

Climatic data

Tshwane is located between 25,8° to 30,7° East and 22,0° to 25,9° South. It falls under the Northern Steppe climatic zone of South Africa, suggesting the existence of distinct rainy and dry seasons. Tshwane has hot summers, moderately cold winters, and moderate humidity levels. (Holm, 1996) All climatic information that follows is from the same source.

Sun

At 12h00 solar time the vertical sun angle in Pretoria is as follows:

- Summer:** 88 degrees
- Solstice:** 64.23 degrees
- Winter:** 40.73 degrees

Wind

Reigning winds

- Summer:** East-North-Easterly to East-South-Easterly with 41% of days breezy
- Winter:** South-Westerly with some North-Easterly and 60% breezy days

Rain

Pretoria receives summer rainfall. It receives an average annual rainfall of 763mm, of which 88% falls in the summer months, often appearing in the form of late-afternoon thunderstorms associated with lightning and occasional hail. Large amounts of water fall in short periods of time. This may cause flooding and associated problems if not taken into account in the design process.

Figure 3-1 Geographic location



Temperature

- Average maximum temperature :** 32°C Jan and 22°C in July
- Extreme:** 42°C Summer months°
- Average minimum temperature :** 18°C January 4°C July
- Extreme:** -7°C

Figure 3-2 Electrical Storm over the CBD



Site Accessibility

The site is very accessible both through private and public vehicular transport. See Figure 3-4 next page

Vehicular Routes

The main vehicular access routes into the CBD are:

- Struben Street, which is the N4 from the west
- Pretorius, which is the N14 from the south
- Nelson Mandela, which is the R21 from the south
- Pretorius Street, which connects the N1 with the CBD and passes very closely by the site.
- Paul Kruger is a two-way street, which makes vehicular access easy to and from the site.

Public Transport

The site is located within 100m of Church Square. From here most buses depart to the rest of the city. The site itself is bordered by 8 bus stops, and a large number is found in Pretorius Street. The Pretoria and Bosman Street Stations are within 1 km walking distance from the site and a bus runs between the Pretoria station and Church Square every 15 minutes. The bus service only operates during office hours, which makes the diurnal use of the city difficult.

Minibus taxi's are visible everywhere in the city, and may be a preferred and more dependable source of public transport to and from the CBD (for most.) Further the *Gautrain* Public Transport System will be completed in 2005, which will make transport between Pretoria and Johannesburg much quicker for those able to afford it. A *Gautrain* station is planned close to the Pretoria Station, and will improve access to the Pretoria CBD from important residential and business hubs such as Hatfield, Menlyn, and Sandton.

Pedestrian movement

Paul Kruger Street is an important north-south pedestrian link connecting the Pretoria station to Pretorius Square, Church Square and the Church Street Pedestrian Mall. Van der Walt Street is another major north-south Axis, while large East-West movement happens along Church Street. However, all streets within the CBD represent a large number of pedestrians. The grain is further refined by the arcade system, which is an important movement system in Pretoria's long city blocks. A study of the arcade system was done and compiled to establish pedestrian movement. (See fig 3-7) The study follows.



Figure 3-3 Traffic on Paul Kruger Street - Looking north towards Church Square. The Savelkoul Building corner can be seen on the right.

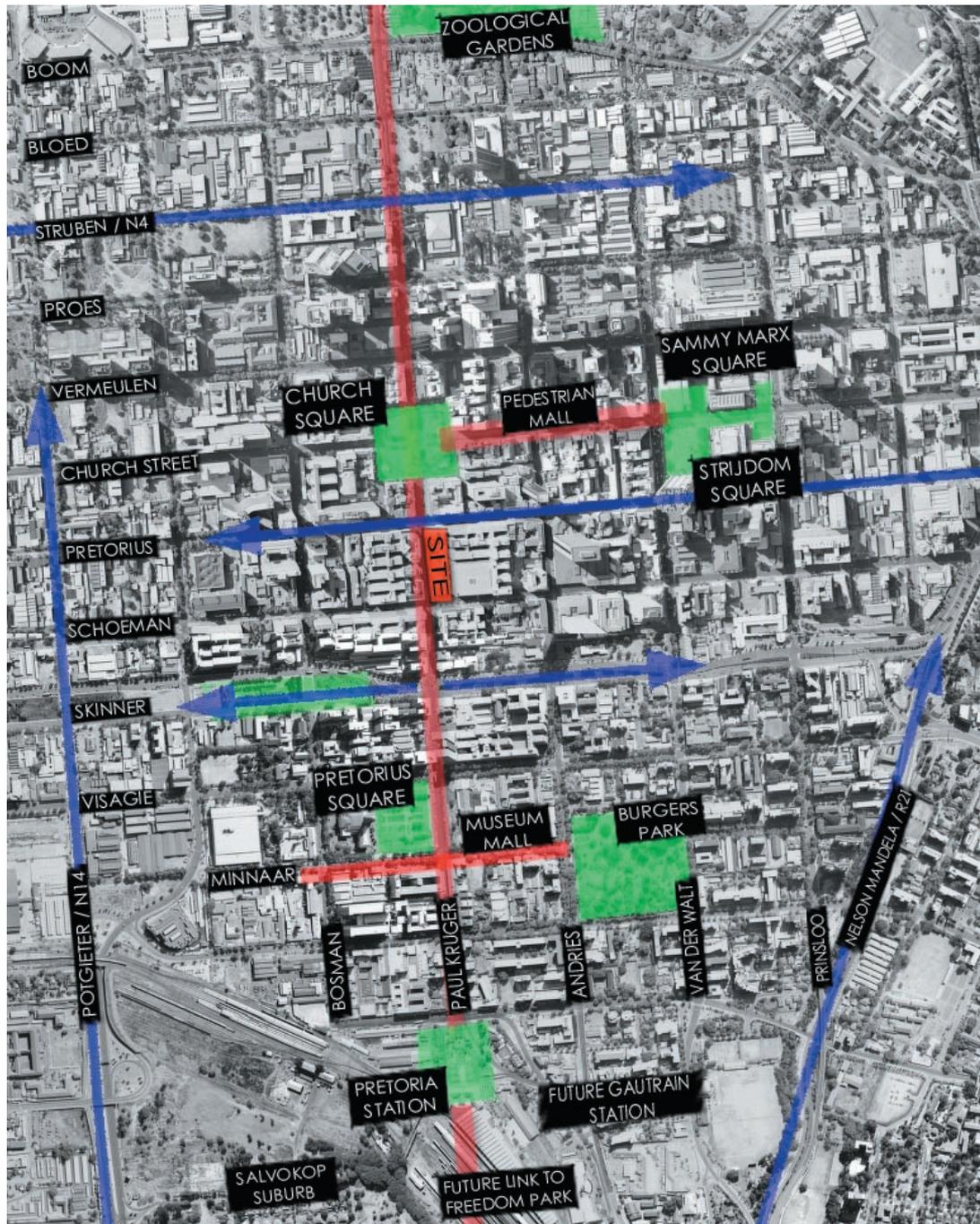


Figure 3-4
Main vehicular routes and
public open space system
(Author, 2004)



