The Canterbury earthquakes of 2010-2012 have trigged a reappraisal of building policy and regulation – both for new buildings and existing buildings. This reappraisal is influenced by the recommendations of the Canterbury Earthquakes Royal Commission and currently being implemented by the earthquake-prone policy review of the Building Act 2004.

Earthquakes, war and other disastrous events cause trauma for affected communities. This trauma influences what types of heritage is preserved (and memorialised) as opposed to those places that are actively forgotten. Often the effect of historical trauma can last many years after the disastrous event. As described by Susanne Jaeger, in Germany ‘more historical monuments were lost as result of urban rebuilding and modernisation between 1945 and 1975 than of the war itself.’

The historic Wellington earthquake experience took place at the early phase of European settlement and had a formative impact on the life and townscape of early Wellington. Many hundreds of buildings survived the 1848 and 1855 earthquakes with minor damage except for the loss of chimneys. Only a few of these buildings, however, have survived since 1855. The few remaining pre-1855 buildings are a special and unique collection associated with early Wellington history, its people and early building techniques.

Despite the dominance of timber-framed buildings in the pre and post-1855 period, concern about fire risk triggered new building regulations in the Wellington CBD and influenced the construction of a large number of unreinforced masonry buildings (URM) after 1870. The new large civic and commercial buildings eventually became the heritage of Wellington’s future.

This paper reviews the impact of the 1848 and 1855 earthquakes on public attitudes relating to heritage buildings in Wellington. Earthquakes and the risk of fire have influenced Wellington’s historic townscape and have developed perceptions of heritage.
value. Recalling Wellington’s earthquake experience of 1848 and 1855 can also make a valuable contribution towards current building policy and regulation.

**Keywords:** historic earthquakes, historic heritage, building policy, resilience, Wellington

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**Wellington settler arrival 1840**

Systematic colonisation, as led by the New Zealand Company, was principally concerned with acquiring, purchasing and making land available for settlement. To make this happen, the establishment of urban settlements at key strategic port locations was a critical component.³

Life in the late summer of 1840 at Te Whanganui ā Tara did not progress to the plans of the New Zealand Company and the proposed City of Britannia. Unseasonal (typical) weather and flooding (2 March 1840) was followed by a severe fire (which destroyed 15 raupo houses) and then followed by an earthquake at 5.00 am on the morning of 26 May 1840. A further 24 earthquakes occurred in the district between 1849 and 1845. This all occurred despite the claim of the Company that earthquakes were unknown in New Zealand or were a ‘one-off’ event.⁴ As noted by Eiby in 1970:

> The New Zealand Company remained sensitive about this kind of thing [earthquakes] to the end of its days, and its reports of natural disasters (when it couldn’t ignore them altogether) are full of traps for the conscientious historian.⁵

Following the shift from Petone to Thorndon in April 1840 and the arrival of additional migrant ships and supplies, building activity accelerated. Charles Heaphy, draughtsman for the Company, estimated that, in November 1841, 195 wooden and brick buildings had been constructed in Wellington with 250 Māori dwellings.⁶ There were also a number of raupo and clay buildings. Ensign Best, on 5 June 1840 for example, described in his journal the wattle and daub Government House at Wellington with interior timber framing.⁷

Bricks had been produced locally since mid-1840 and four brickworks were in operation by 1844.⁸ Brick building increased in Wellington after a fire in 1842 when “more than 40 raupo and timber houses were destroyed,”⁹ Some public opinion blamed the fire on Māori buildings and welcomed their removal to create space for new development.¹⁰ Despite the fire and some brick buildings, the majority of Wellington buildings were timber-framed and weatherboard buildings – giving an overall impression to any visitor of a wooden town.¹¹

While the experience of earthquakes influenced the dominance of timber and raupo buildings, it appears that the more substantial drivers were the practicality of using local and cheap building materials, the influence of Māori building practices,¹² and, considering that many of the Company settlers were from Kent and Cornwall, the introduction of English timber weatherboarding which was popular in the 1830s.¹³

Available official statistics from the period also indicate the prominence of Māori buildings in the early phase of Wellington’s settlement. As indicated in the table below there was an estimated 491
Maori buildings in 1843. By 1845, this figure had dropped to 213 with a corresponding increase in buildings planned to a European design.

