

# framework

- 01 \_urban approaches
- 02 \_macro scale
- 03 \_medium scale
- 04 \_micro scale

# URBAN FRAMEWORK ANALYSIS

The integration of this design project on an urban scale has been approached with the recently formulated Tshwane Inner City Project Spatial Development Framework (TICP SDF) in mind. Due to the fact that this framework is under development, yet provisionally accepted by the government, the decision to adopt the strategies and approaches laid out in the SDF was taken in order to anchor the proposed design in as realistic a setting as possible. The viability, development, integration and final success of the design depends heavily on the contextual setting and in order to propose a real-world solution, real-world parameters and scenarios have been adopted.

## URBAN APPROACHES

Prior to beginning the examination of the proposed urban framework for the Tshwane area, the objectives seeking to be achieved through the design on an urban scale, must be identified. Whilst the following represents the author's main concerns and ideas with regards to urban planning, grounding these into the Pretoria context remains uppermost in the author's mind since these ideas and approaches will influence the final design's success accordingly.

### 01\_DENSIFICATION

The extensive development of areas surrounding the city has left the city in a state of urban sprawl. The ability of a city to operate and serve its inhabitants successfully comes through the close connection of the various necessities which the city serves. Whilst Pretoria continues to operate as a vibrant city, the marks of urban decay in certain areas are showing themselves. The goal of densification of the city seeks the focussed development of the fabric in the city to

serve multiple groups and functions simultaneously.

### 02\_PERMEABILITY

Whilst the ability to enhance permeability of the city structure may in part oppose the idea of densification, these two goals are achievable together. Through the provision of small scale public access routes and communal spaces in the designs of buildings and streets, there is enough opportunity to enhance the permeability of the city for the individual user.

Road networks and transport routes are a necessity for the survival of the city and its continued operation but the ability of the city to relate to pedestrians should not also be confined to these routes. By increasing permeability on a small scale, an entirely independent pedestrian network can be created through the city with a variety of alternative experiences for the people.

### 03\_MULTI-USE

The provision of public facilities determines the ability of the city to serve its people. If there are not sufficient places for people to live out their everyday lives, the city will fall into disuse.

Also problematic however is the stipulation of singular functions to dedicated areas. By providing places which serve only part of the daily requirements of people, occupation of such places will remain temporary and result in abandonment when not in use.

In order to provide for all the needs of the people a system of diversification of uses and facilities is required. Economic, residential, retail, manufacturing, transport are some of the common day-to-day requirements for living. Installing all these uses into a single area will allow people to work, live and play without leaving the area. The improved utilisation of the city land will restrict unnecessary external development to meet needs. Diversification also improves reliability of a system and ensure the continued usage should one function or part thereof



falls into disuse.

In this manner it is hoped that the revival of the inner city can be achieved by attracting people to return to living in the city.

#### **04\_NETWORKS THROUGH THE CITY**

The diversification of functions within the city sets up smaller networks between places which share similar interests and processes of operation. These networks relate to the manner of use whether pedestrian, vehicular, environmental, historical and so forth.

It is these networks that can begin to play a part in changing the way the city is experienced. For example, consider a historical network through the city which links sites of significant heritage and importance. The exploration of such a network focuses on a specific aspect of the city, informing the user and developing a different manner in which the city is experienced by the user as a result.

By installing such systems and networks, a variety of ways in which the city can be explored and discovered can be created to develop the love and appreciation of the people in their city.

#### **05\_PUBLIC INTERFACE**

Specific to this project, the development of CUBE as a public interface will seek to create a special sense of place that relates to the unique role of the facility in the city.

Designed to serve a range of public interests from educational and intellectual to functional, the ability to serve a variety of interested people within the city remains key to the success of the project.

## **P R O P O S A L S**

The following sections examine the proposed urban framework in an attempt to identify and discuss methods by which integration with this project can be achieved.



## **M A C R O S C A L E**

### **T H E S E V E N P R E C I N C T S**

The latest development plans for the city have broken the two main axis on the city, Paul Kruger and Church Streets, into seven precinct areas which link the Union Buildings with Church Square and Freedom Park.