Figure 3-5 Birds' Eye View of Pretoria (Hone, 2000: Ref. No. Pan 054)

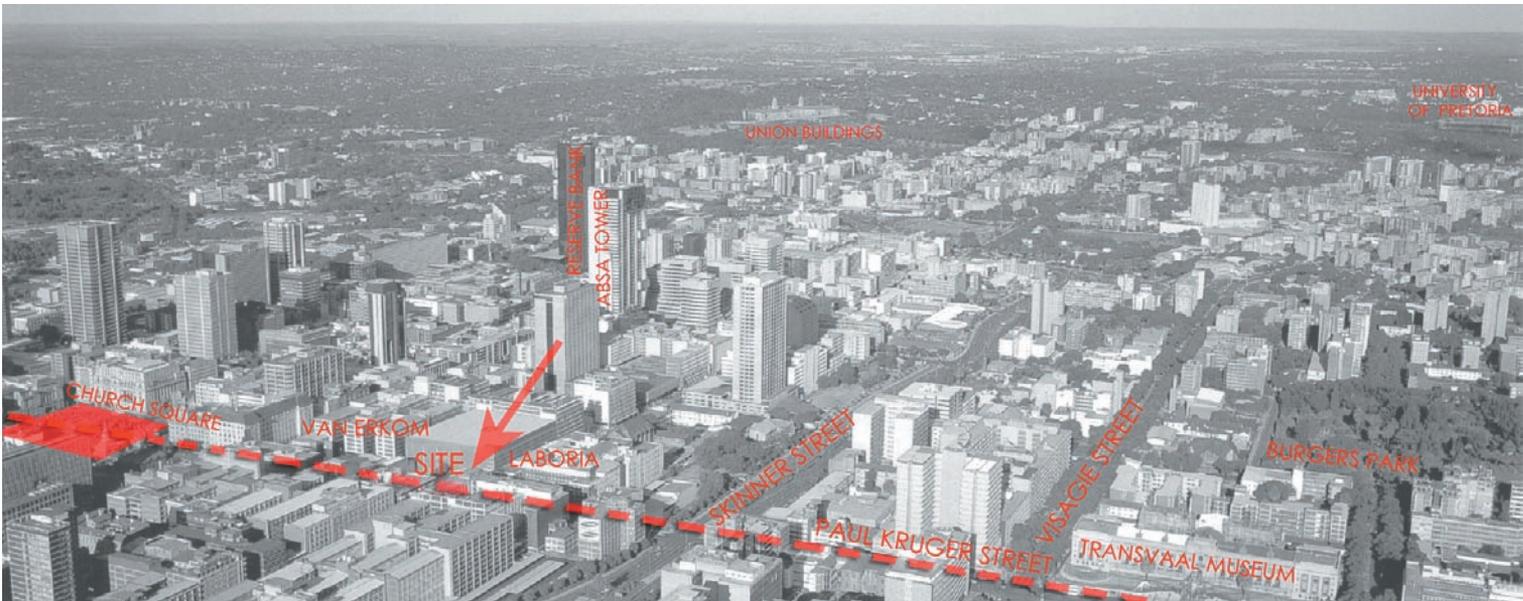


Figure 3-6 Birds' Eye View as above - edited by author

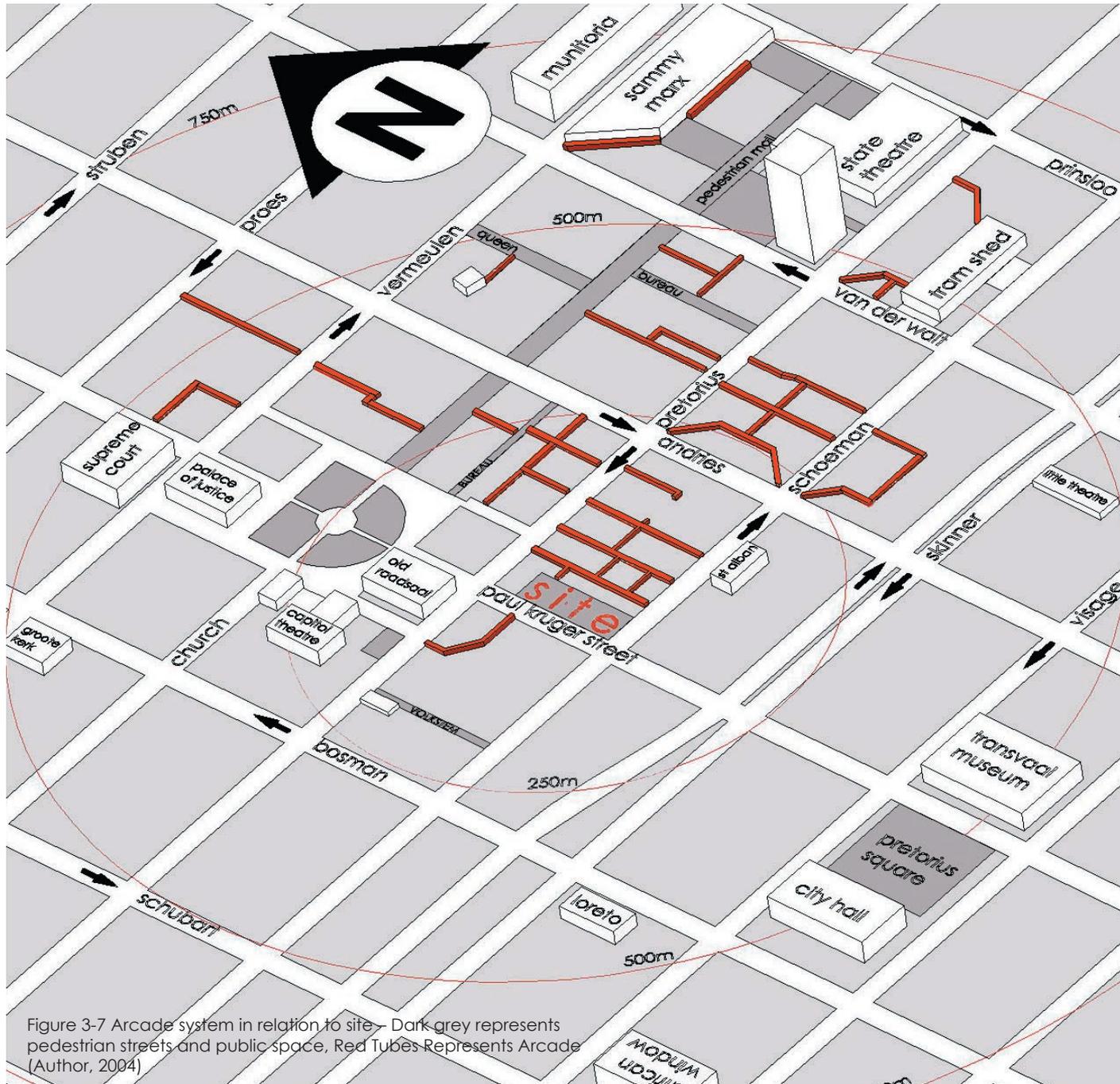


Figure 3-7 Arcade system in relation to site – Dark grey represents pedestrian streets and public space, Red Tubes Represents Arcade (Author, 2004)

Arcade Analysis

On visiting Pretoria's CBD today it is clear that the 1930's trend of an internalised city has been reversed. Many arcades, which were once bustling places, have deteriorated and serve only as functional pedestrian tunnels that link more important places. One experiences the need to move quickly through these often dimly lit corridors that do not encourage the user to stop and explore. The shops are there, and do business, but don't have the potential of attracting the cities' wealthier patrons. Arcade activity is often dependent on the institutions or government functions located inside to supply the lifeblood. By the end of the workday the arcades lie deserted: Bolted and secured from public access.

The Church Street Pedestrian Mall is where the commercial activity of the CBD peaks. This is one of the few places where the surrounding arcades are active places worth visiting, and on Saturdays it remains a shopping destination.

The arcades can be divided into two broad categories:

- Internalized Street type, which are the older arcades. These are found closest to the historic core.
- Shopping center or Atrium arcades which act more as malls that connect streets through a city block.

The focus will be on the internalized street type. The arcades in close vicinity to the site are all of this type and any possible links that the project can make will be to this system.

Van Erkom Arcade

A lack of natural lighting creates a feeling of claustrophobia on first tentative entrance. Yet the arcade is 90% rented out and businesses operate well. Jacaranda Stereo plays over hidden speakers. But the arcade would not attract tourists and does not offer anything special to the casual observer.

The arcade passes under two buildings, namely the Van Erkom Building (Northern half of arcade) and the Finpark Parking Garage (Southern half of arcade). A large diversity of shop and smaller businesses can be found in Van Erkom Arcade serving the local community and the employees of surrounding government buildings. Businesses include take-away restaurants, a furniture store, a micro loans business, a hair salon, and the offices of Prof. Dungu, a Herbalist healer.