<table>
<thead>
<tr>
<th>Buildings in Wellington, 1843 and 1845</th>
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<tbody>
<tr>
<td>(Source, Colonial Secretary Correspondence, Statistics of NZ for the Crown Colony Period, 1849-1852, ATL NZ Pacific Collection) 14</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Houses built on European plan</td>
</tr>
<tr>
<td>Houses built on Maori plan</td>
</tr>
<tr>
<td>Warehouses and shops not included in above</td>
</tr>
<tr>
<td>Forges and workshops</td>
</tr>
<tr>
<td>Wind, water and steam mills</td>
</tr>
<tr>
<td>Public buildings</td>
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<tr>
<td>Estimated cost of houses (pounds)</td>
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<tr>
<td>Estimated cost of other buildings (pounds)</td>
</tr>
<tr>
<td>Number of householders</td>
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<tr>
<td>Number of proprietors of buildings</td>
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</tbody>
</table>

While European-style buildings increased in Wellington during the 1840s, the use of timber remained the primary construction material. In August 1848 (just prior to the October 1848 earthquake), the New Ulster Government Gazette published the statistics outlined below for buildings in Wellington. As indicated in the table, the Wellington region had only 47 brick or stone buildings with nearly all of these located in central Wellington. 15
In 1848, Wellington’s population was about 4,400 persons including the Hutt Valley, Porirua and the Kapiti Coast. This population experienced the Marlborough earthquake when on 16 October 1848 at 1.40 am the Awatere Fault ruptured releasing an Mw 7.7 earthquake. The earthquake involved a large number of major aftershocks until 24 October 1848 and continued until October 1849. The earthquake was felt at a level of MM8 at Wellington.
Severe damage occurred from continual aftershocks, especially the earthquake of 17 October 1848 which occurred at 3.40 pm.¹⁹ Loss of life resulted when Barrack Master-Sergeant Lovell and his two young children were walking down Farish Street (now Bond Street) at the time of the quake and were buried by falling bricks from the collapsing walls of Fitzherbert’s Store.²⁰ The aftershocks were also a threat to workers repairing damage from the first earthquake, such as John Plimmer who nearly died fixing a brick store damaged by the first quake.²¹

Following the earthquakes, a Board of Inquiry was formed consisting of Robert Park, Henry St Hill and Captain Thomas Collinson. The Report of the Board Inquiry provides an account of damage to masonry and clay buildings and chimneys.²² A total of 49 buildings were reported as damaged by the earthquakes. Of these, 20 were brick buildings, 17 were of clay construction, 10 were a brick and clay combination and two were timber-framed. The two timber-framed buildings were the Union Bank of Australia where damage was limited to a brick safe within the building and the Messrs Bethune and Hunter building was slightly damaged from falling store boxes.²³ It reported that all “almost every chimney in the town, has been broken down close to the roof.”²⁴ Despite the performance of timber houses which mostly survived the earthquake without damage (except for loss of chimneys), the Board of Inquiry did not wholly support the construction of new timber buildings. Instead it focused on the need to improve the construction of brick buildings to safeguard against fires. It considered that the brick buildings were largely damaged because of lack of support of bond-timbers and with mortar consisting of lime and clay (instead of lime and sand) and recommended new timber-supported masonry buildings.²⁵ Acknowledging, however, the timber building preference of most of the population, the Board also recommended greater separation between buildings.²⁶

As indicated, the Board considered one of the primary reasons for masonry building failure was the quality of the mortar. This reason was often quoted in local newspapers after the earthquakes to explain earthquake damage, to ‘play down’ the threat of earthquakes in the settlement, and to use the earthquake as an opportunity to construct new higher quality buildings.²⁷

