

## Transforming spaces: The role of adaptive reuse in strengthening urban resilience in Auckland, New Zealand

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### ABSTRACT

In an era marked by rapid urbanisation and the increasing threats posed by climate change, cities worldwide face the pressing challenge of enhancing resilience while accommodating growing populations. This study explores the potential of Adaptive Reuse (AR) in strengthening New Zealand's existing urban resilience strategies.

By combining a thorough document analysis ( $n = 8$ ) and two insightful case studies of existing AR projects in Auckland, valuable insights are uncovered to promote sustainable urban development. The findings underscore the significant advantages of AR, including improvements in Energy Efficiency (EE), reductions in waste, and enhancements in socio-economic vibrancy. While there are notable challenges to address—such as financial limitations, regulatory adaptation, enforcement issues, and the need for cohesive collaboration among stakeholders—these barriers present opportunities for growth and improvement.

The study offers practical recommendations for strengthening existing regulatory frameworks, boosting financial incentives, and fostering stronger stakeholder engagement in New Zealand. It also highlights the importance of aligning AR practices with global sustainability objectives, including the Paris Agreement and the Sustainable Development Goals (SDGs), to promote long-term urban resilience in New Zealand. These insights would serve as a valuable resource for relevant AR policymakers, investors, building professionals, users of existing buildings, and academics.

### 1. Introduction

Climate change is one of the most significant challenges of the 21st century, requiring urgent action in all sectors to mitigate its harmful effects, including rising sea levels (Abbass et al., 2022; Griggs & Reguero, 2021). The built environment is a crucial area of focus, responsible for nearly 40 % of GreenHouse Gas (GHG) emissions, with substantial contributions stemming from energy consumption, material usage, and waste generation (Di Foggia, 2018; Pervez et al., 2021). As urbanisation accelerates, the construction industry is under increasing pressure to adopt more Sustainable Construction Practices (SCP) that reduce environmental degradation and align with global climate initiatives, such as the Paris Agreement and the United Nations Sustainable Development Goals - SDGs (Akrofi et al., 2022; United Nations, 2022). AR is one of the

promising approaches as it repurposes existing buildings for new uses while retaining their structural and architectural integrity (Aigwi et al., 2023). AR conserves embodied energy, reduces the demand for raw materials, limits construction waste, and mitigates urban sprawl (Guidetti & Ferrara, 2023). By transforming underutilised or aging structures into functional and energy-efficient spaces, AR contributes to environmental sustainability and the preservation of cultural heritages (Aigwi et al., 2019).

Moreover, AR is closely connected to several SDGs (United Nations, 2022), particularly SDG 11, 12 (Responsible Consumption and Production), and SDG 13 (Climate Action). This approach involves preserving cultural heritage by repurposing historically or architecturally significant buildings, enhancing urban identity and fostering community pride (Foster & Saleh, 2021; Kee, 2019). AR revitalises underused areas into

*Abbreviations:* AR, Adaptive Reuse; CBDs, Central Business Districts; CDEM, Civil Defence Emergency Management; CEAP, Circular Economy Action Plan; CPO, Chief Post Office; EE, Energy Efficiency; GDP, Gross Domestic Product; GHG, GreenHouse Gas; IEA, International Energy Agency; MCDA, Multi-Criteria Decision Analysis; SCP, Sustainable Construction Practices; SDGs, Sustainable Development Goals.

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vibrant, functional spaces, benefiting communities. Reusing existing materials also reduces demolition waste, construction pollution, and embodied carbon, an essential step for climate action (Aigwi et al., 2023; Udawatta et al., 2018). Many AR projects also incorporate energy-efficient systems, solar panels, and sustainable technologies to reduce operational emissions further (Davies et al., 2024; Hegazi et al., 2021).

AR has gained worldwide popularity due to its proven advantages, with notable projects spanning Europe, North America, Asia, and Oceania. In Europe, prominent examples include the transformation of the Tate Modern Museum in the United Kingdom (Murray, 2021; Shin, 2024), the repurposing of the Musée d'Orsay in France (Badan, 2023; Jones & Loddio, 2023), and the revitalisation of Sant'Agata de' Goti in Italy (Angrisano et al., 2024; Neglia et al., 2024). Similarly, North America has witnessed significant AR initiatives, such as the Waterloo County Courthouse Renovations in Canada (Chan et al., 2020; Sanchez et al., 2019) and the Downtown Los Angeles Regeneration Project in the United States (Napoli et al., 2018; Riggs & Chamberlain, 2018). In Asia, AR efforts have focused on preserving cultural heritage, including the conversion of heritage buildings into small hotels in Bangkok (Pongsermpol & Upala, 2018), the conservation of colonial-era structures in Singapore (Chen et al., 2018; Tam & Hao, 2019), and the revitalisation of historic buildings in Hong Kong (Chan et al., 2024; Lam et al., 2022). Oceania has also embraced AR projects, particularly in Australia and New Zealand. Notable projects include the AR of city halls in Queensland (Mehr & Wilkinson, 2018; Yazdani Mehr & Wilkinson, 2018), the Britomart station redevelopment in Auckland (Boarin, 2019), and also in New Zealand, most provincial town centres typically feature old and vacant historical buildings, the majority of which possess heritage values (Aigwi et al., 2018). These projects emphasise the necessity of innovative strategies to preserve cultural heritage, enhance sustainability, and adapt historic buildings for modern use within a global framework.

New Zealand's building sector, responsible for 22 % of the nation's final energy consumption (IEA, 2022) and 20 % of total emissions, offers a unique opportunity for research and SCP, including AR (Aigwi et al., 2023; Chan et al., 2020). This is increasingly relevant to urban resilience, a growing global concern amid a projected 60 % population increase by 2050 (United Nations, 2018). Such growth is expected to intensify housing shortages, infrastructure pressure, and energy demand (Cheng & Hu, 2023; Koroso et al., 2021). AR has been identified as a promising strategy to address these challenges by revitalising abandoned historic buildings and countering urban decline (Aigwi et al., 2023; Chan et al., 2020). While AR is often recommended for enhancing urban resilience, its specific impacts in the New Zealand context remain underexplored. Existing studies have examined building potential and key AR drivers, but few assess their role in broader city-level resilience strategies (Aytac et al., 2016). This lack of insight leaves stakeholders uncertain about AR's capacity to support resilience goals (Patil et al., 2021), highlighting the need for further evaluation.

This study, although focused on New Zealand, has major implications for the global society. Cities globally face analogous challenges from climate change, swift urbanisation, and resource depletion (Aigwi et al., 2023). Moreover, New Zealand's specific context, marked by stringent seismic building regulations, numerous heritage-listed landmarks, and the significant integration of indigenous (Māori) values, represents a unique case study in the worldwide AR field (Byrt, 2019). Lessons learnt from New Zealand can guide optimal approaches in other areas, aiming to harmonise resilience, historical conservation, and social inclusion. This study seeks to integrate local AR into the overarching framework of the SDGs and climate-resilient urban policies, thereby enhancing the global knowledge base and informing policy and practice internationally.

Furthermore, exploring how AR benefits align with various urban resilience strategies and understanding its implementation challenges is important. A thorough evaluation will help decision-makers make informed choices about integrating AR into resilience plans. This

research investigates AR's impact on current urban resilience strategies in New Zealand. The study aims to achieve the following objectives: (i) identify New Zealand's existing urban resilience strategies, (ii) examine the benefits and challenges of AR in promoting urban resilience through these strategies, and (iii) provide recommendations to stakeholders on how AR can effectively support urban resilience in New Zealand. By bridging the knowledge gap on AR and urban resilience, this research seeks to empower stakeholders with actionable insights to address the growing concerns of urban resilience sustainably and effectively.

## 2. Literature review

### 2.1. The Role of adaptive reuse in promoting sustainable and resilient urban areas

The increasing urgency of the climate crisis has brought climate-friendly construction practices, including AR projects, to the forefront of sustainable development efforts (Tam & Hao, 2019). AR is recognised as a highly effective strategy for reducing energy consumption, minimising waste, and preserving cultural heritage value, making it vital for SCP globally (Aigwi et al., 2018; Aigwi et al., 2023). A growing body of research has explored the application of AR concepts, highlighting their significant benefits and the challenges involved. This section presents a comprehensive review of AR projects implemented across various continents, including Europe (Fabi et al., 2021; Pintossi et al., 2023), Asia (Li et al., 2018; Niu et al., 2018), and Oceania (Aigwi et al., 2018; Boarin, 2019). The following section explores such projects to illustrate AR's critical role in mitigating GHG emissions while advancing SCP objectives.

#### 2.1.1. Europe

AR is a crucial European strategy for preserving cultural heritage while promoting sustainability, economic development, and social value (Fabi et al., 2021; Pintossi et al., 2023). In addition, cultural heritage has been integrated into European policy since the post-World War 2 era (Foster & Saleh, 2021). Additionally, many cultural heritage assets are abandoned and underused in European countries (Gravagnuolo et al., 2024). AR aligns with the European Union's environmental and sustainability objectives, including the European Green Deal and the Circular Economy Action Plan (CEAP), alongside the SDGs (Paleari, 2024; United Nations, 2022). This approach minimises construction waste, conserves embodied energy, and reduces GHG emissions compared to new construction projects (Foster, 2020; Lanz & Pendlebury, 2022).

This study focuses on the UK (Murray, 2021; Shin, 2024), Italy (De Medici et al., 2020; Dell'Ovo et al., 2021), and France (Ben Ghida, 2024; Machline et al., 2023), as these countries employ varied approaches to sustainability in the construction industry and are particularly relevant to AR projects. In the UK, the built environment is responsible for 42 % of the nation's GHG emissions, leading to intensified efforts to mitigate emissions in this sector (Warren et al., 2024). Notably, Murray (2021) and Shin (2024) have examined the AR of the Tate Modern Museum in London. Shin (2024) compared various AR strategies from architectural competitors. The findings indicated that the winning architect firmly grasped contemporary art and stakeholder preferences, envisioning a raw space with minimal interventions. Additionally, the transformation of the Tate Modern is highlighted by Murray (2021) as the key driver of the area's development, playing a significant role in fostering its cultural and social transformation.

Italy has a rich history of architectural landmarks, and AR allows for preserving these culturally significant structures while integrating modern functionality (Bottero et al., 2019; Dell'Ovo et al., 2021). The building sector in Italy accounts for 11.4 % of the EU's total GHG emissions, while the transport and other emissions sectors, including buildings, represent nearly half of Italy's overall emissions (European Parliament, 2021). Several researchers have evaluated AR projects (De Medici et al., 2020; Nocca & Angrisano, 2022). In Sicily, De Medici et al.

(2020) analysed and compared the Ancient Market and the Basilica of St. Peter the Apostle in Siracusa, using a mixed-methods approach. The findings highlighted that a new function for an abandoned building should be based on the users' needs and that the latest uses for heritage buildings must align with local requirements to ensure sustained attraction. Similarly, Dell'Ovo et al. (2021) applied Multi-Criteria Decision Analysis (MCDA) to evaluate the role of AR in promoting sustainable development within a circular economy framework. Findings showed stakeholders preferred the Cultural Centre and University Research Centre scenarios, while the Nursing Home was least favoured due to functional mismatch. The study highlighted stakeholder participation as crucial to successful heritage building reuse.

In France, AR projects are gaining recognition for their contributions to SCP and heritage conservation (Mohammed et al., 2024), which is particularly relevant given that buildings account for approximately one-third of the country's total GHG emissions (Pellan et al., 2022). Several studies have explored the impact of AR on communities. For instance, Ben Ghida (2024) employed a mixed-methods approach to examine the AR and placemaking efforts of the Viaduc des Arts, a formerly obsolete viaduct in Paris. The study highlighted the significance of sustainable urban renewal in preserving cultural heritage while simultaneously fostering economic growth through AR. Similarly, Machline et al. (2023) examined Paris's post-COVID-19 AR policies, finding that remote work trends increased office-to-residential conversions due to reduced office demand. These projects reflect a commitment to cultural preservation and modern utility while supporting economic, social, and environmental sustainability.

### 2.1.2. Asia

Asia's building and construction sector significantly contributes to carbon emissions due to extensive material usage and high energy consumption, due to rapid urbanisation (Lee et al., 2018). The literature review focuses on China (Li et al., 2018; Niu et al., 2018), Singapore (Cudicio & i Gardella, 2024; Sari et al., 2023), and Taiwan (Chao & Hsu, 2018; Chen et al., 2018) due to their rich cultural history coexisting with a rapidly modernising landscape. In China, AR is gaining momentum as a strategy to preserve heritage while addressing the country's high energy consumption, as China is the world's second-largest consumer of building energy (Li et al., 2020; Liu et al., 2020). A key challenge driving this trend is the widespread issue of obsolete industrial sites, widely recognised as major contributors to urban problems (Li et al., 2018; Niu et al., 2018). Several studies have investigated the AR of industrial sites. For example, Li et al. (2018) employed a case study to examine how the AR of abandoned industrial land in Guangzhou influenced urban renewal strategies in China. Their findings highlighted the need for collaboration between local governments, developers, and landholders while noting that institutional rigidity remains a key barrier to the AR. Similarly, Niu et al. (2018) applied this method to analyse three case studies: Beijing 798 Art Zone, Shanghai M50, and Guangzhou Xinyi International Club. Their findings show that while China's AR of industrial heritage for cultural and creative industries brings economic benefits, it faces sustainability challenges from over-commercialisation, limited artist control, and weak long-term planning.

The focus is now on Singapore, a leader in SCP and its commitment to AR of buildings (Cudicio & i Gardella, 2024; Liu et al., 2019). In Singapore, Cudicio and i Gardella (2024) used a mixed-method approach to study AR in urban heritage through five case studies. They found strong AR and urban regeneration potential but noted challenges like limited climate-adaptive integration and excessive commercialisation. Sari et al. (2023) surveyed visitors to Clarke Quay shophouses, identifying high interest, spatial quality, and maintainability as key criteria. These reflect successful AR through physical, economic, and institutional revitalisation, which boosted economic activity, improved building quality, upgraded infrastructure, and enhanced the area's image. AR in Taiwan has emerged as a key strategy for promoting sustainable urban development, cultural preservation,

and economic revitalisation. Many of Taiwan's highly developed cities, particularly those established in the 1970s, are now experiencing urban decay, leading to the relocation of business districts and significant out-migration (Chao & Hsu, 2018).

The Taiwanese government has implemented legislative measures such as the Urban Renewal Act and the Cultural Heritage Preservation Act to address these challenges and support urban regeneration (Chao & Hsu, 2018; Chen, 2021). Several studies have investigated the AR projects in Taiwan. For example, Chen et al. (2018) utilised MCDA to evaluate the optimal reuse alternative for the Taipei Sun Yat-Sen Historical Museum. Their findings indicated that community activities were the most suitable option, followed by commercial, education, exhibition, and composite use. Similarly, Tu (2020) used a mixed-methods approach to develop a framework for evaluating AR, highlighting the importance of heritage design and environmental planning in enhancing visitor engagement and sustainability. Studies across selected countries show that AR helps balance heritage preservation with modern development. Despite economic and cultural benefits, challenges persist, including over-commercialisation, sustainability gaps, and institutional rigidity. Long-term urban resilience in Asia depends on integrated policies, collaborative governance, and climate-responsive strategies.

