructure Strategy looks ahead at least 30 years to the investment decisions, programmes of work and projects required to deliver agreed levels of service and activities, and support community wellbeing. Although its focus is on the 'long game', it is also strongly influenced by short-term shocks and changes to the Council and community's financial position, and by the regional, national and international economic situation.

COVID-19 has had a major impact on the Council's finances and citizens. Like many households, we need to make savings to our day-to-day spending on operating and maintaining our services and infrastructure. The impacts will continue to unfold in the months and years ahead. The Council's reduced income from dividends paid by its holding companies, lost revenue from fees and charges from our services and facilities, and resultant increased borrowing mean that investment in infrastructure is severely constrained in the short to medium term.

The Financial Strategy highlights the importance of finding an acceptable balance in our fiscal direction. It notes that on one hand we need to provide reliable, quality infrastructure and services that support the city's growth and address financial constraints brought by COVID-19, and on the other hand, we need to keep rates, fees and charges affordable, provide value for money, reduce debt over time and build our financial resilience. Trade-offs and reprioritisation have been required.

Three of the six key issues that the Financial Strategy identifies for the LTP 2021-31 are especially pertinent to the strategic focus of infrastructure investment:

- Planning for the financial requirements to adapt to the impacts of climate change.
- Building and maintaining reliable and resilient infrastructure networks and community facilities that promote community wellbeing.
- Completing the replacement of core community facilities following the 2010-11 earthquakes, including the Metro Sports Facility and the Canterbury Multi-Use Arena.

The other key financial issues that underpin the Financial Strategy, and also influence infrastructure decision-making, are delivering rates affordability and sustainability and value for money services, exercising prudent financial stewardship and building long term financial resilience through reducing debt over time.

For the first three years of the LTP 2021-31, and the start of this Strategy's span, capital and operational expenditure has been prioritised to maintain existing services and assets and to optimise available Government stimulus funding. This has required some trade-offs in making investment decisions that are affordable in the short term but do not compromise an acceptable level of risk to asset condition. At the same time, we need to look ahead and plan for additional financial requirements for infrastructure costs of adapting to and mitigating the impacts of climate change. Though some measures will be able to be achieved by doing things differently and utilising existing budgets, it is likely that additional funding will be required for some responses, which require further investigation and development in the next three years.

A strategic response to managing our assets

This section describes our preferred option for managing our significant issues, which ensures a strategic response is taken to managing our assets over 30 years.

We reached our preferred option by considering our Strategic Framework, including our Community Outcomes and Strategic Priorities, plus various infrastructure-related strategies. We followed direction from elected members and the parameters set in the Financial Strategy, and used evidence-based analysis of asset condition and performance. This option will progress us towards our community's aspirations over the next 30 years.

We started out developing this Strategy looking at options that centred on strong responses to address climate change, adaptation, water quality, and the condition of our roads, and ready our assets for future shocks and stresses. However, COVID-19 has meant our strategic response has had to be adjusted, and our options have been reduced, by the restricted environment.

Despite this our focus is still on the long term, and the priorities and issues remain the same.

Over 30 years

We will address our significant issues and manage our infrastructure assets over the next 30 years, by concentrating on these two focus areas:

- Growing a resilient and liveable city, by responding to climate change, reducing emissions and preparing for disruption.
- Being careful stewards by investing responsibly in developing and maintaining our city's assets, managing demand through greater use of existing assets, and balancing our community's needs and expectations with what we can afford.

Each focus area includes the principal approaches we must take to deciding how to manage our assets, prioritise investment and deliver programmes and projects. These decisions will be the basis of the Council's most likely scenario for the management of its infrastructure over the 30 years of this Strategy.

Focus on resilience

Growing a resilient and liveable city, by responding to climate change, reducing emissions and preparing for disruption, by making sure that we:

- Improve understanding and reduce the risks posed to our infrastructure and environment by climate change and natural hazards, so that decision-making is evidence-based and focusses on increased resilience.
- Develop and implement ways to reduce our greenhouse gas emissions, so that we can meet our committed targets.
- Improve our active and public transport infrastructure so that there is increased safety, satisfaction and uptake of these sustainable modes.
- Be adaptive and innovative in finding sustainable solutions for resource recovery, and in the fuel sources we create and use, so that we can reuse and recycle more, optimise circular economy opportunities and reduce our waste to landfill.
- Ensure our drinking water supply is safe and meets national standards, and that our infrastructure is adequately maintained.

- Ensure our provision of infrastructure is well integrated with the planning of our neighbourhoods, to create liveable and healthy places to live.

Focus on condition and performance

Being careful stewards by investing responsibly in developing and maintaining our city's assets, managing demand through greater use of existing assets, and balancing our community's needs and expectations with what we can afford, making sure that we:

- Ensure there is sufficient investment each year in renewing, maintaining and replacing our assets, so that we manage the compounding risks associated with our ageing and deteriorating assets; and be prepared to repurpose, rationalise or dispose of assets where necessary.
- Improve knowledge of asset condition and maintenance requirements, whole-of-life costs and risks associated with asset deterioration so that work programming is timely, ensures risk is managed to acceptable levels and enables us to meet agreed levels of service.
- Employ technology to enable a smart city and an efficient organisation, so that our services can be delivered securely, cost-effectively, and to suit contemporary lifestyle preferences and needs.
- Investigate and implement mechanisms to manage the demand for assets and services, so that we can encourage more efficient use of them while retaining equitable access.

2051 horizon

The implications of delivering the most likely scenario are that, by 2051, people in Christchurch can:

✓ Be proud of living in a city that - with residents - has responded to the challenge of climate change by adaptation of infrastructure and local communities.

✓ Choose to live in an intensified central city or suburban hubs, with attractive and convenient amenities that encourage a healthy lifestyle and wellbeing.

✓ Live safely in a city where resilient infrastructure can be expected to withstand the effects of a rupture on the Alpine Fault of magnitude 8.0 and other comparable natural disaster events.

✓ Adopt a lifestyle that generates low or zero greenhouse gas emissions and where waste materials are dealt with in sustainable ways.

✓ Be assured that the city's water supply meets national standards for delivery, and that wastewater and stormwater management has a positive impact on the environment.

✓ Be confident that infrastructure is managed efficiently and invested in responsibly, and the costs are affordable and sustainable.

✓ Be satisfied that the city's infrastructure performs to agreed levels of service, is well-maintained, enhances community wellbeing, and minimises risks to health, environment and safety.

In the short-term

For the first three years, at least, of this Strategy's implementation, our strategic response and asset investment decisions are shaped by:

- financial constraints that the Council faces in light of the impacts of the COVID-19 pandemic
- taking advantage of funding opportunities presented by Government stimulus programmes to fast-track infrastructure work that generates or retains jobs ("shovel ready" projects)

- the commitment to undertake renewals and maintenance work on the water supply network, as part of the Government's first tranche of water services' reforms
- balancing what is affordable in the short term with avoiding unacceptable risk to the condition of our assets – in particular our drinking water assets.

As a result of the COVID-19 pandemic, the Government introduced incentives to stimulate local economic recovery and jobs by speeding up 'shovel ready' infrastructure projects around New Zealand. The acceleration of these 'shovel ready' capital projects means delivery of some Council projects has been brought forward in timing, for example one of the major cycleways routes.

The Council was also able to take advantage of the Government's funding package to local authorities to provide immediate post-COVID-19 stimulus to maintain three waters infrastructure and to support reform of proposed local government water services delivery arrangements.

Policy and planning work required

Important policy and investigative work on infrastructure issues needs to happen over the next three years, to inform the next iteration of the Infrastructure Strategy and decisions that the Council needs to make for our longer-term wellbeing. Broadly this work relates to the following:

Climate change:	Outlining the options for infrastructure provision in areas vulnerable to impacts of climate change including sea level rise, alongside working with impacted communities to adapt to natural hazards
Greenhouse gas:	Identifying effective pathways across all of our activities for reducing emissions, and where we need to focus our efforts effectively to meet the Council's committed targets emissions' reductions as well as any future national requirements
Decarbonisation:	Finding design solutions and materials to reduce the carbon emissions from building and operating our infrastructure assets
Spatial planning:	Defining the future urban form we want for our city and integrating it with our transport system
Heritage buildings:	Finding ways to protect and restore significant heritage buildings that require major restoration following the earthquakes.

These priority areas for investigation and development of policy approaches are described more fully below.

Putting climate change at the centre of our strategic response

While looking after our assets is our priority in the short term, we must not lose sight of the challenges we are facing as a result of climate change.

Climate change is already affecting where we live, the way we live and our environment. We need to better understand what the impacts will be on our city's infrastructure in the years ahead. During the early years of this Infrastructure Strategy we need to work alongside local communities who will be particularly affected by climate change and natural hazards to find the pathways to adapt to the likely effects. We also need to further understand how our infrastructure planning can contribute to meeting our ambitious greenhouse gas emissions targets for our district, and identify actions to enable this.

Policy direction for adaptation

Until adaptation measures and tools are in place, an interim approach to managing asset replacement and renewals is urgently needed to guide decisions and investment. This work needs to be completed by the Council in good time to inform the 2024-34 LTP, and is part of a workstream identified in the draft Climate Change Strategy, to identify the triggers and thresholds that indicate how our exposure and vulnerability to the impacts of climate change is evolving, and where adaptation steps need to be set in place.

Decarbonising our infrastructure and reducing emissions

Our infrastructure emits greenhouse gases, in both its construction and operation. It is important to take a whole-of-life approach to infrastructure and built environment emissions, because the form and function created dictates operational and maintenance requirements, and associated emissions. New infrastructure needs to be as efficient and sustainable as possible, using low-energy solutions, and be designed to minimise the amount of 'embodied carbon' in the materials used. This can be achieved, for example, through minimising the use of concrete, steel, and fossil fuels over the whole life of infrastructure assets, optimising the energy efficiency of buildings, and improving waste management with increased circularity of resources.

The Council's Resource Efficiency and Greenhouse Gas Emission policy aims to increase resource efficiency and reduce greenhouse gas emissions. A number of Energy Management Plans sit under the policy, according to asset and activity area. Examples of relevant projects include the water supply pump station energy efficiency investigation and optimisation programme, and the LED conversion of street lights (which will amount to an estimated reduction in greenhouse gas emissions of 1,463 tonnes per annum and is due to be completed by June 2021). LED (light-emitting diode lights) conversions are also happening at community and other Council facilities.

The Government announced in July 2020 that the standards for new buildings are expected to rise. The 'Building for Climate Change' work programme will focus on new buildings initially, with a primary focus on the operational efficiency of buildings (using less energy and water, improving air quality and temperature) and reducing the amount of greenhouse gas emissions from building.

We also need to continue to utilise 'blue-green infrastructure solutions' within infrastructure renewals and replacements. Incorporating 'blue-green infrastructure' (such as swales, rain gardens, sand dunes, street trees, natural waterways, plants, stormwater retention basins) is a means of reducing our infrastructure's carbon footprint, and preparing for future conditions. Developing a network of 'blue-green infrastructure' across the city will help us to better manage flooding, storm surges, and erosion along our coasts and hillsides, and clean our rivers and air.

Integrated spatial planning

Emissions' reductions of the scale needed to achieve our community, Council, and Government emissions reduction targets will require radical action, which must be supported by the way we plan our infrastructure activities and use our assets – particularly the integration of land use with the transport system. Current and historic land use and transport investment decisions encourage high levels of car usage, resulting in increasing congestion, rising emissions, reduced amenity, safety risks and poor health outcomes for local communities.

Our infrastructure must influence urban form by being well-aligned, prioritised and focused on those areas where the greatest growth and transformation is signalled, and also those areas that have relatively poor access and amenity. Our Spatial Plan (underway) will identify intensification opportunities and capacity along existing key public transport corridors, and potential future mass transit corridors. Focussing intensification along corridors provides opportunities for transport that use space efficiently, such as cycling and public transport, and connect key origins and destinations. (This work is based on a medium growth scenario for Christchurch; if population growth is greater than projected (i.e. a high growth scenario) then more work will need to be done to ascertain the impact of this on our infrastructure.)

This planning work aims to enable an increased number of households and jobs to be focused within 800 metres of high frequency public transport. This will aid a mode shift to public and active transport for households along the corridors, as more people will have the opportunity to access key economic and social opportunities without the need to drive, thereby reducing carbon emissions.

The Spatial Plan will also include actions needed to support such development, including to:

- make streets places that support intensification (improving walkability and increasing connections to improve liveability across the city)
- increase tree cover and water-sensitive design solutions to offset greenhouse gas emissions, improve water quality, and increase neighbourhood amenity
- create a stronger city and neighbourhood identity
- prioritise areas facing the greatest need and opportunity for transformation.

Christchurch Transport Plan and liveable streets

The draft Christchurch Transport Plan is being developed and will need to identify bold actions we need to take to achieve our climate change goals. The Plan recognises the crucial role of our streets when we plan for our city, and encourages more people to use active and public transport. It will also need to support the Spatial Plan's focus on specific areas of intensification, and identifies transport goals to help achieve the vision by connecting communities and creating opportunities for people and businesses.

The concept of liveable streets (signalled in both the Spatial Plan and the draft Christchurch Transport Plan) has the potential to transform our street networks to support current and future growth. A liveable streets programme will serve as a tool for prioritising street improvements that are needed to support place and growth outcomes, by improving conditions for walking and cycling, and reducing traffic dominance. It is important that liveable streets becomes an integral part of infrastructure and future land use planning policy.

Aligning actions with our partners

The Government's focus on urban growth partnerships creates an enabling context for the alignment of land use and infrastructure planning (and housing). The partnerships create opportunities for greater integration and coordination between central and local government and mana whenua to deliver joint spatial plans and work programmes.

The Greater Christchurch Partnership is currently developing an overarching strategic framework and a vision and a Plan for the greater Christchurch communities. This will influence and be influenced by the land use and infrastructure planning for Christchurch city.

Protecting heritage buildings

The Council has a civic role to contribute to the protection and maintenance of significant heritage and public infrastructure of the city, including both assets we own and some whose care is entrusted to other entities (e.g. in trusts and through VBase, a Council-controlled organisation). We deliver this role in diverse ways, such as through heritage grants, partnership support, expert advice, district planning provisions and collection of historic records and images. We also support heritage and civic infrastructure through capital grants towards important asset maintenance or redevelopment projects. The draft LTP 2021-31 proposes capital grants towards notable civic amenities such as the Canterbury Museum ($22 million grant towards redevelopment), The Arts Centre ($5.5 million capital grant) and some smaller grants for other non-Council owned public amenities.

In the early years of this Infrastructure Strategy, the Council is likely to consider decisions relating to the restoration and future of the Canterbury Provincial Chambers and whether to proceed with base isolation and future use of the Robert McDougall Art Gallery. However, the nature and timing of such decisions is complex and still uncertain and requires further investigations.

Our scenario for investment over 30 years

Most likely scenario

Over the next 30 years, the most likely scenario for our infrastructure is driven by the need to be able to deal with further disruptions and absorb shocks – whether they be natural events, financial pressures, societal changes or environmental challenges. We need infrastructure that can help us address our significant issues, such as adapting to the impacts of climate change, reducing emissions, meeting community expectations and needs, and balancing what we can afford with what we can deliver.

Years 1 to 10 of the most likely scenario comprise infrastructure programmes/projects that form part of the LTP 2021-31; for the years 11 to 30, the scenario comprises programmes/projects that are detailed in respective Asset Management Plans. Projected capital and operational spending aligns with the assumptions and prudent financial view of expected revenue and expenditure that underpin the Financial Strategy in the LTP 2021-31.

Basis of the scenario

Our two focus areas, set out earlier in our strategic response, will lead the way in how we address the significant infrastructure issues we face. Our most likely scenario is also based on assumptions (see Appendix 4 - overarching assumptions and Appendix 5 – asset life cycle assumptions) that are reflected throughout this Strategy about:

- Christchurch over the next 30 years
- Expected growth or decline in the demand for services
- Lifecycle of our assets, and impacts of this on assessment of asset condition and planning for renewals
- Requirements for renewal and replacement of assets to maintain them to a standard that meets committed Levels of Service
- Costs of providing this infrastructure and the Council's finances over the 30 years.

The scenario draws on the Asset Management Plans developed for each infrastructure area and the Activity Plans that describe the activities we provide, and the levels of service for them. See Appendix 1 for a summary of the Infrastructure Strategy – the significant issues, the approaches and principal options for addressing them - resulting in the most likely scenario for investment, and what we can expect to see by 2051.

Looking at the scenario across all assets

In total, the most likely scenario requires a forecast investment of $19 billion in capital and operational expenditure (inflation adjusted) over the next 30 years. This is broken down into periods of forecast budgeted expenditure, in detail for years 1-10 and indicatively for years 11-30 of the Infrastructure Strategy.

The most likely scenario's budgeted figures for years 1-10 align with those agreed to in the LTP. These budgets aim to strike a balance between providing reliable infrastructure networks, facilities and services, addressing the financial impacts of COVID-19, and ensuring our infrastructure supports the growth of the city, while also maintaining financial prudence, building long term financial resilience, keeping rates and fees and charges affordable, and providing value for money for our community.

Forecast expenditure for the first ten years of the capital programme is between $584 and $669 million per year for the first three years[35], decreasing to between $533 and $546 million per year in years 4-10. The total capital programme includes infrastructure, as well as non-infrastructure programmes for community facilities and internal services such as IT, vehicle fleet and corporate accommodation. It provides for the renewal of existing assets, enables us to meet Levels of Service,[36] and includes additional capacity to meet demand growth.