The 1848 earthquake did damage Wellington’s masonry buildings and strengthened the dominance of timber buildings in the fledging settler town. However, there was also a strong view that much damage was a result of masonry buildings with insufficient quality mortar. This view was reflected in the third report of Lieutenant-Governor Eyre to Sire George Grey which, in summary, considered that there were four primary learnings from the disaster:

First, such convulsions appear to be rare...Secondly the worst shocks have not been the first, and thus a timely warning has been given to quit brick or other dangerous buildings, and little loss of life has ensured. Thirdly, not a single wooden building has been destroyed or, as far as I am aware, even injured. Fourthly, there is no doubt whatever that not a single brick building in the town has been really well and properly built....²⁸

The Wairarapa earthquake 1855

By 1855, Wellington’s population had risen to 5,966, including Porirua and the Hutt Valley.²⁹ Timber-framed and weatherboard buildings again dominated Wellington township with most
masonry buildings damaged in 1848 rebuilt in timber. Chimneys had also been secured by iron braces. A noticeable exception was Baron Alsdorff’s hotel which was rebuilt in brick following the 1848 earthquake.

While timber-framed/weatherboard buildings dominated, there were still a number of raupo and clay buildings in Wellington, especially within Māori settlements. Raupo buildings had been the subject of the New Zealand’s first building tax legislation with the Raupo Houses Ordinance passed by the Legislative Council back in 1842. This original Auckland Provincial Council legislation was in response to a “disastrous fire which started in a bake house with a thatched roof on the night of 9 November 1842”. The Raupo houses legislation was extended to Wellington in 1843.

Earthquakes had continued in Wellington after October 1849. As recorded by Charlotte Godley during her six month Wellington stay in 1850, no less than 8 earthquakes were felt between 7 May and 27 July 1850. C.R. Carter also recorded minor earthquakes in 1851 with his first experience of a ‘slight shock’ on 5 January 1851.

While some of these earthquakes were loud enough to be mistaken for volcanic eruption, they caused little or no damage. This changed when New Zealand’s most powerful recorded earthquake occurred at 9.00 pm in the evening on 23 January 1855. The magnitude Mw 8.3 Wairarapa earthquake was felt at MM10 in Wellington. This time 7-9 people were killed and 5 injured. Aftershocks continued until 10 October 1855.

A Commission was established to report about the earthquake to the Provincial Government. The Commission, consisting of C. Mills and C.R. Carter, completed their report on 6 October 1855. Much of the report repeated the findings from the earlier 1848 report - that brick and stone buildings were unsafe without solid timber support and that well-built buildings with solid foundations suffered little damage. However, some 15 years had now passed since the founding of the Wellington settlement and much of the early building timber work had already deteriorated and parts of the town had expanded onto poorer quality low-level land:

In those parts of town the most damage occurred, namely dilapidated buildings and defective foundations; buildings erected on loose gravelly or swampy foundations; buildings with ground plates partially or entirely decayed or destitute of braces – have suffered severely while both houses and stores where the timbers were sound and the foundations good, have escaped without almost any injury.

Essentially, the Commission considered that future buildings should be low level, fire resistant, earthquake resistant structures to be hopefully maintained in good condition. While the Commission promoted well-built stone or brick buildings, the Wellington Independent reflected public opinion in favour of enhanced ‘progress’ based on new timber-framed structures by stating:

We can dispense in future with high massive buildings, and can make very pretty and comfortable the city of Wellington, even though our houses should be one storey high and the material used in their construction, be nothing more substantial than painted boards.
Heritage and the pre-1855 Wellington earthquake buildings existing today

The 1847 and 1855 earthquakes occurred when Wellington European settlement was in its infancy and with the assistance of the New Zealand Company and the local ‘boosters’, the prevailing public attitudes were preoccupied with progress of the small developing settlements. In fact, disasters such as earthquakes and fires were often viewed in a positive light in removing poorly constructed early buildings and providing opportunities for new development. Consequently, the post 1847 and 1855 rebuild period was marked by removal and demolition of damaged existing buildings. Clearly, in this context, historic heritage, or the need to preserve existing buildings, was not a high or predominant view within the settler community.

