

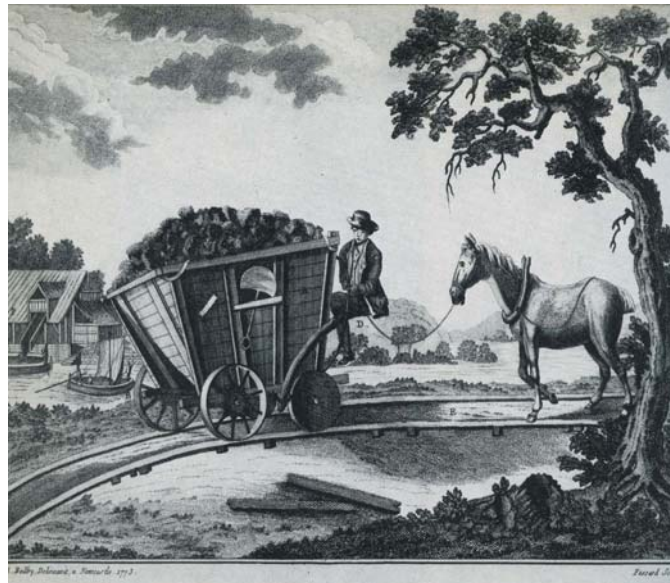


The Contribution of Railways to the Development of New Zealand

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Greek rutway near Corinth



49. Above Tyneside waggon on gravity run, 1773. Staithe in background (Morand).



Lambton tramway being excavated and recorded, 1997.



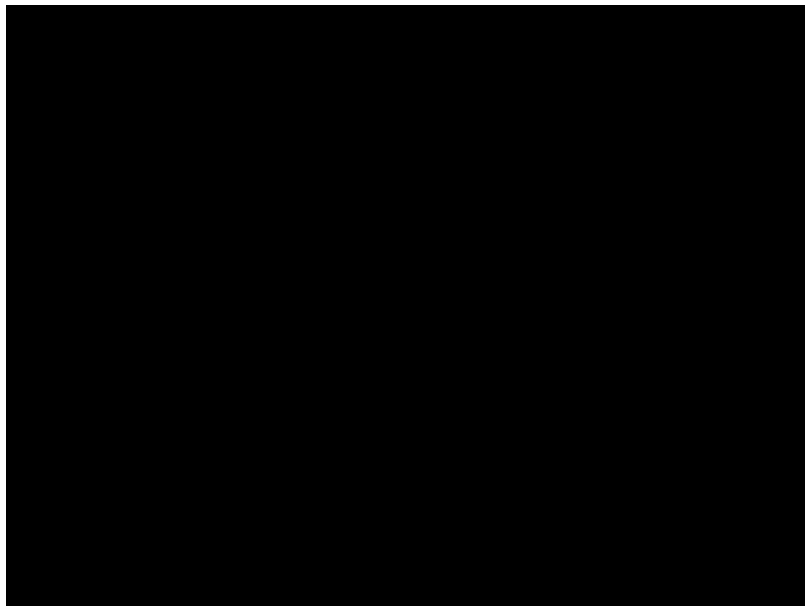
Willington tramway, Wallsend, Northumberland, 2013



Carting the wool clip, New Zealand, 19th century



Captain Dick, Richard Trevithick





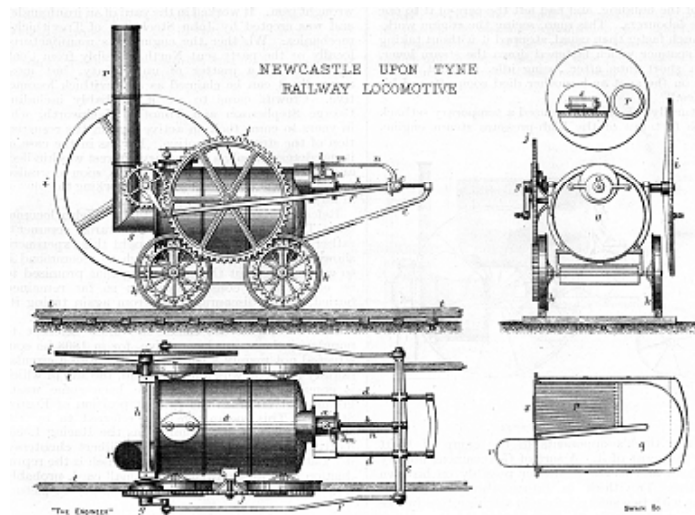
Contrast: Newcomen/Watt use of low pressure steam in a beam engine and Trevithick's first essay into high pressure steam.



Site of the factory where Trevithick's stationary engines were built after 1800, on the River Severn at Bridgnorth.



Reproduction of Trevithick's 1802 locomotive, originally built at Coalbrookdale ironworks.



Trevithick's 1805 engine built in Newcastle for Wylam colliery.



Locomotion No 1 Of 1825 – reproduction running at Beamish Museum, County Durham, 2000



Wagons for the 3'-6" gauge Gloucester & Cheltenham tramway of 1805.
Plain wheels running on flanged cast iron rails.



Surrey Iron Railway rail joint and stone "pot" sleeper.



1820s rolling stock, 1st class carriage and chaldron wagon.