Indicative estimates for years 11-30 of the most likely scenario are based on the forecasts set out in the Asset Management Plans. These take into account asset condition and lifecycle projections, and projects and programmes that have been deferred from the first ten years of the LTP, or have been significantly reduced, which nonetheless must be completed. These estimates are likely to change over the life of the LTP due to a number of factors:

- Changes in assumed growth rates
- Unanticipated changes to standards and compliance requirements
- New models of funding and delivery
- Greater certainty regarding projects and programmes and their timing
- Affordability and deliverability considerations

Operational expenditure figures for the most likely scenario's years 11-30 are extrapolated from the LTP figures, based on inflation and estimated growth factors; they include only the direct maintenance costs associated with the management of the relevant assets. The Council has identified savings of $26 million in total operational expenditure for 2021/22, on top of the reduction of $18 million for 2020/21.

This expenditure has been reprioritised over the long term to accommodate the loss of revenue from CCHL dividends in the first two years of the LTP, and new operational expenditure primarily generated by the new Metro Sports Facility and the Canterbury Multi-Use Arena following their completion. Once running, these facilities will require relatively significant operating expenditure, which needs to be integrated into the Council's annual budgets.

[35] This includes funding for the delivery of the Canterbury Multi-Use Arena (opening 2024) and the Metro Sports Facility (opening 2022), both co-funded by the Government. Without these projects, the core annual capital expenditure programme in today's dollars of $400-423 million for the first 3 years, rising to an average of $457 million per year after that.

[36] Notes: An increase in Levels of Service for the condition of roads and footpaths is proposed in the LTP 2021-31 (rate of roading renewals increasing from 2% sealed local road resurfaced per year progressing to 6% by year 10, which is expected to result in an improvement to roadway condition and reduced roughness, and increased resident satisfaction). The opening of new community facilities in upcoming years (e.g. Hornby library, customer services, and rec and sport centre, and Te Pou Toetoe) are accounted for in relevant existing Levels of Service.

Significant decisions

Decisions to future proof our city

The following significant capital expenditure decisions will be required over the life of the Infrastructure Strategy. They reflect the two focus areas of the strategic response:

- Growing a resilient and liveable city, by responding to climate change, reducing emissions and preparing for disruption *and*
- Being careful stewards by investing responsibly in developing and maintaining our city's assets, managing demand through greater use of existing assets, and balancing our community's needs and expectations with what we can afford.

Focus on resilience

To grow the resilient and liveable city that we want, significant decisions will be required as to how we move towards our greenhouse gas emissions reduction targets, adapt to the impacts of climate change, and make sure our infrastructure processes and systems can cope with future disruptions and shocks. Such decisions include how we treat, recover or remediate solid waste; manage the treatment of wastewater; the location and nature of mass rapid transit; and the phasing and timing of infrastructure works to fulfil the regeneration plan for the Ōtākaro Avon River Corridor. We need to do more in the immediate years ahead to develop our understanding of how we will make future decisions about the infrastructure we own and maintain in areas that are vulnerable to climate change.

Focus on condition and performance

Following the Canterbury earthquakes the Council faced an enormous repair and rebuild programme of above and below-ground assets. Our focus for the future now shifts to investing in looking after these assets. Getting the balance right between the level of funding and timing of renewals with what is affordable and deliverable, and meets community needs and expectations, is fundamental to our strategic focus of looking after our assets responsibly.

Funding decisions about the ongoing renewal of existing infrastructure assets, such as three waters, roads and footpaths and facilities, are usually made as part of broad programmes of work adopted through the 10-year capital programme in the LTP. However, there are significant asset-specific decisions required that will direct our stewardship of assets. Foremost will be the decision about the ownership and delivery of water services, prompted by the Government's current sector reforms. We will also need to make significant decisions about how we will manage the restoration and future of some important heritage assets.

Significant decisions for capital expenditure

Drinking water safety	
The Council will need to make decisions about how its drinking water services can meet newly-introduced national drinking water safety standards, which are likely to have a higher threshold for compliance.	
Principal options including approximate scale/extent of costs	**Timing of decision**
1. Permanent residual disinfection of the water supply (i.e. chlorination) for Christchurch, Lyttelton Harbour, and Wainui ($30 million for installation of permanent dosing system) 2. Upgrade the infrastructure to obtain an exemption from residual disinfection (approximate costings for this fall within the range of $343 - $363 million capital expenditure)[37]	2021-22, dependent on timing of Water Services Bill

Mass Rapid Transit	
The Greater Christchurch partners are planning for the area's future growth, land use and ongoing development and improvements of the public transport network ("PT Futures"). As part of this, the Council needs to decide whether or not to approve a business case recommending preferred corridors for the provision of mass [rapid] transit (MRT). A number of associated decisions will subsequently be required to then progress the development of MRT.	
Principal options including approximate scale/extent of costs	**Timing of decision**
1. Approve the business case's recommendations for MRT corridor(s). Costs would be presented as part of the business case proposal. 2. Do not approve the recommendations. 3. Request alternative options to address transport and growth needs.	2022

Duvauchelle wastewater	
We need to decide on a preferred option for the removal of the discharge of Duvauchelle's treated wastewater to Akaroa Harbour. The discharge consent expires in 2023 and the Council is considering alternatives as part of the resource consent process. The Council expects to consult the community on options for disposing/reusing the treated wastewater in late 2021.	
Principal options including approximate scale/extent of costs	**Timing of decision**
1. Use treated wastewater to irrigate land, which could include native trees (costs are dependent on various site options still being explored) 2. Harbour outfall (status quo), including upgrade to the wastewater treatment plant ($5 million)	2022-23

[37] Costs estimated in report to Council, 13 June 2019, https://christchurch.infocouncil.biz/Open/2019/06/CNCL_20190613_AGN_3371_AT_SUP.htm

Water supply and wastewater disposal on Banks Peninsula	
We need to decide if and how we provide water supply and wastewater services to small communities on Banks Peninsula, where currently there is a range of private or community-run systems in place. We need to take into account public health considerations and environmental constraints and mana whenua values. We are likely to make case-by-case decisions based on a needs assessment that we will be undertaking in 2021.	
Principal options including approximate scale/extent of costs	**Timing of decision**
1. Provide water supply services to some or all small communities ($2 million for provision of water supply to each community) 2. Provide wastewater services to some or all small communities (Costly and dependent on preferred wastewater treatment option decided) 3. Do not provide any additional services	Various, over LTP and later years

Implementation of the Ōtākaro Avon River Corridor Regeneration Plan
The Council has commenced implementing the Ōtākaro Avon River Corridor Regeneration Plan. The Regeneration Plan signals overall investment of between $526 - $745 million, for network infrastructure and development of the Green Spine over 30 years. As part of the 2021 draft LTP, the Council has allocated $276 million of capital development funding across Parks, Transport and Three Waters. This will contribute to the necessary infrastructure being in place to enable the activities and land uses anticipated in the Plan and by the community. Fully implementing the Regeneration Plan is a long-term commitment, with the Council focussing on land transfer, partnership-building, option identification and planning over the next three years. The Council, in partnership with Ngāi Tūāhuriri, is investigating and developing options for a new community co-governance model to guide the long-term use of the land. Decisions are required on this co-governance arrangement's exact nature, including who will be responsible for making decisions about the area's future use.
The options for co-governance arrangements are still being considered, but will be founded on our stated commitment to partnership and community leadership.

Waste to energy	
The Council needs to make decisions about the ways and extent to which it wants to invest in **waste to energy** solutions, which could include potential alternatives to landfill and processing of organic material. There are two important upcoming decisions: • Addition of anaerobic digestion to the process of composting organic material at the Organics Processing Plant, which will increase its capacity and enable generation of alternative energy sources to power Council facilities (methane). • Increasing the production of biogas fuel and/or building a solar electricity generation plant at the wastewater treatment plant, which will also enable generation of alternative energy sources to power Council facilities.	
Principal options including approximate scale/extent of costs	**Timing of decision**
1. Add anaerobic digestion to the front end of the composting process at the Organics Processing Plant ($15 million) 2. Install solar panel array and/or increase biogas production/anaerobic digestion at the wastewater treatment plant (solar – 10MW solution at $12 million; biogas - $30 million to re-purpose assets) 3. (And/or) look for other alternatives for waste to energy	2025-2026

Additional public transfer station	
Depending on the pace of population growth and demand for facilities to receive solid waste, the Council will need to decide if a fourth public transfer station is required.	
Principal options including approximate scale/extent of costs	**Timing of decision**
1. Proceed ($15 million) 2. Do not proceed	By 2030-35

Treatment of closed landfill sites	
The Council needs to decide how it will approach the remediation of closed landfill sites, particularly the 15 (out of 50 sites owned by the Council, and a total of 130 including those on private land) that are in vulnerable low-lying areas and exposed to the impacts of climate change.	
Principal options including approximate scale/extent of costs	**Timing of decision**
1. Maintain and monitor landfill aftercare programme for closed sites, identify emerging risks and respond to these on a case-by-case basis ($0.5 million per year) 2. Address the problem proactively by remediating vulnerable sites (approximately $2 million per year, plus additional funding to further reduce risk as required)	Ongoing

Programmes, projects and expenditure for each asset area

Water supply

Key programmes and projects

The Council supplies potable (drinkable) water to approximately 160,000 residential and business customer connections, through seven urban water supply schemes and six rural water supply schemes. Water supply is provided via 1,700 km each of mains and sub-mains, 108 reservoirs, 127 pump stations, 172 wells, seven stream intakes, and seven water treatment plants.

A key programme for the water supply asset area for at least the next ten years will be to focus on improving and maintaining key infrastructure, such as the reticulation network, in order to meet the increasing national standards for water safety. The Council has committed to an additional $200 million over the next ten years, to invest in water supply assets and avoid further deterioration of the network (and some additional funding over the period for the wastewater network too). We will also be focused on exploring how we can more efficiently manage demand for drinking water, including through mechanisms such as volumetric charging. A 'smart' water supply network will also enable the Council to better manage demand and improve the network's operation through smart monitoring technologies.

Improvements and increased renewals are required to reduce leakage rates. Many of our water supply pipes are in poor or very poor condition, with an upcoming significant peak in renewals as pipes made of different materials are all coming to the end of their useful lives at the same time. Their poor condition makes the pipes more vulnerable to leaks - leaks have increased by a third in the last two years and we lose the equivalent of 90 Olympic-size swimming pools each week. Reducing leakage is key to lowering the risk of interaction between potential contaminant sources and the water supply, and will also reduce power and conveyance costs and is an important issue to target alongside other demand management measures that the Council may consider. It will also improve the long term sustainability of the water supply, because while the Christchurch aquifers are plentiful, they are not infinite.

Modelling shows that there is a risk that land intensification north of the Waimakariri River increases the risk of nitrate concentrations in the Christchurch aquifers, which are the groundwater sources used for our drinking water supply. The city must do all it can to protect its aquifers from contamination, including through targeted investigations to improve understanding, further implementation of source protection, and partnership with Environment Canterbury and neighbouring district councils.

Table 1: Water supply – major programmes and projects

Rationale	Description and rationale	What we expect to see and contribution to addressing significant issues
Level of service	Water Safety Plan Improvement Programme: This Programme has a number of different components, which will occur concurrently (and some at the same time) over the next 30 years: - Well and wellhead upgrades – this is the first tranche of the programme, and will be completed in the next year or two. - Backflow prevention – generally a device is fitted at the property boundary; this project will be largely completed in the next year or two. - Reservoirs and suction tanks - including renewals, new works, and increased inspection and maintenance - Lead in pipes - investigate sources and target renewal of lead-jointed pipes	This will contribute to maintaining the condition of our assets, and thereby increasing the safety of our drinking water, with a greater chance of meeting new national standards.
Level of service	'Smart' water supply network: To achieve a sustainable water supply as a key objective of the Integrated Water Strategy, 'Smart' technologies could be used to improve network operation and reduce demands and leakage to prolong the long-term availability of the water sources. Instantaneous monitoring technology can also provide an assurance as to water quality and public safety. Furthermore, smart technology would be used to improve infrastructure asset renewal and/or to enable more efficient use of existing infrastructure.	This will improve the sustainability of our water supply – as well as quality and safety.
Renewal	Asset renewals: Proactive risk-based asset renewals to maintain efficient and resilient infrastructure, which is a key objective of the Integrated Water Strategy. This programme includes all water supply assets including, importantly, the reticulation network. Water network renewals are essential to reduce water lost through leaks. Involves the replacement of approx. $500 million of water supply pipes over the next ten years.	This will contribute to maintaining the condition of our assets, and thereby increasing the safety of our drinking water, and having a greater chance of meeting new national standards
Level of service	Water supply rezoning: Pressure management of water supply zones is a well-recognized national and international best practice with multiple benefits for extending infrastructure service life, and reducing leakage, operational costs and service interruptions.	Will achieve faster disaster recovery, allow for water pressure to be managed at a more optimum range across the whole city.

Projected capital and operational expenditure

Table 2: Forecast operational and capital expenditure FY2022-2051 (Inflated figures)

Timing of expenditure		FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32-36	FY37-41	FY42-46	FY47-51
Opex		**$9.6m**	**$9.2m**	**$9.7m**	**$10.3m**	**$10.2m**	**$10.9m**	**$11.6m**	**$11.6m**	**$12.1m**	**$12.8m**	**$69.9m**	**$81.0m**	**$94.0m**	**$109.1m**
Capex	**Renewal**	$53.4m	$50.9m	$62.7m	$63.2m	$65.8m	$67.1m	$67.1m	$66.5m	$65.8m	$66.9m	$391.1m	$420.7m	$346.1m	$322.7m
	Growth	$2.5m	$6.1m	$10.3m	$5.1m	$5.1m	$5.4m	$7.3m	$6.8m	$8.4m	$11.7m	$38.9m	$41.2m	$48.8m	$51.9m

	LoS improvement	$1.5m													
	Meeting current LoS	$6.7m	$10.4m	$12.3m	$11.9m	$11.1m	$14.4m	$15.1m	$18.3m	$16.7m	$15.8m	$42.2m	$3.7m	$2.2m	$2.4m
	New service	$1.3m	$1.2m						$0.3m			$0.7m	$0.8m	$0.4m	$0.9m
Capex TOTAL		**$65.4m**	**$68.6m**	**$85.3m**	**$80.2m**	**$82.0m**	**$87.7m**	**$89.5m**	**$91.9m**	**$91.0m**	**$94.4m**	**$472.9m**	**$466.4m**	**$397.5m**	**$377.9m**

Wastewater

Key programmes and projects

The Council collects, treats, and disposes of wastewater from approximately 160,000 customers in Christchurch, Lyttelton, Diamond Harbour, Governors Bay, Akaroa, Duvauchelle, Tikao Bay and Wainui. This is done through 1,000 km of laterals, nearly 2,000 km of wastewater mains, 150 pump stations, 84 lift stations, and three vacuum stations. We provide treatment at eight wastewater treatment plants and disposal via one outfall pump station, six ocean/harbour outfalls, and two land irrigation schemes. The majority (98%) of wastewater generated within Christchurch is serviced by the Christchurch wastewater network for treatment at the Christchurch wastewater treatment plant). New pipework has recently been installed to enable the wastewater from Lyttelton, Governors Bay and Diamond Harbour to be pumped to the plant, and allow the existing Lyttelton Harbour Basin treatment plant to be decommissioned. In order to allow the current Akaroa Harbour discharges to end, a treatment plant is under construction on a new site, which will allow land disposal for some or all of the effluent.

Targeted regulatory reforms to improve the environmental performance of wastewater systems will include a new national environmental standard for wastewater discharges and overflows. Therefore, a major focus of the upcoming work programme will be on addressing wet weather overflows.