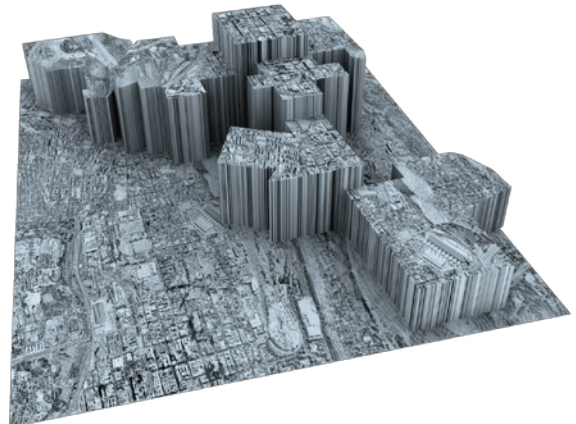


Fig.4\_02.City precinct model

These three sites are the main anchors in the city fabric and as such the visual and physical connections between each has been emphasized. The seven precincts extending from the east to the west are:

- 01\_Taung or Precidency Precinct (Union Buildings)
- 02\_Mandela Corridor Precinct
- 03\_Sammy Marks Precinct
- 04\_Church Square Precinct
- 05\_Paul Kruger North Precinct
- 06\_Museum Park Precinct
- 07\_Salvokop Precinct (Freedom Park)

Each precinct will house a set group of government departments at their heart from which development will expand. An identifiable design and aesthetic is sought to be achieved in each precinct to encompass the multitude of South African cultures.

This project will only require the examination of two of the seven precincts, namely the Church Square and Paul Kruger North precincts. This has been done to ascertain the suitability of the project integration into the chosen area.

## C O N S O L I D A T I O N

*“Consolidating individual departments”*

*“Clustering departments in synergistic and functional relationships”*

The TICP SDF sets out 10 key objectives for implementation through the new city framework. Out of these ten, several share focus with the reasons for establishing the CUBE facility.

Consolidation on the part of the government features heavily throughout several of these objectives with the construction of public and pedestrian transport spines to feed the city, bringing individual government departments into line with each' requirements and positioning them strategically through the city.

In response to the framework's directive of consolidating existing government departments into “synergistic and functional relationships”, from 128 locations into just 48, CUBE is envisioned as the equivalent consolidation for representatives of the built environment professions. Bringing together all the various councils and institutes makes functional sense too as most operate fairly similarly to each other which gives rise to opportunities of sharing commonly used facilities and is more conducive to a multi-functional and multi-faceted building environment. What is meant by this is the possibility of expanding and contracting usage throughout the building due to the fact that most of the functions performed by the various council groups are homogenous and can thus be dealt with almost as if they were a singular functional entity. Not to say that the design will follow this route since the independence of the various entities within the facility will need to be conserved. There is merely the opportunity to create an adaptable and easily configurable internal environment due to the homogenous nature of the functions being performed between council groups.

