Policy and Planning Committee
ATTACHMENTS - UNDER SEPARATE COVER

Date: Wednesday 13 May 2026
Time: 9:30 am
Venue: Camellia Chambers, Civic Offices, 53 Hereford Street, Christchurch

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CENTRAL CITY NOISE PLAN CHANGE – REVIEW OF CENTRAL CITY NOISE LIMITS AND ACOUSTIC INSULATION PROVISIONS

Overview

The following report has been prepared in accordance with the requirements of Section 32 (s32) of the Resource Management Act 1991 (RMA) to support Plan Change 21 (PC21) to the Christchurch District Plan.

The purpose of PC21 is to manage noise within the Central City in a way that supports a vibrant night-time economy, and reflects the anticipated amenity values of different areas within the Central City while appropriately protecting sleep for Central City residents during the night-time period. This includes:

- better providing for entertainment venues to establish in appropriate locations, and allowing for them to operate at noise levels that attract and keep patrons, while ensuring that the measures required to mitigate noise are reasonable; and
- ensuring that in areas of the Central City where noise sensitive activities are anticipated, they are not subjected to an unreasonable level of internal noise, and that where acoustic insulation is required to achieve this, that the costs or design requirements to do so are practical and viable.

To achieve this, PC21 proposes to:

- Amend the planning maps to expand the current Category 1 (Higher Noise Level) & Category 2 (Lower Noise Level) Entertainment and Hospitality precincts. These precincts are shown on the Central City Noise Environments Planning Map. The expanded areas are those where there is already a requirement for acoustic insulation to be installed for (new) activities that are sensitive to noise, under Rule 6.1.6.2.9, but exclude specified residentially-dominated areas (being areas zoned High Density Residential or Residential Visitor Accommodation, or with high concentrations of existing residential activity).
    - The Category 1 precinct would generally cover the existing Category 1 and 2 precincts, areas which fall within a CMUA Noise Insulation Area, and Category 3 precincts that adjoin the existing Category 1 precinct – but would exclude residentially-dominated areas.
    - Those parts of the central city that are currently Category 3 and commercially-zoned, would become Category 2.
    - The proposed precinct boundaries are as set out in **Appendix 4.**
- Raise the permitted activity noise limits applying during the night-time period to entertainment activities in the Category 1 & 2 Precincts, allowing more noise to be created there, while still safeguarding sleep over an 8-hour period.
- Make minor amendments to the policies applying to commercial zones in the central city to improve their clarity and to better enable entertainment and hospitality activities in those zones.

- Amend the noise insulation requirements to require adequate ventilation, and to align the road noise insulation requirements with those applying across the rest of the city.
- Make other consequential changes and updates to the rules resulting from the above.
- Make minor amendments intended to improve the operation of the noise-related provisions, including to align with technical advice, increase clarity and consistency, correct errors and address omissions.

The plan change is proposed to respond to the tensions that can and have arisen between noise-generating activities that are anticipated in a central city area and activities that are sensitive to that noise, particularly over the night-time period. Without the plan change, this tension will likely increase as more residential activities establish in the central city area.

The need for the plan change has arisen due to limited opportunities under the current Plan framework for entertainment venues to establish in the existing Category 1 and 2 precincts, where they had been expected to locate. They have instead established in mixed use areas where more restrictive, lower noise limits apply.

PC21 therefore seeks to better provide for entertainment venues to establish in a wider range of appropriate locations, and allow for them to operate at noise levels that attract and keep patrons, while ensuring that the measures required to mitigate noise are reasonable.

At the same time PC21 also seeks to ensure that in areas of the Central City where residential and other noise sensitive activities are anticipated, they are not subjected to an unreasonable level of internal noise, and that where acoustic insulation is required to achieve this, that the costs or design requirements to do so are practical and viable.

The specific changes proposed to be made by PC21 are set out in section 3.4.

Amendments are proposed to the following Plan provisions:

- Planning Maps – Central City Entertainment and Hospitality Precinct Overlay
- Policy 15.2.6.3 (*Amenity*)
- Policy 15.2.6.7 (*Entertainment and Hospitality Precinct*)
- Policy 15.2.7.1 (*Diversity of activities*)
- Policy 15.2.8.3 (*Residential development*)
- Policy 15.2.9.1 (*Diversity of activities*)
- Rule 6.1.3.f.i (*How to interpret and apply the rules*)
- Rule 6.1.4.3 (*Duration of resource consents for activities operating after 23:00 hours in Category 3 Precincts in Central City Mixed Use Zones*)
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- Rule 6.1.7.1.5 NC4 (*Non-complying activities*)
- Rule 6.1.7.2.1 (*Sensitive activities near roads and railways*)
- Rule 6.1.7.2.3 (*Sensitive activities near roads in the Central City*)
- Rule 6.1.8.a.x (*Rules - Matters of discretion*)

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1 Introduction

1.1 Purpose of this report

1.1.1 The overarching purpose of section 32 (**s32**) of the Resource Management Act 1991 (**RMA / Act**) is to ensure that plans are developed using sound evidence and rigorous policy analysis, leading to more robust and enduring provisions.

1.1.2 Section 32 requires that the Council provides an evaluation of the changes proposed in Plan Change 21 to the Christchurch District Plan (**the Plan**). The evaluation must examine whether the objectives of the Plan Change are the most appropriate way to achieve the purpose of the RMA, and whether the proposed provisions are the most appropriate way to achieve the objectives of the Plan. The report must consider reasonably practicable options, and assess the efficiency and effectiveness of the provisions in achieving the objectives. This will involve identifying and assessing the benefits and costs of the environmental, economic, social and cultural effects anticipated from implementing the provisions. The report must also assess the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions.

1.1.3 The purpose of this report is to fulfil the s32 requirements for proposed Plan Change 21 – Central City Noise (**PC21**). In addition, the report examines any relevant directions from the statutory context including higher order documents.

2 Resource management issues

2.1 Council's legal obligations and strategic planning documents

2.1.1 Sections 74 and 75 of the RMA set out Council's obligations when preparing a change to its District Plan. The Council has a responsibility under Section 31 of the RMA to establish, implement and review objectives and provisions for, among other things, achieving integrated management of the effects of the use, development, or protection of land and associated resources. One of the Council's functions is to control the actual and potential effects of land use or development on the environment, and to do so in accordance with the provisions of Part 2.

2.1.2 In addition, in preparing and evaluating a plan change, Council must have particular regard to the following matters in Part 2, section 7 "other matters":

(b) The efficient use and development of natural and physical resources.

(c) the maintenance and enhancement of amenity values.

2.1.3 As required by s74 and s75 of the RMA, a Plan Change must specifically be in accordance with, give effect to, not be inconsistent with, take into account, or have regard to the following "higher order" documents:

Table 1: Higher Order Documents

Document	Relevant provisions	Relevant direction given effect to/ taken account of in the proposed Plan Change
National Planning Standards 2022	Provision 34. *Any noise-related metrics and noise measurement methods must be consistent with the '15. Noise and Vibrations Metrics' Standard –* • *15.1. Any plan rule to manage noise emissions must be in accordance with the mandatory noise measurement methods and symbols in the applicable New Zealand Standards incorporated by reference into the planning standards and listed below:* *New Zealand Standard 6806:2010 Acoustics – Road-traffic noise – New and altered roads –* • *15.2. Any plan rule to manage noise emissions must be consistent with the mandatory assessment methods in section 6 Rating Level and section 7 LMAX of New Zealand Standard 6802:2008 Acoustics – Environmental Noise (incorporated by reference into the planning standards), provided the type of noise emitted is within the scope of New Zealand Standard 6802:2008.*	PC21 must be in accordance with and give effect to these Standards (s74(1)(ea) and s75(3)). The National Planning Standards are relevant to this proposed plan change because they seek to ensure nationwide consistency in relation to metrics used and methods of measurement. Provision 34 is relevant to this plan change because this standard seeks to ensure national consistency regarding the metrics and methods of measurement used in District Plans across the country.
National Policy Statement on Urban Development 2020	Objective 3 seeks that district plans enable more people and businesses to locate in areas in or near a centre zone (and some other types of areas). Policy 1 then directs that district plans enable buildings heights and density of urban form in city centre zones, that will help realise as much development capacity as possible and maximise the benefits of intensification. Objective 4 acknowledges that urban environments, including their amenity values, are expected to develop and change over time in response to changing needs of people, communities and future generations.	PC21 must be in accordance with, and give effect to, the NPS-UD (s74(1)(ae)) and s75(3). Plan Change 14 has given effect to the direction in the NPS-UD, in terms of the development capacity provided for in the central city. However, it is important that any requirements proposed to mitigate noise do not undermine the ability for that development capacity to be realised, e.g. through requirements that make residential development unviable. Objective 4 is also relevant, as it acknowledges that amenity values – which are influenced by noise – are expected to change over time to reflect changing needs. In this instance, areas where higher levels of noise were anticipated and provided for have not developed in this way, and instead, entertainment venues have established in other areas.

Canterbury Regional Policy Statement (CRPS) 2013	Chapter 6, Objective 6.2.2 Seeks to manage the urban form and settlement pattern in Greater Christchurch to provide sufficient land for rebuilding and recovery needs and set a foundation for future growth, with an urban form that achieves consolidation and intensification of urban areas and avoids unplanned expansion of urban areas. A range of ways to achieve this are set out, including by providing higher density living environments with a range of housing typologies, particularly in and around the Central City and reinforcing the role of the Christchurch central business district, as identified in the Christchurch Central Recovery Plan.	PC21 must give effect to the CRPS (s75(3)). The CRPS sets out the urban form and development pattern for the Greater Christchurch region, and the role of the Central City in Christchurch as the central business district for the region is reinforced. Crucially, a higher density of residential housing is to be provided for in the Central City. It is important for this plan change to ensure that any possible changes to the provisions relating to noise, including both noise limits and insulation requirements, will continue to support the role of the Central City as the primary commercial centre in the hierarchy of commercial centres and for higher density residential development, including appropriate management of potential reverse sensitivity effects.
	Chapter 6, Objective 6.2.5 Seeks to support and maintain the existing network of centres (including the Central City) as the focal points for commercial, community and service activities during the recovery period.	
	Chapter 6, Policy 6.3.6 Directs that business activities are to be provided for in a manner which meets a number of aims, including: reinforcing the role of the Central City, as the city's primary commercial centre and primarily directing new commercial activities to identified centres (including the Central City) to reflect and support the function and role of these centres; while also ensuring reverse sensitivity effects and conflicts between incompatible activities are identified and avoided or mitigated against.	
	Chapter 6, Policy 6.3.7 Directs intensification in urban areas of Greater Christchurch to be focused around the Central City, Key Activity Centres, and core public transport routes; with a range of housing typologies and sufficient supply to meet housing demand and provide affordable housing.	This policy directs where housing intensification is to be located, including around the Central City. In reviewing the provisions relating to noise, the plan change needs to ensure that any resultant changes will not adversely impact on the ability for sufficient intensification to be provided to meet housing demand in the Central City area.
Land Use Recovery Plan (LURP) 2013	Outcome 4, RMA plans and regulatory processes are efficient and effective. Outcome 5, A supportive and certain regulatory environment. Outcome 6, A range, quality and price of new housing that meets the diverse and changing needs of those wanting to buy or rent,	The LURP is a Plan prepared under another Act. Preparation of PC21 must "have regard" to it (s74(2)(b)(i)). The LURP set the overall direction for land use and development for the Greater Christchurch region following the Canterbury earthquakes. Four of

	including the needs of the growing temporary rebuild workforce. Outcome 10, The needs of commercial activity in key activity centres and neighbourhood centres are provided for, including that the rejuvenation of damaged areas is supported.	the outcomes set out in the document are relevant for this plan change. In particular: - The noise provisions should be clear and certain, and not unduly restrict commercial activities; and - The way noise is managed should not inhibit the development of housing.
Christchurch Central Recovery Plan (CCRP) - 2012 and Addendum to CCRP, Noise and Entertainment Provisions - 2014	The CCRP acknowledges that a well-formed and vibrant city centre produces economic and social benefits by bringing people together for business, cultural or social activities (page 3). In terms of specific areas identified in the CCRP, The Terrace is identified as a "*riverside entertainment precinct with cafes and restaurants*" (page 56). For the Square, the CCRP seeks to encourage entertainment facilities, including performance spaces, returning to the Square to make the space vibrant and safe in both day and night-time (page 57). The CCRP includes statutory direction to amend the District Plan to achieve "*a distinctive, vibrant and prosperous central city that encourages economic and emotional reinvestment*" (page 103). Particularly relevant to this plan change are the matters in the vision regarding the need for 'a consolidated central city business area', 'a diverse range of activities', 'high-quality inner-city housing options', and 'an increased residential population'.	The CCRP is a Plan prepared under another Act. Preparation of PC21 must "have regard" to it (s74(2)(b)(i)). Whilst the Greater Christchurch Regeneration Act 2016 has been repealed, regard needs to be given to plans and strategies prepared under other Acts. The CCRP is relevant as this Plan introduced the noise categories. Mitigation of traffic noise rules was originally introduced into the City Plan via a Plan change to the Living 3 and 4 zones, and taken through into the CCRP.
Mahaanui Iwi Management Plan (IMP)	Part 3, Policy 3.2 b) To ensure early, appropriate and effective engagement of Papatipu Rūnanga in the development and implementation of plan changes.	PC21 must take into account this IMP, where its content is relevant to the resource management issue (s74(2A)). Whilst there are no policies that specifically relate to noise matters within the IMP, Policy 3.2 is relevant to consider for every plan change.
Greater Christchurch Spatial Plan (GCSP)	Under this Plan, the Central City remains the primary centre for the region, and strengthening the form and function of the Central City is identified as an opportunity. It is identified as a focal point for attracting business, with increased employment density; as well as opportunities for redevelopment for the highest residential densities (ranging from 100 to 200 households per hectare).	The GCSP was developed by the Greater Christchurch Partnership, a coalition of local government, mana whenua, and central government agencies, to provide a coordinated approach to managing population and business growth in the region. It is a Plan prepared and adopted by the Council under the LGA. Preparation of PC21 must

	Opportunity 4, Enable diverse, quality and affordable housing in locations that support thriving neighbourhoods that provide for people's day-to-day needs. Opportunity 5, Provide space for businesses and the economy to prosper in a low carbon future.	"have regard" to it (s74(2)(b)(i)). The GCSP sets out a plan for how population and business growth will be accommodated in Greater Christchurch region. The Central City is identified as the primary centre for the region, and the noise provisions in the Central City can help to support both existing commercial and residential activity and future growth.

2.1.4 The higher order documents broadly identify the resource management issues relevant to the district and provide direction in resolving these issues.

2.1.5 As mentioned above, the RMA prescribes certain requirements for how district plans are to align with other instruments. Whether the District Plan objectives and provisions relevant to the Central City noise matters do that is discussed in section 5 of the report.

2.1.6 In addition to the higher order documents, Chapter 3 - Strategic Directions provides overarching direction for the Plan. The Strategic Objective '3.3.2 – Clarity of language and efficiency' is of relevance to this plan change. It directs the Council to minimise transaction costs and reliance on the resource consent process while reducing the number, extent, and prescriptiveness of development controls and design standards in the rules and thus encourage choice and innovation. It also directs the concise usage of language that is easy to understand and use.

2.2 Problem definition - the issues being addressed

2.2.1 **ISSUE 1** – **Noise: Balancing the need to provide for viable and vibrant music and hospitality venues with the need for a reasonable level of amenity for residents**.

2.2.2 The vision for the Central City under the CCRP was for it to re-establish as a distinctive, vibrant and prosperous inner-city environment. This includes a diverse range of commercial activities, as well as high-quality living options and an increased residential population. While some regard must be had to the CCRP, these outcomes are also reflected in the Strategic Directions set out in Section 3.3 below, including Objectives 3.3.5, 3.3.8 and 3.3.9, which the provisions in the District Plan must help achieve. More specifically, the Central City is anticipated to be an area where some activities generate higher levels of noise, particularly music and hospitality venues. These venues form part of the night-time economy and contribute to the economic and social life of the city. There is a need to ensure that controls on noise do not result in these activities operating at a sub-optimal level, given venues rely on being able to play music to a level that attracts and keeps patrons. Restrictions must therefore not undermine the importance of noise in how these businesses operate (their vitality) or compromise their viability. Conversely, residential activities are sensitive to noise, particularly during the night-time period when music venues operate. Residential growth within the Central City is planned to substantially increase. It is important to ensure that residential activities are provided with a reasonable level of amenity and that the health of occupants is not compromised by noise, particularly in terms of sleep disturbance.

2.2.3 The increase in residential activity in mixed use zones in the central city has, in the last few years, caused tensions to arise around the issue of noise in the central city. Increased residential

development, particularly in mixed use areas with established venues, is likely to further exacerbate these types of tensions.

2.2.4 The Operative Plan manages noise in the Central City by provisions targeted to different locations. Broadly:

a. Category 1 - Higher Noise level Entertainment and Hospitality Precincts ('Category 1 Precincts') - are areas with the highest permitted noise levels, and where night-time noise limits start later and allow a louder level of noise than elsewhere in the city. Due to the louder permitted environment, sensitive activities[1] require resource consent to establish.

b. Category 2 - Lower Noise level Entertainment and Hospitality Precincts ('Category 2 Precincts') - are areas with the second highest permitted noise levels and where the night-time noise limits generally begin earlier than in Category 1, but later than Category 3. There are corresponding requirements for acoustic insulation for sensitive activities, which are permitted if they demonstrate they will meet these requirements.

c. Category 3 – Lower Noise Level Areas ('Category 3 Precincts') - are areas with the lowest permitted noise levels within the Central City area, but the levels are slightly higher than in suburban residential areas. There are requirements within these areas for acoustic insulation within particular zones[2], within proximity to Category 1 and 2 areas, and within 40 metres of higher traffic volume roads, but in Category 3 outside these areas, no noise insulation is required.

d. There are specific noise limits, and limits on the number of noisy events, at the One New Zealand Stadium at Te Kaha. Around the stadium there are Inner and Outer Noise Insulation Areas. Within these areas different acoustic insulation requirements apply to sensitive activities.

2.2.5 New music and hospitality venues have, however, not generally established in Category 1 Precinct as anticipated, partly because of the small size of the Category 1 areas, with several venues instead locating in Category 2 and Category 3 precincts. The current noise limits applying within these precincts can be difficult for music and hospitality venues to comply with, e.g. where the building has a low level of acoustic insulation or there is amplified outdoor music. The level of noise mitigation required to achieve compliance in areas with lower permissible noise levels also is understood to be cost prohibitive.

2.2.6 Acoustic insulation in residential units can reduce noise levels experienced within residential units, but the higher the external noise levels, the higher the costs associated with ensuring an adequate amount of insulation is provided. Also, acoustic insulation rules cannot be enforced for existing residential buildings that have a resource consent or existing use rights.

2.2.7 **ISSUE 2 – Inconsistent and inefficient noise insulation requirements:**

2.2.8 Currently there are two different rules which set out noise insulation requirements adjacent to roads with high traffic volumes in the City. One applies outside the Central City (Rule 6.1.7.2.1) and was recently amended through Plan Change 5E; while there is another which applies more specifically within the Central City (Rule 6.1.7.2.3) and which was outside the scope of Plan Change 5E. This creates inconsistency, in that two slightly different requirements apply within

[1] *The operative Christchurch District Plan definition of 'sensitive activities' includes residential activities, care facilities, education activities and preschools, visitor accommodation, health care facilities, hospitals, and custodial and/or supervised living accommodation where the residents are detained on the site.*

[2] Being City Centre, Central City Mixed Use, Central City Mixed Use (South Frame) and Neighbourhood Centre zones.

and outside the Central City. There is no difference in the effects that are sought to be managed through these rules, and the different approaches (one requiring specified indoor design sound levels and the other requiring minimum external to internal noise reductions) therefore result in confusion and inconsistency for Plan users.

2.2.9 Currently, there are some areas where the acoustic insulation requirements apply that do not align with the levels of noise anticipated by the Plan framework. For example, in residentially-zoned Category 3 precincts, acoustic insulation is required within 75m of a Category 1 or 2 Precinct. However, activities within a Category 1 or 2 Precinct must comply with the lower noise limit applying at the boundary with a Category 3 Precinct property, and therefore the insulation in the residential area should not be necessary to mitigate a higher level of noise.

2.2.10 **ISSUE 3 – Need for mechanical ventilation requirements:**

2.2.11 The current requirements for acoustic insulation for noise sensitive activities in the noise precincts or CMUA Noise Insulation Areas do not expressly require the provision of a ventilation system for instances where opening windows would result in the levels of specified noise reduction not being achieved.

3 Development of the plan change

3.1 Background

3.1.1 The resource management issues set out above have been identified through the following sources:

a. public feedback and comments through various sources including stakeholder consultation, public engagement, the media, and annual residents' surveys; and

b. monitoring and review of the current district plan.

3.1.2 In the time period from January 2021 to February 2025 there were 154 noise complaints related to music and hospitality venues, with a range of sources from music/bass tones to mechanical plant noise from commercial activities such as restaurants. Of those, approximately:

- 48 were found to be generating excessive noise.
- 72 were found to not be excessive or unreasonable.
- For 18 complaints, no noise was recorded when enforcement officers arrived (noting that this was sometimes an hour or so after the complaint was lodged).
- 16 complaints were logged but not assessed as they were received well after the incident occurred.

3.1.3 In the time period from January 2025 to 16 April 2026 there were 79 noise complaints relating to music and hospitality venues (excluding restaurants and mechanical plant noise). Of those, approximately:

- 30 were found to be generating excessive noise.
- 31 were found to not be excessive or unreasonable.
- For 13 complaints, no noise was recorded when enforcement officers arrived.
- 5 complaints were logged but not assessed or an error occurred with the address.

3.1.4 With intensification of activities, including increased numbers of residential units and visitor accommodation in the Central City, it is anticipated that the numbers of noise complaints will rise in the years to come. Therefore, it is timely to review the operative plan provisions.

3.1.5 For some operators subject to complaints, sourcing advice from acoustic engineers and following their recommended course of action has enabled complaints to be resolved. For example, in some cases engineers have been able to advise on the best method for mitigating noise from bass.

Relevance of Section 16 "Unreasonable Noise"

3.1.6 In addition to the noise limits in the District Plan, section 16 of the RMA outlines the overall 'duty to avoid unreasonable noise' as follows:

(1) Every occupier of land (including any premises and any coastal marine area), and every person carrying out an activity in, on, or under a water body or the coastal marine area, shall adopt the best practicable option to ensure that the emission of noise from that land or water does not exceed a reasonable level.

(2) A national environmental standard, plan, or resource consent made or granted for the purposes of any of sections 9, 12, 13, 14, 15, 15A, and 15B may prescribe noise emission standards, and is not limited in its ability to do so by subsection (1).

3.1.7 This duty to adopt the "best practicable option" applies separately to, and in addition to any noise limits applying in a district plan. However, section 319 of the Act provides that the Court cannot issue an enforcement order for breach of that requirement if the activity complies with a rule and the adverse effects were expressly recognised when the rule was made.

3.1.8 Enforcement officers can issue excessive noise directions under s327 of the RMA. These direct people to reduce noise to a reasonable level if the noise is of such a nature as to unreasonably interfere with the peace, comfort, and convenience of any person. This is a subjective assessment. An enforcement officer can issue an excessive noise direction for noise that complies with the District Plan; however, as context is relevant to whether noise is "excessive" and to what is a "reasonable level", the Plan's anticipated environment for the location should be relevant to the enforcement officer's assessment. As such, the noise limits in the District Plan are likely to have some relevance to assessment of noise complaints.

Concerns raised from local music industry and academic research

3.1.9 In December 2022,[3] Kendra Walls (Music Manager of 12 Bar Brews Ltd), Nick Vasser (Darkroom), Richard Barnacle (Space Academy), Taylor MacGregor (Save our Venues NZ, now Independent Music Venues Aotearoa) and John Wardle (founding member of Live Music Office of Australia) presented to Council. They spoke on their long-standing work within the Christchurch music community to provide spaces for live music gigs and the important role these spaces play in supporting up and coming artists. They highlighted venues in St Asaph Street that they consider are under threat from new residential townhouses being constructed immediately next door to Space Academy, and their concerns that the venues would be subject to noise complaints from residents. The group sought reassurance from Council "*…that residential development in Central Christchurch will not eradicate the established creative businesses that have grown organically in this part of the city, and that do so much to provide and contribute to the domestic music industry, the regional cultural economy, and the city's cultural and creative vibrancy and character*".

3.1.10 At the same time, a resident near Dux Central made complaints about noise levels throughout 2022, which resulted in Dux Central having to cancel live music events when it was found they were breaching noise limits.[4] The Dux Central reported a 12% loss in its Saturday night revenue

[3] Christchurch City Council Meeting, 7 December 2022, Item 3.1.1, https://christchurch.infocouncil.biz/Open/2022/12/CNCL_20221207_MAT_8233.HTM#PDF3_Attachment_38919_1

[4] https://www.stuff.co.nz/national/130774519/live-music-silenced-at-city-bar-after-new-neighbour-complains-about-noise

because of cancelling the live music acts. Smash Palace, another venue nearby, was also affected, being forced to reschedule live music events and opening times, to comply with the District Plan rules. This indicates that the current noise limits in areas with existing music venues may impact on the operation of these venues.

3.1.11 In February 2023 a petition was presented to the Council by Event Producer and Musician Mark Chirnside with 3,565 signatures, calling for higher noise limits in the city.[5] The petition requested that within the four avenues in the Central City the noise limits be changed to allow an average sound level within a 24-hour period of 70dB and a maximum noise decibel of 140dB. If these limits were not acceptable across the entire Central City, then the petition requested that these limits be applied to a 2-kilometre buffer area within the Central City as shown in the map below (figure 1). These noise limits were requested to allow for sound levels that are adequate for live music events, cultural celebrations, and festive gatherings.

Figure 1 Map above which accompanied the petition presented to Council showing the area within which higher noise levels were sought, should it not be acceptable to apply the noise limits across the entire Central City.

3.1.12 On 2 April 2025 Massey University researchers Dr Dave Carter, Associate Professor, and Dr Catherine Hoad Lecturer of Massey University's School of Music and Creative Media Production gave a presentation to Council on their academic research on the value of live performances to the New Zealand economy.[6] In this study live performance was defined as "*… any in-person real-time performance of any type that is promoted and presented to a public audience as a ticketed event or as subsidised activity… this includes but isn't limited to, music, dance, comedy, and theatre.*" This research calculated that nationwide, for every dollar spent on live performance, $3.20 is returned in benefits to the wider community. Further, in the twelve months ending 30 June 2024, the report placed the value of the economic and social contributions of live performance to New Zealand at $17.3 billion. Overall, the research found that the main barriers for people to attend performances related to the costs of attending. Key challenges to providers putting on performances included a lack of funding, the costs of operating, and difficulties retaining secure premises to operate from.

3.1.13 Regarding challenges due to the regulatory environments that providers work in, the research found the sustainability of providing performance spaces or venues was hampered by noise control regulations, lack of proximity to public transport, accessibility of spaces for audiences

[5] Christchurch City Council Meeting, 1st February 2023, Item 4.1, https://christchurch.infocouncil.biz/Open/2023/02/CNCL_20230201_MIN_8236_AT.HTM#PDF2_ReportName_39523
[6] Measuring and Articulating the Value of Live Performance in Aotearoa, Massey University https://www.massey.ac.nz/about/colleges-schools-and-institutes/college-of-creative-arts/college-of-creative-arts-research/measuring-and-articulating-the-value-of-live-performance-in-aotearoa/

with access needs, and development approvals for high density residential buildings. These were all identified by producers as risks to the future of performance spaces and venues.

Central City noise survey

3.1.14 To assist in informing the initial plan change work, the Council conducted a survey of central city businesses, and residents living both in the Central City and wider area between 1 September and 3 October 2023. Feedback received helped inform the initial plan change work and in understanding the issues involved. Of all respondents, 3% represented the views of a central city business, 31% came from residents living in the central city, and 66% from residents living in the wider Christchurch area outside the central city.

3.1.15 Of the central city businesses that responded to the survey, 79% said they never have trouble with the level of noise in the central city, and 76% had never been the subject of a noise complaint. However, a number of businesses (60%) did identify limitations placed on them due to noise rules as being a significant challenge to their operations.

3.1.16 Of central city residents who responded, 68% had either never had, and a further 19% had rarely had, issues with the levels of noise in the central city, with 88% having never contacted noise control/made a noise-related complaint. 77% felt that noise should be expected and tolerated at much higher levels from those living in the central city than the suburbs. Conversely, only 5% stated that night time noise should be minimised if residents live in an area.

3.1.17 Of respondents from the wider Christchurch area, 89% felt that noise should be expected and tolerated at much higher levels from those living in the central city than the suburbs. Conversely, only 1% stated that night time noise should be minimised if residents live in an area.

3.1.18 When asked what changes they would like to see to District Plan noise rules for the central city:

- 57% of business respondents, 56% of central city respondents; and 61% of wider Christchurch residents, supported altering noise precincts/zone locations to where entertainment and hospitality activities including live music are encouraged in the central city;
- 24% of business respondents, 41% of central city respondents; and 54% of wider Christchurch residents supported changes to noise limits and/or the time that noise levels are to be reduced to reflect more focus on nighttime economy;
- 2% of business respondents, 24% of central city respondents; and 43% of wider Christchurch residents supported changes to requirements around noise insulation; and
- 2% of business respondents, 8% of central city respondents; and 1% of wider Christchurch residents sought changes to the District Plan to provide a quieter central city environment.

3.1.19 In addition to the specific survey questions, many respondents also voiced strong support for the role of live music and hospitality venues in supporting the city's art, economy, cultural heritage, social cohesion and community, and quality of life of its residents. The majority of respondents also considered that central city noise levels should be expected to be higher than in the suburbs. The main sources of noise disruption identified by respondents were noise from cars (specifically

street racers), rubbish trucks, and sirens, as well as antisocial behaviour of people on the streets, rather than noise from live music venues or bars.

3.1.20 Effective noise insulation was seen by many as key to enabling housing and music/nightlife to co-exist in the central city. It was felt that this would need the support of the Council for existing businesses, and that the onus should be on developers of new builds to provide this.

3.2 Technical advice from experts

3.2.1 The Council has commissioned technical advice from external experts to assist with assessing the existing issues and the potential effects of the proposal on the environment, as well as the potential options for mitigating the adverse effects. This advice includes the following:

Table 2: Technical Reports informing Plan Change 21

Appendix	Title	Author	Description of Report
1.	Central City Music venues and sensitive activities – Technical advice on managing compatibility (**AES Report**)	Rewa Satory – Acoustic Engineering Services Ltd (AES)	Assessment of existing noise limits, review of the options and preferred option from an acoustic technical perspective.
2.	Central City - Music venues and sensitive activities Supplementary information (**AES Letter**)	Acoustic Engineering Services Ltd (AES)	Summary of further technical advice provided as part of the development of the plan change.
3.	Quantity Surveying Advice	Laco Yan	Provides high-level cost estimates for implementing acoustic insulation standards

Acoustic Advice

AES Report

3.2.2 The AES Report (attached as **Appendix 1**), prepared in February 2025 (and updated in August 2025), provides advice in relation to the management of noise in the Central City, taking into account the contribution of music and hospitality venues towards the vibrancy of the inner city, where these should be able to sustainably operate, with the need to provide adequate protection for noise sensitive uses, both those existing and anticipated in various parts of the Central City. It notes that the transition to mixed use developments, which contribute towards residential growth targets, can give rise to conflicts between noise generating activities and people living in residential properties.[7]

3.2.3 With respect to noise limits, the report considers the existing noise limits applying within different areas of the Central City under the current Plan provisions, and compares these with city centres in other districts. It notes that the higher noise limits applying in the current Category 1 precincts are comparable, but slightly more lenient than noise limits in other central city areas, but are often still difficult for music and hospitality venues to comply with, where the building

[7] Page 1.

that a venue is using has a low level of acoustic insulation or there is amplified outdoor music.[8] It also notes that the majority of the Category 1 precinct has not been developed for music and hospitality venues, and instead has been redeveloped in ways which may mean the likelihood of it being the hub of current or future music and hospitality activity are low. Conversely, the establishment of a cluster of venues at the eastern end of St Asaph Street was not anticipated by the 'Category' system, and future trends and changes are also uncertain.[9]

3.2.4 In considering the appropriate noise limits for music and hospitality venues, the AES Report notes the difficulties encountered by such venues in internalising noise, particularly for venues that use repurposed industrial or general retail buildings.[10] It states that:

> *…a noise limit of 60 dB LAeq will often be challenging for a music venue to achieve, except when it is a purpose-built venue or there are larger separating distances to the nearest receivers. A wider range of scenarios can comply with a 65 dB LAeq limit; however, to provide a genuinely 'uninhibited' rule regime, a limit of 70 dB LAeq would be required (if venues wish to operate at internal noise levels of circa 105 dB LAeq, and in most cases operate out of repurposed industrial, commercial or general retail buildings without needing to employ noise mitigation measures). We note that noise at a 70 dB LAeq limit is subjectively twice as loud as the noise which would be permitted by the current 60 dB LAeq limit.*

3.2.5 The AES Report further notes that for outdoor music, large setbacks would be required to comply with a 60 dB L_{Aeq} noise limit, which is not realistic for venues, and that it is appropriate for the noise from venues with outdoor music to be considered through a resource consent process.[11]

3.2.6 The report provides a summary of the guidance documents for noise, including the noise limits recommended in NZS 6802:2008 *Acoustics – Environmental noise* and the World Health Organisation's *Guidelines for Community Noise*, particularly around the noise levels that are considered appropriate to ensure the reasonable protection of health and amenity for residential activities, and to avoid sleep disturbance. These identify a guideline internal noise design range of 35 to 40 dB L_{Aeq} for sleeping areas in houses and apartments in inner city areas, entertainment districts or near major roads, being 5 dB higher than the recommended level for suburban areas or near minor roads.[12] In considering how elevated noise levels in the city centre can be managed, the report notes that a common approach is to require noise sensitive activities to be provided with an enhanced level of sound insulation, in order to achieve these internal levels.[13]

3.2.7 The report supports the use of sound insulation requirements taking a "facade performance" approach[14], rather than specifying target internal levels[15]. This is because the latter is generally used where the location and noise levels from an external noise source are easily definable and are not expected to change significantly over time (or will change in a predictable way), such as with roads. However, as the locations of noise sources and noise levels in the central city are subject to change in an unpredictable manner, the analysis of internal noise levels based on

[8] Pages 4 - 6.
[9] Page 20.
[10] Page 10.
[11] Page 10.
[12] Pages 2 – 3.
[13] Page 11.
[14] Method of acoustic insulation that requires all façades of a building to be insulated to reduce noise by a specified level, e.g. an outside to inside noise reduction of 30dB.
[15] Method of acoustic insulation that specifies the maximum level of noise experienced within a building, which the façade must then have sufficient insulation to ensure, e.g. road noise must not exceed 40dB $L_{Aeq(24\ hour)}$ in habitable spaces of a new room/building for a sensitive activity.

existing measured noise levels is not considered to be a rigorous approach to protect sensitive receivers. While the report identifies that a disadvantage of using facade performance is that noise insulation may be required in locations where it may not actually be necessary (such as facades that are already acoustically shielded or facing away from a noise source), the approach provides a level of future proofing, given that the degree of shielding or location and level of noise sources on neighbouring sites may change in the future.[16]

3.2.8 In considering the appropriate levels of acoustic insulation, the report notes that:

a. for dwellings with no particular sound insulation, night-time noise levels above 45 dB L_{Aeq} may be inappropriate;[17]

b. the District Plan does not currently require alternative ventilation systems where windows would need to be closed in order to meet these standards; meaning that if windows are opened for ventilation, the actual outside to inside noise reduction will be much lower;[18]

c. there are currently overlapping requirements between acoustic insulation requirements based on the category in which a sensitive receiver is located, insulation required due to traffic noise, and insulation requirements in the area surrounding Te Kaha Stadium. The current requirements may not necessarily result in new dwellings having internal noise levels which align with the guidance outlined above;[19]

d. there are practical constraints on the level of sound insulation which can be provided by a new building, and requiring a high level of sound insulation could result in the establishment of new noise sensitive activities becoming unviable in terms of cost.[20] In particular, if the night-time noise limit is increased to 70 dB L_{Aeq}, a facade reduction of 40 dB $D_{tr,2m,nT,w + Ctr}$ would be required to meet the recommended internal noise levels, and this level of facade performance is unlikely to be practical to achieve;[21] and

e. Sound with significant low frequency content and a distinctive 'bass beat' is difficult to insulate against, and may cause more annoyance to receivers.[22]

3.2.9 Based on the assessment set out in their report, AES recommend that:

a. Consideration is given to moving away from the current Noise Category approach, and focussing on the underlying zoning of properties in the Central City.[23]

b. For areas containing predominantly existing uninsulated noise sensitive activities, a 55 dB L_{Aeq} (day-time) / 45 dB L_{Aeq} (night-time) limit would be appropriate, including conventional accounting for 'Special Audible Characteristics'. At these levels, no sound insulation requirements would be necessary, except for noise sensitive activities near busy roads. An exception to this would be if the longer term vision for such areas is for them to transition over time to a 'mixed use' environment;[24]

c. For mixed use areas where commercial activities are anticipated, a higher noise limit of 60 or 65 dB L_{Aeq} would be appropriate, subject to consideration of whether this would put existing noise sensitive activities in a compromised position, if they do not have a level of sound

[16] Page 11.
[17] Page 12.
[18] Page 12.
[19] Pages 12 – 14.
[20] Page 15.
[21] Page 19.
[22] Page 19.
[23] Page 20.
[24] Page 19.

insulation which would be adequate in the face of such noise levels. These noise levels would allow most venues already located in those areas to operate in a complying (albeit not uninhibited) manner – with some attention to noise management and mitigation;[25]

d. In combination with the above noise limits, a 35 dB $D_{tr,2m,nT,w + Ctr}$ facade reduction requirement for new noise sensitive activities should be applied. While this may be higher than necessary to mitigate existing noise levels, it will help ensure that the stock of dwellings in the Central City gradually evolve to be consistently well insulated and will allow for greater flexibility in noise limits, providing a forward-looking approach that will result in a well-functioning mixed use environment; [26] and

e. A higher 70 dB L_{Aeq} limit could be appropriate, in areas where there is a sufficient buffer to existing uninsulated residential activities, and where the area is of commercial interest to music and hospitality operators, but further investigation would be required to determine if such suitable areas exist. In addition, because of the sound insulation requirements, this would essentially preclude the establishment of noise sensitive activities in these areas.[27]

3.2.10 The AES Report also considers the prospect of applying the 'agent of change' principle, with noise limits not being based on zoning/categories a noise producer or receiver is located within, but based on the existing activities in the surrounding area. This would allow, for example, for higher noise to be produced in areas where there are no existing noise sensitive activities. For new noise sensitive activities, the level of noise insulation required would be relative to the level of existing noise produced in that area. This approach is not recommended by AES, because of the significant costs associated with assessing the surrounding existing environment, e.g. new noise producers would need to establish what noise sensitive activities are in the area and what level of noise insulation they have; and for noise sensitive activities, the noise associated with all existing activities in the area would need to be calculated. This in turn, is likely to create uncertainty for those wanting to establish new activities as to what would be required.[28]

AES Letter

3.2.11 Following further discussion on the initial AES Report between AES and Council officers, the AES Letter (in **Appendix 2**) summarises advice received from AES as part of determining the preferred approach set out in draft Plan Change 21, consulted on from June to August 2025. In particular, it discusses the potential to align the spatial extent of the Category 1 & 2 precincts with the acoustic insulation requirements currently applying, which formed the basis of the preferred approach. This notes, in particular, that:

a. A noise limit of up to 65 dB L_{Aeq} for entertainment activities would generally be considered acceptable in areas which already require 35 $D_{tr,2m,nT,w} + C_{tr}$ (external to internal reduction) for bedrooms, and this could form the basis for a revised Category 1 precinct; and

b. A noise limit of up to 60 dB L_{Aeq} for entertainment activities would generally be considered acceptable in areas which already require 30 $D_{tr,2m,nT,w} + C_{tr}$ (external to internal reduction) for bedrooms, and this could form the basis for a revised Category 2 precinct[29].