### 2.1.3. Oceania

Oceania, encompassing Australia, New Zealand, and the Pacific Island nations, exhibits a varied GHG emissions profile (Mani, 2020). This study focuses on Australia and New Zealand due to their substantial GHG emissions and active commitment to the Paris Agreement and SDGs (Chandrakumar et al., 2020; Enker & Morrison, 2017). In Australia, AR has become a key approach to sustainable urban development, presenting a practical alternative to demolition by repurposing existing structures for new functions (Hanapi et al., 2022). Its government has established several policies and guidelines to support AR at both the federal level and state levels, including AR: Preserving our Past, Building Our Future (Department of the Environment and Heritage, 2021), AR Guidelines For State Heritage Places in South Australia (Department for Environment and Water, 2022) and State Planning Policy 3: AR (Department of Planning & Transport and Infrastructure, 2019). Several studies have explored AR in Australia. For instance, Mehr and Wilkinson (2018) examined the technical challenges of adapting heritage-listed city halls in Queensland to enhance EE. They identified key obstacles, such as heritage regulation constraints and risks of structural damage from installing air conditioning. Careful planning is crucial to balance preservation with functionality in AR projects. Moreover, Shehata et al. (2022) used the AR Potential Model to rank obsolete sites in Tasmania, showing that AR is a viable strategy for repurposing underused heritage prisons. With proper conservation, planning, and investment, these sites can become functional, sustainable, and economically viable spaces.

New Zealand's suburban cities contain numerous vacant, derelict, or underutilised buildings in their Central Business Districts (CBDs), linked to the global shrinking cities phenomenon (Sun & Zhou, 2023; Tu et al., 2024). In active seismic regions like New Zealand, the impact of earthquake-prone building legislation has resulted in many city centres being burdened with underutilised historical buildings (Aigwi et al., 2022; Aigwi, Phipps, et al., 2021). Various studies have examined AR in New Zealand; for instance, Yakubu et al. (2017) analysed vacancy rates in town centres and identified barriers to reuse, such as poor building conditions, limited accessibility, and regulatory hurdles. They concluded that promoting redevelopment, seismic retrofitting, and offering incentives to owners are key to encouraging AR.

Furthermore, Aigwi et al. (2022) conducted a focus group workshop with relevant AR stakeholders in Auckland to evaluate the applicability of the performance-based MCDA framework developed by Aigwi et al. (2019). The workshop demonstrated that the framework effectively ranked underutilised, earthquake-prone historical buildings for AR in Auckland by incorporating diverse stakeholder perspectives. Among the four historical buildings analysed, Building A3 received the highest total

weighted score, making it the preferred choice for AR.

Despite growing interest in AR, significant research gaps remain in New Zealand, particularly regarding its integration with urban resilience strategies. Existing studies mainly assess AR feasibility and influencing factors, but rarely explore its role in supporting long-term sustainability and risk mitigation. The link between AR benefits and urban resilience remains underexplored, and empirical analyses of how AR aligns with city resilience efforts are scarce. Additionally, challenges in implementing AR for resilience are not well understood, limiting informed decision-making. No study has examined how AR policies intersect with practical application, highlighting the need for a comprehensive analysis to guide climate-resilient construction policy and practice in New Zealand.

### 3. Material and methods

This study combined document analysis and case studies to identify the existing urban resilience strategies in New Zealand and investigate how the benefits and challenges of the AR approach can contribute to achieving the goals of these strategies. Document analysis was selected as a data collection method because it offers detailed and comprehensive information covering historical and contemporary contexts. Additionally, this method is cost-effective since documents are often readily accessible (Sankofa, 2023). It is also time-efficient, enabling researchers to analyse existing data without ethical concerns or extensive fieldwork (Davie & Wyatt, 2021). On the other hand, the case studies approach complemented the document analysis by enabling a thorough assessment of each selected building's characteristics and performance and supporting data triangulation (Creswell & Creswell, 2018; Gray, 2021).

#### 3.1. Document analysis

This study utilised document analysis to identify existing policies and regulations related to climate-AR and urban resilience in New Zealand. Data collection was from official New Zealand government websites, policy documents, regulations, guidelines, research reports, and publications from relevant organisations, including the Auckland Council (Auckland Council, 2024b), Wellington City Council (Wellington City Council, 2025), Hutt City Council (Hutt City Council, 2025), Porirua City Council (Porirua City Council, 2025), Christchurch City Council (Christchurch City Council, 2025), Canterbury Regional Council (Environment Canterbury Council, 2025), Selwyn District Council (Selwyn District Council, 2025), Waimakiriri District Council (Waimakiriri District Council, 2025), Hamilton City Council (Hamilton City Council, 2021), Bay of Plenty Civil Defence and Emergency Management Group, The Hawke's Bay Civil Defence Emergency Management Group (Hawke's Bay Emergency Management, 2024), Dunedin City Council (Dunedin City Council, 2016), Christchurch City Council (Christchurch City Council, 2025), and Ministry of Civil Defence & Emergency Management.

The document selection was purposive, emphasising their relevance to urban resilience measures, specifically on policy aims, implementation methods, references to AR, and documented effects on the built environment. Every document was comprehensively examined and studied using a qualitative, inductive methodology (Creswell & Creswell, 2018). Essential themes and policy frameworks, such as resilience goals, strategic initiatives, implementation obstacles, and prospects for AR, were systematically categorised through iterative readings and content cross-comparison. This technique involved no software; instead, it utilised a manual analysis that facilitated direct involvement with both explicit claims and implicit contextual meanings in each document (Davie & Wyatt, 2021). To ensure the reliability of the findings, emergent themes were triangulated with data from case studies and, where feasible, corroborated with existing academic literature (Creswell & Creswell, 2018). This meticulous and clear methodology offers a comprehensive understanding of the regulatory and policy framework

for AR in New Zealand, guaranteeing that the study is both contextually grounded and analytically robust.

#### 3.2. Case studies

The case studies approach is a qualitative research method that enables an in-depth exploration of specific cases, offering valuable insights into the "how" and "why" aspects of a phenomenon (Gray, 2021; Schoch, 2020). This method is well-suited for understanding AR projects' complexities and assessing their impact on Auckland's urban resilience strategies (Lanz & Pendlebury, 2022). By leveraging diverse sources of evidence, such as document analysis, structured, semi-structured, open interviews, and field measurements, this approach ensures a comprehensive evaluation of the characteristics and performance of selected buildings (Gray, 2021). The purposeful selection of case study buildings is critical to ensuring they exemplify AR projects and provide meaningful data for comparative analysis.

This study investigated two notable projects in Auckland, including the Britomart Precinct and the Civic Administration Building (CAB). These projects were selected for their successful public integration, revitalisation of underused areas, and meaningful engagement with heritage. Both addressed vacant, ecologically impacted, or historically significant sites, showcasing their role in sustainable urban development.

##### 3.2.1. Britomart precinct

The Britomart Precinct is an urban renewal and heritage project managed by the Auckland City Council, which encompasses nine blocks and occupies 5.2 ha of land above the city's busiest transportation hub (Auckland Council, 2024a). The precinct is a transportation centre and a vibrant business district featuring modern enterprises, restaurants, shops, and unique spaces within heritage-listed buildings. The layout of Britomart, with its surrounding historic structures, creates a strong presence throughout the streetscape (Boarin, 2019). The proximity of Britomart to the downtown area, CBDs, and ferry terminals is highly significant. This transport station serves to unify all public transportation options for the Auckland region. The design of the Britomart concourse blends striking contemporary architecture with the preservation of existing heritage structures, notably the Chief Post Office (CPO). Significant historic structures and features within the precinct have been preserved. The CPO has been renovated and now serves as the pedestrian entrance to the station. As part of the Britomart Above Ground project, several nearby historic buildings will be restored for various uses (Aigwi, Filippova, et al., 2020).

Regarding stakeholder engagement, the Britomart AR project encompassed a comprehensive stakeholder engagement strategy, including heritage advocates (Cooper and Company, 2024). The initial planning stages in the late 1990s and early engagement initiative, notably through public consultations organised by the Auckland Council and discussions in the 2000s, incorporated public input that impacted the scale and design, particularly resulting in the reduction of bus terminal designs in response to public preference for above-ground bus facilities (CityRailLink, 2025). For example, Community advocacy organisations, including "Rethink Britomart", expressed concerns about heritage conservation, which could impact pledges to maintain and rehabilitate the Edwardian CPO and adjacent buildings (JASMAX, 2025). The project developers collaborated directly with Heritage New Zealand and the Auckland Council heritage team throughout the initial concept phases to ensure that new additions contrasted with yet honoured the historic fabric, utilising materials such as stainless steel and glass (Britomart Group, 2025b). Auckland Council assumed a pivotal regulatory function, for example, negotiating the 2004 development action, coordinating design guidelines, and supervising continuous consultations with local boards and mana whenua to ensure that public realm improvements, such as the conversion of QEII Square into the Te Komititanga civic plaza in collaboration with iwi, were meticulously

incorporated into the broader precinct revitalisation (Auckland Council, 2025).

Moreover, regarding Māori Engagement and Cultural Assimilation, the Britomart project, subsequently designated as Waitemata Station, was influenced in part by formal consultations with mana whenua through Auckland Transport's City Rail Link Mana Whenua Forum (CityRailLink, 2025). In 2022, the station's Māori designation "Waitemata" was granted by the forum and approved through public procedures supervised by the New Zealand Geographic Board. The development largely conformed to the Te Aranga Māori Design Principles, which the Auckland Council has incorporated into its design handbook to guarantee mana whenua participation in urban initiatives, influencing results associated with values, including mana, whakapapa, and taiao (Byrt, 2019). Although Britomart predates numerous institutional frameworks, the station precinct incorporates public artworks and wayfinding components that embody Māori nomenclature and tales, consistent with subsequent practices (Byrt, 2019). This legacy illustrates how adaptive reuse and transportation infrastructure may connect historical elements with Māori cultural values, and suggests that heritage-led rehabilitation should incorporate more explicit cultural engagement and design elements (Cooper and Company, 2024).

### 3.2.2. The Civic Administration Building (CAB)

The CAB at Aotea Square was completed in 1966 and was Auckland's first skyscraper, with 22 stories (Naylor Love, 2022). Although it has Category A heritage protection under the Auckland Unitary Plan, its original use as an office building is no longer appropriate (Gatley, 2015; Naylor Love, 2022). The CAB and its surroundings hold substantial social and historical value, having served as Auckland's local government hub for nearly 50 years. Its refurbishment prioritised sustainability while transforming it into luxury residences, including the Sky Garden Penthouse (Gibson, 2015). These homes offer stunning city views and top-tier amenities such as a pool, gym, cinema, and games room (Naylor Love, 2022). Situated in Auckland's Art Quarter, the modernist landmark preserves and enhances its historic features, creating a unique living space. As the centrepiece of the Civic Quarter development, it connects vibrant new areas through dynamic laneways (BECA, 2025).

In contrast, regarding the stakeholder engagement, the AR of Auckland's former CAB into luxury apartments was marked by limited public consultation and a notable lack of transparency compared to the Britomart AR project (Gatley, 2015). The redevelopment, undertaken by Eke Panuku in partnership with Civic Lane Limited, transformed the Category A heritage-listed modernist structure into 118 residential units, achieving commendable sustainability outcomes, including the diversion of 98 % of demolition waste from landfill and an estimated carbon savings of over 6150 t (Eke Panuku Development Auckland, 2019). While key actors such as the Auckland Council and BECA were involved in the technical and environmental aspects of the project, there is no public record indicating extensive community engagement or inclusive stakeholder dialogue during the planning and conversion phases (Orsman, 2019). This absence of meaningful consultation attracted criticism from local residents, heritage advocates, and civic users, who felt excluded from shaping decisions within this significant civic precinct (Orsman, 2019). Moreover, the project illustrates the inherent risks of a top-down planning approach, where advancements in engineering and sustainability are prioritised at the expense of participatory governance. This emphasis on technical outcomes over stakeholder engagement led to public criticism, with heritage advocates and architectural academics openly condemning the process for its lack of transparency and inclusivity. At last, the case highlights the trade-offs and potential repercussions that arise when AR projects proceed without meaningful stakeholder involvement (Gatley, 2015).

Regarding consultation with Māori, there is clear public evidence that Māori, particularly Ngāti Whātua Ōrākei, were engaged from the early stages of the AR of the CAB project in Auckland. Mana whenua representatives were included in the developer selection panel to ensure

Māori values and the Te Aranga Māori Design Principles were integrated into the project's objectives and design (Melbourne-Hayward, 2016). The redevelopment plan incorporated culturally significant elements such as a whare tapere (performance space) and public art by a leading Māori artist, directly reflecting local Māori identity. This engagement was formalised through Auckland Council and Panuku's processes, ensuring Māori perspectives shaped both the planning and the cultural narrative of the completed Civic Quarter precinct (Eke Panuku Development Auckland, 2019).

## 4. Results and discussion

This section presents and interprets the study's findings by integrating insights from document analysis and a case study approach to address the research objectives. The document analysis provides an overview of current AR policies in New Zealand, offering a foundation for understanding regulatory frameworks and policy directions. Complementing this, the case study approach was selected as the most appropriate method for examining past AR projects, enabling an assessment of their impact on Auckland's urban resilience strategies. Case study research, recognised for its multi-faceted and in-depth analytical capabilities, is particularly effective when investigating contemporary phenomena within real-life contexts (Creswell & Creswell, 2018; Gray, 2021). Adopting this integrated methodology, the study enables a thorough examination of policies, frameworks, challenges, and best practices in sustainable building transformations through data triangulation.

### 4.1. Findings and discussion from document analysis

The document analysis identified and categorised the existing urban resilience strategies into two distinct groups: (i) strategies implemented nationwide across various local councils and (ii) Auckland-specific strategies.

#### 4.1.1. New Zealand's existing urban resilience strategies

Table 1 presents an overview of key resilience policies and regulations implemented in New Zealand's largest cities, including Auckland, Wellington, Christchurch, Hamilton, Tauranga, Napier, and Dunedin, along with the National Disaster Resilience Strategy. These strategies aim to enhance community preparedness, strengthen infrastructure, and improve governance, reflecting a proactive approach to urban resilience across different regions. By analysing these initiatives, common themes and city-specific measures contributing to a more resilient and sustainable built environment in New Zealand were identified.