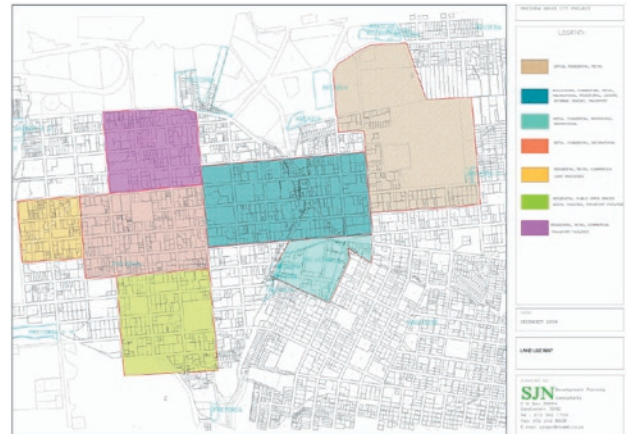


Fig.4\_03.Land use map, TICP SDF 2005

# P U B L I C S P A C E N E T W O R K

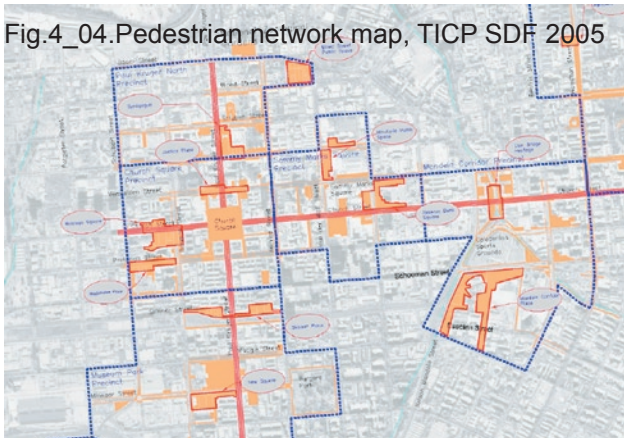
Within the fabric of the city exists a series of public spaces, squares and edges which have been created to serve communal functions. These existing places in addition to the development of others laid out in the TICP SDF form the Public Space Network, a series of spaces connected through the city which focus on public interaction.

With the focus of CUBE towards public involvement the choice of site will follow closely with this network.

## Post Site Selection

The elevated focus on the Paul Kruger and Vermuelen Streets intersection provides an ideal centrally located, public orientated space. The development of an envisioned public access route between elements in the fabric will find considerable use in such a location from which the CUBE facility can only benefit.

Fig.4\_04. Pedestrian network map, TICP SDF 2005



# P E D E S T R I A N N E T W O R K

Proposals by the framework to improve pedestrian movement through the city focus on generating

activity and mobility spines to serve pedestrian and transport needs. With the conversion of Paul Kruger and Church Streets into public transport spines, large volumes of pedestrian movement will be centered here with a great possibility for project success.

The design solution must take note of this and offer up ways in which this can be catered for and utilized to the facilities benefit.

## Post Site Selection

The planned implementation of activity spines running the length of DS Bosman and Andries streets in town mean that the entire length of road running along the south of the site will be accessed mainly by foot. The framework makes reference to pedestrian volumes through the day and it can be seen that only 30% of the volume of pedestrians walking along Paul Kruger, walk in a west to east direction. The volumes increase closer to Church Square and mainly near Skinner, Pretorius and Schoeman streets.

However, opposite the proposed site is the main Pretoria north bus stop that feeds people northwards from Church Square into the Pretoria North and Annlin areas. With such a localized hot spot for pedestrians, there is sure to be an increase in pedestrian numbers near the building at peak times and a possible heightened level throughout the day due to the continuing bus movements.

# P R I V A T E V E H I C L E S A N D P A R K I N G

Since the existing site usage is predominantly parking for the surrounding structures, relocating this use or providing for it differently will need to be addressed. With the implementation of the “pedestrian capital web” with the development of several new public squares, additional parking is being provided for within the city in underground parking structures beneath these public squares. In addition to this, several parking centers will be developed through



the city.

The SDF aims for this to cater for the private vehicular transport but sees the creation of the central public transport spines to operate within the city as a method to alleviate private transport within the CBD.

#### Post Site Selection

Plans have been proposed to implement a parking garage facility on the corner of Proes and Paul Kruger street, one block north of the site. Since this would provide all the parking required for the surrounding structures while remaining within a 400m walking distance, the need to provide on site parking is now voided, ideally allowing for the conversion of this site into a more productive and functional space within the city.

## V E H I C U L A R A C C E S S

The intended conversion of Paul Kruger and Church Street will see a significant alteration to the vehicular network operations in the city. Large volumes of traffic will be required to be redirected away from these central routes which may have extremely negative results in other parts of the city.

Yet the fact remains that in order to attract people into the city, it must first be made into an inhabitable environment which places the quality of life above all other considerations.

#### Post Site Selection

Vehicular flow along the southern edge of the site will remain as is with the redesign of Paul Kruger allowing only service and light vehicular movement. Delivery access will thus be from the southern service entrance with refuse removal possible from both the eastern and southern sides.

The installation of a parking garage one block north and public parking on Church Square will allow the use of private vehicles to visit CUBE.