Of special interest is the Oude Kelder Pub and Restaurant, or more specifically, the public artwork on its outer wall, facing the Van Erkom section of the arcade. The mosaic artwork (see Fig 3-10) is, according to the owner of Oude Kelder, the longest mosaic artwork in the Southern Hemisphere. Whether this is still the case is doubtful but a public artwork of this scale is of some importance.

The Upper floors of The Van Erkom Building can be accessed through the arcade. Office space is approximately 60 % rented out, mostly by the South African Police Service.

The arcade cannot be closed and remains a permanent pedestrian walkway. A potential link to Paul Kruger was clearly considered: A passage is in place, but terminates where the Van Erkom Building ends. The potential exists to create skylights in the Van Erkom section (Northern Half) of the arcade, which would greatly enhance the experience of the arcade, and make it much more

pleasant. Approaching Church Square along the Paul Kruger Street ceremonial way, Van Erkom could become the arcade through which one gains access to the entire system if a new link is established.

Thibault Arcade

The situation in Thibault is very similar to that of Van Erkom Arcade. The Southern section of the Arcade falls under the Finpark 7 storey parking lot. This section is also rather dimly lit with electronic light. Here the floor space is only about 60% rented out and a large number of display windows are empty.

The northern section of the arcade is more interesting. The South African Police Service main branch entrance is found in the arcade. The businesses are minimal but the SAPS office ensures a steady stream of visitors during office hours. Here the arcade jumps to a double volume. It falls under the same building as Polley's arcade next door, and so the floor finishes are much more interesting and exciting. The arcade is in need of upkeep.

Activity in Polley's is close to nothing after hours, and although the arcade cannot be locked and remains a walkway, nothing attracts visitors to potentially encourage diurnal use. The main importance of Thibault seems to be that of linking the more important Polley's and Van Erkom arcades.

Polley's Arcade

The Norman Eaton-designed Polley's Arcade is possibly the most impressive of the arcades and undoubtedly has the potential of becoming a tourist attraction in its own right. Unfortunately businesses and shops are all but non-existent in the arcade.