3.2.12 However, AES notes that such an approach would impact on sensitive activities established before the current insulation requirements became operative.

[25] Page 19.
[26] Pages 19-20.
[27] Page 20.
[28] Page 21.
[29] Section 1.0.

3.2.13 In addition, the letter includes advice on specific details of potential changes to the noise rules, provides an indication of the existing noise levels experienced in the Central City, and details what upgrades may be required to various types of music venues in order for them to achieve compliance with a 60 or 65 dB L_{Aeq} limit.

Quantity Surveying Advice

3.2.14 A quantity surveyor was engaged to provide an indicative cost estimate of the types of building upgrades that would likely be required to meet noise limits of 60 dB L_{Aeq} and 65 dB L_{Aeq} for music venues, and to achieve a 30 $D_{2m,nT,w+Ctr}$ and a 35 $D_{2m,nT,w+Ctr}$ façade reduction for residential units. These costs estimates are set out in **Appendix 3**.

3.2.15 In respect of building upgrades for music venues, the high-level estimates are based on advice from AES (as set out in the AES Letter) about the specific types of upgrades that they consider would be required for three different types of buildings, in order to achieve a 30 $D_{2m,nT,w+Ctr}$ façade reduction, which would be expected to enable a venue to comply with a 65 dB L_{Aeq} noise limit at all nearby receivers, or a 35 $D_{2m,nT,w+Ctr}$ façade reduction, which would be expected to enable a venue to comply with a 60 dB L_{Aeq} noise limit at all nearby receivers (including adjacent side wall and upper levels of nearby receivers). The estimated costs are:

Table 3: Music venue upgrade estimates

Building Type	Area	65 dB L_{Aeq} limit at receiving sites		60 dB L_{Aeq} limit at receiving sites	
		Rate per m^2	Total Cost	Rate per m^2	Total Cost
Older Warehouse Style	220m^2	$800 - $1,115	$175,000 - $245,000	$1,135 - $1,545	$250,000 - $340,000
Modern Retail Tenancy	280m^2	$700 - $945	$195,000 - $265,000	$980 - $1,320	$275,000 - $370,000
Internal Access Space	150m^2	$435 - $635	$65,000 - $95,000	$665 - $935	$100,000 - $140,000

3.2.16 In respect of residential units, the indicative cost range is:

Table 4: Residential unit noise insulation estimates

Noise reduction measure	Cost estimate	
	Per Residential Unit	Rate per m^2
30 $D_{2m,nT,w+Ctr}$ façade reduction	$13,000 - $21,000	$160 - $265
35 $D_{2m,nT,w+Ctr}$ façade reduction	23,000 - $35,000	$290 - $440
Installing mechanical ventilation only	$4,000 - $7,000	N/A
Installing mechanical ventilation with air conditioning	$7,000 - $11,000	N/A

3.3 Current Christchurch District Plan provisions

3.3.1 Objectives relevant to this plan change for the Central City include various Strategic Directions, as well as chapter objectives. There are provisions in Chapter 6.1 which are specific to noise, and the objectives, policies and rules for those residential and commercial zones which are located in the central city (in Chapters 14 and 15) are relevant, being the City Centre; Central City Mixed Use; Central City Mixed Use (South Frame); and High Density Residential Zones.

Objective and Policy Framework

Strategic Directions

3.3.2 Chapter 3 - Strategic Directions includes overall directions which are relevant to both entertainment venues and residential development within the central city. Objective 3.3.1 seeks the expedited recovery and future enhancement of Christchurch as a dynamic, prosperous and internationally competitive city, in a manner that meets the community's needs, including for housing, economic development, social and cultural well-being, and which fosters investment certainty. Specific to the Central City, Objective 3.3.9 seeks its revitalisation as the primary community focal point, enhancement of its amenity values, function and economic, social and cultural viability through investment, and that a range of housing opportunities are enabled to support at least 5,000 additional households in this area by 2028. It further seeks that the Central City includes a wide diversity and concentration of activities that enhance its role as the primary focus of the City and region, and which contribute to it being a high amenity urban environment for residents, visitors and workers to enjoy. Objective 3.3.15 also seeks that conflicts between incompatible activities are minimised, through controlling the location of activities, primarily by zoning; or avoided, where there may be significant adverse effects on the health, safety and amenity of people and communities.

3.3.3 With respect to entertainment venues more specifically, Objective 3.3.5 seeks to ensure that the critical importance of business and economic prosperity to Christchurch's recovery and to community wellbeing and resilience is recognised, and a range of opportunities is provided for business activities to establish and prosper. Objective 3.3.8 seeks a high quality urban environment that maintains and enhances the Central City as a community focal point, and which promotes the re-use and re-development of buildings and land.

Commercial

3.3.4 Chapter 15 Commercial takes a centre-based approach to support commercial centres (Objective 15.2.1 and Objective 15.2.2). Key to this is that primacy is given to the City Centre (Objective 15.2.2.a.iv. and Policy 15.2.2.1.a.i.) with the role of the City Centre as described in Table 15.1 being as the principal employment and business centre for the City and wider region, providing for the widest range and greatest scale of activities available in centres. This specifically includes dining and night life and entertainment activities; as well as providing for high density residential activity. Objective 15.2.5 seeks that a range of activities are supported in the Central City, to enhance its viability, vitality and the efficiency of resources, while encouraging activities in specific areas by encouraging entertainment and hospitality activity (including late-night trading) in defined precincts and managing the extent to which these activities occur outside the precincts.

3.3.5 Objective 15.2.6 sets out the role of the City Centre Zone (CCZ) as being an area which re-develops as the principal commercial centre for the District, and one that is attractive for businesses, residents, workers and visitors. It is intended that within this zone, the widest range of commercial activities and residential activities (amongst other activities) are provided for (Policy 15.2.6.1).

3.3.6 Within the commercial zone framework, Policy 15.2.6.3 is to promote a high standard of amenity in the Central City, by identifying entertainment and hospitality precincts and associated noise controls for these and adjacent areas, and encouraging entertainment and hospitality activities to locate in these precincts. However, despite this policy referring to the wider Central City, the policy currently sits under Objective 15.2.6, which relates to the role of the City Centre Zone.

Policy 15.2.6.4 seeks to encourage intensification of residential activity within the City Centre Zone by enabling high quality residential development with an appropriate level of amenity by including internal noise protection standards. Policy 15.2.6.7 is specific to the entertainment and hospitality precinct, directing that the precinct is provided for in the Central City, by encouraging entertainment and hospitality activities to locate within this precinct, protecting the viability of existing entertainment and hospitality investment, particularly that investment which has occurred in the Central City since the Canterbury earthquakes, and providing certainty to investors that residential amenity effects related to late night trading will be managed by rules relating to noise and off-site effects.

3.3.7 In relation to the Central City Mixed Use Zone (CCMUZ), which is largely to the south of the CCZ, this zone is anticipated to be a vibrant high quality urban area where a diverse and compatible mix of activities can coexist in support of the CCZ, and other areas within the Central City (Objective 15.2.7). Policy 15.2.7.1 seeks that this zone is enhanced and revitalised, by enabling a wide range of activities. This includes enabling a range of types of residential activities to transition into this area in support of inner-city residential intensification, as well as entertainment activities and hospitality activities of a scale, type and duration that do not conflict with or undermine existing and future residential activity, nor undermine the identified hospitality and entertainment precincts. Policy 15.2.8.1 is to enhance the usability and adaptability of sites and buildings by prescribing minimum noise attenuation requirements, and Policy 15.2.8.3 seeks to provide for residential development within the zone, to support and encourage intensification of residential activity in the Central City, with private amenity space compensating for the predominantly commercial nature of the areas, through methods which include internal noise protection standards.

3.3.8 The role of the Central City Mixed Use Zone (South Frame) (CCMUZ(SF)) is to provide a clear delineation between the CCZ and the CCMUZ, within which a compatible mix and range of activities are enabled, where they do not compromise the consolidation of the CCZ (Objective 15.2.9). Within the zone, residential activity is enabled, transitioning into this area to support inner city residential intensification (Policy 15.2.9.1). It is envisaged that a range of types of residential development will be provided for within this zone, to support intensification of residential activity within the Central City, while providing an appropriate level of amenity for residents, including through internal noise protection standards (Policy 15.2.10.2).

3.3.9 The following issues have been identified with aspects of the policy framework:

a. The direction in Policy 15.2.6.7 is to "provide for" an entertainment and hospitality precinct in the Central City by way of the subsequent actions in the policy clauses. However, two of these clauses – protecting the viability of existing entertainment and hospitality investment and providing certainty to investors that residential amenity effects related to late night trading will be managed by rules – are not implemented through the current Plan framework, and are instead considered to be the drivers of, or reasons for the main policy direction - being that entertainment and hospitality activities are encouraged to locate in the precincts. A further issue is that the clause relating to managing residential amenity effects refers to rules relating to noise and off-site effects, but does not explicitly refer to acoustic insulation. This is considered to result in a gap in the policy as while the acoustic insulation provisions sit in Chapter 6, reference to them in this policy will provide a clearer link that this is one of the methods in the Plan that is particularly important to how entertainment and hospitality activities are encouraged to locate in the precincts.

b. Policy 15.2.7.1 applies to the CCMUZ and seeks to enable a range of listed activities, including entertainment activities and hospitality activities, subject to them being of a scale, type and duration that do not conflict with or undermine existing and future residential activity, nor

undermine the identified hospitality and entertainment precincts. The reference to "*scale, type and duration*" does not, however, appear to flow through to the rule framework, as these activities are permitted without further controls, (and the noise limits do not relate to "*scale, type and duration*"). The reference to not conflicting with or undermining existing and future residential activity is also potentially problematic, as the rule framework is focused on managing residential activities (rather than entertainment activities and hospitality activities) to address the conflict. As the latter is already addressed at the policy level in Policy 15.2.8.1, this aspect of Policy 15.2.7.1 is not needed.

c. Policy 15.2.8.3 relates to residential development in the CCMUZ. The current drafting is to require "*a level of private amenity space for residents that is proportionate to the extent of residential activity proposed, and which compensates to the predominantly commercial nature of the area*" through a number of listed methods, one of which is "*internal noise protection standards*". Changes were recently made to this policy through PC14. Prior to this, the listed items (now in clauses i. to v.) were related to providing "*for a level of amenity for residents consistent with the intended built form and mix of activities within that environment"*, by way of the controls listed – including internal noise protection standards. The PC14 changes have instead resulted in the direction in clause b. now referring to requiring a level of private amenity space. However, the internal noise protection standards are not related to private amenity space. The policy direction in this regard is therefore unclear as to the purpose of the standards.

d. Policy 15.2.9.1 seeks to enhance and revitalise land within the CCMUZ(SF) through enabling a number of listed activities. This list does not include entertainment activities and hospitality activities, which at a rule level are permitted (and therefore anticipated) within the zone. This results in a gap at the policy level.

Residential

3.3.10 In terms of residential development, Objective 3.3.4 sets targets for the level of development capacity for housing that is to be enabled across the City's urban areas, and further seeks that a range of housing opportunities are available to meet the needs of residents, including a choice in housing types, densities and locations. Objective 3.3.8 seeks a high quality urban environment that increases housing development opportunities to meet intensification targets, particularly in and around the Central City. Objective 14A.2.1 seeks an increased supply of housing that enables a wide range of housing types, sizes, and densities (consistent with the above objectives), meets the diverse and changing needs of the community, and assists in improving housing affordability. Objective 14A.2.10 is specific to visitor accommodation in residential zones and seeks within the Residential Visitor Accommodation Zone (RVAZ), visitor accommodation is able to establish, operate, intensify and/or redevelop in a way that is compatible with the character and amenity of adjoining zones.

3.3.11 At a policy level, 14A.2.1.1 provides for the distribution of residential development across different areas, in accordance with the characterisation set out for each zone. The High Density Residential Zone (HRZ) is described as being predominantly for residential activities, with a high concentration and bulk of buildings, and is located around larger commercial centres. Policy 14A.2.10.2 is specific to the RVAZ, and seeks to provide for the ongoing operation, intensification or redevelopment of existing visitor accommodation sites, compatible with the character and amenity of adjoining residential zones.

3.3.12 Across all residential areas Objective 14.2.6 seeks that residential activities remain the dominant activity in residential zones, and aside from specifically identified activities, non-residential activities are sought to be restricted unless there is a strategic or operational need for their

location within a residential zone. At a policy level 14.2.6.9 is specific to non-residential activities in Central City residential areas and outlines that non-residential activities are to be of a small scale and compatible with residential activities; to be focussed on meeting the needs of the local residential community or depend upon the high level of amenity inherent in the HRZ; to not compromise the roles of each Central City Zone, and to be controlled to protect residential amenity.

Noise

3.3.13 Specific to noise, Objective 6.1.2.1 seeks that adverse noise effects on the amenity values and health of people and communities are managed to levels consistent with the anticipated outcomes for the receiving environment.

3.3.14 Policy 6.1.2.1.1 directs the management of adverse noise effects by limiting the sound level, locations and duration of noisy activities, and requiring sound insulation for sensitive activities or limiting their location relative to activities with elevated noise levels. Policy 6.1.2.1.2 seeks to achieve lower noise levels during night hours to protect sleep, and the amenity values of residential and other sensitive environments, so far as is practicable. Policy 6.1.2.1.3 is specific to the current noise precincts and states that entertainment and hospitality activities, which contribute to Christchurch's economic, social and cultural well-being, are to be enabled in the Central City Entertainment and Hospitality Precincts while ensuring the adverse noise effects of activities on the surrounding community and environment are managed to levels consistent with the anticipated outcomes for the receiving environment. Specifically, in relation to the CMUA, it states that the stadium will be enabled to attract and host a wide range of sporting events, concerts and other entertainment events and activities, so that it can act as a catalyst for regeneration, make a significant contribution to the vibrancy of the Central City, and promote the sporting and cultural identity of Christchurch; while ensuring that noise is managed to durations and frequencies which, in combination with insulation requirements and a Noise Management Plan, mitigate adverse effects on the amenity values of neighbouring inner city residential areas.

3.3.15 In relation to traffic (and rail) noise, Objective 7.2.2 seeks to enable the transport system across Christchurch to provide for the transportation needs of people and freight, whilst managing adverse effects from the transport system. Policy 7.2.2.1 seeks to manage any adverse effects from the ongoing use of the strategic transport network, whilst recognising its national and regional scale and economic importance, and the role of the network in the recovery of Christchurch. The definition of strategic transport network includes both the strategic road network and rail, core public passenger transport operations and hubs, and the strategic cycle network. Relevant to the Central City, the strategic road network includes major arterial roads. Further, Policy 7.2.2.3 is to manage the adverse effects of adjacent land uses to the Transport Zone. This includes ensuring that adjacent land uses are designed, located and maintained in such a way as to avoid reverse sensitivity effects on the strategic transport network.

Rule Framework

Noise

3.3.16 At a rule level, activities generating noise are permitted in the Central City where they meet specified noise limits (6.1.5.1.1 P3), at the site receiving the noise. The following noise limits apply within the Central City (under Rule 6.1.5.2.2), based on the Precincts:

Table 5: Central City Noise Limits

Category	Location	Noise limits (dB) (at site receiving the noise)	
		L_{AEq}	L_{AFmax}
Category 1 Precincts	Higher Noise Level Entertainment and Hospitality Precincts – activities not specified in row below	60 (all day)	85 (7am – 3am) 75 (3am – 7am)
	Higher Noise Level Entertainment and Hospitality Precincts – discrete outdoor entertainment events	65 (all day)	85 (all day)
Category 2 Precincts	Lower Noise Level Entertainment and Hospitality Precincts – excluding Victoria Street area	60 (7am – 1am) 50 (1am – 7am)	85 (7am – 1am) 75 (1am – 7am)
	Lower Noise Level Entertainment and Hospitality Precincts –Victoria Street area	55 (7am – 11pm) 50 (11pm – 7am)	85 (7am – 11pm) 75 (11pm – 7am)
Category 3 Precincts	All other areas of the Central City	55 (7am – 11pm) 45 (11pm – 7am)	85 (7am – 11pm) 75 (11pm – 7am)

3.3.17 Some specified cases are exempt from the noise limits above, e.g. in Category 1, noise from people in outdoor areas of premises licensed for the sale, supply and/or consumption of alcohol that meet specified setback requirements (in Rule 6.1.6.2.10) are exempted from the above noise limits.

3.3.18 Under 6.1.6.2.10, outdoor areas of premises licensed for the sale, supply and/or consumption of alcohol in the Central City in Category 1 or 2 Precincts must also be setback 25m from the boundary of any premise or site boundary that is a Category 3 Precinct zoned HRZ, CCMUZ or CCMUZ(SF).

3.3.19 Under Rule 6.1.4.3, the duration of a resource consent granted to breach a noise limit, for an activity seeking to operate after 11pm in the CCMUZ or CCMUZ(SF) within a Category 3 Precinct, is limited to 7 years.

3.3.20 As noted above, a noise limit of 60 dB L_{Aeq} can be met by music and hospitality venues, but would require some noise management or mitigation measures to be put in place. This limit only applies currently in Category 1 areas. However, there are a limited number of venues which have actually established in a Category 1 area, so very few venues have been able to take advantage of this level (noting that they would also need to meet the applicable (lower) noise limits at the boundary of any Category 2 or 3 area). A higher limit would result in fewer constraints for such venues, but under the current framework, a higher limit of 65 dB L_{Aeq} only applies to discrete outdoor entertainment events in Category 1 areas. For venues in Category 2 areas, a lower limit of 50 dB L_{Aeq} applies; and in Category 3 areas, a 45 dB L_{Aeq} limit applies. As noted above, resource consent to exceed the 45 dB L_{Aeq} limit in the CCMUZ or CCMUZ(SF) is limited to a 7-year duration.

3.3.21 The time within which the 'night-time' noise limits apply also differs between precincts, being 3am – 7am in Category 1, 1am – 7am in Category 2 (excluding the Victoria Street area) and 11pm – 7pm in Category 3 and the remainder of Category 2. For Category 1 areas, the same decibel limit applies in both the day and night-time period, but a lower L_{AFmax} limit applies in the night-time period. The technical advice is that the night-time period is typically considered to be from

10 or 11pm, and that applying the night-time limits later than this would not adequately protect sleep.[30]

3.3.22 Currently L_{AFmax} limits are applied in both the daytime and night-time periods. However, the relevant New Zealand Standard (NZS 6802:2008) indicates that such a limit is only required where sleep protection is required, being during the night-time period. Applying a daytime L_{AFmax} limit is therefore not aligned with best practice.

Requirements for Acoustic Insulation

3.3.23 The current acoustic insulation requirements applying to sensitive activities within the Central City (under Rule 6.1.6.2.9) are set out in the following table. Compliance with the standard is via meeting the schedule of typical building construction set out in Appendix 6.11.4, or providing an acoustic design certificate signed by a suitably qualified acoustic engineer stating the design proposed is capable of meeting the standards.

Table 6: Noise Insulation Requirements

Zone/ area	**Minimum External to Internal Noise reduction ($D_{tr,\ 2m,\ nT,w} + C_{tr}$)**
Category 2 Precincts	35 dB for bedrooms 30 dB for other habitable spaces
Category 3 Precincts adjoining Category 1 Precinct	
Category 3 Precincts zoned residential, within 75m of a Category 1 or 2 Precinct Category 3 Precinct zoned Commercial/ Mixed use (and not adjoining a Category 1 Precinct)	30 dB for bedrooms
CMUA Outer Noise Insulation Area	35 dB for bedrooms 30 dB for other habitable spaces
CMUA Inner Noise Insulation Area	35 dB for bedrooms 35 dB for other habitable spaces

3.3.24 In addition to the requirements applying within the Categories above, new buildings for sensitive activities, or alterations or additions to existing buildings for sensitive activities, must also meet the following rule in the Central City if they are located within 40m of the specified categories of roads:

[30] *Central City - Music venues and sensitive activities: Supplementary information*, page 3.

Table 7: Road Noise Insulation Requirements

Zone/ area	Requirement
Within 40m of a Main Distributor, Local Distributor or arterial road	A) Minimum External to Internal Noise reduction of 30 Db Dtr, 2m, nT,w + Ctr for any habitable spaces, *OR* B) Max indoor sound level of 40 dB L_{AEq} (24hr) for any habitable spaces and if windows are required to be closed to achieve the indoor design sound levels, then an alternative means of ventilation is required within bedrooms

3.3.25 Compliance with Option A in Table 7 above may be achieved via meeting the minimum construction requirements set out in Appendix 6.11.4, or providing an acoustic design certificate signed by a suitably qualified acoustic engineer stating the design proposed is capable of meeting the above standards. Compliance with Option B in Table 7 may be achieved by the latter only.

3.3.26 It is noted that outside the Central City, the rule applying (6.1.7.2.1) to "*any part of an addition of a whole room to an existing building, or any part of a new building, intended for a sensitive activity, or the conversion of an existing building so that it may be used for a sensitive activity*" is different to the above. In particular, it sets a minimum indoor sound level, rather than requiring an external to internal noise reduction, and applies the following (to be confirmed by providing an acoustic design certificate signed by a suitably qualified acoustic engineer stating the design proposed is capable of meeting the required internal noise levels):

Table 8: Central City Road Noise Insulation Requirements

Zone/ area	Requirement
Within 100m of a State Highway Within 40m of any Major or Minor arterial road Within 20m of any collector road	Max indoor sound level of 40 dB L_{AEq} (24hr) for any habitable spaces If windows are required to be closed to achieve the indoor design sound levels, then an alternative means of ventilation is required within bedrooms.
Within 100m of the centre of the nearest railway track	Max indoor sound level of: - 35 dB L_{AEq} (1hr) for bedrooms - 40 dB L_{AEq} (1hr) for other habitable spaces If windows are required to be closed to achieve the indoor design sound levels, then an alternative means of ventilation is required within bedrooms.

3.3.27 The requirements relating to how road noise is mitigated therefore differ inside the Central City to outside the Central City, despite the effects of the road noise and intent of the rule being the same (this is a result of the latter being reviewed recently through Plan Change 5E, resulting in the application of the target indoor design sound level method only).

3.3.28 In some cases, two separate requirements for acoustic insulation apply – the Category-based requirements, alongside the road noise requirements. However, these rules seek to mitigate different types of noise, and the technical advice is that the Category-based requirements will not be sufficient in many cases to provide sufficient mitigation for traffic noise.[31]

[31] AES Report, pages 13-14.

3.3.29 There is also a gap in the acoustic insulation requirements under Rule 6.1.6.2.9, in that the requirements do not include the installation of a mechanical ventilation system and air conditioning unit. This is a gap because where windows in a building are opened to provide ventilation, the level of noise reduction achieved will be significantly less than what is intended by the acoustic insulation requirements.

3.3.30 A further minor issue with the current rule framework is that Rule 6.1.7.1.3 RD1 currently applies a restricted discretionary status to sensitive activities near roads (both within and outside the Central City) which "*exceed any noise limits in the activity standards for that activity by 10 dB or less*", and Rule 6.1.7.1.5 NC4 then applies a non-complying activity status where the exceedance is more than 10dB. However, the activity standards in the relevant road noise mitigation rules, while in some cases including a maximum noise level, which could be seen as a limit, generally focus instead on requiring an internal design sound level to be met, rather than prescribing a noise limit. The current drafting is therefore unclear as to what rule applies where sensitive activities near roads do not meet one of the activity specific standards that does not specify a noise limit.

3.3.31 There is a similar issue with Rule 6.1.6.1.5 NC2 e., which applies where the noise limits in the activity standards for the specified activity are exceeded by more than 10 dB. However, in the case of e. – which applies to sensitive activities which are subject to Rule 6.1.6.2.9 – the activity standards do not apply a noise limit at all, but instead only require a specified level of external to internal noise reduction to be achieved. As such, this rule is redundant as it would never be triggered. Related to this, Rule 6.1.6.1.3 RD1 applies a restricted discretionary status to listed activities (including sensitive activities which are subject to Rule 6.1.6.2.9) where they exceed any noise limits by 10 dB or less; or do not meet one or more of the other activity standards. However, only the latter, and not the former, would apply to activities managed under Rule 6.1.6.2.9.

3.3.32 Rule 6.1.7.2.1.a.iii. also makes reference to "Rule 6.1.7.2.1.b.". However, there is no such rule, making the reference redundant and potentially confusing.

Rule Framework for activities

3.3.33 The following table sets out how 'sensitive activities' are managed in each zone[32], as well as entertainment activities:

Table 9: Central City Zones Rule Framework

Type of Sensitive Activity	Zone			
	HRZ and RVAZ	**CCZ**	**CCMUZ**	**CCMUZ(SF)**
Residential activity	Permitted[33]	Permitted outside a Category 1 Precinct Discretionary within a Category 1 Precinct	Permitted	Permitted outside a Category 1 Precinct Discretionary within a Category 1 Precinct
Care facilities	Permitted (subject to limits on hours and vehicle movements)	Permitted outside a Category 1 Precinct Non-complying within a Category 1 Precinct	Permitted	Permitted outside a Category 1 Precinct Non-complying within a Category 1 Precinct
Education activities and preschools	Permitted for facilities up to 40m^2 in area Discretionary for facilities over 40m^2 in area	Permitted outside a Category 1 Precinct Non-complying within a Category 1 Precinct	Permitted	Permitted outside a Category 1 Precinct Non-complying within a Category 1 Precinct
Visitor accommodation	HRZ - Hosted visitor accommodation - Permitted HRZ - Unhosted visitor accommodation - Permitted within specified limits; beyond these, either restricted discretionary or discretionary depending on scale RVAZ - Permitted	Permitted outside a Category 1 Precinct Discretionary within a Category 1 Precinct	Permitted	Permitted outside a Category 1 Precinct Discretionary within a Category 1 Precinct
Health care facilities	Permitted for facilities up to 40m^2 in area Discretionary for facilities over 40m^2 in area	Permitted outside a Category 1 Precinct Non-complying within a Category 1 Precinct	Permitted	Permitted outside a Category 1 Precinct Non-complying within a Category 1 Precinct
Entertainment Activities				
Entertainment Activities	Discretionary	Permitted	Permitted	Permitted

[32] The table does not include 'hospitals' which are generally provided for through the Specific Purpose Hospital Zone or 'Custodial and/or supervised living accommodation where the residents are detained on the site', which are generally provided for via designations.

[33] It is noted that four or more residential units require consent as a restricted discretionary activity, but subject only to urban design matters (i.e. does not allow consideration of acoustic insulation).

3.4 Description and scope of the changes proposed

3.4.1 The Plan Change does not propose any changes to the objectives of the Plan in relation to noise. This is because the objective of the noise chapter - to manage adverse noise effects on the amenity values and health of people and communities to levels consistent with the anticipated outcomes for the receiving environment - is still considered to be appropriate to achieve the purpose of the RMA. The objectives applying to the various zones within the central city are also considered to be appropriate in the context of noise. The issues that PC21 seek to address relate instead to what the most appropriate policy and rule framework is to achieve these objectives.

3.4.2 The purpose of the plan change is to manage noise within the Central City in a way that supports a vibrant night-time economy, and reflects the anticipated amenity values of different areas within the Central City, while appropriately protecting sleep for Central City residents during the night-time period. This includes:

a. better providing for entertainment venues to establish in appropriate locations, and allowing for them to operate at noise levels that attract and keep patrons, while ensuring that the measures required to mitigate noise are reasonable; and

b. Ensuring that in areas of the Central City where sensitive activities are anticipated, they are not subjected to an unreasonable level of internal noise, and that where acoustic insulation is required to achieve this, that the costs or design requirements to do so are practical and viable.

3.4.3 The Plan Change proposes to amend the planning maps, as set out in **Appendix 4**, to:

a. extend the Category 1 Precincts to commercially-zoned areas[34] where a minimum external to internal noise reduction of 35 dB $D_{tr,\ 2m,\ nT,w} + C_{tr}$ for bedrooms is currently required, except in the Victoria Street area (where a Category 2 precinct will be retained) or where set out in b. below);

b. extend the Category 2 Precincts to:
   i. commercially-zoned areas[35] where a minimum external to internal noise reduction of 30 dB $D_{tr,\ 2m,\ nT,w} + C_{tr}$ for bedrooms is currently required; and
   ii. to the block contained by Barbadoes/ Hereford/ Cashel/ Fitzgerald
   iii. to the block contained by Cashel/ Clarkson/ Lichfield/ Fitzgerald
   iv. the east frame area between Madras and Manchester Streets

3.4.4 The Plan Change proposes the following changes to the policies of the Plan that relate to the way activities in central city commercial zones are managed. These are:

a. Amending Policy 15.2.6.3.a.v. (Amenity) to remove reference to adjacent areas.

b. Amending Policy 15.2.6.7 (Policy - Entertainment and Hospitality Precinct) to provide more specific direction that the precincts are intended to encourage entertainment and hospitality activities in specific areas, to make it clearer that the matters in clauses ii. and iii. (now i. and ii.) are the drivers behind the approach rather than being separate actions and to make the methods of implementation clearer, renumber it to Policy 15.2.5.2, and shift it to sit under Objective 15.2.5.

c. Amending Policy 15.2.7.1.a.vii. (Diversity of activities) to remove references to: controls on entertainment and hospitality activities; conflict/undermining of residential activities; and not undermining identified hospitality and entertainment precincts.

[34] Including the City Centre; Central City Mixed Use; and Central City Mixed Use (South Frame) zones.
[35] Including the City Centre; Central City Mixed Use; and Central City Mixed Use (South Frame) zones.

d. Amending Policy 15.2.8.3 (CCMUZ) to shift reference to internal noise protection standards into a standalone clause.

e. Amending Policy 15.2.9.1 (CCMUZ(SF)) to explicitly refer to enabling entertainment activities and hospitality venues in this zone.

3.4.5 The Plan Change also proposes a number of changes to the rules to address the issues, achieve the purpose of the plan change and to ensure that the relevant Plan objectives are achieved. These changes include:

a. Deleting **Rule 6.1.4.3**, which applies a 7 year duration for resource consents to breach noise limits after 23:00 in the CCMUZ and CCMUZ(SF) in Category 3 Precincts, and consequentially deleting reference to this rule in **Rule 6.1.3.f.i**.

b. Amending **Rule 6.1.5.2.2** to align the title of the Planning Map referred to with that used on the legend to the Planning Maps.

c. Amending Table 2: Noise standards for each category, to:
- Expand the application of the higher 65 dB LAeq noise limit in Category 1 Precincts to all Entertainment activities (in Table 2, Row a. of Chapter 6.1);
- Apply a 80 L_{AFmax} night-time limit in Category 1 Precincts to all Entertainment activities (in Table 2, Row a. of Chapter 6.1);
- Apply a higher 60 dB LAeq noise limit in Category 2 Precincts to all entertainment activities and removing the distinction between the Victoria Street Area and the other parts of the Category 2 Precinct (in Table 2, Row b. of Chapter 6.1);
- Align the title of Category 3 Precinct with that used on the legend to the Planning Maps;
- Remove L_{AFmax} limits during the daytime period; and
- Apply the 'night-time' limits apply between 23:00 and 07:00 in all instances.

d. Amending **Rule 6.1.6.1.3** to remove reference to Rule 6.1.6.2.9 in RD1, and insert a new rule (**RD3**) applying to sensitive activities in the Central City that do not meet one or more of the activity standards for that activity.

e. Deleting **Rule 6.1.6.1.4 D3**, which applies a discretionary activity status to residential activities and visitor accommodation within a Category 1 Precinct.

f. Deleting **Rule 6.1.6.1.5 NC2 e**, which applies a non-complying activity status to sensitive activities which exceeds any noise limits in specified in Rule 6.6.1.2.9 by more than 10 dB**.**

g. Amending **Rule 6.1.6.2.9**, which sets out the insulation requirements applying to sensitive activities in the Central City, to:
- Generally apply the current acoustic insulation requirements on the basis of the changes to the boundaries of the precincts;
- Introduce an explicit acoustic insulation requirement for sensitive activities in the revised Category 1 Precinct areas;
- Extend it to require a mechanical ventilation system and air conditioning unit to be installed where the noise reduction levels will only be met if windows are closed, and include a standard outlining how compliance is to be demonstrated;
- Refer to the full title of each Category Precinct;
- Amend the advice notes so that they more clearly form part of the requirements of the rule; and
- Add a standard explicitly stating that where more than one requirement applies, the more stringent requirement must be met.

h. Deleting reference to the CCMUZ(SF) in **Rule 6.1.6.2.10.a.i**, which requires a setback of 25m between outdoor areas of premises licensed for the sale, supply and/or consumption of alcohol located within Category 1 or 2 Precincts and the boundary of specified zones within

a Category 3 Precinct; and amending the rule to refer to the full title of each Category Precinct.

i. Amending **Rule 6.1.7.1.3 RD1** to apply when an activity listed in Rule 6.1.7.2.1 does not meet one or more of the activity specific standards in Rule 6.1.7.2.1 (rather than referring to exceedance of noise limits).

j. Deleting **Rule 6.1.7.1.5 NC4**, which applies to an activity listed in Rule 6.1.7.2.1 that exceeds the noise limits in any activity standards by more than 10dB**.**

k. Amending **Rule 6.1.7.2.1** to apply to "Main Distributor or Local Distributor roads", and to remove reference in sub-clause a.iii. to Rule 6.1.7.2.1.b.

l. Deleting **Rule 6.1.7.2.3**, which applies acoustic insulation requirements to buildings for sensitive activities near busy roads in the Central City, and consequentially deleting reference to this rule in **Rules 6.1.7.1.1 P1** and **6.1.7.1.3 RD1**.

m. Amending the matters of discretion **Rule 6.1.8 a. x**, which apply to resource consent applications pertaining to sound insulation requirements, to better align with the policy direction**.**

3.5 Community/Stakeholder engagement

Statutory Consultation

3.5.1 In accordance with Schedule 1, Clause 3 of the RMA, a summary of the draft plan change was provided to the Ministry of Business, Innovation and Employment, the Ministry of Housing and Urban Development, the Ministry for the Environment, Selwyn District Council, Waimakariri District Council and Environment Canterbury.

3.5.2 The only feedback received was from Environment Canterbury, who generally supported the preferred policy options identified in the consultation, and acknowledged the balanced approach taken to enable increased business activity in the Central City while managing the effects of increased noise on sensitive activities. Environment Canterbury sought consideration of further changes to the current mapping, where:

- there is opportunity for significant housing development; and
- there are pockets of existing, older residential activities, which do not have sound insulation, and where it is practicable to remove these from Category 1 and 2.

It also supported the proposed increased noise limits, provided increased noise can be mitigated through amended insulation requirements and those requirements do not impact the feasibility of housing intensification.

3.5.3 In response to this, the notified PC21 differs from the draft PC21 by not including some areas of older residential activities in the Category 1 or 2 precinct (refer to a summary of the changes attached in **Appendix 5**). While there are opportunities in some Category 1 or 2 Precincts for significant housing development, such developments will be required to meet the noise insulation requirements, which ensure that noise is appropriately mitigated. As the proposed increase in noise limits is relative to the existing noise insulation requirements already applying in these areas, there is no change arising from PC21 that impacts on the feasibility of housing intensification or restricts opportunities for significant housing development.

Public Engagement

3.5.4 Consultation on the Draft Plan Change was undertaken between 25 June and 3 August 2025. This was centred on the Council's Kōrero mai | Let's Talk webpage, and advertised via:

- An email sent to 2,536 identified stakeholders, including those who completed the 2023 Central City Noise Survey, central city developers and venues, central city residents' associations and body corporates.
- An email sent to the 1,600 subscribers of Council's District Plan e-newsletter.
- A Newsline story (which received 953 views). This was shared to Council's Facebook page, where it was viewed 55,522 times. A Facebook post advertising the webinar was viewed 15,463 times.
- Letters discussing the opportunity to provide feedback on the draft Plan Change sent to all properties in the central city.

3.5.5 Webinars were also held on 15 and 16 July. Staff also attended a Submission Party held on 27 June hosted by the Darkroom, and an Inner City West Neighbourhood Association meeting held on 10 July, to answer questions about the proposal.

3.5.6 Feedback was received from 1,429 parties (33 organisations and 1,396 individuals). The levels of support for or opposition to various aspects of the proposal is summarised in the table below:

Table 10: Engagement Feedback

Question	Yes	Somewhat	No	Don't Know / Not Sure
Overall, do you support the proposed Plan Change?	87%	5%	7%	1%
Do you think we've got the category locations right?	86%	7%	6%	
Do you think we've got the noise limits and insulation requirements right?	81%	9%	9%	

3.5.7 Key reasons for submitters supporting the draft proposal were:

- It supports night-time businesses and/or the economy, including live music venues (575)
- It supports vibrancy and/or nightlife within the central city (380)
- It supports Ōtautahi Christchurch's arts and culture scene (134)
- It strikes a balance in supporting both businesses and residents (57)
- The insulation and/or ventilation requirements, including positive sentiment about supporting residents via more suitable housing (57)
- The central city should be noisy/residents living within the central city should expect noise (49)
- It reflects Christchurch as a growing city/enables further growth (40)
- One New Zealand Stadium at Te Kaha provides a good reason for re-looking at the central city noise landscape (37)

3.5.8 The key elements of the draft proposal have been retained in PC21. This aligns with the high levels of community support for this approach in the feedback received, and the benefits of the approach identified in the feedback are reflected in the assessment contained in sections 5 & 6 of this report.

3.5.9 Key reasons for submitters opposing the draft proposal or aspects of it, were:

- The noise limits are too low/should be increased further (107)
- It will affect the quality of life/comfort of central city residents (62)
- Residents were there first and/or should be prioritised (40)
- Increased noise will affect the health of central city residents (29)

- It could have negative impacts on existing live music venues (the rules aren't enabling enough, confusion about the current rules in place, the cost of soundproofing for venues etc) (23)
- Perception that increased noise leads to more antisocial behaviour (20)

3.5.10 The impacts of the proposed expansion of Category 1 and 2 areas, and increased night-time noise limits on existing residents, particularly areas zoned residential and with older uninsulated dwellings, has been taken into account in the setting of boundaries. More specifically, some residentially-dominated areas (being areas zoned High Density Residential or Residential Visitor Accommodation, or with high concentrations of existing residential activity) proposed to be in Category 1 or 2 in the draft proposal have been included in Category 2 or 3 instead in proposed PC21.

3.5.11 The provisions have also been developed taking into account the impacts on live music venues arising from application of noise limits, and balancing this with the impacts of noise on sensitive activities. While the proposed approach does not provide for an uninhibited noise regime, and there will be costs for venues to comply with the proposed noise limits, it is generally more enabling for venues than the current approach.