#### 4.1.2. Auckland's existing urban resilience strategies

Auckland is New Zealand's global city, distinguished by its unique assets and economic, cultural, and demographic features (Asquith et al., 2021). Furthermore, firms in Auckland contribute to over a third of New Zealand's Gross Domestic Product (GDP), making the city the country's economic hub (Brody-Heine et al., 2024; Richardson, 2022). Auckland's economic vitality boosts living standards nationwide, highlighting its interdependence with the rest of New Zealand. As of June 2017, Auckland's population was about 1.66 million (Auckland Council, 2018), up by 180,700 since the 2012 Auckland Plan (Auckland Council, 2012). Auckland's population density is expected to remain high, with StatsNZ projecting a growth of 773,000 by 2043, compared to a 647,500 increase in the working-age population across the rest of the country (StatsNZ, 2024). Moreover, the Auckland Council has adopted resilience as a central principle guiding its operations, stakeholder partnerships, and community interactions. Auckland created resilience strategies based on United Nations frameworks, which were incorporated in the first Auckland Plan released in 2012. This plan outlined the city's vision and goals for the next 30 years (Auckland Council, 2012). However, the 2012 strategy no longer provided adequate guidance for decision-

**Table 1**  
Existing Urban Resilience Strategies in New Zealand.

No.	Policies/ Regulations	Year Range	Associated Organisations	Aim and Focus
1	Auckland Plan 2050 (Auckland Council, 2018)	2020–2050	Auckland Council	<ul style="list-style-type: none"> <li>- Foster belonging and participation by enabling all Aucklanders to contribute, access opportunities, and reach their potential.</li> <li>- Promote Māori identity and well-being as a unique strength of Tamaki Makaurau.</li> <li>- Ensure access to secure, healthy, affordable housing and inclusive public spaces.</li> <li>- Support accessible, sustainable transport and mobility.</li> <li>- Protect and care for the natural environment as a shared cultural heritage for current and future generations.</li> <li>- Promote a sense of community</li> <li>- Enhance decision-making at all levels</li> <li>- Ensure homes and natural and built environments are healthy and robust.</li> <li>- Create adaptable, connected places and improve housing quality, choice, and affordability.</li> <li>- Strengthen community participation and trust in decision-making by supporting local organisations and leaders.</li> <li>- Foster global connections, encourage innovation and sustain environmental vitality.</li> <li>- Enhance community awareness and preparedness for risk and its management.</li> <li>- Make Hamilton an easy and enjoyable city with quality</li> </ul>
2	Wellington Resilience Strategy (Wellington City Council, 2017)	2020–2023	Wellington, Hutt City and Porirua City Councils	
3	The Resilient Greater Christchurch Plan (Christchurch City Council, 2025)	2016–2041	Christchurch City Council, Canterbury Regional Council, Selwyn District Council, Waimakiriri District Council, Te Runanga o Ngai Tahu	
4	Hamilton 2021–2031 Long-Term Plan	2021–2031	Hamilton City Council	

**Table 1 (continued)**

No.	Policies/ Regulations	Year Range	Associated Organisations	Aim and Focus
	(Hamilton City Council, 2021)			<ul style="list-style-type: none"> <li>- community services and accessible transport.</li> <li>- Ensure strong governance, managed growth, and public safety.</li> <li>- Develop a vibrant central city that people love, with engaging activities, visitor attractions, major events, venues, and quality parks and recreation.</li> <li>- Create a green city by effectively managing water supply, wastewater, stormwater, rubbish, and recycling.</li> <li>- Reduce risks from hazards to acceptable levels</li> <li>- Increasing community awareness, understanding, preparedness and participation in CDEM</li> <li>- Ensure an effective response capability</li> <li>- Ensure an effective recovery capability</li> <li>- Robust monitoring and evaluation</li> <li>- People understand their risks, take responsibility, and prepare accordingly.</li> <li>- Integrated planning maintains acceptable risk levels.</li> <li>- Strong community spirit supports collective safety.</li> <li>- Businesses and response agencies have robust continuity plans to protect people and livelihoods.</li> <li>- Communities and response teams are equipped to handle unexpected events.</li> <li>- Identify risks and raise awareness of their potential impacts.</li> </ul>
5	Bay of Plenty Civil Defence Emergency Management Group Plan 2017 (Bay of Plenty Regional Council, 2025)	2018–2023	Bay of Plenty Civil Defence and Emergency Management Group	
6	Hawke's Bay CDEM Group Plan (Hawke's Bay Emergency Management, 2024)	2014–2019	The Hawke's Bay Civil Defence Emergency Management Group	
7	Dunedin City Civil Defence Emergency Management Plan (Dunedin	2015-onwards	Dunedin City Council	

(continued on next page)

Table 1 (continued)

No.	Policies/ Regulations	Year Range	Associated Organisations	Aim and Focus
	City Council, 2016)			<ul style="list-style-type: none"> <li>- Plan integrated responses for residual risks.</li> <li>- Prioritise emergency response by preserving life, safety, governance, and law and order.</li> <li>- Protect property and assess the damage.</li> <li>- Maintain and restore essential services.</li> <li>- Focus recovery efforts on social, economic, and physical restoration.</li> <li>- Guide decisions through risk assessments covering hazards, exposure, vulnerability, and capacity.</li> <li>- Build risk literacy and management skills for informed planning.</li> <li>- Support risk-aware development and avoid creating new risks.</li> <li>- Invest in resilience tools and understanding disaster economics.</li> <li>- Prioritise safety and well-being in emergency response.</li> <li>- Strengthen iwi/ Māori partnerships to integrate tikanga.</li> <li>- Enhance national leadership for coordinated response and recovery.</li> <li>- Clarify roles at all levels to empower communities.</li> <li>- Grow and support the emergency management workforce.</li> <li>- Improve information systems for timely decisions.</li> <li>- Empower people, especially vulnerable groups, to prepare and respond.</li> <li>- Foster social connectedness</li> </ul>
8	National Disaster Resilience Strategy (National Emergency Management Agency, 2020)	2015-onwards	Ministry of Civil Defence & Emergency Management	

Table 1 (continued)

No.	Policies/ Regulations	Year Range	Associated Organisations	Aim and Focus
				<ul style="list-style-type: none"> <li>- and mutual support.</li> <li>- Embed resilience in planning at all levels.</li> <li>- Upgrade infrastructure based on risk.</li> <li>- Plan recovery with long-term community resilience in mind.</li> <li>- Value culture as part of resilience and ensure cultural continuity.</li> </ul>

making in a rapidly changing world. To address this, the ‘Auckland Plan 2050’ was adopted in June 2018 (Auckland Council, 2018), introducing a more streamlined spatial plan with a straightforward framework. The ‘Auckland Plan 2050’ outlines the long-term spatial strategy to ensure growth and meet future opportunities and challenges (Auckland Council, 2018). The plan details the significant issues facing Auckland and proposes solutions to benefit Aucklanders and other stakeholders in shaping the city’s future (Auckland Council, 2018). The Development Strategy and its six outcomes outline Auckland’s approach through 2050, as shown in Table 2.

The Auckland Council adopts and enforces national frameworks at the local level, ensuring that regional priorities such as urban density and sustainability objectives are effectively addressed (Auckland Council, 2024b; Ministry for the Environment, 2024). This collaborative approach, involving multiple organisations, is crucial in promoting AR and advancing New Zealand’s sustainability goals (Auckland Council, 2018). Document analysis further highlights New Zealand’s significant progress in AR initiatives (Aigwi et al., 2022; Aigwi, Phipps, et al., 2021). However, despite governmental efforts and numerous successful projects, awareness of AR remains limited, particularly in provincial town centres (Yakubu et al., 2017). Additionally, the influence of the surrounding environment in such projects is often underestimated and overlooked (Boarin, 2019). Strengthening AR initiatives can drive New Zealand’s construction industry towards more resilient, efficient, and environmentally sustainable building practices that align with global SDGs (United Nations, 2022).

4.2. Findings and discussion from the case studies approach

This section presents findings from two major urban redevelopment case studies in Auckland: the Britomart Precinct and the CAB. It examines their historical context, AR processes, and associated benefits and challenges. The analysis offers insights into sustainable and resilient city planning by exploring the balance between heritage conservation and modern development. The findings highlight the economic, socio-cultural, environmental, political, and technical factors shaping AR and redevelopment outcomes.

4.2.1. Case Study 1 – Britomart Precinct

A. Historical progression of the Britomart’s original use

The Britomart area, a strategically significant 5.2-ha downtown property, has been pivotal in Auckland’s urban development. It was initially home to the city’s first railway station and a central bus terminal, and has a rich, often controversial history as part of Auckland’s historic waterfront port (Rose et al., 2023). The site is part of a large land reclamation project initially conceived in Felton Mathew’s 1841 plan for central Auckland, which was gradually realised between the 1850s and

**Table 2**  
Identified urban resilience strategies in Auckland.

No	Strategies	Aim and Focus	AR potentials	Recommendations
1	Belonging and Participation	<ul style="list-style-type: none"> <li>- Create safe, inclusive spaces for connection and civic participation.</li> <li>- Provide accessible, adaptable services and infrastructure.</li> <li>- Support community resilience in a changing world.</li> <li>- Uphold te Tiriti o Waitangi as the foundation for intercultural Auckland.</li> <li>- Embrace diversity and address inequities.</li> <li>- Promote arts, culture, sport, and recreation to enhance the quality of life.</li> <li>- Strengthen identity through heritage, open spaces, and cultural history.</li> <li>- Encourage diverse housing to foster vibrant, inclusive communities.</li> </ul>	<ul style="list-style-type: none"> <li>- Strengthen community ties by integrating AR into Auckland's heritage buildings.</li> <li>- Enhancing streetscapes and public spaces by repurposing historic structures.</li> <li>- Preserve local identity and cultural memory while revitalising neighbourhoods.</li> <li>- Enrich cultural relevance through continued use of historic sites.</li> <li>- Improve living standards by restoring neglected areas.</li> </ul>	<ul style="list-style-type: none"> <li>- AR programs should be actively implemented in Auckland's existing heritage buildings.</li> <li>- Encourage policies that support the retention and transformation of historic structures.</li> <li>- Promote community engagement in repurposing projects to foster a sense of ownership.</li> <li>- Leverage AR to create inclusive public spaces that reflect Auckland's history and identity.</li> <li>- Use revitalised buildings to enhance cultural and social infrastructure, ensuring long-term community benefits.</li> </ul>
2	Māori Identity and Wellbeing	<ul style="list-style-type: none"> <li>- Advance Māori well-being and success in innovation and enterprise.</li> <li>- Recognise and provide for Te Tiriti o Waitangi outcomes.</li> <li>- Showcase Auckland's Māori identity and vibrant culture.</li> <li>- Celebrate Māori culture and promote te reo Māori.</li> <li>- Integrate mana whenua mātauranga and Māori design principles across Auckland.</li> </ul>	<ul style="list-style-type: none"> <li>- Blend Māori values and traditional knowledge with contemporary Māori design, art, and culture to shape Auckland's built environment.</li> <li>- Embed mātauranga Māori in planning, design, and development.</li> <li>- Use urban design to express mana whenua pūrākau, strengthening cultural identity for future generations.</li> <li>- Apply Te Aranga Māori design principles to reinforce Māori cultural identity in placemaking.</li> </ul>	<ul style="list-style-type: none"> <li>- Promote and support Auckland's Māori identity through AR of Māori cultural structures.</li> <li>- Integrate Te Aranga Māori design principles into AR projects.</li> <li>- Enhance public spaces around adapted structures with Māori sculptures reflecting mātauranga and pūrākau.</li> <li>- Ensure mana whenua voices guide urban planning and design to create a more culturally rich and authentic Auckland.</li> </ul>

**Table 2 (continued)**

No	Strategies	Aim and Focus	AR potentials	Recommendations
3	Homes and Places	<ul style="list-style-type: none"> <li>- Accelerate quality housing development at scale.</li> <li>- Expand secure tenure options, focusing on those most in need.</li> <li>- Improve the quality of existing homes, especially rentals.</li> <li>- Support Māori housing aspirations.</li> <li>- Implement a quality compact urban form to enable denser, well-connected living.</li> <li>- Ensure housing is well-planned, affordable, and accessible.</li> <li>- Expand diverse housing options, including townhouses and apartments for all household types.</li> <li>- Maximise existing resources and public spaces to support urban development.</li> </ul>	<ul style="list-style-type: none"> <li>- AR provides a sustainable alternative to redevelopment by curbing urban sprawl and using existing infrastructure.</li> <li>- Repurposing historic buildings in established areas creates new housing and commercial opportunities.</li> <li>- Developers can leverage location, accessibility, and public transport to offer diverse housing options.</li> <li>- Preserving buildings reduces demolition waste, conserves resources, and supports affordability.</li> <li>- Successful AR projects deliver resilient, adaptable spaces that evolve with community needs.</li> </ul>	<ul style="list-style-type: none"> <li>- Encourage AR to enhance housing supply while preserving urban heritage.</li> <li>- Incentivise developers to convert vacant structures into affordable, diverse housing options.</li> <li>- Integrate public transport and amenities into reuse projects for better connectivity.</li> <li>- Promote sustainable design in adapted structures to improve resilience and efficiency.</li> <li>- Ensure that repurposed buildings contribute to vibrant, inclusive communities.</li> </ul>
4	Transport and Access	<ul style="list-style-type: none"> <li>- Optimise existing transport networks.</li> <li>- Prioritise new investments to address key challenges.</li> <li>- Leverage transport technology for efficiency.</li> <li>- Promote walking, cycling, and public transport as primary travel modes.</li> <li>- Build a sustainable and resilient transport system.</li> <li>- Reduce long commutes by encouraging housing and job growth in well-connected areas.</li> <li>- Support urban expansion in</li> </ul>	<ul style="list-style-type: none"> <li>- AR boosts economic growth, increases population density, and reduces private car dependency.</li> <li>- Repurpose buildings near existing transport hubs, optimise land use, and enhance private and public transport access.</li> <li>- Reuse structures in well-connected areas reduces infrastructure expansion needs while promoting sustainable urban mobility.</li> </ul>	<ul style="list-style-type: none"> <li>- Prioritise AR in transit-rich areas to support walking, cycling, and public transport.</li> <li>- Redevelop vacant buildings near transit hubs for mixed-use, improving accessibility.</li> <li>- Align AR with sustainable transport goals to reduce sprawl and car dependence.</li> <li>- Incorporate innovative mobility solutions to enhance connectivity in adapted buildings.</li> <li>- Ensure transport investments support dense, walkable, transit-oriented development.</li> </ul>

(continued on next page)

Table 2 (continued)

No	Strategies	Aim and Focus	AR potentials	Recommendations
5	Environment and Cultural Heritage	<p>locations with strong public transport, walking, and cycling infrastructure.</p> <ul style="list-style-type: none"> <li>- Promote environmental stewardship and sustainable living.</li> <li>- Restore and enhance natural areas amid urban growth.</li> <li>- Account for both historical and future development impacts.</li> <li>- Protect Auckland's natural and cultural heritage.</li> <li>- Use heritage and environment to attract tourism, talent, and investment.</li> <li>- Apply SCP to reduce impact and improve user experience.</li> <li>- Preserve cultural and Māori heritage through awareness and long-term investment.</li> </ul>	<ul style="list-style-type: none"> <li>- Preserve embodied energy in existing buildings makes AR significantly more sustainable.</li> <li>- Avoid demolition reduces energy consumption from deconstruction, transport, and disposal.</li> <li>- AR produces less waste, consumes fewer materials, and requires less energy.</li> <li>- Align with circular economy principles, AR extends material lifespans, encourages reuse, and minimises environmental impact.</li> </ul>	<ul style="list-style-type: none"> <li>- Prioritise AR over demolition to retain Auckland's heritage and reduce waste.</li> <li>- Encourage developers to repurpose historical buildings using sustainable and energy-efficient designs.</li> <li>- Promote green retrofitting of existing buildings to enhance environmental performance.</li> <li>- Invest in nature-based solutions through AR projects, integrating green infrastructure and water-sensitive design.</li> <li>- Strengthen policies to safeguard cultural heritage while enabling sustainable urban regeneration.</li> </ul>
6	Opportunity and Prosperity	<ul style="list-style-type: none"> <li>- Use emerging technologies to ensure equitable digital access.</li> <li>- Align regulations to foster business growth, innovation, and productivity.</li> <li>- Strengthen Māori employment and the economic leadership.</li> <li>- Expand Auckland's export capacity.</li> <li>- Enhance education and lifelong learning, prioritising those most in need.</li> <li>- Build a resilient, sustainable, and high-</li> </ul>	<ul style="list-style-type: none"> <li>- AR can revitalise urban centres and create commercially viable town cores.</li> <li>- Renovate historic buildings and enhance property values, contributing to economic growth.</li> <li>- Reusing historic buildings and key nodes in Auckland's city centre fosters economic renewal, job creation, and tourism.</li> </ul>	<ul style="list-style-type: none"> <li>- Encourage AR in high-growth areas to attract businesses and investment.</li> <li>- Incentivise developers to restore and repurpose heritage structures, adding commercial and educational value.</li> <li>- Use AR projects to enhance employment opportunities in Auckland's key business nodes.</li> <li>- Promote innovation in heritage building adaptation, combining modern functionality with historical significance.</li> <li>- Align AR initiatives with sustainable urban development and tourism strategies to drive prosperity.</li> </ul>

Table 2 (continued)

No	Strategies	Aim and Focus	AR potentials	Recommendations
		<p>performing economy.</p> <ul style="list-style-type: none"> <li>- Promote green technologies to mitigate risk and drive growth.</li> <li>- Maintain the city centre as a business hub while growing Albany, Westgate, and Manukau.</li> <li>- Expand commercial space near transit and labour pools to boost employment and education access.</li> </ul>		

1880s. The construction of a strategically located rail terminal near the waterfront. Auckland's economic hub facilitated the development of numerous new buildings along the east-west highways and the waterfront quay. By the late nineteenth century, the Britomart precinct had emerged as Auckland's primary business district, featuring a railway station, warehouses, trading hubs, and government buildings (Aigwi, Filippova, et al., 2021). However, its prominence declined in the early twentieth century due to a lack of investment and deteriorating conditions, leading to eventual abandonment (Orsman, 2014). Despite this downturn, the New Zealand Historic Places Trust granted heritage protection to many of the precinct's buildings, preventing their demolition and preserving the architectural legacy of the area (Boarin, 2019).