Figure 3-8 Van Erkom Arcade location

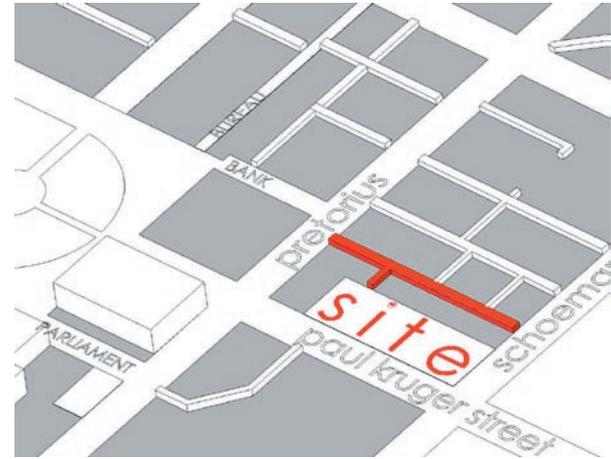


Figure 3-9 Thibault Arcade location

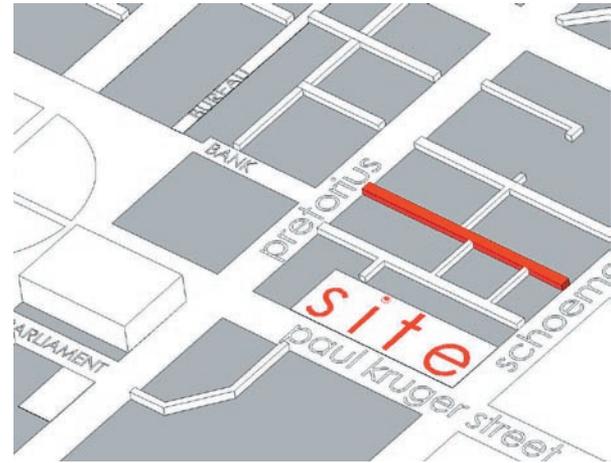


Figure 3-10 Public Mosaic artwork in Van Erkom Arcade

The South African Police Service uses the building as offices space. No public entrance to police facilities can be found in the arcade, save for the Jackie Selebi Wellness center, a gym for members of the SAPS that is not open to the public. The SAPS seems to use the arcade as its backyard. Deliveries are made by bakkie in the arcade. The arcade is a double volume space from beginning to end, and even a triple volume at the center where a grand staircase descends. Under the staircase is the only function other than SAPS facilities, namely the Pebbles Restaurant.

The city should make the upgrade, upkeep and development of Polley's Arcade a priority.

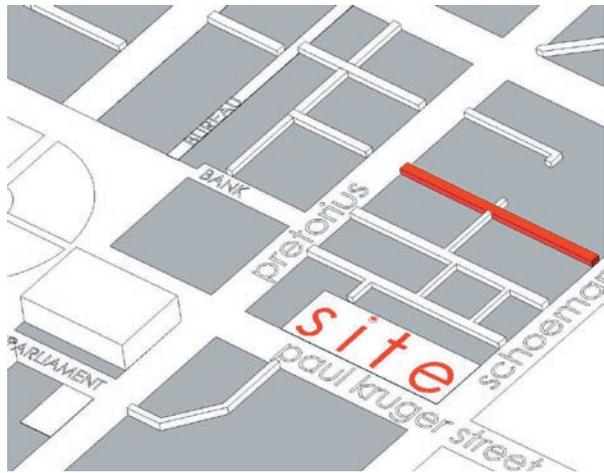


Figure 3-11 Polley's Arcade in relation to the site

Opera Plaza Arcade

Opera Plaza creates a link between Bank Street on Church Square and Pretorius Street, and allows access to the Koedoe Arcade, all leading to Andries Street.

Approximately 50% of the arcade is rented. The arcade is unimpressive, save for the entrance off Pretorius Street. The old Opera Plaza façade was preserved when a new building was constructed behind

it. A courtyard was created that is shared by a Wimpy restaurant and an Internet café. This is a very pleasant space that is flooded with sunlight. A vine covering the dead facade of a neighboring building and trees planted in the courtyard give the arcade a unique character. Glimpses of the courtyard from the sidewalk invite passersby to enter. This is an important principle in arcade design.

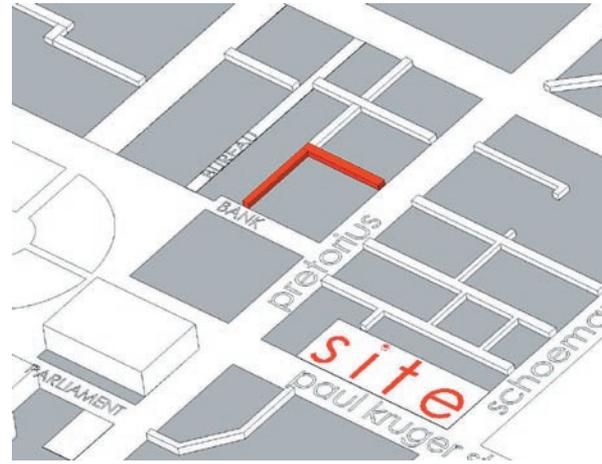


Figure 3-12 Opera Plaza location

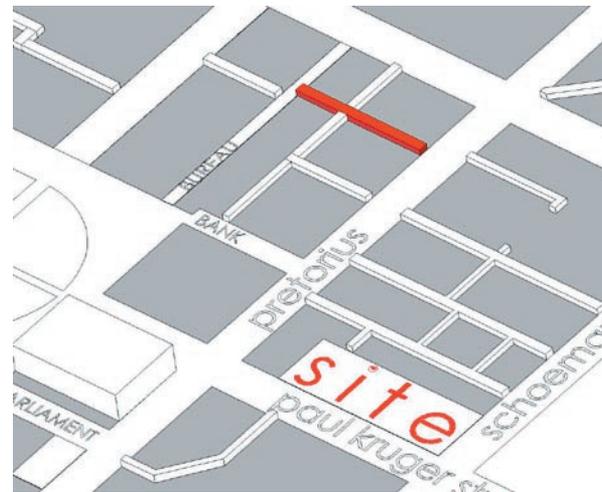


Figure 3-13 Koedoe arcade location



Figure 3-14 Opera Plaza Arcade



Figure 3-15 Burlington Arcade



Figure 3-16 Koedoe Arcade

Burlington Arcade

The Burlington Arcade is the most charming and pleasant of the studied arcades. It is part of the Art Deco Burlington House, designed by Gordon Ellis. It was built in 1934. (Le Roux, 1990)

The arcade is narrow and short, acting as a link between the Church Street Pedestrian Mall and the pedestrian street Bureau Lane. It is filled with activities and a diverse range of small businesses, including a leather shop, watchmaker, biltong kiosk and a small coffee shop.