3.5.12 The most common answers given by submitters who commented on any additional areas they considered should be included in the Category 1 or 2 precinct were:

- All areas within the Four Avenues should be included in Category 1 or have no limit (8)
- Include St Asaph Street (5)
- Include areas outside the central city area – such as Hagley Park (10), and other areas beyond the Four Avenues – including some of Sydenham, Linwood, Addington and Riccarton (14)

3.5.13 The scope of PC21 is limited to the central city areas and therefore additional locations outside this area have not been considered. The St Asaph Street area is discussed further below. The potential for all of the central city area to be included in Category 1 and therefore subject to a higher noise limit has been considered but discounted. This is assessed in more detail in Section 6.4 below.

3.5.14 The most common answers given by submitters who commented on any areas they considered should not be included in the Category 1 or 2 precinct were:

- The area around Victoria Street (31) including some mentions of Salisbury, Beveridge, Conference, Peacock, Peterborough, Dublin
- The residential East Frame neighbourhoods (6)
- St Asaphs Street (4) and Welles Street (2)

The PC21 notification draft differs from the engagement proposal in that it is proposed to retain the Category 3 precinct (or, to the north of Bealey Avenue, apply no precinct) for residentially zoned areas around Victoria Street (rather than applying a Category 2 precinct as in the draft proposal), and to apply Category 2 to the East Frame area between Madras and Manchester Streets (rather than applying a Category 1 precinct as in the draft proposal). The rational for this is set out in more detail in paragraphs 6.3.3 and 6.3.6 and is assessed in more detail in paragraph 5.4.9. The differences in the precinct boundaries between the engagement proposal and PC21 is shown in **Appendix 4.**

3.5.15 With respect to St Asaph Street, the draft Plan Change included an area of this being included in Category 1, centred around existing entertainment and hospitality venues. However, sensitive activities recently established in this area have not been required to provide insulation at a level

suitable for the higher level of noise provided for in Category 1. It is assumed that these sensitive activities have only been established with the minimum level of acoustic insulation required. However, if a higher level of insulation has been installed in order to further reduce noise, this does not mean they should be subjected to higher noise environment. The application of Category 2 to this area is better aligned with the existing noise insulation standards and provides for an increase in permitted noise at night-time from 45 dBA L_{Aeq} to 60 dBA L_{Aeq}, which will provide a better operating environment for established venues in this area.

3.5.16 Some feedback received commented on technical matters associated with the noise provisions. A summary of these matters are set out in **Appendix 6**, along with a response to them.

3.5.17 There were also a number of comments in the feedback received that are outside the scope of what the District Plan manages. This includes:

- Enforcement matters (both in terms of concerns about the enforcement of the current plan provisions; as well as how the changes will be enforced)
- Education and advocacy about noise in the Central City
- Traffic noise, including rubbish trucks and emergency vehicle sirens
- Noise from patrons in road reserve areas
- Dogs barking
- Funding of noise mitigation measures
- Rates reduction
- Car parking in the central city
- Littering

3.5.18 There were also a number of comments in the feedback received that are outside the scope of PC21. This includes:

- How the District Plan manages short-term accommodation (e.g. AirBnBs)
- The regime applying to temporary events
- The conditions of the designation applying to the CMUA
- Construction noise

3.6 Consultation with iwi authorities

3.6.1 Whitiora were approached as part of the development of the plan change, and indicated that they did not need to be consulted further on the specific details of the plan change. However, they noted that individual mana whenua may be affected as landowners and may comment as they see fit.

4 Scale and significance evaluation

4.1 The degree of shift in the provisions

4.1.1 The level of detail in the evaluation of the proposal has been determined by the degree of shift of the proposed provisions from the status quo and the scale and significance of the effects anticipated from the implementation of the proposal.

4.1.2 The following table outlines the degree of shift in the provisions from the status quo:

Table 11: Degree of Shift Assessment

1. Addressing an existing or new resource management issue	The proposed changes are addressing an existing resource management issue, in terms of managing potential conflict between noise-generating activities and those activities that are sensitive to noise.
2. Proposing a new management regime/minor or major change in rule framework	The changes to the provisions do not alter the general approach, as noise limits will still apply in specified spatial areas, and noise insulation for noise sensitive activities will continue to be required to mitigate higher noise levels. The major changes proposed are an expansion of the Category 1 and 2 areas (i.e. an increased area where higher noise limits apply) and higher noise limits for entertainment activities in these two areas. The other changes are consequential to these major changes, or else are minor in nature.
3. Extent and scale of regulatory impact	The scale of the impact of the proposed changes are limited to the central city area only. The changes have less impact in areas which currently are, and which will remain, within the Category 3 Precinct.
4. Degree of 'Packaging' with other plan changes or other interventions	The proposed changes include removal of the separate acoustic insulation rule managing the effects of road noise within the Central City, and the application of that current rule applying everywhere else within the City (Rule 6.1.7.2.1). This rule was recently reviewed and updated through Plan Change 5E.
5. Discrete provisions, or broader suite of existing provisions	The proposed changes are relatively confined, affecting several rules within Chapter 6.1 Noise, and six policies within Chapter 15 which apply to commercial areas within the Central City.
6. Changing existing plan objectives, and to what degree	PC21 does not propose to amend any of the existing objectives of the District Plan, nor introduce any new objectives.

4.1.3 Based on the assessment in the table above, the degree of the shift from the status quo as a result of the proposed changes is **low-medium**. This is because the changes affect a confined area, and do not alter the general approach to managing noise already contained within the Plan. Instead, they seek to make changes to the noise limits in parts of the Central City to better achieve the objectives of the Plan.

4.2 Scale and significance of effects

4.2.1 The following table outlines the scale and significance of the likely effects anticipated from the implementation of the proposal:

Table 12: Scale and Significance of Effects Assessment

1. Reasons for the change	A key reason for the change is to reflect that music and hospitality venues have established outside the Category 1 Precinct where the Plan anticipated they would primarily locate. The night-time noise limits in the current Category 2 and 3 precincts are difficult for such venues to meet, without significant noise mitigation measures (and associated costs) being required. This impacts on the ability for these venues to

	operate at noise levels that attract and keep patrons, and in a manner that supports the vibrancy of the nightlife of the Central City. Other changes that form part of PC21 include changes that seek to rationalise the approach to noise insulation, and align the approach to the management of noise in the central city to align with best practice.
2. Degree of shift from the status quo (i.e. the current approach)	As expanded on above, the degree of the shift from the status quo as a result of the proposed changes is considered to be low-medium. This is because the changes affect a confined area, and do not alter the general approach to managing noise already contained within the Plan. Instead, they seek to make changes to the noise limits in parts of the Central City to better achieve the objectives of the Plan.
3. Who and how many will be affected?	There is a relatively high degree of public interest and engagement in issue, reflected in: - A petition with 3,565 signatures being presented to the Council in February 2023, seeking higher noise limits in the Central City, to allow for sound levels that are adequate for live music events, cultural celebrations, and festive gatherings; - 3,399 responses being received as part of a survey of central city businesses, and residents living both in the Central City and wider area in September and October 2023; - 1,429 responses being received as part of engagement on the draft Plan Change. The parties most impacted by the proposed changes are property owners and occupiers located within areas that are currently within a Category 2 or 3 Precinct, which are proposed to become a Category 1 or 2 Precinct. More broadly, noise limits and acoustic insulation requirements can also impact on the attractiveness of the Central City as a place to live in, and to visit.
4. Degree of impact on, or interest from iwi/Māori	The proposed changes do not affect sites, areas or resources of significance to iwi/Māori. Consultation, via Whitiora, has indicated that there is not a high level of interest from iwi/Māori on the issue, albeit individual mana whenua may be affected as landowners. However this impact will be on the same basis as other landowners. Iwi/hapū are not considered to be impacted differently than the wider community by the changes. PC21 does not pertain to any matters addressed in the Mahaanui Iwi Management Plan.
5. When will effects occur?	The proposed changes will allow for increased noise levels in certain parts of the Central City on an ongoing basis (unless and until any further changes are proposed in future). It is expected that over time this will result in more music and hospitality venues operating in the expanded Category 1 and 2 areas. The effects of the changes are expected to be the greatest on existing sensitive activities that have been established without acoustic insulation. However, the plan change has been developed to reduce this impact to a reasonable level, and the impacts are also expected to

	reduce over time, as older buildings within these areas are progressively upgraded or replaced.
6. Geographic scale of impacts	The scale of impact is limited to the Central City, with the key changes affecting areas that proposed to be included within the Category 1 or 2 precincts.
7. Type of effect	The most significant change proposed is to allow for increased noise during the night-time period over a larger part of the Central City. The effects of this are not considered to be permanent, as the noise limits can be reviewed again in future, if and when necessary. The changes are likely to have a positive impact on operators of music and hospitality venues, and flow-on positive impacts on social well-being. The effects on noise sensitive activities are considered to be mitigated through the existing acoustic insulation requirements, but there is expected to be a negative impact on noise sensitive activities that have established without acoustic insulation. This can have flow-on impacts in terms of how attractive the Central City is as a place to live for people expecting a low noise environment in older residences. Those changes which relate to improving the drafting of provisions and aligning them with best practise, will have beneficial effects in terms of improving interpretation and administration of plan provisions.
8. Degree of policy risk, implementation risk, or uncertainty	The proposed changes have a high degree of community support and stem from concerns within the community that the noise limits within the central city are not high enough to allow for activities such as live music. They have also been informed by technical advice received from acoustic experts.

4.2.2 Based on the assessment in the table above, the scale and significance of the likely effects anticipated from the implementation of the proposed changes is considered to be **moderate**. This is because the changes do not seek to alter the outcomes the Plan is seeking to achieve, nor the general approach to managing noise and instead seek to make a series of changes to more specific aspects of the approach to better achieve those outcomes. The more significant changes proposed are an expansion in where the Category 1 and 2 precincts apply, and higher noise limits for entertainment activities in these two areas. While the changes affect a confined area, the management of noise in the central city is of high public interest, and the management of noise has broader impacts, in terms of the attractiveness of the Central City as a place to live in and visit.

5 Evaluation of the proposal

5.1 Statutory evaluation

5.1.1 A change to a district plan should be designed to accord with sections 74 and 75 of the Act to assist the territorial authority to carry out its functions, as described in s31, so as to achieve the purpose of the Act. The aim of the analysis in this section of the report is to evaluate whether and/or to what extent the proposed plan change meets the applicable statutory requirements, including the District Plan objectives. The relevant higher order documents and their directions are outlined in section 2.1 of this report. Section 3.3 above sets out the directions provided by

the District Plan strategic objectives in Chapter 3, the relevant zone-specific objectives in Chapters 14 and 15 and the noise-specific objectives set out in Chapter 6.1.

5.2 Evaluation of the purpose of the plan change

5.2.1 Section 32 requires an evaluation of the extent to which the objectives[36] of the proposal are the most appropriate way to achieve the purpose of the Act (s32(1)(a)).

5.2.2 The existing objectives of the operative Christchurch District Plan are not proposed to be amended or added to by this Plan Change. This section of the report, therefore, evaluates the extent to which the purpose of the Plan Change (s32(6)(b)) is the most appropriate way to achieve the purpose of the Act (s32(1)(a)). This is undertaken by evaluating the purpose of the proposed Plan Change alongside two alternative approaches in the following table.

[36] Section 32(6) defines "objectives" and "proposal" in terms specific to sections 32 – 32A. "Objectives" are defined as meaning:
(a) for a proposal that contains or states objectives, those objectives;
(b) for all other proposals, the purpose of the proposal.

Table 13: Purpose of the Plan Change Assessment

Purpose of the proposal	Summary of Evaluation
To manage noise within the Central City in a way that supports a vibrant night-time economy, and reflects the anticipated amenity values of different areas within the Central City, while appropriately protecting sleep for Central City residents during the night-time period. This includes: - better providing for entertainment venues to establish in appropriate locations, and allowing for them to operate at noise levels that attract and keep patrons, while ensuring that the measures required to mitigate noise are reasonable; and - Ensuring that in areas of the Central City where noise sensitive activities are anticipated, they are not subjected to an unreasonable level of	a. The intent of the Plan Change is to better provide for entertainment venues within the Central City, in a manner that reflects the different nature and anticipated amenity values of different parts of the Central City. This approach is considered to provide for the social, economic and cultural well-being of people and communities, by recognising the contribution that entertainment venues can make to community well-being. It is also consistent with maintaining and enhancing amenity values (in accordance with s7(c)), recognising that these vary across different areas and targeting the management of effects of noise (in terms of s5(2)(c)) accordingly. The Plan Change also seeks to ensure that noise is managed in a way that protects noise sensitive activities at night, which aligns with the requirement to avoid, remedy or mitigate the adverse effects of activities on the environment (s5(2)(c)), and which in turn will ensure the health and safety of occupants of buildings housing noise sensitive activities. The purpose of the Plan Change is therefore considered to accord with the purpose and relevant principles of the RMA. b. The purpose of the Plan Change aligns with the strategic directions of the District Plan as follows: i. Managing noise in a way that supports the night-time economy will assist in enhancing Christchurch as a dynamic, prosperous and internationally competitive city, and meet the community's needs in terms of better providing for this aspect of economic development, in line with Objective 3.3.1. It will also better recognise the importance of these types of businesses to the community's wellbeing, allowing for them to establish and prosper in appropriate locations, consistent with Objective 3.3.5. ii. Better providing for entertainment venues in appropriate locations, and allowing for noise associated with their operations, along with protecting activities that are sensitive to noise during the night-time period in a manner that is practical and viable, will help foster investment certainty for both noise producing activities, and noise sensitive activities (Objective 3.3.1). iii. Managing noise sensitive activities so that they are not subjected to an unreasonable level of internal noise, but in a practical and viable manner, will not compromise the achievement of housing capacity targets, and will ensure that a range of housing opportunities in different locations continue to be enabled, including intensification opportunities within the Central City, and that a high quality urban environment is provided for residents (Objectives 3.3.4, 3.3.8 and 3.3.9).

internal noise, and that where acoustic insulation is required to achieve this, that the costs or design requirements to do so are practical and viable.	iv. Better providing for entertainment venues will assist with the revitalisation of the Central City as a community focal point, and help attract visitors (Objective 3.3.9) and allow for the re-use and re-development of buildings and land (Objective 3.3.8) v. The proposed approach specifically seeks to manage conflicts between potentially incompatible activities (Objective 3.3.15). c. The purpose of the Plan Change aligns with the chapter-relevant objectives of the District Plan as follows: i. Managing noise in the Central City in a way that supports the night-time economy aligns with the primacy of the City Centre, and its role in providing for the widest range and greatest scale of activities, including dining and night life and entertainment activities (Objectives 15.2.1 and 15.2.2). ii. Ensuring that this occurs while also appropriately protecting activities that are sensitive to noise during the night-time period also aligns with the role of the Central City in providing for high density residential activities (Objectives 15.2.1 and 15.2.2). iii. Managing noise in a way that reflects the anticipated amenity values of different areas within the Central City will help ensure a range of activities are supported there. In particular, better providing for entertainment venues to establish in appropriate locations and allowing for them to operate at noise levels that attract and keep patrons will help enhance the viability and vitality of the Central City, and continues to align with encouraging activities in specific areas by encouraging entertainment and hospitality activity (including late-night trading) in defined precincts and managing the extent to which these activities occur outside the precincts (Objective 15.2.5). iv. The approach will better assist with ensuring the coexistence of a diverse and compatible mix of activities in the CCMUZ, to achieve a vibrant high quality urban area (Objective 15.2.7). v. The approach is consistent with enabling a compatible mix and range of activities in the CCMUZ(SF) (Objective 15.2.9). vi. Managing noise sensitive activities so that they are not subjected to an unreasonable level of internal noise, but in a practical and viable manner, aligns with the intention for the HRZ, to provide an increased supply of housing allowing for a wide range of types, sizes and densities, to meet the needs of the community, in an affordable manner (Objective 14A.2.1).

	vii. Managing noise in a way that reflects the anticipated amenity values of different areas within the Central City aligns with ensuring that residential activities remain the dominant activity in residential zones (Objective 14A.2.8). viii. Managing noise in a way that reflects the anticipated amenity values of different areas within the Central City and protects activities that are sensitive to noise during the night-time period is consistent with ensuring that adverse noise effects on the amenity values and health of people and communities are managed to levels consistent with the anticipated outcomes for the receiving environment (Objective 6.1.2.1). d. The proposal seeks to address the following resource management issues identified earlier, as follows: i. Managing noise within the Central City in a way that supports a vibrant night-time economy will help ensure that controls on noise do not result in music and hospitality venues operating at a sub-optimal level, nor compromise their vitality and viability (Issue 1). ii. managing noise sensitive activities so that they are not subjected to an unreasonable level of internal noise, but in a practical and viable manner, will help ensure that residential activities are provided with a reasonable level of amenity and that the health of occupants is not compromised by noise, particularly in terms of sleep disturbance (Issue 1). e. The purpose of the Plan Change aligns with the relevant statutory documents identified in 2.1.5 as follows: i. Ensuring that the costs or design requirements for acoustic insulation are practical and viable aligns with the direction in the NPS-UD, as it ensures that feasible development capacity is retained. Managing noise in a way that reflects the anticipated amenity values of different areas within the Central City is also consistent with Objective 4 of the NPS-UD, in terms of acknowledging that urban environments, including their amenity values, are expected to develop and change over time in response to changing needs. ii. Managing noise within the Central City in a way that supports a vibrant night-time economy, including better providing for entertainment venues to establish in appropriate locations, will help reinforce the role of the central business district in the region. Ensuring that this occurs in a manner that protects activities that are sensitive to noise during the night-time period will still allow for a higher density of residential development in the Central City. This is consistent with Objectives 6.2.2, 6.2.5 & 6.2.6 of the CRPS and supporting policies. iii. The proposed approach has appropriate regard to the LURP, as it is consistent with providing a supportive and certain regulatory environment for investor confidence; contribute to ensuring that the range, quality and price

	of new housing meets community needs, and better provides for commercial activities, consistent with the LURP's Outcomes. iv. While the approach changes the boundaries of the Category precincts and specific noise limits from these introduced as part of the CCRP, it is considered to align with providing a 'consolidated central city business area', 'diverse range of activities', 'high-quality inner-city housing options', and 'increased residential population' which will contribute to a more vibrant and prosperous central city. As such, the approach is considered to give appropriate regard to the CCRP, noting that PC21 specifically seeks to address the issues that have arisen with the current boundaries of the Category precincts and noise limits. v. The purpose aligns with the GCSP through ensuring that the Central City remains the primary centre for the region, and better providing for is as a focal point for both entertainment and increased residential activities.
Alternative - No changes to provisions – Continue with current noise levels in defined precinct areas and current noise insulation requirements	a. The status quo has given rise to the issues outlined in Section 2.2. In particular, new music and hospitality venues have established outside the areas where they were anticipated. This has led to conflicts with the ability to comply with noise levels that are not intended to provide for such venues, and with noise sensitive activities being established in higher noise environments without acoustic insulation being required. Continuation of the status quo is likely to further exacerbate this issue, particularly as the number of residents in the Central City increases, and make it harder for new venues to be established. b. The current approach therefore does not provide for the social, economic and cultural well-being of the Christchurch community and visitors, nor manage the adverse effects of noise, including with respect to maintaining amenity values expected in the Central City, as well as it could. This results in a lack of alignment with the purpose of the RMA. c. In terms of the strategic direction in the District Plan, the current approach: i. Undermines the enhancement of Christchurch as a dynamic, prosperous and internationally competitive city (Objective 3.3.1) and does not sufficiently recognise the importance of music and entertainment businesses to the community's wellbeing, nor fully allow for them to establish and prosper in appropriate locations (Objective 3.3.5). This in turn can detract from the revitalisation of the Central City as a community focal point, and its attraction to visitors (Objective 3.3.9). ii. Reduces investment certainty for both noise producing activities, and noise sensitive activities (Objective 3.3.1). iii. Is not considered to go far enough in managing conflict between incompatible activities (Objective 3.3.15).

	Because of the difficulty with establishing new venues in appropriate locations under the current approach, it is not as effective as it could be in providing for the widest range and greatest scale of activities, including dining and night life and entertainment activities within the City Centre and reinforcing its primacy. It could discourage high density residential activities from establishing in the Central City and may therefore be less effective at providing for an increased supply and wide range of housing (Objectives 14A.2.1, 15.2.1 and 15.2.2). The tensions arising also demonstrate that current approach is not the best way to provide for the coexistence of a diverse and compatible mix of activities in the CCMUZ and CCMUZ(SF) zones (Objectives 15.2.7 and 15.2.9). The current approach fails to ensure that adverse noise effects on the amenity values and health of people and communities are managed to levels consistent with the anticipated outcomes for the receiving environment (Objective 6.1.2.1).
Alternative Approach – Agent of Change Principle - This approach is based on noise limits applying that are variable, and dependent on what activities are already established (rather than being based on zoning or other areas), e.g. a higher noise limit would apply to boundaries with existing non-sensitive activities, and lower limits would apply where a site contains a noise sensitive activity (relative to the sound insulation of the receiver). New noise sensitive activities would then provide a level of sound insulation relative to the permitted levels of	This approach would address the key resource management issues identified earlier. The key benefits of this approach are: a. It allows for accurate assessment of actual noise levels on a site-by-site basis to allow for appropriate acoustic insulation that is commensurate with the current environment. b. It places the financial cost of noise mitigation onto the new activity being established in the environment, the 'agent of the change', rather than on all activities. As such, venues would not incur costs to reduce noise levels in areas where noise sensitive activities have not yet established; and costs associated with acoustic insulation requirements for noise sensitive activities would be relative to the existing noise environment. c. It would provide potentially greater flexibility for new venues to establish in areas where there aren't new noise sensitive activities. However, there are significant costs associated with this approach, as follows: a. The noise environment would be varied in different areas within the same zone. This is not an equitable approach as within the same zone or area, the requirements could differ considerably based on surrounding activities. b. An extensive recording system would likely be required to catalogue existing activities. This would need to include information about the level of sound insulation incorporated into noise sensitive activities. c. For new noise sensitive activities, there would be a need to understand what level of noise existing music and hospitality venues are permitted to generate in a specific location, and identification of all potential noise contributors. d. There are costs associated with the individual assessment that will be required to establish the existing noise environment, and therefore to establish the requirements for any new activity.

established noise producing activities.	e. Over time, it is likely to become more costly (or become unfeasible) to establish new venues, given the anticipated increase in residential activities in the central city. Conversely, the costs associated with acoustic insulation may result in new residential activities being unviable. This approach is not considered to align particularly well with some of the current plan objectives. In particular, this approach would not ensure noise is managed to levels consistent with the anticipated outcomes for the receiving environment, because it would allow for varying noise levels depending on the existing, rather than anticipated environment (Objective 6.1.2.1). It also does not align particularly well with Objective 3.3.14, which seeks that the location of activities is controlled to minimise conflicts between incompatible activities. Over time, as more residential activities are established, there is also some risk that the approach would not sufficiently enable entertainment and hospitality activities (as directed in 6.1.2.1.3) and therefore not align with ensuring a wide diversity and concentration of activities within the Central City (as per 3.3.8.d.iv.) This in turn is likely to undermine those objectives seeking: the revitalisation of the Central City as a community focal point (Objective 3.3.9), to allow for the re-use and re-development of buildings and land (Objective 3.3.8) and the reinforcing of the primacy of the City Centre, including its role in providing for the widest range and greatest scale of activities (Objectives 15.2.1 and 15.2.2). For the same reason, over time the approach is not expected to be as effective at achieving a vibrant high quality urban area where a diverse and compatible mix of activities can coexist in the CCMUZ (Objectives 15.2.7) or a compatible mix and range of activities in the CCMUZ(SF) (Objective 15.2.9).
Summary of evaluation: The issues arising from the status quo approach result in a lack of alignment with the purpose of the RMA and several of the Plan's objectives. Although there are some benefits arising from the Agent of Change Principle approach, it is a highly inefficient approach in terms of the costs associated with obtaining information about all known activities in proximity to any new noise-producing activity or noise sensitive activity. It is also only expected to meet the outcomes sought through the plan change in the short-term and not over the longer term, as more residential activities are established; and it does not align particularly well with some of the Plan objectives. For the reasons outlined above, the purpose of the proposal is better than the alternative approaches in addressing the identified issues, accords with the purpose and relevant principles of the RMA, and aligns with the relevant strategic directions and chapter-relevant objectives of the District Plan, as well as with other statutory documents.	

5.3 Reasonably practicable options for provisions

5.3.1 In considering reasonably practicable options for achieving the objectives of the Plan, the following high-level options have been identified. Taking into account the environmental, economic, social and cultural effects, the options identified were assessed in terms of their benefits, and costs. Based on that, the overall efficiency and effectiveness of the alternative options was assessed.

5.3.2 **Option 1** – Status quo - Keep current precinct category boundaries, policy framework, noise limits and acoustic insulation requirements.

5.3.3 **Option 2** – Make minor changes to expand Category 1 or 2 to include established venues – This option involves keeping the precinct-based approach to noise management, but expanding the current precincts to add new areas where venues have established. This option could include adding a wider area, rather than solely sites with existing venues.

5.3.4 **Option 3** – Apply Higher Noise Limits central-city wide - Remove precincts and apply a higher noise limit and the same acoustic insulation requirements to all of the Central City.

5.3.5 **Option 4** - Expand Categories 1 & 2 to align with the existing noise insulation requirements and increase noise limits relative to insulation requirements[37] – This option involves keeping the precinct-based approach to noise management, but expanding where the current precincts are applied, to align with the noise insulation requirements applying to sensitive activities in those areas. Noise limits would be increased for entertainment activities in Categories 1 & 2 precincts relative to the noise insulation requirements.

5.3.6 **Option 5** - Expand Categories 1 & 2 to generally align with the existing noise insulation requirements and increase noise limits relative to insulation requirements, but exclude residentially-dominated areas – This option involves keeping the precinct-based approach to noise management, but expanding where the current precincts are applied, to generally align with the noise insulation requirements applying to sensitive activities in those areas, except where areas are residentially-dominated (being areas zoned High Density Residential or Residential Visitor Accommodation, or with high concentrations of existing residential activity). Noise limits would be increased for entertainment activities in Categories 1 & 2 precincts relative to the noise insulation requirements.

5.4 Evaluation of options for provisions

5.4.1 The policies of the proposal must implement the objectives of the District Plan (s75(1)(b)), and the rules are to implement the policies of the District Plan (s75(1)(c)). In addition, each proposed policy or method (including each rule) is to be examined as to whether it is the most appropriate way for achieving the purpose of the plan change (s32(1)(b)).

5.4.2 Before providing a detailed evaluation of the policies and rules proposed in the plan change, the alternative options identified have been considered in terms of their potential costs and benefits and overall appropriateness in achieving the objectives of the Plan and the relevant directions of the higher order documents.

[37] This means applying Category 1, and a noise limit of 65 dB L_{Aeq}, to areas that are currently subject to a requirement for insulation that achieves a minimum external to internal reduction of 35 dB $D_{tr,\ 2m,\ nT,\ w}+C_{tr}$ for bedrooms; and Category 2, and a noise limit of 60 dB L_{Aeq}, to areas that are currently subject to a requirement for insulation that achieves a minimum external to internal reduction of 30 dB $D_{tr,\ 2m,\ nT,\ w}+C_{tr}$ for bedrooms.

5.4.3 The tables below summarise the assessment of costs and benefits for each high level option based on their anticipated environmental, economic, social, and cultural effects. The assessments are supported by the information obtained through technical reports and consultation summarised above.

5.4.4 The overall effectiveness and efficiency of each option has been evaluated, as well as the risks of acting or not acting.

5.4.5 **Option 1** – Status quo

Benefits	**Appropriateness in achieving the objectives**
Environmental: The current noise limits provide a reasonably high level of amenity for sensitive activities.	Efficiency: Overall, the costs associated with this option are considered to outweigh the benefits. This includes that the measures required for some venues to meet the existing noise limits are likely to be unreasonable. An inefficiency with the current approach also arises from the current acoustic insulation requirements for sensitive activities in some areas being higher than is considered necessary to mitigate the permitted levels of noise. For example, in residentially-zoned Category 3 precincts, acoustic insulation is required within 75m of a Category 1 or 2 Precinct. However, activities within a Category 1 or 2 Precinct must comply with the lower noise limit applying at the boundary with a Category 3 Precinct property, and therefore the insulation is not necessary to mitigate a higher level of noise. Effectiveness: Under this option, venues are unlikely to be able to operate with noise levels that attract and keep patrons. This option would be effective in achieving acceptable internal noise levels for residential activities, provided compliance with noise limits is achieved. Noise levels provided for may be less than would be otherwise required for particular types of noise-generating businesses that are anticipated in central city areas, therefore this option may not be effective at achieving Objective 6.1.2.1 in some Category 2 & 3 precincts. Less effective than other options at fostering investment certainty for venues or meeting community needs for economic development (Objective 3.3.1.), given limited opportunities for these businesses to establish in Category 1 areas.
Economic: There are limited costs associated with acoustic insulation requirements because none apply in Category 3 areas (except where there are requirements for other reasons, e.g. traffic noise, or within specified distances of Category 1 or 2 areas).	
Social: Does not constrain residential development in Category 3 areas.	
Cultural: N/A	
Costs	
Environmental: Unlikely to resolve current issues with noise from new music and hospitality venues that have established outside Category 1 areas.	
Economic: Provides limited opportunities for new music and hospitality venues to establish outside the (small) Category 1 areas. This is exacerbated by the majority of the Category 1 area having been redeveloped in ways which means the likelihood of this location becoming the hub of current or future music and hospitality activity are low.	

High level of costs associated with mitigating noise from venues to meet noise limits in Category 3 areas. Limitations on music and hospitality venues will negatively impact on the central city's economy.	Would therefore limit the range of business opportunities for entertainment activities in Category 2 & 3 areas (Objective 3.3.5.). Similarly, would be less effective at providing for the widest range and greatest scale of activities in the City Centre, as it is less supportive of night life and entertainment activities as sought in Objective 15.2.2. The current approach has also been limited in encouraging entertainment and hospitality activity in the currently defined precincts (Objective 15.2.5). Within the CCMUZ and CCMUZ(SF), the current precinct boundaries are less effective at providing a compatible mix and range/diversity of activities (Objectives 15.2.7 and 15.2.8). As it would prioritise residential development in Category 3 areas, and still provide for it in Category 2 areas, it will be effective at achieving housing-related objectives (Objectives 3.3.4 and 3.3.8.c) and retaining a dominance of residential activities in residential zones (Objective 14A.2.8).
Social: Conflicts are likely to arise in areas where music venues have established, in close proximity to sensitive activities that were not required to install acoustic insulation.	
Cultural: N/A	
Risk of acting/not acting: The risk of retaining the current categories and noise limits is that music and hospitality venues are not adequately provided for in the central city, reducing the vibrancy and vitality of the central city area, and the current tensions will continue.	
Recommendation: This option is not preferred because it does not achieve the **purpose of** the plan change, and in particular, does not support development of music and hospitality venues in the central city, which is an important component of the vibrancy and vitality of the central city.	

5.4.6 **Option 2** – Minor changes to expand Category 1 or 2 to include established venues

Benefits	**Appropriateness in achieving the objectives**
Environmental: Better aligns noise limits with where actual noise-generating activities have established, reflecting the existing noise environment.	Efficiency: This option is considered to be more efficient than the status quo, as it will allow existing venues to operate at noise levels that attract and keep patrons, without requiring unreasonable measures to mitigate noise. However, inefficiencies arise from this approach, as it may not address the potential for the same issue to arise again in future, if demand arises for additional venues in other locations within the central city. For new residential activities, it would be practical and viable for these to be acoustically insulated to an appropriate level, so this option would still be efficient at achieving housing-related objectives (Objectives
Economic: Provides greater certainty and flexibility for venues that have established in Category 2 or 3 areas and does not incur costs associated with mitigation measures that might otherwise be required to meet the current noise limits.	

Additional areas would provide for new venues to establish in areas where there would currently be limitations / costs to do so.	3.3.4 and 3.3.8.c), and in residential zones, retaining a dominance of residential activities in residential zones (Objective 14A.2.8).
Social: Aligning categories with where venues have established better allows for 'hubs' for these types of venues to establish and concentrate, as was anticipated by the use of the categories. Additional area would provide for larger 'hubs'.	Effectiveness: Expanding the current categories beyond existing venues provides some flexibility to establish more venues in future, but only in the expanded areas. For sensitive activities in areas that are currently in the Category 3 precinct, this option would not result in internal noise levels meeting guideline levels, with any retrospective acoustic insulation being voluntary.
Cultural: N/A	The adverse effects of noise on amenity values of residential activities that have been established without acoustic insulation are unlikely to be consistent with the outcomes anticipated in these central city areas, therefore may not be effective at achieving Objective 6.1.2.1 in some current Category 3 areas in which music venues have been established. However, for new residential activities, it would be practical and viable for these to be acoustically insulated to an appropriate level, so this option would still be effective at achieving housing-related objectives (Objectives 3.3.4 and 3.3.8.c), and in residential zones, retaining a dominance of residential activities in residential zones (Objective 14A.2.8).
Costs	More effective than Option 1 at fostering investment certainty for venues and meeting community needs for economic development (Objective 3.3.1). Would provide for a greater range of business opportunities in areas where Category 2 and 3 are expanded (Objective 3.3.5).
Environmental: There will be adverse effects on the health and amenity values of occupants in buildings that have been established without acoustic insulation.	It would be more effective than Option 1 at providing for the widest range and greatest scale of activities in the City Centre, as it is more supportive of night life and entertainment activities as sought in Objective 15.2.2. It would help encourage entertainment and hospitality activity in defined precincts (Objective 15.2.5), noting these precincts would increase in size, but not as much as under Options 3-5.
Economic: Although existing uninsulated residential units will not be compelled to retrospectively comply with acoustic insulation requirements, there will be costs (as well as benefits) associated with any acoustic upgrades which are voluntarily undertaken to mitigate increased noise levels. This will occur over a lesser area than under Option 4 or 5.	The changes to the precinct boundaries would be more effective at providing a compatible mix and range/diversity of activities (Objectives 15.2.7 and 15.2.8) in the CCMUZ and CCMUZ(SF), but only in those parts of the zone included in the Category 1 or 2 precinct.
Social: Conflicts are likely to arise in areas which are currently Category 3, but which are included instead in Category 1 or 2, which also contain sensitive activities that were not required to install acoustic insulation. This will apply over a lesser area than under Option 4 or 5.	
Cultural:	

N/A
Risk of acting/not acting: A key risk with this approach is the impact that it has on residential activities in areas which are currently Category 3, and which have been established without acoustic insulation. It also does not provide for the establishment of new venues in other locations over the longer-term.
Recommendation: This option is not recommended as while it addresses the immediate issues, it does not provide sufficient 'future proofing' for the establishment of new venues in other locations and so does not achieve the purpose of the plan change.

5.4.7 **Option 3** – Apply higher noise limits Central-City wide

Benefits	**Appropriateness in achieving the objectives**
Environmental: Applies a consistent noise environment across the whole of the central city and therefore makes anticipated amenity values consistent.	Efficiency: This option will allow existing venues to operate at noise levels that attract and keep patrons, without requiring stringent measures to mitigate noise, as well as providing some flexibility for new venues to establish in areas where they are currently not anticipated without incurring significant costs to mitigate noise. While new residential activities can be acoustically insulated to an appropriate level, having to do so for any residential development across the whole central city is highly inefficient and may result in costs being incurred where higher noise levels do not actually eventuate. Overall, the costs of this option make it inefficient. Effectiveness: For sensitive activities in areas that are currently in the Category 3 precinct, this option would not result in internal noise levels meeting guideline levels, with any retrospective acoustic insulation being voluntary. This will affect a significant area. Having to acoustically insulate new residential development across the whole central city may act as a deterrent to residential development, particularly in areas where higher noise levels may not actually eventuate. An overall higher noise environment may also reduce the attractiveness of the central city as a living environment, and therefore conflict with residential activities remaining the dominant activity in residential zones (Objective 14A.2.8). These factors
Economic: Greater flexibility is provided for venues that have established in current Category 2 & 3 areas, and for new venues to establish anywhere within the central city.	
Social: Provides the most flexibility for venues to operate and therefore contribute to the vibrancy of the central city.	
Cultural: N/A	
Costs	
Environmental: There will be adverse effects on the health and amenity values of occupants in buildings, notably residential, that have been established without acoustic insulation. This will occur over a larger area than under Options 2, 4 or 5.	
Economic:	

Costs associated with acoustic insulation for new residential activities will be incurred across the whole of the Central City area. In some locations this cost may not be justified by actual noise levels, particularly where the zone framework does not provide for entertainment activities. Although existing uninsulated residential units will not be compelled to retrospectively comply with acoustic insulation requirements, there will be costs associated with any acoustic upgrades which are voluntarily undertaken to mitigate increased noise levels.	may in turn compromise achievement of the housing-related objectives (Objectives 3.3.4 and 3.3.8.c). Likely to be the most effective option for fostering investment certainty for venues and meeting community needs for economic development (Objective 3.3.1). Would provide for a greater range of business opportunities across the central city (Objective 3.3.5) and contribute towards providing for the widest range and greatest scale of activities in the City Centre, being more supportive of night life and entertainment activities as sought in Objective 15.2.2. It would conflict with the direction in Objective 15.2.5 as it would not encourage entertainment and hospitality activity to be located in specifically defined precincts (Objective 15.2.5). This option would be effective at providing a compatible mix and range/diversity of activities (Objectives 15.2.7 and 15.2.8) in the CCMUZ and CCMUZ(SF). This option is not effective at achieving Objective 6.1.2.1, because higher noise limits are likely to be inconsistent with the anticipated outcomes for areas with a residential focus.
Social: Conflicts are likely to arise in areas which have sensitive activities that were not required to install acoustic insulation.	
Cultural: N/A	
Risk of acting/not acting: This option is likely to lead to increased tensions on a much wider geographical basis. The establishment of new noise-generating activities in areas which are currently Category 3 will adversely impact on those residential activities which have been established without acoustic insulation.	
Recommendation: This option is not recommended as it does not resolve the identified conflict between hospitality and music venues and noise sensitive activities. It would also result in the over-engineering of acoustic requirements for some residential activities, potentially compromising the achievement of residential targets. This is not the best option for achieving the purpose of the plan change.	