The CPO, built in 1912 (See Fig. 1), was Auckland's transport hub until 1930, then repurposed as a bus stop in 1933. Its mono-functional design failed to support a vibrant neighbourhood, leading to the decline of nearby historic buildings. Britomart's decline was also driven by containerisation, making its warehouses obsolete (Huang, 2020). By 1961, the area was crime-ridden, and fires in the 1960s, combined with neglect, led to dereliction and tenant departures (Park, 2022). During the 1970s, many buildings changed ownership and were subdivided, diminishing their historical identity. While some buildings along Customs Street continued functioning as retail stores, most of Britomart was abandoned by the 1980s (Park, 2022). For nearly 30 years, the precinct became synonymous with urban decay, crime, and neglect (Orsman, 2014). Many structures remained vacant as billboard stands. Once a thriving mercantile district from its establishment in 1885 until the 1930s, Britomart's architectural heritage suffered prolonged disuse and degradation (Auckland Council, 2024a).

The first efforts to protect Britomart's historic buildings emerged in the Auckland City District Scheme of 1981, which categorised specific structures as Category 2, meaning they could not be removed, damaged, or significantly altered without substantial justification (Britomart Group, 2025b). This protection initially covered key buildings such as the CPO, Levy, Excelsior Ensemble, Australis House, and the Nathan Building on Customs Street (See Fig. 1). Further scheduling of buildings followed in the district plan operative in 2004. Efforts to include these buildings in the New Zealand Historic Places Trust List were also underway. By 1986, the CPO Building was the only structure in the Britomart precinct designated Category 1. Throughout the late 1980s and 1990s, additional buildings were granted Category 1 status, except for Old Sofrana House, which received its listing in 2005, as shown in Fig. 1.

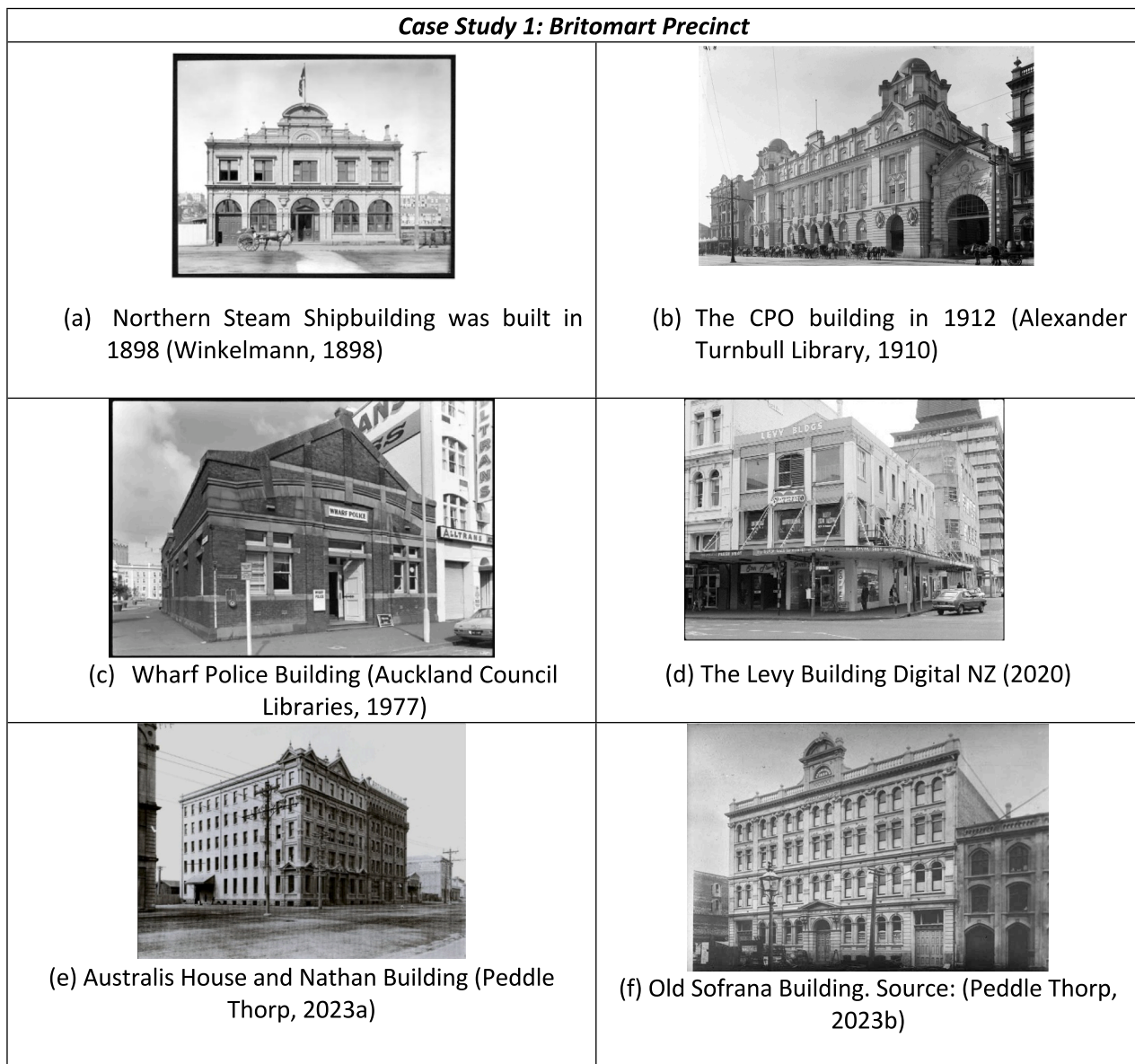


Fig. 1. Historical figures of Britomart Precinct.

### B. The Britomart Precinct adaptive reuse process

The Britomart project is a significant redevelopment project to revitalise three city blocks in central Auckland (Boarin, 2019). Stage One repurposed the former CPO into transport hubs and retail spaces, while Stage Two, the “Britomart Above Ground” project, renovated heritage buildings and added new offices, homes, and shops (Ministry for the Environment, 2005). Spanning 5.2 ha and costing \$204 million, the development created a modern transport hub with a bus interchange and underground rail station (Park, 2022). It revitalised the district with new public spaces and preserved 18 Victorian-era buildings, restoring its historic character and urban scale (Boarin, 2019). When Christine Fletcher became Mayor in 1998, she introduced a new approach to Britomart's redevelopment, prioritising complete heritage conservation despite previous investments (Donovan, 2013). This shift, welcomed by campaigners like the Rethink Britomart group, led the Auckland City Council to commission Salmond Reed Architects to develop conservation plans for the precinct's 18 historic buildings (Auckland Council, 2024a). In 2000, the Auckland Council launched a two-stage design competition, first for an underground railway station integrated with the

CPO and then for above-ground development (Auckland Council, 2024a).

Britomart Transport Centre opened in July 2003, using the restored east-facing section of the CPO as its entrance. In 2004, the Auckland Council signed a long-term agreement with the Bluewater Consortium, granting 150-year leases on historic buildings and renewable 50-year leases on new ones (Auckland Council, 2024a). By 2006, the “Interim Habitable Works” project began, making heritage buildings like the Barrington, Masonic, and Nathan buildings suitable for short-term tenancy (Cooper and Company, 2023). Key refurbishments followed: Cheshire Architects and Salmond Reed restored the Northern Steamship Company and Maritime buildings (2004–2006). JASMAX and Salmond Reed restored the CPO's upper levels and Queen Street lobby (JASMAX, 2025; Salmond Reed Architects, 2025). Additional restorations included the Levy Building, Union Fish Company Building, and Wharf Police Building (Auckland Council Libraries, 1977) and a rebuilt Charter House integrated into the Westpac Charter Customs building. Excelsior House and Stanbeth House were refurbished in 2010, the Seafarers Building in 2012–2013, and the Quay and Altrans buildings in 2014 (Cheshire Architects, 2025; Salmond Reed Architects, 2025), as shown in Fig. 2.



Fig. 2. Current figures of Britomart Precinct

These efforts revitalised Britomart, preserving its heritage while transforming it into a vibrant urban precinct (Boarin, 2019).

**C. Benefits and challenges of the Britomart redevelopment project**

The redevelopment of the Britomart precinct has brought numerous benefits to the city of Auckland despite the challenges encountered before, during, and after the project's construction phases (Auckland Council, 2023), as outlined in Table 3. The Britomart precinct redevelopment has boosted Auckland's economy, social vibrancy, and sustainability. Despite financial, environmental, and technical challenges, it successfully revitalised the area, promoting business, cultural identity, and better transport. Blending heritage conservation with modern development sets a benchmark for future urban renewal, balancing history with present-day needs (Auckland Council, 2024a). Ultimately, Britomart is a testament to Auckland's commitment to sustainable and inclusive city development (Park, 2022).

**4.2.2. Case study 2 – Auckland's CAB**

**A. Historical progression of the CAB's original use**

In 1905, with Auckland's population at 36,000, the City Council resolved to build a Town Hall and office block, which opened in 1911 (Heritage New Zealand, 2025). By 1960, with the population reaching 140,000, the Council decided to construct an Administration Block. Construction began in 1964, and the building was completed and handed over on 19 August 1966 (Pacific Commissioning, 2022). It was officially opened on 28 October 1966, as commemorated on a plaque affixed to the refurbished façade, as shown in Fig. 3 (Auckland City Corporation, 1966). The CAB was deemed too small, costly and surplus to requirements after local body amalgamation in 2010 (Niall, 2019). However, incoming top officials had already planned to purchase the ASB Bank skyscraper at 135 Albert Street for their new offices before the new Super City was founded in November 2010. The council paid the

**Table 3**  
Benefits and challenges of the Britomart Precinct Redevelopment Project vs Auckland's CAB project.

Aspects	Britomart Precinct Redevelopment Project		Auckland's CAB project	
	Benefits	Challenges	Benefits	Challenges
<b>Economic</b>	<ul style="list-style-type: none"> <li>• Provided business opportunities and various activities in the area (Cooper and Company, 2023).</li> <li>• Revitalising the area contributes to the vibrancy and viability of the central region of Auckland (Ministry for the Environment, 2005).</li> <li>• Contributed to the economic growth of the city and the region (Melis et al., 2020).</li> </ul>	<ul style="list-style-type: none"> <li>• Uncertainty on the return period on investment due to high initial costs (Cooper and Company, 2022).</li> </ul>	<ul style="list-style-type: none"> <li>• Provided a viable commercial opportunity enabling heritage conservation, housing, and area redevelopment (Taupo District Council, 2017).</li> <li>• Helped establish the area as a must-visit destination (BECA, 2025).</li> </ul>	<ul style="list-style-type: none"> <li>• Initial challenges in selling apartments (Orsman, 2018).</li> <li>• Unprecedented uncertainties due to the COVID-19 pandemic (Eke Panuku Development Auckland, 2022b).</li> </ul>
<b>Socio-cultural</b>	<ul style="list-style-type: none"> <li>• Promoted regional rail network use (KiwiRail, 2024).</li> <li>• Fostered a sense of community (Hobbs et al., 2022).</li> <li>• Integrated local Māori culture into the design (Dudouit, 2023).</li> <li>• Retained heritage values to promote cultural identity and social relevance (Auckland Council, 2024a).</li> </ul>	<ul style="list-style-type: none"> <li>• Strong public opposition to earlier plans (Greater Auckland, 2013).</li> <li>• The area's bad reputation before the redevelopment caused difficulties in bringing people to the area (Du Chateau, 2014).</li> </ul>	<ul style="list-style-type: none"> <li>• Delivered quality housing in a culturally rich, well-connected area (Orsman, 2018).</li> <li>• Integrated local Māori culture into the design of the redevelopment and reused building (Eke Panuku Development Auckland, 2016).</li> </ul>	<ul style="list-style-type: none"> <li>• Many people, including council employees, disliked the building and favoured its demolition (Barton, 2014).</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>• Incorporated water and energy-saving technologies in the facilities of the buildings (Cooper and Company, 2023).</li> <li>• Achieved high ratings from two different systems of sustainability and EE tools (Cooper and Company, 2023).</li> </ul>	<ul style="list-style-type: none"> <li>• Dewatering for extensive excavations poses risks to surrounding properties (Kirk et al., 2021).</li> <li>• Adequate ventilation is required to manage carbon monoxide from diesel trains in the underground station (Lawson et al., 2024).</li> <li>• Old buildings contain environmentally hazardous materials (Cooper and Company, 2024).</li> </ul>	<ul style="list-style-type: none"> <li>• Diversion of almost all demolition waste away from landfills (Naylor Love, 2022).</li> <li>• Reduction of carbon footprint through reusing the existing structure (Eke Panuku Development Auckland, 2022a)</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental and health hazards of the asbestos used throughout the building (McRae, 2016).</li> </ul>
<b>Political</b>	<ul style="list-style-type: none"> <li>• Adherence to the Resource Management Act of 1991 on protecting historic heritage (CityRailLink, 2025a).</li> </ul>	<ul style="list-style-type: none"> <li>• Conflicts exist between various local government bodies (Orsman, 2000).</li> <li>• The building owners opposed the consent granted by local authorities (Orsman, 2000).</li> <li>• The developer and city council had differing objectives (Park, 2022).</li> </ul>	<ul style="list-style-type: none"> <li>• Local government's effort to save ratepayers from paying for the restoration costs (Niall, 2019).</li> <li>• Exemption of the project from land use restrictions because it is an existing building (Steel Construction New Zealand, 2022).</li> </ul>	<ul style="list-style-type: none"> <li>• Securing resource consent and construction contracts for the Category A heritage building was challenging (Orsman, 2018)</li> <li>• Market uncertainty followed changes in city administration (Orsman, 2018)</li> <li>• Controversy surrounded the small portion of property sold by the council to the developer (Niall, 2019).</li> </ul>
<b>Technical</b>	<ul style="list-style-type: none"> <li>• Provision of integrated multi-modal public transport between rail, road, and sea (Auckland Transport, 2023).</li> <li>• Restoration of mobility and accessibility between the CBD, downtown area, and the ferry terminals (Auckland Transport, 2023).</li> </ul>	<ul style="list-style-type: none"> <li>• Construction-related difficulties and challenges (Britomart Group, 2025a).</li> <li>• Heritage features that must be retained do not comply with current building codes (Auckland Council, 2024a).</li> </ul>	<ul style="list-style-type: none"> <li>• The advantage of the robust steel construction of the existing building made it very suitable for reuse (Steel Construction New Zealand, 2022).</li> </ul>	<ul style="list-style-type: none"> <li>• Excessive cost to demolish or refurbish the existing building (Niall &amp; Hassan, 2016).</li> <li>• The building had to be stripped to its structural form during refurbishment (Steel Construction New Zealand, 2022).</li> </ul>

landlord to exit its four-year lease on the ARC Regional House on Pitt Street. Facing a housing shortage, most council members agreed in mid-2012 to purchase the 29-story Albert Street tower (Slade, 2016), once a civic hub under Mayor Robbie. By 2014, when staff relocated there, the CAB's 22 storeys of usable office space were left vacant during Auckland's biggest property boom (Lee, 2019).