The arcade is open to the sky and apartments have balconies opening onto the arcade. Flower boxes are visible. The success of Burlington arcade may be attributed to its location off the pedestrian mall, but its design proves how pleasant the arcade system can be. It is a well-designed public space with a unique character that adds to the city experience. It also confirms the importance of natural light to ensure a positive spatial experience.

Koedoe Arcade

Koedoe Arcade seems more like a mall, or an atrium of a larger building, than an internalized street. Skylights provide natural light to ensure a pleasant space. The arcade is in a good condition. Offices above have balconies looking out onto the arcade, and from the arcade activities can be seen on the upper floors.

Diverse tenants rent out 80% of the arcade. Clothing stores, micro loans businesses and a jeweller can be found. Koedoe Arcade is important as a pedestrian link between Pretorius and Andries Streets and ultimately the Church Street Pedestrian Mall.



Figure 3-17 Burlington Arcade in relation to site

Immediate Site Context

The site is situated 200m from the centre of Church Square, which is important as a tourist attraction and public place. The square is always a witness to activity. A large number of Governmental Departments are situated close by, ensuring an active CBD during office hours. Office space with lettable shops on ground floor makes up most other surrounding buildings around the site. Buses from the CBD depart to the rest of the city from bus stops located in Pretorius Street to the north of the site, as well as from the section of Paul Kruger from the site to Church Square. Tickets and information can be obtained from the Ticket office on Church Square. (See Site Analysis Drawings p3-14)

The Van Erkom Arcade runs next to the site (See Arcade Analysis p3-6 to 3-9). It passes under the Van Erkom Office building and the FinPark parking Garage. Finpark is a 7 storey-parking garage, with shops on ground floor and a basement parking level with controlled access.



Figure 3-18 View over site from Van Erkom building roof -Pretoria Office Supplies Roof in Front - Red roof at the back is the Lewis Building. Laboria (Department of Labour) is located in the Redbrick building behind the Lewis Building



Figure 3-19 South-western corner of the site, c/o Paul Kruger and Pretorius Street. The 7-storey FinPark Parking Garage is visible to the right of the Lewis furniture store building. The disparity of scale of the existing buildings on the site to the rest of the CBD is clear.



Figure 3-20 Immediate Site Context

3d Mass Analysis

The disparity of scale of the existing buildings on the site (indicated in blue) and the surrounding buildings can again be seen. Paul Kruger Street Façade is broken and rhythmic, with variations of building sizes and heights. The East-West streets of Schoeman and Pretorius have well-defined and solid street edges, appearing as canyons. This is due to the long street blocks orientated to the North, as described in the Pretoria History section A height of between 5 and 7 stories is the norm for buildings along the CBD section of Paul Kruger Street.

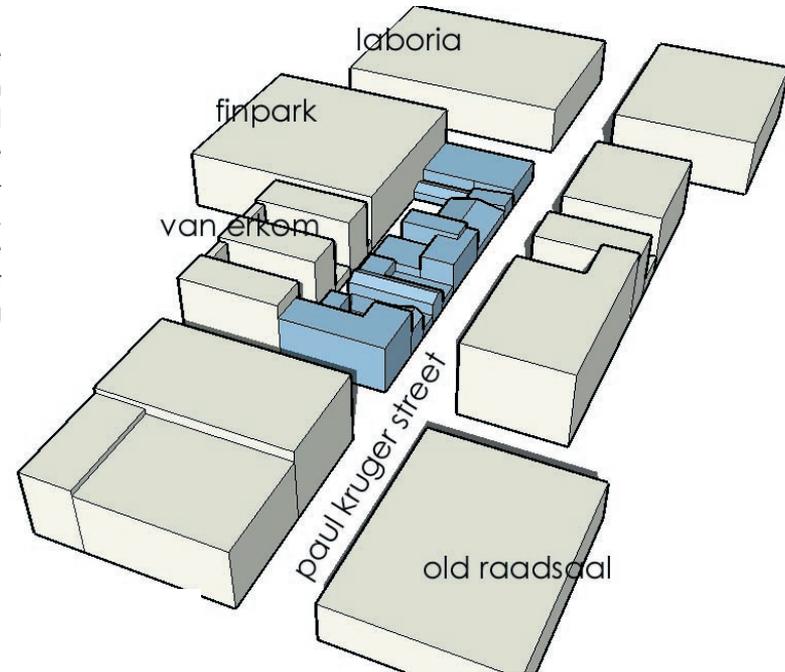


Figure 3-21 Birds' eye view of the site from the north-west, to the South

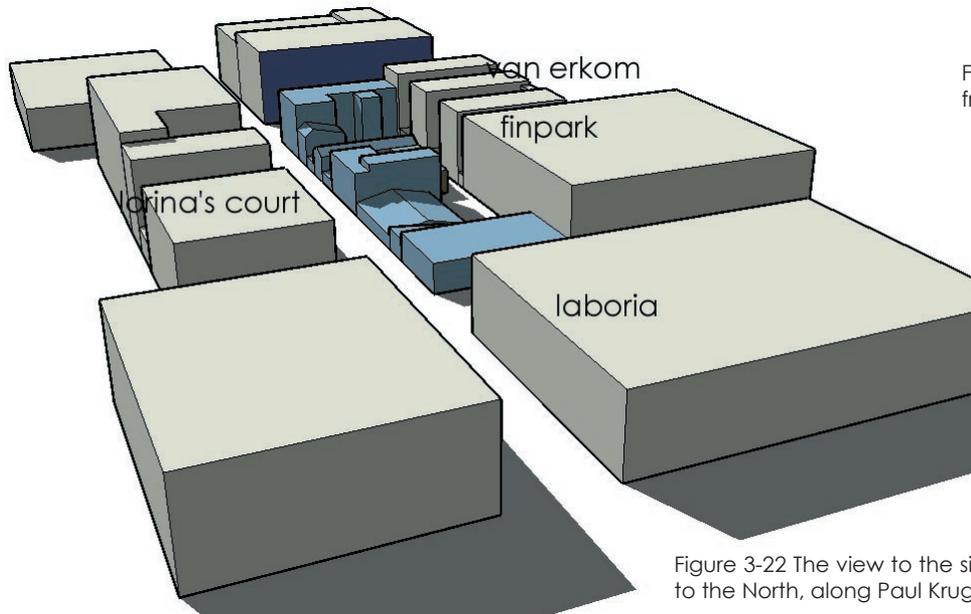


Figure 3-22 The view to the site from the South, to the North, along Paul Kruger Street.