Table 1: Wastewater – major programmes and projects

Driver for investment	Description and rationale	What we expect to see and contribution to addressing significant issues
Renewal	Replacement programme: Renew poor condition assets to reduce risk of asset failure and need for reactive repairs.	Reduced inflow and infiltration, better utilisation of existing capacity, better provision for growth, reduced wastewater overflows
Level of service	Asset condition information: Condition-based monitoring is required to ensure that remedial interventions can be planned in a cost-effective manner to maintain reliability and ensure continued service for customers.	Better condition data will reduce uncertainty and ensure that we are able to manage the network in the most efficient way possible, including planning for renewals.
Renewal	Wastewater overflow reduction: Wastewater overflow reduction is a key objective of the Integrated Water Strategy and can be achieved through wastewater network upgrades, reducing inflow and infiltration from the public wastewater network and requiring repair and renewal of private sewer laterals. Wastewater network models must be maintained to understand and plan for reducing wastewater overflows.	Reduced wastewater overflows
Renewal/Level of service	Sustainable wastewater systems: A key objective of the Integrated Water Strategy is to manage the effects of the wastewater systems to meet community needs for environmental, social, cultural and economic sustainability over the long term. This will be achieved through the reduction of wastewater at source (reduction in inflow and infiltration), removal of treated wastewater from the Akaroa Harbour, implementing the re-use of treated wastewater, and investigating wastewater options for small Banks Peninsula settlements.	Akaroa Reclaimed Water Treatment and Reuse Scheme Duvauchelle Wastewater Treatment and Disposal Upgrade Timely upgrades to CWTP Reduced I&I in Akaroa and Duvauchelle Banks Peninsula Servicing Strategy

Projected capital and operational expenditure

Table 2: Forecast operational and capital expenditure 2022-2051 (Inflated figures)

Timing of expenditure		FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32-36	FY37-41	FY42-46	FY47-51
Opex		**$9.9 M**	**$9.6 M**	**$10.2 M**	**$10.7 M**	**$10.8 M**	**$11.3 M**	**$11.8 M**	**$12.1 M**	**$12.6 M**	**$13.1 M**	**$71.6m**	**$83.1m**	**$96.4m**	**$111.8m**
Capex	**Renewal**	$47.7m	$50.7m	$54.4m	$61.5m	$64.1m	$74.9m	$71.4m	$76.3m	$66.7m	$61.6m	$451.3m	$568.9m	$725.5m	$757.5m
	Growth	$0.6m	$2.5m	$2.6m	$2.1m	$2.1m	$2.3m	$4.4m	$3.2m	$3.5m	$3.9m	$92.4m	$23.5m	$23.1m	$25.9m
	Meeting current LoS	$8.9m	$14.6m	$12.9m	$18.8m	$26.4m	$26.4m	$15.0m	$2.3m	$51.8m	$5.3m	$32.8m	$22.6m	$49.0m	$10.4m
	New service		$0.2m	$2.6m	$2.9m	$1.2m	$0.1m			$0.5m	$2.4m	$9.0m	$7.2m	$0.2m	$19.1m
Capex TOTAL		**$56.9m**	**$67.9m**	**$72.5m**	**$85.2m**	**$93.7m**	**$103.7m**	**$90.8m**	**$81.8m**	**$72.5m**	**$73.2m**	**$585.5m**	**$622.2m**	**$797.7m**	**$812.9m**

Surface water and waterways

Key programmes and projects

Key assets for this activity include underground conveyance networks (including pipes, manholes, sumps, inlets, outlets); open channels and overland flow path (including natural waterways such as rivers, streams and creeks, constructed drainage channels, in-channel structures, lining and retaining walls); pump stations and water flow control devices and structures such as valve stations, stopbanks, tide gates and basins; water quality treatment devices such as basins, wetlands, tree pits, raingardens and filtration devices; and hydrometric monitoring devices, measuring rainfall along with surface water, sea and groundwater levels.

A particular focus of this asset group for the LTP period will be on responding and adapting to the effects of climate change (informing and responding to organisation-wide strategic direction), and the delivery of the stormwater elements of the OARC work programme. We have an opportunity in the Ōtākaro Avon Regeneration Area to take an integrated approach to how we manage land, water and natural hazards. We have work planned that will reduce the flooding risk, bring ecological and environmental benefits, and create new recreational areas that people can enjoy.

A further challenge for the next few decades will be improving water quality and meeting the conditions imposed by the Comprehensive Stormwater Network Discharge Consent. The Consent sets a requirement for ongoing infrastructural investment over the next 25 years to reduce the stormwater contaminants entering the waterways. This is a particular challenge as development of greenfield areas continues, with an associated increased contaminant load. Meeting the requirements relies on increased intensification to provide for growth, and on retrofitting older existing urban developments with stormwater treatment at source or in downstream facilities.

Table 1: Surface water and waterways – major programmes and projects

Driver for investment	Description and rationale	What we expect to see and contribution to addressing significant issues
Level of Service	Floodplain management: high-level work programme to address flooding risks across the city, covers multiple facets of the activity including: - Stormwater treatment facilities - Storage basins (eg. Upper Heathcote) - Stop banks across the city – excluding the OARC corridor - Flood Management Projects - Multi-hazard investigations - Network modelling - Stormwater Management Plans - Strategic land purchases	Necessary to respond and adapt to the effects of climate change, protect land, assets and private properties from flooding;

Level of service	Implementation of OARC Regeneration Plan: initial work is needed to determine the different components of the work programme and their timings. A major part of this is stopbanks work – either temporary or permanent. Known and funded individual projects include: - Waitaki Street treatment facility, tidal wetland and section of permanent stop bank - Waikakariki – Horseshoe Lake Treatment Facility (Stages 1 & 2)	Respond and adapt to the effects of climate change
Growth	Storm water treatment facilities and waterway enhancement: this involves retrofitting and new facilities in response to growth, in the Avon, Styx, and Heathcote catchments, works to restore waterways to pre-quake conditions and naturalisation of waterways. Will help to meet conditions under the Comprehensive Stormwater Network Discharge Consent.	Providing for growth; keeping up with regulatory requirements; and ensuring maintenance of our assets
Renewal	Renewals: this is needed to respond to asset deterioration of pump stations, pipes, drains, swales, waterway linings. While not currently allowed for, in the future this programme will need to account for adaptation policy decisions and Council-wide strategic direction (example of PS205, which will need to be renewed/replaced in 2040; and stopbanks, which will need to be renewed across the city at different intervals).	Work towards building a 21st century garden city; ensure adequate maintenance of assets

Projected capital and operational expenditure

Table 2: Forecast operational and capital expenditure 2022-2051 (Inflated figures)

Timing of expenditure		FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32-36	FY37-41	FY42-46	FY47-51
Opex		**$10.1m**	**$10.5m**	**$11.0m**	**$11.6m**	**$12.1m**	**$12.8m**	**$13.4m**	**$14.1m**	**$14.9m**	**$15.7m**	**$85.7m**	**$99.4m**	**$115.4m**	**$133.9m**
Capex	**Renewal**	$10.9m	$19.8m	$20.2m	$27.6m	$24.6m	$24.4m	$27.9m	$30.3m	$26.6m	$27.7m	$131.0m	$196.7m	$341.2m	$368.8m
	Growth	$29.6m	$18.4m	$21.1m	$27.8m	$21.7m	$16.9m	$17.8m	$17.7m	$20.8m	$16.7m	$101.5m	$132.4m	$168.2m	$211.3m
	LoS improvement	$0.4m	$1.6m	$12.9m	$3.8m	$4.8m	$2.8m	$2.3m	$2.5m	$1.3m	$1.0m	$2.0m	$2.0m		
	Meeting current LoS	$22.0m	$11.4m	$13.7m	$15.2m	$26.2m	$25.9m	$24.1m	$25.6m	$25.3m	$34.0m	$343.9m	$462.4m	$428.9m	$193.6m
Capex TOTAL		**$62.9m**	**$51.1m**	**$57.6m**	**$74.4m**	**$77.3m**	**$70.0m**	**$72.1m**	**$76.1m**	**$74.0m**	**$79.3m**	**$578.4m**	**$793.5m**	**$938.3m**	**$773.8m**

Transportation

Key programmes and projects

The Council is responsible for the operation and maintenance of the transport network (roads and footpaths, cycleways, public transport, and car parking), maintenance and repairs of roads and footpaths, improvements and upgrades, and planning for the future. We own, plan and manage the 2,500 km local roading network that supports all transport activities.

Road transportation generates around 36% of total greenhouse gas emissions in Christchurch, and as one of the biggest contributors to emissions. While we will need to continue to invest in infrastructure to support active and public transport, ensuring our land use supports our identified transport corridors, and designing and prioritising our streets and footpaths to encourage active travel will also be effective in reducing emissions. However, we need to do a lot more. Work is underway to determine the most effective actions the Council and the community can take to reduce road transport emissions, and how we can work with central government to achieve the significant reductions required.

Over the next decade, we are planning to further expand and improve public transport and cycling infrastructure. This will include priority measures for public transport across the core routes to support the 'inner core package' developed through a partnership business case. This is a joint programme with Environment Canterbury (ECan) and NZTA and requires both ECan and the Council to ensure an integrated LTP programme for implementation. In addition, we will be completing the major cycleways across the city and linkages with local cycleways. The major cycle routes and other cycleways are designed to encourage people to ride because they can see it's a safe, convenient option to get where they want to go.

At the same time, we need to invest in renewals of our roads and footpaths. We need to maintain our city road and footpath network so that it is safe, and residents are satisfied with it. The network also needs to achieve acceptable standards for usage and reflect the changing uses of streets.

Table 1: Transport – major programmes and projects

Driver for investment	Description and rationale	What we expect to see and contribution to addressing significant issues
Renewals	To maintain our city road and footpath network so that it is safe and efficient and meets the needs of all users, the Council needs to invest appropriately in a programme of renewals for the transport network – aimed at better traffic management, and strengthening and smoothing of carriageways. Carriageway renewals include resurfacing, drainage, and kerb and channel, as well as changes to enable safe facilities for users other than cars e.g cycle lanes, cycleways, and pedestrian facilities.	Ensuring sustainable management of our road network, enabling a safe and accessible network for all users.
LOS Improvement	Significant network of cycleways – the major cycleway network is a series of 13 off-road facilities supported by a network of local cycleway connections, slow streets, shared paths etc that connect communities to the major network. This network is in addition to the on-road cycle lanes. It aims to foster connected and healthier communities, promote mode shift, make our city more accessible, and reduce emissions.	Getting more people cycling is key to addressing climate change, creating healthier communities, increasing access and reducing congestion.

LOS Improvement	Continued implementation of remaining investment phases for the Accessible City 2015 (Christchurch Central Recovery Plan transport chapter). This work identifies 130+ projects to be implemented in phases over 30 years. Phase 1 projects are all largely complete. The next 10 years is focused on phases 2 and 3, and on delivering a series of public realm and transport projects, including Antigua St cycleway, Colombo North, Ferry Road, High Street, Victoria, Hereford, Worcester East, Lichfield East.	Delivering a travel network that enables safe access for all road users and promotes a greater uptake of active and public transport to ensure access to the central city is easy and attractive, as the population and travel demand grows.
New service	The Council and its strategic partners are committed to improving the public transport system. A joint business case has identified a 10+ year programme of investment aimed to increase bus frequency and introduce bus lane priority and intersection improvements on core bus routes; improve bus stops, including bus shelter and real time information at bus stops; and upgrade the central city bus interchange, including provision to purchase land to expand. In addition to investing in improving the public transport system in the short to medium term, the Council is working with its partners to investigate the shape and form of future mass rapid transit.	Meeting these objectives: • Improve journey time and reliability of PT services relative to private vehicles by 2028 • Improve PT services to and from highly populated/growth areas and key destinations across Greater Christchurch by 2028 • Remove barriers to the uptake of PT by 2028 This is aimed at delivering growth in bus patronage and reducing car dependence, thereby improving economic, social and environmental outcomes.
LOS	Safety programme seeks to reduce deaths and serious injury crashes on the network by addressing the known high risk locations across the city –with a clear focus on safety improvements at intersections and other high-risk areas and considers vulnerable users such as cyclists and pedestrians.	A clear reduction of deaths and serious injuries – aiming to go from actual 115 in 2019/20 to 78 in 2030/31. This is in line with the national Road to Zero target of reducing death and serious injury crashes by 40% by 2030. For cyclists and pedestrians we expect to see an ongoing reduction of deaths and serious injuries despite an increase of cycling and walking over the ten-year programme.

Projected capital and operational expenditure

Table 2: Forecast operational and capital expenditure 2022-2051 (Inflated figures)

Timing of expenditure		FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32-36	FY37-41	FY42-46	FY47-51
Opex		**$40.4m**	**$40.9m**	**$42.1m**	**$43.1m**	**$44.3m**	**$45.4m**	**$47.0m**	**$48.3m**	**$49.7m**	**$51.1m**	**$279.7**	**$324.5**	**$376.5**	**$436.9**
Capex	**Renewal**	$62.0m	$65.0m	$62.3m	$79.3m	$76.0m	$61.5m	$60.0m	$72.2m	$82.4m	$65.2m	$380.9m	$424.5m	$493.9m	$566.6m
	Growth	$10.4m	$25.7m	$21.9m	$11.6m	$14.2m	$6.5m	$14.0m	$12.5m	$12.3m	$17.9m	$48.0m	$45.4m	$53.4m	$61.7m
	LoS improvement	$59.0m	$45.9m	$49.1m	$41.2m	$47.3m	$67.7m	$57.0m	$56.3m	$34.0m	$51.9m	$169.6m	$152.5m	$172.4m	$191.7m
	New service	$4.3m	$4.1m	$4.6m	$11.6m	$5.6m	$5.0m	$12.6m	$6.4m	$24.8m	$22.6m	$37.8m	$69.3m	$102.5m	$80.4m
Capex TOTAL		**$135.7m**	**$140.7m**	**$138.0m**	**$143.9m**	**$143.1m**	**$141.2m**	**$144.2m**	**$147.4m**	**$153.4m**	**$157.6m**	**$636.2m**	**$691.7m**	**$822.2m**	**$900.4m**

Facilities

Key programmes and projects

This asset group includes more than 150 different facilities, plus over 1,900 community housing units (formerly referred to as social housing). Facilities include libraries, sports and recreation centres, pools, stadia, camping grounds, art gallery, local museum, community centres, bus interchange and corporate accommodation. The network will be enlarged and enhanced in the early years of the next LTP by:

- Te Pou Toetoe (indoor swimming pool, community and recreation spaces, opening summer 2021-22)
- Metro Sports Facility (aquatic and indoor recreation and leisure venue, opening in 2022)
- Hornby library, customer services, and rec and sport centre (opening late 2022)
- Canterbury Multi-Use Arena (opening late 2024).

There has been extensive rebuilding and repairs of facilities post-earthquakes, resulting overall in a modern network of well-designed buildings that demand regular, ongoing maintenance in order to remain fresh and fit-for-purpose, optimise usage and meet citizen expectations. However, some community facilities are not well utilised and decisions need to be considered for their future divestment (e.g. to community ownership) or disposal. Asset management needs to remain agile to stay abreast of changing consumer needs/expectations and technological trends, so that facilities retain relevance and are fit-for-purpose. Delivering services beyond buildings is anticipated to feature increasingly in the future.

Over the life of the Infrastructure Strategy, a significant bow wave of cyclical refurbishments of post-quake rebuilt or new buildings will be required.

The demand for community housing in the city has grown in recent years, and will continue to put pressure on the Council's commitment to invest in this area; also a large portion of the housing stock was built mid-century, and now progressively requires major refurbishment or modernising. By the start of the LTP 2021-31 period, a significant upgrade of stock to provide warm, dry homes will be completed as a first step to meeting Healthy Home requirements by mid-2023.

Table 1: Facilities – major programmes and projects

Community facilities

Driver for investment	Description and rationale	What we expect to see and contribution to addressing significant issues
Renewal	Maintain, refurbish or modify community facilities community centres to a standard that meets community needs and demand, and optimises usage.	Fit-for-purpose community facilities that enable participation and engagement in community life and events

Recreation and sport facilities

Driver for investment	Description and rationale	What we expect to see and contribution to addressing significant issues
Renewal	Maintain, refurbish or modify recreation facilities to a standard that meets community needs and demand, and optimises usage.	Optimised efficiency and effectiveness of the network of recreational assets.

Libraries

Driver for investment	Description and rationale	What we expect to see and contribution to addressing significant issues
Renewal	Maintain and refurbish libraries regularly so they remain fit-for-purpose and adapt to changing technologies and uses.	Optimised efficiency and effectiveness of the network of libraries.
Renewal	Complete substantial earthquake repairs to South Library and a small number of remaining community facilities still requiring repairs following the earthquakes, so that they are safe and fit-for-purpose for continued community use.	Earthquake repairs for our libraries will be completed and our facilities will be able to run as normal.

Community housing

Driver for investment	Description and rationale	What we expect to see and contribution to addressing significant issues
Renewal	Maintain, refurbish and replace community housing to a standard that contributes to meeting community needs and demand.	Existing community housing is maintained over its asset life Community housing complexes replaced as they reach the end of their 90- year life (programme projected from 2035 onwards)

Projected capital and operational expenditure

Table 2: Forecast operational and capital expenditure 2022-2051 (Inflated figures). NB: Includes community facilities, libraries, rec and sports facilities, community housing, Art Gallery, Canterbury and Akaroa Museums, and Canterbury Multi-Use Arena.

Timing of expenditure		FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32-36	FY37-41	FY42-46	FY47-51
Opex		**$11.2m**	**$12.7m**	**$13.6m**	**$15.0m**	**$14.3m**	**$14.6m**	**$15.0m**	**$15.4m**	**$15.8m**	**$16.2m**	**$88.6m**	**$102.8m**	**$119.3m**	**$138.4m**
Capex	**Renewal**	$86.8m[38]	$31.9m	$30.0m	$35.9m	$37.5m	$37.7m	$35.1m	$34.9m	$40.1m	$37.9m	$201.7m	$244.9m	$303.2m	$347.7m
	Growth	$18.6m	$15.8m	$0.4m	$0.4m	$0.4m	$0.4m	$0.4m	$0.4m	$0.5m	$0.5m	$14.3m	$12.1m	$5.5m	$6.2m
	LoS improvement	$9.6m	$14.3m	$16.9m	$2.0m										
	Meeting current LoS	$56.3m	$191.6m	$184.0m	$24.1m	$0.1m	$0.2m	$0.2m	$0.4m	$0.4m	$0.1m	$1.6m	$1.5m	$2.1m	$1.6m
	New service	$11.5m													
Capex TOTAL		**$76.4m**	**$49.6m**	**$31.0m**	**$36.5m**	**$37.4m**	**$37.7m**	**$35.8m**	**$35.7m**	**$41.0m**	**$38.5m**	**$217.5m**	**$258.1m**	**$310.8m**	**$355.5m**

[38] Includes $40 million carry forward for Metro Sports Facility.

