

**DISTRICT PLAN – LISTED HERITAGE PLACE
HERITAGE ASSESSMENT – STATEMENT OF SIGNIFICANCE
HERITAGE ITEM NUMBER 760
*LYTTELTON RAILWAY TUNNEL, LYTTELTON AND
HEATHCOTE TUNNEL PORTALS AND SETTING – PORT HILLS,
LYTTELTON AND HEATHCOTE***



PHOTOGRAPH: M. LOVELL-SMITH 2014

HISTORICAL AND SOCIAL SIGNIFICANCE

Historical and social values that demonstrate or are associated with: a particular person, group, organisation, institution, event, phase or activity; the continuity and/or change of a phase or activity; social, historical, traditional, economic, political or other patterns.

The Lyttelton Railway Tunnel (also known as the Moorhouse Tunnel) has high historical and social significance as the key element of the Christchurch-Lyttelton railway, a transport artery that provided a major fillip to Canterbury's economy in the late 1860s by directly linking Christchurch and its port. This facilitated the export of the province's agricultural products. The tunnel was New Zealand's first major item of railway infrastructure, and is important for its association with early engineers Edward Dobson and Edward Richardson, geologist Julius von Haast and politician William Moorhouse.

One of the most significant challenges for colonial Canterbury was the physical and economic barrier posed by the Port Hills. The Hills prevented ready access between the Canterbury hinterland and the port of Lyttelton. Consequently any goods entering or exiting the province had to be carried over the tops, or trans-shipped via the Avon or Heathcote Rivers. This was both inconvenient and expensive. Transport was therefore one of the great political

issues of the day. Road access was provided successively by the Bridle Path (1850), and the Sumner Road (1857), but neither was particularly convenient.

In 1857 major railway proponent William Sefton Moorhouse (nicknamed 'Railway Billy') was elected Superintendent of Canterbury, initiated formal investigation of the feasibility of a rail link between Lyttelton and Christchurch. George Robert Stephenson (a nephew of the pre-eminent British engineer George Stephenson) was consulted. He favoured a direct route and recommended a London firm of contractors. These contractors were engaged but soon abandoned the project when trial tunnelling came up against the very hard rock. In 1860 the provincial government asked geologist Julius von Haast to investigate the route again. Upon a favourable report, Holmes and Co. from Melbourne (under engineer Edward Richardson) were engaged to re-start the project in 1861. Edward Dobson (Provincial Engineer 1854-1868) was also heavily involved. As the tunnel was constructed, the spoil was used to reclaim land in Lyttelton for the development of railway yards and port infrastructure. The Ferrymead Railway (1863), New Zealand's first, was constructed by Holmes as part of the broader project to provide interim access to Christchurch and to the Heathcote portal for construction purposes.

After five years of continuous construction, the first train ran through the tunnel on 18 November 1867. The first passenger train followed on 9 December 1867. The completion of the railway tunnel allowed goods to be moved much more quickly and efficiently to the port. The brick-lined tunnel has been altered little since it was built, with minor changes relating to signalling, electrification (1928), and the change to diesel (c.1970). There are plaques on the Heathcote portal, one commemorating Holmes & Co. and the other commemorating Moorhouse and Dobson. Although the Lyttelton Road Tunnel (1964) relieved the rail tunnel of its absolute economic primacy, the rail tunnel remains an important element of Canterbury's economic infrastructure. The tunnel sustained no significant damage as a result of the 2010 and 2011 Canterbury Earthquakes.

CULTURAL AND SPIRITUAL SIGNIFICANCE

Cultural and spiritual values that demonstrate or are associated with the distinctive characteristics of a way of life, philosophy, tradition, religion, or other belief, including: the symbolic or commemorative value of the place; significance to Tangata Whenua; and/or associations with an identifiable group and esteemed by this group for its cultural values.

The Lyttelton Railway Tunnel has high cultural significance for the manner in which it commemorates the foresight and energy of the Canterbury Provincial Government which ran the province between 1853 and 1876. The Lyttelton portal also has some cultural significance as the site of a pre-European kainga. In the early days of European settlement, the site was the location for a Maori market.

ARCHITECTURAL AND AESTHETIC SIGNIFICANCE

Architectural and aesthetic values that demonstrate or are associated with: a particular style, period or designer, design values, form, scale, colour, texture and material of the place.

The railway tunnel and portals are of architectural and aesthetic significance for their utilitarian design. The portals of the Lyttelton Railway Tunnel have aesthetic significance for their elliptical shape and random rubble masonry construction. The Lyttelton portal was altered by the construction of the Lyttelton Road Tunnel in the early 1960s. Part of the portal suffered a collapse in a heavy rainfall event in the late 2000s and had to be repaired. The Heathcote portal however retains its original appearance and form.