5.4.8 **Option 4** - Expand Categories 1 & 2 to align with the existing noise insulation requirements and increase noise limits relative to insulation requirements

Benefits	**Appropriateness in achieving the objectives**
Environmental: Allows for noise levels that are consistent with the level of acoustic insulation required. This is expected to provide an appropriate level of amenity and protection of sleep.	Efficiency: Within new Category 1 and 2 areas, this option will allow existing venues to operate at noise levels that attract and keep patrons, as well as providing some flexibility for new venues to establish in these zones,

Economic: Provides greater certainty and flexibility for venues, and generally allows for their establishment over a much wider area. Does not increase costs associated with insulation requirements beyond those currently applying (albeit in Category 1, a specific requirement will apply to sensitive activities instead of a resource consent pathway).	without unreasonable measures being required to mitigate noise. For new residential activities, it would be practical and viable for these to be acoustically insulated to an appropriate level, so this option would still be efficient at achieving housing-related objectives (Objectives 3.3.4 and 3.3.8.c). However, a significant cost associated with this option is the impact it will have on occupants in buildings that have been established before the current insulation requirements were put in place. These costs are very likely to outweigh the benefits of this option. Effectiveness: For sensitive activities in areas that are currently in the Category 3 precinct, this option would not result in internal noise levels meeting guideline levels, with any retrospective acoustic insulation being voluntary. The adverse effects of noise on amenity values of sensitive activities that have been established without acoustic insulation are unlikely to be consistent with the outcomes anticipated in these central city areas, therefore may not be effective at achieving Objective 6.1.2.1 in some current Category 3 areas in which music venues have been established. However, for new residential activities, it would be practical and viable for these to be acoustically insulated to an appropriate level, so this option would still be effective at achieving housing-related objectives (Objectives 3.3.4 and 3.3.8.c). In residential areas which become Category 1 or 2, the noise limits could encourage a broader range of activities, and therefore conflict with residential activities remaining the dominant activity in residential zones in these locations (Objective 14A.2.8). In RVAZ areas, higher noise limits could compromise ongoing operation, intensification and redevelopment of existing visitor accommodation (Objective 14A.2.10.b) More effective than Option 1 at fostering investment certainty for venues and meeting community needs for economic development (Objective 3.3.1.). Would provide for a greater range of business opportunities in areas where Category 1 and 2 are expanded (Objective 3.3.5). It would be more effective than the status quo at providing for the widest range and greatest scale of activities in the City Centre, as it is more supportive of
Social: Provides greater opportunities for venues to operate and therefore contribute to the vibrancy of the central city.	
Cultural: N/A	
Costs	
Environmental: There will be adverse effects on the health and amenity values of occupants in buildings that have been established without acoustic insulation. However, this will be less than for Option 3, and will only apply where buildings were established before the current insulation requirements were put in place.	
Economic: Although existing uninsulated residential units will not be compelled to retrospectively comply with acoustic insulation requirements, there will be costs associated with any acoustic upgrades which are voluntarily undertaken to mitigate increased noise levels.	
Social: Conflicts are likely to arise in areas which are currently Category 3, but which are included instead in Category 1 or 2, which also contain sensitive activities that were not required to install acoustic insulation.	

Cultural: N/A	night life and entertainment activities as sought in Objective 15.2.2. It would help encourage entertainment and hospitality activity in defined precincts (Objective 15.2.5), noting these precincts would increase in size. The changes to the precinct boundaries would be more effective at providing a compatible mix and range/diversity of activities (Objectives 15.2.7 and 15.2.8) in the CCMUZ and CCMUZ(SF), because the majority of these zones would be included in the Category 2 precinct.
Risk of acting/not acting: A key risk with this approach is the impact that it has on any residential activities in the expanded Category 1 & 2 precincts which have been established without acoustic insulation.	
Recommendation: This option would provide for the development of music and hospitality venues across a larger portion of the central city. As it is targeted to areas within which acoustic insulation is also required, it does not result in increased costs for residential activities in these areas. However, this option is not recommended as it would negatively impact existing sensitive activities established without noise insulation, particularly in older established residential areas.	

5.4.9 **Option 5** – Expand Categories 1 & 2 to generally align with the existing noise insulation requirements and increase noise limits relative to insulation requirements, but exclude residentially-dominated areas and increase noise limits relative to insulation requirements.

Benefits	**Appropriateness in achieving the objectives**
Environmental: Allows for noise levels that are generally consistent with the level of acoustic insulation. This is expected to provide an appropriate level of amenity and protection of sleep. Aligns with the existing or anticipated amenity values of residentially-dominated areas.	Efficiency: Within new Category 1 and 2 areas, this option will allow existing venues to operate at noise levels that attract and keep patrons, as well as providing some flexibility for new venues to establish in these zones, without unreasonable measures being required to mitigate noise. For new residential activities, it would be practical and viable for these to be acoustically insulated to an appropriate level, so this option would still be efficient at achieving housing-related objectives (Objectives 3.3.4 and 3.3.8.c). Some slight inefficiencies arise in relation to excluding residentially-dominated areas, in that sensitive activities established in these areas since the acoustic insulation requirements were put in place will have a greater level of insulation than needed to mitigate the level of noise provided for. However, these
Economic: Provides greater certainty and flexibility for venues, and generally allows for their establishment over a wider area. Does not increase costs associated with insulation requirements beyond those currently applying (albeit in Category 1, a specific requirement will	

apply to sensitive activities instead of a resource consent pathway). Social: Provides greater opportunities for venues to operate and therefore contribute to the vibrancy of the central city. Retains the attractiveness of areas that are residentially focused as places to live. Cultural: N/A **Costs** Environmental: There will be adverse effects on the health and amenity values of occupants in buildings that have been established without acoustic insulation. However, this will only apply where buildings were established before the current insulation requirements were put in place, and a lesser area will be affected than under Option 4. Economic: Although existing uninsulated residential units will not be compelled to retrospectively comply with acoustic insulation requirements, there will be costs associated with any acoustic upgrades which are voluntarily undertaken to mitigate increased noise levels. This cost will occur over a lesser area than under Option 4. Social: Conflicts are likely to arise in areas which are currently Category 3, but which are included instead in Category 1 or 2, which also contain sensitive activities that were not required to install acoustic insulation. However, this will apply over a lesser area than under Option 4 and has been	inefficiencies already arise under the status quo, and will be reduced moving forwards by aligning insulation requirements with precinct boundaries. Overall, this option is considered to be efficient, as it provides a targeted approach that better balances allowing for entertainment venues to establish and operate in appropriate locations, with ensuring sensitive activities are not subjected to an unreasonable level of internal noise as far as practical. Effectiveness: For sensitive activities currently in a Category 3 area, which were established before the current insulation requirements were put in place, this option would not result in internal noise levels meeting guideline levels, with any retrospective acoustic insulation being voluntary. However, the extent of this issue occurring will be significantly reduced by excluding areas which are dominated by residential activities. This option would be the most effective of the five options at achieving Objective 6.1.2.1, as the adverse effects of noise on amenity values would be consistent with the anticipated outcomes for the receiving environment. In particular, noise would be less in residentially-zoned areas. In terms of noise effects on health of people and communities, this option would still adversely affect residential activities in Category 1 & 2 precincts that have been established without acoustic insulation, but this is reduced in comparison to other options, because the proposed areas do not contain much older residential development. For new residential activities, it would be practical and viable for these to be acoustically insulated to an appropriate level, so this option would still be effective at achieving housing-related objectives (Objectives 3.3.4 and 3.3.8.c). Excluding residentially-zoned areas from Category 1 would better help ensure that residential activities remain the dominant activity in residential zones (Objective 14A.2.8). Similarly, excluding areas zoned RVAZ will align with providing for the ongoing operation, intensification and redevelopment of existing visitor accommodation (Objective 14A.2.10.b) More effective than Options 1 and 2 at fostering investment certainty for venues and meeting community needs for economic development

minimised in a spatially coherent manner. Cultural: N/A	(Objective 3.3.1). Would provide for a greater range of business opportunities in areas where Category 1 and 2 are expanded (Objective 3.3.5). While, compared to Option 4, some commercial areas would have a lower noise limit, this is still an increase on the status quo and takes into account practical constraints, such as: - In the east frame, there is limited opportunity for development of venues due to recent residential developments in this area – so there is no lost opportunity cost from a Category 2 precinct applying here; - Applying a graduated approach to noise limits to the northwest of the stadium (so Category 1 is not generally adjacent to Category 3) reflects that noise producers will already have to reduce noise levels where they are near the Category 3 area, in order to meet the Category 3 limit at that boundary, so application of Category 2 in a 'buffer' area is more reflective of that; and - It reflects that applying Category 1 to the CCZ in Victoria Street (and the Local Centre Zone to the north of Bealey Avenue) would be unlikely, in practice, to allow for higher noise levels, because of the need for venues in this narrow area to meet the lower noise limits applying at the boundary with adjoining Category 3 sites (or to the north of Bealey Avenue, the noise limits applying outside the Central City). Option 5 would be more effective than the status quo at providing for the widest range and greatest scale of activities in the City Centre, as it is more supportive of night life and entertainment activities as sought in Objective 15.2.2. It would help encourage entertainment and hospitality activity in defined precincts (Objective 15.2.5), noting these precincts would increase in size. Noting the practical aspects listed above, it would avoid the potential for greater opportunities to appear to be encouraged, but not be practical or realised. The changes to the precinct boundaries would be more effective at providing a compatible mix and range/diversity of activities (Objectives 15.2.7 and 15.2.8) in the CCMUZ and CCMUZ(SF), because the majority of these zones would be included in the Category 2 precinct.
Risk of acting/not acting: The risks associated with this option are considered to be low, because it provides greater opportunities for music and hospitality venues, while minimising impacts on existing residential areas. However a risk remains in relation to impacts on those	

residential activities in Category 1 & 2 areas, which have been established without acoustic insulation.
Recommendation: This option better achieves the purpose of the plan change than does the alternatives. It is preferred because it provides for the development of music and hospitality venues across a larger portion of the central city, but in a way that better reflects existing development. It is therefore considered to provide the most appropriate balance between supporting a vibrant night-time economy, aligning with anticipated amenity values of different areas within the Central City while appropriately protecting sleep for Central City residents during the night-time period.

6 Evaluation of the preferred option for provisions

6.1.1 **Option 5** is the general approach adopted for the proposed plan change, which proposes to expand the Category 1 & 2 precincts to generally align with the existing noise insulation requirements and increase noise limits, but exclude residentially-dominated areas.

6.1.2 The evaluation below considers the more specific changes to provisions (including policies, rules and maps) proposed as part of this general approach. Assessment of the costs and benefits of changes to provisions is divided into five groups of changes as follows:

- Amending some of the Central City commercial zone policies to correspond with changes to the precinct boundaries, improve their clarity and better enable entertainment and hospitality activities in commercial zones;
- Expanding the spatial extent of Category 1 and Category 2 precincts to better implement the amended policies and consequential changes to reflect these expansions;
- Amending noise limits within the Central City, particularly in relation to entertainment activities;
- Changes to noise insulation and ventilation requirements; and
- Changes to noise rules to correct errors and address omissions.

6.2 Assessment of costs and benefits of policy changes to commercial zones within the Central City

6.2.1 The proposed policy changes are to:

a. **Policy 15.2.6.3 – Amenity**

b. **Policy 15.2.6.7 - Entertainment and Hospitality Precinct** (including shifting it to sit under **Objective 15.2.5** and renumbering it to be **Policy 15.2.5.2**)

c. **Policy 15.2.7.1.a.vii – Role of the Central City Mixed Use Zone**

d. **Policy 15.2.8.3 – Residential development**

e. **Policy 15.2.9.1 – Diversity of activities**

6.2.2 **a. The amendments proposed to Policy 15.2.6.3 are:**

15.2.6.3 Policy – Amenity

a. Promote a high standard of amenity and discourage activities from establishing where they will have an adverse effect on the amenity values of the Central City by:

…

v. identifying entertainment and hospitality precincts and associated noise controls for these ***~~and adjacent~~*** *areas, and encouraging entertainment and hospitality activities to locate in these precincts;*

6.2.3 Under the operative Plan approach, there are 'buffers' or areas where insulation is required where a property is in proximity to a Category 1 & 2 precinct. The change to the policy reflects

that the proposed approach is to essentially include these buffer areas within the Category 1 & 2 precincts, to allow higher noise levels alongside the existing acoustic insulation requirements, instead of using buffers.

6.2.4 **b. The amendments proposed to Policy 15.2.6.7 are:**

~~15.2.6.7~~ 15.2.5.2 Policy – Entertainment and Hospitality Precincts

a. ~~Provide for an~~ Encourage entertainment and hospitality activities ~~precinct~~, including late night trading, in defined precincts within the Central City, ~~by:~~

~~i. encouraging entertainment and hospitality activities to locate within the identified area;~~ in order to:

~~i~~. protect~~ing~~ the viability of existing entertainment and hospitality investment, particularly that investment which has occurred in the Central City since the Canterbury earthquakes;

ii~~i~~. provid~~e~~~~ing~~ certainty to investors that ~~residential amenity~~ effects ~~related to~~ of late night trading on residential amenity will be managed by ~~rules relating to~~ controls on noise emissions, ~~and~~ consideration of off-site effects and acoustic insulation requirements.

6.2.5 At present, this policy sits under Objective 15.2.6, which sets out the role of the City Centre Zone. However, entertainment and hospitality activities are provided for in the rule framework in other zones. In addition, the proposed changes to the boundaries of the Category 1 and 2 Precincts will mean these are located in various other zones. It is therefore considered to be more appropriate to shift the policy to sit under Objective 15.2.5, which is a broader objective relating to the diversity and distribution of activities in the Central City. More specifically, this objective already seeks that entertainment and hospitality activity is encouraged in defined precincts, which the preferred approach would assist in achieving.

6.2.6 The amendments to the policy drafting are generally minor and will improve its clarity. They provide more specific direction that the precincts are intended to encourage these activities in specific areas, and make it clearer that the matters in clauses ii. and iii. (now i. and ii.) are the drivers behind the approach, rather than being separate actions (as the current drafting implies). The changes to clause iii (now ii.) better align with the overall approach, by noting that investment certainty is provided by a combination of factors, including the acoustic insulation requirements which sit in Chapter 6.1. Other changes are to improve the drafting, by making the methods of implementation clearer.

6.2.7 **c. The amendments proposed to Policy 15.2.7.1 are:**

15.2.7.1 Policy - Diversity of activities

a. Enhance and revitalise the Central City Mixed Use Zone by enabling:

…

vii. entertainment activities and hospitality activities ~~of a scale, type and duration that do not conflict with or undermine existing and future residential activity, nor undermine the identified hospitality and entertainment precincts~~.

6.2.8 This policy is for the CCMUZ. It is proposed to remove references to controls on entertainment and hospitality activities, given these do not currently flow through to the rules (as these activities are permitted without further controls) and it is not proposed to add such controls. The reference to not undermining identified hospitality and entertainment precincts is not required as the CCMUZ will now be included within those precincts. It is also proposed to remove reference to conflict with/undermining of residential activities, as this is already addressed at the

policy level in Policy 15.2.8., and the rule framework is focused on managing residential activities to address this conflict.

6.2.9 **d. The amendments proposed to Policy 15.2.8.3 are:**

15.2.8.3 Policy - Residential development

a. Provide for residential development within the Central City Mixed Use Zone in support of, and to encourage, intensification of residential activity in the Central City.

b. Require a level of private amenity space for residents that is proportionate to the extent of residential activity proposed, and which compensates to the predominantly commercial nature of the area, including, through:

…

~~v. internal noise protection standards; and~~

...

c. Provide for a level of aural amenity for residents consistent with the intended mix of activities within the zone, by requiring internal noise protection and associated provision of ventilation and air conditioning for sensitive activities.

6.2.10 Changes were made to this Policy through PC14. Prior to this, the listed items (in clauses i. to v.) were related to providing "*for a level of amenity for residents consistent with the intended built form and mix of activities within that environment*", by way of the controls listed – including internal noise protection standards. The PC14 changes have instead resulted in the direction in clause b. now referring to requiring a level of private amenity space. As the internal noise protection standards are not related to private amenity space, it is proposed to shift this into a separate clause which better reflects the purpose of the noise protection standards. The proposed wording of this new clause c. is similar to that previously used, but focuses on aural amenity (not amenity more broadly) and expands the method used (requiring internal noise protection) to include associated ventilation and air conditioning.

6.2.11 **e. The amendments proposed to Policy 15.2.9.1 are:**

15.2.9.1 Policy - Diversity of activities

a. Enhance and revitalise land within the Central City Mixed Use Zone (South Frame) by: enabling residential activity to transition into this area in support of inner city residential intensification;

…

vi. enabling entertainment activities and hospitality activities; *and*

*vi**i**. discouraging incompatible activities, such as industrial, motor servicing, trade suppliers, wholesalers and yard-based suppliers, retail, offices and commercial services beyond the scope provided in this policy.*

6.2.12 This policy applies to the CCMUZ(SF). It is proposed to add reference to enabling entertainment activities and hospitality venues in this zone. This provides a policy basis for the rules which already permit these activities; and the changes to the category boundaries which have the effect of increasing the noise limits in this zone. This also provides consistency with the policy approach in the CCMUZ.

Benefits
Environmental: N/A
Economic: Removing reference to "adjacent" areas in Policy 15.2.6.3 provides greater certainty for operators of noisy activities in the defined precinct areas that higher noise levels are anticipated in these areas. Shifting Policy 15.2.6.7 to sit under Objective 15.2.5 ensures that the policy direction applies to the defined precincts and is not limited only to the CCZ. This in turn provides greater certainty to the operators of noisier activities in these precincts. The changes to Policy 15.2.6.7 (proposed to become 15.2.5.2) will provide greater clarity that entertainment and hospitality activities are to be encouraged in the defined precincts, and will better support the establishment and operation of such venues. Removing references to controls on entertainment and hospitality activities in Policy 15.2.7.1 will better facilitate the establishment and operation of such venues in the CCMUZ. Similarly, adding policy direction which is explicit about seeking to enable these activities in the CCMUZ(SF) will better facilitate the establishment and operation of such venues in this zone.
Social: The greater policy provision for entertainment activities and hospitality activities in the CCMUZ and CCMUZ(SF) provide greater opportunities for venues to operate and therefore contribute to the vibrancy of the central city.
Cultural: N/A

Costs
Environmental: Removing reference to "adjacent" areas in Policy 15.2.6.3, and shifting Policy 15.2.6.7 so that it applies beyond the CCZ, reflects that higher noise levels are anticipated in these areas. Without mitigation, higher noise levels can have a greater impact on the amenity values and nuisance experienced by people.
Economic:
Social: The changes result in higher noise levels being anticipated across a larger area of the Central City. Greater noise can be considered a nuisance by some people and potentially reduce the desirability of an area.
Cultural: N/A

Appropriateness in achieving the objectives
Efficiency:

The changes to Policies 15.2.6.3 and 15.2.6.7 may result in some environmental and social costs, but are expected to lead to economic benefits which outweigh these costs and will more efficiently align with the current District Plan objectives. The changes to Policy 15.2.7.1 are more efficient, in terms of removing references that are no longer required due to the mapping changes, and removing any duplication or potential confusion on how potential conflicts between activities are managed through the plan provisions. For the changes to Policy 15.2.9.1 (CCMUZ(SF)), it is also more efficient to be consistent with the policy approach in the CCMUZ, noting that the rule framework for entertainment and hospitality activities is the same across both zones. The amendments to Policy 15.2.6.7/15.2.5.2 improve the policy's clarity which is turn improves its efficiency.
Effectiveness: Collectively, these changes provide greater certainty that entertainment and hospitality activities are anticipated in Category 1 & 2 precincts. This will be more effective at helping foster investment certainty for these activities and revitalising the central city as a focal point for a diverse range of activities, as sought across a number of the Plan's objectives. Objective 15.2.5 is a broad objective relating to the diversity and distribution of activities in the Central City and includes encouraging entertainment and hospitality activity in defined precincts. Shifting Policy 15.2.6.7 to sit under this broader objective is more effective in helping to achieve it than this policy sitting under Objective 15.2.6 which his limited to the CCZ. These changes are more effective at managing adverse noise effects on the amenity values and health of people and communities to levels that are consistent with the anticipated outcomes for the receiving environment, as per Objective 6.1.2.1. In particular, the policy changes better align with the outcomes sought for the CCMUZ (in Objective 15.2.7) and CCMUZ(SF) (in Objective 15.2.9), as they better support a wider mix of activities in these zones, which will in turn support the CCZ, and which, due to the acoustic insulation requirements for noise sensitive activities, can co-exist in these areas. The changes to Policy 15.2.6.7/15.2.5.2 better align with the overall approach taken in the provisions and improve the effectiveness of the policy by improving integration across the plan. As noted in para 3.3.9.c above, changes were made to Policy 15.2.8.3 through PC14 which resulted in the direction in clause b. referring to requiring a level of private amenity space. As the internal noise protection standards are not related to private amenity space, shifting this aspect of the policy into a separate clause better reflects the purpose of the noise protection standards, being to manage the adverse noise effects on the amenity values and health of people and communities (Objective 6.1.2.1), achieve a high quality urban environment that is attractive to residents (Objectives 3.3.8, 3.3.9, 15.2.6, 15.2.7, 14A.2.8) and minimise conflicts between potentially incompatible activities (Objective 3.3.15).
Risk of acting/not acting: There is considered to be sufficient information about the subject matter of these provisions to act in the manner proposed. The changes proposed to the policy framework work together with the proposed changes to the boundaries of the Category 1 & 2 precincts (assessed below). The risk of not acting in the manner proposed is that these policies will not align with the proposed changes to the precinct boundaries, particularly in terms of the CCMZ and CCMZU(SF) areas.

6.3 Assessment of costs and benefits of expanding the spatial extent of Categories 1 & 2 and consequential changes to provisions

6.3.1 The changes to the provisions which relate to the proposed expansion in spatial extent of Category 1 and 2 areas include:

a. Amending the **Planning Maps** to expand the current Category 1 (Higher Noise Level) & Category 2 (Lower Noise Level) Entertainment and Hospitality Precincts.

b. Deleting **Rule 6.1.4.3**, which applies a 7-year duration for resource consents to breach noise limits after 23:00 in the CCMUZ and CCMUZ(SF) in Category 3 Precincts, and the consequential deletion of reference to this rule in **Rule 6.1.3.f.i**.

c. Deleting reference to the CCMUZ(SF) in **Rule 6.1.6.2.10.a.i**, which requires a setback of 25m between outdoor areas of premises licensed for the sale, supply and/or consumption of alcohol located within Category 1 or 2 precincts and the boundary of specified zones within a Category 3 precinct; and amending the rule to refer to the full title of each category precinct.

6.3.2 **a. The proposed changes to the mapping are to**:

a. Apply the Category 1 - Higher noise level entertainment and hospitality precincts to include commercially-zoned areas where a minimum external to internal noise reduction of 35 dB $D_{tr, 2m, nT,w} + C_{tr}$ for bedrooms is currently required (except along Victoria Street - where a Category 2 precinct will be retained – or where set out in b. below); and

b. Apply the Category 2 – Lower noise level entertainment and hospitality precincts to:
   i. commercially-zoned areas where a minimum external to internal noise reduction of 30 dB $D_{tr, 2m, nT,w} + C_{tr}$ for bedrooms is currently required;
   ii. to the block contained by Barbadoes/ Hereford/ Cashel/ Fitzgerald;
   iii. to the block contained by Cashel/ Clarkson/ Lichfield/ Fitzgerald; and
   iv. the east frame area between Madras and Manchester Streets.

6.3.3 Currently, there are areas zoned High Density Residential Zone (HRZ) and Residential Visitor Accommodation Zone (RVAZ) within which acoustic insulation is required for new sensitive activities. However, it is not proposed to apply Category 1 or 2 to these areas as:

a. As set out in Table 9 above (p.28), entertainment activities are not permitted in the HRZ and RVAZ, and therefore unlike other zones, a higher noise limit is not needed to provide for these activities in these zones or to implement the policy direction within these zones; and

b. they contain a high volume of noise sensitive activities established before noise insulation requirements applied which would not be adequately protected from higher noise levels (a point raised in engagement feedback).

It is proposed to retain the Category 2 precinct along Victoria Street[38], as applying Category 1 to this 'spine' area would be unlikely, in practice, to actually allow for higher noise levels, because of the need for venues in this narrow area to meet the lower noise limits applying at the boundary with adjoining sites.

6.3.4 The application of Category 2 to the blocks identified in 6.3.2. b.ii. and iii. above, (which are located within the CMUA Inner and Outer Noise Insulation Areas), is proposed:

[38] Including a small area to the north of Bealey Avenue which is currently within the Category 2 precinct, but which was inadvertently omitted from the previous public engagement maps.

a. because these blocks contain a high volume of noise sensitive activities established before noise insulation requirements applied which would not be adequately protected from higher noise levels; and

b. it will provide a buffer or transition between the Category 1 and Category 3 areas in this location.

6.3.5 The application of Category 2 to the east frame area between Madras and Manchester Streets (which is within the CMUA Inner and Outer Noise Insulation Areas) reflects that:

a. there is a high concentration of residential activities in this area, and many have only been insulated to adequately mitigate noise of up to 60 dB L_{Aeq} (i.e. they were established before the CMUA noise insulation area rules were put in place); and

b. given the existing recently established uses in this area, there is considered to be less likelihood or opportunity for new venues (which might benefit from the higher noise limits) to establish in this area.

6.3.6 **b. The proposed deletion of Rule 6.1.4.3:**

6.3.7 Rule 6.1.4.3 currently limits the duration of resource consents granted to breach the night-time noise limits in the CCMUZ and CCMUZ(SF). This rule acknowledges that while sensitive activities are expected in these zones over time, it is a transitional area, and more flexibility can be provided for higher noise levels in the shorter term while there are fewer sensitive activities.

6.3.8 The change in overall approach means that these zones will generally be included in the Category 2 precinct (except for discrete areas of CCMUZ in the northern part of the central city), where higher noise levels are provided for. The flexibility this rule previously provided will therefore be replaced by a more enabling framework for noise-generating activities. The rule is therefore proposed to be deleted, with a consequential change then required to 6.1.3.f.i where it is currently referred to.

6.3.9 **c. The proposed change to Rule 6.1.6.2.10.a.i is as follows:**

6.1.6.2.10 Licensed premises outdoor areas in the Central City

a. Outdoor areas of premises licensed for the sale, supply and/or consumption of alcohol in the Central City shall meet the following activity standards:

Outdoor areas of premises licensed for the sale, supply and/or consumption of alcohol located within Category 1 ***(Higher Noise Level Entertainment and Hospitality)*** *or* ***Category 2 (Lower Noise Level Entertainment and Hospitality)*** *Precincts shall be set back by at least 25 metres from the boundary of any premise, or boundary of any site, that is* ***in*** *a Category 3* ***(Lower Noise Level Area)*** *Precinct zoned High Density Residential****,*** ***or*** *Central City Mixed Use****~~or Central City Mixed Use (South Frame)~~****.*

6.3.10 As a consequence of the changes proposed to the precinct boundaries, there will no longer be areas in the Category 3 Precinct which are zoned CCMUZ(SF), so this part of the rule will become redundant and is proposed to be removed.

Benefits
Environmental:

Including the majority of CCMUZ and CCMUZ(SF) areas in a Category 1 or 2 precinct better aligns with the anticipated environment in these zones.
Economic: The proposed expansions to Category 1 & 2 precincts will allow for more entertainment and hospitality activities to establish across a wider area of the central city, providing a better operating environment for these activities. As the boundary changes align with existing noise insulation requirements, the area in which the current requirements apply will not increase. As such, the changes will not result in increased housing costs. The deletion of Rule 6.1.4.3 will remove current restrictions on the duration of resource consents in specific circumstances, providing greater investment certainty for those seeking to obtain resource consent for higher noise levels.
Social: The proposed expansions to Category 1 & 2 precincts will provide greater opportunities for entertainment and hospitality activities and therefore contribute to the vibrancy of the central city. The deletion of Rule 6.1.4.3 will provide greater certainty to the community that higher levels of noise are anticipated in these zones on an on-going basis.
Cultural: N/A

Costs
Environmental: Where buildings for sensitive activities were established before the current insulation requirements were put in place, there will be adverse effects on the health and amenity values of the occupants in those buildings. The deletion of Rule 6.1.4.3 will allow for resource consents to breach noise limits in the CCMUZ and CCMUZ(SF) to be issued without any limit on duration, which will allow for higher noise emissions in these areas over a longer timeframe. However, the revised provisions under PC21 will set out a more realistic direction for noise management, which may reduce consent applications to breach noise rules.
Economic: Although existing uninsulated residential units will not be compelled to retrospectively comply with acoustic insulation requirements, there will be costs associated with any acoustic upgrades which are voluntarily undertaken to mitigate increased noise levels that result from the expansion of precinct boundaries.
Social: The changes result in higher noise levels being anticipated across a larger area of the Central City. Greater noise can be considered a nuisance by some people and potentially reduce the desirability of an area. Conflicts are likely to arise in areas which are currently Category 3, but which are proposed to be included instead in Category 1 or 2, which also contain sensitive activities that were not required to install acoustic insulation.
Cultural:

N/A

Consistency with the policies and appropriateness in achieving the objectives
Efficiency: The main costs associated with the expansion of Category 1 and 2 areas arise in relation to effects on buildings for sensitive activities which were established before the current insulation requirements were put in place. However, the boundaries have been chosen to generally avoid larger areas which are residentially-dominated (being areas zoned High Density Residential or Residential Visitor Accommodation, or with high concentrations of existing residential activity). Overall, the proposed expansions are an efficient approach, balancing the benefits of the expansion in providing greater opportunities for music and hospitality venues with the impacts on sensitive activities. Rule 6.1.4.3 currently limits the duration of resource consents granted to breach the night-time noise limits in the CCMUZ and CCMUZ(SF). The change in overall approach means that these zones will generally be included in the Category 2 precinct (except for discrete areas of CCMUZ in the northern part of the central city), where higher noise levels are provided for. The flexibility the resource consent rule previously provided will be replaced by a more enabling framework for noise-generating activities. Deleting the rule will result in a more efficient approach overall. As a consequence of the changes proposed to the precinct boundaries, there will no longer be areas in the Category 3 Precinct which are zoned CCMUZ(SF), so this part of Rule 6.1.6.2.10.a.i will become redundant and is proposed to be removed in the interests of efficiency.
Effectiveness: For sensitive activities in new category 1 or 2 precincts which were established before the current insulation requirements were put in place, this option would still adversely affect these activities and would not result in internal noise levels meeting guideline levels, with any retrospective acoustic insulation being voluntary. However, the extent of this issue will be limited through the expansions excluding areas which are dominated by residential activities. The amended Category boundaries are effective at ensuring that the adverse effects of noise on amenity values are consistent with the anticipated outcomes for the receiving environment (Objective 6.1.2.1), will help foster investment certainty for venues and meeting community needs for economic development (Objective 3.3.1), provide for a greater range of business opportunities in these expanded areas (Objective 3.3.5), and would be supportive of night life and entertainment activities (Objective 15.2.2). The amended boundaries are also expected to be more effective than the status quo in helping to encourage entertainment and hospitality activities to locate in these defined precincts (Objective 15.2.5). The inclusion of the majority of the CCMUZ and CCMUZ(SF) within Category 2 will also be more effective at providing a compatible mix and range/diversity of activities (Objectives 15.2.7 and 15.2.8) in these zones. Collectively, these changes provide greater certainty that entertainment and hospitality activities – including the higher levels of noise associated with these - are anticipated in Category 1 & 2 precincts.
Risk of acting/not acting: There is considered to be sufficient information about the subject matter of these provisions to act in the manner proposed. The changes to the boundaries of the Category 1 & 2 Precincts are based on technical advice and community feedback, and respond to issues that have been identified with the current approach. The key risk of acting in the manner proposed is the

impacts on those sensitive activities which have been established without acoustic insulation in proposed Category 1 & 2 areas. However, these risks have been minimised by excluding residentially-dominated areas from the expanded boundaries.
The risk of not acting in the manner proposed is that there will be limited areas for new music and hospitality venues to establish.

6.4 Assessment of costs and benefits of amending noise limits within the Central City

6.4.1 PC21 proposes the following changes to the rule framework (set out in **Table 2 in of Chapter 6.1**) for managing noise in the Central City:

a. Expanding the application of the higher **65 dB L_{Aeq} noise limit in Category 1 Precincts to all Entertainment activities**, which means that 'discrete outdoor entertainment events' are no longer treated separately to all other entertainment events;

b. Applying a **80 dB L_{AFmax} limit to entertainment activities during the night-time period in Category 1 Precincts** (which is 5 dB lower than that currently applying to discrete outdoor entertainment events, but 5 dB higher than that currently applying to other entertainment activities);

c. Applying a higher **60 dB L_{Aeq} noise limit in Category 2 precincts to all entertainment activities** and removing the distinction between the Victoria Street Area and the other parts of the Category 2 Precinct;

d. Aligning the **title of Category 3 Precinct** with that used on the legend to the Planning Maps;

e. Removing **L_{AFmax} limits from applying during the daytime period**; and

f. Amending the noise limits so that the '**night-time' limits apply between 23:00 and 07:00** in all instances.

6.4.2 The specific amendments to Table 2 are as follows:

Category of Precinct in which the site receiving noise is located			***Applicable to:***	***Time (hrs)***	***Noise Limit***		***Exemptions***
					L_{Aeq}	L_{Amax}	
a.	*Category 1 - Higher noise level entertainment and hospitality precincts.*		*Activities other than* ~~*discrete outdoor entertainment events*~~ *entertainment activities*	*07:00-~~02~~23:00*	*60*	~~*85*~~	*This shall not include noise from people in outdoor areas of premises licensed for the sale, supply and/or consumption of alcohol that meet the specified outdoor area setback required by Rule 6.1.6.2.10.*
				~~02~~23:00-07:00	*60*	*75*	
			~~*Discrete outdoor entertainment events*~~ *Entertainment activities*	*07:00-2~~3~~2:00*	*65*	~~*85*~~	
				2~~3~~2:00-07:00	*65*	~~*85*~~*80*	
b.	*Category 2 - Lower noise level entertainment and hospitality precincts.*	~~*All except Victoria Street area*~~	*All activities* ***other than*** *entertainment activities*	*07:00-~~01~~23:00*	*60*	~~*85*~~	*This shall not include noise from people in outdoor areas of premises licensed for the sale, supply and/or consumption of alcohol that meet the specified*
				~~01~~23:00-07:00	*50*	*75*	

		~~Victoria Street area~~	~~All activities~~	~~07:00-23:00~~	~~55~~	~~85~~	outdoor area setback required by Rule 6.1.6.2.10, between 07:00 hours and 23:00 hours ~~for the Victoria Street area and between 07:00 hours and 01:00 hours for the remainder of Category 2~~.
				~~23:00-07:00~~	~~50~~	~~75~~	
			~~Entertainment activities~~	~~07:00-23:00~~	~~60~~		
				~~23:00-07:00~~	~~60~~	~~75~~	
c.	Category 3 - ~~All Central City areas other than Category 1 and 2 entertainment and hospitality precincts~~ Lower Noise Level Area.		All activities	07:00-23:00	55	~~85~~	This shall not include noise from people in outdoor areas of premises licensed for the sale, supply and/or consumption of alcohol up to a maximum size of 50m², in all Category 3 Zones except High Density Residential Zone, between 07:00 hours and 23:00 hours.
			All activities	23:00-07:00	45	75	

6.4.3 The higher noise limit of 65 dB L_{Aeq} proposed for all entertainment activities in the Category 1 precinct is considered by technical experts to provide adequate sleep protection from the noise associated with these activities, in areas where bedrooms of noise sensitive activities are required to have insulation achieving a 35 dB $D_{tr, 2M, nT, w}+C_{tr}$ external to internal noise reduction.[39] Similarly, a higher noise limit of 60 dB L_{Aeq} proposed for all entertainment activities in the Category 2 precinct is considered appropriate in areas where bedrooms of noise sensitive activities are required to have insulation achieving a 30 dB $D_{tr, 2M, nT, w}+C_{tr}$ external to internal noise reduction.[40] This takes into account the characteristics of the noise from these activities, including an allowance for the extra annoyance of a bass beat and the low frequency content of the sound,[41] as well as recognising that it is harder for entertainment activities to comply with lower noise limits.[42] It is acknowledged that in some cases, developers may have chosen to install a higher level of acoustic insulation than the minimum required. In such instances, this design choice is not considered to justify the imposition of a higher noise limit, as it would undermine the decision to provide a higher level of noise mitigation for occupants. It would also require a more complex site-specific assessment to determine if a higher noise limit is appropriate, which is better considered through a resource consent process.

6.4.4 It is also proposed to apply a 80 dB L_{Amax} limit at night-time to Entertainment activities in Category 1 precincts. The technical advice is that it is appropriate to set a dB L_{Amax} limit to a level that is 15 dB above the dB L_{Aeq} noise limit[43]. The advice is also that in most cases, the dB L_{Amax} limit will be met by Entertainment activities which comply with the dB L_{Aeq} noise limit[44], so the L_{Amax} limit is not expected to unduly constrain these activities. However, it will provide an additional measure for sleep protection.

[39] AES Letter, section 1.0.
[40] AES Letter, section 1.0.
[41] AES Report, page 17.
[42] AES Letter, section 2.3.
[43] AES Letter, section 2.2.
[44] AES Report, section 3.1.

6.4.5 For Category 2 areas, it is proposed to remove the current distinction between the Victoria Street Area and the other parts of the Category 2 Precinct, whereby different night-time hours currently apply outside the Victoria Street area. All of Category 2 will have night-time hours of 23:00 – 07:00. The other difference is that the Victoria Street area currently has a 5dB lower daytime noise limit (being 55 dB). It is proposed to rationalise this and apply a 60 dB limit in all Category 2 areas. From a practical perspective, these differences for Victoria Street are not necessary, as noise in this part of Category 2 will be limited in many instances by the requirement to meet the noise limit at the Category 3 boundary, so there should be no practical difference to noise generated in this area.

6.4.6 For Category 3 areas, a small amendment is proposed to align with the title used for this Category in the Planning Maps.

6.4.7 The proposed amendments to the time the noise limits apply so that the 'night-time' limits apply between 23:00 and 07:00 in all instances reflect that the night-time noise limits are based on technical advice received about appropriate limits to protect sleep. Where this is currently set between 01:00-07:00 or 03:00-07:00, these limits do not allow for 8 hours of sleep.[45] The proposal seeks to address this to ensure adequate sleep protection, and to apply a consistent approach across the precincts. In some instances, this means a lower L_{AFmax} limit will apply from an earlier time. The L_{Aeq} noise limit applying during the daytime and night-time period is, in some cases, set at the same level; however in practise, these are assessed slightly differently under the relevant standard (NZS6802:2008), which is why the distinction in the table between these periods has been retained.[46]

6.4.8 It is also proposed to remove all L_{AFmax} limits from applying during the daytime period. The technical advice is that the guidance on setting noise limits (NZS 6802:2008) does not recommend setting an L_{Amax} limit during the daytime noise period.[47] It is not considered necessary because the purpose of an L_{Amax} limit is to protect sleep.

6.4.9 In the following assessment of the preferred option (the proposed changes), an additional option has also been assessed, of applying a 70 dB L_{Aeq} noise limit in Category 1 Precincts (and potentially Category 2 Precincts) to all Entertainment activities, instead of the proposed 65 dB L_{Aeq} noise limit in Category 1 Precincts and 60 dB L_{Aeq} noise limit in Category 2 Precincts.

