CONSERVING RAILWAY HERITAGE IN NEW ZEALAND THEORY AND REALITY

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Introduction

THERE IS more to trains than locomotives, and more to railways than trains. Railways are a complex and highly organised transport system comprising four main elements: permanent way, stations, rolling stock, and locomotives.

This paper defines the extent and nature of New Zealand railway heritage, outlines some experiences in railway heritage protection and conservation, and offers guidance for the Australian scene, which thankfully is deteriorating at a slower pace than in New Zealand.

A fundamental goal of heritage preservation is to identify and ensure the conservation of a representative range of heritage. This specifically means developing an understanding of, and commitment to, both the notable and the typical. This can include variables like size (largest, typical, smallest), eras (X, Y, Z), evolution (first, heyday, last), variety (materials, designs, functions), and innovation (success, developments, copies, failure).

This paper places special emphasis on the conservation of a representative range of railway heritage.

A Railway Heritage Model

It is essential in a review of railway heritage to begin with a definition of its scope before analysing its nature. Experience both in New Zealand and overseas indicates that railway managers, heritage agencies and heritage groups, often hold unacceptably narrow views of exactly what railway heritage encompasses, so creating artificial restrictions which place the forgotten components of heritage in jeopardy. Protection and conservation are often focussed on individual popular components, whereas in reality railways are a system. Railways are assemblages of various components, an integrated system.

The diagram below is a useful representation of the extent of railway heritage, showing it has four broad components:

This four component model is a useful analytical tool. As well as revealing the full extent of the rail system it clarifies the relationships of its components, which in turn helps to identify a balanced range of representative examples of the notable and typical. There is a valid fifth heritage component, the experience of riding trains, which cuts across the other four components and will be considered later.
The Nature of New Zealand Railway Heritage:

Right from the start of colonisation in 1840, most settlers to New Zealand would have made a train journey at Home prior to immigrating. They would have been well aware of the burgeoning growth of railway construction in a great many countries (often by fiercely competitive private companies), and the potential for economic development offered by railways. The first New Zealand railways were established from 1863 by provincial governments, not private enterprise, and mostly followed English practice with its relatively sophisticated permanent way specifications and high establishment costs. The result, by 1870, was four small separate systems, two different gauges, and two failures!

In 1870 the government of William Fox came to power with Julius Vogel as Treasurer. At that time New Zealand was struggling to establish a political and economic base. The greatest political debate was whether the future lay with provincial or central government. Vogel was the driving force behind establishing railway development as a central government function. Vogel’s railway goal was to establish an integrated national system. To achieve this he succeeded in having a national track gauge set by statute (alas Australia!). He then zealously fostered railway construction. Amidst enormous controversy, the Government borrowed 20 million pounds of overseas capital in the period 1870 - 80, to finance a bold programme of immigration and public works.

The Fox government had to ensure that the contentious railway loan money would stretch as far as possible. It was evident that much of the permanent way construction in New Zealand was going to be expensive as the rugged terrain required heavy earthworks, tunnels, and bridges. Unfortunately revenue earned initially was likely to be low because the country’s population was small, thinly distributed and mainly rural, and there was no industrial base. For pragmatic reasons there was no alternative for New Zealand but to adopt permanent way standards much more modest than prevailing on English railways.

Vogel purposely travelled by train across the USA to learn how great lengths of railroad could be established in frontier conditions on low budgets. He became convinced of the necessity to adopt American engineering practice for New Zealand conditions.
“Railways (are) constructed in the manner precisely suited to the traffic, and out of traffic returns those railways are, from time to time, improved in accordance with traffic demands. The constructors are satisfied ... to do without expensive stations, indeed without what we would call stations.”

Vogel adopted a railway construction policy the central tenet of which was to incur the lowest possible establishment costs. Permanent way construction specifications were adopted for New Zealand that would achieve considerable savings in the course of constructing several thousand kilometres of railway; narrow track gauge, tight loading gauge, steep grades, sharp curves, and light axle loadings.

The policy of minimum establishment costs was applied to the design of railway buildings and structures through four main principles:

1. Modest, functional designs.
2. A choice of only a few standardised designs.
3. Use of low cost materials.
4. Facility for future upgrading.

Bridges were to be of wood. Hundreds of stations were to be established requiring a large number of buildings and structures. Considerable savings were achieved by adopting a limited range of modest standardised designs using low cost materials.

A modest approach was also adopted in purchasing the trains to run on the new railways. It was envisaged that 22 kph was a sufficient initial operating speed, a great improvement on a horse. Locomotives and rolling stock were initially purchased overseas and for a while British design influence prevailed. The typical 1870's locomotive, the “F”, was a six-coupled tank engine weighing only 22 tonnes. Typical passenger and freight rolling stock were four-wheel.

Railway construction began from 16 separate coastal towns to ensure the earliest favourable impact on the maximum number of voters. In the seven years to 1879 one third of New Zealand's total railway system became operational, built mostly over the easiest country. Towards the end of the period Alison Smith, the locomotive engineer, made a significant decision to import some American locomotives, which influenced locomotive design thereafter. Throughout the construction programme there was nothing grandiose or innovative. Decisions were pragmatic and everything was constructed to a minimum requirement. This wave of construction slowed in the depression of the 1880’s.