An exception to the wholesale removal of damaged buildings in Wellington was the case of the 1st Wellington Council Chamber building which was severely damaged in the 1855 earthquake and was purchased as a partial ruin by Charles Carter soon after the earthquake. Carter repaired the building and in 1871 noted that that it was ‘still standing’. He commented that it was the oldest public building in Wellington and a “certain historical interest clings to it; and as from sheer decay it must soon pass away along with the old Colonists who have witnessed its creation and vicissitudes.”

Another damaged building that was not wholly removed was Paremata Barracks at Porirua. Paremata Barracks was built by the colonial government in 1846 for the Porirua military operations against Ngati Toa Rangatira and their allies. Built on a former Māori settlement and burial site and was a two-storey structure with towers. It was constructed of local stones with poor mortar of beach sand/gravel. Damage to the barracks in both the 1848 and 1855 earthquakes was severe and has been attributed by Māori to violation of wāhi tapu. Following the earthquakes and the departure of the colonial forces, the damaged barracks was converted into a barn or farm shed.

In terms of Māori buildings, the Te Aro Pa foundations (Toenga o Te Aro) on Taranaki Street illustrate a rare example of housing built from Ponga from the 1820s onwards. The foundations of Te Aro Pa, which were discovered in 2005, and associated historical photographs, illustrate that the Te Aro Māori buildings survived the earthquakes and were not wholly demolished in the post-earthquake disaster rebuilding period.

Taylor-Stace Cottage at Pauatahanui was possibly built in 1847 as the residence of William and Anne Taylor. The cottage is a timber-framed structure with the exterior walls sheathed in plain weatherboards on the back or south wing, and rusticated weatherboards on the front or north wing. It has a gable roof sheathed in corrugated iron. The front two rooms of the cottage are a 1906 addition built by David Greig.

Homewood in Karori was also built in 1847 as residence of Henry Samuel Chapman, first Judge of the Supreme Court. The Chapman diaries record in some detail the construction of the house and daily life of the Chapmans, noting that they shifted into the house on 24 April 1847 and that the house was substantially enlarged in 1903 while retaining the 1847 cottage as servant’s quarters. It is the L-shaped wing on the south-west elevation of the house that is considered to date from April 1847 – having a two storeyed steeply pitched roof and low ceiling studs.
Collet House in Petone dates from 1848 and was the home of Henry and Eliza Collet. The Collets arrived in Wellington on the ship *London* in 1841. After setting up a carpentry business in Te Aro, the couple moved to Petone in 1847.\(^47\) Henry Collet established himself as a wheelwright, servicing carts and coaches travelling on the main road leading north from Wellington. By 1848 the Collets had constructed a simple four roomed, two-storey dwelling from pitsawn weatherboards on land adjacent to the road. Collet House has had substantial alterations with extensions between 1874 and 1890 and a bungalow-style roof added in 1945.\(^48\) Also in the Hutt Valley, Christ Church opened for service on the 1 January 1854. It was constructed by Sidney Hirst of heart totara, pit sawn from local forest and hauled to the site on bullock drays.

Other potential pre-1848/1855 candidates are Papakowhai Homestead, Porirua, Harrison Cottage at Glenside and Fernhill at 15 Fern Hill Terrace, Wadestown. The earliest part of Fernhill possibly dates from the mid-1840s when the owner of the property was Charles Pharazyn.\(^49\) The bulk of the house, however, was constructed in the early 1860s for Samuel Grimstone. The rear part of Papakowhai Homestead is thought to date from 1848 when the Bowler family farmed the area. In 1855 the house was purchased by Anthony Wall who constructed a large Victoria addition in 1888.\(^50\) Spinks Cottage at St John’s on Willis Street could also be a potential 1855 survivor as it was built sometime between 1854 and 1863.\(^51\)

