HISTORIC SIGNIFICANCE OF THE PRETORIA STATION RESPECTED AND OBSERVED. THE FUNCTIONALIST APPROACH ADVOCATES THE PRESERVATION OF HISTORICALLY SIGNIFICANT BUILDINGS FOR HERITAGE AND EDUCATIONAL VALUES.

THE FORMALIST IDEAL IS REFLECTED THROUGH UNDERSTANDING THE TIMELESS QUALITIES OF CULTURAL AND URBAN HERITAGE.

VISUAL HEIGHT HIERARCHY

BUILDING PROMINENCE TO BE ARTICULATED BY HEIGHT (BACON), THUS THE EXISTING STATION AFFORDED DOMINANCE.

QUALITY PUBLIC URBAN SPACES AT THE FOCAL POINTS AND IN FRONT OF AND AROUND BUILDINGS OF HISTORICAL SIGNIFICANCE (PAUL KRUGER STREET SPINE)

MIXED-USE PRECINCT PRETORIA STATION SQUARE WITH RETAIL, OFFICES, LUXURY BUS TERMINUS. (PAUL KRUGER STREET SPINE)

INTERGRATION OF THE PUBLIC TRANSPORT SYSTEM WITH THE PEDESTRIAN NETWORK (PAUL KRUGER STREET SPINE)

DESIGN INFLUENCES 4.1
FUNCTIONALIST: Promotes communal interaction (civic) in the city core.

HUMANIST: Concerned with the social domain in architecture.

THE SQUARE AND THE STREET DEFINE THE STREET (KRIER)

Ideally, equilibrium of commercial and cultural activities should be maintained in any public square, dependant upon location, such a square should cater for diurnal and nocturnal activities.

SQUARE DEFINED BY BUILDINGS IN A U-SHAPE
Opening up to it, and fully accessible by means of pedestrian walkways

URBAN SPACE—"space between buildings in towns and other localities." KRIER

CIVIC SQUARE ACTIVITIES
RECREATION/LEISURE
TOURISM
INFORMAL TRADE/MARKETS
THOUROUGHFARE
RELIGIOUS GATHERINGS
OPEN-AIR ENTERTAINMENT
POLITICAL RALLIES
LIVE BROADCASTS
PAUSE SPACE

UBUNTU
Similarly to urban planning principles, the pattern of traditional homesteads is characterized by a centrally placed courtyard. This courtyard is the communal social space. The Rooms are usually just the shelter spaces at night and during undesirable weather.
IMPACT OF SURROUNDING DEVELOPMENT.

The positioning of the proposed new luxliner terminus, combined with the existing station building, and proposed station interchange enhance the intermodal status of the Pretoria station.

The locationing of the 3 forms of transport modes create a triangular shaped interdependent link. The result is that the developments frame the civic space, thus creating a vibrant and defined public square.

An opportunity exists to make the Pretoria station the gateway into the city, the point of orientation, and an intermodal interchange reflective of the Capital city status.
By virtue of both Scheiding and Railway streets being one-way streets, vehicular access into the rank is best off railway street. The exit is best located on Scheiding street. This arrangement guides traffic in a one-way flow. The position of entry and exit points needs to be such that no traffic congestion occurs, and legibility is achieved.
CONCENTRATION OF PEDESTRIAN MOVEMENT AROUND THE SQUARE
The movement pattern on the square is informed by the existing paths, most especially the north-south axis leading from Paul Kruger street. The intervention follows the Systemic school of thought by prioritising existing patterns, especially movement and shelter.

CONCENTRATION OF PEDESTRIAN MOVEMENT AROUND PRECINCT
People walk the 400m distance between Pretoria station, Bosman station and the Bosman taxi rank. The major pedestrian movement is in a north-south axis, heading into the city, with some eastward movement heading towards the Sunnyside area.

"Walking is the most ubiquitous form of movement, open to almost everybody" (Green and Roberts 1998)
The civic square is designed to compliment the axis of expression from Paul Kruger street by means of a prominent walkway axial extension stretching to the Pretoria station building. Traffic will be slowed down at the intersection of Scheiding street and Paul Kruger street to afford priority to pedestrians.
WIND DIRECTIONS
The predominant summer winds come from the east-south-easterly and east-north-easterly direction. Winter winds come primarily from the south westerly and north east directions.

Possibilities of cross ventilation exist by virtue of wind directions coming from different directions in different seasons.

The two courtyards allow wind to penetrate deeper into the space, thus ventilating the inner facades.
Courtyards allow light to penetrate deeper into the interior spaces. The result is that all the interior spaces have sufficient light.

**SUN ANGLES AT NOON**

- **SUMMER**: 87 Degrees
- **SOLSTICE**: 64 Degrees
- **WINTER**: 44 Degrees
Metro mall highlighting the loading zones acting as central courts. The periphery is used as circulation space.

Tuks law building designed around two central courtyards that act as communal space. The courts are also placed adjacent to the circulation space.

SA Embassy in Berlin is also designed around a central atrium, with the circulation space arranged on the periphery.