Parks

Key programmes and projects

We have an extensive network of parks and gardens (home to playgrounds and fitness circuits, walking tracks and paths, park furniture and amenity, plants and trees, sports turf) reserves, cemeteries, bridges, and foreshore and marine access ways that serve recreation, sport, garden, heritage, cultural and community activities. In total we maintain 1,248 park asset sites across 9,378 hectares of land.

There is an increasing level of service demanded by citizens of our parks, and the impact of deferred maintenance has resulted in an increased risk of asset failure, reduced reliability and performance and costly, reactive repairs. Over the next ten years, in order to meet and satisfy citizen expectations and demands, and enable optimal use of park assets, there needs to be a strong focus on ensuring sufficient operational expenditure to maintain existing assets and for commensurate funding of operating costs for any assets added to the portfolio.

There is an ongoing need for Parks to respond and adjust asset provision to reflect changes in the way people and communities of interest choose to recreate, participate in sports, enjoy the outdoors, value our landscapes and biodiversity, and a growing breadth of cultural practices.

The Council is responding to changing and increasingly varied demands with multi-use spaces, increased community involvement in planning and managing parks, and diverse recreation and sport facilities for all ages and abilities. Network plans for the provision of parks and facilities are being developed to guide Council investment. They establish processes for prioritising new developments and upgrades to meet community needs equitably, within available resources, and include guidance on design.

Parks also has a large role to play in responding and adapting to climate change. A big focus of the next 10 years will be providing the millions of plants required for the ecological restoration of the Ōtākaro Avon River Corridor.

Table 1: Parks – major programmes and projects

Driver for investment	Description and rationale	What we expect to see and contribution to addressing significant issues
Renewal	Renewals-Heritage Buildings: several large, high-profile projects, including: - Old Municipal Chambers - Robert McDougall Gallery – Strengthening - Cuningham House - Canterbury Provincial Chambers	Continued regeneration of the city and its heritage assets – looking after what we've got
Renewal	Renewals – Foreshore: Akaroa Wharf Renewal Marine structures and seawalls	Looking after our foreshore assets

Growth	Naval Point Development	Looking after our foreshore assets
Renewal	Ōtākaro Avon River Corridor (OARC) development and RRZ asset renewals	Preparing the corridor for implementation of preferred land uses outlined in the OARC Regeneration Plan; helping to respond and adapt to climate change impacts
Renewal	Parks buildings and assets renewals programmes to maintain parks so they are in good condition to meet community/recreation/sporting needs and expectations	Meeting community needs and expectations and looking after our assets
Demand & Growth	Cemeteries development: programme of works for provision and upgrades of facilities and infrastructure provided on cemeteries to maintain burial capacity and optimise use. This includes development of the $9.56 million Templeton Cemetery in the west of the city, and $24 million land purchases and developments for cemetery extensions.	Meeting community needs and expectations and providing for growth
Demand & Growth	Community Parks: programme of works for provision and upgrades of facilities and infrastructure provided on community parks so they continue to be fit-for-purpose for sporting and recreational use. This includes $7.39 million Lancaster Park redevelopment and 10.8 million QEll stage 2 developments.	Optimised efficiency and effectiveness of parks network
Demand & Growth	Regional Parks: programme of works for provision and upgrades of facilities and infrastructure provided on Regional Parks so they continue to be fit-for-purpose for ecological and recreational use in the Port Hills and Coastal Plains management areas.	Optimised efficiency and effectiveness of parks network
Improve & Meet Levels of Service	Planned sports fields developments, and upgrade sports facilities on sports parks so they continue to be fit-for-purpose for sporting and recreation needs, and their use is optimised.	Optimised efficiency and effectiveness of network of sports fields
Meet Levels of Service & Demand	Programme of works for provision and upgrades of facilities and infrastructure provided in Botanic Gardens and Hagley Park so they continue to be fit-for-purpose as a major attractions.	Work towards building a 21st century garden city; ensure adequate maintenance of assets

Projected capital and operational expenditure

Table 2: Forecast operational and capital expenditure 2021-2051 (Inflated figures)

Timing of expenditure		FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32-36	FY37-41	FY42-46	FY47-51
Opex		**$18.3m**	**$18.7m**	**$19.1m**	**$19.6m**	**$20.0m**	**$20.5m**	**$21.0m**	**$21.6m**	**$22.2m**	**$22.8m**	**$124.6m**	**$144.6m**	**$167.7m**	**$194.6m**
Capex	**Renewal**	$19.5m	$24.5m	$29.5m	$31.8m	$24.0m	$22.6m	$44.4m	$21.5m	$19.4m	$21.1m	$77.2m	$258.3m	$72.3m	$104.0m
	Growth	$3.5m	$5.6m	$8.6m	$16.3m	$17.3m	$17.3m	$13.9m	$16.5m	$16.2m	$15.8m	$52.2m	$28.3m	$17.5m	$17.1m
	LoS improvement	$2.5m	$3.8m	$1.9m	$2.3m	$3.7m	$4.6m	$3.5m	$2.1m	$2.5m	$2.1m	$25.4m	$5.2m	$4.2m	$3.4m
	Meeting current LoS	$1.5m	$2.6m	$12.4m	$8.4m	$1.7m	$1.5m	$6.4m	$4.4m	$2.7m	$2.7m	$15.1m	$12.6m	$11.3m	$9.5m
	New service	$9.0m	$4.5m	$4.1m	$5.6m	$12.3m	$20.8m	$26.9m	$22.3m	$31.6m	$32.9m	$68.0m	$34.1m	$29.9m	$28.5m
Capex TOTAL		**$36.0m**	**$41.0m**	**$56.5m**	**$64.5m**	**$58.9m**	**$66.8m**	**$95.1m**	**$66.8m**	**$72.5m**	**$74.6m**	**$237.9m**	**$338.5m**	**$135.2m**	**$162.4m**

Solid waste and resource recovery

Key programmes and projects

Solid waste and resource recovery infrastructure supports the collection and management of waste - through organics and recycled materials processing, transfer stations and residual waste transfer to landfill (including landfill gas capture and operation), processing, disposal and treatment of construction and demolition waste and contaminated soils, and aftercare of closed landfills.

There is a high level of resident satisfaction with our kerbside collection system for waste materials, and growing community aspirations for sustainable ways to manage and recycle waste, and reduce what goes to landfill. This, combined with dynamic markets for recycled materials, means that asset investment needs to be agile and responsive to changing markets and technologies.

Implementing actions from the Council's six-year Waste Management and Minimisation Plan 2020 will be a key driver of capital and operational expenditure in the respective years in the LTP 2021-31. Actions will be reviewed annually (and revised as relevant) to keep the focus on diverting organics and recyclable materials from landfill, diverting hazardous substances from the environment, providing local leadership and innovation in waste management and changing consumer behaviours through education and communication. An additional, important focus will be on contributing to meeting the Council's zero emissions targets, through exploring ways to reduce greenhouse gas emissions from waste processing activities, the household kerbside collection vehicle fleet, and the transport of waste materials to processing plants/landfill.

Table 1: Solid waste and resource recovery – major programmes and projects

Driver for investment	Description and rationale	What we expect to see and contribution to addressing significant issues
Meet level of service/renewal	The Material Recovery Facility and the Organics Plant require adaptation and/or upgrading so that they can sustainably process an increasing range and volume of respective recyclable and organic materials, take opportunities to convert waste to energy, and adapt to market opportunities and conditions	A system that sustainably processes waste while meeting regulatory requirements and reducing waste to landfill
Meet level of service	The methods used for household kerbside collection need to be able to adapt to changes in consumer behaviour, processing systems and the markets and uses for recoverable materials	A responsive and adaptive waste system
Renewal/level of service	Explore ways to reduce greenhouse gas emissions from processing activities, household kerbside collection vehicle fleet, and the transport of waste materials to processing plants/landfill	Reduction in greenhouse gas emissions contributing to meeting our lower emissions targets
Renewal	Management of risk of land or groundwater contamination at closed landfill sites that are identified as vulnerable to coastal inundation and sea level rise	Adapting to the effects of climate change and meeting regulatory requirements, by protecting communities and the environment

Budgets for these programmes/projects are part of the following table of total operational and capital expenditure.

Projected capital and operational expenditure

Table 2: Forecast operational and capital expenditure 2021-2051 (Inflated figures)

Timing of expenditure		FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32-36	FY37-41	FY42-46	FY47-51
Opex		**$0.9m**	**$0.8m**	**$0.8m**	**$0.8m**	**$0.9m**	**$0.7m**	**$0.7m**	**$0.8m**	**$0.8m**	**$0.8m**	**$4.4m**	**$5.1m**	**$6.0m**	**$6.9m**
Capex	**Renewal**	$2.6m	$1.9m	$2.6m	$2.0m	$2.1m	$2.2m	$2.3m	$1.7m	$2.6m	$2.9m	$16.9m	$11.4m	$12.7m	$14.2m
	Meeting current LoS	$17.0m	$8.0m	$0.1m	$0.1m	$1.1m	$2.4m	$2.5m	$1.3m	$0.2m	$0.2m	$0.9m	$24.1m	$1.1m	$1.2m
	New service	$0.4m	$1.1m	$1.0m											
Capex TOTAL		**$20.0m**	**$11.0m**	**$3.8m**	**$2.1m**	**$3.3m**	**$4.6m**	**$4.8m**	**$3.0m**	**$2.7m**	**$3.1m**	**$17.8m**	**$35.5m**	**$13.8m**	**$15.5m**

Information technology

Key programmes and projects

Information technology (IT) services are essentially the enablers of Council services and interactions with citizens. These services have a primary focus on ensuring citizens can engage effectively and efficiently with Council services and enabling the Council workforce to use IT solutions to deliver efficient and quality services and make better informed business decisions.

The useful life of IT assets is a lot shorter than most other assets across other asset classes. Existing assets have varying lifecycles generally ranging from three to seven years; programmes of renewal and replacement are run on a four-yearly cycle. Underlying technologies are constantly changing and evolving, and it is difficult to know what the context of the digital world will be in even five to ten years' time. Adding to the uncertainty involved in planning is that information technology is a driver and enabler of the business of Council – it is a service and a means to an end, and therefore needs to respond (often relatively quickly) to changes in the needs of the business, and business service level expectations.

Table 1: IT – major programmes and projects

Driver for investment	Description and rationale	What we expect to see and contribution to addressing significant issues
Renewal	Renew or replace assets to ensure sustainable services that meet demand, including business transfer systems and continuous improvement	Fit-for-purpose assets that meet business needs and respond to changing commercial environments
Meet Level of Service	Deliver improved network capability, ability to up or down scale as required, provide enhanced wi-fi network, improved monitoring and reporting, future-proofed network capability, improved security, increased cloud-based activity and utilisation of Internet of Things for monitoring and response. This Opex is for associated licensing	Provide systems that provide future-proofing and are a foundation and can sustain growth in demand for business solutions and respond to changing commercial environments
Growth	Understanding who is using what and when; adjustment deployments to fit usage; ensuring license type equates to a value proposition	Ensure software investment delivers best value

Budgets for these programmes/projects are part of the following table of total operational and capital expenditure.

Forecast capital and operational expenditure FY2022-2051

This is the forecast operational and capital expenditure on I.T. assets and services over the 30-year lifespan of the Infrastructure Strategy. It includes the agreed budgets for the 10 years of the 2021-31 LTP, and forecast expenditure over the subsequent years taking into account financial affordability and programme deliverability, and drivers such as asset condition/renewals, growth, any new services, and meeting current or improved Levels of Services.

Table 2: Forecast capital and operational expenditure 2021-2051 (Inflated figures)

Timing of expenditure		FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32-36	FY37-41	FY42-46	FY47-51
Opex		**$2.6 M**	**$2.8 M**	**$2.9 M**	**$2.9 M**	**$3. M**	**$3.1 M**	**$3.2 M**	**$3.2 M**	**$3.3 M**	**$3.4 M**	**$18.7m**	**$21.6m**	**$25.1m**	**$29.1m**
Capex	**Renewal**	$7.9m	$8.1m	$7.3m	$7.5m	$7.6m	$7.8m	$8.1m	$7.9m	$8.1m	$8.3m	$44.5m	$49.9m	$55.9m	$62.6m
	LOS improvement	$11.0m	$13.9m	$10.6m	$9.8m	$9.4m	$9.7m	$9.9m	$10.7m	$10.7m	$11.0m	$59.0m	$66.1m	$74.1m	$83.0m
Capex TOTAL		**$18.9m**	**$22.0m**	**$17.9m**	**$17.2m**	**$17.1m**	**$17.5m**	**$18.0m**	**$18.3m**	**$18.8m**	**$19.3m**	**$103.5m**	**$116.0m**	**$129.9m**	**$145.6m**

Appendices

Appendix 1: Summary of the Infrastructure Strategy

Our significant issues are…	We address these issues by….	Making sure that we…	By focussing on key programmes and projects over 30 years…
• **LOOKING AFTER WHAT WE HAVE GOT** • **RESPONDING TO COMMUNITY NEEDS AND EXPECTATIONS, AS WE GROW** • **ADAPTING TO CLIMATE CHANGE** • **REDUCING EMISSIONS** • **RESPONDING TO CHANGING REGULATORY AND COMMERCIAL ENVIRONMENTS** **DELIVERING WITHIN FINANCIAL CONSTRAINTS**	**Growing a resilient and liveable city, by responding to climate change, reducing emissions and preparing for disruption**	Improve understanding and reduce the risks posed to our infrastructure and environment by climate change and natural hazards, so that decision-making is evidence-based and focusses on increased resilience.	**SURFACE WATER*** As part of implementing the Ōtākaro Avon River Corridor Regeneration Plan, we need to undertake initial work to understand the scope of work required to build temporary or permanent stopbanks; and then decide on the programme of works required and implement it. •
			SURFACE WATER/RESOURCE RECOVERY To protect our environment where closed landfill sites are located in areas that are vulnerable to coastal inundation and sea level rise, we need to identify and manage the risk of them contaminating land or groundwater. *(yrs 4-30 refers to likely government funding)* • •
			SURFACE WATER Undertake work programmes to address flooding risks across the city, such as stormwater treatment facilities, stopbanks, storage basins (e.g. Upper Heathcote), multi-hazard investigations, coastal hazards adaptation planning, and stormwater management plans. • •
			WATER SUPPLY We need to reduce the size of water supply pressure management zones, because large zones make it more difficult to get water supply back on following a disaster; by rezoning we can make disaster recovery faster and allow for water pressure to be managed at a more optimum range across the city. • • •
			WASTEWATER So that we manage the effects of the wastewater systems to meet environmental, social and cultural expectations and long-term economic sustainability, we need to reduce wastewater at source, remove treated wastewater from the Akaroa Harbour, implement the re-use of treated wastewater, and investigate wastewater options for small Banks Peninsula settlements.(Additional: + $5.5m to reduce inflow and infiltration in Akaroa Harbour, + $1.0m opex) • •
		Develop and implement ways to meet our greenhouse gas emissions targets.	**SURFACE WATER/PARKS** Pursue opportunities to create wetland facilities and forest cover of eroding hill land, so that stormwater works can absorb carbon and improve biodiversity and take a leading role in carbon sequestration by exploring ways to increase tree canopy cover. • •
			TRANSPORTATION To develop a more attractive, accessible public transport network, that with increased use will reduce greenhouse gas emissions, we need to prioritise measures for public transport across the network - developed through a partnership business case. • •
		Improve our active and public transport infrastructure to increase safety, satisfaction and uptake of these sustainable modes.	**TRANSPORTATION** To foster connected and healthier communities, we need to complete the major cycleways and link it with the local cycleways connection programme across the city. • •
		Be adaptive and innovative in finding sustainable solutions for resource recovery, and in the fuel sources we create and use.	**RESOURCE RECOVERY** To enable us to sustainably process an increasing range and volume of respective recyclable and organic materials, comply with consent conditions, take opportunities to convert waste to energy, and adapt to market opportunities and conditions, the Material Recovery Facility (MRF) and the Organics Plant (OP) require adaptation and/or upgrading. MRF funding is likely to be external; OP funding is likely to be external an/or mix of CCC/external) • • •
			RESOURCE RECOVERY So that we can respond to changes in consumer behaviour and benefit from improvements to processing systems and opportunities for markets and uses for recoverable materials, we need to be able to develop flexible and adaptable methods for collecting and processing materials household kerbside collection. This includes changes to inner-city collection system and in medium term, options to add a 4th collection stream that could maximise recycling quality. *(yrs 4-10 refers to likely government funding)* • • •
		Ensure our drinking water supply is safe and meets national standards, so that our infrastructure is adequately maintained.	**WATER SUPPLY** We need to keep progressing the Water Safety Plan Improvement Programme so that our water supply continues to be safe and can meet national standards. Within the first tranche of work, which is likely to be completed over the next 2 years, are the well and wellhead upgrades and installation of backflow prevention devices at property boundaries. Further work is required to reservoirs and suction tanks - including renewals and increased inspection and maintenance. We also need to investigate contamination of the water supply from lead-jointed pipes, and target the renewal of them. • •
		Ensure our provision of infrastructure is well integrated with the planning of our neighbourhoods, to create liveable and healthy places to live.	**SURFACE WATER** – To help ensure we can meet the conditions of the Comprehensive Stormwater Network Discharge Consent we need to retrofit and build new stormwater treatment facilities in response to growth, in Avon, Styx and Heathcote catchments. • • • •
			TRANSPORTATION To help encourage residential living in the central city, we need to make it more attractive and easier to move around and live. We need to accommodate population growth and travel demand by completing the Accessible City programme that active travel and public transport easier. • • •
			PARKS To provide additional capacity for cemeteries to meet future needs, we need to acquire further land (Banks Peninsula) and develop what we already have (Templeton). • •

So that, by 2051 people can… Choose to live in an intensified central city or suburban hubs, with attractive and convenient amenities that encourage a healthy lifestyle and wellbeing **+** Be proud of living in a city that has responded to the challenge of climate change by adaptation of infrastructure and local communities **+** Live safely in a city where resilient infrastructure can be expected to withstand the effects of a rupture on the Alpine Fault of magnitude 8.0 and other comparable natural disaster events **+** Adopt a lifestyle that generates low or zero emissions and where waste materials are dealt with in sustainable ways **+** Be assured that the city's water supply meets national standards for delivery, and that wastewater and stormwater management has a positive impact on the environment **+** Be confident that infrastructure is managed efficiently and invested in responsibly, and the costs are affordable and sustainable **+** Be satisfied that the city's infrastructure performs to agreed levels of service, is well-maintained, enhances community wellbeing, and minimises risks to health, environment and safety

*For the purposes of the Infrastructure Strategy, the term 'Surface water' covers stormwater and flood protection and control activities. This terminology is consistent with the Council's Te wai ora o tāne Integrated Water Strategy, adopted in late 2019.