Option 1: Proposed Changes set out in 6.4.1 – 6.4.8	**Option 2: Higher (70 L_{Aeq}) noise limit in Category 1 (and potentially Category 2) Precincts**
Benefits	
Environmental: Technical experts (AES) consider that adequate sleep protection from entertainment noise will still be provided, where permitted noise levels are higher, but where bedrooms of noise sensitive activities have been established with the level of	**Environmental:** N/A

[45] AES Letter, section 2.1.
[46] AES Central City - Music venues and sensitive activities: Supplementary information, page 3
[47] AES Letter, section 2.2.

acoustic insulation currently required under the Plan rules. The changes to when night-time limits apply are based on allowing for 8 hours of sleep, which has been recommended in the technical advice as being necessary to protect sleep, and so as to apply a consistent approach to sleep protection across the precincts. This will also result in a lower L_{Amax} limit applying between 11pm and 3am in the Category 1 precinct, which means that sleep should be less likely to be interrupted in this time period from loud individual noises.	
Economic: Providing higher noise limits for all entertainment activities in Category 1 & 2 Precincts will allow for more music and entertainment venues to establish and sustainably operate in these areas, thereby providing greater certainty and flexibility for venue operators.	**Economic:** Providing higher noise limits for all entertainment activities in Category 1 (& Category 2) Precincts will allow for more music and entertainment venues to establish and sustainably operate in these areas, providing greater certainty and flexibility for venue operators. Fewer noise mitigation measures will be required to achieve a 70 dB L_{Aeq} at boundaries of sensitive activities as compared to a 65 or 60 dB L_{Aeq} limit.
Social: The higher noise limits provide greater opportunities for venues to operate and therefore contribute to the vibrancy of the central city. Amending the night-time period to better protect sleep will improve the desirability of the central city as a place to live.	**Social:** A less inhibited noise regime will provide greater opportunities for venues to operate and therefore contribute to the vibrancy of the central city.
Cultural: N/A	**Cultural:** N/A

Costs	
Option 1: Proposed Changes set out in 6.4.1 – 6.4.7	**Option 2: Higher (70 L_{Aeq}) noise limit in Category 1 (and potentially Category 2) Precincts**
Environmental: Providing higher noise limits for all entertainment activities in Category 1 & 2 Precincts will result in more impact on the amenity values and level of nuisance experienced by people than the status quo. While, for indoor living spaces, these impacts	**Environmental:** Higher noise levels will have a greater impact on the amenity values and nuisance experienced by people than Option 1.

will be mitigated by the requirement for acoustic insulation for noise sensitive activities, the impact will be greater where there are existing noise sensitive activities that have been established without any, or with only limited, acoustic insulation. There will also be potential adverse impacts on amenity values and potential nuisance effects arising from the increased noise in non-habitable areas and outdoor living spaces, or where people choose to open their windows.	
Economic: At present, there are costs associated with acoustic insulation requirements in the areas which are proposed to be included in the Category 1 & 2 precincts, which are not altered by the proposed increased in noise limits in these areas. However, there may be additional costs incurred by owners of non-insulated properties who choose to voluntarily install insulation to mitigate the effects of the increased noise. For venues to comply with (albeit higher) noise limits, some noise mitigation measures will still be required, unless the venue is purpose-built as a music venue. Cost estimates have been provided for three example venues which are set out in Table 3 above (refer also to **Appendix 3**).	**Economic:** The level of acoustic insulation that would be required to provide adequate sleep protection from this level of noise would increase to 40 dB $D_{tr,2m,nT,w} + C_{tr}$. Technical advice is that this would only be achieved with very high mass wall façade elements such as concrete or brick, additional high mass/resilient roofing elements and double windows with a minimum of 100mm between panes, limited glazing overall, and proprietary acoustic doors. The costs associated with these levels are likely to be impractical for residential development.[48]
Social: The impacts of increased noise on existing noise sensitive activities that have been established without any, or with only limited, acoustic insulation may reduce the desirability of these areas for noise sensitive activities.	**Social:** The impacts of increased noise on existing noise sensitive activities that have been established without any, or with only limited, acoustic insulation may reduce the desirability of these areas for noise sensitive activities. The costs associated with higher levels of noise insulation, and the reduced amenity resulting from the design restrictions (such as limited glazing) will very likely limit achievement of residential targets.
Cultural: N/A	**Cultural:** N/A

[48] AES Report, page 17.

Consistency with the policies and appropriateness in achieving the objectives	
Option 1: Proposed Changes set out in 6.4.1 – 6.4.7	**Option 2: Higher (70 L_{Aeq}) noise limit in Category 1 (and potentially Category 2) Precincts**
Efficiency: The increased noise limits for the Category 1 & 2 precincts, while having some costs, e.g. to residents of non-insulated properties, are expected to have benefits which outweigh these costs. The changes more efficiently align with the current District Plan objectives, in terms of fostering investment certainty for venues in the central city (Objective 3.3.1) and providing for a particular type of business activity that contributes to the economic prosperity of the city (Objectives 3.3.1 and 3.3.5) than the status quo. In both the CCMUZ and CCMUZ(SF) the rule framework already permits entertainment activities and hospitality activities. However, the noise limits applying by way of their inclusion in the Category 3 precinct effectively limits their location here. It will be more efficient than the status quo to align the noise limits with the wider outcomes anticipated under the zone framework. The technical advice is that the guidance on setting noise limits does not recommend setting an L_{AFmax} limit during the daytime noise period, as this is not necessary to protect sleep. Removing these limits is more efficient than retaining them.	**Efficiency:** While there are greater benefits to venues from this approach, the costs outweigh these benefits. These costs include the greater impact that the higher noise level will have on amenity values and nuisance, and the increased costs associated with acoustic insulation required for new noise sensitive activities. These, in turn, have social impacts on the desirability of these areas to live in, and on the achievement of residential targets. This option is therefore less efficient than Option 1 at achieving the purpose of the Plan Change and the current District Plan objectives.
Effectiveness: These changes are more effective than the status quo rules and Option 2 at managing adverse noise effects on the amenity values and health of people and communities to levels that are consistent with the anticipated outcomes for the receiving environment, as per Objective 6.1.2.1. Setting the night-time noise limits to allow for 8 hours of sleep will better help manage the adverse noise effects on the amenity values and health of people and communities (Objective 6.1.2.1), help achieve a high quality urban environment that is attractive to residents (Objectives 3.3.8, 3.3.9, 15.2.6, 15.2.7, 14A.2.8) and help minimise conflicts	**Effectiveness**: A higher noise level would better assist in fostering investment certainty for venues in the central city (Objective 3.3.1) and providing for a particular type of business activity that contributes to the economic prosperity of the city (Objectives 3.3.1 and 3.3.5) than Option 1. However, a 70 dB L_{Aeq} limit would be less consistent with managing noise to levels that are consistent with the anticipated outcomes for the receiving environment, as per Objective 6.1.2.1. The higher noise limit would also necessitate a requirement for a higher level of noise

between potentially incompatible activities (Objective 3.3.15).	insulation in order to appropriately protect activities that are sensitive to noise during the night-time period, and the costs associated with the level of insulation required are not practical in most cases. As a consequence, this approach could compromise the achievement of housing capacity targets, and would not ensure that a range of housing opportunities in the central city are enabled (Objectives 3.3.4, 3.3.8 and 3.3.9).
Risk of acting/not acting: There is sufficient information about the subject matter of these provisions to propose the changes above. The proposed noise limits are those which have been identified by technical experts (AES) as being adequate to provide sleep protection relative to the acoustic insulation required in each area. Estimates have also been obtained of the potential costs to venues of meeting these noise limits. The removal of L_{AFmax} limits in the daytime and changes to when the night-time noise limits apply are based on advice received from technical experts. A risk of acting in the manner proposed is that existing noise sensitive activities which have been established without acoustic insulation will be adversely affected by increased noise limits in the expanded Category 1 & 2 areas. The key risk of not acting is that entertainment activities and hospitality activities will not be adequately provided for in the wider central city, contributing to a lack of vibrancy in the night-time economy.	**Risk of acting/not acting:** There is sufficient information about the impacts of a 70 dB L_{Aeq} limit to inform the decision not to adopt this option. The risk of applying a higher limit is that it will discourage residential development and contribute to inability to achieve housing targets in the central city.

6.5 Assessment of costs and benefits of the proposed approach to noise insulation-rationalising the approach and adding ventilation requirements

6.5.1 PC21 proposes the following changes to the noise insulation provisions:

a. Deleting **Rule 6.1.6.1.4 D3**, and the consequential deletion of reference to this rule in **Rule 6.1.6.2.9**;

b. Amending **Rule 6.1.6.2.9**, which sets out the insulation requirements applying to sensitive activities in the Central City, to:
   - generally apply the current acoustic insulation requirements on the basis of the proposed changes to the boundaries of the precincts;

- introduce an explicit acoustic insulation requirement for sensitive activities in the revised Category 1 Precinct areas;
- extend it to require a mechanical ventilation system and air conditioning unit to be installed where the noise reduction levels will only be met if windows are closed, and include a standard outlining how compliance is to be demonstrated;
- refer to the full title of each Category Precinct;
- amend the advice notes so that they more clearly form part of the requirements of the rule; and
- add a standard explicitly stating that where more than one requirement applies, the more stringent requirement must be met.

c. Amending **Rule 6.1.7.2.1** to apply to "Main Distributor or Local Distributor roads", thereby covering the relevant roads in the Central City;

d. Deleting **Rule 6.1.7.2.3**, which applies acoustic insulation requirements to buildings for sensitive activities near busy roads in the Central City, and consequentially deleting reference to this rule from **Rules 6.1.7.1.1 P1** and **6.1.7.1.3 RD1**; and

e. Amending the matters of discretion in **Rule 6.1.8.a.x**, which apply to resource consent applications relating to sound insulation requirements, to better align with the policy direction.

6.5.2 **a. The deletion of Rule 6.1.6.1.4 D3:**

6.5.3 Rule 6.1.6.1.4 D3 currently requires a resource consent as a discretionary activity, for the establishment of any residential activity or visitor accommodation located within a Category 1 Precinct. Currently, the Category 1 Precinct applies to relatively small areas within the Central City. As part of the overall approach, it is proposed to substantially expand the Category 1 areas, and it is not considered necessary or appropriate (given the policies and objectives applying) to restrict sensitive activities in this wider area, with the proposed changes instead seeking to ensure that these activities have appropriate levels of acoustic insulation to mitigate the anticipated levels of noise. It is therefore proposed to delete this rule.

6.5.4 **b. The specific changes proposed to Rule 6.1.6.2.9 are:**

6.1.6.2.9 Sensitive activities in the Central City

a. Sensitive activities in the Central City shall meet the following activity standards:

i. Any sensitive activity shall achieve a minimum external to internal noise reduction of:

*A. Category ~~2~~ **1 (Higher Noise Level Entertainment and Hospitality)** Precincts:*

I. 35 dB $D_{tr, 2m, nT, w} + C_{tr}$ for bedrooms;

II. 30 dB $D_{tr, 2m, nT, w} + C_{tr}$ for other habitable spaces.

~~B. Category 3 Precincts adjoining the Category 1 Precinct:~~

~~I. 35 dB $D_{tr, 2m, nT, w} + C_{tr}$ for bedrooms;~~

~~II. 30 dB $D_{tr, 2m, nT, w} + C_{tr}$ for other habitable spaces~~;

~~C. Category 3 Precincts zoned residential, if within 75 metres of a Category 1 or 2 Precinct shown on the Central City Noise Environments Planning Map, and not already covered by B. above:~~

~~I. 30 dB $D_{tr, 2m, nT, w} + C_{tr}$ for bedrooms.~~

***~~D~~B.** Category ~~3~~ **2 (Lower Noise Level Entertainment and Hospitality)** Precincts ~~**zoned City Centre, Central City Mixed Use, Central City Mixed Use (South Frame) and Neighbourhood Centre and not already covered by B. above**~~:*

I. 30 dB $D_{tr, 2m, nT, w} + C_{tr}$ for bedrooms.

~~**EC**~~. *CMUA Outer Noise Insulation Area as shown on the Central City Noise Environments Planning Map:*

I. *35 dB $D_{tr,\ 2m,\ nT,\ w+}$Ctr for bedrooms*

II. *30 dB $D_{tr,\ 2m,\ nT,\ w+}$Ctr for other habitable spaces.*

~~**FD**~~. *CMUA Inner Noise Insulation Area as shown on the Central City Noise Environments Planning Map:*

I. *35 dB $D_{tr,\ 2m,\ nT,\ w+}$Ctr for bedrooms*

II. *35 dB $D_{tr,\ 2m,\ nT,\ w+}$Ctr for other habitable spaces.*

ii. External to internal noise reduction shall be achieved in conjunction with the ventilation requirements of the New Zealand Building Code, or an amendment to or replacement of the Building Code. If windows are required to be closed to achieve the internal design sound levels, then a mechanical ventilation system and air conditioning unit/s are required.

iii. Mechanical ventilation systems shall meet the following specifications when running:

A. Satisfy clause G4 of the New Zealand Building Code, or any amendment to or replacement of that clause, as if the windows and external doors cannot be opened; and

B. 35 dB $L_{AEq\ (30s)}$ at night time in bedrooms when measured 1 metre away from any grille or diffuser; and

C. 40 dB $L_{AEq\ (30s)}$ in any other space when measured 1 metre away from any grille or diffuser.

iv. Air conditioning units shall meet the following specifications when running:

A. 35 dB $L_{AEq\ (30s)}$ at night time in bedrooms when measured 1 metre away from any grille or diffuser; and

B. 40 dB $L_{AEq\ (30s)}$ in any other space when measured 1 metre away from any grille or diffuser.

~~***Advice note:***~~

~~**1**~~**b**. *Meeting* ~~***this***~~ *activity standard* ***a.i.*** *can be achieved by either:*

~~***a***~~***i***. *Conforming with the schedule of typical building constructions set out in Appendix 6.11.4; or*

~~***b***~~***ii***. *Providing an acoustic design certificate signed by a suitably qualified acoustic engineer stating the design proposed is capable of meeting the above standards.*

c. Meeting activity standard a. ii. – iv. can be achieved by providing a Producer Statement 1A prepared by a suitably qualified and experienced engineer, that demonstrates compliance, to the Council's RMA Compliance team, either before or at the same time as the building consent application is lodged.

d. Where a sensitive activity is located in more than one area specified in activity standard a.i.A – D, the most stringent requirement must be met.

6.5.5 The changes proposed to this rule in clause i. are to apply the current acoustic insulation requirements on the basis of the changes to the boundaries of the precincts. Because of the proposed boundary changes, the changes to clause i. do not alter the effect of current requirements, except that:

a. in areas which are currently Category 1, there will be an explicit acoustic insulation requirement (rather than a resource consent requirement under Rule 6.1.6.1.4 D3 or 6.1.6.1.5 NC2.e.); and

b. in areas zoned HRZ or RVAZ (and located outside the CMUA Noise Insulation Areas), which are within 75m of the current boundary of a Category 1 or 2 precinct, the acoustic insulation requirements will reduce from those currently applying. These are limited areas.

6.5.6 The addition of new clauses ii-iv. are to require a mechanical ventilation system and air conditioning unit to be installed where the noise reduction levels will only be met if windows are closed; and new clause c. sets out how compliance with the requirement is to be demonstrated. This is to ensure that alternate means of ventilation are provided in habitable spaces, to reflect that the acoustic insulation will not be effective if windows in these spaces are opened. The specifications for such systems/units are the same as required in relation to insulation requirements for road traffic and rail noise.

6.5.7 To provide greater clarity, it is also proposed to refer to the full title of each Category Precinct within the rule, and to add new clause d. to be explicit that where more than one requirement applies – for example, for a sensitive activity located within Category 2 area and also within the CMUA Outer Noise Insulation Area, the more stringent requirement must be met. A further change is proposed to amend the 'advice note' so that it is a specific standard within the rule. This reflects that the requirement is integral to the rule and forms part of it, rather than being advisory in nature.

6.5.8 **c. The specific changes proposed to Rule 6.1.7.2.1 are:**

6.1.7.2.1 Sensitive activities near roads and railways outside the central city

a.

i. Any part of an addition of a whole room to an existing building, or any part of a new building, intended for a sensitive activity, or the conversion of an existing building so that it may be used for a sensitive activity within the distances specified from a road or a railway network, shall be designed and constructed so that noise from road or railway sources will not exceed internal sound design levels specified in the Table 1 below, except where:

i. the space is non-habitable and only able to be occupied in a transient manner such as - plant rooms, lift shafts, stairwells, bathrooms, laundry rooms, toilets, pantries, walk-in wardrobes, corridors, clothes drying rooms, or entrance areas; or

ii. the nearest façade of the building is at least 50 metres from all state highways, and railway tracks, and there is a solid building or landform that blocks the line-of-sight from all parts of all windows and doors to all parts of any state highway road surface or all points 3.8 metres above railway tracks

Table 1: Internal sound design levels near roads and railways

Measurement point for road or railway	*Distance (metres)*	*Internal design sound levels (i)*	
		Bedrooms	*Other habitable spaces and spaces used for other sensitive activities:*
Centre of the nearest railway track	*100*	*35 dB $L_{AEq(1h)}$*	*40 dB $L_{AEq(1h)}$*

Nearest edge of the nearest marked traffic lane of any State Highway or the nearest sealed edge of the road where there is no marking.	*100*	*40 dB $L_{AEq(24h)}$*
*Nearest edge of the nearest marked traffic lane of any Major or Minor Arterial roads, **Main Distributor or Local Distributor roads**, or the nearest sealed edge of the road where there is no marking*	*40*	
Nearest edge of the nearest marked traffic lane of any Collector Road or the nearest sealed edge of the road when there is no marking.	*20*	

6.5.9 As it proposed to delete Rule 6.1.7.2.3 (see below), Rule 6.1.7.2.1 will be the only rule applying within the Central City (in Category 3 precincts). A consequence of this is to amend this rule to apply to "*Main Distributor or Local Distributor roads*", which are categories of roads only located within the Central City, and which the acoustic insulation requirements in 6.1.7.2.3 apply to.

6.5.10 **d. The deletion of Rule 6.1.7.2.3:**

6.5.11 The deletion of Rule 6.1.7.2.3 reflects that there are currently two different rules which apply acoustic insulation requirements to buildings for sensitive activities near busy roads – one which applies everywhere outside the Central City (Rule 6.1.7.2.1), and one (Rule 6.1.7.2.3) which applies only within the Central City. The former rule has been recently reviewed through Plan Change 5E. It is considered inefficient to have two similar, but slightly different rules applying (the latter provides for a choice of methodologies whereas the former does not), and therefore it is proposed to rationalise the rule framework so that only Rule 6.1.7.2.1 applies in the Central City, which will result in a consistent approach being taken across the District.

6.5.12 **e. The amendments proposed to 6.1.8 are as follows:**

6.5.13 ***6.1.8 Rules - Matters of discretion***

a. When considering applications for restricted discretionary activities, the Council's discretion to grant or decline consent, or impose conditions, is restricted to the matters over which discretion is restricted in the tables in Rules 6.1.5.1.3, 6.1.6.1.3 and 6.1.7.1.3, and as set out for that matter below.

…

x. Additional criteria where sound insulation is required by the rules:

A. The extent to which a reduced level of acoustic insulation may be acceptable due to mitigation of adverse noise impacts through other means, e.g. screening by other structures, or distance from noise sources.

B. The ability to meet the appropriate levels of acoustic insulation through alternative technologies or materials.

C. The provision of a report from an acoustic specialist which provides evidence that the level of acoustic insulation is appropriate to ensure the amenity of present and future residents of the site.

*D. In the Central City, the impact of any **~~residential accommodation or education~~ sensitive** activity that does not provide the required noise insulation on the ability of existing or future permitted business activities to operate or establish without undue constraint~~.~~*

~~***E. In the Central City, the location of any nearby business activities*** *and the degree to which the amenities of the sensitive activities may be adversely affected.*~~

~~F~~E. *Outside the Central City, the appropriateness of a legal instrument to be registered against the title that is binding on the owner and the owner's successors in title, containing a 'no complaint' clause relating to the noise of aircraft using Christchurch International Airport.*

6.5.14 The changes proposed to these matters of discretion (which relate to sound insulation) are considered to better align with the policy direction. Removal of the reference to consideration of the location of any nearby business activities better reflects that these activities are anticipated under the Plan, and the insulation requirements are intended to provide adequate protection for occupiers of sensitive activities from future activities that are anticipated, but not yet established.

Benefits
Environmental: The requirement for a mechanical ventilation system and air conditioning unit means that windows will not need to be opened. This means that the acoustic insulation will be effective at mitigating noise to the levels that are desirable for protecting sleep.
Economic: Deletion of the discretionary status for residential activities and visitor accommodation within a Category 1 Precinct (Rule 6.1.6.1.4 D3), will remove the costs associated with the consenting pathway currently applying to these. Although it will not alter the costs associated with the insulation requirements themselves, there are administrative efficiencies with extending the same acoustic insulation requirements for road noise traffic as currently apply outside the Central City, to other Central City (Category 3) areas. The changes proposed to Rule 6.1.6.2.9 to refer to the full title of each Category Precinct, explicitly state that where more than one requirement applies the more stringent requirement prevails, and to clarify that the advice note forms part of the requirements of the rule, will provide greater clarity to plan users and avoid potential interpretation issues.
Social: Alternative ventilation means that windows do not need to be opened. This means that the acoustic insulation will be effective at mitigating noise to the levels that are desirable for protecting sleep, thereby improving the desirability of the central city as a place to live.
Cultural: N/A

Costs
Environmental: N/A
Economic: There are costs associated with the acoustic insulation requirements for Category 1 precinct areas. However, for those areas which are not currently within this precinct, these costs already apply, and for existing Category 1 precinct areas, rather than an explicit insulation

requirement, noise sensitive activities also require a resource consent in all instances. This would include consideration of the level of insulation. There are additional costs associated with installing a mechanical ventilation system and air conditioning unit. These are estimated to be between $4,000 - $11,000.
Social: N/A
Cultural: N/A

Consistency with the policies and appropriateness in achieving the objectives
Efficiency: The changes proposed to noise insulation requirements will have a range of benefits, with limited costs, and as such, are an efficient way to achieve the Plan's objectives. Aligning the noise insulation requirements with the category boundaries will also address inefficiencies with the current approach, whereby the acoustic insulation requirements for sensitive activities in some areas are higher than necessary to mitigate the permitted levels of noise. (For example, in residentially-zoned Category 3 precincts, where acoustic insulation is required within 75m of a Category 1 or 2 Precinct.) The key additional cost arising from the proposed approach is the new requirement to install a mechanical ventilation system and air conditioning unit alongside the specific levels of insulation. However, this requirement will ensure that acoustic insulation is effective at reducing noise to the desired levels to protect sleep. It is also more efficient to apply the same requirements for acoustic insulation in proximity to specified types of roads within the central city as already applying outside of it. The efficiency of the specific approach to road noise in Rule 6.1.7.2.1 (to require specified internal sound levels) has recently been tested through Plan Change 5E and those conclusions will apply equally to central city road noise.
Effectiveness: The requirement for a mechanical ventilation system and air conditioning unit is considered to be an effective way of managing adverse noise effects on the amenity values and health of people and communities (Objective 6.1.2.1), and will better help achieve a high quality urban environment that is attractive to residents (Objectives 3.3.8, 3.3.9, 15.2.6, 15.2.7, 14A.2.8) as well as being more effective than the status quo at minimising conflicts between potentially incompatible activities (Objective 3.3.15). The effectiveness of the specific approach to road noise (in Rule 6.1.7.2.1) has recently been tested through Plan Change 5E and is considered to apply equally well to central city road noise. The changes proposed to the matters of discretion in Rule 6.1.8.a.x (which relate to sound insulation) are considered to better align with the existing policy direction and therefore be more effective at ensuring that a range of activities are supported in the Central City, to enhance its viability, vitality and the efficiency of resources, while encouraging activities in specific areas (Objective 15.2.5). In particular, removal of the reference to consideration of the location of any nearby business activities better reflects that a range of business activities are anticipated under the Plan in the areas where insulation is required, and the insulation requirements are intended to provide adequate protection for occupiers of sensitive activities from future activities that are not yet established.
Risk of acting/not acting: There is sufficient information about the subject matter of these provisions to act in the manner proposed. The costs associated with a requirement for a mechanical ventilation system and air conditioning unit have been quantified. A key risk of not acting in the manner proposed is that in absence of a requirement for mechanical ventilation system and air conditioning unit, the acoustic insulation will be ineffective at reducing noise, where windows are opened.

6.6 Assessment of costs and benefits of changes to noise rules to correct errors and address omissions

6.6.1 **PC21** proposes to make the following changes to the rule framework managing noise in the central city, to correct errors and address omissions:

a. Amending **Rule 6.1.5.2.2** to align the title of the Planning Map referred to with that used on the legend to the Planning Maps;

b. Amending **Rule 6.1.6.1.3** to delete reference to Rule 6.1.6.2.9 in RD1, and insert a new rule (**RD3**) applying to sensitive activities in the Central City that do not meet one or more of the activity standards for that activity;

c. Deleting **Rule 6.1.6.1.5 NC2 e.** which applies where the noise limits in the activity standards for the specified activity are exceeded by more than 10 dB;

d. Amending **Rule 6.1.7.1.3 RD1** to apply when an activity listed in Rule 6.1.7.2.1 does not meet one or more of the activity specific standards in Rule 6.1.7.2.1 (rather than referring to exceedance of noise limits);

e. Deleting **Rule 6.1.7.1.5 NC4** which applies to an activity listed in Rule 6.1.7.2.1 that exceeds the noise limits in any activity standards by more than 10dB; and

f. Amending **Rule 6.1.7.2.1.a.iii.** to remove reference to Rule 6.1.7.2.1.b. as the latter does not exist.

6.6.2 **a. The amendments proposed to Rule 6.1.5.2.2:**

6.6.3 Rule 6.1.5.2.2 sets out the noise limits applying in the Central City (which are specified in Table 2). The rule currently refers to the Category of the Precinct referred to in Table 2 as being set out in the "Central City Entertainment and Hospitality Precinct Overlay Planning Map". However, this differs to the title used on the legend to the Planning Maps, which is "Central City Noise Environments". A correction is therefore proposed to align with the title used on the legend, to avoid any confusion.

6.6.4 **b. The amendments proposed to Rule 6.1.6.1.3 are:**

Activity		***The Council's discretion shall be limited to the following matters:***
RD1	*Any activity listed in:* *Rule 6.1.6.2.1 (Generators for emergency purposes);* *Rule 6.1.6.2.2 (Temporary military training activities or emergency management activities);* *Rule 6.1.6.2.3 (Temporary activities);* *Rule 6.1.6.2.4 (Rural activities);* ~~***e. Rule 6.1.6.2.9 (Sensitive activities in the Central City), other than as provided for in Rule 6.1.6.1.3 D3;***~~ ~~***f.***~~***e.*** *Rule 6.1.6.2.10 (Licensed premises outdoor areas in the Central City); or* ~~***g.***~~***f.*** *Rule 6.1.6.2.11 (Shooting ranges within 1 km of Peacock Springs),* *that:* *exceeds any noise limits in the activity standards for that activity by 10 dB or less, or*	*Matters of discretion – Rule 6.1.8*

	does not meet one or more of the other activity standards for that activity. *Any application arising from Rule 6.1.6.1.3 RD1 ~~g.~~ **f.** (Shooting ranges within 1 km of Peacock Springs) shall not be publicly notified and shall be limited notified only to the trustees of The Isaac Conservation and Wildlife Trust or its successors (absent their written approval).* *Advice note:* *This rule does not apply to the Specific Purpose (Ruapuna Motorsport) Zone or the Christchurch Kart Club raceway at Carrs Road.*	
RD2	*Construction activities listed in Rule 6.1.6.1.1 P2 that do not meet the activity specific standard.*	
RD3	***Any activity listed in Rule 6.1.6.2.9 (Sensitive activities in the Central City) that does not meet one or more of the activity standards for that activity.***	

6.6.5 Rule 6.1.6.1.3 RD1 applies a restricted discretionary status to listed activities (including sensitive activities which are subject to Rule 6.1.6.2.9) where they exceed any noise limits by 10 dB or less; or do not meet one or more of the other activity standards. However, only the latter, and not the former, would apply to activities managed under Rule 6.1.6.2.9. To avoid confusion, it is proposed to delete reference to Rule 6.1.6.2.9 from RD1, and instead insert a new rule as RD3, applying to activities listed in Rule 6.1.6.2.9 that do not meet one or more of the activity standards for that activity. This has no change in effect, but makes it clearer what rule applies to breaches of Rule 6.1.6.2.9.

6.6.6 **c. Deleting Rule 6.1.6.1.5 NC2 e.**

6.6.7 Rule 6.1.6.1.5 NC2 applies where the noise limits in the activity standards for the specified activity are exceeded by more than 10 dB. However, in the case of e. – being sensitive activities subject to Rule 6.1.6.2.9 – the activity standards do not apply a noise limit, but instead require a specified level of external to internal noise reduction to be achieved. As such, this rule is redundant as it would never be triggered. (Noting that where the activity specific standards in 6.1.6.2.9 are not met, the activity is instead subject to Rule 6.1.6.1.3).

6.6.8 **d. The amendments proposed to Rule 6.1.7.1.3 RD1 are as follows:**

Activity		***The Council's discretion shall be limited to the following matters:***
RD1	*Any activity listed in Rule 6.1.7.2.1 (Sensitive activities near roads and railways) **~~or 6.1.7.2.3 (Sensitive Activities near roads in the Central City)~~** that **~~exceeds any noise limits in the activity standards for that activity by 10 dB or less~~** **does not meet one or more of the activity specific standards in Rule 6.1.7.2.1**.*	*Matters of discretion – Rule 6.1.8*

6.6.9 This change seeks to correct an error whereby the current rule refers to noise limits being exceeded by more than 10dB. However, the activity standards in Rules 6.1.7.2.1 and 6.1.7.2.3, generally focus instead on requiring an internal design sound level to be met, rather than prescribing a noise limit. The current drafting makes it unclear what rule applies where an activity does not meet one of the activity specific standards that does not specify a noise limit. The

matters of discretion in Rule 6.1.8 infer that it was intended that the rule apply in relation to any aspect of the insulation requirements not being met. The change proposed is to clearly apply the rule where there is a non-compliance with any of the activity specific standards. Deletion of reference to Rule 6.1.7.2.3 is a consequence of the proposed deletion of that rule (refer below).

6.6.10 **e. Deleting Rule 6.1.6.1.5 NC2 e.**

6.6.11 Rule 6.1.7.1.5 NC4 applies where the noise limits in the activity standards for the specified activity are exceeded by more than 10 dB. However, the activity standards in Rules 6.1.7.2.1 and 6.1.7.2.3 generally require an internal design sound level to be met, rather than prescribing a noise limit. Because of the change proposed to Rule 6.1.7.1.3 RD1, any non-compliance with an activity specific standard in Rule 6.1.7.2.1 would be captured by that rule, and this is considered to be more efficient than a non-complying status being triggered for non-compliance with those aspects of the rule that specify a noise limit.

6.6.12 **f. The amendments proposed to Rule 6.1.7.2.1.a.iii are as follows:**

*iii. Compliance with Rule 6.1.7.2.1.a. **and** ~~Rule 6.1.7.2.1 **b.**~~ is not required if the exceptions in Rule 6.1.7.2.1.a.i. or ii. apply.*

6.6.13 Rule 6.7.2.1.a. sets out requirements for sensitive activities near roads and railways. Sub-clause iii. states that compliance with Rule 6.7.2.1.a. and Rule 6.7.2.1.b. is not required if specified exceptions apply. However, there is no Rule 6.7.2.1.b. so the reference to it is an error, and may cause confusion for plan users.

Benefits
Environmental: N/A
Economic: The amendment to Rule 6.1.7.1.3 RD1 will make it clear that the rule applies where there is a non-compliance with any of the activity specific standards. Deleting Rule 6.1.7.1.5 NC4 will result in any non-compliance with an activity specific standard in Rule 6.1.7.2.1 being treated the same, providing a simpler and more certain consenting pathway for applicants.
Social: N/A
Cultural: N/A

Costs
Environmental: N/A
Economic: N/A
Social: N/A
Cultural: N/A

Consistency with the policies and appropriateness in achieving the objectives
Efficiency: As noted above, Rule 6.1.6.1.5 NC2 is a redundant provision that can never be triggered. It is therefore more efficient to delete the rule. Similarly, as Rule 6.7.2.1.a.iii. refers to a non-existent rule (6.7.2.1.b.) is also more efficient to delete this reference. It is also more efficient to apply the same rule (being Rule 6.1.7.1.3 RD1) to any breach of an activity specific standard in Rule 6.1.7.2.1, as it provides a clearer and more consistent approach.
Effectiveness: Removal of redundant rules or aspects of them will not alter the effectiveness of the rule package. Applying a restricted discretionary activity status to any breach of the road noise rules will still be effective at managing the adverse noise effects on the amenity values and health of people and communities (Objective 6.1.2.1), achieving a high quality urban environment that is attractive to residents (Objectives 3.3.8, 3.3.9, 15.2.6, 15.2.7, 14A.2.8) and minimising conflicts between potentially incompatible activities (Objective 3.3.15).
Risk of acting/not acting: There is sufficient information about the subject matter of these provisions to act in the manner proposed. The changes to the rule framework are very minor, and result in a clearer rule framework for noise insulation. The risk of acting in the manner proposed is therefore low.

6.7 The most appropriate option

6.7.1 The proposed policy changes are intended to improve their clarity and better enable entertainment and hospitality activities in commercial zones in the Central City. The changes are considered to better assist in achieving the Plan's objectives for these commercial areas, which is also consistent with managing adverse noise effects to levels that are consistent with the anticipated outcomes for the receiving environment.

6.7.2 The expansion of the spatial extent of Categories 1 & 2 (and consequential changes to provisions to reflect these expansions) are an efficient and effective approach to achieving the objectives in the Plan and the purpose of the Plan Change. In particular, the proposed precinct boundaries are considered to appropriately balance the benefits of the expansion of these boundaries, in providing greater opportunities for music and hospitality venues, with the potential impacts on sensitive activities. This takes into account that sensitive activities in new category 1 or 2 precincts established before the current insulation requirements were put in place would be adversely affected, but that this has been minimised by excluding residentially-dominated area from the expanded boundaries.

6.7.3 Amending the noise limits, and in particular applying higher noise limits to all entertainment activities during the night-time period in Category 1 & 2 precincts is appropriate because it better provides for entertainment venues to establish in appropriate locations within the central city, aligning with the acoustic insulation requirements which already exist in these areas. The specific noise limits will allow for venues to operate at noise levels that attract and keep patrons, without requiring unreasonable measures to be employed to mitigate noise. The alternative options, including a higher noise limit, have been assessed as being less efficient and effective at achieving the purpose of the Plan Change, and the outcomes sought through the current District Plan objectives.

6.7.4 With respect to noise insulation and ventilation provisions, the proposed approach is considered to be the most appropriate way to manage acoustic insulation in the central city. Collectively, the changes ensure the requirements are aligned with the proposed changes to the precinct boundaries, rationalise the approach applying within the Central City, and ensure that the insulation is effective at mitigating noise to an appropriate level for noise sensitive activities. The benefits of the approach are also considered to outweigh the costs. In particular, the requirement for a mechanical ventilation system and air conditioning unit ensures that acoustic insulation is effective at reducing noise to the desired levels to protect sleep.

6.7.5 The changes to noise rules to correct errors and address omissions are considered appropriate to improve the current Plan provisions in several instances where there are errors, omissions, or a lack of clarity around how activity status is determined. This does not reduce the effectiveness of these rules in achieving the outcomes sought.

7 Conclusions

7.1.1 Overall, for the reasons outlined in this report, the package of changes proposed in PC21 is the most appropriate way to achieve the relevant Strategic Objectives and Chapter Objectives and align with higher order documents. Collectively, these changes seek to manage noise within the Central City in a way that supports a vibrant night-time economy and reflects the anticipated amenity values of different areas within the Central City while still protecting sleep appropriately for Central City residents during the night-time period. This approach aligns with the sustainable management purpose of the RMA.

APPENDIX 1

APPENDIX 1 – AES REPORT: CENTRAL CITY MUSIC VENUES AND SENSITIVE ACTIVITIES – TECHNICAL ADVICE ON MANAGING COMPATIBILITY

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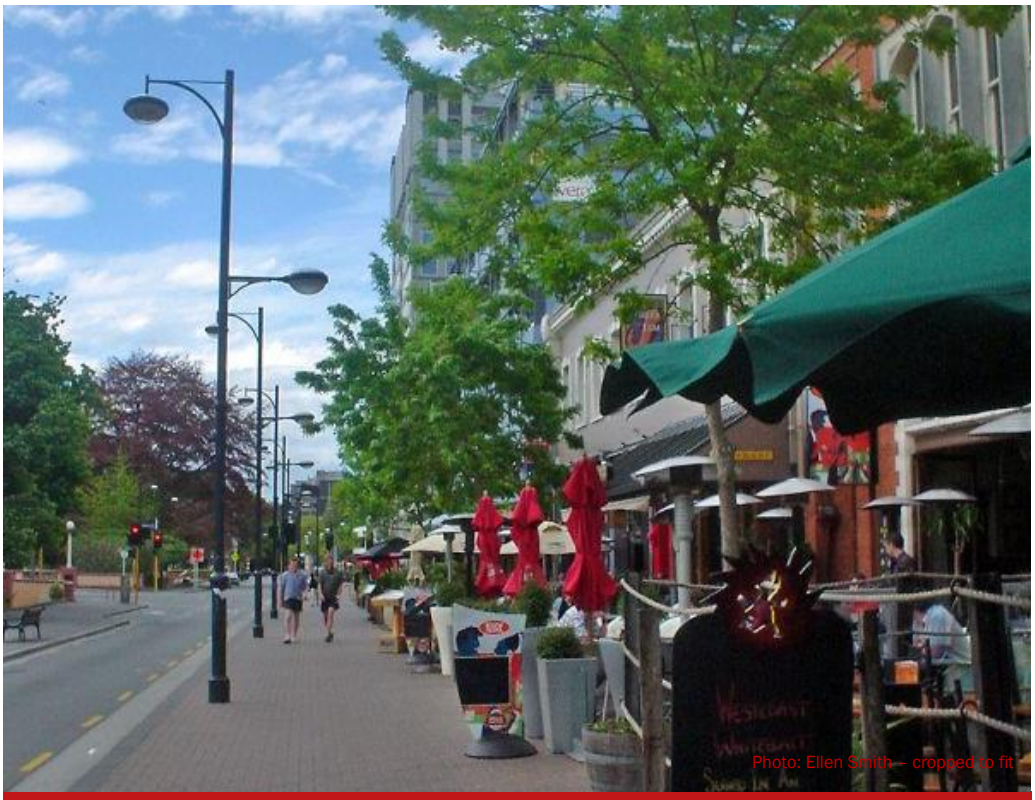

Photo: Ellen Smith – cropped to fit

Report Number: AC24013 – 03 – R3

Central City
Music venues and sensitive activities

Technical advice on managing compatibility

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Document Acceptance

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1.0 BACKGROUND

Acoustic Engineering Servies (AES) has been engaged to provide advice in relation to noise rules in the Central City in Christchurch. We understand that the Council's vision for Christchurch is to develop a vibrant inner city. One of the ways to contribute to this vision is to provide areas where music and hospitality venues can sustainably operate, however this must be balanced with providing adequate protection for noise sensitive uses, where these already exist or are permitted in various parts of the Central City.

Our advice in this report is based on our correspondence to date, along with the following documentation:

- Acoustic report prepared for Dunedin City Council titled *Managing Compatibility between Music Venues & Noise Sensitive Land Use*, as prepared by Styles Group, and dated the 12th of September 2023.
- Document titled *Regulatory methods for Central City & Mixed Use Areas Noise Management – Wellington, Auckland, Dunedin and Queenstown*, as prepared by Christchurch City Council, and received by email on the 2nd of August 2024.
- Log of complaints with file name *Central City noise – venues and complaints*, received by email on the 28th of August 2024.

Christchurch City Council has set a target for 20,000 people to live within the Central City by 2028. The transition to mixed use developments that will accommodate this increase is already giving rise to conflict, both perceived and actual, between noise generating activities and people living in residential properties. This is particularly true where those noise generating activities have established outside the 'noise precincts' previously expected and defined for such purposes in the Operative District Plan. As the CCC has planned for an increase in the number of Central City residents, the potential for conflict will increase and therefore needs to be managed.

