



PRECEDENT
PLATFORM

↑ Exit

PRECEDENTS 05:00

Mutual Park West Campus

Warwick Junction

Waterloo Station

Siebersdorf

Southern Cross Station

Piensaarspoort Station

Precedent

PROJECT: Mutual Park, West Campus
LOCATION: Pinelands, Cape Town, South Africa
ARCHITECTS: Blueprint

Influence on dissertation:

Within the urban scale it is important to establish the influence of the surrounding context and the effect on the proposed site. Incorporating the surroundings into the design via physical links e.g. walkways and axis, as well as via visual links e.g. vistas such as Loftus Versfeld Stadium and the University of Pretoria. The use of the courtyard as the nucleus of the building, a communal space where interaction can take place.

Materials:

- _ Sunscreen truss system
- _ Steel box girder
- _ Precast concrete



fig. 5.1_View of courtyard

Description:

The site is at the end of the campus and is situated amongst main roads, sports fields and the railway. The site has beautiful views. West Campus should essentially be a "pavilion in the landscape". Each facility requires its own entrance. Each respective identity can be defined and importance stated. Character of facades is generated by the use of sunscreen truss system that shades the curtain wall glazing, reducing heat load and glare whilst exploiting the view (fig. 5.2).

Transparency throughout the buildings remained the theme of the design.

West Campus is designed in a courtyard arrangement. All facilities relate to this courtyard which is the nucleus of the campus (fig. 5.1). This courtyard is framed by double storey buildings, defining and enclosing the space.

This development is connected to the rest of the campus via covered walkways. This axis is the main circulation route through both Mutualpark and West Campus.

A bridge over the railway sets up another major movement axis that connects West Campus and Mutualpark with the PFS parking decks (fig. 5.3).

The courtyard connects the different facilities of West Campus and provides a large flexible forum space which can also be cordoned off according to need.

05:02



fig. 5.2_Detail of facade

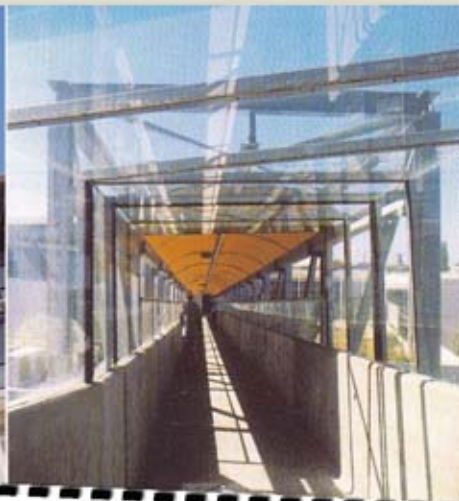


fig. 5.3_Bridge to railway



fig. 5.4_Building entrance



fig. 5.5_Streetscape

Precedent

PROJECT: Warwick Junction, Urban Regeneration
LOCATION: Durban, South Africa
ARCHITECTS: Collaboration of Architects including OMM, MA Gafoor and Kooblal & Steyn

05:03

Influence on this dissertation:

The need for integration of informal trading into a transitional node, such as Loftus Metrorail Station. The immense importance of public services in the urban grain to ensure the stimulation of the users. In doing so the once transitional space becomes a destination place - vibrant with energy.



fig. 5.6_Transition bridge

fig. 5.7_
Traders

fig. 5.8_
Market

Description:

Located on the edge of the CBD, Warwick Junction forms a Gateway to the inner city of Durban. On average, this primary transport mode accommodates 460 000 commuters and at least 5000 traders. Planning objectives were determined and an overall effort between the various architects to create a powerful informal economy in the city. The success of this project is due to the architects' collaboration with the local user. In 1996, council took the initiative to launch a 'clean-up' project, with the focus on a safe environment, trading and employment opportunities.

The surrounding buildings, once unsafe and occupied by criminals were revamped and upgraded into centres for the community providing spaces for dialogue and consultation. Most of the structures erected were within open public spaces, displaying the need for an integrated informal market into the urban plans. The uncontrolled trader facilities were formalized by using the existing vibrant energy of the area (fig. 5.8-5.12). Traditional herb and multi markets were established in addition to the existing live chicken (fig. 5.13), fruit & vegetables as well as bovine & mealie cookery. These open fires used for the cooking of delicacies were replaced by the necessary infrastructure needed for safety. The council was very helpful in the process and today Warwick Junction contributes immensely to the economy of Durban.



fig. 5.13
fresh produce market



fig. 5.12
view over informal trading



fig. 5.9
Courtyard and market



fig. 5.10
Internal market



fig. 5.11
fresh produce market

05:04

Precedent

PROJECT: Waterloo Station
LOCATION: London, England
ARCHITECT: Nick Grimshaw

Influence on dissertation:

Passengers are collected and dispersed through the building via communal spaces. The use of a steel lattice truss system to cover a large area over the train tracks. Throughout the building the structure exposes surrounding buildings, giving passengers a glimpse of the culture rich context that London offers. Circulation systems are transparent to make users aware of movement, this is a principle used throughout Loftus Metrorail Station.