### B. Adaptive reuse process of the CAB

In 2014, the Auckland City Council sought investors to rehabilitate the CAB, which was no longer needed. Without investment, it faced demolition to redevelop Aotea Square (Niall & Hassan, 2016). Council officers estimated that building a new structure twice its size would cost at least double the \$70 million needed for renovation due to asbestos removal, water damage, structural reinforcement, and recladding (Eke Panuku Development Auckland, 2015). However, the CAB's history

deterred corporate tenants, and residential developers were discouraged by constant activity in Aotea Square (New Zealand Herald, 2014). In 2015, the CAB received Category A heritage status under the Unitary Plan (Eke Panuku Development Auckland, 2015), recognising its over 50-year role as Auckland's administrative hub. Independent assessments by Archifact and Salmond Reed confirmed its cultural heritage value across historical, technological, physical, artistic, and contextual criteria (Barton, 2014). After Panuku announced plans to upgrade Aotea Square, including the CAB, CBRE initiated a procurement process. Redevelopment proposals had to prioritise heritage preservation and align with the Aotea Quarter's strategic goals (Taylor, 2015).

Following an international tender, Panuku Development Auckland selected Tawera Group in September 2016 to restore the Category A heritage property (Cooper and Company, 2024). Tawera's Civic Quarter proposal, designed by Jasmx, included food and beverage outlets on the ground floor and residential units above. A panel of heritage and

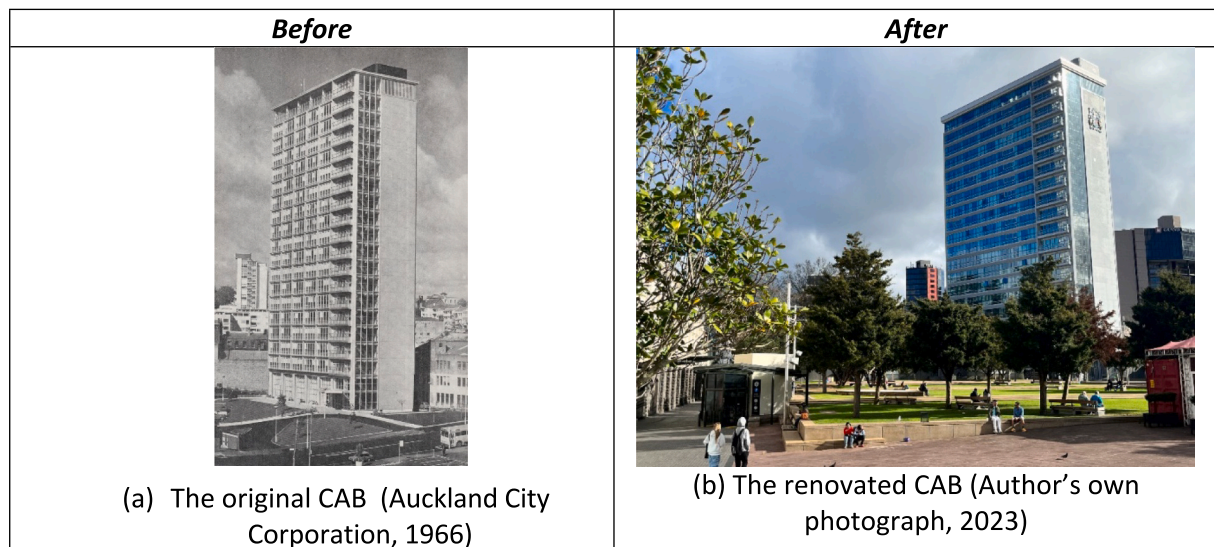


Fig. 3. CAB before and after renovation

urban design experts supported the selection (Eke Panuku Development Auckland, 2016). The mixed-use development was constructed by Naylor Love and Beca (Hayward, 2016). Through extensive AR, the 1960s office building underwent significant adaptive reuse, converting it into luxury apartments, and was officially opened as the CAB Residences on 1 July 2022 by Love & Co. (Love & Co., 2017). The project provided 114 new apartments, featuring a \$15 million penthouse, as a component of the broader Civic Quarter renovation of Aotea Square (Lynn, 2019). Nevertheless, the result offered solely luxury residential units, which underscores a squandered chance to promote wider societal goals, including accessibility and cheap housing (Niall & Hassan, 2016). This instance highlights the crucial role of public administration in negotiations with private investors over the AR of important civic assets. Despite the Auckland Council's facilitation of the redevelopment through property sale and regulatory assistance, the lack of mandates for affordable housing or universal design characteristics resulted in the project's advantages being predominantly restricted to affluent purchasers (Auckland Council, 2024b). In forthcoming projects, public authorities should utilise methods to negotiate with the public investors, including inclusionary zoning, housing quotas, or development incentives, to guarantee that AR initiatives yield substantial community advantages (Zeadat, 2024). Accordingly, incorporating the accessible design and cheap housing inside development agreements or planning approvals would harmonise private interests with the public good, guaranteeing that such redevelopments foster social fairness alongside heritage preservation and economic revitalisation.

### C. Benefits and challenges of Auckland's CAB redevelopment project

Auckland has derived several benefits from the AR of the historic CAB building, which, to some extent, mitigated the controversies and challenges faced by various stakeholders during the project's conception. Additionally, despite the technical complexities encountered throughout the construction phase, the project has contributed positively to the city's urban landscape. Table 3 outlines the key benefits and challenges associated with this AR project.

## 5. Implication of research findings and recommendations

The findings of this study provide critical insights for advancing AR and urban resilience strategies in New Zealand. Firstly, the research highlights the need for a more robust and adaptive regulatory framework to address existing limitations in AR projects. Strengthening regulations with clear, actionable guidelines and incorporating

contemporary sustainability standards, such as sustainable building practices and circular economy principles, can facilitate the successful implementation of AR initiatives. Secondly, the study underscores the importance of financial incentives to mitigate the higher initial costs associated with AR projects. Initiatives such as tax rebates, grants, and low-interest loans can encourage investment, enhance cost-effectiveness, and support the achievement of SDGs. Thirdly, the findings underscore the necessity of education and workforce development to address skill shortages and increase public awareness. Targeted training programs for construction professionals and public engagement campaigns on the benefits of AR can foster market demand for eco-friendly solutions and improve societal acceptance. Finally, the study highlights the value of relevant stakeholder collaboration involving government agencies, industry leaders, academic institutions, and community groups. A coordinated approach can ensure comprehensive policy development, the integration of innovative technologies, and alignment with global sustainability targets. By implementing these measures, New Zealand can accelerate its transition towards a more resilient and sustainable built environment. Based on this study's findings, the following recommendations are put forward to address existing knowledge gaps while leveraging the best practices and insights obtained from the research.

### 5.1. Government incentives and financial support for adaptive reuse projects

Enhancing AR in New Zealand requires targeted financial incentives to improve project feasibility and address economic constraints that frequently hinder such developments (Aigwi, Ingham, et al., 2020). Policymakers should consider implementing financial support mechanisms, as demonstrated in successful precedents. For example, in the Britomart Precinct, the city council accepted reduced investment returns to enable heritage-sensitive redevelopment, signalling a long-term commitment to sustainable urban transformation (Auckland Council, 2023, 2024a). Similarly, for the CAB project, the Auckland Council facilitated AR by selling the property at a significantly reduced price to developers prepared to undertake the financial and logistical challenges of heritage restoration (Pacific Commissioning, 2022). In both cases, the council further supported viability by permitting developers to reinvest proceeds from the property sale as additional funding, thus easing financial barriers. These are in line with recommendations from Aigwi et al. (2023), who identified the absence of financial incentives as a major obstacle to AR in New Zealand. Moreover, Pickerill (2024) further

underscores the effectiveness of tax incentives in attracting private investment to cultural heritage projects. Beyond direct financial assistance, the establishment of clear policy frameworks and the provision of long-term incentives are vital for creating a supportive environment for AR (Aigwi et al., 2022). Additionally, fostering public-private partnerships can improve resource allocation and streamline the often complex approval processes, further bolstering the economic feasibility of AR initiatives (Della Spina, 2021). Ultimately, a holistic strategy that integrates financial support with regulatory clarity will be key to advancing sustainable urban development through AR. Despite these positive examples, key findings reveal persistent gaps and inconsistencies in New Zealand's regulatory framework for AR, especially in reconciling heritage conservation with climate-adaptive and sustainable development priorities (Aigwi et al., 2023). These challenges mirror those faced in Europe and Asia, where outdated or fragmented regulations continue to hinder AR progress (De Medici et al., 2020; Paleari, 2024). Such parallels highlight the urgent need for adaptive, coherent, and forward-thinking policies that clearly define AR's contribution to urban resilience, sustainable consumption and production, and the achievement of the SDGs (United Nations, 2022).

Regarding the international context, the contemporary models, such as the European Green Deal and Australia's state-level AR policies, demonstrate the benefits of integrating circular economy principles, encouraging sustainable building practices, and establishing streamlined approval pathways (Department of Planning & Transport and Infrastructure, 2019). In contrast, the New Zealand context is distinguished by the integration of Māori values and seismic risk management into AR policy, offering a culturally and hazard-responsive framework seldom matched internationally (Byrt, 2019). However, the findings indicate that these strengths are not yet consistently operationalised at the project level, largely due to the lack of enforceable guidelines and effective monitoring mechanisms. To fully realise AR's potential, it is crucial to harmonise local and national regulations and to adopt clear standards for sustainability, inclusivity, and heritage protection (Lanz & Pendlebury, 2022).

### 5.2. Inclusive public engagement, education and awareness of adaptive reuse projects

Public engagement should be a fundamental aspect of AR projects, providing relevant stakeholders with a platform to voice their opinions and actively participate in design and decision-making processes (McKenna, 2017) because early stakeholder involvement is crucial for preventing conflicts and disputes, fostering consensus, and enhancing project acceptance (AlJaber et al., 2025). These recommendations align with those of Basha and Sağdıç (2025) and Napoli et al. (2018), who emphasised the need to strengthen early stakeholder engagement by expanding opportunities for community participation in decision-making, fostering a sense of ownership and ensuring alignment with local values. This is particularly crucial in evaluating the social impact of proposed new uses. The findings of this study reveal that persistent skill shortages, limited stakeholder awareness, and inadequate community engagement continue to constrain the progress of AR initiatives in New Zealand. These results are consistent with Yakubu et al. (2017), who identified similar impediments within the New Zealand context, particularly in smaller urban centres where workforce capabilities and public awareness remain underdeveloped. Comparable challenges have also been documented internationally, with Kee (2019) and McKenna (2017) highlighting that deficits in professional expertise and stakeholder engagement constitute major barriers to the effective implementation of AR across both European and Asian settings. A comparative analysis of case studies further substantiates the criticality of participatory processes in AR. The Britomart Precinct project, for instance, is distinguished by its extensive public consultation and transparent stakeholder involvement, attributes widely acknowledged as pivotal to its successful outcome (Cooper and Company, 2023). This

finding is consistent with international studies of Fabi et al. (2021) and Basha and Sağdıç (2025), which demonstrate that participatory approaches foster trust, mitigate conflict, and ensure that AR projects are attuned to community values and needs. The Britomart case thus exemplifies the broader scholarly consensus that early and meaningful engagement is foundational to effective AR policy and practice (Auckland Council, 2023).

Conversely, the CAB project serves as an illustrative case of the risks associated with limited transparency and minimal community involvement (Orsman, 2019). The resultant public opposition and negative perception closely mirror the shortcomings observed in international AR failures, such as those reported by Ben Ghida (2024) in France, where inadequate stakeholder participation undermined project legitimacy and contributed to suboptimal outcomes. These parallels reinforce the argument that the absence of inclusive engagement not only erodes public trust but also threatens the sustainability and social acceptance of AR initiatives. In addressing these persistent barriers, the extant literature repeatedly underscores the importance of capacity-building through education and workforce development (AlJaber et al., 2025). Furthermore, the existing literature emphasises the role of public awareness campaigns in generating societal support and acceptance for AR (Shin, 2024). Despite isolated examples of effective AR projects in New Zealand, the results indicate that broader public understanding and participation remain limited, particularly outside major metropolitan areas (Yakubu et al., 2017), underscoring the need for sustained outreach and education efforts to facilitate informed decision-making and encourage community investment in AR outcomes. Overall, the findings align with the recommendations of Basha and Sağdıç (2025) and Napoli et al. (2018), who suggested that strengthening early stakeholder engagement, expanding community participation in decision-making, and fostering a sense of ownership are essential to maximising the social value and long-term impact of AR projects. The success of the Britomart Precinct, contrasted with the challenges faced by the CAB project, underscores the transformative potential of inclusive engagement and the detrimental consequences of neglecting such processes (Niall, 2019). In essence, this study supports and extends the understanding that addressing workforce capacity, enhancing educational initiatives, and embedding robust stakeholder engagement at all stages of AR are critical to advancing sustainable and resilient urban development in New Zealand and beyond.

### 5.3. Strengthening community identity and sense of place to inspire sustainable heritage reuse

Revitalising heritage buildings should extend beyond physical restoration to strengthen the city's social fabric (Kee, 2019). Creating accessible community spaces fosters inclusivity and preserves shared cultural memory. In Britomart, for example, Takutai Square and the redevelopment of Queen Elizabeth Square into a pedestrian-friendly space enhanced urban engagement and walkability (Cooper and Company, 2024). Likewise, Aotea Square became a vibrant civic and cultural hub within the Civic Quarter (Naylor Love, 2022). AR projects should also integrate innovative, sustainable design to boost property value and attract financial incentives. In Britomart, sustainable building practices enabled developers to restructure financing as Green Loans, improving financial credibility and highlighting the economic value of sustainable redevelopment. Promoting environmentally responsible practices supports global sustainability goals and appeals to investors (Lanz & Pendlebury, 2022). This aligns with the findings by Liang and Wong (2020) and Poorisat et al. (2024), who emphasise the role of sustainability and corporate responsibility in attracting investment. By embedding sustainability into heritage reuse, cities can preserve cultural identity while delivering long-term environmental and economic benefits (Alavi et al., 2024).