We have considered the existing noise limits and effects from the perspective of venues and receivers and provided discussion and recommendations on future noise and insulation requirements, as follows:

- Guidance about appropriate noise levels in central city areas, entertainment districts and mixed-use areas
- Consideration of existing noise limits in the Central City and actual noise levels experienced from all sources
- Investigation of what noise limits are practical to achieve for music and hospitality venues and what noise levels are currently generated
- A review of current noise mitigation controls for protection of residential amenity and challenges of providing higher levels of insulation.

In the interests of conciseness our report primarily considers noise from music and hospitality venues at night-time. As discussed below night-time for residential receivers is typically an 8 – 9 hour period, and 2200 or 2300 to 0700 hours is generally considered to be the most noise sensitive time. This is consistent with the record of complaints received by the Council, as discussed below. We have also generally used the term 'residential receivers' interchangeably with 'sensitive activities' to demonstrate the principles that apply to all sensitive activities' defined in the District Plan.

2.0 GENERIC GUIDANCE REGARDING APPROPRIATE INTERNAL AND EXTERNAL NOISE LEVELS

A range of national and international standards, based on considerable research, are available which provide guidance as to appropriate internal and external noise levels for residential receivers. We have provided a summary below.

The guidance below refers to L_{Aeq} and L_{AFmax} noise descriptors. The L_{Aeq} is the "equivalent noise level" and can be thought of as the average noise level over a period of time. The averaging period should also be referenced but is often 15-minutes where not otherwise stated. Within that period is the L_{AFmax} which is maximum sound pressure level measured during a given period.

2.1 New Zealand Standard 6802:2008 *Acoustics – Environmental noise*

NZS 6802:2008 *Acoustics – Environmental noise* outlines a guideline day-time limit of 55 dB $L_{Aeq(15\ min)}$ and night-time noise limits of 45 dB $L_{Aeq(15\ min)}$ / 75 dB L_{AFmax} for "the reasonable protection of health and amenity associated with the use of land for residential purposes". These guideline noise levels are measured at the boundary of residential sites and where not otherwise specified the night-time L_{Aeq} limits apply from 2200 to 0700 hours.

For town centres and mixed-use areas NZS 6802:2008 offers a guideline daytime and night-time limit of 60 dB $L_{Aeq(15\ min)}$ for non-residential receivers. Section 8.6.8 of the Standard states the following:

> *In an established mixed-use area or zone containing existing residential units which are inadequately isolated from external sounds, the external night-time residential criteria should be specified. However, in town centres any desired night activity such as bars and clubs may be restricted if such noise limits were to be met.*

The Standard also describes how a +5 dB penalty should be applied to sound with Special Audible Characteristics (SAC). The penalty makes allowance that a sound may be subjectively more annoying than the sound pressure level indicates. Sounds that have specific tonality or impulsive character typically attract an SAC penalty. The application of an SAC penalty is subjective but would often be applied to amplified music especially where there is a significant audible beat.

2.2 World Health Organization

Guidelines for Community Noise[1], a document produced by the World Health Organisation (WHO) based on extensive international research recommends a guideline limit of 55 dB $L_{Aeq(16\ hour)}$ to ensure few people are seriously annoyed in residential situations. A guideline limit of 50 dB $L_{Aeq(16\ hour)}$ is recommended to prevent moderate annoyance.

Guideline night-time limits of 45 dB $L_{Aeq(8\ hour)}$ / 60 dB L_{AFmax} are recommended to allow occupants to sleep with windows open and meet internal limits of 30 dB $L_{Aeq(8\ hour)}$ / 45 dB L_{AFmax} within bedrooms to avoid sleep disturbance.

These guideline noise levels are measured at the facade of dwellings and other noise sensitive locations and the L_{Aeq} limits apply for 16 hours in the day-time, and 8 hours for the night-time

The WHO also recommends a 24-hour average noise limit of 70 dB L_{Aeq} for industrial, commercial, shopping and traffic areas.

To prevent hearing loss entertainment events are recommended to be no louder than 100 dB L_{Aeq} for four hours less than five times per year – this is the maximum level the WHO recommends inside venues.

[1] Edited by Berglund, B et al. Guidelines for community noise. World Health Organisation 1999.

2.3 Australian Standard/New Zealand Standard 2107:2016

The above guidance from NZS 6802:2008 and WHO have been developed for outdoor amenity and also considering health and annoyance effects on residential receivers inside dwellings. AS/NZS 2107:2016 *Acoustics – Recommended design sound levels and reverberation times for building interiors* outlines guideline internal noise limits for a range of spaces, including residential buildings.

The standard outlines a guideline internal noise design range of 35 to 40 dB L_{Aeq} for sleeping areas in houses and apartments in inner city areas or entertainment districts or near major roads. The same guideline design range is given for sleeping areas in hotels, motels, hostels, residential halls and barracks in inner city areas or entertainment districts or near major roads during night-time hours.

The recommended internal noise level range for sleeping areas in inner city areas is higher than is provided for sleeping areas in houses and apartments in suburban areas or near minor roads, where the recommended internal noise levels are 30 – 35 dB L_{Aeq}. The higher recommended design noise levels in inner city areas recognises the modified expectations of those choosing to live in inner city areas.

3.0 THE CURRENT DISTRICT PLAN NOISE LIMITS

3.1 Summary of current limits

The Central City area of Christchurch is divided into three entertainment and hospitality precincts – Category 1, 2 and 3. Category 2 is further divided into 2 zones – Category 2 Victoria Street and Category 2 except Victoria Street. There are also separate rules for the Canterbury Mixed Use Arena (CMUA). The overlays defined in the Christchurch District Plan are shown in figure 3.1 below.

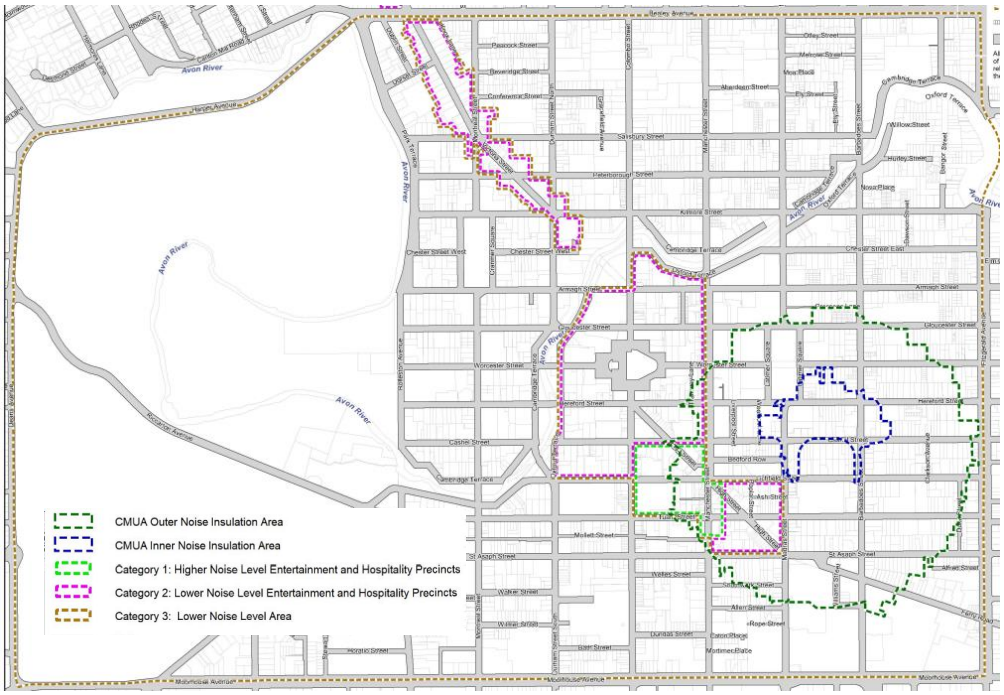

Figure 3.1 – Category areas in the Central City

Policy 6.1.2.1.2 of the District Plan states that lower noise levels are to be achieved during night-time hours *to protect sleep, and the amenity values of residential and other sensitive environments so far as is practicable*.

The relevant noise limit rules for Central City areas are found in Rule 6.1.5.2.2 and Designation C203 of the District Plan, and these have been summarised in table 3.1 below. The limits apply at the boundary of a receiving site up to the height of the highest level of any building located on that site (in a manner prescribed in NZS6802:2008), except for the CMUA limits that apply between a height of 1.5 and 11 metres at the Arena Noise Contour specified on the Arena Noise Contour Plan dated 12 December 2023.

Table 3.1 – Summary of Central City noise limits

Noise zone	External noise limits
Category 1	*All except discrete outdoor entertainment events* 0700 – 0300: 60 dB L_{Aeq}, 85 dB L_{AFmax} 0300 – 0700: 60 dB L_{Aeq}, 75 dB L_{AFmax} *Discrete outdoor entertainment events* All times: 65 dB L_{Aeq}, 85 dB L_{AFmax}
Category 2	*All except Victoria Street area* 0700 – 0100: 60 dB L_{Aeq}, 85 dB L_{AFmax} 0100 – 0700: 50 dB L_{Aeq}, 75 dB L_{AFmax} *Victoria Street area* 0700 – 2300: 55 dB L_{Aeq}, 85 dB L_{AFmax} 2300 – 0700: 50 dB L_{Aeq}, 75 dB L_{AFmax}
Category 3	0700 – 2300: 55 dB L_{Aeq}, 85 dB L_{AFmax} 2300 – 0700: 45 dB L_{Aeq}, 75 dB L_{AFmax}
CMUA at the Arena Noise Contour	*Six times per year* 80 dB $L_{Aeq(15\ min)}$ *A further nine times per year* 75 dB $L_{Aeq(15\ min)}$ *All other events* 70 dB L_{Aeq}, 85 dB L_{AFmax} Finish by 2300 hours except on New Years Day at 0030 hours

Noise levels in the Christchurch District Plan are assessed in accordance with NZS 6802:2008 *Acoustics – Environmental Noise*; however, an adjustment for SAC is not applied in accordance with Rule 6.1.4.1.a.

The provisions in NZS 6802:2008 relating to SAC require a +5 dB penalty to be applied to certain noise sources, as noises that are tonal or impulsive are more annoying than the numerical dB L_{Aeq} level may suggest. We understand that during the previous District Plan review, the exclusion of the SAC penalty was implemented to avoid arguments around the application of the SAC penalty, as this is subjective, particularly in terms of impulsive noise. While an SAC penalty is subjective in many cases, the application for music with a significant bass beat element is less controversial and rarely contested. Therefore, when assessing noise from music and hospitality venues that have a significant bass beat, the noise limits outlined in table 3.1 are effectively 5 dB more lenient than the numerical value suggests, in terms of the effects received.

The above limits do not apply to noise from people in outdoor areas of premises licensed for the sale, supply and/or consumption of alcohol that meet the specified outdoor area setback required by Rule 6.1.6.2.10. which require a 25-metre setback to Category 3 zoned properties. The set-back provides for mitigation of noise to receivers Category 3 zones but allows for unmitigated night-time noise from people in Category 1 zones at all times, and until 0100 hours in Category 2 zones. An outdoor area in a Category 1 or 2 zone that is within 25 metres of a Category 3 zone will need to comply with the precinct noise limits.

We have not discussed L_{AFmax} limits specifically in this report, as while there are some irregularities with those aspects of the noise limits, central city noise is rarely problematic due to L_{AFmax} events where there is not also a L_{Aeq} noise problem. For music venues the L_{AFmax} is usually within 25 dB of the L_{Aeq} and therefore where compliance with the L_{Aeq} limits is achieved compliance with the L_{AFmax} limit will also be achieved. There may be some activities, for example, a car door slam that may momentarily generate a high L_{AFmax} noise level; however, the activity that car is associated with (i.e., a bar or a party with amplified music) is expected to

generate a constant (L_{Aeq}) high level of noise which is more likely to cause complaints, despite itself rarely generating a high L_{AFmax} noise level.

3.2 Comparison to other Districts

The Central City noise limits are similar to the noise limits in other District Plans in New Zealand. A sample of city centre noise limits from other District Plans is given in table 3.2 below.

Table 3.2 – Examples of city centre noise limits in other District Plans

City	Entertainment precinct or city centre noise limits in the night-time
Dunedin	60 dB $L_{Aeq(15\ min)}$
Queenstown	60 dB $L_{Aeq(5\ min)}$ for music, excluding SAC, 65 dB $L_{Aeq(15\ min)}$ for voices Sound from any loudspeaker outside a building shall not exceed 75 dB $L_{Aeq(5\ min)}$ measured at 0.6 metres from the loudspeaker.
Wellington	60 dB $L_{Aeq(15\ min)}$
Auckland	60 dB L_{Aeq}, 65 dB at 63 Hz L_{eq}, 60 dB at 125 Hz L_{eq}

Considering that a +5 dB adjustment for SAC is not applied under the provisions of the Christchurch District Plan, the Christchurch Central City noise limits (Category 1 and Category 2 except Victoria Street) are effectively 5 dB higher for noise from music than in Dunedin or Wellington. They are also slightly more lenient than the noise limits in the Queenstown Entertainment Zone, because while the noise limit is the same, the duration to which the noise limit is applied is longer for the Christchurch Central City (Category 1 and Category 2 except Victoria Street) where the duration is 15 minutes as opposed to 5 minutes in Queenstown. A shorter assessment time means that there is less scope for noise levels to exceed the noise limits temporarily and still comply when averaged over the total assessment period. The Auckland Unitary Plan limits include an innovative control to try to directly limit 'low frequency bass' noise – however in our experience there are technical and practical issues with this approach.

We note however, that with regard to music noise, there is no notable research that suggests that a 5 minute assessment period is more effective at preventing complaints than a 15 minute assessment period, as it is the average effect (i.e., 5 minutes of loud music, and 10 minutes of quiet music) that best informs the human response. A 15 minute assessment interval is also in accordance with best-practice guidance in NZ Standard NZS 6802:2008.

As is the case with all of the above noise limits, noise levels outside dwelling may be above what is typically considered acceptable in residential 'outdoor living' settings and a high level of outdoor amenity should therefore not be expected by residents living in those areas. This was also noted in the Styles Group report for the Dunedin City Council. As above, in all of the table 3.2 examples, the noise limits are designed to protect the habitable spaces within dwellings, when combined with sound insulation requirements.

As also discussed further below, while being 'lenient', the Category 1 and 2 noise limits are often still difficult for music and hospitality venues to comply with, in the case where the building that a venue is using has a low level of acoustic insulation or there is amplified outdoor music. In order to comply with these limits and the more restrictive Category 2 – Victoria Street limit venues will often need to make significant modifications as is discussed in section 4.0 below.

3.3 Other factors affecting actual noise levels in the Central City area

Noise breaking out from within music and hospitality venues, and mechanical plant associated with them, is required to comply with the above noise limits. However, even when setting aside the prospect of operators

not complying with the noise limits, there are various reasons why noise levels experienced with the Central City may be higher than the District Plan limits at times, as set out below.

Cumulative noise from individually complying activities

Where compliance with the noise limits is achieved and there are multiple noise sources active at the same time, the cumulative noise levels received at a sensitive activity situated between the noise sources could be higher than is permitted by the noise limits, for any individual noise source. This may result noise levels in the order of 5 dB higher than the 'individual activity' limits where, for example, there is more than one music or hospitality venue in close proximity to a sensitive receiver.

Noise from people in outdoor areas complying with Rules 6.1.6.2.10

Noise from, for example, 40 people in an outdoor area may lead to a cumulative noise level of 65 dB L_{Aeq} or higher, being experienced at some receivers in Category 1 or 2 zones, when combined with complying break-out and mechanical plant noise.

Noise from people in public areas

Noise from people on the footpaths, congregating and queuing to enter venues is a well-documented source of additional noise in central city areas. Noise levels of 60 to 65 dB L_{Aeq} are likely to be generated by these sources in some situations.

Road traffic noise

While the Christchurch District Plan has controls to limit traffic noise received indoors (noise insulation standards, there are no explicit limits for traffic noise and noise levels are dependent on the volume and speed of traffic. Peak traffic noise on busy inner-city streets is likely to be in the order of 70 dB L_{Aeq} when considered as a 24-hour average. Night-time levels will be lower than this average value – typically between 60 and 70 dB L_{Aeq} depending on the road and time of night.

Te Kaha (CMUA)

Noise from Te Kaha stadium will at times contribute to cumulative noise levels. The District Plan permits up to six events that produce noise levels of 75 – 80 dB L_{Aeq} within the Inner noise insulation area and 70 – 75 dB L_{Aeq} in the Outer noise insulation area. Within both these noise insulation areas, when a high noise event is underway at the stadium the ambient noise environment will be completely dominated by noise from the stadium, and noise levels from activities complying with the District Plan noise limits would not significantly contribute to overall noise levels.

As is discussed further below, the current acoustic insulation requirements which apply for the Inner and Outer noise insulation areas will not always reduce the noise level received in bedrooms to within the range recommended by AS/NZS 2107:2016. Rather, these insulation requirements have been developed based on what is practically achievable and the low number of yearly high noise events allowed at the CMUA.

4.0 THE CHALLENGES FOR MUSIC AND HOSPITALITY VENUES IN INTERNALISING THEIR EFFECTS

Music and hospitality venues could readily coexist alongside non-noise sensitive receivers, if they internalised their effects. Based on review of the complaint information provided by the Council, and our experience with assisting music and hospitality venues to manage their noise emissions throughout the country, we have provided a summary below of the challenges that this concept poses in reality.

4.1 Control of break-out noise from music

While the WHO recommends music is limited to 100 dB L_{Aeq} inside entertainment venues to prevent hearing loss, music noise levels within music and hospitality venues may regularly be in the range from 100 to 110 dB L_{Aeq}.

In order to comply with the general order of noise limits outlined in tables 3.1 and 3.2 above, for a venue hosting music at these volumes, the following is likely to be required:

- A sound lobby entrance
- High mass external envelope (walls and roof, with no glazing), or a 'box within a box' design.
- Mechanical ventilation so windows or doors do not need to be opened to provide cooling and fresh air. This system must be able to cope with the loads generated by a crowd of energetic people.

Our observation is that music and hospitality venues rarely establish in purpose-built buildings with the above features, and that the use of repurposed industrial or general retail buildings or tenancies is most common. We assume there are a range of commercial and societal reasons for this, which are unlikely to change.

To provide an illustration of the variety of outcomes achieved in reality, in table 4.1 we have summarised the outcomes of measurements we have previously undertaken of actual noise break-out from several different music venues with varying levels of insulation. We have supplemented that information with indicative calculations for a variety of other scenarios. We note that these levels are indicative and except where noted do not include shielding from nearby buildings. The predicted noise levels assume an internal music noise level of 105 dB $L_{Aeq,}$ and the 'measured' levels have also been standardised to an internal level of 105 dB L_{Aeq} – noting some music venues would operate at 5 or 10 dB below this level, which would be more beneficial to patrons' health (but some are also louder).

Table 4.1 – Indicative music break-out noise levels (dB L_{Aeq})

Situation	Distance from venue building			
	3 metres	10 metres	20 metres	50 metres
Repurposed general warehouse (Entry door opens direct to venue, lightweight roof, lightweight walls, single glazing / louvre windows, natural ventilation)	76	73	70	58
Repurposed modern retail tenancy (ground floor) (Glazed 'shop front' facade to two sides, glazed sliding doors and glazed hinged emergency exit doors to side, flanking via soffit)	69		69 (opposite the entry doors)	
As above, with 'practicable' mitigation added (Entry door lobby added. Glazed facades internally lined with plasterboard)	67		62 (opposite the entry doors)	
Repurposed general industrial building (Single entry door (frequently open), concrete facade, roof 0.4 mm profiled metal with a 15 mm plywood sarking layer underneath)			66 (opposite the entry doors)	60 (dominated by noise via roof)
Repurposed heavy industrial building (Concrete facade, single glazed)		59		35 (via concrete facade) 48 (including patrons in an outdoor area)
Purpose built venue (Entrance door lobby, all openable doors and windows that open directly to venue are orientated away from sensitive receivers, lightweight roof with solid lining and fibrous insulation, concrete walls, double glazing, mechanical ventilation)	50	45	42	30

As shown in table 4.1 a noise limit of 60 dB L_{Aeq} will often be challenging for a music venue to achieve, except when it is a purpose-built venue or there are larger separating distances to the nearest receivers. A wider range of scenarios can comply with a 65 dB L_{Aeq} limit; however, to provide a genuinely 'uninhibited' rule regime, a limit of 70 dB L_{Aeq} would be required (if venues wish to operate at internal noise levels of circa 105 dB L_{Aeq}, and in most cases operate out of repurposed industrial, commercial or general retail buildings without needing to employ noise mitigation measures). We note that noise at a 70 dB L_{Aeq} limit is subjectively twice as loud as the noise which would be permitted by the current 60 dB L_{Aeq} limit.

4.2 Outdoor music

If venues wish to host music for 'entertainment' outdoors, noise levels may be in the order of 80 to 90 dB L_{Aeq} at a distance of 10 metres. In that case a setback of several hundred metres would be required to comply with a 60 dB L_{Aeq} noise limit. It is not realistic for venues to expect to be able to operate in this way, and comply with any conventional noise limits. A Resource Consent process may be appropriate in these circumstances, to determine what restriction around frequency and duration of operation may be appropriate for this type of activity.

Outdoor speakers are more commonly used to provide 'background music' in outdoor hospitality areas. It is realistic for speaker levels to be calibrated to comply with typical city centre noise limits, and still provide adequate 'background level' music. Challenges exist when live music is used, as the sound cannot be readily calibrated.

4.3 Patrons in outdoor areas, waiting for admittance and on the street

As above, people in these situations may generate noise levels in the order of 60 – 65 dB L_{Aeq}. Beyond basic host responsibility practices, there is often little that venues can practicably do to reduce this noise. Common acoustics solutions such as solid screening are typically considered to be undesirable by operators, as visibility from the street is desirable from a commercial perspective and/or solid screening creates perceived CEPTD issues.

5.0 THE CHALLENGES WITH PROVIDING SOUND INSULATION TO SENSITIVE ACTIVITIES

Where noise levels may be elevated in a city centre during the night-time, a common approach is to require noise sensitive activities to be provided with an enhanced level of sound insulation. This is a useful concept in the context of new, planned noise sensitive activities. Existing noise sensitive activities already embedded in city centre environments obviously continue to pose a challenge – and we are not aware of any situations where a District Council required such receivers to be upgraded retrospectively. There do appear to be some examples of situations where the noise limits were modified to be more lenient (i.e., residential to commercial zoning) such that existing noise sensitive receivers may now experience inappropriate levels within bedrooms, with no particular consideration of 'existing use rights' or the like.

There are two common methods of articulating noise insulation requirements for sensitive activities – either a target internal level is specified, or a set level of facade performance is specified.

A 'target internal noise level' approach is typically used where the location and noise levels from an external noise source are easily definable and are not expected to change significantly over time (or will change in a predicable way). Common applications for this kind of rule are for traffic, port, and aircraft noise. There are well defined procedures for assessing noise from traffic, port, and aircraft noise which allow for relatively simple assessment of external noise levels. From these external noise levels, the internal noise levels in a dwelling can be calculated, based on the acoustic performance of facade elements. The advantage of using internal noise limits is that noise insulation can be applied proportional to the predicted noise received at each facade, resulting in greater cost efficiency for acoustic insulation.

Where locations of sources and noise levels are subject to change in an unpredictable manner (such as is often the case in central city locations), analysis of internal noise levels based on existing measured noise levels is not a rigorous approach to protect sensitive receivers, and future noise levels are impossible to predict. This is the advantage of using facade performance standards – an assessment for external noise levels is not required.

The disadvantage of using facade performance standards for noise insulation is that noise insulation may be required in locations where it may not actually be necessary, i.e. on facades that are already acoustically shielded or facing away from a noise source. However, in a central city situation, it would often be suggested in many of those situations, the blanket 'facade approach' was providing some level of future proofing, as the degree of shielding or location and level of noise sources on neighbour sites may change in the future. For Central City Entertainment Precincts the current District Plan generally adopts a 'facade performance' approach, for various locations and sources as outlined below.

5.1 Current District Plan approach

5.1.1 Noise category zones

Table 5.1 below lists the facade performance requirements for noise sensitive activities in various Category zones in the Central City. These requirements are articulated in terms of the $D_{tr,2m,nT,w} + C_{tr}$ parameter which loosely equates to the decibel reduction in noise from outside to inside where the source has a moderate level of low frequency content – for example, traffic noise.

Facade performance standards are typically formulated such that internal noise levels will comply with the guidance outlined in section 2.0 above, in the presence of external noise at whatever maximum levels are foreseen in the Zone. However, where the noise source is music, the performance of the facade will often be lower, as building elements are less effective at reducing noise with significant low-frequency content that may be present from music venues.

Table 5.1 – Summary of current Central City noise rules

Noise zone	External noise limits	Facade sound insulation requirements
Category 1	*All except discrete outdoor entertainment events* 0700 – 0300: 60 dB L_{Aeq}, 85 dB L_{AFmax} 0300 – 0700: 60 dB L_{Aeq}, 75 dB L_{AFmax} *Discrete outdoor entertainment events* All times: 65 dB L_{Aeq}, 85 dB L_{AFmax}	*Category 1* Not applicable as sensitive activities are not Permitted without a Resource Consent in Category 1 areas
Category 2	*All except Victoria Street area* 0700 – 0100: 60 dB L_{Aeq}, 85 dB L_{AFmax} 0100 – 0700: 50 dB L_{Aeq}, 75 dB L_{AFmax} *Victoria Street area* 0700 – 2300: 55 dB L_{Aeq}, 85 dB L_{AFmax} 2300 – 0700: 50 dB L_{Aeq}, 75 dB L_{AFmax}	*Category 2* 35 dB $D_{tr,2m,nT,w} + C_{tr}$ – bedrooms 30 dB $D_{tr,2m,nT,w} + C_{tr}$ – other habitable *Category 3 (within 75 metres)* 30 dB $D_{tr,2m,nT,w} + C_{tr}$ – bedrooms
Category 3	0700 – 2300: 55 dB L_{Aeq}, 85 dB L_{AFmax} 2300 – 0700: 45 dB L_{Aeq}, 75 dB L_{AFmax}	*Bedrooms in CB, CCMU, CSF and CL or within 75 metres of Category 1* 30 dB $D_{tr,2m,nT,w} + C_{tr}$ *Adjacent to Category 1* 35 dB $D_{tr,2m,nT,w} + C_{tr}$ – bedrooms 30 dB $D_{tr,2m,nT,w} + C_{tr}$ – other habitable
CMUA Inner noise insulation area	*Six times per year* 80 dB $L_{Aeq(15\ min)}$ *A further nine times per year* 75 dB $L_{Aeq(15\ min)}$ *All other events* 70 dB L_{Aeq}, 85 dB L_{AFmax} Finish by 2300 hours except on New Years Day at 0030 hours	35 dB $D_{tr,2m,nT,w} + C_{tr}$ – bedrooms 35 dB $D_{tr,2m,nT,w} + C_{tr}$ – other habitable
CMUA Outer noise insulation area		35 dB $D_{tr,2m,nT,w} + C_{tr}$ – bedrooms 30 dB $D_{tr,2m,nT,w} + C_{tr}$ – other habitable

We note that the District Plan does not currently require alternative ventilation systems where windows are required to be closed to meet these standards. If windows are cracked open for ventilation the actual outside to inside noise reduction will be much lower – in the order of 17 dB $D_{tr,2m,nT,w} + C_{tr}$.

The Central City limits summarised in table 5.1 demonstrate an interesting variety of approaches to the protection of noise sensitive activities during the night-time period. As discussed above, guidance in NZS 6802:2008, WHO and District Plan Objective 6.1.2.1.2 all consider sleep protection to be the primary objective during the night-time, and that in the order of 8 – 9 hours of sleep protection is required per night. As discussed in detail below, for dwellings with no particular sound insulation, night-time noise levels above 45 dB L_{Aeq} may be inappropriate.

Category 1

In Category 1 the noise limit is 60 dB L_{Aeq} during the whole night-time period with the exception of outdoor events where the limit is 65 dB L_{Aeq}. We note that residential activities and visitor accommodation are however listed as discretionary activities in the Category 1 Entertainment precinct. We are not aware of whether there were any existing noise sensitive activities in this area, when those rules were put in place.

Category 2

In Category 2 the noise limits during the night-time period are 60 dB L_{Aeq} from 2200 to 0100 hours, and 50 dB L_{Aeq} from 0100 – 0700 hours except in the Victoria Street area where the noise limits are 55 dB L_{Aeq} from 2200 – 0100 hours. This means that it is logical that sleeping areas in this area be provided with sound insulation. There are however existing noise sensitive activities in this area which have been in existence since before those rules were put in place, and these may have a low level of sound insulation.

Category 3

In Category 3 the noise limits are 45 dB L_{Aeq} for an 8-hour period over the night-time, which is adequate to protect uninsulated sleeping areas – however as above, the lack of a SAC penalty in the current Plan means this noise level may effectively be 50 dB L_{Aeq}. There is therefore some logic to requiring sleeping areas in this area to be provided with sound insulation. Again, however there are existing noise sensitive activities in this area which have been in existence since before those rules were put in place, and these may have a low level of sound insulation.

Te Kaha

As described above, even with the sound insulation requirements outlined in table 5.1 in place, noise from the CMUA may exceed the guidance discussed in section 2.0, during higher noise events. However, a fixed number of events are permitted at this level, with set finishing times.

5.1.2 Traffic noise insulation

The current Plan requires new buildings, or alterations or additions to existing buildings, intended for a sensitive activity in the Central City located within 40 metres of the edge of the nearest marked traffic lane of a Main Distributor, Local Distributor or Arterial road, to either:

- Be designed and constructed to achieve a minimum external to internal noise reduction of 30 dB $D_{tr,2m,nT,w} + C_{tr}$ to any habitable space; OR
- Be designed and constructed to meet an indoor road traffic noise design sound level of 40 dB $L_{Aeq\ (24hr)}$ inside all habitable spaces

For sleeping areas located in Category 1 or 2, or within 75 metres of Category 1 or 2, or within CMUA Outer or Inner noise insulation areas, the above traffic noise insulation requirements will already be met via compliance with the Category and CMUA insulation rules.

With regard to what level of façade performance is actually likely to be required to ensure a noise level of 40 dB or lower within habitable spaces:

- The Arterial roads (Bealey Avenue, Fitzgerald Avenue and Moorhouse Avenue) may generate a future noise level of greater than 75 dB $L_{Aeq(24\ hour)}$, so even a façade reduction of 35 dB $D_{tr,2m,nT,w} + C_{tr}$ may not be adequate.
- For Main Distributor roads, a façade reduction of 35 dB $D_{tr,2m,nT,w} + C_{tr}$ will be adequate, and a façade reduction of 30 dB $D_{tr,2m,nT,w} + C_{tr}$ may not be adequate.
- For Local Distributor roads, a façade reduction of 30 dB $D_{tr,2m,nT,w} + C_{tr}$ will be adequate – however having no acoustic upgrades is unlikely to be adequate.

Depending on the spatial extent of areas requiring a 30 and 35 dB $D_{tr,2m,nT,w} + C_{tr}$ façade reduction triggered by general 'central city' noise, it may be possible to dispense with a duplication of rules targeting traffic noise. The exceptions may be in proximity to Arterial Roads where 35 dB $D_{tr,2m,nT,w} + C_{tr}$ may not be adequate, and in proximity to Local Distributor Roads, where a 30 dB $D_{tr,2m,nT,w} + C_{tr}$ façade may be higher than required. In

addition, there are Main Distributor Roads where a 35 dB $D_{tr,2m,nT,w} + C_{tr}$ façade will be adequate but a 30 dB $D_{tr,2m,nT,w} + C_{tr}$ façade may be inadequate. Some compromise could be considered to keep the rules simple in these areas, or an 'internal sound level' requirement retained.

5.1.3 Overlapping requirements

The overlapping area between noise Categories 1 and 2, and the CMUA outer noise insulation contours is shown in red in figure 5.1.

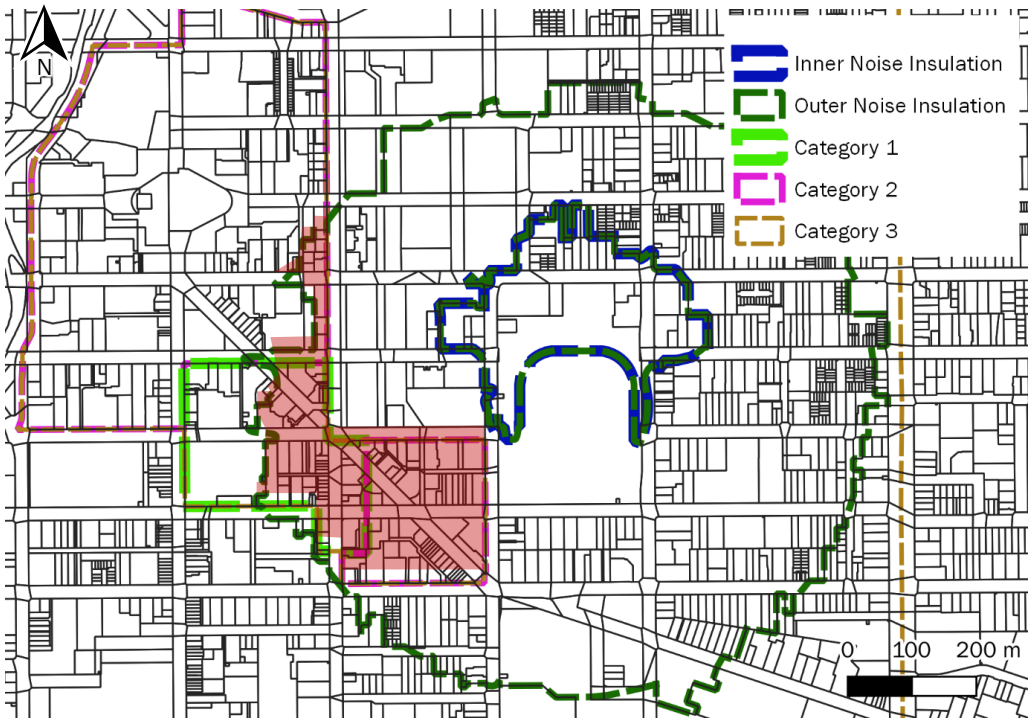

Figure 5.1 – Christchurch Central City noise overlays

Where the CMUA outer noise insulation overlay overlaps the Category 1 and 2 overlays, the noise insulation rules within each of those categories are effectively redundant. The sites within Category 1 that do not fall under the CMUA outer noise insulation overlay are the Bus Terminal, retail associated with The Crossing mall, and two smaller empty sites next to The Crossing mall – none of which are expected to be either particularly noise sensitive or noise producing.

All new residential dwellings to be developed within the CMUA outer noise insulation overlay will effectively have the same level of acoustic insulation as afforded by any developments within the Category 2 overlay, or adjacent to the Category 1 overlay.

5.2 Examples from other Districts

The level of sound insulation required by the current Central City Rules is similar to the noise insulation requirements for city centre areas in other District Plans in New Zealand. A sample of city centre noise insulation requirements from other District Plans is given in table 5.2 below.

Table 5.2 – City centre acoustic insulation requirements in other District Plans

City	Maximum typical night-time plan limit	Entertainment district or city centre sound insulation requirements
Dunedin	60 dB $L_{Aeq(15\ min)}$	30 dB $D_{tr,2m,nT,w} + C_{tr}$ for habitable rooms
Queenstown	60 dB $L_{Aeq(5\ min)}$ for music, excluding SAC, 65 dB $L_{Aeq(15\ min)}$ for voices Sound from any loudspeaker outside a building shall not exceed 75 dB $L_{Aeq(5\ min)}$ measured at 0.6 metres from the loudspeaker.	40 dB $R_w + C_{tr}$ for each facade element
Wellington	60 dB $L_{Aeq(15\ min)}$	35 dB $D_{tr,2m,nT,w} + C_{tr}$ for habitable rooms
Auckland	60dB L_{Aeq}, 65dB at 63 Hz L_{eq}, 60dB at 125 Hz L_{eq}	To achieve and internal noise level of 35 dB L_{Aeq} 45 dB at 63 Hz L_{eq} 40 dB at 125 Hz L_{eq}

The Styles Group report for Dunedin City Council described their current acoustic insulation requirements as 'relatively modest'.

The amount of acoustic insulation afforded by the Queenstown Rule is likely to result in an overall noise insulation in the order of 35 dB $D_{tr,2m,nT,w} + C_{tr}$, depending on the number of facades per room and room layouts. In some cases the noise insulation could be higher than 35 dB $D_{tr,2m,nT,w} + C_{tr}$.

We note that the performance requirements in Queenstown and Auckland are difficult to achieve and often require solid concrete facades with small window sizes – which is possible to design around if that is known when someone purchases a site with a vision in mind for the building. However, in reality the acoustic review only occurs after a site is purchased and a building concept is well developed – at which time the required upgrades are considered to be impractical. The Auckland requirements also introduce some technical difficulties, as noise level and facade performance cannot be reliably predicted at 63 Hz.

5.3 Practical challenges

The key practical challenges using a facade insulation Rule to offset high permitted noise levels from music and hospitality venues are that:

- As alluded to above, where the noise source is high level entertainment music which has already broken out of a building, it will be dominated by low frequency sound. It is particularly difficult to insulate against low frequency sound.
- Existing noise sensitive receivers are already scattered through the Central City, with varying levels of sound insulation.
- There is a practical limit to the level of sound insulation which can be provided by a new building. Requiring a very high level of sound insulation in a Rule is effectively 'prohibiting by stealth' – and it would be more appropriate to use other planning controls to prohibit new noise sensitive uses in such areas, than to lead developers into attempting to progress and then abandoning unworkable designs.

These issues are explored further below.

5.3.1 Challenges of low frequency sound

A comparison of typical frequency content for traffic and entertainment noise are shown below in figure 5.2.

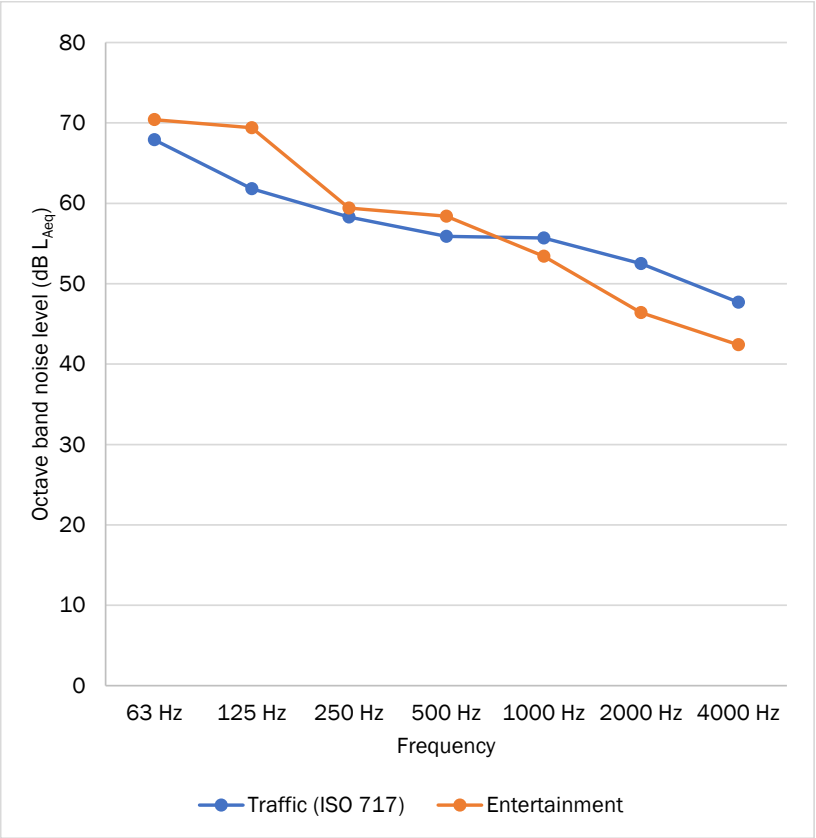

Figure 5.2 – Typical traffic and entertainment noise spectra for a 60 dB noise source

When applied to a facade with a nominal performance of $D_{tr,2m,nT,w}$ + C_{tr} of 30, the resultant internal level would be 30 dB L_{Aeq} for the traffic noise spectrum, but for the same facade and a typical music source the level would be 33 dB L_{Aeq},

We also note that as lightweight constructions and glazing do not perform well in insulating against low frequency noise the SAC are more defined when received within bedrooms. The indicative expected sound level in the rooms is shown in table 5.3 below – showing that the dominant frequencies are 500 Hz and below.

