



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA

A RAILWAY  
SCIENCE, TECHNOLOGY and HISTORY  
MUSEUM

THE SENSE OF SPACE  
SENSATION

A

**RAILWAY  
SCIENCE, TECHNOLOGY AND HISTORY  
MUSEUM**

situate at

**Salvokop, City of Tshwane**

for

**Friends of the Rail  
Rail Heritage Preservation Club**

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The research contained in this document is completely my work, unless otherwise indicated.



Museum complex: from left to right: workshop with coal bunker, exhibition hall, concourse building behind tower, luxury train passenger departure lounge, and train platform.

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## **A RAILWAY SCIENCE, TECHNOLOGY AND HISTORY MUSEUM**

**situate at Salvokop, City of Tshwane**

### **1. INTRODUCTION**

#### **1.1 Proposal and motivation**

To design a venue for a comprehensive, successful and sustainable railway museum, which will foster, in a well-visited, multi-focused and sustainable railway museum, an understanding of railways and related topics, past, present and future.

South Africa needs a venue for the comprehensive understanding and appreciation of the science, technology, history, operation, and development contribution underlying one of the most important products of the Industrial Revolution: the railway. The exhibits are thus not to be displays of machinery only, but should embrace *i.a.* the underlying scientific principles and technology related to railways, their propulsion, construction, operation and workings. A suitable venue fulfilling these needs does not exist currently in the area of major metropolitan population concentration in South Africa.

#### **1.2 Subject of investigation**

The development of station design provided new dimensions to both the sense and sensation of space. This is to be recaptured in the design of the museum, which requires obtaining an understanding of the influence, implications and impact railway stations and their supporting infrastructure had on architecture, the cityscape and the urban fabric, due to their large size, area and enclosed volume. Station design has contributed to modern design through the need to satisfy the uninterrupted, free-space enclosure of large volumes, necessitating progress in the knowledge of the structural application of the new materials discovered during the Industrial Revolution from which the modern architect is still benefiting. The impact of stations in these three mentioned fields furthermore had an indirect impact on society. The determination of all these influences by stations and their design will form the research subject of this dissertation.

## 2. DEFINITIONS AND ABBREVIATIONS

### 2.1 Definitions

'Tshwane' vs. 'Pretoria'

South Africa is currently undergoing a phase in its history where it is attempting to establish an identity different to that of the past. This process entails a number of changes to town names, with various parties for and against such changes. The parties concerned feel extremely strongly about this subject, to the extent of going to court to either enforce or to rescind such name changes. This document is not concerned with the merits and demerits of such arguments. It is purely a dissertation on the impact railways had on architecture, the cityscape and urban fabric. Accordingly, the names of 'Pretoria' and 'Tshwane' are used interchangeably, though generally 'Tshwane' will refer to the greater administrative grouping (similar to Greater London) and 'Pretoria' to the CBD and immediate surrounds (similar to the City of Westminster). No slight or injury is intended to any of the name-debate parties.

Round-house

A 'round-house' is a circular or semi-circular shed-structure built around a turntable. The engine is driven/moved onto the latter, turned around and reversed into the shed; it is in essence a garage for locomotives.

Train consist

This defines the make-up of a train, consisting of the locomotive and a number of passenger carriages or goods wagons.

### 2.2 Abbreviations

The following abbreviations have been used in this document:

CBD	Central Business District
CGR	Cape Government Railways
CSAR	Central South African Railways
GWR	Great Western Railway Company
IMR	Imperial Military Railways





L&M	Liverpool and Manchester Railway Company
NGR	Natal Government Railways
NZASM	Nederlandsche Zuid-Afrikaansche Spoorweg-Maatschappij (Netherlands South African Railway Company)
SAHRA	South African Heritage Resources Agency
SAR&H	South African Railways and Harbours
S&D	Stockton and Darlington Railway Company
TICP SDF	Tshwane Inner-City Project Spatial Development Framework