#### 5.4. Comparative and global perspective

Aligning these findings within an international context demonstrates that the benefits and challenges shaping New Zealand's AR landscape, including financial constraints, regulatory complexity, and the imperative for community engagement, are broadly echoed across existing global literature (Ben Ghida, 2024; Paleari, 2024). However, New Zealand's approach is distinguished by two key features: the necessity for seismic retrofitting (Aigwi, Filippova, et al., 2020) and the explicit integration of indigenous (Māori) values in both policy and practice (Byrt, 2019). The international literature increasingly calls for more context-sensitive, inclusive, and sustainable approaches to AR (Foster, 2020). Within this pattern, the New Zealand experience makes a significant contribution by demonstrating how regulatory frameworks can be reformed to support better AR, how innovative financial mechanisms, such as targeted grants, tax incentives, and public-private partnerships, can stimulate investment, and how robust stakeholder engagement processes can enhance both community acceptance and project outcomes (Aigwi et al., 2023). Moreover, New Zealand's emphasis on bicultural placemaking and seismic resilience offers pioneering strategies that have the potential to inform AR practices globally, particularly in contexts that must balance heritage preservation with urban innovation and social equity (Byrt, 2019). This conjunction between the present study's findings and broader international evidence underscores several critical priorities for advancing AR. There is a clear need to strengthen regulatory clarity while integrating sustainability and inclusivity standards at national and local levels, drawing on globally recognised best practices (Lanz & Pendlebury, 2022). Simultaneously, the development and maintenance of financial incentives remain crucial, echoing proven models in other countries (Pickerill, 2024). Addressing persistent skills gaps and building wider acceptance require sustained investment in professional education, stakeholder capacity-building, and public awareness campaigns, as demonstrated by successful international examples (McKenna, 2017). At the same time, the prioritisation of inclusive stakeholder engagement and participatory decision-making processes is fundamental to fostering ownership, minimising resistance, and ensuring that AR projects genuinely respond to diverse community needs (Basha & Sağdıç, 2025). Finally, advocating innovative placemaking and the protection of cultural heritage, with particular attention to bicultural integration and seismic resilience, can position New Zealand as a model for adaptation in other contexts (Aigwi et al., 2023). Accordingly, these recommendations, based on both local findings and the international literature, provide a robust foundation for policymakers, practitioners, and scholars seeking to establish AR as a cornerstone of sustainable, resilient, and culturally vibrant urban futures.

#### 6. Conclusion

This study examined the alignment between AR and urban resilience strategies in New Zealand. By employing document analysis and case studies, it identified key urban resilience strategies and evaluated how AR contributes to achieving research objectives. Findings from the document analysis revealed that several New Zealand cities, including Auckland, Wellington, Christchurch, and Hamilton, have developed distinct urban resilience strategies. In Auckland, the six outcomes outlined in the Auckland Plan 2050 serve as the foundation for resilience planning. Each outcome, ranging from community participation to sustainable economic growth, presents opportunities where AR can be leveraged as a strategic tool.

In addition, the selected case studies of the Britomart Precinct and the CAB further demonstrated the multifaceted benefits of AR. The Britomart redevelopment revitalised a neglected urban space while preserving its architectural heritage, integrating sustainability measures, and enhancing public transportation access. The CAB project transformed a structurally sound yet underutilised building into a

vibrant residential complex, illustrating how AR can contribute to housing solutions, cultural preservation, and environmental sustainability. Both cases highlighted the economic, socio-cultural, environmental, political, and technical dimensions of AR, reinforcing its role as a viable strategy for urban resilience. However, despite the demonstrated benefits, AR presents notable challenges, including economic constraints, regulatory barriers, and technical complexities. Additionally, public opposition and market uncertainties, as seen in the CAB case, underscored the need for inclusive stakeholder engagement and policy support. Therefore, this study contributes to the growing discourse on AR by establishing its direct correlation with urban resilience strategies. It provides evidence that AR preserves cultural heritage, mitigates environmental impact, enhances social cohesion, and fosters sustainable economic development. These insights are valuable for policymakers, urban planners, and developers seeking to integrate AR into resilience planning. Future research should explore AR across a broader range of New Zealand building typologies and regional contexts.

Additionally, comparative studies with international best practices could provide further insights into optimising policy frameworks and financial incentives for AR. As cities face increasing pressures from climate change, population growth, and economic uncertainties, integrating AR into urban resilience strategies will be crucial for sustainable development in New Zealand and Beyond. In essence, AR presents an expedited pathway for enhancing urban resilience in New Zealand. Overcoming its challenges through strategic incentives, stakeholder collaboration, and innovative design approaches can serve as a cornerstone of sustainable urban transformation to meet SDGs and combat the climate crisis in a global context.

This study has several limitations as it focused on document analysis and two Auckland-based case studies, which may not fully represent the diversity of AR practices across New Zealand. The findings may not be generalisable to smaller cities or rural areas with different socio-economic and policy contexts. Additionally, relying on planning documents may overlook real-world implementation challenges and community perspectives. Future research should explore a broader range of building types and regional contexts, incorporate stakeholder insights, and consider longitudinal assessments of AR projects' long-term impacts on resilience. Comparative studies with international best practices could also help improve policy frameworks and financial incentives to support AR implementation.

#### CRedit authorship contribution statement

**Itohan Esther Aigwi:** Writing – review & editing, Supervision. **Lisandro Mendoza:** Writing – original draft, Resources, Methodology, Formal analysis, Data curation, Conceptualization. **Tharaya Poorisat:** Writing – review & editing, Validation. **Amarachukwu Nnadozie Nwadike:** Writing – review & editing.

#### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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## Data availability

Data will be made available on request.

## References

- Abbass, K., Qasim, M. Z., Song, H., Murshed, M., Mahmood, H., & Younis, I. (2022). A review of the global climate change impacts, adaptation, and sustainable mitigation measures. *Environmental Science and Pollution Research*, 29(28), 42539–42559. <https://doi.org/10.1007/s11356-022-19718-6>
- Aigwi, I. E., Duberia, A., & Nwadike, A. N. (2023). Adaptive reuse of existing buildings as a sustainable tool for climate change mitigation within the built environment. *Sustainable Energy Technologies and Assessments*, 56, Article 102945. <https://doi.org/10.1016/j.seta.2022.102945>
- Aigwi, I. E., Egbelakin, T., & Ingham, J. (2018). Efficacy of adaptive reuse for the redevelopment of underutilised historical buildings: Towards the regeneration of New Zealand's provincial town centres. *International Journal of Building Pathology and Adaptation*, 36(4), 385–407. <https://doi.org/10.1108/IJBPA-01-2018-0007>
- Aigwi, I. E., Egbelakin, T., Ingham, J., Phipps, R., Rotimi, J., & Filippova, O. (2019). A performance-based framework to prioritise underutilised historical buildings for adaptive reuse interventions in New Zealand. *Sustainable Cities and Society*, 48, Article 101547. <https://doi.org/10.1016/j.scs.2019.101547>
- Aigwi, I. E., Filippova, O., Ingham, J., & Phipps, R. (2020). Unintended consequences of the earthquake-prone building legislation: An evaluation of two city Centre regeneration strategies in New Zealand's provincial areas. *International Journal of Disaster Risk Reduction*, 49, Article 101644. <https://doi.org/10.1016/j.ijdrr.2020.101644>
- Aigwi, I. E., Filippova, O., Ingham, J., & Phipps, R. (2021). From drag to brag: The role of government grants in enhancing built heritage protection efforts in New Zealand's provincial regions. *Journal of Rural Studies*, 87, 45–57. <https://doi.org/10.1016/j.jrurstud.2021.08.024>
- Aigwi, I. E., Ingham, J., Phipps, R., & Filippova, O. (2020). Identifying parameters for a performance-based framework: Towards prioritising underutilised historical buildings for adaptive reuse in New Zealand. *Cities*, 102, Article 102756. <https://doi.org/10.1016/j.cities.2020.102756>
- Aigwi, I. E., Nwadike, A. N., Le, A. T. H., Rotimi, F. E., Sorrell, T., Jafarzadeh, R., & Rotimi, J. (2022). Prioritising optimal underutilised historical buildings for adaptive reuse: a performance-based MCDA framework validation in Auckland, New Zealand. *Smart and Sustainable Built Environment*, 11(2), 181–204. <https://doi.org/10.1108/SASBE-08-2021-0139>
- Aigwi, I. E., Phipps, R., Ingham, J., & Filippova, O. (2021). Characterisation of adaptive reuse stakeholders and the effectiveness of collaborative rationality towards building resilient urban areas. *Systemic Practice and Action Research*, 34, 141–151. <https://doi.org/10.1007/s11213-020-09521-0>
- Akrofi, M. M., Okitarsi, M., & Kandpal, R. (2022). Recent trends on the linkages between energy, SDGs and the Paris agreement: A review of policy-based studies. *Discover Sustainability*, 3(1), Article 32. <https://doi.org/10.1007/s43621-022-00100-y>
- Alavi, P., Sobouti, H., & Shahbazi, M. (2024). Adaptive re-use of industrial heritage and its role in achieving local sustainability. *International Journal of Building Pathology and Adaptation*, 42(6), 1223–1249. <https://doi.org/10.1108/IJBPA-09-2021-0118>
- AlJaber, A., Martinez-Vazquez, P., & Baniotopoulos, C. (2025). Exploring circular economy strategies in buildings: Evaluating feasibility, stakeholders influence, and the role of the building lifecycle in effective adoption. *Applied Sciences*, 15(3), 1174. <https://doi.org/10.3390/app15031174>
- Angrisano, M., Nocca, F., & Scotti Di Santolo, A. (2024). Multidimensional evaluation framework for assessing cultural heritage adaptive reuse projects: The case of the seminary in Sant'Agata de' Goti (Italy). *Urban. Science*, 8(2). <https://doi.org/10.3390/urbansci8020050>
- Asquith, A., McNeill, J., & Stockley, E. (2021). Amalgamation and Auckland city: A New Zealand success story? *Australian Journal of Public Administration*, 80(4), 977–986. <https://doi.org/10.1111/1467-8500.12457>
- Auckland City Corporation. (1966). *Auckland City Corporation administration building: Official opening, October 1966*. Auckland, N.Z.: The Corporation.
- Auckland Council. (2012). Auckland Plan 2012. <https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/Documents/auckland-plan-2012-full-document.pdf>
- Auckland Council. (2018). Auckland Plan 2050. <https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/auckland-plan/about-the-auckland-plan/docsprintdocuments/auckland-plan-2050-print-document.pdf>
- Auckland Council. (2023). Success story - investing in urban centres and public spaces to help businesses thrive. <https://our.auckland.aucklandcouncil.govt.nz/news/2023/05/business-leader-shares-the-vision-collaboration-and-tenacity-in-delivering-the-promise-of-britomart/>
- Auckland Council. (2024a). Auckland's heritage counts. <https://www.aucklandcouncil.govt.nz/arts-culture-heritage/heritage/docsheritagecountsummaries/auckland-heritage-counts-2024-annual-summary.pdf>
- Auckland Council. (2024b). *Role of Auckland Council*. <https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/topic-based-plans-strategies/environmental-plans-strategies/aucklands-climate-plan/implementation/Pages/role-of-auckland-council.aspx#:~:text=The%20Auckland%20Council%20group%20plays,control%2C%20revegetation%20and%20supporting%20biodiversity.>
- Auckland Council. (2025). CRL Britomart. <https://our.auckland.aucklandcouncil.govt.nz/tags/progressakl/crl-britomart/>
- Auckland Council Libraries. (1977). The Wharf Police Station, Quay Street East, 1977. <https://kura.aucklandlibraries.govt.nz/digital/collection/photos/id/66498/>
- Auckland Transport. (2023). Regional public Transport plan 2023-2031. [https://at.govt.nz/media/1992063/17-at-regional-public-transport-plan-2023-2031\\_draft.pdf](https://at.govt.nz/media/1992063/17-at-regional-public-transport-plan-2023-2031_draft.pdf)
- Aytac, D. O., Arslan, T. V., & Durak, S. (2016). Adaptive reuse as a strategy toward urban resilience. *European Journal of Sustainable Development*, 5(4), 523. <https://doi.org/10.14207/ejds.2016.v5n4p523>
- Badan, A. A. (2023). *The adaptive reuse of old buildings: Between absolute abidance to conservation and restoration principles and possible adaptations for reuse or alternative use*. (International Architecture and Design Conference).
- Barton, C. (2014). *The Civic Building: Modernist Folly, Architectural Treasure*. Retrieved 2025 from <https://www.metromag.co.nz/city-life/city-life-urban-design/the-civic-building-modernist-folly-architectural-treasure>
- Basha, B., & Sağdıç, Z. (2025). Assessing public perception in the adaptive reuse and preservation of historic buildings: A case study of the Elbasan bazaar Hammam. *Civil Engineering and Architecture*. <https://doi.org/10.13189/cea.2025.130201>
- Bay of Plenty Regional Council. (2025). Civil Defence emergency Management group plan. <https://www.boprc.govt.nz/your-council/plans-and-policies/plans/regional-plans/civil-defence-emergency-management-group-plan/>
- BECA. (2025). The CAB – Former Civic Administration Building. <https://www.beca.com/what-we-do/projects/buildings/the-cab-former-civic-administration-building>
- Ben Ghida, D. (2024). Revitalizing urban spaces: Ten key lessons from the “Viaduc des arts” adaptive reuse and placemaking. *Frontiers of Architectural Research*, 13(5), 1095–1112. <https://doi.org/10.1016/j.foar.2024.03.011>
- Boarin, P. (2019). Extending temporary appropriation through architecture: The role of adaptive reuse in shaping new. *Temporary Appropriation in Cities: Human Spatialisation in Public Spaces and Community Resilience*, 195.
- Bottero, M., D'Alpaos, C., & Oppio, A. (2019). Ranking of adaptive reuse strategies for abandoned industrial heritage in vulnerable contexts: A multiple criteria decision aiding approach. *Sustainability*, 11(3). <https://doi.org/10.3390/su11030785>
- Britomart Group. (2025a). The beauty of heritage. <https://britomart.org/the-beauty-of-heritage/>
- Britomart Group. (2025b). Britomart architecture. <https://britomart.org/architecture/>
- Brody-Heine, S., Katurji, M., Stewart, C., Wilson, T., Smid, E. R., & Trancoso, R. (2024). Modeling SO2 dispersion from future eruptions in the Auckland volcanic field, New Zealand. *Journal of Applied Volcanology*, 13(1), Article 2. <https://doi.org/10.1186/s13617-024-00141-0>
- Byrt, A. (2019). How Maori principles shaped the City rail link's award-winning design. <https://www.metromag.co.nz/city-life/city-life-urban-design/how-mori-design-principles-shaped-the-city-rail-links-award-winning-design>
- Chan, J., Bachmann, C., & Haas, C. (2020). Potential economic and energy impacts of substituting adaptive reuse for new building construction: A case study of Ontario. *Journal of Cleaner Production*, 259, Article 120939. <https://doi.org/10.1016/j.jclepro.2020.120939>
- Chan, S. H. G., Lee, W. H. H., Tang, B. M., & Chen, Z. (2024). Legacy of culture heritage building revitalization: Place attachment and culture identity. *Frontiers in Psychology*, 14, Article 1314223. <https://doi.org/10.3389/fpsyg.2023.1314223>
- Chandrakumar, C., McLaren, S. J., Dowdell, D., & Jaques, R. (2020). A science-based approach to setting climate targets for buildings: The case of a New Zealand detached house. *Building and Environment*, 169, Article 106560. <https://doi.org/10.1016/j.buildenv.2019.106560>
- Chao, J.-C., & Hsu, K.-W. (2018). The impact of Taiwan's urban-renewal policies, laws and decrees on urban redevelopment and urban disaster prevention. *IOP Conference Series: Earth and Environmental Science*, 164(1), Article 012034. <https://doi.org/10.1088/1755-1315/164/1/012034>
- Chen, C.-S., Chiu, Y.-H., & Tsai, L. (2018). Evaluating the adaptive reuse of historic buildings through multicriteria decision-making. *Habitat International*, 81, 12–23. <https://doi.org/10.1016/j.habitatint.2018.09.003>
- Chen, M.-C. (2021). What to preserve and how to preserve it: Taiwan's action plans for safeguarding traditional performing arts. In *Resounding Taiwan* (pp. 145–164). Routledge.
- Cheng, Z., & Hu, X. (2023). The effects of urbanization and urban sprawl on CO2 emissions in China. *Environment, Development and Sustainability*, 25(2), 1792–1808. <https://doi.org/10.1007/s10668-022-02123-x>
- Cheshire Architects. (2025). Culture and Heritage. <https://www.cheshirearchitects.com/work/culture>
- Christchurch City Council. (2025). About Christchurch City Council. *New Zealand Government*. <https://ccc.govt.nz/contact-us/about-this-site>
- CityRailLink. (2025). Waitemata Station Area History. <https://www.cityraillink.co.nz/waitemata-area-history>
- CityRailLink. (2025a). *Consents in your area*. <https://www.cityraillink.co.nz/consents-in-your-area#:~:text=A%20designation%20is%20a%20planning,and%20maintenance%20of%20the%20project>
- Cooper and Company. (2022). Britomart Sustainability Report 2022. <https://cooperandcompany.org/wp-content/uploads/2022/11/Britomart-Sustainability-Report-2022.pdf>
- Cooper and Company. (2023). Britomart Sustainability Report 2023. <https://cooperandcompany.org/wp-content/uploads/2024/02/Britomart-Sustainability-Report-2023>
- Cooper and Company. (2024). Britomart Sustainability Report 2024. <https://cooperandcompany.org/wp-content/uploads/2024/12/Britomart-Sustainability-Report-2024.pdf>
- Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE.