Table 5.3 – Music noise levels received in a typical room from a 60 dB L_{Aeq} external level when insulated with 30 dB $D_{tr,2m,nT,w}$ + C_{tr} building envelope

Receiving Level dB L_{Aeq}	Octave band							Overall
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	
	21	30	27	26	15	2	-1	33 dB L_{Aeq}

These issues should be taken into account when considering what the relationship between external noise limits for music and hospitality sources, and what a nominal level of facade sound insulation expressed in terms of $D_{tr,2m,nT,w} + C_{tr}$ will be.

5.3.2 Indicative levels of sound insulation

As the noise insulation requirements for a dwelling increase, the required physical build-up of its walls, glazing and roof increase exponentially. The indicative requirement to achieve various facade insulation standards are outlined below.

17 dB $D_{tr,2m,nT,w} + C_{tr}$

Can be achieved by most common building constructions, including older dwellings, where windows are opened for ventilation. Only likely to be acceptable if the external noise level is less than 45 dB L_{Aeq}.

20 dB $D_{tr,2m,nT,w} + C_{tr}$

Can be achieved by most common building constructions, including older dwellings, however this reduction will not be achieved where windows are opened for ventilation.

25 dB $D_{tr,2m,nT,w} + C_{tr}$

Can be achieved by most modern building elements, provided that the building is constructed to a high standard without opening windows for ventilation.

30 dB $D_{tr,2m,nT,w} + C_{tr}$

Spaces built to this performance will require some moderate upgrades to standard building constructions, including mechanical ventilation and increased mass to facade elements and acoustic glazing upgrades. Acceptable for situations with accumulated external noise levels up to 60 dB L_{Aeq} even allowing for the extra annoyance of a bass beat and reduced level of sound insulation due to low frequency content of the sound.

35 dB $D_{tr,2m,nT,w} + C_{tr}$

Extensive acoustic upgrades, including high-mass facade elements, increased mass and resilient connections for ceilings, and high-end acoustic glazing or double windows. Junctions and penetrations should be confirmed to ensure no acoustic weak points in the design. Requires mechanical ventilation. Effectively a 32 dB music noise reduction. Acceptable for situations with accumulated external noise levels up to 65 dB L_{Aeq} even allowing for the extra annoyance of a bass beat and reduced level of sound insulation due to low frequency content of the sound.

40 dB $D_{tr,2m,nT,w} + C_{tr}$

This would only be achieved with very high mass wall facade elements (concrete or brick), additional high mass / resilient roofing elements (i.e., sarking, additional plasterboard, resilient ceiling clips), and double windows (with minimum 100 mm between panes) for all glazing. The total area of glazing elements should be limited. Proprietary acoustic doors achieving a high level of acoustic separation would be required. Detailing of the design should be carefully checked for points of acoustic weakness. This amount of noise insulation is unlikely to be practical in most cases unless the form and layout of the building was developed with the acoustic design as the key priority. Acceptable for situations with accumulated external noise levels up to 70 dB L_{Aeq} even allowing for the extra annoyance of a bass beat and reduced level of sound insulation due to low frequency content of the sound.

6.0 DISCUSSION

Key observations based on the above are outlined below.

Appropriate noise levels and limits

- It is appropriate to seek to achieve the internal noise levels within existing and new noise sensitive buildings outlined in NZS 6802:2008, WHO Guidelines for Community Noise and AS/NZS 2107:2016.
- The current Central City Category 1 and Category 2 (except Victoria Street) noise limits are moderate, and largely in line with what is in place in other city centres in New Zealand.
- The noise limits are likely to currently enable scenarios where dwellings which existed before the Central City Recovery Plan and continue to be occupied, could experience internal noise levels exceeding the guidance outlined in section 2 above. The Category 3 noise limits permit night-time noise exceeding the guidance outlined in section 2 above, where sounds contain SAC.
- Actual noise levels experienced by noise sensitive receivers in the Central City may regularly be higher than the noise limits, for a number of legitimate reasons such as accumulation of noise from multiple sources (although our review of the complaints register indicates that most complaints specify a single source i.e., music / bass), uncontrolled people noise and noise from road traffic. Much higher noise levels will also be generated by the CMUA, on specific occasions.

Music and hospitality venues

- The establishment of music and hospitality venues in repurposed industrial, commercial or general retail buildings or tenancies is most common. We assume there are a range of commercial and societal reasons for this, which are unlikely to change.
- Unless they are established in purpose-built buildings, music and hospitality venues are likely to require a noise limit of 70 dB L_{Aeq} to operate in a relatively uninhibited way. They are likely to be able to comply with a 65 dB L_{Aeq} limit in some circumstances, with some attention to noise management and mitigation. Additional mitigation measures such as significant building upgrades are often required to comply with a 60 dB L_{Aeq} limit.
- Venues can play music at 'background level' in outdoor areas; however, it is not realistic for music and hospitality venues to aspire to host music at above a 'background level'; (e.g bands or dj's) in outdoor areas. Large set-backs, in the order of 100 metres, would be required to meet noise limits as permitted activities.

Sound insulation for noise sensitive receivers

- The current District Plan sound insulation approach which revolves around stipulating 'facade insulation' requirements is appropriate, as this is the most practical approach in the face of uncertainty around exact external levels, and future changes in external levels.
- The current District Plan approach is however complex, there are overlapping requirements, and it does not appear that it will necessarily always result in new dwellings having internal noise levels which comply with the guidance outlined above.
- The specific levels of facade insulation required in the current District Plan are similar to those required in other city centres in New Zealand, but stop short of a level which is often found to be impracticable to achieve (40 dB $D_{tr,2m,nT,w} + C_{tr}$).

- Sound with significant low frequency content and a distinctive 'bass beat' is difficult to insulate against, and may cause annoyance at greater rates that the absolute noise level alone would suggest.

- Any existing uninsulated dwellings in the Central City would ideally not be exposed to external noise levels exceeding 45 dB L_{Aeq}. Since the current Rules have been in effect, various 'new' dwellings have been constructed to a level of quality which means they could reasonably be subjected to external night-time noise levels of 60 to 65 dB L_{Aeq}.

- If the night-time noise limit for music and hospitality venues was increased to 70 dB L_{Aeq}, dwellings in the area would need to protect themselves with a facade reduction of 40 dB $D_{tr,2m,nT,w} + C_{tr}$. That level of facade performance is unlikely to practical to achieve.

Our recommendations to be explored based on the above are:

Noise received in Residential Central City Zones

If these areas contain predominantly unupgraded / uninsulated noise sensitive activities, it seems most appropriate that a simple 55 dB L_{Aeq} (day-time) / 45 dB L_{Aeq} (night-time) limit should apply, including conventional accounting for SAC.

Potentially a more lenient day-time noise limit could be considered, taking into account expectations of amenity of those choosing to live in the Central City. However, a night-time limit of greater than 45 dB L_{Aeq} is not appropriate in areas dominated by unupgraded / uninsulated noise sensitive activities, and where 'residential' is primary future use envisioned by the Plan.

A traffic noise insulation rule equivalent to that which applies outside the Central City would be appropriate for new dwellings which are to be constructed near busy roads. No other sound insulation requirements are logical, if the above noise limits are in place. Further sound insulation requirements for new dwellings would only make sense if the longer term vision for these areas was to transition them to 'mixed use'.

'Mixed use' zones such as Commercial Central City Business Zone and Commercial Central City Mixed Use Zone

Potentially a much simpler noise limit regime could be applied for noise received at sites in these areas (apart from specific areas with more lenient Rules as discussed below), with a consistent day and night-time limit of 60 or 65 dB L_{Aeq}. Consideration would need to be given to whether this approach put existing noise sensitive activities in a compromised position, if they do not have a level of sound insulation which would be adequate in the face of such noise levels. It may be a difficult exercise to identify and consider each instance of existing noise sensitive activities in these zones. On the other hand, neither the Category 1 night-time noise limit (60 dB L_{Aeq}), Category 2 night-time noise limit (50 dB L_{Aeq}) or category 3 night-time noise limit (45 dB L_{Aeq}, but equivalent to 50 dB L_{Aeq} if sound contains SAC) currently actually provide appropriate protection for unupgraded / uninsulated noise sensitive activities.

While not intended to specifically enable uninhibited music and hospitality activity, as demonstrated in section 4.0 above, a limit of 60 or 65 dB L_{Aeq} would allow most venues already located in those areas to operate in a complying manner – with some attention to noise management and mitigation.

We consider that the above simple noise limit regime in 'mixed use' zones should be accompanied by a blanket 35 dB $D_{tr,2m,nT,w} + C_{tr}$ facade reduction requirement for new noise sensitive activities. While this may be higher than necessary in some current circumstances, as above a major impediment to wholesale improvement of the arrangement in the Central City is dwellings which have been constructed in the past with no or modest sound insulation. The stock of dwellings in the Central City gradually evolving to be consistently well insulated will mean that in the future, an equivalent exercise to this one may actually be able to identify parts of the Central City where more flexibility can be provided with noise limits.

This overall approach obviously moves away from the current 'Noise Category' regime. But our observations are:

- In locations such as Victoria Street, the Noise Category boundaries follow the underlying zone boundaries anyway, so the above regime of more conventional noise limits based on the zoning of the site receiving the noise would provide the same level of protection to Residential Central City Zone receivers.

- The more central Category 1 and 2 areas appear to have poorly matched actual subsequent land use changes – with the majority of the Category 1 being redeveloped in ways which may mean the likelihood of it being the hub of current or future music and hospitality activity are low. The likelihood of the central Category 2 area becoming such a hub also seems no higher or lower than the balance of the Commercial Central City Business Zone and Commercial Central City Mixed Use zones in the Central City which are currently 'Category 3'. The establishment of a cluster of venues at the eastern end of St Asaph Street was not anticipated by the 'Category' system, and we consider that future trends and changes are equally as uncertain. The completion and commencement of operations of the CMUA is presumably a relevant factor. As above, the available building stock and other commercial drivers in an area also seems to be a key factor which is relevant to whether any sub-area of the Central City will ever be of interest to music and hospitality activity venues.

Given that the noise limits in the Category 1 and 2 areas were not particularly enabling anyway for music and hospitality venues, and as above were not adequate to protect uninsulated residential receivers, we would currently favour reverting to a much simpler regime based on the underlying zoning, than attempting to adjust the Category 1 or 2 areas to cater for perceived 'current demands' or anticipated 'future demands'.

There may be some concern about the cost to developers of a blanket 35 dB $D_{tr,2m,nT,w} + C_{tr}$ facade reduction requirement for new noise sensitive activities. However, we consider that a forward looking approach is needed, which clearly commits to moving towards a genuine well functioning 'mixed use' environment.

Areas to specifically cater for higher noise music and hospitality activities

Consideration could be given to whether there are any areas within the Central City where the noise limit could be increased to 70 dB L_{Aeq} to enable less inhibited music and hospitality activity. As above, issues with the current Category 1 and 2 regime appear to us to be that the limits were still more restrictive than venue operators would prefer, and suitable building stock and other commercial drivers in those specific areas meant that they were/are not available, or of interest.

Key issues, when attempting to identify any potentially suitable area, are:

- Whether it has suitable buildings and arrangement / proximities to other parts of the Central City, which are likely to be of commercial interest to music and hospitality operators. As demonstrated in table 4.1, repurposing of relatively modest industrial, commercial and retail building / tenancies appears to be a common preference. Engagement with 'the industry' would be required to understand these issues better.

- Whether the area is intermingled with existing residential which is not equipped with adequate sound insulation to withstand such noise levels, and whether there is a suitable buffer to residential activities outside the area. As above, a separation of several hundred metres from any uninsulated noise sensitive activities is potentially required.

From our initial review, it is not clear if any such areas exist. A detailed mapping exercise may help progress this issue. Our experience is that in the Commercial Central City Mixed Use zone, even during a careful site by site review, from the street it can be difficult to determine if there is a residential unit on the second floor above commercial uses.

It is outside out expertise to consider whether it is appropriate to proceed even if some existing residential activities were to be compromised (noting as above the Central City Recovery Plan already appears to have put some uninsulated existing residential in that situation).

If such an arrangement were to be enabled by the Plan (an area with a 70 dB L_{Aeq} noise limit), it would need to be accompanied by controlling new noise sensitive uses in the area, at least assign a planning status to such activities which strongly signalled that it may be impractical to provide adequate sound insulation to protect noise sensitive activities in that area (40 dB $D_{tr,2m,nT,w} + C_{tr}$). We acknowledge that this would compromise a 'mixed-use' ideal.

We have considered as an alternative whether the 'agent of change' concept suggested by the Council could be useful. In this context we would see that as rather than noise limits based on zoning or categories, venues in a nominated area could have a limit of 70 dB L_{Aeq} for noise received at non-sensitive receivers. A lesser limit would apply for any existing noise sensitive receivers in the vicinity (set at a level appropriate to what is known about the level of sound insulation incorporated into the receiver design). This would presumably range between 45 dB L_{Aeq} for an uninsulated receiver, and 65 dB L_{Aeq} for a receiver known to have facade reduction of 35 dB $D_{tr,2m,nT,w} + C_{tr}$. New noise sensitive receivers wishing to move into the area would need to provide a level of sound insulation appropriate to whatever the then-established noise producers were legitimately permitted to emit.

While that system would provide some flexibility and only limit venues where necessary, in our view:

- It would be impractical for those looking to establish a music and hospitality venue to locate and understand the construction of all existing noise sensitive activities in the area, because this would require significant acoustic consultant input to identify the noise reduction performance of existing dwellings
- It would be impractical for those looking to establish a dwelling to understand what level of noise existing music and hospitality venues are actually permitted to generate in a specific location, because you would need to identify all potential noise contributors, and then to go to the council information desk to retrieve their Resource Consent information.
- Theoretically an interactive online map could be introduced to present the above operation, but it would likely be impractical / require significant resources for the Council to track and adjudicate over all of the above.

We consider that there is a high risk that venues would underestimate how easy it would be to comply and commit to locations where uninstalled dwellings would limit them. We also consider that there is a high risk that potential developers of new noise sensitive properties would misunderstand how the regime worked, and similarly commit to sites before discovering they were unworkable.

APPENDIX A – GLOSSARY OF ACOUSTICS TERMINOLOGY

Ambient level	The total noise or vibration level that includes contribution from all sources of noise present in the testing environment.
Decibel, dB	The measured sound level is a sound pressure level and is typically presented in the units of Decibels dB. Without any further description this is an instantaneous unweighted level. There are various subscripts that can be added to this number to further define the level.
dBA, dB(A), dB L_A	A-weighted decibels. This is the dB level adjusted to replicate loudness for the human ear. Our hearing is more sensitive to mid frequency sounds and low and high frequency sounds of the same actual loudness are not perceived as being as loud. A deduction of the measured level of the parts of sound at low and high frequencies is made to provide the subjective noise level dBA.
dB $L_{Aeq\ (T)}$	The equivalent noise level can be thought of as the equivalent noise level, over a specific period of time (T). Due to the logarithmic scale of dB a few louder noise events in the measurement period will increase the overall dB L_{Aeq} level much more than they would the average (mean) on a linear scale. District Plan limits for general environmental noise are commonly in terms of $L_{Aeq,}$ with a 15-minute assessment period. Sometimes called the average noise level and is the most common descriptor to express noise. Some typical sound pressure levels include: 30 dB L_{Aeq} A quiet library or a quiet outdoor location in the country. 45 dB L_{Aeq} Typical office space or outdoor in a city at night. 60 dB L_{Aeq} Outdoors in a city centre during the daytime. 70 dB L_{Aeq} A car passing by on the street. 80 dB L_{Aeq} Loud music played inside a home. 90 dB L_{Aeq} A truck passing on the street. 100 dB L_{Aeq} A loud music concert. 120 dB L_{Aeq} Very loud noise, possibly causing discomfort.
dB $L_{AFmax,}$ dB $L_{ASmax,}$ Maximum noise level	The maximum sound pressure level in a measurement period, actually the average over 1/8 second for 'fast' L_{AFmax} or 1- second for 'slow' (L_{ASmax}). Suitable for describing most typical maximum noise events except for instantaneous sources such as gun-fire or back-fires.
$D_{2m,nT,w}$	Parameter for façade noise reduction which loosely equates to the decibel reduction in noise from outside to inside where the source has a typical human voice spectrum.
$D_{tr,2m,nT,w} + C_{tr}$	Parameter for façade noise reduction which loosely equates to the decibel reduction in noise from outside to inside where the source has a moderate level of low frequency content – for example, traffic noise.

L_{dn} Day-night sound level	The time-average (L_{Aeq}) sound level over a 24-hour period with the addition of 10 dB to night-time levels (from 10 pm to 7 am) to account for the increased annoyance by noise at night. For aircraft noise this is normally based on an average day over an extended period of time – for example a 3-month period, or a year.
L_{WA}	Sound power level – a calculated level used to determine the effective power of a source and calculate sound pressure levels at a distance
Sound Exposure Level (SEL or L_{AE})	Is the level if all the sound energy measured from a single event were to occur in one second. This takes into account both level and duration.

APPENDIX 2

APPENDIX 2 – AES LETTER: CENTRAL CITY MUSIC VENUES AND SENSITIVE ACTIVITIES – SUPPLEMENTARY INFORMATION

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File Ref: AC24013 – 05 – R1

4 November 2025

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Email: Holly.Gardiner@ccc.govt.nz

Dear Holly

Re: Central City - Music venues and sensitive activities
Supplementary information

Following the issue of our draft report *Central City - Music venues and sensitive activities* (AC24013 – 03 – R2 dated 13 February 2025), the Christchurch City Council (CCC) have asked us a number of questions, to help progress their thinking as to the appropriate approach for a Plan Change which resulted in some minor changes to that report (AC24013 – 03 – R3 dated 6 August 2025). As requested, this letter captures our responses on a number of those points, which were originally provided verbally in meetings and via email in the period from February to August 2025.

1.0 SPATIAL EXTENT OF NOISE LIMITS

The CCC have observed that there are already insulation requirements for bedrooms of 30 $D_{tr,2m,nT,w} + C_{tr}$, or 35 $D_{tr,2m,nT,w} + C_{tr}$ in areas outside the current Category 1 and 2 Entertainment zones. Where the majority of the housing stock in those areas has been constructed since those requirements were put in place, it may be reasonable to relax the noise limits in those areas commensurate with the level of noise insulation provided by these requirements.

Table 1.1 below shows the current categories, zones and overlays that require bedrooms to be acoustically insulated in the Central City area.

Table 1.1 – Areas of the Central City where new bedrooms are currently required to be provided with a specified level of sound insulation

Facade sound insulation requirements for bedrooms dB $D_{tr,2m,nT,w} + C_{tr}$	Area
35	▪ Category 2 ▪ Category 3 adjacent to Category 1 ▪ CMUA Inner and Outer noise insulation area
30	▪ Category *3 (within 75 metres of Category 1 or 2)* ▪ *CB, CCMU, CSF and CL Zones*

In addition, all habitable spaces within 40 metres of the edge of the nearest marked traffic lane of a Main Distributor, Local Distributor or Arterial Road must be designed to achieve a minimum external to internal noise reduction of 30 dB $D_{tr,2m,nT,w} + C_{tr}$ or an internal noise level of 40 dB $L_{Aeq\ (24hr)}$.

We understand that the CCC is considering an option where the Categories are retained, but their spatial extent is modified to align with the existing bedroom insulation requirements. For example, a limit of up to 60 dB L_{Aeq} for noise from entertainment activities would generally be considered acceptable in areas which already require 30 $D_{tr,2m,nT,w} + C_{tr}$ for bedrooms (and could form the basis for a revised Category 2). A limit of 65 dB L_{Aeq} for noise from entertainment activities would generally be considered acceptable in areas which already require 35 $D_{tr,2m,nT,w} + C_{tr}$ for bedrooms (and could form the basis for a revised Category 1).

We note that existing noise limits actually vary widely across the areas nominated in table 1.1, and therefore such an approach would represent varying levels of change compared to the status quo. For example, a for a revised Category 1 based on the '35 $D_{tr,2m,nT,w} + C_{tr}$ façade requirement' areas in table 1.1 would cover some areas where the existing noise limits are 60 dB L_{Aeq} 24 hours a day, and others where the night time limit is as low as 45 dB L_{Aeq}.

In any revised Category 1 and 2 areas, there are also likely to be sensitive activities that were established before the current noise insulation rules became operative (in 2015 and updates for CMUA in 2022). These activities may therefore not be adequately insulated. In addition, where areas which were previously Category 3 become Category 1 or 2, there may be some newer (post 2015 but prior to 2022) sensitive activities that do not have acoustic insulation and therefore are not protected for noise over 45 dB L_{Aeq} at night-time.

As shown in table 1.1 above, the current Rules also include a 'buffer' beyond the Category 1 and 2 precincts (Category 3 within 75 m of Categories 1 and 2), within which an acoustic insulation requirement is applied. As noise producers are required to comply with the noise limits relevant for the site receiving the noise, there should technically be no need to retain a similar 'buffer' concept in any revised Rules. However, we do note in reality that where noise producers locate in a zone with a higher limit, they often do not think about the requirement to comply at more distant zones with lower noise limits. Hard transitions between Category 1 and Category 3 areas may therefore require some bespoke Rules, depending on the situation.

2.0 NOISE LIMIT RULE DETAILS

A number of the questions have related to the 'relatively minor' details of possible revised noise limit Rules which would apply within the various Categories, as outlined below.

2.1 The need for different L_{Aeq} limits at daytime and night time

Our focus to date has been on the situation at 'night time' – because that is both when people are trying to sleep, and when entertainment venues may be emitting the highest levels of noise. As above, the onset of 'night time' is typically understood to be 2200 or 2300 hours – and it does not make sense from an acoustic point of view to nominate a night time period commencing at 0100 or 0300 hours – as by then sleep will have been irrevocably degraded for the night.

For simplicity, we had envisaged 'daytime' L_{Aeq} limits being adopted which were the same numerical values as the night time L_{Aeq} limit. However it is still appropriate to define a 'night time period' in the Rules, as during the daytime noise is assessed differently under NZS 6802:2008 (essentially making the limits 5 dB more lenient for an intermittent daytime activity, despite a L_{Aeq} limit with the same numerical value), and it is only during the night limit that an L_{AFmax} limit should apply (discussed further below).

2.2 L_{AFmax} limits

NZS 6802:2008 explicitly states that an L_{AFmax} noise limit should be set where sleep protection is required and should only be set for night time hours. This is not the case in the current Plan, which applies an L_{AFmax} limit during daytime hours, and should be corrected.

As mentioned in our report the L_{AFmax} noise levels associated with entertainment venues are rarely more than 15 dB over the L_{Aeq} level and we do not expect L_{AFmax} noise to be problematic as a distinct issue, where there is compliance with the various proposed L_{Aeq} limits. However, it is conventional to provide the extra precaution of an L_{AFmax} limit during night time hours. An appropriate L_{AFmax} limit would be 15 dB above the numerical L_{Aeq} limit, and apply from 2300 to 0700 hours.

2.3 Should 'increased noise limits' apply to all activities?

We understand that the objective of this review is to create vibrant urban areas where a diverse and compatible mix of activities can coexist. As described in our report, there is a practical limit to the amount of noise insulation that can be provided by the façade of a new noise sensitive activity (typically in the order of 35 $D_{tr,2m,nT,w} + C_{tr}$), and there are also practical limitations to the 'at source' steps music venues can take to reduce their noise emissions (and so complying with noise limits below 65 dB L_{Aeq} can be difficult, especially when repurposing an older style venue). There is therefore a unique case to be made that in order for these activities to "coexist" and achieve the "vibrant urban area" objective, some compromise is needed which does not push the design or noise sensitive spaces beyond what is practicable and does not push music venues beyond what is practicable – even where there are various compromises from an acoustic point of view.

Such a case cannot however be made for a noise source such as mechanical plant or a light commercial / industrial activity. This noise would not commonly be understood to contribute to a vibrant urban environment, and it is typically readily practicable to design to comply with the current noise limits. In addition, while intensive at certain times, noise from music venues only typically approaches the noise limits for discrete periods over the course of a week. Those other noise sources could be continuous over both the day and night time, many days per week. That type of noise may also contribute to cumulative noise effects.

On principle, we would therefore prefer any increased noise limits to apply only to music and entertainment venues (or whatever other activities were judged to be key to "a vibrant urban area"). However, the definition of "music and entertainment venues" would need to be clear. Currently 'entertainment activity' is defined in the Plan as *the use of land and/or buildings principally for leisure and amusement activities other than sports, regardless of whether a charge is made for admission or not. It includes public performances, exhibitions, movie and live theatres, and ancillary workshops, storage, offices and retail activity.*

A number of obvious questions arise, if this definition were to be used in this context, such as:

- Would plant rooms be considered ancillary?

- How are offices associated with an entertainment activity defined?
- Is a dance studio an entertainment activity?
- Are public halls and church halls available for hire entertainment activities?
- Is a gym an entertainment activity?

An alternative approach would be to set a lower noise limit for a group of sources which could be more easily defined – for example, an L_{Aeq} noise limit which was 10 dB lower for 'mechanical plant'.

3.0 EXISTING LEVELS IN THE CITY

The CCC have asked us to provide an indication of what the existing noise levels are throughout the Central City, to provide some context to the discussion of possible limits of 65, 60, 45 dB L_{Aeq} and the like.

3.1 Historic measurement data

Our scope for this review did not extend to undertaking noise monitoring. We have however reviewed our files for noise measurements which we have previously completed in the city, which provide the following 'snap shots':

- Noise measurements were undertaken on Victoria Street on the early morning of Friday the 25th of September 2020 between 0045 and 0315 hours. Noise was between 52 and 58 dB L_{Aeq} on the edge of Victoria Street at approximately 0100 hours and had reduced to 48 - 56 dB L_{Aeq} by 0330 hours. The background dB L_{A90} was 44 – 55 dB.
- Noise measurements were undertaken on Welles Street and Manchester Street on from 2300 hours on Friday the 4th of November to 0300 hours on the 5th of November 2016. Noise was between 52 and 68 dB L_{Aeq}. The lower noise levels were recorded to the west of Welles Street, towards Colombo Street, while the higher noise levels were recorded along Manchester Street, between Welles and St Asaph Streets. Noise levels dropped by up to 5 dB after 0030 hours.
- Noise measurements were undertaken around the intersection of Kilmore Street and Montreal Street on Friday the 24th of February 2014 between 2100 and 0000 hours. Noise levels between 48 and 65 dB L_{Aeq} were recorded, including noise from traffic, the casino, pedestrians, and mechanical plant. The background dB L_{A90} was 44 – 52 dB.
- Noise measurements were undertaken on St Asaph Street on Wednesday the 13th of July 2022 between 2100 and 2200 hours. Noise levels between 55 and 63 dB L_{Aeq} were recorded, including noise from nearby venues.
- Noise measurements were undertaken on Welles Street on Friday the 28th of May 2023 between 2000 and 2300 hours. Noise was between 62 and 70 dB L_{Aeq} on the corner of Welles Street and St Asaph Street.

A reasonable summary based on the above is that existing ambient noise levels in the Central City typically vary between 50 and 70 dB L_{Aeq} during the night time, depending on time and location.

3.2 Historic noise modelling

As part of a previous Plan Change, we undertook noise modelling in 2008 and 2009 to determine the 24 hour average noise from traffic in zones adjacent to the Central City[1]. An example of the results is shown in figure 3.1 below.

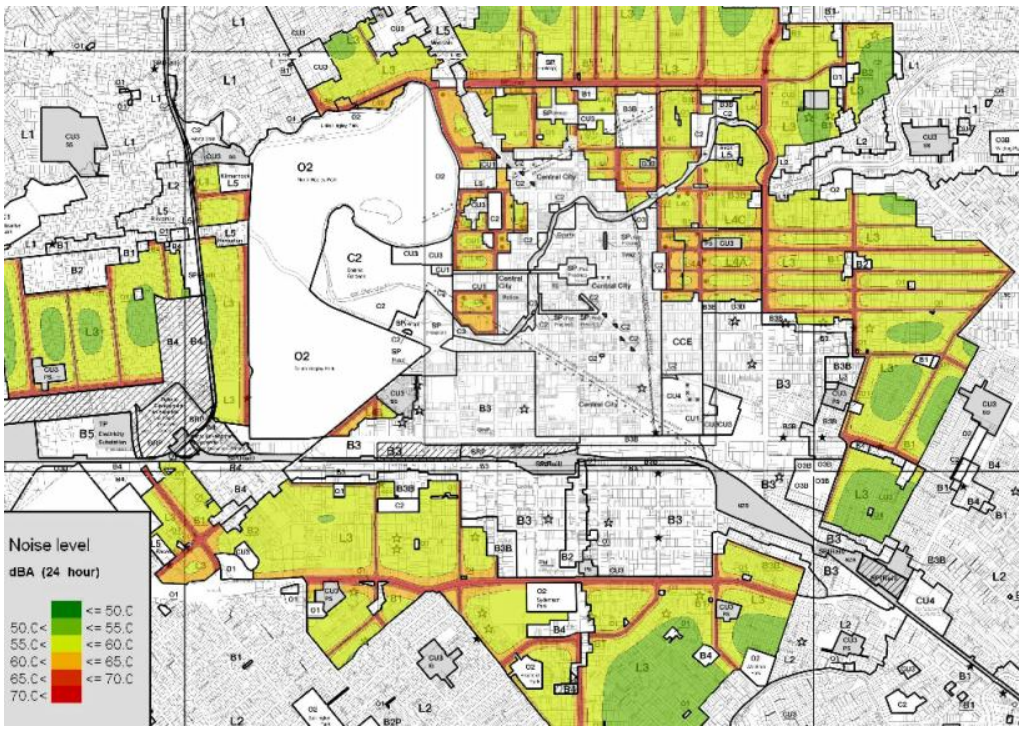


Figure 3.1 - Approximate expected traffic noise levels throughout central L3 and L4 zones (excluding contribution from roads carry less than 1000 vehicles per day)

As figure 3.1 shows, the 24-hour average noise level at that time exceeded 60 dB L_{Aeq} within 10 metres of many roads in the Central City. The associated night time levels in those locations would have exceeded 50 dB L_{Aeq}. These noise levels were verified by measurements.

4.0 MUSIC VENUE UPGRADES

We understand the CCC had commissioned a study of the likely costs associated with cost of music venues upgrading their buildings. To inform this study, we have considered what upgrades may be required to various types of music venue, to ensure they comply with a 60 or 65 dB L_{Aeq} limit.

4.1 Older warehouse style building

We have considered a space with the following attributes:

- 220 m^2 space

[1] Acoustic Report prepared for Christchurch City Council titled *Christchurch City Plan - Living 3 and 4 Zones: Noise* as prepared by Acoustic Engineering Services and dated the 23rd of July 2009.

- Roof: profiled metal roofing with 25 % polycarbonate panels for light.
- Front façade: Solid concrete construction - setback from road 10 m - double door entrance to hallway but open to venue
- Side walls: Open to alley on one side - concrete construction with single glazed windows and high level louvre openings
- Rear wall: Concrete construction with high level glazing and louvre openings - single rear entrance door.

Assuming such a space houses an internal music noise level of 105 dB L_{Aeq}, and is 10 – 20 metres from the nearest relevant receiver, to comply with a noise limit of 65 dB L_{Aeq} the following upgrades may be required:

- Adopt mechanical ventilation for the space.
- Lobby at front door.
- Change louvres to glazing (or replace with a timber framed wall with 13 mm GIB standard plasterboard lining, minimum 12 kg/m^2 cladding and fibrous insulation to the cavity).
- Cover glazing – with 13 mm GIB standard plasterboard lining on separate timber frame and fibrous insulation to cavity or alternatively install double glazing.
- Change back door to solid core and acoustic perimeter seals and threshold seal.
- Continuous 13 mm GIB standard plasterboard ceiling suspended below roof with fibrous insulation to cavity

In order to comply with a more stringent noise limit of 60 dB L_{Aeq} all the above upgrades, and the following additional upgrades, may be required:

- Rear single door (that doesn't open during operating hours). Introduce another door-set to form a lobby or change door to proprietary door-set rated STC 40
- Increase ceiling lining to two layers of 13 mm Standard GIB plasterboard or a single layer of 13 mm GIB Noiseline plasterboard.
- Double glazing for louvre windows – or replace with a timber framed wall with 2 layers of 13 mm GIB Noiseline plasterboard lining, minimum 12 kg/m2 cladding and fibrous insulation to the cavity)

4.2 Modern retail tenancy Ground Floor

We have considered a space with the following attributes:

- 280 m^2 space.
- Front façade: Largely double glazed and fibre cement façade with sliding glazed doors.
- Side wall: Open to alley largely glazed to 2.2 metres and fibre cement façade wall above glazing hinged double doors.
- Ceiling and other two walls: assumed to be internal.
- Assumed to have mechanical ventilation for retail numbers.

Assuming such a space houses an internal music noise level of 105 dB L_{Aeq}, and is 10 – 20 metres from the nearest relevant receiver, to comply with a noise limit of 65 dB L_{Aeq} the following upgrades may be required:

- Upgrade mechanical ventilation for the space for higher capacities.
- Include a lobby to front doors.
- Cover glazing and side doors – with 2 x 13 mm Standard GIB plasterboard lining on separate timber frame and fibrous insulation to cavity.
- Install a lobby at fire exit door.
- Add an additional 1 x 13 mm plasterboard to the wall lining above the glazing.

In order to comply with a more stringent noise limit of 60 dB L_{Aeq} all the above upgrades, and the following additional upgrades, may be required:

- Upgrade front sliding doors to hinged doors with acoustic seals
- Upgrade wall over windows to 3 layers of Gib Noiseline plasterboard and high-density insulation such as Pink Batts silencer
- Above windows, install 19 mm Gib Fyreline plasterboard

4.3 Internal access space in existing building with one external façade (such as office building)

We have considered a space with the following attributes:

- 150 m^2 space .
- Front façade: Double glazed windows across width of space with masonry construction elsewhere.
- Internal access.
- Assumed to have mechanical ventilation for retail numbers.

Assuming such a space houses an internal music noise level of 105 dB L_{Aeq}, and is 10 – 20 metres from the nearest relevant receiver, to comply with a noise limit of 65 dB L_{Aeq} the following upgrades may be required:

- Upgrade mechanical ventilation for the purpose of the space
- Cover glazing– with 13 mm Standard GIB plasterboard lining on separate timber frame and fibrous insulation to cavity.

In order to comply with a more stringent noise limit of 60 dB L_{Aeq} all the above upgrades, and the following additional upgrades, may be required:

- Upgrade wall over windows to 2 layers of Gib Noiseline plasterboard and high-density insulation such as Pink Batts silencer

We do note that there are many variables, and the actual costs for upgrading could vary considerably and include unforeseen costs that are typical for renovating existing buildings. These costs could include re-locating sprinkler systems, structural upgrades due to increasing the mass of ceilings or other elements and may also include wrapping/ lining duct work to control transmission via mechanical duct work – along with screening of mechanical plant, especially if additional plant is required given the change of use.

The extent of upgrades depends on a number of factors including the size of the venue, the distance to the nearest boundaries and also the ratio of elements that transmit low frequency sound readily to higher density elements. The scenarios considered above all have a large area of glazing, if windows/doors and other lightweight elements are a smaller proportion of the total façade then some of these proposed upgrades may not be necessary.

For venues in some locations, it may be more suitable to apply for an exceedance of the noise limits through a Resource Consent process (and thus avoid upgrades). This could include venues adjacent to existing high noise activities or activities that are not occupied at night-time.

5.0 RULE 6.1.4.3

Rule 6.1.4.3 limits the duration of Resource Consents for some activities in Category 3 precincts and is reproduced below.

> *6.1.4.3 Duration of resource consents for activities operating after 23:00 hours in Category 3 Precincts in Central City Mixed Use Zones*
>
> a. *In the Central City Mixed Use Zone and Central City Mixed Use Zone (South Frame), any resource consent granted under Rule 6.1.5 for activities operating after 23:00 hours in Category 3 Precincts shall be limited in duration to 7 years. For the avoidance of doubt, further resource consent/s for an additional 7 year term, or shorter duration, can be sought.*

The CCC have asked for our views on this Rule. We anticipate that this Rule was drafted to enable development early in the post-earthquake environment, and when there were still many unknowns about the development of the Central City. A number of years ago when the Rule was drafted, it was also less common to consider possible reverse sensitivity issues due to changing uses of neighbouring sites – it was more common to assess the situation 'as you found it'.

As the receiving environment was unusually undeveloped due to the post earthquake landscape, including the 7-year limit for Resource Consents in mixed-use areas allowed for noise generating development to be established quickly where there were no noise sensitive receivers at that time – even if this was not in areas where the Plan ultimately encouraged these activities in the longer term. The Rule therefore provided a level of future protection for any residential development that may have been constructed within the area during the 7-year period – as the appropriateness of the noise generating activities was to be re-assessed in due course.

Kind Regards,

Rewa Satory
B.E.(Mech.) MASNZ
Associate Acoustic Engineer
Acoustic Engineering Services

APPENDIX 3

APPENDIX 3 – NOISE INSULATION COST ESTIMATES

MEMO

SUBJECT: RICS NRM 1 Level 1 Construction Cost Estimate for Acoustic Insulation Requirements in Christchurch

Prepared by: Laco Yan, MRICS

Member of the Royal Institution of Chartered Surveyors, Quantity Surveyor and commercial advisor with over 20 years of experience in construction cost estimating, strategic cost planning, tender assessment, and contract/commercial advisory services. Also appointed as an ICC Arbitrator, with experience in dispute resolution and construction contract matters.

DATE: Updated 10 March 2026, response to review comments; first draft 20 May 2025

INTRODUCTION

This memorandum presents a strategic estimate of the likely construction cost implications associated with acoustic insulation requirements for residential units, and acoustic upgrade works for buildings proposed to be used as music venues. The estimate has been prepared as a strategic estimate informed by benchmarked component allowances, current market knowledge, and acoustic specialist advice on indicative upgrade measures. It aligns generally with the intent of an early-stage RICS NRM 1 Order of Cost Estimate and should be used for strategic planning and initial business case purposes only.

All figures are stated in New Zealand Dollars (NZD). The pricing basis is benchmarked to Christchurch market conditions as at Q2 2025 and has been retained as the base date for this strategic estimate. No escalation from Q2 2025 to the date of this updated memorandum has been applied unless stated otherwise.