Materials:

- _ Steel structure
- _ Lattice truss system



fig. 5.14_Facade detail at int. entrance

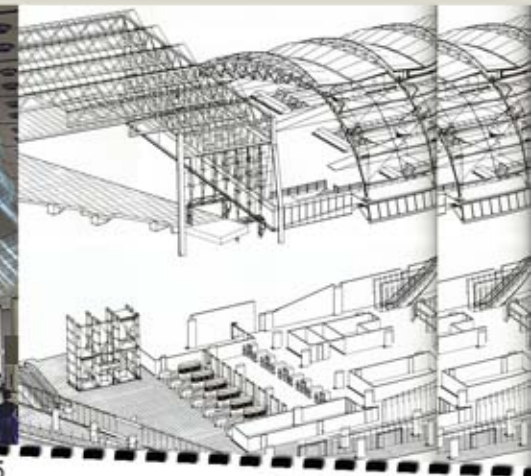


fig. 5.15_
circulation to
platform level above

Description:

The terminal is a response to a novelty of an International train station in Britain, reinventing heroic railroad termini of the Victoria era on a difficult site. The building shapes around a bend, fitting in between the existing station and buildings (fig. 5.20).

As a result, the large S-shape canopy spanning at a maximum of 55 meters. The truss system is internal on the east and on the west. Most of the structural members are standard, that consists of butt welding of steel tubes, rather than plate welding of conventional I-beams (fig. 5.16-5.18.). Below track level the building functions in layers: departing passengers waiting on a mezzanine and arriving passengers moving down ramps to ground level. Both sets of passengers use some of the same circulation pathways but at different times (fig. 5.15).



fig. 5.20_Aerial view of Station



fig. 5.19_ticket booths

05:06

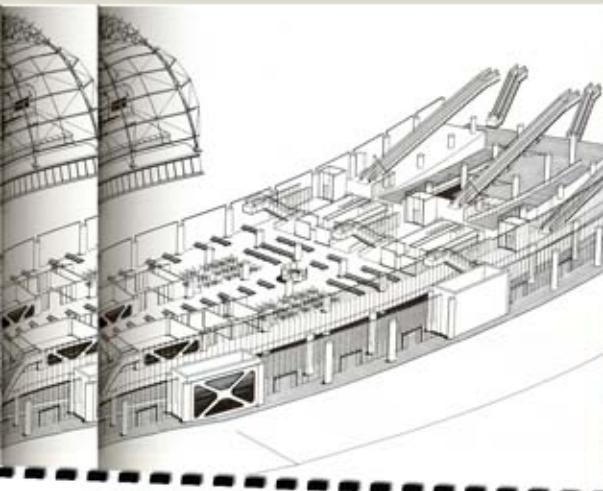


fig. 5.16_Axonometric of structure and circulation



fig. 5.17_Structure



fig. 5.18_Structure

Precedent

PROJECT: Siebersdorf Research Centre and Offices
LOCATION: Siebersdorf, Austria
ARCHITECTS: Wolf, D. Prix, Helmut Swiczinsky

Influence on dissertation:

Different systems were combined in the design. The use of the screening steel frame system as a free standing, independent entity form the main structure as a unifying theme throughout the design.

Materials:

- _ Concrete columns
- _ Steel frame structure

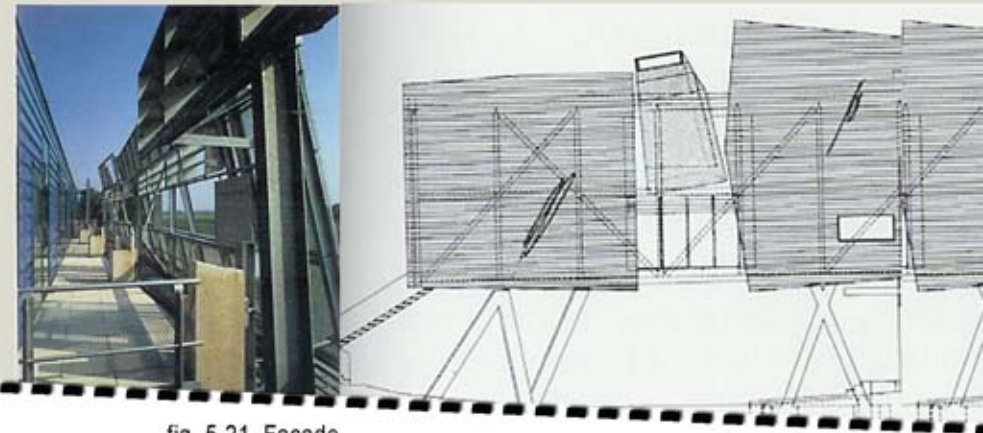


fig. 5.21_Facade



fig. 5.25 Internal view



fig. 5.24 Facade illustrating joints

Description:

The project consists of a refurbishment and extension to existing offices. The building had the peculiarity of involving a variety of professions within the building and it was a prerequisite that the design reflects this.

The presence of different systems at the same time was represented in the structure by overlapping different structural systems (fig. 5.24). Old and new manifested simultaneously on facades of the structure.

Framework of steel structure does not follow that of the main building, but is situated perpendicular to it, and passes above a roadway at one end into the landscape and then launches out into a number of different directions (fig. 5.23).

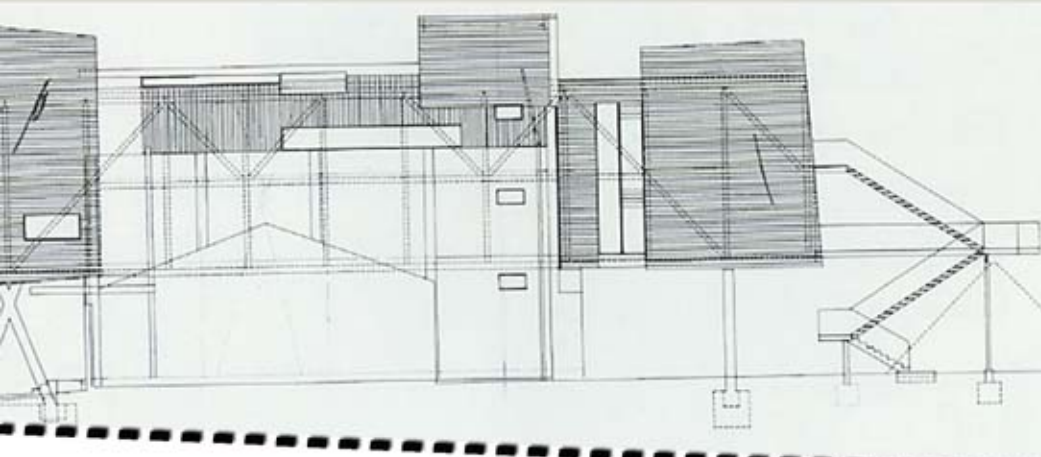


fig. 5.22 Elevation



fig. 5.23 Screen facade

05:08

Precedent

PROJECT: Southern Cross Station

LOCATION: Melbourne, Australia

ARCHITECT: Grimshaw & Jackson joint venture

Influence on dissertation:

The use of a vast open roof structure as a station building weaving together two isolated parts of the city; created by the barrier (the railway). The use of steel is preferred due to its quick assembly process. This will ensure that the railway is operational during construction. The open facades of the structure link vistas and the surroundings via the roof structure direction. The directing of passengers is facilitated with natural elements in design such as shadows falling on the platform.

Materials:

- Steel structure
- ETFE roof lights/ polycarbonate sheeting

05:09

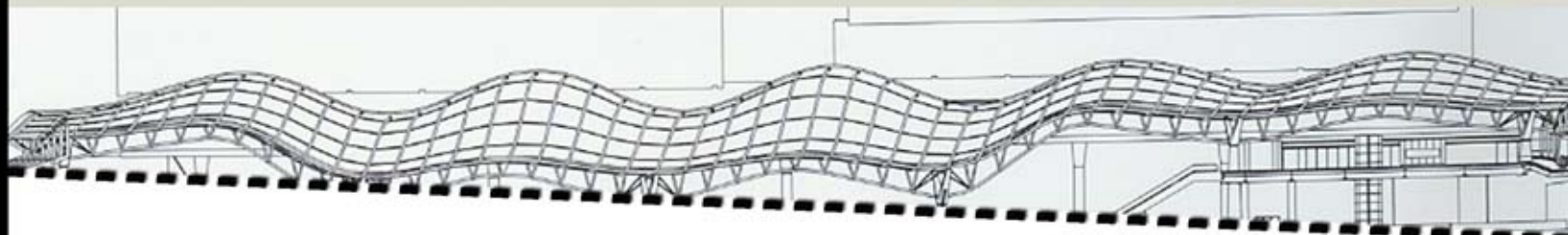


fig. 5.26_Longitudinal Section of Station



fig. 5.27_
Escalator to platform
accentuated by
light above



Description:

The project deals not only with the covering of vast spaces, but also the weaving together of a large part of the city. The railway in Melbourne is laid out along the edge of the dense centre - these railway tracks form a barrier between the old and the new parts of the city. The station is not only a large roof over a transport infrastructure that is open at the sides, but a civic centre - a point of entry into the city (fig. 5.26 & 5.28). The railway is a significant part of the suburban commuter system, and had to be operational throughout the construction process. Columns were lowered onto the platform at night and sections of the roof were held up over the tracks as a result. The roof is visible from the surrounding high rise buildings and becomes part of the landscape (fig. 5.30). From the inside the roof, translucent ribbons of roof lights track along the platforms and direct passengers (fig. 5.27).

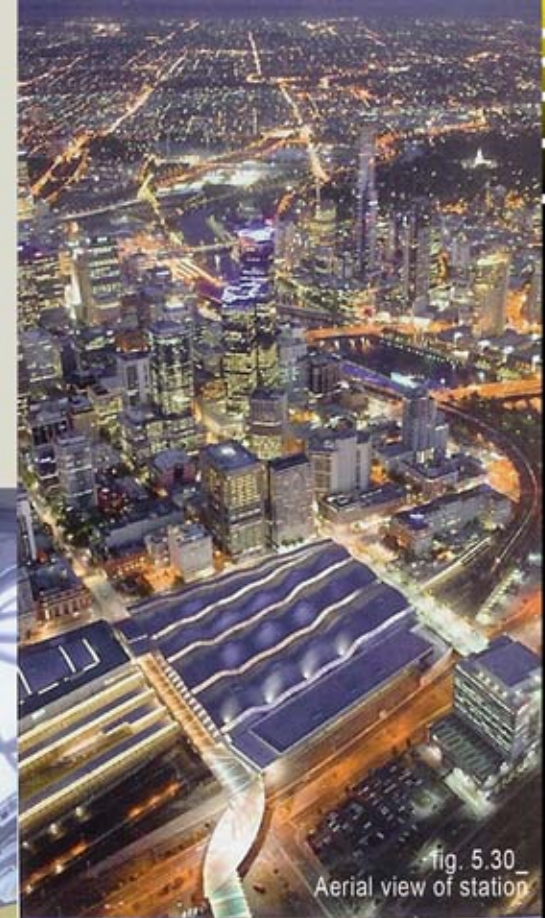


fig. 5.30
Aerial view of station

05:10



fig. 5.28_Overview of station



fig. 5.29_Entrance

Precedent

PROJECT: Pienaarspoort Metrorail Station

LOCATION: Pretoria, South Africa

ARCHITECTS: HolmJordaan Architects in association with Morné Pienaar

Influence on dissertation:

The influence has been immense, due to the client requirements obtained and applied to the project. The progression through spaces and grouping of functions leads to the systematic design principles assisting with the overall legibility of not only this project, but Metrorail stations throughout South Africa. The application of material choices of the station with regard to the climate of South Africa and the comfort of the users, has influenced the decisions made in this project.

Materials:

- _ Steel H-column primary structure
- _ Corrugated steel roof sheeting (Klip-Lok 700 on 1degree roof pitch)



fig. 5.31_
Concourse stairway

Description:

The train station is situated in a rural suburb on the outskirts of Pretoria. The lack of infrastructure in this area proved to be a challenge for the architects. The clients' requirements and guidelines were very strict and safety together with maintenance was the main priority. The passengers enter into a foyer where the administration flank of the station is placed. Passengers buy tickets and proceed passing the security offices towards the concourse to the respective platforms (fig. 5.33-5.35). The architects based decisions of the linear design on the ability of the station to expand. The hall roof structure becomes the icon of the station and all maintenance is done on a service ledge without disrupting the activities on the inside. The primary steel structure of the stations' beauty lies in the careful detailing of each joint (fig. 5.32). The station becomes a landmark in the desolate area where passengers can feel safe and comfortable.