Outside of Wellington, St John’s Church, Wakefield dates from 1846 and Rangiatea Church, Otaki, was built between 1848 and 1951. Prior to its destruction by arson in 1995, Rangiatea was hailed as symbolic of Māori and European spiritual and building traditions.\(^52\) There is also a surviving ‘stud and mud’ cottage at Robin Hood Bay in Marlborough which may possibly date from 1848.\(^53\)

Dicky Sayer’s Slab Whare, Dalefield Road, Carterton, was built about 1854. It is a slab and batten construction with floorboards on the ground. David Kernohan notes that this building is possibly one of the last remaining examples of this type in New Zealand and is subject to severe neglect and deterioration.\(^54\)

All the pre-1855 survivors are timber-framed-weatherboard buildings and were originally on large 100 acre country sections. They were relatively ‘new’ buildings at the time of the 1848-1855 earthquakes and the author can only assume that the buildings had not suffered sufficient physical deterioration to cause any damage. The author also assumes that damage was not caused by liquefaction. The primary source of damage would have been in cracking and falling chimneys as recorded by Chapman at Homewood.

Except for the pre-1855 churches and Dicky Sayer’s Slab Whare, the surviving buildings have been substantially altered and modified for domestic or other purposes reflecting various phases of use and adaptive re-use of buildings.

**Post-1855 Wellington Reconstruction**

The 1855 reconstruction period was initially characterised by continued construction of timber-framed buildings in the Wellington region. The first large civic building constructed after the earthquake was for the Wellington Provincial Council. This was built on the current site of the General Assembly Library in the gothic rival style in 1857. The Provincial Council building became
Parliament Buildings in 1864 when the capital shifted to Wellington. The establishment of the capital in Wellington also triggered the need for other large civic buildings such as Government House (1871) and Government Buildings (1876). These buildings were accompanied by new churches and public buildings including Old St Paul’s (1866) and St Peter’s on Willis Street (1879).

The use of timber to construct civic and commercial buildings declined from the mid-1870s onwards as the memory of the 1848-1855 earthquakes faded. This trend was driven by the establishment of new commercial offices and colonial engineers/architects who advocated for masonry buildings to enhance fire safety and achieve greater perceived permanence.

This shift from timber to masonry in the central city was also influenced by new building regulations under the Municipal Corporations Act 1876. This law enabled local authorities via bylaws to prohibit or restrain the use of combustible materials, distance between buildings and wall dimensions and materials. In Wellington, the central area was labelled ‘No.1 District’ and this area was subject to a bylaw control from 1877 onwards that restricted the use of timber as an external building material. While the bulk of these buildings were built of unreinforced masonry, building technology advanced by the early 20th Century with the use of steel framing as found in the Public Trust Building built of granite supported by steel in 1908.

Heritage regulation and building reform

In the mid-20th Century period, further legislative and policy work was undertaken by government in light of both the 1931 Hawkes Bay and 1942 Wairarapa earthquakes. This resulted in new regulations to regulate earthquake risk buildings in 1968. Under the Local Municipal Corporations Act 1968 and the Local Government Act 1974, local authorities were given the right to apply to the Minister to regulate the strengthening of buildings deemed to constitute an earthquake risk. The legislative powers were adopted by councils such as Wellington and Auckland which took a proactive stance on the issue. David Hopkins reports that Wellington City Council achieved the strengthening or demolition of 500 out of 700 buildings identified as earthquake-prone between 1968 and 2003. For example, in 1973 a total of 758 buildings in Wellington City had been identified by the Council as ‘earthquake risk’. By 1983, 261 of these buildings had been demolished (34%) and 17 buildings had been strengthened. This activity focused on Lambton Quay and the CBD where a total of 213 buildings had been demolished of a total of 592 identified earthquake risk buildings.