- Cudicio, Y., & i Gardella, N. B. (2024). Adaptive reuse as a tool for sustainable urban development: The case study of Singapore, Southeast Asia. *Journal of Urban Culture Research*, 29, 184–201. <https://doi.org/10.14456/jucr.2024.26>
- Davie, G., & Wyatt, D. (2021). In *The Routledge handbook of research methods in the study of religion* (Ed.), *Document analysis* (pp. 245–255). Routledge.
- Davies, O., Brisibe, W., & Davies, I. (2024). Challenges to implementation of adaptive reuse of heritage buildings. *International Journal of Architectural Heritage*, 7(2), 19–32p. doi:10.37628/IJAH.
- De Medici, S., De Toro, P., & Nocca, F. (2020). Cultural heritage and sustainable development: Impact assessment of two adaptive reuse projects in Siracusa, Sicily. *Sustainability*, 12(1). <https://doi.org/10.3390/su12010311>
- Della Spina, L. (2021). Cultural heritage: A hybrid framework for ranking adaptive reuse strategies. *Buildings*, 11(3), 132. <https://doi.org/10.3390/buildings11030132>
- Dell'Ovo, M., Dell'Anna, F., Simonelli, R., & Sdino, L. (2021). Enhancing the cultural heritage through adaptive reuse. A multicriteria approach to evaluate the Castello Visconteo in Casago (Italy). *Sustainability*, 13(8). <https://doi.org/10.3390/su13084440>
- Department for Environment and Water. (2022). Adaptive reuse guidelines for state heritage places in South Australia. *Government of South Australia*. <https://cdn.environment.sa.gov.au/environment/docs/Adaptive-Reuse-Guidelines-of-State-Heritage-Places-in-SA.pdf>.
- Department of Planning & Transport and Infrastructure. (2019). State planning policy 3: Adaptive reuse. *Government of South Australia*. [https://regional.plan.sa.gov.au/media/documents/spp/State\\_Planning\\_Policy\\_3\\_Adaptive\\_Reuse.pdf](https://regional.plan.sa.gov.au/media/documents/spp/State_Planning_Policy_3_Adaptive_Reuse.pdf).
- Department of the Environment and Heritage. (2021). Adaptive reuse: Preserving our past, building our future. *Australian Government*. <https://www.dceew.gov.au/parks-heritage/heritage/publications/adaptive-reuse>.
- Di Foggia, G. (2018). Energy efficiency measures in buildings for achieving sustainable development goals. *Heliyon*, 4(11). <https://doi.org/10.1016/j.heliyon.2018.e00953>
- Donovan, S. (2013). Auckland's hindsight heroes: Christine Fletcher. <https://www.greaterauckland.org.nz/2012/07/28/aucklands-hindsight-heroes-christine-fletcher/>
- Du Chateau, C. (2014). *Britomart - the story*. PQ Blackwell Limited. <https://books.google.co.nz/books?id=EARcQAACAAJ>.
- Dudouit, F. (2023). *City rail link-a pioneer underground metro project in New Zealand*. ATC 2023: Australian Tunnelling conference: Conference proceedings: Trends and transitions in Tunnelling.
- Dunedin City Council. (2016). Dunedin City civil Defence emergency Management plan. New Zealand Government <https://www.otagocdem.govt.nz/media/1038/revised-dunedin-cdem-plan-2016.pdf>.
- Eke Panuku Development Auckland. (2015). Civic administration building - fact sheet. [https://img.scoop.co.nz/media/pdfs/1609/Civic\\_Admin\\_Building\\_Fact\\_Sheet.pdf](https://img.scoop.co.nz/media/pdfs/1609/Civic_Admin_Building_Fact_Sheet.pdf).
- Eke Panuku Development Auckland. (2016). Iconic building to be restored into home for city dwellers. <https://www.ekepanuku.co.nz/news/iconic-building-to-be-restored-into-home-for-city-dwellers/>.
- Eke Panuku Development Auckland. (2019). Regeneration of civic administration building to begin. <https://www.ekepanuku.co.nz/news/regeneration-of-civic-administration-building-to-begin/>.
- Eke Panuku Development Auckland. (2022a). Restoration is the winner at the CAB. <https://www.ekepanuku.co.nz/news/restoration-is-the-winner-at-the-cab/>.
- Eke Panuku Development Auckland. (2022b). Statement of intent 2022-2025. <https://www.ekepanuku.co.nz/media/ucfla3sr/eke-panuku-statement-of-intent-2022-25.pdf>.
- Enker, R. A., & Morrison, G. M. (2017). Analysis of the transition effects of building codes and regulations on the emergence of a low carbon residential building sector. *Energy and Buildings*, 156, 40–50. <https://doi.org/10.1016/j.enbuild.2017.09.059>
- Environment Canterbury Council. (2025). About environment Canterbury council. *New Zealand Government*. <https://www.ecan.govt.nz/about/your-council/>.
- European Parliament. (2021). EU progress on climate action: How are the member states doing? Climate action in Italy Latest state of play. [https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/690663/EPRS\\_BRI%282021%29690663\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/690663/EPRS_BRI%282021%29690663_EN.pdf).
- Fabi, V., Vettori, M. P., & Faroldi, E. (2021). Adaptive reuse practices and sustainable urban development: Perspectives of innovation for European historic spa towns. *Sustainability*, 13(10), 5531. <https://doi.org/10.3390/su13105531>
- Foster, G. (2020). Circular economy strategies for adaptive reuse of cultural heritage buildings to reduce environmental impacts. *Resources, Conservation and Recycling*, 152, Article 104507. <https://doi.org/10.1016/j.resconrec.2019.104507>
- Foster, G., & Saleh, R. (2021). The adaptive reuse of cultural heritage in European circular city plans: A systematic review. *Sustainability*, 13(5), Article 2889. <https://doi.org/10.3390/su13052889>
- Gatley, J. (2015). The question of Auckland's civic building. *Docomomo Journal*(52), 83–85. doi:10.52200/52.A.W7PFMBYY.
- Gibson, A. (2015). Auckland's civic building on the block. <https://www.nzherald.co.nz/business/aucklands-civic-building-on-the-block/FQPHJRTF6ZIVMOJKHA/EU2CVJTY/>.
- Gravagnuolo, A., Angrisano, M., Bosone, M., Buglione, F., De Toro, P., & Fusco Girard, L. (2024). Participatory evaluation of cultural heritage adaptive reuse interventions in the circular economy perspective: A case study of historic buildings in Salerno (Italy). *Journal of Urban Management*, 13(1), 107–139. <https://doi.org/10.1016/j.jum.2023.12.002>
- Gray, D. E. (2021). *Doing research in the real world* (5th ed.). SAGE Publications Ltd.
- Greater Auckland. (2013). Happy 10th birthday Britomart. <https://www.greaterauckland.org.nz/2013/07/07/happy-10th-birthday-britomart/>.
- Griggs, G., & Reguero, B. G. (2021). Coastal adaptation to climate change and sea-level rise. *Water (Basel)*, 13(16), Article 2151. <https://doi.org/10.3390/w13162151>
- Guidetti, E., & Ferrara, M. (2023). Embodied energy in existing buildings as a tool for sustainable intervention on urban heritage. *Sustainable Cities and Society*, 88, Article 104284. <https://doi.org/10.1016/j.scs.2022.104284>
- Hamilton City Council. (2021). Hamilton 2021–2031 Long-Term Plan. Retrieved 2025 from <https://hamilton.govt.nz/strategies-plans-and-projects/long-term-plan/>.
- Hanapi, N. A., Zulkipli, W. K. S. a. W., & Rodzi, K. A. M. (2022). A performance-based framework to prioritize adaptive reuse gallery: A review on sustainable industrial heritage building in Malaysia & Australia. *IOP Conference Series: Earth and Environmental Science*.
- Hawke's Bay Emergency Management. (2024). Hawke's Bay CDEM Group Plan. <https://www.hbemergency.govt.nz/documents/>.
- Hayward, A. M. (2016). September 21. *Transformation at Aotea Square*. <https://architecturenow.co.nz/articles/transformation-at-aotea-square/#img=0>.
- Hegazi, Y. S., Shalaby, H. A., & Mohamed, M. A. (2021). Adaptive reuse decisions for historic buildings in relation to energy efficiency and thermal comfort—Cairo citadel, a case study from Egypt. *Sustainability*, 13(19), Article 10531. <https://doi.org/10.3390/su131910531>
- Heritage New Zealand. (2025). Auckland town hall. <https://www.heritage.org.nz/list-details/549/Auckland%20Town%20Hall>.
- Hobbs, M., Ahuriri-Driscoll, A., Kingham, S., Wiki, J., Marek, L., Dionisio, M., Curl, A., Schluter, P., Banwell, K., & Mackenbach, J. (2022). A city profile of Ōtago. *Cities*, 121, Article 103481. <https://doi.org/10.1016/j.cities.2021.103481>
- Huang, T. (2020). Census of businesses in Auckland's city Centre: January 2020 and changes since 2017. <https://knowledgeauckland.org.nz/media/1959/tr2020-01-8-census-of-businesses-in-aucklands-city-centre-2020.pdf>.
- Hutt City Council. (2025). *About Hutt City Council* New Zealand government. <http://www.huttcity.govt.nz/council/council-meetings>.
- IEA. (2022). World Energy Outlook 2022. <https://www.iea.org/reports/world-energy-outlook-2022>.
- JASMAX. (2019). Britomart Masterplan : Auckland's most pivotal transport-led urban renewal project. <https://jasmax.com/projects/britomart-masterplan>.
- Jones, Z. M., & Loddo, M. (2023). Buildings and architecture: Typologies that defy definition. In *Visiting the art Museum: A journey toward participation* (pp. 47–66). Springer. [https://doi.org/10.1007/978-3-031-12089-3\\_4](https://doi.org/10.1007/978-3-031-12089-3_4).
- Kee, T. (2019). Sustainable adaptive reuse—economic impact of cultural heritage. *Journal of Cultural Heritage Management and Sustainable Development*, 9(2), 165–183.
- Kirk, P., Hun, A., Ireland, T., & Elvy, J. (2021). *Managing ground risk for Auckland's City Rail Link project: Concept Design to Procurement. Proceedings of the 21st New Zealand Geotechnical Society Symposium*.
- KiwiRail. (2024). Auckland's rail story. <https://www.kiwirail.co.nz/assets/Uploads/Our-Regions/Auckland-Metro/Strategic-Rail-Programme-PBC/Documents-Appendices/Aucklands-Rail-Story.pdf>.
- Koroso, N. H., Lengoboni, M., & Zevenbergen, J. A. (2021). Urbanization and urban land use efficiency: Evidence from regional and Addis Ababa satellite cities, Ethiopia. *Habitat International*, 117, Article 102437. <https://doi.org/10.1016/j.habitatint.2021.102437>
- Lam, E. W., Zhang, F., & Ho, J. K. (2022). Effectiveness and advancements of heritage revitalizations on community planning: Case studies in Hong Kong. *Buildings*, 12(8), Article 1065. <https://doi.org/10.3390/buildings12081065>
- Lanz, F., & Pendlebury, J. (2022). Adaptive reuse: a critical review. *The Journal of Architecture*, 27(2–3), 441–462. <https://doi.org/10.1080/13602365.2022.2105381>
- Lawson, R. V., Sila-Nowicka, K., & Exeter, D. J. (2024). Commuter exposure to smoke and particulate matter air pollution in Auckland during the 2019 New Zealand international convention Centre fire. *Journal of the Royal Society of New Zealand*, 1–18. doi:https://doi.org/10.1080/03036758.2024.2409228.
- Lee, C. T., Lim, J. S., Fan, Y. V., Liu, X., Fujiwara, T., & Klemes, J. J. (2018). Enabling low-carbon emissions for sustainable development in Asia and beyond. *Journal of Cleaner Production*, 176, 726–735. <https://doi.org/10.1016/j.jclepro.2017.12.110>
- Lee, M. (2019). September 10. *Civic administration building fire sale: lose-lose for ratepayers*. <https://www.mikelee.co.nz/2019/06/civic-administration-building-fire-sale-lose-lose-for-ratepayers/>.
- Li, B., Han, S., Wang, Y., Wang, Y., Li, J., & Wang, Y. (2020). Feasibility assessment of the carbon emissions peak in China's construction industry: Factor decomposition and peak forecast. *Science of the Total Environment*, 706, Article 135716. <https://doi.org/10.1016/j.scitotenv.2019.135716>
- Li, Y., Chen, X., Tang, B.-s., & Wong, S. W. (2018). From project to policy: Adaptive reuse and urban industrial land restructuring in Guangzhou City, China. *Cities*, 82, 68–76. <https://doi.org/10.1016/j.cities.2018.05.006>
- Liang, T. C., & Wong, E. S. F. (2020). Sustainable development: An adaptive re-use solution for the hospitality industry. *Worldwide Hospitality and Tourism Themes*, 12(5), 623–637. <https://doi.org/10.1108/WHATT-06-2020-0047>
- Liu, G., Tan, Y., & Li, X. (2020). China's policies of building green retrofit: A state-of-the-art overview. *Building and Environment*, 169, Article 106554. <https://doi.org/10.1016/j.buildenv.2019.106554>
- Liu, Y., Lu, Y., Hong, Z., Nian, V., & Loi, T. S. A. (2019). The “START” framework to evaluate national progress in green buildings and its application in cases of Singapore and China. *Environmental Impact Assessment Review*, 75, 67–78. <https://doi.org/10.1016/j.eiar.2018.12.007>
- Lynn, A. (2019). June 07. Newshub: Auckland Council in turmoil over discounted property sale. <https://www.newshub.co.nz/home/new-zealand/2019/06/auckland-council-in-turmoil-over-discounted-property-sale.html>.
- Machline, E., Pearlmutter, D., Cohen, C., & Schwartz, M. (2023). COVID-19: a catalyst for revitalizing mixed-use urban centers? The case of Paris. *Building Research & Information*, 51(1), 39–55. <https://doi.org/10.1080/09613218.2022.2149451>