Our significant issues are…	We address these issues by….	Making sure that we…	By focussing on key programmes and projects over 30 years…
• LOOKING AFTER WHAT WE HAVE GOT • RESPONDING TO COMMUNITY NEEDS AND EXPECTATIONS. AS WE GROW • ADAPTING TO CLIMATE CHANGE • REDUCING EMISSIONS • RESPONDING TO CHANGING REGULATORY AND COMMERCIAL ENVIRONMENTS DELIVERING WITHIN FINANCIAL CONSTRAINTS	**Being careful stewards by investing responsibly in developing and maintaining our city's assets, managing demand through greater use of existing assets, and balancing our community's needs and expectations with what we can afford**	Ensure there is sufficient investment each year in renewing, maintaining and replacing our assets, to manage the compounding risks associated with our ageing and deteriorating assets and improve user satisfaction; and be prepared to repurpose, rationalise or dispose of assets where necessary.	**WATER SUPPLY** To ensure an efficient water reticulation network and support the programme to reduce leakage rates, we need to be able to maintain a comprehensive renewals and replacement programme for all water supply assets. •
			WASTEWATER To reduce the risk of infiltration by waste into the environment through overflows (and meet the conditions of our discharge consent), asset failure and reactive repairs, we need to be able to maintain programmes to replace or renew ageing and/or damaged assets at the right time. •
			SURFACE WATER Increased asset management is needed to respond to asset deterioration of pump stations, pipes, drains, swales, waterway linings. This programme will need to account for adaptation policy decisions and Council-wide strategic direction (example of PS205, which will need to be renewed/replaced in 2040; and stopbanks, which will need to be renewed across the city at different intervals). • •
			TRANSPORTATION To maintain our city road and footpath network so that it is safe, and residents are satisfied with, we need a programme of renewals that achieves acceptable standards for usage and reflects the changing uses of streets. • • •
			FACILITIES/ALL To ensure our libraries, sports and recreation facilities, pools, community housing and community centres are kept to a standard that meets community needs and demand, and optimises usage, we need to be able to sustain a regular renewals and replacements programme to maintain, refurbish or modify facilities. • •
			FACILITIES/COMMUNITY HOUSING We have a bow-wave of community housing complexes that near the end of their 90–year life around 2035, and will require replacement. •
			FACILITIES/LIBRARIES We need to do structural earthquake repairs and strengthening to South Library so that it remains safe and fit-for-purpose for continued community use. • •
			PARKS We need to maintain our community and regional parks, so they are in good condition, and fit for purpose to meet community/recreation/sporting needs and expectations and preferences. To cater for changing sporting activities and preferences; and to meet the needs of a growing population, we need to acquire land to develop as additional amenity and/or provide parks in different locations or re-purpose what we have. • • •
			PARKS We need to renew or re-purpose some sports parks, so they continue to be fit-for-purpose for sporting and recreation needs to optimise their usage. • •
			PARKS To realise the vision for the Ōtākaro Avon River Corridor we need to invest in the renewal and regeneration of open spaces and parks there. • • •
			PARKS Facilities on our foreshores need renewing or developing, to ensure they are fit-for-purpose, meet demand and adaptive to climate changes impacts – Akaroa Wharf renewal, Naval Point development, renewal of seawalls and marine structures. • • •
			PARKS/HERITAGE We need to make decisions about how we look after some of our significant heritage buildings, in particular the Provincial Council Building and Robert McDougall Art Gallery building, Old Municipal Chambers (Our City) and improvements to Cuningham House in the Botanic Gardens. • •
		Improve knowledge of asset condition and maintenance requirements, whole-of-life costs and risks associated with asset deterioration.	**ALL ASSETS** We need to better understand how we can reduce asset risk. Reduction could be achieved either through investing in renewals/replacements and new infrastructure, transferring risk through insurance programmes, or finding an acceptable threshold for the level of risk on our balance sheet. •
		Investigate and implement mechanisms to manage the demand for some assets and services, to encourage more efficient use of them while retaining equitable access.	**WATER SUPPLY** We need to use smart technologies that will help improve the safety of our drinking water, improve network efficiency and detection of leakages, and contribute positively to demand management programmes and the sustainability of our water supply. • •
		Employ technology to enable a smart city and an efficient organisation, where services can be delivered securely, cost-effectively, and suit contemporary lifestyle preferences and needs.	**I.T.** So that we can respond to an increasing reliance on and growing demand from existing and new facilities for modern technology, stay ahead of cybersecurity challenges and exponential increase in cloud services, and be a smart city and organisation, our I.T. network needs to be scalable and agile. • •
			I.T. To ensure that I.T. can support the Council organisation to do its business efficiently and smartly, and the community can connect with the Council in ways that suits their preferences, we need to have fit-for-purpose software applications and hardware that is kept up-to date with fast-moving technological change and support. • •

So that, by 2051 people can… Choose to live in an intensified central city or suburban hubs, with attractive and convenient amenities that encourage a healthy lifestyle and wellbeing + Be proud of living in a city that has responded to the challenge of climate change by adaptation of infrastructure and local communities + Live safely in a city where resilient infrastructure can be expected to withstand the effects of a rupture on the Alpine Fault of magnitude 8.0 and comparable natural disaster events + Adopt a lifestyle that generates low or zero emissions and where waste materials are dealt with in sustainable ways + Be assured that the city's water supply meets national standards for delivery, and that wastewater and stormwater management has a positive impact on the environment + Be confident that infrastructure is managed efficiently and invested in responsibly, and the costs are affordable and sustainable + Be satisfied that the city's infrastructure performs to agreed levels of service, is well-maintained, enhances community wellbeing, and minimises risks to health, environment and safety

Appendix 2: Summaries of current asset condition

Water supply

The Council supplies potable (drinkable) water through approximately 160,000 residential and business customer connections, through seven urban water supply schemes and six rural water supply schemes. Water supply is provided via 1,700 km each of mains and sub-mains; 108 reservoirs and tanks; 127 pump stations; 172 wells; seven stream intakes; and seven water treatment plants.

The Canterbury earthquakes did not impact on water supply assets to the same extent as wastewater. Repairs and temporary solutions were completed rapidly after the earthquakes to restore service. Although some renewals were completed as part of the SCIRT work, the $160 million spent during the earthquake re-build accounted for 6% of the current overall valuation with:

- 96km of pipes repaired/replaced (equates to roughly 3% of total length of pipe network)
- 25 pump stations repaired/replaced .

Water supply infrastructure is monitored and controlled by an extensive communications system (Supervisory Control and Data Acquisition, or SCADA), which underpins the water supply network.

Reticulation

The materials used to construct pipes greatly affects their life span. From 1890-1950, cast iron was the predominant pipe material, followed by asbestos cement from 1950 to the mid-1980s, and plastic from the mid-1980s to the present. The theoretical useful lives of cast iron pipes and asbestos cement are 120 and 60 years respectively, meaning that much of this initial network is approaching end of life, with estimated poor conditions. Asbestos cement water pipes are generally the least long-lived of the reticulation pipe materials, and these pipes make up the majority of the current expected pipe replacements for the next 30 years.

The number of unplanned interruptions to the water supply reticulation network is high compared to national benchmarks. This is an important indicator of a deteriorating reticulation network and the need for targeted pipe renewal.

Station and treatment assets

There is a high proportion of station assets in very poor condition (29% with a condition grade of 5 under the AAIF framework). This is because station assets have been 'sweated' over extended periods rather than renewed. At a portfolio level, there is limited condition data held for treatment assets. The majority of treatment assets do not have a start-up date, and so we cannot judge their condition based on their age.

For further detail on asset condition, refer to the Water Supply Asset Management Plan (AMP).

Performance

Fault response times and flow and pressure complaints have consistently been tracking better than target levels. Power costs per unit of water supplied are very low compared to national benchmarks due to the decentralised nature and ease of abstraction of Christchurch's groundwater bore sources.

In the 2017-18 reporting year, all Christchurch water supplies failed to meet the water quality standards for protozoa. Water supplies for 74% of the Christchurch population failed to comply with the Health Act requirements for safe drinking water supplies. This resulted in the Council chlorinating the city's water.

Following the start of temporary chlorination in 2018, resident satisfaction dropped to just 37% in 2019 (compared with averages of between 84% and 92% in the preceding years). The drinking water regulatory environment in New Zealand is changing and there is a need for improvements to the water supply activity in order to keep up. This includes protozoal and bacterial compliance, as well as targeting leakage and backflow prevention.

Implications for management of assets and Levels of Service

The Asset Assessment Intervention Framework (AAIF) is providing the evidence basis for the renewal profile of our reticulation assets, based on the criteria of condition, RMO (Repairs, maintenance and operation), degradation, and consequences of failure.

The SCADA system is due to be upgraded, with full replacement needed at older sites. Selection and testing of replacement design is planned; this will be followed by full-scale replacements.

Current operations and maintenance data is not easily used of for long-term decision making. This data needs to be better collected and updated, in order to support coordinated asset management planning across the network. Such data improvements will also help to refine the AAIF framework.

Wastewater

The Council collects, treats, and disposes of wastewater from approximately 160,000 customers in Christchurch, Lyttelton, Diamond Harbour, Governors Bay, Akaroa, Duvauchelle, Tikao Bay and Wainui. This is done through 945 km of laterals; nearly 2,000 km of wastewater mains; 150 pump stations; 84 lift stations; and 34 odour control sites. We provide treatment at eight wastewater treatment plants and disposal via one outfall pump station, six ocean/harbour outfalls, and two land irrigation schemes. The majority (98%) of wastewater generated within Christchurch is serviced by the Christchurch wastewater network for treatment at the Christchurch wastewater treatment plant.

New pipework has recently been installed to enable wastewater from Lyttelton, Governors Bay and Diamond Harbour to be pumped to the wastewater treatment plan at Bromley, and allow the existing Lyttelton Harbour Basin treatment plant to be decommissioned. In order to allow the current Akaroa Harbour discharges to end, a treatment plant is under construction on a new site, which will allow land disposal for some or all of the effluent. Land disposal is also being investigated for Duvauchelle Bay. The wastewater treatment plant is our biggest single infrastructure asset in terms of replacement value - $644 million.

Asset condition and performance

SCIRT carried out a significant programme of assessment and rebuilding followed the earthquakes. By cost the $1.6 billion expenditure during the earthquake re-build accounted for 32% of the current overall valuation with:

- 513 km of wastewater pipe were renewed, lined or repaired
- 84 pump stations installed, repaired or replaced

Some existing network catchments were also replaced by local pressure sewer systems and vacuum sewer systems. The SCIRT programme did not remediate all earthquake damage and many pipes with different levels of defects remain. The wastewater reticulation and treatment infrastructure is monitored and controlled by SCADA.

Reticulation

A significant increase in the rate of installation of wastewater assets began in the 1950's, the majority of which was concrete gravity sewer reticulation. These older concrete pipes, along with earthenware pipes from the early 1900s, make up the majority of expected pipe replacements and planned renewals for the next 30 years. Concrete and earthenware pipes are brittle and compared to plastic pipes were more badly damaged in the earthquakes. Concrete, including reinforced concrete, is also vulnerable to corrosion from sewage gas by-products and can degrade over time.

Stations and treatment assets

There is a backlog of assets that are obsolete and beginning to fail, some of which are running on spare componentry gifted from other councils. Mechanical assets at terminal stations are old, have been overhauled several times, and require reactive repair and renewal. These are high-value assets where renewal includes a long lead-in time for design and construction. Some pump stations are degrading rapidly due to hydrogen sulphide gas (H_2S). A new H_2S monitoring programme is proposed in the Wastewater AMP.

Limited condition data is held for treatment assets. The Council has IAC (instrumentation, automation and control) software that has not been targeted for funding or sufficiently budgeted for over its history. This has led to a deficiency in the standards and quality of the systems in place that has yet to be fully resolved.

Implications for management of assets and Levels of Service

The new condition grading process developed as part of the AAIF has significantly improved the condition profile of wastewater assets compared to what has been previously available in asset management plans.

Similar data management improvement measures as outlined for water supply, are also needed to improve the management of our wastewater assets.

Surface water and waterways

Surface water and waterways covers the Council activities of stormwater drainage and flood protection and control works. The stormwater network collects and conveys stormwater during rainfall events. This is designed to work with secondary flow paths, which can include roads in larger storm events. The flood protection and control works activity delivers floodplain and stormwater management plan objectives, to reduce the harm from flooding to our community and to improve the quality of surface water.

Key physical assets include underground conveyance networks (including 915km of pipes, manholes, sumps, inlets, outlets); open channels and overland flow path (including natural waterways such as rivers, streams and creeks, constructed drainage channels, in-channel structures, lining and retaining walls); 45 pump stations and water flow control devices and structures such as valve stations, 12km of stopbanks, tide gates and basins; water quality treatment devices such as basins (710 basins/swales), wetlands, tree pits, raingardens and filtration devices; and hydrometric monitoring devices, measuring rainfall along with surface water, sea and groundwater levels.

Asset condition and performance

The Canterbury earthquakes caused significant land displacement across the region resulting in damage to infrastructure and service disruption. During the re-build SCIRT expended $160 million repairing or replacing damaged storm-water infrastructure, accounting for 8% of the current overall valuation.

As with the wastewater reticulation pipes, the older concrete pipes built in the 1950s make up a large proportion of expected replacements and renewals over the next 30 years. The proportion of brick and rock barrel pipes approaching end of life is a concern as these pipes are typically larger and of higher criticality, but also more difficult to repair than newer pipes.

The primary data source for determining condition grading is CCTV data that was recorded after the Canterbury earthquakes. Extensive CCTV inspections were carried out by SCIRT with 37% of the total network inspected. Although this is only approximately one third of the network, the Water New Zealand 2017-18 National Performance Review shows this to be the highest level of stormwater CCTV coverage in the country and more than seven times the national average of 5%. A challenge in using the condition data to its full extent is its increasing age. The current budget for CCTV has not allowed for follow-up inspection, meaning that decisions rely on inspections that date back to 2011.

There will be a significant peak in waterway lining reaching the end of its useful life in the next six to 10 years and again in 16 to 20 years. This is due to the large amount of timber lining installed by the then Drainage Board lining gangs in the 1970s and 1980s coming to the end of its 40-year useful life.

Christchurch stormwater pump stations range in age from one to 51 years (based on commissioning date). There are 50 individual pump stations located across the city. Following the earthquakes and subsequent recovery, new pump stations including associated stormwater treatment facilities, were constructed for residential areas and subdivisions. Despite this, over 90% of pumps are considered to have reached a ‘fail’ condition grade, due to the pumps being near to or exceeding the design base life of 40 years.

Implications for management of assets and Levels of Service

The Land Drainage Recovery Programme (LDRP) was formed in 2012 to investigate the consequences of the earthquakes on the whole land drainage network, deliver capital works and develop processes to be included in normal operations. The $1.2 billion programme comprises both operational expenditure (investigation) and capital expenditure (construction) components. Currently there are 13 committed capital works projects set to provide a response to the remaining areas of the city with a flooding risk. These, and the subsequent list of prioritised projects, are currently tracking to take longer than 30 years to complete.

The Council has seven Stormwater Management Plans, which are required under the Comprehensive Stormwater Network Discharge Consent (CSNDC) issued by Environment Canterbury, authorising the discharge of stormwater, and the acceptable contaminate limits. The plans detail what infrastructure is required to meet the consented water quality and quantity outcomes for a specific catchment, in order to meet the demands of growth.

The implementation of the AAIF is also underway to improve asset management maturity. It is operational for reticulation, determining renewals requirements through a multi-criteria assessment.