The small number of buildings strengthened in Wellington during the early 1970s involved pioneering engineering techniques influenced largely by the Californian experience. These buildings included the DIC, State Opera House, the Maritime Building, AMP Head Office, Public Trust Building and later the Hunter Building and the St James Theatre. Often these buildings were strengthened as a result of intense and high profile preservation campaigns.

The heritage campaign triggered a new ‘generation’ of heritage regulation under the Town and Country Planning Act 1977 and then under the Resource Management Act 1991(RMA). In all the major urban cities, new heritage advocacy groups prepared ‘lists’ of significant heritage buildings, many of which were earthquake-risk or threatened by demolition. The bulk of these buildings on these lists became officially-recognised heritage as registered historic places under the Historic Places Acts of 1980 and 1993.
The Canterbury earthquakes of 2010 and 2011 have triggered a new review of heritage and building policy reform. The Canterbury Earthquake Royal Commission (the Royal Commission) report was released in 2012 and this report contains a wide range of recommendations for building policy reform. Effectively, the Royal Commission recommendations promote proactive regulation to manage and reduce the risk of earthquake-prone buildings, including heritage buildings. The Government has responded to the Royal Commission with the publication of new proposals for improving building seismic performance in December 2012. The proposals involve new timeframes for strengthening or demolition of earthquake-prone buildings, a new public register of earthquake-prone buildings and provision of exemptions of low-use or rural buildings. The Government has now refined these provisions in a policy announcement in August 2013 which included the possibility for registered Category 1 historic places and National Historic Landmarks to obtain a 10-year extension for earthquake strengthening. The Government is also continuing to reform the RMA in terms of developing stronger national guidance and new consenting processes and timeframes which will eventually influence the management of historic heritage as with a range of other resource management issues.

The reference to Category 1 historic places and National Historic Landmarks links to an associated legislative review of the Historic Places Act 1993. This review is expressed in the Heritage New Zealand Pouhere Taonga Bill which will establish a new legislative basis for the registration of historic places, archaeological authorities, the functions and powers of the NZHPT (which will be renamed Heritage New Zealand) and the establishment of a new list of National Historic Landmarks (the historic landmarks) which will compromise New Zealand’s most significant heritage places in terms of having outstanding historical, cultural and physical significance. The intention of the new historic landmarks provisions of the Bill is to ensure New Zealand’s most significant heritage places are not destroyed or lost in an earthquake or other damaging event. For this reason, the management of historic landmarks is required to mitigate the effects of natural disasters under provisions for a risk management plan.

With priorities shifting to protect the most significant heritage places, there are some indications of increased public acceptance (especially in high earthquake-risk regions of New Zealand) of removal or demolition of heritage places considered to be of ‘lower value.’ Recent examples include the demolition of Dalton House, Nelson (formerly registered Category 2 historic place under the Historic Places Act 1993) and Holland Hall, Westport (also formerly registered Category 2 historic place). Both places were deemed to be earthquake-risk and the proposed demolition did not attract widespread public interest with the NZHPT being the only submitter on the resource consent process in opposition in both instances. The author suspects that demolition of these heritage buildings would have been more highly contested prior to the Canterbury earthquakes.

Discussion - earthquake heritage

Critical heritage discourse views heritage as part of the production and reproduction of social values in which heritage is viewed as a process of classification and authorisation as part of complex economic, environmental and cultural processes. While the role of memory is fundamental to the concept of heritage and the construction of national identities, also critical is the ‘process of forgetting’. As explained by Rodney Harrison, ‘much of the literature on personal and collective memory suggests that the process of forgetting is integral to the process of remembering – that one
cannot properly form memories and attach value to the memories without selecting some things to also forget.\textsuperscript{67}

Historic trauma, generated by events such as earthquakes, heightens sense of risk and threat to key public infrastructure (ie, water, food, shelter) and significant public spaces and networks. Heritage, by definition, is about places perceived to be at risk or threatened – "the risk might simply be the implicit threat of time itself – forgetting, decaying, eroding or becoming worn with age. More often, the threat is one of demolition or destruction..."\textsuperscript{68}