- Mani, F. S. (2020). Estimating greenhouse gas emissions in the Pacific Island countries. In A. Singh (Ed.), *Translating the Paris agreement into action in the Pacific* (pp. 3–27). Springer International Publishing. [https://doi.org/10.1007/978-3-030-30211-5\\_1](https://doi.org/10.1007/978-3-030-30211-5_1).
- McKenna, H. P. (2017). *Adaptive reuse of cultural heritage elements and fragments in public spaces: The internet of cultural things and applications as infrastructures for learning in smart cities. 2017 13th international conference on signal-image Technology & Internet-Based Systems (SITIS)*.
- McRae, T. (2016). Auckland's old council building to become apartments, restaurants. In *Stuff*. <https://www.stuff.co.nz/money/350637972/aucklands-old-council-building-to-become-apartments-restaurants>.
- Mehr, S., & Wilkinson, S. (2018). Technical issues and energy efficient adaptive reuse of heritage listed city halls in Queensland Australia. *International Journal of Building Pathology and Adaptation*. <https://doi.org/10.1108/IJBPA-02-2018-0020>
- Melbourne-Hayward, A. (2016). Transformation at Aotea Square. *ArchitectureNow*. <https://architecturenow.co.nz/articles/transformation-at-aotea-square/#:~:text=The%20Tawera%20Group%20proposal%20was,Aranga%20Maori%20Design%20principles%20were%20%20A%20incorporated.>
- Melis, A., Lara-Hernandez, J. A., & Thompson, J. (2020). *Temporary appropriation in cities*. Springer. <https://doi.org/10.1007/978-3-030-32120-8>
- Ministry for the Environment. (2005). Urban Design Case Studies. <https://environment.govt.nz/assets/Publications/Files/urban-design-case-studies-bw.pdf>.
- Ministry for the Environment. (2024). Who does what on the environment. <https://environment.govt.nz/what-government-is-doing/who-does-what-in-government-on-the-environment/>.
- Mohammed, A., Zoair, N., Abdel-Jalil, M., & Abdel-Hakim, A. (2024). Preserving the past, building the future: The role of adaptive reuse in achieving SDGs through tourism. In *Sustainable development seen through the lenses of Ethnoeconomics and the circular economy* (pp. 149–171). Springer. [https://doi.org/10.1007/978-3-031-72676-7\\_8](https://doi.org/10.1007/978-3-031-72676-7_8).
- Murray, S. (2021). The evolution and transformation of Bankside, London, 1947-2019. *Journal of Urban History*, 47(1), 68–84. <https://doi.org/10.1177/0096144219864677>
- Napoli, A., Darchen, S., & Spivack, D. (2018). Los Angeles, United States: Adaptive re-use of buildings to regenerate the inner-city. In *Global planning innovations for urban sustainability* (pp. 135–147). Routledge.
- National Emergency Management Agency. (2020). National Disaster Resilience Strategy. <https://www.civildefence.govt.nz/cdem-sector/plans-and-strategies/national-disaster-resilience-strategy>.
- Naylor Love. (2022). The CAB apartments. <https://www.naylorlove.co.nz/project/cab-apartments-auckland/>.
- Neglia, G., Angrisano, M., Mecca, I., & Fabbrocino, F. (2024). Cultural heritage at risk in world conflicts: Digital tools' contribution to its preservation. *Heritage*, 7(11), 6343. <https://doi.org/10.3390/heritage7110297>
- New Zealand Herald. (2014). Civic building prime target for demolition [article]. <http://ezproxy.aut.ac.nz/login?url=https://search.ebscohost.com/login.aspx?direct=true&site=eds-live&db=anh&AN=HOBZNHNZG-28Apr14-leader28>.
- Niall, T. (2019). Auckland council's former HQ sold for \$3m, sparking SFO complaint. *Stuff*. <https://www.stuff.co.nz/business/113216338/auckland-councils-former-hq-sold-for-3m-set-to-be-turned-into-homes>.
- Niall, T., & Hassan, M. (2016). Auckland council sells former HQ to apartment developer. *RNZ*. <https://www.rnz.co.nz/news/national/313850/auckland-council-sells-former-hq-to-apartment-developer>.
- Niu, S., Lau, S. S. Y., Shen, Z., & Lau, S. S. Y. (2018). Sustainability issues in the industrial heritage adaptive reuse: Rethinking culture-led urban regeneration through Chinese case studies. *Journal of Housing and the Built Environment*, 33(3), 501–518. <https://doi.org/10.1007/s10901-018-9614-5>
- Nocca, F., & Angrisano, M. (2022). The multidimensional evaluation of cultural heritage regeneration projects: A proposal for integrating level(s) tool—The case study of Villa Vannucci in san Giorgio a Cremano (Italy). *Land*, 11(9). <https://doi.org/10.3390/land11091568>
- Orsman, B. (2000). Council rejects Britomart threat. *The New Zealand Herald*. <https://www.nzherald.co.nz/nz/council-rejects-britomart-threat/JDF7DVORNRJSEI3Q3U55IGKGE/>.
- Orsman, B. (2014). Britomart: From dull spot to hip hub. *The New Zealand Herald*. <http://www.nzherald.co.nz/nz/britomart-from-dull-spot-to-hip-hub/MGOCCKPW3PZDTYMKVQDUCQ27M/>.
- Orsman, B. (2018). Challenging times for apartment sales not helping \$300m development in Auckland's cultural Centre. *The New Zealand Herald*. <https://www.nzherald.co.nz/business/challenging-times-for-apartment-sales-not-helping-300m-development-in-aucklands-cultural-centre/HEGDSZ4BEN74FQ43YA346UDENA/>.
- Orsman, B. (2019). Auckland council sells landmark civic building before resolving heritage matters. *New Zealand Herald*. <https://www.nzherald.co.nz/nz/auckland-council-sells-landmark-civic-building-before-resolving-heritage-matters/NBCT2JV54NMTEH3WWMPMZVBBRE/>.
- Pacific Commissioning. (2022). Civic administration building (CAB). [https://www.commissioning.co.nz/office-apartment-projects/civic-administration-building-\(cab\)](https://www.commissioning.co.nz/office-apartment-projects/civic-administration-building-(cab)).
- Paleari, S. (2024). The EU policy on climate change, biodiversity and circular economy: Moving towards a Nexus approach. *Environmental Science & Policy*, 151, Article 103603. <https://doi.org/10.1016/j.envsci.2023.103603>
- Park, J. (2022). Heritage interpretation in the urban regeneration of Britomart, Auckland, New Zealand. <https://hdl.handle.net/2292/59517>.
- Patil, D. T., Patil, A., & Patil, J. (2021). The decision-making criteria for adaptive reuse for sustainable development. *Advances in Geotechnics and Structural Engineering*, 599-607. doi:[https://doi.org/10.1007/978-981-33-6969-6\\_52](https://doi.org/10.1007/978-981-33-6969-6_52).
- Pellán, M., Louéat, M., El Beze, J., & Habert, G. (2022). A holistic perspective on the French building and construction GHG footprint. *IOP Conference Series: Earth and Environmental Science*.
- Pervez, H., Ali, Y., & Petrillo, A. (2021). A quantitative assessment of greenhouse gas (GHG) emissions from conventional and modular construction: A case of developing country. *Journal of Cleaner Production*, 294, Article 126210. <https://doi.org/10.1016/j.jclepro.2021.126210>
- Pickerrill, T. (2024). Investment leverage for adaptive reuse of cultural heritage. In *Adaptive reuse of cultural heritage* (Ed.), *Circular business, financial and governance models* (pp. 495–522). Cham: Springer International Publishing.
- Pintossi, N., Kaya, D. I., van Wesemael, P., & Roders, A. P. (2023). Challenges of cultural heritage adaptive reuse: A stakeholders-based comparative study in three European cities. *Habitat International*, 136, Article 102807. <https://doi.org/10.1016/j.habitatint.2023.102807>
- Pongsermpol, C., & Upala, P. (2018). Impacts of adaptive reuse of heritage buildings converted to small hotels in Bangkok. *Asian Journal of Quality of Life (AjQoL)*, 3(13), 69–79.
- Poorisat, T., Aigwi, I. E., Doan, D. T., & GhaffarianHoseini, A. (2024). Unlocking the potentials of sustainable building designs and practices: A systematic review. *Building and Environment*, Article 112069. <https://doi.org/10.1016/j.buildenv.2024.112069>
- Porirua City Council. (2025). To Kaunihera | your council. *New Zealand Government*. <https://porirua.govt.nz/>.
- Richardson, B. F. (2022). Finance, food, and future urban zones: The failure of flexible development in Auckland, New Zealand. *Land Use Policy*, 119, Article 106203. <https://doi.org/10.1016/j.landusepol.2022.106203>
- Riggs, W., & Chamberlain, F. (2018). The TOD and smart growth implications of the LA adaptive reuse ordinance. *Sustainable Cities and Society*, 38, 594–606. <https://doi.org/10.1016/j.scs.2018.01.007>
- Rose, E. A., Gatley, J., & Mota, L. (2023). Davids and the goliath at downtown: Why Central Auckland's largest post-war urban renewal scheme could not be stopped. *Planning Perspectives*, 38(1), 145–171. <https://doi.org/10.1080/02665433.2022.2049355>
- Salmond Reed Architects. (2025). Former chief post office. <https://www.salmondreed.co.nz/projects/former-chief-post-office>.
- Sanchez, B., Esnaashary Esfahani, M., & Haas, C. (2019). A methodology to analyze the net environmental impacts and building's cost performance of an adaptive reuse project: a case study of the Waterloo County courthouse renovations. *Environment Systems and Decisions*, 39(4), 419–438. <https://doi.org/10.1007/s10669-019-09734-2>
- Sankofa, N. (2023). Critical method of document analysis. *International Journal of Social Research Methodology*, 26(6), 745–757. <https://doi.org/10.1080/13645579.2022.2113664>
- Sari, Y., Purwantiastina, A. W., Hantono, D., Prayogi, L., & Schneider, V. (2023). *A study of adaptive reuse: Shophouses in Clarke quay-boat quay, Singapore from visitor's perspective. AIP Conference Proceedings*.
- Schoch, K. (2020). Case study research. In *Research design and methods: An applied guide for the scholar-practitioner* (pp. 245–258).
- Selwyn District Council. (2025). Selwyn District council webpage. *New Zealand Government*. <https://www.selwyn.govt.nz/>.
- Shehata, W., Langston, C., Sarvimäki, M., & Novak Camozzi, R. (2022). The adaptive reuse potential of underused heritage goals in Australia: a case study of Richmond Gaol, Tasmania. *Journal of Cultural Heritage Management and Sustainable Development*, 12(4), 345–366. <https://doi.org/10.1108/JCHMSD-09-2020-0142>
- Shin, Y.-J. (2024). The adaptive reuse design strategies—focused on the case of the Tate Modern architectural competition. *Journal of Asian Architecture and Building Engineering*, 1-16. doi:<https://doi.org/10.1080/13467581.2023.2300387>
- Slade, M. (2016). *Look at selling expensive headquarters*. *Stuff*: Auckland officials tell councillors. <https://www.stuff.co.nz/business/80123318/look-at-selling-expensive-headquarters-auckland-officials-tell-councillors>.
- StatsNZ. (2024). Subnational population estimates: At 30 June 2024 (2018-base). <https://www.stats.govt.nz/information-releases/subnational-population-estimates-at-30-june-2024-2018-base/>.
- Steel Construction New Zealand. (2022). Case study 14: The CAB – Adaptive reuse of steel. [https://scnz.org/wp-content/uploads/2021/11/SCNZ\\_Case-Study\\_Web-FINAL.pdf](https://scnz.org/wp-content/uploads/2021/11/SCNZ_Case-Study_Web-FINAL.pdf).
- Sun, J., & Zhou, T. (2023). Urban shrinkage and eco-efficiency: The mediating effects of industry, innovation and land-use. *Environmental Impact Assessment Review*, 98, Article 106921. <https://doi.org/10.1016/j.eiar.2022.106921>
- Tam, V. W., & Hao, J. J. (2019). Adaptive reuse in sustainable development. *International Journal of Construction Management*, 19(6), 509–521. <https://doi.org/10.1080/15623599.2018.1459154>
- Taupo District Council. (2017). Civic administration building | high-level requirements | February 2019. <https://www.taupodc.govt.nz/repository/libraries/id:25026fn3317q9slqygm/hierarchy/Council/Consultation/LTP%20amendment/Civic%20Administration%20Building%20-%20High-level%20requirements.pdf>.
- Taylor, C. (2015). *September 19*. *New Zealand Herald*: Council seeks Aotea remake partner. <https://ezproxy.aut.ac.nz/login?url=https://search.ebscohost.com/login.aspx?direct=true&site=eds-live&db=anh&AN=HOBZNHNZG-19Sep15-aotea19>.
- Tu, H.-M. (2020). The attractiveness of adaptive heritage reuse: A theoretical framework. *Sustainability*, 12(6). <https://doi.org/10.3390/su12062372>
- Tu, T., Wang, X., & Long, Y. (2024). Spatiotemporal changes of urban vacant land and its distribution patterns in shrinking cities on the globe. *Science of the Total Environment*, 947, Article 174424. <https://doi.org/10.1016/j.scitotenv.2024.174424>
- Udawatta, N., George, Z., Elmualim, A., Rameezdeen, R., & Zuo, J. (2018). *Adaptive reuse of inner-city buildings: Methods for minimising waste and stimulating the economy*

- proceedings of the 21st international symposium on advancement of construction Management and real estate.*
- United Nations. (2018). 68% of the world population projected to live in urban areas by 2050, says UN. *United Nations*. <https://www.un.org/uk/desa/68-world-population-projected-live-urban-areas-2050-says-un#:~:text=Today%2C%2055%25%20of%20the%20world's,million%20and%20Nigeria%20189%20million>.
- United Nations. (2022). The sustainable development goals report: Department of economics and social affairs. <https://unstats.un.org/sdgs/report/2022/The-Sustainable-Development-Goals-Report-2022.pdf>.
- Waimakariri District Council. (2025). Waimakariri Council. <https://www.waimakariri.govt.nz/home>.
- Warren, L., Dawodu, A., Adewumi, A. S., & Quan, C. (2024). Can the UK deliver zero carbon ready homes by 2050? *Sustainability*, 16(13). <https://doi.org/10.3390/su16135820>
- Wellington City Council. (2017). Wellington resilience strategy. *New Zealand Government*. <https://wellington.govt.nz/your-council/plans-policies-and-bylaws/policies/wellington-resilience-strategy>.
- Wellington City Council. (2025). About the Wellington council. *New Zealand Government*. Retrieved 2025 from <https://wellington.govt.nz/your-council/about-the-council>.
- Yakubu, I. E., Egbelakin, T., Dizhur, D., Ingham, J., Sungho Park, K., & Phipps, R. (2017). Why are older inner-city buildings vacant? Implications for town Centre regeneration. *Journal of Urban Regeneration & Renewal*, 11(1), 44–59. <https://doi.org/10.69554/CNJK4560>
- Yazdani Mehr, S., & Wilkinson, S. (2018). Technical issues and energy efficient adaptive reuse of heritage listed city halls in Queensland Australia. *International Journal of Building Pathology and Adaptation*, 36(5), 529–542. <https://doi.org/10.1108/IJBPA-02-2018-0020>
- Zeadat, Z. F. (2024). Adaptive reuse challenges of Jordan's heritage buildings: a critical review. *International Journal of Urban Sustainable Development*, 16(1), 95–107. <https://doi.org/10.1080/19463138.2024.2329661>