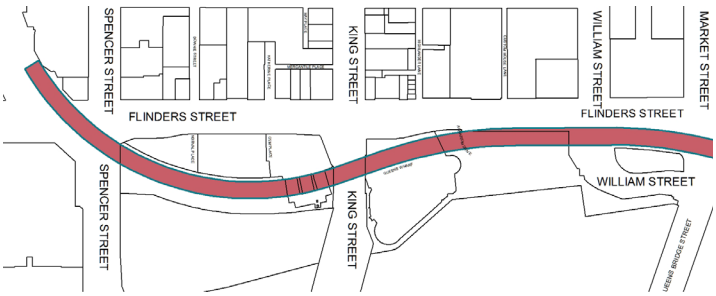
STATEMENT OF SIGNIFICANCE: Flinders Street Railway Viaduct (Flinders Street, Melbourne), April 2022

Heritage Place: Flinders Street Railway Viaduct

PS ref no: HO1336



What is significant?

The Flinders Street Railway Viaduct, expanded in three major stages completed in 1891, 1917 and 1978.

Elements that contribute to the significance of the place include (but are not limited to):

- The overall form and geometry of the viaduct
- The main steel/iron riveted composite post and beam structure, balustrades etc
- The face brick piers including bluestone and sandstone detailing such as plinths, end pediments with sandstone detailing, spandrels and quoins, and double-blind arches
- The brick vaults and undercrofts
- The substation.

How it is significant?

The Flinders Street Railway Viaduct, Flinders Street, Melbourne is of local historic, rarity, aesthetic and technical significance to the City of Melbourne.

Why it is significant?

The Flinders Street Railway Viaduct is historically significant as a key component of the Melbourne railway network. Constructed to connect Flinders Street and Spencer Street railway stations in 1888-91. The Viaduct was constructed by engineers Mixner, Shaw & Dunlop, and Robison Brothers, Campbell & Sloss Ltd to a design by William Henry Greene, chief engineer of the Victorian Railways and carried two lines. It was a substantial structure for its time, spanning Flinders, Spencer and Market streets. The viaduct provides important evidence of the expansion of the rail network in the 1880s and 1890s under the management of Victorian Railways, and in 1911-17 by engineer Mephan Ferguson and Victorian Railways engineer, F K Esling as demands on Melbourne's railway system increased. Another two lines were added to the existing four lines of the viaduct in 1978 as part of the construction of Melbourne's underground City Loop railway project. The Viaduct is historically significant as a major work of public infrastructure constructed in central Melbourne in the late nineteenth century. Such works comprised the railway system, including stations such as Flinders Street and Spencer Street, and other elements such as Princes Bridge. These projects not only provided well-engineered solutions to public transport needs, they utilised high quality designs and materials and demonstrated high levels of attention to detail. Despite the many, in some cases insensitive, alterations and upgrades that have occurred during the second half of the twentieth century, the viaduct continues to demonstrate these qualitative characteristics. (Criterion A)

The Flinders Street Railway Viaduct is significant as the only major-scale railway viaduct constructed in central Melbourne in the late nineteenth century. The complex geometry of the railway viaduct that was required to thread its way through the edge of central Melbourne is highly significant. Constructed in the similar time period, the Sandridge Railway Bridge (1888), Princes Bridge (1888) and Queens Bridge (1890) feature linear designs and serve different functions and purposes. The Flinders Street Railway Viaduct was purpose-built as a railway viaduct above the busy city streets connecting Melbourne's two earliest urban railway stations, whereas the other examples were built to cross water. (Criterion B)

The Flinders Street Railway Viaduct is aesthetically significant for the application of high-quality design, attention to detail and use of materials to a major work of public infrastructure which forms a

prominent element on the southern edge of central Melbourne. The brick piers in particular, dating from the first and early part of the second construction phases, are of high-quality orange face brickwork. They exhibit design features such as bluestone plinths, double blind arches, end pediments with sandstone detailing, spandrels and quoins in both bluestone and sandstone, and decorative details such as crosses picked out in contrasting coloured bricks. The composite steel/iron superstructure carrying the rail lines continues the geometric and detail themes of the brick supports, and features arched beams spanning the space between the piers and elegant curved beams and outrigger supports. While this attention to detail and use of high-quality materials was not unusual for major public works dating from the second half of the nineteenth century, the viaduct exhibits these characteristics to a high degree notwithstanding the extent of later insensitive alterations and upgrades. (Criterion E)

The Flinders Street Railway Viaduct is technically significant as an early example of the combination of traditional and 'modern' materials to provide a structure capable of carrying the significant loads imposed by what was at the time a modern railway system. Traditional construction methods and materials were not able to meet these requirements, so for the viaduct constructed during the first and early second phases, the use of an engineered steel/iron structure made up of riveted composite post and bream elements provided the carrying capacity of 160 tons. The spans of riveted steel superstructure that comprise the Flinders Street Railway Viaduct are a very early use of structural steel in bridge making. In addition, the span over the Spencer Street-Flinders Street corner of the viaduct is recognised for its accomplished engineering because of a lack of a supporting pier; known in engineering circles as the 'Great Melbourne Skyhook'. The supporting piers were 'dressed' with an external cladding of face brick with stone detailing to provide the aesthetic delicacy required to meet late Victorian and early Edwardian tastes. The steel/iron superstructure also incorporated some of these details, and features arched beams spanning the space between the piers and elegant curved beams and outrigger supports. (Criterion F)

Primary source

Hoddle Grid Heritage Review (Context & GJM Heritage, 2020) (updated March 2022)