Clearly earthquake trauma did influence the rebuilding and construction of Wellington as a ‘timber-town’ up until the 1870s. As with the Canterbury earthquakes of 2010-2012 (and similar overseas experience such as the Australian Newcastle earthquake of 1989), the Wellington post-earthquake period was marked by demolition of commercial and public buildings and the creation of new development opportunities for rebuilding. Further, the Canterbury, Newcastle and Wellington earthquakes all highlight the high value of timber-framed and reinforced buildings for safety.\textsuperscript{69}

Rather than ‘romantic’ views of historic heritage, the practical considerations of resilience and adaptation were key for the survival of buildings.

While commercial and public buildings shifted to masonry forms of construction from the mid-1870s, domestic timber-framing remained the popular choice as expressed by the large historic suburban areas of Newtown, Mt Victoria, Mt Cook and Thorndon. It was also adopted for dwellings by the upper classes as symbolised by buildings such as Antrim House (1905) designed by Thomas Turnbull and, like the Government Buildings, was intended to give the appearance of masonry permanence. This public perception of the value of timber-framed construction has remained constant for domestic dwellings to the present era.

The Wellington post-earthquake environment focused on building new civic buildings to generate confidence and catalysts for political, economic and social regeneration. These new public status symbols eventually obtained heritage interest and prominent recognition, including registration under the Historic Places Act 1993 (and former heritage legislation) and acquisition by the Crown. Old St Paul’s Church, St Peters Church and the Government Buildings are three examples which gained early recognition as historic places in the 1970s. This recognition aligns with other cities such as Art Deco Napier and Hastings which has placed high value on buildings and architecture associated with the post-earthquake reconstruction period.

Contrasting with the prominent post-earthquake civic buildings in Wellington and other cities such as Napier, pre-earthquake building survivors have generally attracted less recognition and attention. Perhaps this reflects the smaller-scale and practical domestic nature of many of the timber-framed buildings that survived the earthquakes and these buildings became part of the accepted and ‘ordinary’ built environment – as opposed to the ‘special’ post-earthquake reconstruction built environment. It also may reflect often common post-disaster public attitudes that tend to favour taking advantage of development opportunities that arise from the removal of existing historic buildings and infrastructure.\textsuperscript{70}

Rodney Harrison advocates for a critical reappraisal of existing heritage classifications and lists in order to avoid over-‘heritagisation’ of society where the abundance of heritage presents a ‘crisis of
accumulation’ which will “ultimately undermine the role of heritage in the production of collective memory.”

As outlined in this paper, reappraisal of existing heritage classifications is occurring as part of the new Heritage New Zealand Pouhere Taonga Bill and will likely to continue as part of RMA reform and 2nd generation district plan reviews. This reappraisal will be influenced by the recommendations of the Canterbury Earthquakes Royal Commission and Government’s developing policy for earthquake-prone buildings.

The author considers that the reappraisal of existing heritage classifications will provide opportunities for recognition of the ‘ordinary’ but resilient timber-framed heritage buildings that have survived major disasters such as earthquakes and continue to provide new uses via adaptive reuse and retrofit.

Conclusion

Earthquakes are often remembered as ‘one-off’ events associated with a particular year or date. The early Wellington settler experience of earthquakes, however, began soon after the colonists arrived in 1840 and appeared to continue largely until late 1855 with many minor shocks and the major earthquakes of 1848 and 1855.

Buildings constructed before 1855 provide a unique insight into building history and technique and can help inform current approaches to building regulation following the Canterbury earthquakes of 2010-2012. While many hundreds of buildings did survive the 1848 and 1855 earthquakes, few of these buildings survive today as a consequence of urban expansion, neglect or other events such as fire. All of the 1848 and 1855 survivors and the post-quake buildings should have a role in helping to ensure that earthquake experience does not fade from public memory and this heritage can influence decisions about new building standards and design today.