Transport

The Council is responsible for the operation and maintenance of the transport network, maintenance and repairs of roads and footpaths, improvements and upgrades, and planning for the future. We own, plan and manage the 2,500 km local roading network that supports all transport activities. This includes:

- 2,200 km of sealed road, 300 km of unsealed road, 3,600 km of kerb and channel, 34,000 catchpits, and 2,600 km of footpath
- 350 road bridges, 116 foot bridges, and 1,600 retaining walls
- 38,000 street lights, 250 signalised intersections, 56,000 street signs
- 65,000 street trees and 10,000 landscaped areas
- 540 km of cycling/shared path network including on road cycle facilities (Greenway or cycle lanes), separated cycleways and shared paths
- 1,000 bus shelters, 4 km of tram line and 437 parking meters, 1 bus interchange and 1 parking building.

Asset condition and performance

SCIRT works repaired or replaced 1,378.000 square metres of road damaged in the earthquakes; 144 bridges or culvert; and 181 retaining walls. Although much of the earthquakes-related damage has been repaired, the effects of the earthquakes on the condition of our transport assets is still evident. For example, condition modelling on our carriageways indicates that even with increased levels of operational expenditure and renewals funding, it will take between 10 and 30 years to return the assets to a condition that is on par with the national average. The condition of our footpaths and structures has also been dominated by earthquake effects; although many have been restored there is a way to go. *[Reference will be added to asset condition surveys]*

Currently, 50% of our network of carriageways is beyond its expected life – many roads are rough, and customer satisfaction is very low. At the same time, growth and new subdivisions are resulting in increased traffic volumes and heavy vehicle use in certain locations, which is impacting the useful life of the carriageways and increasing maintenance costs.

Christchurch has areas of deep dish channel approaching end of life and needing replacement before further deterioration and ultimately, failure. There is a backlog of work, which will rise as the assets built in the 1950s near their end of life.

Currently the cycleways network is in a good condition, and is not detrimentally affecting performance. Most off-road cycleways have base layers are less than 30 years old and are therefore unlikely to need renewal for at least 50 years.

Implications for management of assets and Levels of Service

The Council's asset management units are working to improve data collection systems and use of data. It is hoped this will provide a better understanding of the condition of some assets.

Significant future improvement projects, forming part of the Asset Management Improvement Programme (and outlined in further detail in the Transport AMP) are:

- Alignment with 2021 Government Policy Statement on Land Transport
- Knowledge transfer from experienced asset management practitioners
- One Network Framework implementation
- Transport asset risk.

Facilities

Community facilities

Community assets include a network of 82 community facilities, comprising community centres, halls, volunteer libraries and early learning centres across Christchurch and Banks Peninsula. This includes 63 community facility halls, 14 early learning centres, and five volunteer libraries, - eight of which are new assets built post-earthquakes and 12 have heritage status (some exceeding 140 years of age).

Many community facilities are ageing: 60% of assets exceed 50 years of age, and the average asset age of the portfolio is 60 years (with a 70-year useful life span). Deferred maintenance - due to lower operational and capital budgets than are optimal - and a reluctance to limit or reduce the portfolio, has impacted on the overall asset condition of the network and created an impending bow wave of assets with maintenance works required.

The Community Facilities Network Plan[39] provides a framework for Council decision making on facilities across the city. It promotes community groups operating facilities, and a consistent approach to considering new facilities or changes in use (optimising asset utilisation), and recommends an increased focus on activation through partnership. The CFNP has found that the number of facilities provided by the Council, in conjunction with other providers such as churches and schools, cumulatively provide for a well-dispersed and adequate supply across Christchurch.

Libraries

The network of 20 libraries (plus a mobile library service and digital platform) across the city and Banks Peninsula is in good condition, and has benefitted from a substantial programme and repairs and rebuilds following the earthquakes. Tūranga, the city's recently-completed flagship central facility has won awards for its innovative and sustainable design. The South Library is the only library still requiring completion of post-earthquake repairs (strengthening). A decision on the long-term future location and nature of a permanent Linwood Library facility may be required at a later point, subject to the ongoing suitability of the currently leased space in a retail mall. In recent years, libraries and walk-in Council customer services have co-located, in line with the Council's Citizen Hub Strategy.

Other facilities

The Christchurch Art Gallery Te Puna o Waiwhetū, which opened in May 2003, as an activity also has responsibility for the 'Akaroa Museum Complex'. A repair and strengthening project of the Christchurch Art Gallery was completed in 2015, and a project to gather condition information for key building elements was completed in 2017.

The corporate accommodation portfolio also includes strategic land, storage, service centres, and parking buildings, the Bus Interchange, and the Tram Barn. The primary facility within the portfolio is the Christchurch Te Hononga Civic Offices building located at 53 Hereford Street in the central city. Ownership of the facility is split equally between the Council and Ngāi Tahu.

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[39] Christchurch City Council, *Community Facilities Network Plan*, 2020, final version of draft plan for adoption: https://ccc.govt.nz/assets/Documents/Consultation/2020/CUS3777-Community-Facilities-Network-Plan-2020-WEB.pdf (final, adopted version awaiting upload to web as at 1/2/2021)

A key issue for Te Hononga Civic Offices and the Christchurch Art Gallery Te Puna o Waiwhetū is the decline in fuel source stock (land fill gas) from the Burwood Resource Recovery Park, which powers these facilities. It is estimated that the flow of gas extracted will fall to an unacceptably low volume, with an associated reduced quality, within three to five years from now (or earlier). We are undertaking an options study to determine the best future fuel source. Depending on the replacement fuel source selected, there could be a significant impact on operational expenditure (from a likely increase in the cost of an alternative fuel), and capital expenditure (from the cost of modifying or replacing existing supporting infrastructure).

Community housing

The Council began its commitment to providing community housing (formerly referred to as social housing) for vulnerable people by building eight units in 1921 in Sydenham. Nearly a century later, this has grown to a stock of over 2,300 units and we are the second-biggest landlord in New Zealand. Where possible, provision is undertaken in partnership with others. The building of new community housing is rates-neutral.

Central government subsidies and low-interest loans financed the capital costs of a community housing boom from the 1960s-1980s. However, operational expenditure for maintenance fell on the Council, and time and budget deferrals have resulted in a bow wave of mid-century buildings being inadequately maintained to meet current regulations and expectations for safe and healthy homes (50% of the Council's asset base now exceeds 40-50 years of age and is at the point where midlife refurbishments are needed/expected).

The Ōtautahi Community Housing Trust was set up in 2016 to access supply contracts from the Government to increase the amount of public housing. The Trust runs the day-to-day operation of the Council's community housing portfolio. We loaned the Trust $30 million (2018) and a further $25 million (2020) to build 215 new units and develop plans for a further 54 units.

Implications for management of assets and Levels of Service

Community facilities

The recently-adopted Community Facilities Network Plan highlights a need to capture further asset data to facilitate more advanced asset management analysis. It recommends an assessment of each Council-owned asset regarding its fitness for purpose and capital works requirements is undertaken.

The following improvements to asset planning processes are included and outlined in further detail in the Community Facilities asset plan:

- upgrading capture and storage of asset condition data
- advancing asset data storage
- investigating retrospective Building Information Management (BIM) data capture on existing assets.

Community housing

The following improvements to planning processes are included in the Asset Management Improvement Programme in the Community [Social] Housing AMP:

- interpretation of asset data to inform advanced and prioritised works programmes
- prioritisation based on age and condition of assets, alongside demand, demographic and locational factors
- facilities infrastructure design project to assist building specifications
- planning for resilience to climate change, sea level risk and natural disaster events

- options and analysis on potential stimulus package for post-COVID-19 pandemic economic situation
- options and scenarios for growing the number of community housing units in Christchurch and potential funding source.

The new Community Housing Strategy 2021-2031, adopted in January 2021,[40] will inform the future direction of the portfolio. It reflects the need to think more broadly about assisted, including social, housing in Christchurch in order to meet future demand for it.

Parks

The Parks Unit manages around 1,250 sites, covering over 9,378 hectares[41] of park land and improvements (with a land value of $771 million).

The Parks portfolio of assets includes the following:

- Community parks
- Local neighbourhood parks
- Garden and heritage parks
- Sports parks
- Cemeteries
- Botanic Gardens
- Hagley Park and Ngā Puna Wai
- Regional Parks
- Parks foreshore (marine access assets)
- Residential Red Zone
- Heritage/taonga items that are located on Council parks, such as: Council-owned items listed in District Plan-schedules, artworks, monuments, clock mechanisms, ornamental fountains, museum collections, archaeological artefact collections and plaques.

Asset condition and performance

We face issues with the continual growth and development of new green space and improvement of assets: these need to be added to the existing, deteriorating asset base, and the need to find operational expenditure to maintain them adequately places significant pressure on operational and capital budgets. Another pressure on these budgets is the fact that Council's parks do not generate income and are therefore unable to offset the long-term cost of maintenance and renewal.

The expected life for constructed assets typically varies from five to 100 years. Due to the varied nature of the assets it is very difficult to accurately predict their design lives. On the basis of modelled data, it is reasonable to assume that there will a significant peak in some assets reaching the end of their useful life within this 30-year LTP period. This data was gathered either on the basis of physical inspection, or by estimating the

[40] Christchurch City Council, *Draft Community Housing Strategy*, 2021, version for community consultation, https://ccc.govt.nz/assets/Documents/Consultation/2020/10-October/STR3766-Draft-Community-Housing-Strategy-booklet-WEB.pdf (final, adopted version awaiting upload to web, as at 1/2/2021)
[41] Christchurch City Council, Parks Asset management Plan, August 2020

remaining useful life based on install dates and in some cases, where the install dates are not known, based on the average known install date for that asset type.

For Parks Heritage assets, the overarching Our Heritage Our Taonga Heritage Strategy 2019-2029 sets out goals and actions for all of our heritage assets (not only Parks Heritage). The Strategy has goals to best manage and preserve our heritage, in its many forms, in Christchurch and Banks Peninsula. For Parks Heritage assets, age profiling and the standard renewals lifecycle approach is not applicable for heritage assets as for other assets.

Implications for management of assets and Levels of Service

The following improvements to data quality are included and detailed in the Parks and Foreshore AMP:

1. ongoing condition assessment of assets, predominantly building condition
2. finding solutions as to how refurbishment works completion updates asset condition
3. facilitating more advanced data analysis once data is captured.

For *Parks Heritage* assets (i.e. those parks that have recognised heritage values and are dealt with separately in asset planning) a number of improvement tasks have been identified:

1. transferring all heritage building assets to the same profit centre
2. verifying and completing data collection for all Parks Heritage assets
3. completing an Asset Management Maturity assessment for Parks Heritage Management
4. reviewing and developing maintenance plans.

Information technology

Information Technology assets provide IT enablement for the delivery of services across the Council. Key activities delivered by IT include:

- Technology enablement (e.g. per annum - 4.5 million library book issues; 650,000 calls or email to contact centre; 126,000 requests for services (40% on digital channels); and 1.8 million web site visits, and supporting $13 billion worth of city assets).
- Information and records management services (over 17.5 million official digitised records, more than 30,000 cartons containing historical paper records and 1,600 linear meters of Council archival material).
- Asset and infrastructure management (including over 3,500 user devices; third party Infrastructure as a Service (IaaS) operating 600+ line of business applications; and a secure and resilient data network across the city, which connects over 70 council facilities, is used for critical services such as water and waste and Christchurch Transport Operations Centre, and free Wi-Fi access at Council facilities).
- IT support services
- Cyber Security Programme and operational services.

The Council engages a number of contractors to deliver IT services, outsourcing tasks or service assets that are not part of our core business. Increasingly, service outcomes are better delivered by a party specialised in that area, freeing up IT to focus on higher-value business services. There is likely to be continued shift to cloud-based services in the future.

Asset condition and performance

Asset condition is generally not measured in the same way as it is for other asset types. The useful life of IT assets is a lot shorter than most other assets across other asset classes. For example, the average lifespan of the desktop fleet is four years, necessitating a continual cycle of replacements.

Implications for management of assets and Levels of Service

The utilisation of assets is likely to change as a result of demand, leading to potential gaps Service and increased maintenance and renewal costs. Asset utilisation will need to be monitored more effectively so that trends, issues and solutions can be identified to respond to demand changes.

The Council does not have a comprehensive performance and utilisation monitoring solution in place across all IT assets, however we are able to monitor utilisation of different asset groups via various methods. We are currently reviewing a number of software solutions that would enable Council to accurately monitor, assess and forecast asset investment.

Solid waste and resource recovery

The vision of the Council's statutory Waste Management and Minimisation Plan 2020 is, *a city of opportunity where nothing is wasted.* This will be achieved by education initiatives, kerbside collections services, a used products reuse facility, an organics processing plant, a materials recycling facility, and transfer stations and community collection facilities - in order to minimise residual waste before it is sent to landfill. These activities support a healthy environment and sustainability of resources by facilitating education, reuse, recycling and composting.

Assets covered under the Resource Recovery portfolio are largely managed through operations and maintenance contracts, which include individual asset management processes and a return of assets at the end of the contract. These assets include: transfer stations and community collection points, a material recovery facility, an organic processing plant, the regional landfill (Kate Valley, of which the Council is a 39% shareholder of owning body Transwaste Canterbury Ltd), the Burwood Landfill – gas collection and treatment plant, and 50 closed landfills owned by the Council (there are a further 80 closed landfills across the district).

We provide both kerbside and drop-off facilities for residential waste, organics and recycling. Traditional council-run landfills, where residents could discard unwanted material directly to the tipping face, have been replaced with high tech collection and resource recovery systems with any residual waste now sent to Kate Valley, which is owned by joint venture between Canterbury Councils and Transwaste Canterbury Ltd. Council owns the Materials Recovery Facility and the land and buildings at the Organics Processing Plant, however both are operated and maintained under contracts. Waste collection is managed through a service contract, which includes provision of the bin infrastructure and the fleet.

Recent developments

The Canterbury earthquakes led to a rise in waste that peaked in 2014, when most earthquake work was being completed, and has slowly started to decline. With the economic downturn effects of COVID-19, waste has dropped off quickly and will only slowly rise as the economy improves. Waste levels generally fluctuate in relation to economic growth and downturn.

The collapse of international models for low-grade recyclables will mean increasing costs and a dependency on NZ market to respond with viable alternatives for waste and resource recovery. The Council is working with central government, industry and other territorial authorities to ensure investment decisions enable a shift towards a circular economy focused on diversion of resources from landfill.

'Excessive, wasteful consumption and new composite products are overwhelming our ability to recycle or compost'. During 2019 various new national waste reduction and minimisation initiatives were announced by the Government. These include expanded product stewardship and priority products initiatives, a proposed container return scheme, restrictions on certain plastic products, and a review of the landfill levy.

The Council must consider the impacts of carbon emissions generated by our collections fleet and processing facilities. Also, many of our facilities and closed landfills are vulnerable to anticipated changes in sea level and associated impacts.

Asset condition and performance

The ageing infrastructure across the city's transfer stations poses an issue as many of the buildings and plants are nearing their end of life. See the Resource Recovery AMP for further detail on this.

Closed landfills present a significant risk, with unknown conditions and resilience challenges. The Council is currently undertaking an assessment on known closed sites to better understand the costs and requirements for remediation, to inform a closed landfill prioritisation process.

EcoCentral has received a government grant to upgrade the Materials Recovery Facility and improve the processing of recyclables. The Council is investing in upgrades at the Organic Processing Plant to better control odour emission and improve the processing capacity.

Implications for management of assets and Levels of Service

The Council must review its Waste Minimisation and Management Plan (WMMP) at least every six years, with the latest iteration completed in 2020. The WMMP outlines the Council's strategy and approach towards resource recovery services, and establishes demand for collection and waste processing facilities. The Plan's focus areas over the next six years are: maximising composting of organics; maximising recycling of recyclable materials; safe management of hazardous substances; showing leadership and innovation across the sector; and delivering effective resource recover education and communication.

Appendix 3: Value of our asset portfolio

Asset class	Replacement Cost (Excludes Land)	Replacement Cost % of Portfolio
Transport	4,146,014,977	24.6%
Three Waters & Resource Recovery	10,409,980,882	61.9%
Parks	796,141,288	4.7%
Facilities	1,259,234,960	7.5%
IT	164,501,843	1.0%
Other	53,341,890	0.3%
	16,829,215,840	**100%**

Asset Portfolio Replacement Cost[42]

[42] Strategic Asset Management Plan, June 2020 data

Appendix 4: Overarching assumptions for the Infrastructure Strategy

Assumption	Level of uncertainty and reason/s for this and implications/risks
Growth/population ***NB growth projections are likely to change in early 2021 as a result of updated StatsNZ population projections, based on the 2018 census.***	
The population of Christchurch City will continue to grow, reaching around 490,000 by 2051.[43]	There is a low level of uncertainty regarding this assumption for years 1-10, and a medium level of uncertainty regarding this assumption for years 11-30. Achieving these levels of population and household growth is reliant on cooperation between Christchurch City and neighbouring district councils (Waimakariri and Selwyn), to achieve the agreed policy direction for settlement. It is also reliant on other external factors, such as immigration policies and trends, and economic opportunities. The Council must plan for growth and provide the right infrastructure at the right time to service growth demand. Planning and delivery of infrastructure to service growth development is under constant review and adjusted through the LTP and Annual Plans where required.
The population of the Selwyn district is projected to grow by 42,000 to reach 110,000; Waimakariri district is projected to grow by 23,500 to reach 89,000 – both by 2051.	There is a low level of uncertainty regarding this assumption for years 1-10, and a medium level of uncertainty regarding this assumption for years 11-30. Many residents from neighbouring districts work in Christchurch, which adds to demand on our infrastructure and particularly our road network, as well as our community infrastructure such as sports facilities, pools etc.
The number of households in Christchurch City will continue to grow, reaching around 197,000 by 2051.	There is a low level of uncertainty regarding this assumption for years 1-10, and a medium level of uncertainty regarding this assumption for years 11-30. The Council must plan for growth and provide the right infrastructure at the right time to service growth demand.