The estimates cover both residential units in the Central City and three example music venue typologies. For the example music venues, the cost allowances are based on indicative façade and building upgrade measures identified through advice from Acoustic Engineering Services. Those measures have been used as the basis for pricing construction interventions associated with acoustic performance scenarios aligned with 65 dB LAeq and 60 dB LAeq at relevant nearby receivers. The purpose of this estimate is not to define the District Plan rule itself, but to indicate, at a strategic level, the likely construction cost implications of upgrades that may be required in response to potential District Plan acoustic requirements.

Given the strategic nature of the estimate and the absence of project-specific design development, site investigation, and building-specific validation, an indicative accuracy range of -30% to +40% should be assumed.

ESTIMATION LEVEL EXPLANATION

According to RICS New Rules of Measurement (NRM 1), an Order of Cost Estimate is prepared at the earliest stage of project definition to support strategic decision-making. At this stage:

- the estimate provides a high-level order of cost based on limited information;
- costs are informed by benchmarks, strategic allowances, and broad component assumptions rather than measured quantities;
- the purpose is to support initial option assessment, business justification, and policy-level consideration; and

- cost certainty remains limited until building-specific acoustic advice, scope confirmation, and design development are completed.

Although component allowances are shown later in this memorandum to illustrate likely cost drivers, they are indicative strategic allowances only. They should not be interpreted as measured tender quantities, detailed design confirmation, or a procurement-ready schedule of works.

SCOPE OF ESTIMATE

This estimate covers indicative construction costs only and includes:

- materials and associated installation labour;
- contractor's preliminaries and general requirements;
- contractor's overheads and profit; and
- a modest allowance for strategic-stage uncertainty within the assumed scope.

This estimate specifically excludes:

- Principal's costs;
- design fees and other professional services;
- building consent, resource consent, and associated authority fees;
- Body Corporate approvals, owner approvals, consultation processes, and any associated legal or agreement documentation costs;
- Principal-side project management, contract administration, and legal/professional advisory costs, unless expressly stated otherwise;
- project-level risk contingency;
- finance costs;
- inflation beyond Q2 2025; and
- GST.

No separate allowance has been made for abnormal project-specific risks such as asbestos remediation, significant services relocation, statutory upgrade consequences, structural deficiencies outside the assumed acoustic works, or other latent conditions.

SUMMARY OF COST ESTIMATES

Residential Units (Central City) Assuming a typical unit size of 80m^2

Standard	Indicative Cost Range	Approximate Rate per m^2
30 D2m,nT,w + Ctr Standard	$13,000 - $21,000 per unit	$160 - $265
35 D2m,nT,w + Ctr Standard	$23,000 - $35,000 per unit	$290 - $440
Mechanical Ventilation (Additional)	$ 4,000 - $11,000 per unit	$50 - $140

Music Venues (General Ranges)

Building Type	Area	65 dB LAeq scenario		60 dB LAeq scenario	
		Rate per m^2	Total Cost	Rate per m^2	Total Cost

Older Warehouse Style	220m^2	$800 - $1,115	$175,000 - $245,000	$1,135 - $1,545	$250,000 - $340,000
Modern Retail Tenancy	280m^2	$700 - $945	$195,000 - $265,000	$980 - $1,320	$275,000 - $370,000
Internal Access Space	150m^2	$435 - $635	$65,000 - $95,000	$665 - $935	$100,000 - $140,000

STRATEGIC COST CONSIDERATIONS

At this strategic stage, the estimates are informed by the following key considerations.

1. Building Typology and Acoustic Performance

- Existing building envelope: The base construction type significantly influences the likely extent of remediation. Masonry or heavier construction may require less extensive treatment than lightweight envelope systems.
- Area of glazing: Windows and glazed façade elements are often the weakest acoustic elements and may require more substantial upgrades. Buildings with higher window-to-wall ratios are likely to sit toward the upper end of the cost ranges.
- Required performance outcome: The additional performance improvement between the 65 dB LAeq and 60 dB LAeq scenarios is material and is expected to require more intensive treatment, resulting in higher cost.

2. Christchurch Market Factors

- Regional market conditions: Christchurch construction market conditions continue to reflect regional delivery constraints and specialist trade availability.
- Specialised materials and skills: Limited availability of acoustic products and specialist installers can create a premium for this class of work.

3. Major Risk Factors

No separate allowance has been included for the following risk items. These matters may warrant consideration within programme-level contingency or subsequent project-specific risk allowances.

- Asbestos assessment and remediation: Existing buildings, particularly those constructed before 2000, may contain asbestos-containing materials within walls, ceilings, or insulation systems. No allowance has been included for asbestos surveys, removal, air monitoring, delay impacts, or associated compliance costs.
- Existing services integration: Acoustic works may require modifications around electrical, fire protection, HVAC, plumbing, and data services. The estimate assumes a normal level of coordination only and excludes significant services relocation or replacement.
- Accessibility compliance: Acoustic modifications to entries, lobbies, circulation areas, or doors may trigger Building Code compliance consequences, including accessibility-related upgrades. No separate allowance has been included for those compliance-driven changes.

- Statutory approvals: Some upgrade works to existing buildings may trigger building consent or associated documentation requirements. These costs are excluded.

A project-specific asbestos survey and scope validation exercise is recommended before any detailed cost plan or funding decision is adopted.

DETAILED COST BREAKDOWN

1. Residential Units in Central City

1.1 Acoustic Insulation (30 D2m,nT,w + Ctr Standard): $13,000 - $21,000 per unit

Element	Cost Range	Notes
Glazing upgrades	$6,000 - $10,000	Includes replacement or enhancement of existing windows
Wall treatments	$5,000 - $8,000	Additional insulation and plasterboard linings
Acoustic sealing	$2,000 - $3,000	Perimeter and penetration sealing

1.2 Acoustic Insulation (35 D2m,nT,w + Ctr Standard): $23,000 - $35,000 per unit

Element	Cost Range	Notes
High-specification glazing	$12,000 - $18,000	Enhanced acoustic double or triple glazing
Enhanced wall treatments	$8,000 - $12,000	Multiple layers of acoustic plasterboard and insulation
Comprehensive acoustic sealing	$3,000 - $5,000	Enhanced sealing systems for all penetrations

1.3 Mechanical Ventilation Only: $4,000 - $7,000 per unit

Element	Cost Range (NZD)	Notes
Equipment	$2,000 - $4,000	Ventilation unit and accessories
Installation	$1,500 - $2,500	Labor, ducting, and electrical connections
Commissioning	$ 500	Testing and balancing

1.4 Mechanical Ventilation with Air Conditioning: $7,000 - $11,000 per unit

Element	Cost Range (NZD)	Notes
Equipment	$4,000 - $6,000	Ventilation unit and Heat pump systems
Installation	$2,000 - $4,000	Labor, ducting, refrigerant piping, and electrical
Commissioning	$1,000	Testing, balancing, and system programming

2. Older Warehouse Style Building (220m^2)

2.1 To meet 65 dB L_{Aeq} at the boundary: $199,765 ($908.02 per m^2)

Direct Construction Costs: $161,230

Item	Quantity	Unit	Rate	Amount
Mechanical Ventilation System				**$39,680**
Supply and install ventilation unit	1	Item	$18,750	$18,750
Supply and install ductwork	220	m^2	$45	$9,900
Supply and install diffusers and grilles	12	Each	$385	$4,620
Controls and commissioning	1	Item	$6,410	$6,410
Entry Lobby Construction				**$17,250**
Timber framing (90x45mm)	24	m^2	$125	$3,000
Acoustic door sets (STC 35)	2	Each	$2,850	$5,700
13mm GIB standard plasterboard (both sides)	48	m^2	$65	$3,120
Acoustic seals to perimeter of doors	16	m	$85	$1,360
Floor/ceiling plate and fixings	1	Item	$1,570	$1,570
Painting and finishing	48	m^2	$52	$2,500
Louvre Replacement				**$22,140**
Remove existing louvres	18	m^2	$120	$2,160
New double-glazing installation	18	m^2	$850	$15,300
Acoustic perimeter sealing	42	m	$68	$2,856
Finishing works	18	m^2	$101	$1,824
Glazing Treatments				**$44,250**
Timber framing for secondary walls	85	m^2	$134	$11,390
13mm GIB standard plasterboard	85	m^2	$65	$5,525
75mm acoustic insulation (R2.2)	85	m^2	$38	$3,230
Cavity battens and fixings	85	m^2	$24	$2,040
Surface preparation and finishing	85	m^2	$52	$4,420
Labor for installation	195	hr	$90	$17,645
Door Upgrades				**$9,660**
Solid core door replacements	3	Each	$1,250	$3,750
Acoustic perimeter seals	21	m	$85	$1,785
Automatic door bottoms	3	Each	$375	$1,125
Adjustments to frames and hardware	3	Each	$450	$1,350
Installation labour	18	hr	$92	$1,650
Ceiling System				**$28,250**
Suspension system	220	m^2	$32	$7,040
13mm GIB standard plasterboard	220	m^2	$35	$7,700
Acoustic insulation (R2.6)	220	m^2	$28	$6,160
Fixings and accessories	1	Item	$2,350	$2,350
Installation labour	55	hr	$91	$5,000

Additional Project Costs: $38,535

Item	Percentage	Base Amount	Amount
Contract management and Administration	6%	$161,230	$9,674
Contractor's Preliminaries & General / Onsite Overhead	9%	$161,230	$14,511
Offsite Overheads and Profit	3%	$161,230	$4,837

Contingency (for NRM Level 1)	5%	$190,525	$9,513

Total Cost for Warehouse - To meet 65 dB L_{Aeq} at the boundary: $199,765

2.2 To meet 60 dB L_{Aeq} at the boundary: $280,336 ($1,274.25 per m^2)

Direct Construction Costs: $226,260

Includes all items from those required to meet 65 dB L_{Aeq} at the boundary (161,230), plus:

Item	Quantity	Unit	Rate	Amount
Rear Door Improvements				**$14,190**
STC 40 proprietary door set	1	Each	$8,450	$8,450
Second door to create acoustic lobby	1	Each	$2,850	$2,850
Lobby construction (walls and finish)	1	Item	$2,120	$2,120
Installation labour	8	hr	$96	$770
Enhanced Ceiling Treatment				**$17,950**
Additional layer of 13mm GIB Noiseline	220	m^2	$45	$9,900
Additional fixings and accessories	1	Item	$1,750	$1,750
Surface preparation and finishing	220	m^2	$18	$3,960
Installation labour	25	hr	$94	$2,340
Enhanced Wall/Window Treatments				**$32,890**
13mm GIB Noiseline plasterboard	85	m^2	$85	$7,225
Additional high-density insulation	85	m^2	$42	$3,570
Enhanced acoustic seals	42	m	$125	$5,250
Acoustic resilient channels	85	m^2	$38	$3,230
Mastics and acoustic sealants	1	Item	$3,850	$3,850
Additional labor for enhanced installation	102	hr	$96	$9,765

Additional Project Costs: $54,076

Item	Percentage	Base Amount	Amount
Contract management and Administration	6%	$226,260	$13,576
Contractor's Preliminaries & General / Onsite Overhead	9%	$226,260	$20,363
Offsite Overheads and Profit	3%	$226,260	$6,788
Contingency (for NRM Level 1)	5%	$266,987	$13,349

Total Cost for Warehouse - To meet 60 dB L_{Aeq} at the boundary: $280,336

3. Modern Retail Tenancy Ground Floor (280m^2)

3.1 To meet 65 dB L_{Aeq} at the boundary: $218,499 ($780.35 per m^2)

Direct Construction Costs: $176,350

Item	Quantity	Unit	Rate	Amount
Mechanical Ventilation Upgrades				**$34,580**
Upgrade existing ventilation capacity	1	Item	$16,850	$16,850
Additional ductwork and diffusers	280	m^2	$32	$8,960
Controls and commissioning	1	Item	$5,720	$5,720
Integration with building management system	1	Item	$3,050	$3,050
Front Lobby Construction				**$22,475**
Timber framing (90x45mm)	36	m^2	$125	$4,500
Acoustic door sets (STC 35)	2	Each	$2,850	$5,700
13mm GIB standard plasterboard (both sides)	72	m^2	$65	$4,680
Acoustic seals to perimeter of doors	18	m	$85	$1,530
Floor/ceiling plate and fixings	1	Item	$2,250	$2,250
Painting and finishing	72	m^2	$52	$3,815
Glazing and Side Door Treatments				**$72,450**
Timber framing for secondary walls	145	m^2	$134	$19,430
Double 13mm GIB standard plasterboard	145	m^2	$105	$15,225
75mm acoustic insulation (R2.2)	145	m^2	$38	$5,510
Cavity battens and fixings	145	m^2	$24	$3,480
Surface preparation and finishing	145	m^2	$52	$7,540
Labor for installation	236	hr	$90	$21,265
Fire Exit Lobby				**$17,250**
Construction of fire-rated lobby	1	Item	$12,350	$12,350
Fire and acoustic rated door systems	2	Each	$2,450	$4,900
Additional Wall Lining				**$29,595**
13mm GIB standard plasterboard	185	m^2	$65	$12,025
Fixings and backing	185	m^2	$36	$6,660
Surface preparation and finishing	185	m^2	$42	$7,770
Labor for installation	35	hr	$89	$3,140

Additional Project Costs: $42,149

Item	Percentage	Base Amount	Amount
Contract management and Administration	6%	$176,350	$10,581
Contractor's Preliminaries & General / Onsite Overhead	9%	$176,350	$15,872
Offsite Overheads and Profit	3%	$176,350	$5,291
Contingency (for NRM Level 1)	5%	$208,094	$10,405

Total Cost for Modern Retail - To meet 65 dB L_{Aeq} at the boundary: $218,499

3.2 To meet 60 dB L_{Aeq} at the boundary: $307,459 ($1,098.07 per m^2)

Direct Construction Costs: $248,150

Includes all items from those required to meet 65 dB L_{Aeq} at the boundary(176,350), plus:

Item	Quantity	Unit	Rate	Amount
Front Door Upgrades				**$21,350**
Remove sliding doors	1	Item	$1,850	$1,850
Install hinged acoustic doors (STC 40)	2	Each	$6,750	$13,500
Perimeter acoustic seals	16	m	$125	$2,000
Automatic door bottoms	2	Each	$550	$1,100
Installation and adjustments	32	hr	$90	$2,900
Enhanced Wall Treatments				**$27,450**
Additional layer 13mm GIB Noiseline	185	m^2	$85	$15,725
High-density acoustic insulation	85	m^2	$48	$4,080
Additional labour for installation	85	hr	$90	$7,645
Specialized Plasterboard for Ceilings				**$23,000**
19mm Gib Fyreline plasterboard	185	m^2	$92	$17,020
Fire-rated fixings and accessories	185	m^2	$12	$2,220
Additional installation labour	42	hr	$90	$3,760

Additional Project Costs: $59,309

Item	Percentage	Base Amount	Amount
Contract management and Administration	6%	$248,150	$14,889
Contractor's Preliminaries & General / Onsite Overhead	9%	$248,150	$22,334
Offsite Overheads and Profit	3%	$248,150	$7,445
Contingency (for NRM Level 1)	5%	$292,818	$14,641

Total Cost for Modern Retail - To meet 60 dB L_{Aeq} at the boundary: $307,459

4. Internal Access Space (150m^2)

4.1 To meet 65 dB L_{Aeq} at the boundary: $76,385 ($509.23 per m^2)

Direct Construction Costs: $61,650

Item	Quantity	Unit	Rate	Amount
Mechanical Ventilation Upgrades				**$28,650**
Supply and install ventilation system	1	Item	$18,750	$18,750
Ductwork and terminals	150	m^2	$42	$6,300
Controls and commissioning	1	Item	$3,600	$3,600
Glazing Treatments				**$33,000**
Timber framing for secondary walls	65	m^2	$134	$8,710
13mm GIB standard plasterboard	65	m^2	$65	$4,225
75mm acoustic insulation (R2.2)	65	m^2	$38	$2,470
Cavity battens and fixings	65	m^2	$24	$1,560
Surface preparation and finishing	65	m^2	$52	$3,380
Labor for installation	140	hr	$90	$12,655

Additional Project Costs: $14,735

Item	Percentage	Base Amount	Amount
Contract management and Administration	6%	$61,650	$3,699
Contractor's Preliminaries & General / Onsite Overhead	9%	$61,650	$5,559
Offsite Overheads and Profit	3%	$61,650	$1,850
Contingency (for NRM Level 1)	5%	$72,747	$3,637

Total Cost for Internal Space - To meet 65 dB LAeq at the boundary: $76,385

4.2 To meet 60 dB L_{Aeq} at the boundary: $111,697 ($744.65 per m^2)

Direct Construction Costs: $90,150

Includes all items from those required to meet 65 dB L_{Aeq} at the boundary(61,650), plus:

Item	Quantity	Unit	Rate	Amount
Enhanced Wall Treatments				**$28,500**
Second layer 13mm GIB Noiseline	65	m^2	$85	$5,525
Premium high-density acoustic insulation	65	m^2	$76	$4,940
Acoustic resilient channels	65	m^2	$42	$2,730
Specialized acoustic sealant	65	m^2	$28	$1,820
Additional labour for installation	150	hr	$90	$13,485

Additional Project Costs: $18,450

Item	Percentage	Base Amount	Amount

Contract management and Administration	6%	$90,150	$5,409
Contractor's Preliminaries & General / Onsite Overhead	9%	$90,150	$8,114
Offsite Overheads and Profit	3%	$90,150	$2,705
Contingency (for NRM Level 1)	5%	$106,377	$5,319

Total Cost for Internal Space - To meet 60 dB LAeq at the boundary: $111,697

Further Considerations

1. Technical Acoustic Considerations

- Building element performance: The estimate assumes overall performance will be achieved through a combination of building element upgrades rather than over-specification of any single element.
- Flanking transmission: Indicative allowances assume that some treatment will be required to address flanking sound transmission paths.
- Ventilation requirements: Where openings must remain closed to achieve the required acoustic outcome, mechanical ventilation may become a material cost driver.

2. Practical Implementation Factors

- Occupancy during works: Construction sequencing and staging may vary depending on whether existing tenancies remain operational.
- Access limitations: CBD access constraints, building access limitations, and restricted working areas may affect delivery cost.
- Phasing requirements: Works to active venue spaces may require staged implementation, extended possession arrangements, or limited-hours working.
- Existing conditions: Actual building condition, hidden defects, and building-specific configuration may materially affect final cost.

3. Market and Economic Factors

- Material cost volatility: Market movement after Q2 2025 has not been built into this estimate.
- Energy efficiency overlap: Some façade or building services upgrades may also improve thermal performance, although no offset or lifecycle saving has been included in this estimate.
- Scale economies: Multi-unit or repeat-programme delivery may reduce average unit cost where procurement and installation efficiencies are achieved.

CONCLUSION

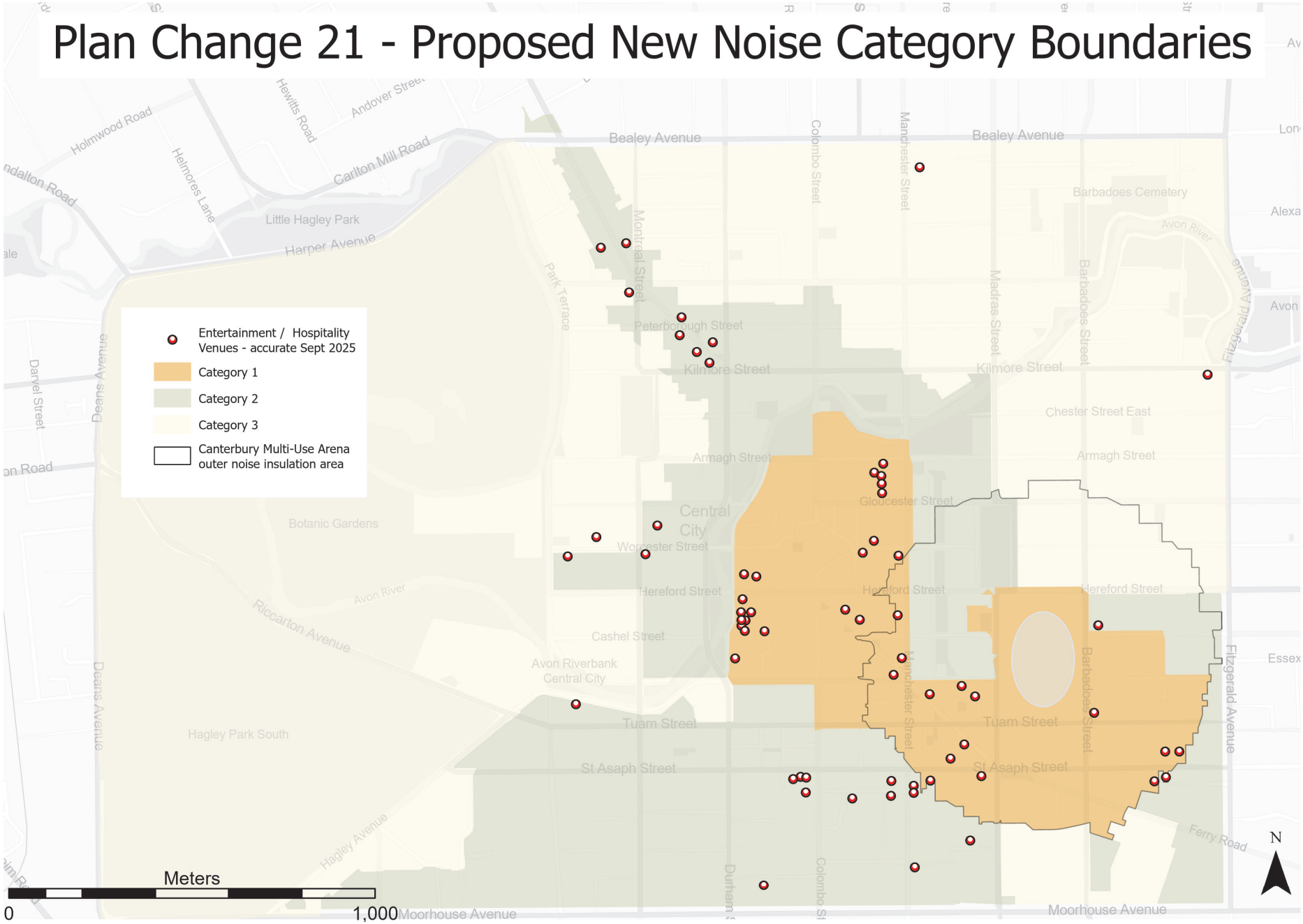
This memorandum provides a strategic indication of the likely construction cost implications associated with potential acoustic insulation upgrades for representative residential and music venue typologies in Christchurch. It is intended to support early-stage policy, planning, and business case considerations only.

The analysis indicates that acoustic upgrade costs are materially influenced by the required performance level, existing building typology, the proportion of glazing and other weak façade elements, and the likely need for associated ventilation and entry treatment measures. The difference between the 65 dB LAeq and 60 dB LAeq scenarios is significant and should be recognised as a major cost driver in any future policy or implementation planning.

Actual project costs will depend on building-specific conditions, confirmed acoustic performance requirements, statutory approvals, scope validation, and detailed design development. Further project-specific assessment would be required before adopting the figures for funding approval, procurement, or implementation purposes.

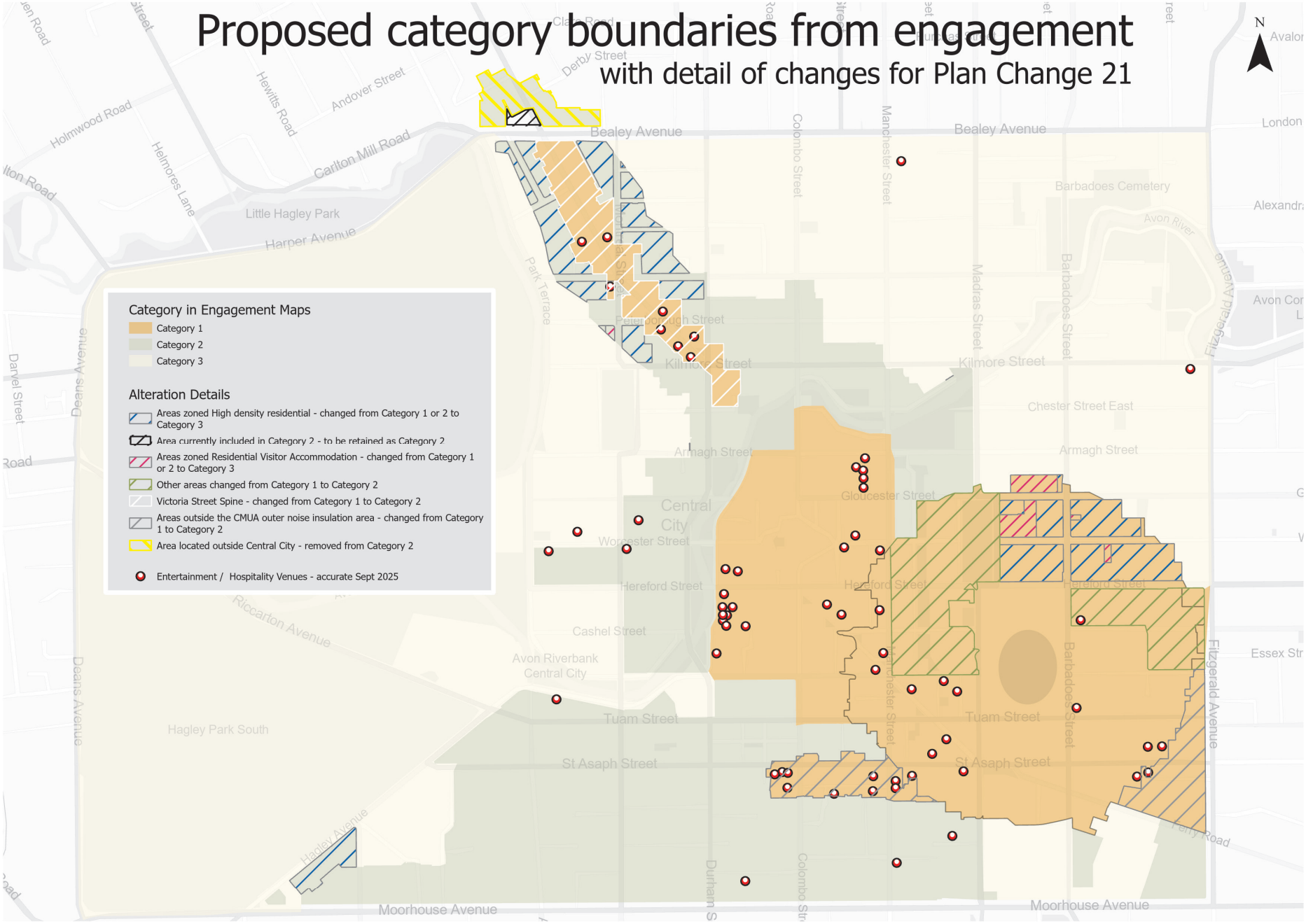
APPENDIX 4

APPENDIX 4 – PROPOSED ENTERTAINMENT AND HOSPITALITY PRECINCTS CATEGORY BOUNDARIES


Plan Change 21 - Proposed New Noise Category Boundaries
Entertainment / Hospitality Venues - accurate Sept 2025
Category 1
Category 2
Category 3
Canterbury Multi-Use Arena outer noise insulation area
Meters
0
1,000
N
Bealey Avenue
Kilmore Street
Armagh Street
Gloucester Street
Chester Street East
Hereford Street
Cashel Street
Tuam Street
St Asaph Street
Moorhouse Avenue
Ferry Road
Central City
Avon Riverbank Central City
Botanic Gardens
Hagley Park South
Little Hagley Park
Barbadoes Cemetery
Avon River
Riccarton Avenue
Harper Avenue
Carlton Mill Road
Holmwood Road
Hewitts Road
Andover Street
Helmores Lane
Peterborough Street
Worcester Street
Montreal Street
Park Terrace
Colombo Street
Manchester Street
Madras Street
Barbadoes Street
Fitzgerald Avenue
Deans Avenue
Durham Street
Hagley Avenue

APPENDIX 5

APPENDIX 5 – SUMMARY OF CHANGES TO PRECINCTS BOUNDARIES COMPARED WITH ENGAGEMENT PROPOSAL


Proposed category boundaries from engagement
with detail of changes for Plan Change 21
N
Category in Engagement Maps
Category 1
Category 2
Category 3
Alteration Details
Areas zoned High density residential - changed from Category 1 or 2 to Category 3
Area currently included in Category 2 - to be retained as Category 2
Areas zoned Residential Visitor Accommodation - changed from Category 1 or 2 to Category 3
Other areas changed from Category 1 to Category 2
Victoria Street Spine - changed from Category 1 to Category 2
Areas outside the CMUA outer noise insulation area - changed from Category 1 to Category 2
Area located outside Central City - removed from Category 2
Entertainment / Hospitality Venues - accurate Sept 2025
Bealey Avenue
Kilmore Street
Armagh Street
Chester Street East
Gloucester Street
Hereford Street
Cashel Street
Tuam Street
St Asaph Street
Moorhouse Avenue
Central City
Avon Riverbank Central City
Hagley Park South
Little Hagley Park
Harper Avenue
Carlton Mill Road
Andover Street
Holmwood Road
Hewitts Road
Helmores Lane
Derby Street
Colombo Street
Manchester Street
Madras Street
Barbadoes Street
Barbadoes Cemetery
Avon River
Fitzgerald Avenue
Park Terrace
Deans Avenue
Darvel Street
Riccarton Avenue
Hagley Avenue
Durham Street
Essex Street
London
Alexandra

APPENDIX 6

APPENDIX 6 – SUMMARY OF FEEDBACK ON TECHNICAL NOISE MATTERS

Technical Noise Matters Raised in Engagement Feedback

Topic / Matter Raised	Comment
How bass noise is managed, including: - Low-frequency noise travels much further than higher frequencies - The effectiveness of insulation at reducing bass noise - The impacts of bass noise on the ability to asleep - The nature of bass noise, e.g. amplifying through buildings and being a more annoying type of noise - Restricting the allowed energy levels of low-frequency sound - The use of decibel-based limits	Noise from low frequency bass beat can be more annoying than the absolute decibel level would otherwise suggest. This type of sound also travels more readily through building structures. The type of noise associated with music and hospitality sources, including bass beats, has been taken into account in the technical advice. For example, the consideration of noise insulation has taken into account "*the extra annoyance of a bass beat and reduced level of sound insulation due to low frequency content of the sound*" (AES Report, page 17). This is accounted for the proposed noise management provisions as follows: ▪ Noise from venues will be required to comply with the proposed 65 dB L_{Aeq} limit in Category 1 and 60 dB L_{Aeq} limit in Category 2 precincts. The dB L_{Aeq} descriptor includes a weighting to ensure the dB level moves up and down in a similar manner to the level of loudness perceived by the human ear, for a range of common sounds. ▪ The 35 or 30 dB $D_{tr, 2m, nT, w}$ + C_{tr} façade insulation requirement for bedrooms can be thought of as the approximate reduction in dB of noise travelling from outside to inside, for sources such as road traffic. Sources such as music may have more pronounced low-frequency content - and page 16 of the AES report shows that for typical entertainment noise, facades may be 3 dB worse at reducing the ingress of the sound (i.e. the outside to inside reduction will end up being more like a reduction of 3 dB less (32 and 27 dB respectively)). ▪ Therefore, the noise inside the bedrooms is expected to be up to 33 dB L_{Aeq} (65 minus 32 or 60 minus 27) when a venue is producing noise at its permissible limit. ▪ Guidance such as AS/NZS 2107:2016 *Acoustics - Recommended design sound levels and reverberation times for building interiors* suggests that noise levels of 35 – 40 dB L_{Aeq} may be tolerable within bedrooms, in inner city environments. ▪ Therefore, expected internal noise levels are generally expected to be appropriate under the proposed regime, even when accounting for the additional annoyance 'bass beat' may cause (typically accounted for by adding a + 5 dB penalty to the sound), and even more extreme low frequency dominance etc. This is not to say that the noise will not be audible or even be acceptable in all people's perception. However, in the context of living in an inner-city entertainment area, the practicalities of implementing noise mitigation for both the venue and the receiver must be considered, along with the overall objectives for the area set out in the District

	Plan. The proposed limits have been developed based on what is practically achievable for music venues to mitigate in many circumstances. The approach proposed as outlined above will enable a mix of activities, and require some compromise by both noise producers, and noise receivers. The AES Report (page 6) also notes that the Auckland Unitary Plan noise limits include a control to try to directly limit 'low frequency bass' noise, but in their experience, such an approach has technical and practical issues. Due to the long wave length of low frequency sound it is difficult to measure or predict reliably especially for an internal noise level. If a noise cannot be measured or predicted it is not considered to be appropriate to use as a design requirement.
How outdoor live music is managed, including: - What limits apply to this type of venue; - Potential requirement for venues that operate in an open-air fashion / partially indoors to insulate	The rules apply a noise limit at the boundary of sites receiving noise. The limit applies regardless of whether the source of noise is indoors or outdoors. The AES Report (page 10) notes that it would be difficult for noise from outdoor music venues to meet a limit of 60 dB L_{Aeq} and that it is appropriate for a resource consent to be required in such instances. The proposed changes to the rules also result in a more permissive (higher) noise limit applying to these venues than that currently applying. Noise mitigation measures required to meet the noise limits will therefore reduce. It is noted that there is no specific requirement proposed for venues to insulate to meet the noise limits, albeit this is one tool to achieve compliance with the noise limits. In addition, for outdoor live music that is part of a temporary event, there are already specific noise rules (Rule 6.1.6.2.3) which are not proposed to be altered by PC21.
What standards will be imposed on venues to manage their noise	The rules currently do not (nor propose to) specify the noise mitigation measures a venue must employ to comply with the limit. It is therefore up to venues as to how they meet the limits.
How cumulative noise is taken into account	The technical advice received acknowledges that even where compliance with the noise limits is achieved and there are multiple noise sources active at the same time, the cumulative noise levels received at a sensitive activity situated between the noise sources could be higher than is permitted by the noise limits (AES Report, page 7). However, the proposed noise limits take this into account, as they reflect the current noise insulation requirements and allow for the expected levels of cumulative noise that are appropriate given this level of insulation (AES Report, page 17).
Application/consideration of special audible characteristics	Rule 6.1.4.1 of the District Plan expressly excludes the application of Special Audible Characteristics under NZS6802:2008 due to the subjective nature of application of the penalty. This exclusion applies across all Plan rules. The technical advice received has however taken into account the characteristics of noise associated with venues in advising what noise limits would be appropriate.

Measurement of noise where sensitive activity is above ground level e.g. outdoor balconies.	The District Plan noise limits apply at the boundary of the site receiving the noise and are measured in accordance with NZS 6801:2008. The noise limit applies at all floor levels and can be measured on an upper-level deck. The standard also allows for measurement inside buildings where it is not practicable to take an outdoor measurement. The noise limits in Category 1 and 2 precincts, in combination with the noise insulation requirements, are intended to provide adequate protection for sleep, not to provide a quiet outdoor environment. This is considered to align with the underlying zoning of these areas.
Averaging noise over 15 minutes	Technical advice is that the use of a 15-minute assessment interval is in accordance with best-practice guidance in NZ Standard NZS 6802:2008 that recommends a 15-minute measurement period for fluctuating sound. There is no notable research that suggests that a shorter 5 or 2-minute assessment period is more effective at preventing complaints than a 15-minute assessment period, as it is the average effect (i.e. 5 minutes of loud music, and 10 minutes of quiet music) that best informs the human response (AES Report, page 6). It is also noted that very loud noises are also managed through the application of an L_{AFmax} limit.
Management of 'other' noises such as emergency vehicle sirens, rubbish trucks, and people in footpath areas.	The District Plan noise limits do not apply to activities that occur in a road reserve.
Mechanical ventilation systems, including: - How cooling is addressed - The need to open windows for ventilation - Retaining a requirement for natural ventilation - How compliance will be demonstrated	The proposed rule requires the provision of both a mechanical ventilation system and air conditioning unit, to allow for adequate ventilation with windows closed. As such, they do not rely on the opening of windows to provide cooling. Occupants can still choose to open windows to provide for natural ventilation, but in doing so will need to accept that they will experience higher internal noise levels. An additional advice note is proposed to be added to Rule 6.1.6.2.9 to clarify how compliance is expected to be demonstrated (through provision of a Producer Statement Series A from a suitably qualified and experienced engineer either before or at the same time as the building consent application to the Council's monitoring team.)
Alternate approaches to noise insulation requirements, including: - Requiring bedroom noise levels (proposed to be 35dBA) to be lower than other habitable	The bedroom requirement of 35 dB $D_{tr,\,2m,\,nT,\,w} + C_{tr}$ is for the insulation of the façade rather than the internal noise level. A higher level of façade insulation is required for bedrooms than habitable spaces. The technical advice received has considered the appropriateness of specifying a target internal level versus a set level of facade performance, in determining that the façade performance approach is more appropriate in this situation (AES Report, page 11). This is because a target internal noise level approach is considered appropriate

spaces (proposed to be 30dBA) so sleep can be achieved and not disturbed. - Prescribing noise insulation requirements instead of internal design noise levels (including the noise descriptor applied). - Relying on compliance with Building Code G6/AS1 - Applying western European thermal insulation standards at the same time as updating sound insulation.	where the location and noise levels from an external noise source are easily definable and are not expected to change significantly over time (or will change in a predicable way), such as traffic noise. However, where locations of sources and noise levels are subject to change in an unpredictable manner (such as with changing surrounding activities in central city locations), analysis of internal noise levels based on existing measured noise levels is not a rigorous approach to protect sensitive receivers, and future noise levels are impossible to predict. The advantage of using facade performance standards is that an assessment for external noise levels is not required. It is accepted that using façade performance standards for noise insulation may mean that noise insulation is required in locations where it may not actually be necessary based on existing noise levels, i.e. on facades that are already acoustically shielded or facing away from a noise source. However, in a central city situation, the application of the façade performance approach will provide a level of future proofing, as the degree of shielding or location and level of noise sources on neighbour sites may change in the future. This is considered appropriate in the central city context, as it will better provide for new venues to establish. The descriptor used for insulation (which is not proposed to be changed through PC21) is dB $D_{tr,\,2m,\,nT,\,w}$ + C_{tr} and has specifically been set at a level that is as high as is practical to achieve through standard construction methods. Clause G6 of the New Zealand Building Code specifically refers to noise transmission between occupancies or common spaces in household units. This does not relate to external noise insulation, and demonstrating compliance with NZBC Clause G6 would not demonstrate compliance with District Plan noise insulation requirements that apply to external façades. PC21 does not deal with *thermal* insulation standards. Such standards are set under the Building Act and not matters regulated under the District Plan.
How indoor sound levels relate to guideline values set by WHO	The proposed noise management provisions are based on guidance from a variety of sources including the WHO. A guideline internal noise design range of 35 to 40 dB L_{Aeq} for sleeping areas in houses and apartments in inner city areas or entertainment districts recognises that the expectations of those choosing to live in inner city areas should be relatively modest (as set out in the AES Report on page 3).
Whether apartments built recently around the east frame have insulation and construction that can achieve the proposed insulation levels	The Central City Entertainment Precinct noise insulation requirements came into effect in 2015 and therefore would have applied to any apartments issued with building consents after the requirements were put in place. The CMUA noise insulation requirements came into effect in 2022 and therefore would have applied to any apartments issued with building consents after the requirements were put in place.