Existing Building Analysis

Figure 3-23 Site Street Facade from Paul Kruger Street
See Site Analysis Drawings inserted on next page



Only the final proposal made for the individual buildings are given below. For the complete building analysis see Appendix A

Savelkoul Proposal

Conservation of building. No change in function. Possible link to pedestrian movement

Fatti's Proposal

Conservation and maintenance. No change in Function, but potential of linking Sports Fly Bar at the back of the site to the proposed pedestrian walkway.

Afrik House Proposal

Conserve and Maintain / Restore exterior and the adaptive re-use of interior. The building ideally positioned to make a link to the arcade system. Demolition of smaller structures.

Pretoria Office Supplies Proposal

Adaptive re-use of buildings with possible integration into

project. The building is of economic value in the CBD.

Wholesale Retail Proposal

Conservation of colonnade and integration of the colonnade into new building. Demolition of building

Pharmacy Proposal

Conservation of colonnade and integration into new project. Conservation of Interior of Pharmacy, or of Pharmacy location for memory connected with the site.

Am Cellular Proposal

Demolition of building structure

Lewis Proposal

Possible Integration into the scheme. Adaptive re-use. To fit the scale of the CBD a structure will have to be constructed over it. The cost of this intricate process vs. an entirely new building must be considered however.

pretorius

schoeman

physical context

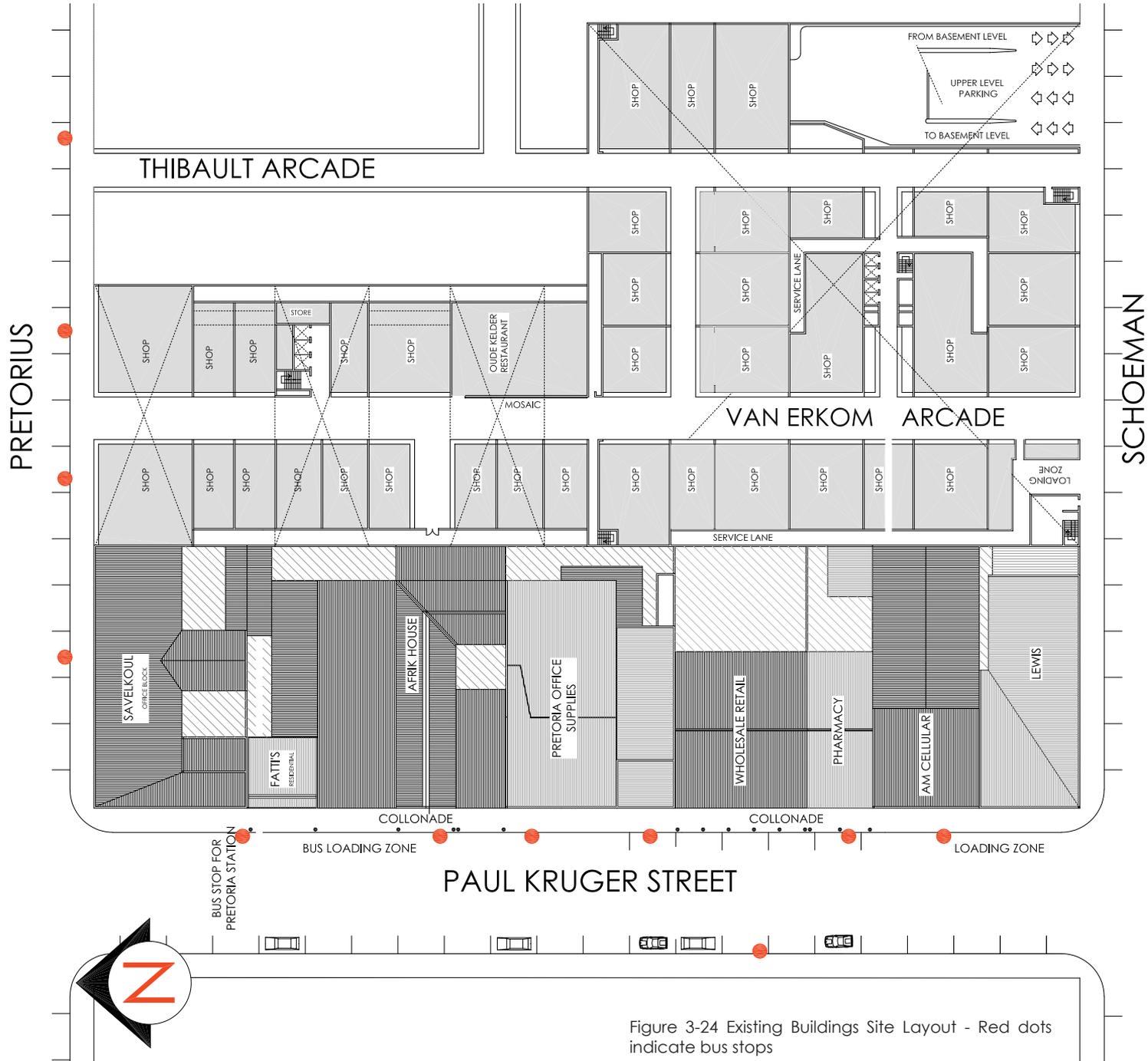


Figure 3-24 Existing Buildings Site Layout - Red dots indicate bus stops

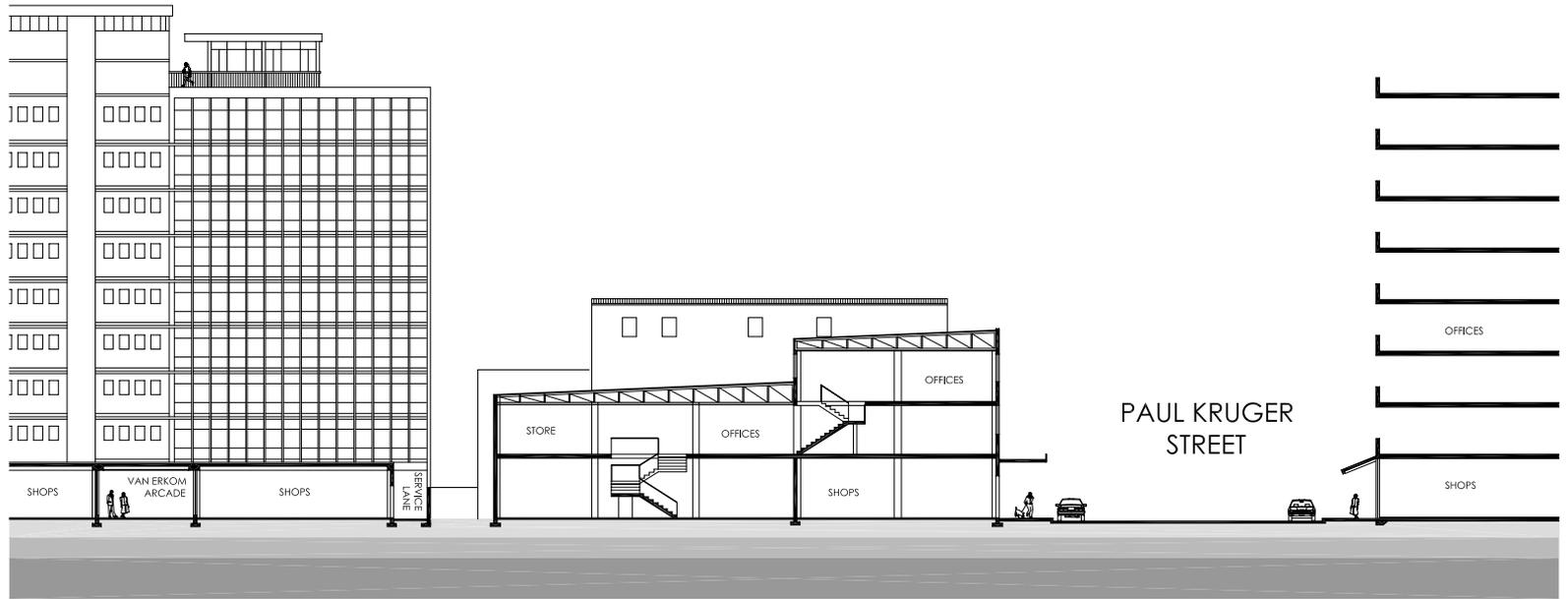


Figure 3-25 SECTION THROUGH PRETORIA OFFICE SUPPLIES BUILDING - VAN ERKOM BUILDING ON THE LEFT

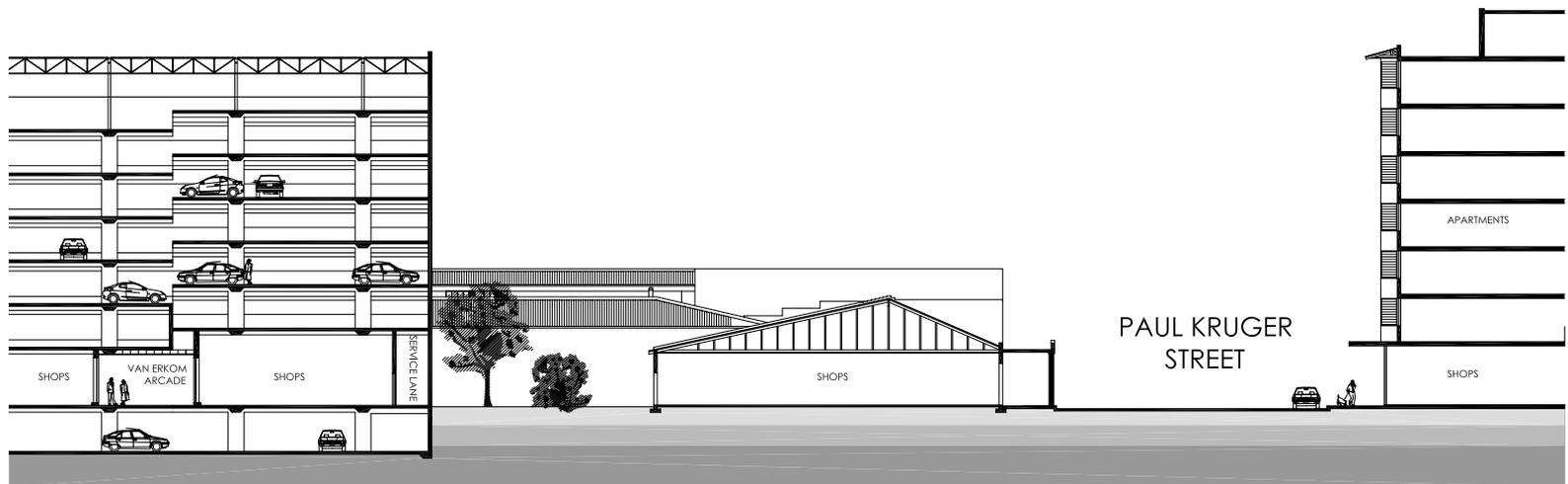


Figure 3-26 SECTION THROUGH PHARMACY AND FINPARK BUILDING EDGE

Site Shadow Patterns

The Van Erkom and FinPark Buildings to the east of the site cast long shadows and block early morning sun. The lowest Western sun rays are blocked by the existing buildings to west. This will influence solar design.