[43] This is a hybrid growth scenario based on Stats NZ medium-growth projections for Christchurch for years 1-10 and the medium growth projections with Our Space's policy direction (70% of total growth across Greater Christchurch directed to Christchurch City) for years 11-30

Assumption	**Level of uncertainty and reason/s for this and implications/risks**
	Planning and delivery of infrastructure to service growth development is under constant review and adjusted through the LTP and Annual Plans where required.
The average household size is will decrease over time, resulting in a decrease from 2.5 to 2.4 persons per household between 2028 and 2033. Eighty per cent of household growth will be in one and two-person households.	There is a low level of uncertainty regarding this assumption; it is based on 2017 household projections (StatsNZ) and reflects trends that occur with an ageing population. This will result in changes in average household demand on infrastructure and for services. Planning and delivery of infrastructure to service growth development is under constant review and adjusted through the LTP and Annual Plans where required.
The population will age. The number of people aged over 80 years will be around 45,000 by 2051 (almost tripling the current number of people).	There is a low level of uncertainty regarding this assumption; it is based on StatsNZ December 2016 population figures and Our Space 2018-48 settlement pattern projections. An ageing population is likely to mean some levels of service will need to evolve to meet specific requirements of older residents. Levels of service are under constant review and can be adjusted through the LTP or Annual Plan as required. Older residents are more likely to be on fixed incomes and be more sensitive than other residents/ households to increased Council costs including rates.
Financial	
Inflation will be as forecast in the BERL local government cost adjusters 2020. The assumed inflation rates by year for the 2021/31 period are:	There is a low-medium level of uncertainty regarding this assumption. The level of inflation is managed through 3-yearly LTP adjustments.

	Opex	**Capex**		**Opex**	**Capex**
2021/22			**2026/27**	**2.4**	**2.6**
2022/23	**2.10**	**2.30**	**2027/28**	**2.5**	**2.7**
2023/24	**2.20**	**2.40**	**2028/29**	**2.7**	**2.8**
2024/25	**2.30**	**2.50**	**2029/30**	**2.7**	**2.9**
2025/26	**2.4**	**2.5**	**2030/31**	**2.6**	**2.7**

Inflation following this period is assumed to be:
Opex annual: 2.2
Capex annual: 2.3

The Current Funding Assistance Rate (FAR) of 51% on qualifying expenditure will not change. We will receive the total amount of subsidy that we have assumed we will receive.	There is a moderate level of uncertainty regarding this assumption. Changes to government funding priorities and Waka Kotahi funding decisions are outside Council control and the risk varies from project to project. The maximum financial impact

Assumption	Level of uncertainty and reason/s for this and implications/risks
	would be the elimination of the subsidy, which is extremely unlikely. Decisions on what projects will be funded through the National Land Transport Fund will not likely be confirmed until after 30 June 2021, and this means there is some uncertainty around funding for some projects.
The Council will retain access to, at the least, the level of insurance cover it currently has on its infrastructure and facilities. The Council will have the ability to increase cover if it deems this to be financially prudent.	There is a low-medium level of uncertainty regarding this assumption – the Council has no control over external factors that may affect access to insurance.
The Council will receive funding from central government towards 'shovel-ready' infrastructure projects, as part of the Government's stimulus package response to the economic effects of COVID-19. Funding confirmed to date (November 2020) is for the completion of six cycle routes, resulting in $90.8 million included in the capital programme over the first three years of the LTP.	There is a low level of uncertainty regarding the assumption that the Council will receive funding for the six cycleways the Government has already committed to. However, there is a medium-high level of uncertainty regarding any assumed funding for the remainder of the $818 million of projects submitted by the Council, as decisions have not yet been made regarding them. Any further funding confirmed will be included in Council LTP or AP documents as appropriate. The latter creates uncertainties in planning and prioritising projects: delivery of some other infrastructure projects may need to be pushed back, to enable earlier than planned completion of 'shovel ready' ones. Also, increased demand on contractors to deliver projects may impact on pricing, and labour force or materials availability.
The Council will receive funding from central government for infrastructure projects from the Christchurch Regeneration Acceleration Fund, as follows: - $40 million for developing the Green Spine through the Ōtākaro Avon River Corridor red zone. - $40 million for improving roads and footpaths, safety initiatives, and bus priority measures on key public transport routes. - $220 million for the Canterbury Multi-Use Arena.	There is a low level of uncertainty regarding the assumption that the Council will receive funding, as the Government has committed to this.
The Council will receive funding from central government (around $20 million + a share of a regional grant) to spend on three waters infrastructure and	There is a low level of uncertainty regarding this assumption. The Council has signed an MOU with the Government to enter into discussions as part of

Assumption	**Level of uncertainty and reason/s for this and implications/risks**
service delivery, as part of stage one of the Government's three waters reforms.	stage one (this was a condition of receiving this funding).
Environmental/natural hazards	
Climate change occurs following the IPCC scenario, representative concentration pathway (RCP) 8.5, as per *MfE recommendations*[44], *National Climate Change Risk Assessment methodology*[45] *and NIWA projections*[46,47]: increased frequency and intensity of storm events; more intense and frequent extreme rainfall events; increased number of landslides and worsening erosion; more severe droughts. Average temperature rise of 0.5°C to 1.5°C by 2040, and 3.0°C hotter by 2090 (average maximum temperatures up to 3-4°C hotter by 2090 and average minimum temperatures 1-2°C hotter by 2090); more very hot days (>25°C); more fire hazard days; more frequent and extreme high winds; fewer frosts; annual rainfall similar to current, but seasonally shifted and concentrated into extreme events.	There is a low-medium level of uncertainty regarding this assumption in the first 30 years, a medium level of uncertainty for 50 years, and a medium-high level of uncertainty for 100 years. This is due to flat early exponential trend and similarity of different scenarios in short to medium term (and steepening/diverging trends in longer term). If the changes are different from what is predicted, this will be assessed as it becomes evident.
Projected sea level rise of 0.3m by 2050, 0.5m by 2075 and 1m by 2115; shallow groundwater also expected to rise in coastal areas and near tidal reaches of rivers. *(MfE recommendations and 2017 Coastal Hazard Assessment for Christchurch and Banks Peninsula, Tonkin and Taylor based on IPCC RCP 8.5, as used in National Climate Change Risk Assessment)*	There is a low-medium level of uncertainty regarding this assumption in the first 30 years, a medium level of uncertainty for 50 years, and a medium-high level of uncertainty for 100 years. The further into the future we look, the more there is uncertainty in the IPCC scenarios. Continuing to monitor and adapt to the impacts of natural hazards on our infrastructure and communities, will need to be a priority for the Council. Christchurch is the most at-risk city in New Zealand from the effects of sea level rise. We have significant infrastructure that will be affected by the assumed sea level rise. The Council's approach to how it will respond to rising sea level will evolve as it gains increased understanding of the threat and of options available to adapt to that threat.
There is a 30% chance of a rupture on the Alpine Fault of magnitude 8.0 in the next 50 years.	There is a medium level of uncertainty regarding this assumption. This is based on scientific modelling - GNS Science, Alpine Fault, https://www.gns.cri.nz/Home/Learning/Science-

[44] https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/coastal-hazards-guide-final.pdf
[45] https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/national-climate-change-risk-assessment-main-report.pdf
[46] NIWA Client Report 2016160AK, *Climate Change and Variability- Ngāi Tahu*, Pearce, P.R, Tait, A., Bell, R.G., Mullan, A.B., Paul, V., Law, c., Collins, D., Zammit, C, Sood,A.
[47] NIWA client report 2019339WN, *Climate Change Projections for the Canterbury Region,* February 2020, Macara, G., Woolley, J-M., Pearce, P., Wadhwa, S., Zammit, C., Sood, A., Stephens, S.

Assumption	Level of uncertainty and reason/s for this and implications/risks
	Topics/Earthquakes/Major-Faults-in-New-Zealand/Alpine-Fault What is ***not*** known is the extent and degree of the impacts of an AF earthquake - therefore the risk in this sense is not well understood. Other, local earthquakes may be more damaging. However, building infrastructure to seismic design standards recommended by seismic engineers *should* cover what is needed to mitigate the risk.
Assets and services	
Demand for services will grow in line with a growing city.	There is a low level of uncertainty regarding this assumption. Low risk of infrastructure development misaligning with demand.
The Council will continue to own three waters assets, and deliver these services, over the life of the LTP.	There is a high level of uncertainty regarding this assumption. Central government announcements and funding indicate that the service delivery model and funding for three waters will be required to reform. It is highly likely that we will be required to move towards a regional, arms-length service model, for water supply and wastewater within five years. This could impact on the Council's respective investment decisions in the short-medium term.
We will retain ownership of our assets.	There is a medium level of uncertainty regarding this assumption. Significant decisions within the 30 year period of the Infrastructure Strategy may see the Council divest and/or gain assets and/or ownership and responsibility for assets, particularly in light of three waters reforms (above). Change in ownership of infrastructure assets could affect revenue, expenditure and debt levels, asset planning and investment decisions and levels of service. Most Council assets of any significance are listed as strategic assets in the Council's Significance and Engagement Policy, which means the Council needs to include any proposal to sell or dispose of these assets in its draft LTP and therefore undertake a special consultative procedure on any such proposal.
Legislative	
Changes to legislation and policy during the development of the Infrastructure Strategy will impact on the management of our assets and delivery of services.	There is a low level of uncertainty regarding this assumption. We know there will be changes to legislation and national policy, including wide-scale reform of resource management legislation.

Appendix 5: Assumptions about asset life cycle

Water supply			
Asset type	*Theoretical useful life*	*Where does the asset sit in its life cycle*	*Level of uncertainty (if applicable)*
Reticulation	Cast iron – 120 years Steel – 100-120 years Asbestos cement – 60-80 years Blue PVC pipe – 30-60 years	13% < 5% TUL remaining (condition grade 5) All materials are heading towards a renewals peak at the same time.	Low level of uncertainty
Stations	Civil and structural – long asset life Mechanical, electrical and IAC – shorter asset life	Nearly 30% < 5% TUL 44% > 50% remaining TUL (condition grade 1)	There is a medium level of uncertainty associated with this assumption – a large number of start-up dates are missing
Treatment assets	Water supply treatment plants		There is a medium level of uncertainty associated with this assumption –the majority don't have start-up dates.

Wastewater			
Asset type	*Theoretical useful life*	*Where does the asset sit in its life cycle*	*Level of uncertainty (if applicable)*
Reticulation	Concrete – RCRR – PVC – 30-60 years Asbestos cement – 60-80 years EW/VC -	14% < 5% TUL A significant proportion of the network was renewed after the Earthquakes, so the renewal peak is less pronounced. RCRR (reinforced concrete with rubber ring joints) pipes make up a large proportion of the remaining poor condition pipes	
Stations	Civil and structural – long asset life Electrical and IAC assets – shorter asset life	13% < 5% TUL. High proportion, leading to renewals forecast spike in 2021	There is a medium level of uncertainty associated with this assumption, as the condition data is sparse
Treatment assets	Bromley WWTP Banks Peninsula WWTPs		There is a medium level of uncertainty associated with this assumption – many treatment assets don't have start-up dates.

Surface water and waterways			
Asset type	*Theoretical useful life*	*Where does the asset sit in its life cycle*	*Level of uncertainty (if applicable)*
Reticulation	Concrete – RCRR -	6.8% < 5% TUL. High proportion of these are RCRR pipes with EQ damage still, as well as brick and rock and earthenware	Low level of uncertainty
Waterway lining	Timber – 40 years Concrete – 100 years Rock -	Timber lining reaching the end of its useful life in peaks in 6-10 years, and 16-20 years 10% of network between < 5% and < 15% TUL	Low level of uncertainty (due to LDRP inspections)
Pump station assets	Pumps - 40 years Civil and structural – long asset life	Range from 1-51 years. Nearly 60% at condition grade 5. Remaining useful life of actual pump stations cannot be provided due to number of asset groups and components within a pump station	
Flood protection structures	Stopbanks - Valves – 100 years		Low level of uncertainty
Treatment and storage facilities	Lining Soakpit Basins	Approx 45% lining and 62% soakpits are condition grade 3-5	

Transportation			
Asset type	*Theoretical useful life*	*Where does the asset sit in its life cycle*	*Level of uncertainty (if applicable)*
Carriageways	At least 80 years 'economic life'	50% beyond expected life	
Drainage (kerb and channel)	Concrete – 80 years	Approx 135 km (of total 3,500 km) beyond expected life (as at October 2019)	
Footpaths	Asphaltic concrete – 25 years Concrete – 80 years	Approx 300 km (of total 2,580 km) of asphaltic concrete beyond expected life	
Bridges	Concrete, steel – 100 years Timber – 70 years		
Retaining walls	50 years		
Cycleways	80 years approx	Majority of off-road cycleways are less than 30 years old and in good condition	

Resource Recovery			
Asset type	*Theoretical useful life*	*Where does the asset sit in its life cycle*	*Level of uncertainty (if applicable)*

Attachment D Item 3

Transfer station – plants	Depends on future requirements and cost of refurbishment vs new options		
Transfer station – buildings	50-100 years, depending on future requirements and cost of refurbishment vs new	30-40 years old (Parkhouse, Styx Mill, Metro)	
Material Recovery Facility		Developed since 2000 (currently owned and operated by EcoCentral)	
Organics Processing Plant	Building - 50-100 years Aeration and biofiltration system – 25-30 years	Building commissioned in 2009	
Burwood Landfill; other closed landfills			

Parks			
Asset type	*Theoretical useful life*	*Where does the asset sit in its life cycle*	*Level of uncertainty (if applicable)*
Parks furniture	25 years	Varied	Low level of uncertainty as based on industry literature, performance observations and staff knowledge. However, there is a high level of uncertainty regarding the age of many of the assets due to start up dates being largely unknown.
Sports equipment, fountains, play surfaces, backflow	10-20 years	Varied	
Fence, hedge, tree planter	30 years	Varied	
Boat ramp, car park, stairs, track, shelter	35 years	Varied (but hard surfaces asset group has highest proportion of poor condition assets; requires prioritised attention in the next 10 years)	
Boardwalk, gate, flagpole, bollard, viewing platform, cattle stop	40-50 years	Varied	
Bridge, jetty, retaining wall, water tower, terraces, culvert	60-80 years	Varied	
Heritage assets	N/A	Varied	High level of uncertainty, as it can be difficult to estimate useful lives, which in some cases could be several hundred years. The standard renewals lifecycle approach is not

			applicable to heritage.