TECHNOLOGICAL AND CRAFTSMANSHIP SIGNIFICANCE

Technological and craftsmanship values that demonstrate or are associated with: the nature and use of materials, finishes and/or technological or constructional methods which were innovative, or of notable quality for the period.

The Lyttelton Railway Tunnel has high technological and craftsmanship significance as the largest and most innovative feat of engineering to be carried out in New Zealand to that time. It is believed to have been the first time ever that a tunnel was cut through the wall of an extinct volcano. The 2.6 km tunnel was the work of provincial engineer Edward Dobson, leading geologist Julius von Haast, and Holmes & Co and their large workforce. It has the capacity to reveal information on Victorian civil engineering practise.

CONTEXTUAL SIGNIFICANCE

Contextual values that demonstrate or are associated with: a relationship to the environment (constructed and natural), a landscape, setting, group, precinct or streetscape; a degree of consistency in terms of type, scale, form, materials, texture, colour, style and/or detail; recognised landmarks and landscape which are recognised and contribute to the unique identity of the environment.

The Lyttelton Railway Tunnel has high contextual significance in its Heathcote and Lyttelton settings and broader contexts, as a physical linkage between Christchurch and Lyttelton. The tunnel runs through the Port Hills from the head of the Heathcote Valley in the Christchurch suburb of Heathcote to the Lyttelton Harbour waterfront in the port town of Lyttelton. The two tunnel portals are each encompassed by their own triangular settings. At the Heathcote portal, the broader context includes the former Heathcote Station site on Station Street (which is the only point from which the portal can be viewed), the Bridle Path (1850), the remnants of the Ferrymead Railway (1863), and the Lyttelton Road Tunnel (1964). At the Lyttelton portal, the context again includes the Bridle Path and the Road Tunnel, and also the wharves and railway yards – much of which was constructed or reconstructed in the 1860s and 1870s to cater for the rail traffic that the tunnel provided. The closed Lyttelton Station is on the site of the 1860s building; a nearby signal box was originally located at the Lyttelton portal.

ARCHAEOLOGICAL AND SCIENTIFIC SIGNIFICANCE

Archaeological or scientific values that demonstrate or are associated with: the potential to provide information through physical or scientific evidence an understanding about social historical, cultural, spiritual, technological or other values of past events, activities, structures or people.

The Lyttelton Railway Tunnel and setting has archaeological significance as it has the potential to provide archaeological evidence relating to past building construction methods and materials, and human activity on the site, including that which occurred prior to 1900.

ASSESSMENT STATEMENT

The Lyttelton Railway Tunnel has high overall significance to the Christchurch district including Banks Peninsula. The Tunnel has high historical and social significance as the key element of the Christchurch-Lyttelton railway, a transport artery that provided a major fillip to Canterbury's economy in the late 1860s by directly linking Christchurch and its port, thereby facilitating the export of the province's agricultural products. The tunnel was also New Zealand's first major item of railway infrastructure, and is important for its association with

early engineers Edward Dobson and Edward Richardson, geologist Julius von Haast and politician William Moorhouse. The Tunnel has high cultural significance primarily for the manner in which it commemorates the foresight and energy of the Canterbury Provincial Government which ran the province between 1853 and 1876. The Tunnel has architectural and aesthetic significance for its rusticated stone-faced portals. The Tunnel has high technological and craftsmanship significance as the largest and most innovative feat of civil engineering to be carried out in New Zealand to that time, with the capacity to reveal information on Victorian engineering practise. The Tunnel has high contextual significance in relation to other elements of historic rail infrastructure that relate to its construction and operation, and more broadly to other routes and links that have been part of the story of efforts to traverse the Port Hills. The Lyttelton Railway Tunnel and setting has archaeological significance as it has the potential to provide archaeological evidence relating to past building construction methods and materials, and human activity on the site, including that which occurred prior to 1900.

REFERENCES:

Lovell-Smith, Margaret, *Background Information Listed Heritage Place, The Moorhouse Railway Tunnel* – 2014

Lyttelton Rail Tunnel – NZ History

<http://www.nzhistory.net.nz/media/photo/lyttelton-rail-tunnel-2>

Lyttelton Railway Tunnel – IPENZ Heritage Consultancy Services

<http://www.ipenz.org.nz/heritage/itemdetail.cfm?itemid=121>

Historic place # 7172 – Heritage NZ List

<http://www.heritage.org.nz/the-list/details/7172>

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PLEASE NOTE THIS ASSESSMENT IS BASED ON INFORMATION AVAILABLE AT THE TIME OF WRITING. DUE TO THE ONGOING NATURE OF HERITAGE RESEARCH, FUTURE REASSESSMENT OF THIS HERITAGE ITEM MAY BE NECESSARY TO REFLECT ANY CHANGES IN KNOWLEDGE AND UNDERSTANDING OF ITS HERITAGE SIGNIFICANCE.

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