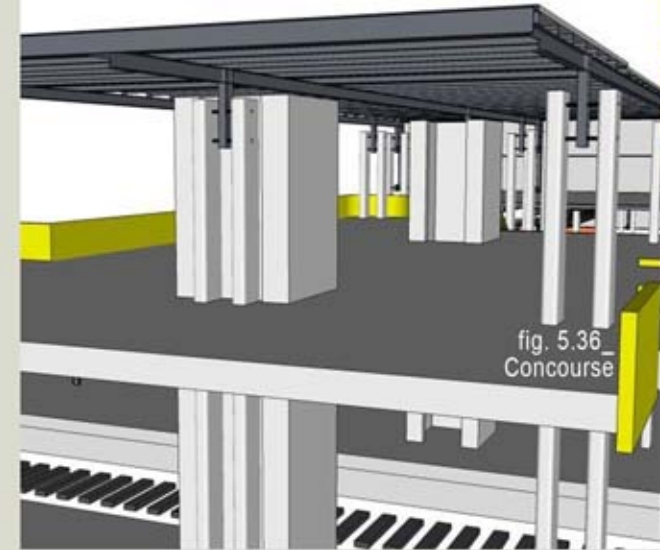


fig. 5.36
Concourse

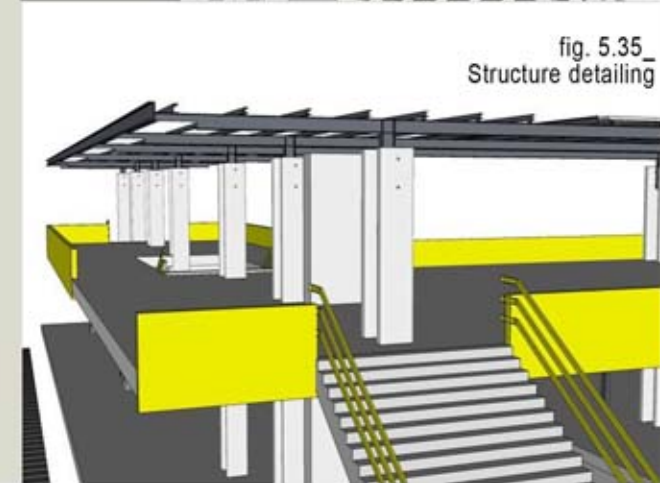


fig. 5.35
Structure detailing

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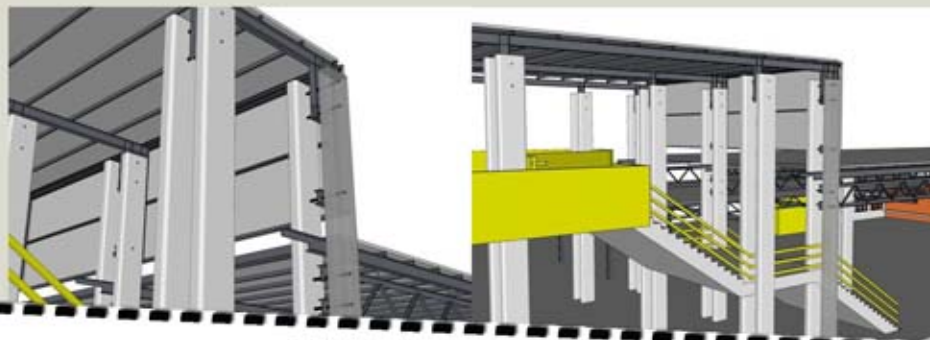


fig. 5.32
Structure detailing

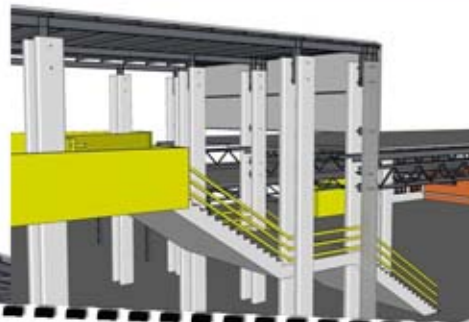


fig. 5.33
Concourse and stairway

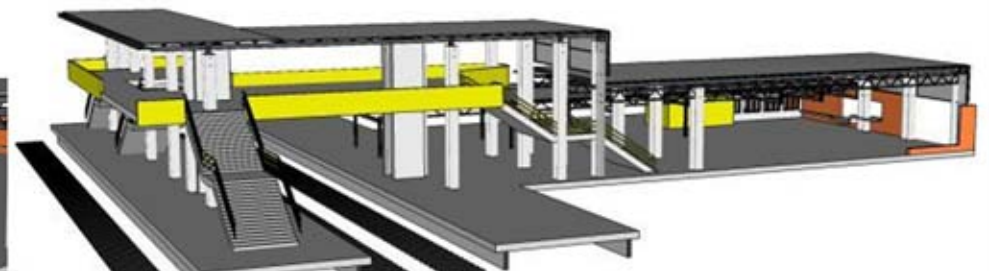


fig. 5.34
Station building and railway lines