In those first ten years the Vogel construction philosophy determined the nature of New Zealand railway heritage for the next century and more. Viewed in hindsight, the choice by Vogel to adopt the pragmatic approach was the singularly most important decision made in the history of New Zealand railways. It can now be clearly seen it was the best railway development option for a poor country with challenging topography. Even today, the only really regrettable choice of the 1870 Vogel inheritance was the tight loading gauge. Some other significant examples of this inheritance, good and bad are:

1. Low costs for permanent way construction were achieved at the later expense of higher operating costs.
2. The railway system is State-owned.
3. The minimum cost facilities mentality became ingrained in the organisation.
4. **The national standards adopted** made it possible later to link the two island systems with a rail ferry.

As envisaged by Vogel, his early modest railway was expanded into a more substantial system as traffic developed. Some of the key technological developments permitting this expansion were; the adoption of Westinghouse air brakes, the introduction of Tablet train control, and the progressive increase in allowable axle loadings.

A brief summary of the distinctive nature of New Zealand railway heritage is:

1. A narrow gauge railway built to a tight loading gauge. Because of the rugged topography traversed in many parts of the country there are many locations with sharp curves, steep grades, extensive cut and fill, and numerous bridges, with occasional tunnels and viaducts.

2. Building and structures are built to modest standardised designs in low cost materials.

3. The facilities required at the stations and the types of rolling stock required reflect the rural nature of the New Zealand economy. The dominant role was transporting primary produce from production areas to processing plants, warehouses, and wharves.

The choice of heritage items selected for protection and conservation should reflect these distinctive characteristics of New Zealand railway heritage.

**Heritage Protection Mechanisms in New Zealand**

For railway heritage in New Zealand, legal mechanisms can provide protection and conservation for historic places, but there is little protection available for portable heritage.

Historic places are identified and assessed under the Historic Places Act 1980. The legal interpretation of the term “historic place” specifically includes recognition of the historic values of the full range of historic places: sites, structures, and buildings.

The Act is administered by the New Zealand Historic Places Trust, an independent statutory organisation established by the Act. Founded in 1954 the Trust is an unusual heritage organisation in that it has a statutory and advocacy role and also has a public membership of some 23,000.

Buildings and structures with heritage values can be classified by the Trust in a four tier system; A, B, C, and D. The high “A” classification is earned by buildings and structures for which “permanent preservation is regarded as essential”. The lowest classification is jokingly referred to as “D” for demolish!

The Trust’s classifications are the outputs of a significance assessment process. Only two broad significance criteria are formally established within the Act; historical significance and architectural quality. The Trust itself expands these criteria by developing detailed definitions of significance. The current criteria are contained in the Trust “Nomination Form”.

Under the Historic Places Act 1980 the Trust, with the approval of the Minister of Conservation, can issue protection notices for A and B classified buildings and structures. These notices can protect the building or structure where the Trust fears the building may be demolished or unreasonably modified. The Trust, also with the approval of the Minister, can issue repairs notices for urgent conservation work required on a building or structure subject to a protection notice. From 1 October 1991 these provisions were replaced by the Resource Management Act. This empowers the Trust, as a heritage protection authority, to issue heritage orders to protect historic places. This power is not restricted only to A and B classified buildings.
In ten years of operating the Act the Trust has issued only 21 protection notices and no repairs notices. Most protection and conservation achievements have been the result of a combination of classification, negotiation, and incentives. Classification has been a powerful tool in establishing the intent of the Trust. It provides a signal to the people of New Zealand on what is worth keeping in perpetuity. The effectiveness of the Trust’s mostly “peaceful” processes has probably been enhanced by the occasional protracted legal battle which generates publicity but drains resources, and by the failure of a number of protection notices.

The Trust has classified an extremely wide variety of historic places but has always retained a judicious pragmatism. Historic places that have little realistic chance of conservation because of their high costs have rarely been classified. For example fundamental items of New Zealand industrial heritage, a butter factory, cheese factory, freezing works, and woollen mills, have rarely, if ever, been classified.

While the loss of industrial heritage is regrettable, it reflects present social values; a low level of appreciation of industrial heritage, and a perceived lack of visual attraction in industrial heritage, and a perceived lack of visual attraction in industrial environments. In addition, the sheer size of some of these industrial plants involves enormous maintenance costs. In the pragmatic world there are many heritage battles to be fought, and little point in dissipating resources on hopeless cases.

In terms of railway heritage the Trust to June 1990 has classified 40 railway historic places, including 20 station buildings, and 6 bridges and viaducts. However there are some obvious omissions, duplications, and imbalances in this portfolio, and case studies are presented in sections 5 and 6.

There is no parallel legislation which can classify and compel protection and conservation of New Zealand portable heritage. For that reason some very significant items of New Zealand aviation history have been lost to overseas museums. In railway heritage, very active volunteer groups have ensured the protection of steam locomotives. However, the less glamorous railway rolling stock has fared rather badly in comparison.

Note: this paper continues with specific examples. The paper in full is in the Conference Booklet, available SRA.)