Heritage values are about the values that people associate with a place. These types of values were not prominent early in Wellington’s settler history. Instead disasters provided opportunities for urban clearance and new building and these views remain prominent in the post-Canterbury earthquake environment.

Despite the resilience of the small-scale timber buildings, it was the reconstruction-period buildings, especially the new ‘generation’ of larger timber buildings for public purpose during the 1860s and 1870s that eventually were recognised as ‘heritage’ during the mid-late 20th century. These buildings form the basis to New Zealand’s stock of post-disaster heritage buildings.

Disasters result in social trauma for people and communities and reappraisal of both heritage and building regulation. In the post-Canterbury earthquakes environment, there is a greater emphasis of reducing earthquake-risk and improving resilience of the building stock. Timber-framed heritage buildings, especially the survivors of historic earthquakes, should be prominent in the reappraisal process and the identification and protection of these buildings will more closely align with changing public values concerning heritage and building safety.
Note: The contents of this paper or the opinions expressed in no way reflect or express the views or position of the Ministry for the Environment.

10 *New Zealand Colonist and Port Nicholson Advertiser*, Volume I, Issue 31 (15 November 1842) p 2
14 I wish to acknowledge Nigel Issacs, Victoria University of Wellington, for assistance in locating these statistics.
15 It is noted that the statistics did not include Paremata Barracks at Paremata which was constructed of stone and mortar in 1846.
17 Mw or Moment Magnitude Scale is a measure of the quantitative measure of the size of the earthquake at its source. It is a base-10 logarithmic scale. Source, GNS NZ: http://www.gns.cri.nz/
18 MM or Mercalli Intensity Scale is a measure of the severity of earthquake shaking using a descriptive scale. Source, GNS NZ: http://www.gns.cri.nz/
23 Schedule of Buildings in Wellington and the Neighbourhood which have been damaged by the Earthquakes in October 1848,’ in Grapes, Rodney (2011) *The Visitation, The Earthquakes of 1848 and the Destruction of Wellington*, Victoria University Press, pp 177-182.
26 Captain T. B. Collinson, R.E., to the Hon. the Colonial Secretary, Official Report on the Earthquakes of October (1848).
33 Hodgson, Terence (1990) *Colonial Capital Wellington 1865-1910*, Auckland: Random Century, p 9; For example, the Native Secretary, H. Tacy Kemp, Survey of Wellington pā in 1850 recorded that at Pitone Pa there was 1 chapel, 3 weatherboard houses and 35 raupo huts. Quoted in Butterworth, Susan (1988) *Petone A History*, Petone: Petone Borough Council, p 77.
35 Isaacs, Nigel (2011) “Early New Zealand Building Codes”. Note, the Raupo Houses Ordinance and other related raupo legislation was considered by Māori to be a way of removing Māori buildings (and removing Māori settlements) from within towns and has been claimed as a Breach of the Treaty of Waitangi as part of claims to the Waitangi Tribunal.
37 MM10 at Wellington: Very destructive, many buildings damaged, most weak buildings destroyed. Source, Geonet.org.nz.
39 Wellington Independent, 10 February 1856, Quoted in Grapes, Rodney *Magnitude Eight Plus, New Zealand’s Biggest Earthquake*, p 135.
48 Collet House, NZHPT file, HP 12013-468.
Section 349(5), Municipal Corporations Act 1876.


Wellington City resolved to adopt the powers under the Municipal Corporations Act in relation to earthquake risk buildings in February 1972.


Section 81B, Heritage New Zealand Pouhere Taonga Bill (as reported by the Select Committee), 2013.

Section 81C, Heritage New Zealand Pouhere Taonga Bill (as reported by the Select Committee), 2013.


Rodney Harrison (2013) Heritage Critical Approaches, Routledge, p 166

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*New Zealand Colonist and Port Nicholson Advertiser*, Volume I, Issue 31 (15 November 1842)