Facilities			
Asset type	*Theoretical useful life*	*Where does the asset sit in its life cycle*	*Level of uncertainty (if applicable)*
Libraries	60-70 years	A number were built in the mid-90s – will be nearing end of life by 2050	Low level of uncertainty
Community housing	90 years	Almost half of stock was developed during the 1970s; a quarter during 1960s; these are due for mid-life refurbishments in the next few years	Low level of uncertainty
Art Gallery		Opened 2003	Low level of uncertainty
Community facilities	70 years	60% > 50 years of age	Low level of uncertainty
Early learning centres	70 years	Acquired or developed in 1990s	Low level of uncertainty
Volunteer libraries	70 years		

Appendix 6: Infrastructure-relevant strategies and plans

Key strategies and plans that direct or influence infrastructure planning and provision

There are numerous other Council strategies and management plans that may influence or need to be taken into account in infrastructure planning – the full list can be found here: https://ccc.govt.nz/the-council/plans-strategies-policies-and-bylaws/find-a-plan-strategy-policy-or-bylaw

Canterbury Regional Land Transport Plan 2015-2025, *reissued 2018 (Environment Canterbury Regional Land Transport Committee) 2021 version currently in development*	Published every three years as the Canterbury region's bid for the National Land Transport Programme funding. This enables the Council to receive funding from Waka Kotahi. The document outlines the agreed priorities for the regional transportation network, and the challenges we face now and in the future.
Canterbury Regional Policy Statement *(Environment Canterbury, 2013, republished 2020)*	Supports the city's intensification targets, providing higher density developments (including mixed use) and a greater range of housing types, particularly in and around the Central City, Key Activity Centres, and larger neighbourhood centres, and in greenfield priority areas and brownfield sites. Directs that intensification development within the Central City achieves an average of 50 households per hectare.
Canterbury Regional Public Transport Plan 2018-2028 *(Environment Canterbury, 2018)*	Describes future services proposed to meet the needs of new and existing customers and the policies which those services will operate by, and the partnership model in place with operators and local territorial authorities.
Central City Action Plan *(Christchurch City Council, 2018)*	Aims to encourage people back to the central city, through bringing together a range of regeneration projections and activities.
Christchurch District Plan *(Christchurch City Council, operative from 19 December 2017)*	Regulates spatial planning across the district and thus influences infrastructure location, provision and requirements to support development.
Christchurch Transport Plan *(currently being developed, Christchurch City Council)*	The Plan will set the 30-year transport vision for Christchurch City, with an immediate focus on the next 3-10 years. The new Plan will address key challenges of reducing emissions, improving road safety, the impacts of an over-dependence on private vehicles, and the need to create people-centric streets that make the city attractive to live in, work and visit.
Government Policy Statement on Land Transport *(Ministry of Transport, 2020)*	Sets the Government's priorities for land transport investment over a 10-year period, and how money from the National Land Transport Fund (NLTF) is spent on activities such as public transport, state highway improvements, local roads, and road

	safety. Local authorities need to ensure spend on transport reflects Government priorities outlined by the GPS.
Citizen Hub Strategy *(Christchurch City Council, 2015)*	Sets out direction for how and where we enable citizens' interaction with the Council regarding services, including whether it is digital or facility-based.
Climate Change Strategy *(draft under development, with community views being sought on it as part of the consultation on the proposals in the draft LTP 2021-31, Christchurch City Council, 2020)*	Identifies goals and action programmes to guide the Council's response, along with its communities, to addressing the impacts of climate change, including a first step of identifying infrastructure that is vulnerable to sea level rise and other impacts, to inform community discussions and asset planning.
Community Facilities Network Plan *(Christchurch City Council, adopted 2020; final draft version – adopted version awaiting upload to web)*	Maps out Council-owned and community-owned facilities across the city so that we can work with the community to make the most of each facility in the network, and identify and support opportunities for the community to activate, operate or own facilities. The Plan does not identify any closures and recognises future consideration should be given to the effects of any further population increases to the south west and north of the city.
Community Housing Strategy 2020-2030 *(Christchurch City Council, adopted January 2021; final draft link - adopted version awaiting upload to web)*	Identifies the strategic roles and actions for the Council so we can help ensure sufficient community housing is provided for in Christchurch.
Mahaanui Iwi Management Plan (*Ngāi Tahu, 2013*)	Guides councils and other agencies' decisions about the environment and protection of resources, and infrastructure provision, by providing valuable insight to Ngāi Tahu values, issues and aspirations for the recognition, protection and management of taonga (treasures) and cultural interests.
National Policy Statement on Freshwater Management *(Ministry for the Environment, 2020)*	Sets quality and quantity targets for freshwater - raising standards for infrastructure such as stormwater assets, in particular.
National Policy Statement on Urban Development *(Ministry for the Environment, 2020)*	Requirement for infrastructure to service anticipated growth (medium and long-term) by supporting the provision of sufficient development capacity to meet expected demand for housing and business land.
Ngāi Tahu Rangatiratanga over Freshwater *(Te Runanga of Ngāi Tahu, 2019)*	Sets out strategic intent of: establishing Ngāi Tahu title over freshwater in the takiwā ; establishing a regulatory authority; and securing Ngāi Tahu fiscal authority over freshwater in the takiwā.
New Zealand Coastal Policy Statement (NZCPS)*(Department of Conservation, 2010)*	Statutory framework, which directs Councils to give effect to policies specific to the identification, avoidance and management of coastal hazards; including ensuring that coastal hazard and climate change risks are managed by locating new development

	away from vulnerable areas prone to such risks, considering responses including manage retreat for existing development; and protecting or restoring natural defences to coastal hazards. The Canterbury Regional Policy Statement (2013) gives effect to the NZCPS and sets out objectives, policies and methods for district plans. This will be reviewed by Environment Canterbury in 2023, alongside the Regional Coastal Environment Plan (2005).
Ōtākaro Avon River Corridor Regeneration Plan *(Regenerate Christchurch, 2019)*	Sets our vision and objectives for future use of the 602 hectares of red zone in east Christchurch: implementation requires key infrastructure provision of stormwater management areas, stopbanks, open spaces and amenity, and transport links.
Our Heritage, Our Taonga – Heritage Strategy 2019-2029 *(Christchurch City Council, 2019)*	Sets out how we intend to work in ongoing partnership with Ngāi Tahu and in collaboration with our communities to identify, protect and celebrate heritage - including the built and natural environment, tangible and intangible heritage, including stories, memories and traditions, and movable heritage.
Our space 2018-2048: Greater Christchurch Settlement Pattern Update *(Greater Christchurch Partnership, 2018)*	Outlines land use and development proposals to ensure there is sufficient development capacity for housing and business growth across Greater Christchurch to 2048, and thereby influences the location, timing, provision of infrastructure to support land use and development.
Public Open Space Strategy *(Christchurch City Council, 2010)*	Provides a framework to guide provision and development of public open space within Christchurch and Banks Peninsula, taking into account the protection of outstanding (natural and cultural) features and landscapes the demands and pressures of increasing urban density, demographic and lifestyle changes, environmental costs and effects.
Spatial Plan for Christchurch *(Christchurch City Council, under development)*	Once completed, the Spatial Plan will establish the steps required to achieve our desired urban form, and show what this will look like spatially. It will show how and where we are accommodating growth through intensification, incorporating our green space, public space and environmental aspirations; the services and infrastructure needed to support intensification; and the integration of transportation modes and residential development.
Sports Facilities Network Plan *(under development, Christchurch City Council, 2019)*	Considers current and future residents' needs for next 30 years with regard to quantity, style, size, quality and location of sports facilities to ensure they are fit-for-purpose for changing expectations and financially, environmental and socially sustainable.
Te wai ora o tāne Integrated Water Strategy *(Christchurch City Council, 2019)*	Tasks the Council with taking all possible action to minimise nitrate incursion and other contaminants into groundwater sources; managing and adapting to flooding risk and sea-level rise; and managing assets in an integrated manner including stormwater networks.

Waste Management and Minimisation Plan *(Christchurch City Council, 2020)*	Delivering on five key groups of actions will impact on infrastructure capacity and capability: maximising composting of organics; maximising recycling of recyclable materials; safe management of hazardous substances; show leadership and innovation across the sector; and deliver effective resource recover education and communications.

Appendix 7: Government and regulatory influences

Meanwhile, our city must keep step with regulatory changes and the direction set by the Government. For the next few years, regulatory changes in the three waters areas look likely to dominate the landscape. Our infrastructure must be fit for purpose and our investment decisions should be geared towards achieving this. More detail on the issues Council faces in managing the rapidly changing regulatory and commercial environment can be found in the significant infrastructure issues section of this Strategy. However, anticipated reforms are briefly summarised here.

Resource Management Act Review

In July 2019 the Environment Minister launched a review of the Resource Management Act (RMA) to cut complexity and costs and better protect the environment. The scope includes spatial planning, which has the potential to help make better and more strategic decisions about resources and infrastructure over longer timeframes.

In July 2020, the Resource Management Review Panel released its report and recommendations on RMA reform. The recommendations included repealing the RMA and replacing it with three new Acts: the Natural and Built Environments Act, the Strategic Planning Act, and the Managed Retreat and Climate Change Adaptation Act.

The Urban Development Act 2020 provides for streamlined consenting powers for Kāinga Ora (the Crown Agency responsible for implementing the Government's housing and urban development agenda), for urban development projects.

Managed Retreat and Climate Change Adaptation Act (proposed)

The planned Managed Retreat and Climate Change Adaptation Act includes powers to change established land uses, and provide for compensation/funding mechanisms to address adaptation and reduction of risks from natural hazards.

Climate Change Response (Zero Carbon) Amendment Act 2019

In 2019, the Government amended the Climate Change Response Act 2002 to enable decision makers to take New Zealand's net zero emissions by 2050 target into account. It is reasonably likely that the courts will find that the 2050 target, emissions budgets, and emissions reduction plans (once they are produced) are relevant to a range of central and local government decisions (and potentially a mandatory consideration in some cases).[48]

National Policy Statement for Urban Development

This provides direction to councils about when and how cities should plan for growth and how to do this well. It aims to remove unnecessary restrictions on development, to allow for growth 'up' and 'out' in locations that have good access to existing services and infrastructure. The final NPS for Urban Development came into effect in August 2020, replacing the NPS – Urban Development Capacity.

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[48] *Infrastructure: review, reform and recover, September 2020,* Simpson Grierson, links.simpsongrierson.com/assets/pdf/Simpson-Grierson-Infrastructure-review-reform-and-recover_Sept2020-web.pdf

New Zealand Infrastructure Commission/Te Waihanga Bill 2019

This Bill establishes the New Zealand Infrastructure Commission/Te Waihanga as an autonomous Crown entity. The Commission will be mandated to develop a long-term national infrastructure strategy, working with central and local government as well as the private sector with a view to tackling the systemic problems the sector has faced for many years.

National Policy Statement for Freshwater Management

This will direct regional councils, in consultation with their communities, to set objectives for the state of fresh water bodies in their regions and to set limits on resource use to meet these objectives. It is proposing new requirements that would:

- strengthen Te Mana o Te Wai as the framework for freshwater management
- better provide for ecosystem health (water, fish and plant life)
- better protect wetlands and estuaries
- better manage stormwater and wastewater, and protect sources of drinking water
- control high-risk farming activities and limit agricultural intensification
- improve farm management practices.

Water Services Bill (introduced to Parliament late 2019)

The Bill will introduce a new regulatory framework for drinking water supplies. A new water regulator will be established to oversee the regulatory regime - the scope, roles and institutional form of which will be decided by Cabinet. The Council engaged in the first phase of the reforms, signing a non-binding Memorandum of Understanding (MoU) with the Government in August 2020, by which we commit to sharing information on our water network and services with the Government and neighbouring councils, and to working constructively with the Government and other parties on how three water services could be delivered in a more financially sustainable way. As part of the MoU, we received a stimulus investment grant of $20.26 million from the Government to spend on three waters infrastructure and service delivery, and will receive a further $20 million as works are progressed. The extra funding will enable the early delivery of a significant amount of 'shovel-ready' work on Christchurch's water supply and wastewater networks.

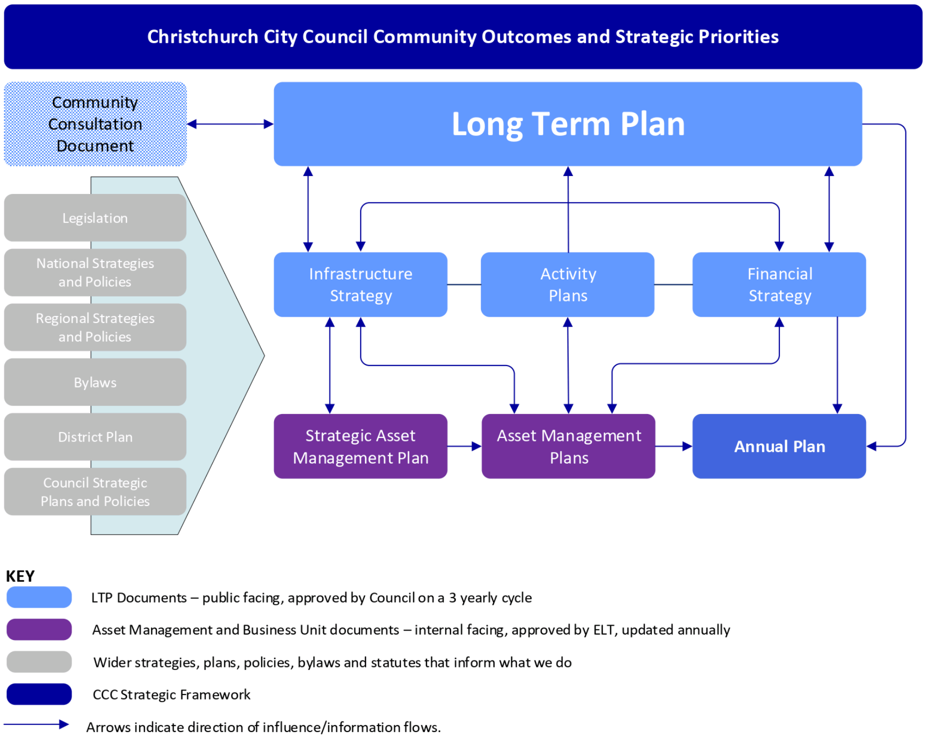
Government Policy Statements on Land Transport

Government policy has substantially shifted in recent years towards efforts to reduce transport emissions and improve transport safety. The Government has signalled a desire to reduce both emissions and road fatalities to zero. This will be a particular challenge for transport assets and operations, given that transport is the largest contributor to greenhouse gas emissions in the Christchurch district; and more than one hundred people are killed or seriously injured on Christchurch roads each year.

Appendix 8: How the Infrastructure Strategy fits within the LTP

Our LTP is made up of several large ingredients. These include the Infrastructure Strategy, Finance Strategy, Activity Plans and Levels of Service, Asset Management Plans (AMPs), and Capital Programme. Together they form our statement of commitment to the community about what activities and services we will provide. The Infrastructure Strategy signals the level of infrastructure investment needed, and reflects the Council's Strategic Priorities and Community Outcomes.

Building the LTP[49]



[49] Christchurch City Council , *Draft Strategic Asset Management Plan (SAMP)*, version 26 February 2020, TRIM20/203354

Appendix 9: Strategy development process

The Infrastructure Strategy was developed through a three-phase process involving internal and external colleagues. It was a co-development process with Elected Members and there were six workshops/briefings at various stages of the Strategy's development, to ensure their strong input and feedback.

We adhered closely to the requirements of the Local Government Act 2002, section 101B, which details the purpose and contents of infrastructure strategies. The strategy process sought to maintain a disciplined, objective and evidence-based strategic lens throughout:

- Identifying the significant issues relating to infrastructure (i.e. the Preliminary Infrastructure Assessment (PIA))
- Identifying asset-specific issues and assessing the range of options to address these; and identifying the most likely scenario for the management of our infrastructure assets
- Compiling it all together to tell a comprehensive story for the next LTP.

Phase I - The front end (problem definition and overall direction setting)

Task 1 – Establish background and gather evidence - Inputs to the Strategy were gathered and integrated from a range of internal and external sources.

Task 2 – Problem definition - Workshops with internal and external stakeholders/subject matter and technical experts to define the problems and challenges for the Infrastructure Strategy.

Task 3 – Preliminary Infrastructure Assessment - A direction-setting document that summarised the challenges and opportunities defined in Task 2, and developed the overall direction for the Strategy.

Phase II - Building the back end (issues breakdown and options analysis)

A 'deep dive' into the issues and opportunities, breaking them down by infrastructure type. An options assessment was then undertaken of a long list of potential options to address these issues, for all infrastructure activities. This determined a draft Infrastructure Strategy programme and the most likely scenario for the management of our assets. The key tasks are outlined below.

Task 4 – Infrastructure-specific issues and options analysis

This task involved infrastructure-focused working groups of subject matter experts to first identify asset-specific issues, and then develop and assess options to address these, by infrastructure type.

Task 5 – Balance options across asset groups/infrastructure areas

A desktop analysis to balance the options for each infrastructure area to produce a preferred programme that address all issues, with an appropriate diversity and risk profile. Identification of significant decisions and options over the next 30 years.

Phase III - Write up preferred scenario/Infrastructure Strategy

This phase pulled together all material developed in Phases 1 and 2, to articulate the most likely scenario for the management of our infrastructure assets over the 30-year period. This phase included alignment of the Strategy with other LTP programmes of work – in particular the Financial Strategy, Asset management plans and Activity Plans.

Appendix 10: Strategic partner and stakeholder views

Strategic partners and stakeholders

At the outset of the Strategy's development we asked some of our strategic partners and stakeholders[50] for their views about their – and our - infrastructure issues. In our discussions, we delved into four issues that our asset and activity managers told us were important:

- Looking after our assets: to what extent does the growth we are accommodating pay for itself? Failing assets ultimately cost more to maintain.
- Sustainably managing our natural and built environment to accommodate growth, otherwise we will get poor social and environmental outcomes, and this has a financial cost.
- Reducing our carbon footprint and improving community resilience to climate change and natural hazards. The infrastructure we provide has a significant impact upon our climate impacts, and also our ability to respond to significant events.
- Responding and adapting to changing community demand and preferences, new or altered legislation and fast-changing technology. With long lead times, how can infrastructure keep up with this?

Their views were similar to those of our elected members and Council asset managers and operational leaders.

We heard key concerns such as:

- The importance of dealing with change, uncertainty and risk - we need to take 'adaptive pathways' over the life of the 30-year Strategy and harness opportunities and challenges: the impact of rapidly-changing technology on services and customer expectations, and the impact of climate change on land use and infrastructure provision, are crucial to all infrastructure providers.
- The role of infrastructure in shaping our neighbourhoods and ensuring growth demand is met – we need to plan for an expected population increase, an ageing and increasingly diverse community, and expanded suburban areas. We also need to encourage residential intensification; make public and active transport networks safer, viable and attractive; and we need to reduce growth-associated risks such as contaminants reducing the quality of water supply and waterways.
- The financial viability of infrastructure options, potential for trade-offs, opportunities for alternative funding models (such as public-private partnerships), risk of intergenerational inequity and positioning infrastructure spending within a wider investment context.

[50] Problem identification workshops at the outset of the Infrastructure Strategy's development included external attendees from Canterbury District Health Board, ChristchurchNZ, Citycare, Environment Canterbury, Fulton Hogan, Lyttelton Port Company, Ministry of Education, Waka Kotahi: New Zealand Transport Agency, Orion, Selwyn District Council, Waimakariri District Council, and some individual infrastructure sector experts (apology from Ngāi Tahu invitee); they were joined by a range of Christchurch City infrastructure managers and asset experts.