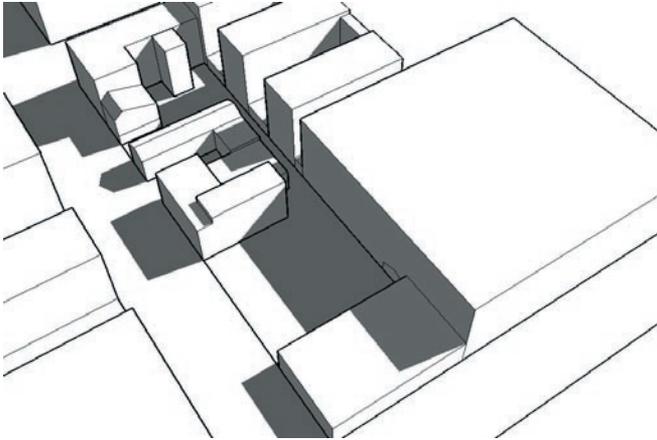


Figure 3-27 1st January 8h30 am

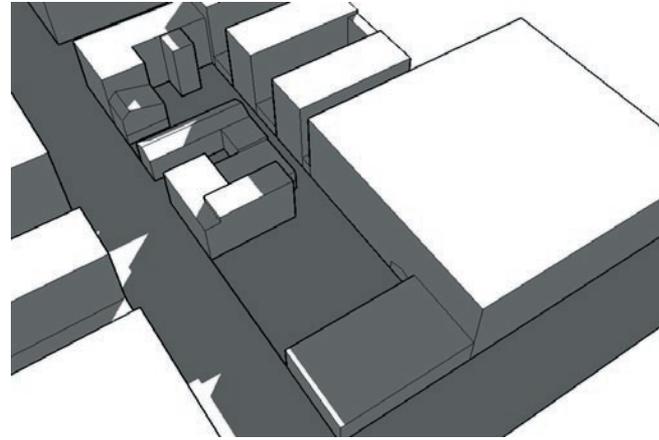


Figure 3-30 21 June 8h30 am

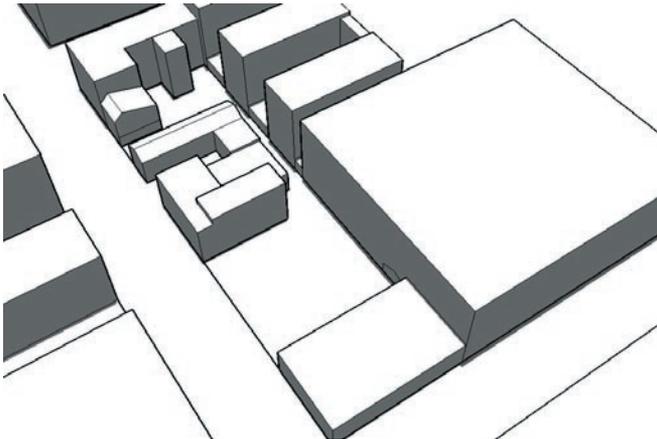


Figure 3-28 1st January 12 noon

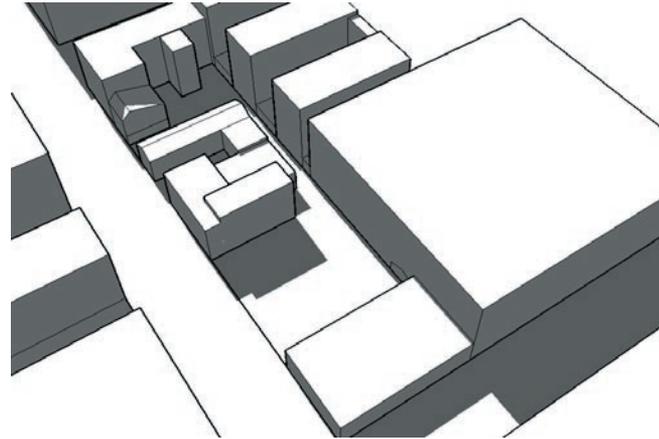


Figure 3-31 21 June 12 noon

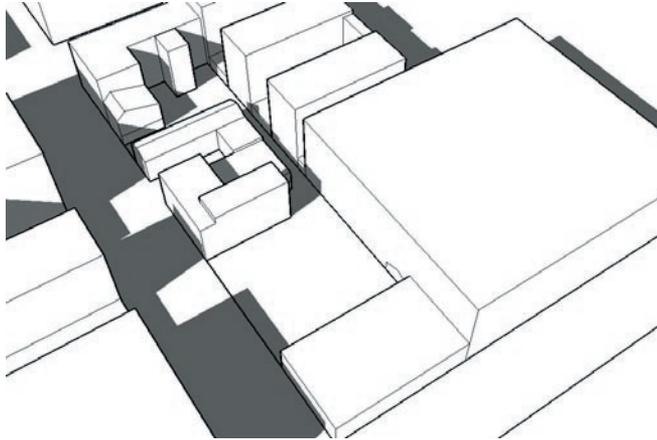


Figure 3-29 1st January 4 pm

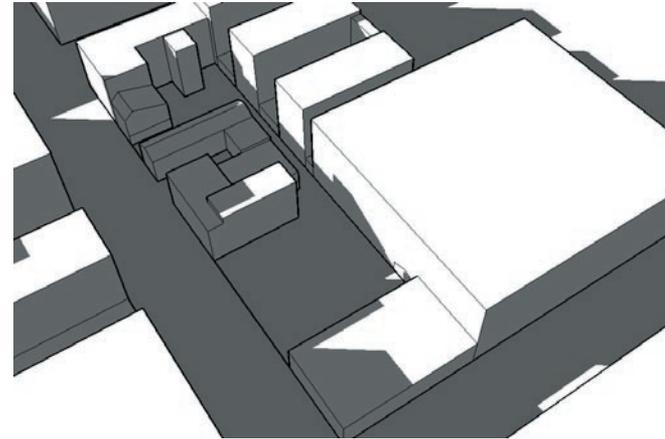


Figure 3-32 21 June 4 pm

Legal Context

Any new construction work must comply with the **SABS 0400** Building Regulations in all aspects thereof.

The Title Deeds (See Appendix E) give no specific requirements for the properties. A 2,5 m servitude is specified along the Eastern boundary of all properties, connecting Schoeman and Pretorius Streets. However, the Savelkoul (Erf 1/461), Wholesale Retail (Erf 1/509), AM Cellular (Erf 6/509) and Lewis (Erf 3/509) Buildings have disregarded this servitude entirely and it has subsequently been built over.

The Town Planning Scheme specifies a height restriction of 28 m for all the properties on the site. The site is zoned 'General Business', and a Coverage of 80% is specified for all properties that make up the site.

Some properties will have to be consolidated to accommodate the new building. This should be kept to a minimum if possible when the costs and time implications of consolidation is considered (9-month period for consolidation).

The Town Planning Scheme states that no part of a new building, or addition to or extension of an existing building, may be built over the building line, or extend across it. This excludes, however, balconies of a residential building, which may extend 0,7m over the building line, with the understanding that they may not be closed balconies.