Origins and significance of rail transport technology

- Principle of smooth path, smooth wheel understood 5,000 years ago.
- From 1700s AD, explosion of technology came about in Britain.
- Allowed growth and supply of large industrial cities.
- Facilitated movement and exchange of people and ideas.
- Promoted growth of industry.
- Forced pace of development of engineering.
- High pressure steam power liberated us from the load capacities and speeds draft animals could sustain.
- Allowed development and exploitation of natural resources that continues on a scale never before possible.



Inland Taranaki



A dangerous coastline.



Sumner bar at low tide, Christchurch.



Coach hauled by bullocks, 19th century.



Bullock team logging, 19th century.



Blanket Bay, Otago Harbour.



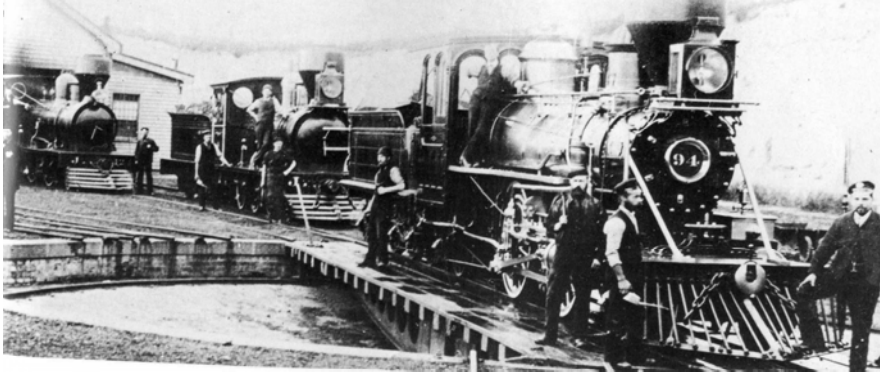
Inappropriate standards for New Zealand, 1860s.
Still in use, 1963.



The Vogel era, 1870s.

New Zealand: the Need; Vogel's Immigration and Public Works Policy

- "... the great wants of the Colony are public works in the shape of roads and railways; and immigration. ...the two are, or ought to be, inseparably united."
- A network of trunk railways to link settlements throughout the country.
- Build to suit the traffic of the day.
- Be satisfied with medium speeds of 30-50 kph.
- Improve out of revenue as traffic builds up.



The Vogel plan begins to produce results, Timaru 1880s.



19th century train, Ferrymead Railway.



Developing the central North Island - Ohakune railhead, 1908.



Cave, South Canterbury.
Rural service town originally based on rail transport.



Hutt Valley, suburbia developed in hand in hand with commuter rail service.



Central North Island pine forests, industrial development was based on rail transport forest to mill, mill to seaport and to domestic customers.



Livestock cartage, long the most significant long distance traffic.



Rail, a tool in land development for some 90 years.



The meat freezing industry has been highly dependent on rail since its inception and was among the earliest to have specialised wagons.



Specialisation and versatility today, the container flat wagon.

New Zealand: the Direct Benefits

- Railways were a major tool in the development of New Zealand for at least a century from 1860.
- Used to:
 - open up land for settlement;
 - carry produce and imports at controlled tariffs;
 - assist particular interests and industries.



19th century engineering workshop.



Waiteti viaduct, North Island Main Trunk Line, built by Andersons Ltd 1887-8.



Railways workshops, capable of making anything needed.



Rail-air: an innovative response to a crisis in inter-Island transport.



Roll on-roll off rail ferries, another response to an inter-Island transport crisis.



Technological change: the transition from steam motive power to diesel-electric.



Technological change: the ISO container revolution.



Auckland's new electric suburban trains, 2013.



Not something to cry about – Christchurch's city centre tourist tramway.



KiwiRail's newest "name" trains.



Taieri Gorge Limited: a partnership between Otago Excursion Train Trust and Dunedin City Council.



Taieri Gorge Limited: interior of a rebuilt carriage.



Ferrymead Railway, Christchurch.



A heritage railway track gang building a turnout.



K 88 at Tinwald. Built 1877 and hauled the first inter-provincial through train, from Christchurch to Dunedin. Still going strong!

New Zealand: Other Benefits of Rail Transport

- Created a need for ever-greater engineering expertise.
- Made possible and sustain the world's major cities.
- Permitted free movement of people and goods, making our present way of life possible.
- Was an essential link in the 18th century English coal trade, the background to Captain Cook and Joseph Banks, who first thoroughly charted NZ.
- Sparked the effective development of NZ from 1870.
- Was a tool in encouraging, assisting national development for about 100 years.
- A centre of expertise to train engineers and tradesmen.
- Encouraged our heavy engineering industry to develop.
- A centre of technical competence used to introduce and manage new developments that depended on Railways' nation-wide network.



NZ Railways: the fading folk memory.



012 David Oakley

KiwiRail: A bulk milk train in the South Island. Rail transport is now an integral part of industrial and commercial supply and distribution chains.

Julius Vogel, 1869:

“We recognise that the great wants of the colony are public works in the shape of roads and railways; and immigration. I do not pretend to describe which is the more important, because the two are, or ought to be, inseparably united.”

Acknowledgements for Use or Sources of Photographs

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