Using the courtyard as the point of departure for creating the main public spaces, with accessways directly linking the interior spaces to the courtyards.
VEHICULAR ACCESS
The Metro mall is designed around a simple yet effective vehicular circulation system. The busy street, (Bree street) is used as the commercial edge and taxi movement is kept completely off this edge, instead the ‘backstreet’ Gwingi Mrwebi street is used for the netreing and exiting of taxis. Similarly, the station interchange adopts a system whereby Railway street is the entrance point and Scheiding street is the exit point. Traffic is directed in a one-way flow inside the loading lanes, consistently to the one-way status of both the access and exit streets.
The edge facing the square is seen as the front of the building, and is therefore used as the main commercial edge to capitalize on the high human traffic.
Mantaining and reinforcing the Church square linear axis. Articulated to achieve primary axis status.

Re-establishing the destroyed direct link to the Belgrave hotel.

MOVEMENT AND ACCESSIBILITY

Primary axis informed by existing movement energies and patterns.

Re-establishing the destroyed direct link to the Belgrave hotel.
The Federation Square is laid out to accommodate 20,000 people in a square located centrally to an array of various functions such as cinemas, offices, restaurants, and art galleries. The precedent provides examples of how to create a lively civic environment. Although irregular in shape, the square remains limited in its layout to accommodate large masses. The handling of the floor surfaces is a stark and functional, which helps with the requirements of the site.

Similarly to The Federation square, Mary Fitzgerald square is designed to accommodate a large crowd of 50,000. The planning however is simple and rectilinear defined on the periphery by pedestrian walkways. The threshold between the square and the pedestrian walkways is subtly defined by causeways and woodwork, sculptures placed on concrete plinths. The combination of street furniture and paving once again is aimed at being simple, functional yet robust.

The station square is the civic core of the station interchange development. It is designed in a simple rectilinear layout to accommodate large masses. Movement patterns are legible, occurring in a linear fashion and dominated by means of surface pattern articulation. The rest of the square is paved in robust and durable surface paving to reduce maintenance costs, to deal efficiently with stormwater. Similarly to both precedents, the square is vast open space that allows the inhabitants to own and feel a sense of belonging. Only two levels exist, namely the walkway level and the paved surface level, so as to ease accommodate disabled persons.

A main movement spine exists, intersected by secondary movement axis, as such intersections, the junctions are celebrated by centrally placed water features and encompass public drinking fountains.

Live broadcasts are anticipated through the installation of a LED screen that the public may gather to. The square seeks to reclaim the civic spirit of the Firestone station precinct.
GROUND FLOOR
The public domain where most public traffic occurs, Retail activities, taxi rank, hawker stalls, ablutions, retail services and civic square located on this level. By virtue of its level, it is the most accessible part of the building to the public. The ground floor is openly accessible to the public thus encouraging civic activity as advocated by functionalist and humanist planning. The level at which the ground floor is open makes reference to a communal belonging and sharing in a manner that promotes the interrelation and interdependence of the various users, thus leaning towards Ubuntu principles.
FIRST FLOOR

The first floor is regarded as the semi-private domain. The public activity is encouraged in the restaurant, pub, and open-air gallery space.

The resource centre is also a semi-private domain. Facilities available are the study area and reference books section, computer skills training centre, e-facilities centre, and a conference/meeting venue.
SECOND FLOOR
This level is reserved for office space, and is regarded as private domain. The general public is restricted unless visiting by necessity.
THIRD FLOOR
This level is reserved for office space, and is regarded as private domain. The general public is restricted unless visiting by necessity.
FOURTH FLOOR
This level is reserved for office space, and is regarded as private domain. The general public is restricted unless visiting by necessity.
The station interchange thresholds are the points from which the commuters, workers, and visitors get their first impression of the place. Here it is important to articulate the entry points that demarcate the inside and outside of the development. However, since the station is a public place, such entrances need to be subtle yet visually appealing and also offer orientation.

The choice of materials is stone and concrete, in order to achieve a striking, almost monumental effect, yet retaining a modern feel.
Drinking fountain located at the water feature for easy public access

Exploring the civic square seating benches

Flower box
Exploring how screens can be both functional and aesthetic on the facades. The introduction of brightly coloured concrete elements assist in creating a lively experience.
The commercial edge is articulated by means of brightly coloured box-shaped hawker stalls. These attract the passer-by’s attention and add character to the facade.
Means of creating seating overlooking the civic square, by creating deep riser and wide tread stairs. The underside of these stairs become hawker stalls facing the taxi rank. Ideas of allowing light to penetrate into the taxi rank area are explored.
Dealing with the junction of the old and the new, looking at how to play with colour and texture in order to visually merge the two.

Gabion wall
Roof technology exploration
Ideas for covered walkway roofs

Barrel vaulted roof
Covered walkway roof profile generation

Taxi rank roof, dealing with light and ventilation

Covered walkway screen wall ideas

Ideas for stormwater disposal

Covered walkway screen wall ideas using facebrick, plaster and advertising panels
Continued exploration of roof covering profile

Elements of the tree shape begin to surface
Development and refinement of the tree shape begin to surface
Perspective of tree structure influenced street walkway roof covering

Side profile walkway sketch

Cross section of tree structure walkway

Stormwater treatment
Concrete bollard design exploration

11 concrete obelisk elements symbolic of the eleven official languages of South Africa. Each one themed and detailed according to each of the 11 languages. These obelisk act as lighting elements for the square.

Concrete bollard to demarcate the boundary of the square, while offering a visually aesthetic means of enclosure.
Exploration of solar protection on the north facade

Axonometric analysis

Screen fixing detail
Exploration of solar protection on the east and west facades

Sun direction

East and west facade solar protection

North facade solar protection

Louvre profile in plan

Pivot detail