Fig.4\_05.Existing road network, TICP SDF 2005

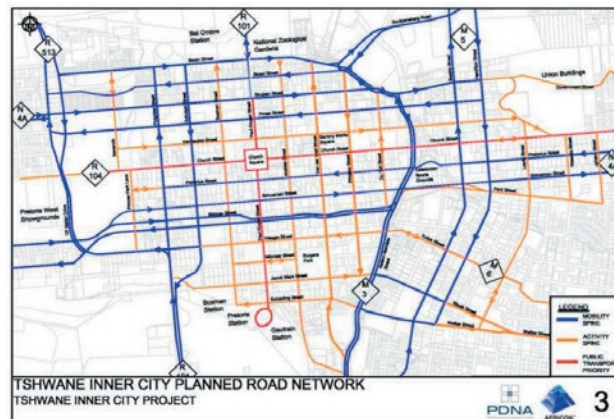


Fig.4\_06.Proposed road network, TICP SDF 2005

## P U B L I C T R A N S P O R T R O U T E S

The sharp increase in vehicle numbers recently has generated large problems for the city infrastructure and road networks. In a bid to remove traffic from the city, authorities are planning extensive public transport systems which will operate to reduce the reliance on private vehicles. There are discussions at present on the viability of imposing a congestion tax on all vehicles into the city in an attempt to force the utilisation of public transport systems.

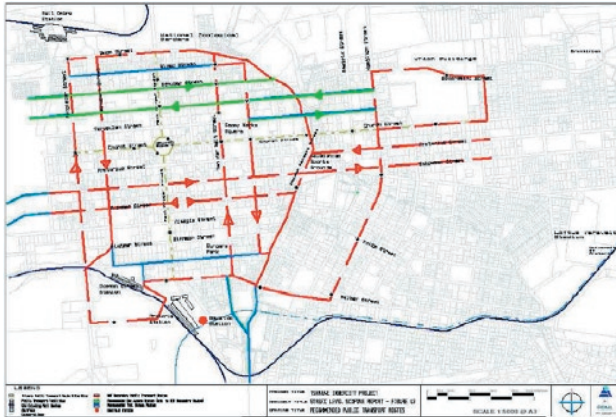


Fig.4\_07.Public transport routes, TICP SDF 2005

A series of routes through the city will facilitate the transport of people to any of the cardinal extremes of the city from where larger scale transportation systems will take over.

#### Post Site Selection

The positioning of the main Pretoria North busstop and route adjacent to CUBE will see large volumes of pedestrians bypassing the chosen site. Later once the SDF has been completed the public transport node will be located at all the intersections northwards along Paul Kruger. The slight repositioning of this public point will not significantly alter the pedestrian movement at present.

## D E N S I F I C A T I O N

*“This area should be characterized by an agglomeration of high-density buildings...”*

The Traditional Inner City Core identified as the area from Skinner Street in the south to Vermeulen Street in the north, will become the focus area for the development of a government core of buildings. Aims to increase the urban structure density will be particularly aggressive in this zone with the

incorporation of NGO's and offices of parastatals. The chosen site must be identified as a typical gap in the envisioned density of the city. The under-utilisation of space in the inner city comes at a high expense to property owners due to the elevated land costs in this zone.

*“To develop the area as a transition zone between the National Zoological Gardens and the Inner City Core through the creation of public spaces.”*

#### Post Site Selection

The site falls on the boundary between the Traditional Inner City Core zone and the Inner City North zone. The focus in the north of the city is to develop a less dense fabric focused on transport, movement and connections in and out of the city. The appropriate response thus taken on site development is to attain the density requirements sought through the framework whilst promoting public space.

## H E R I T A G E L I N K S

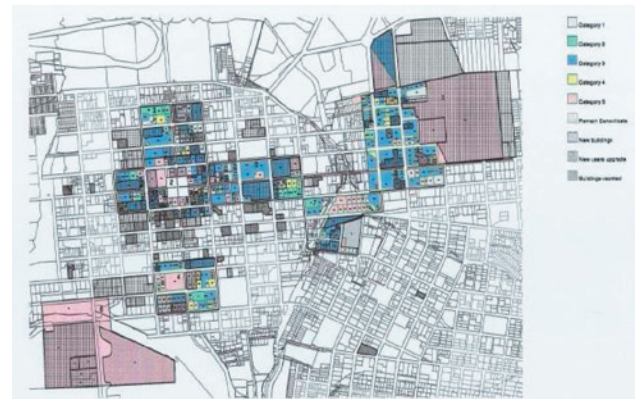
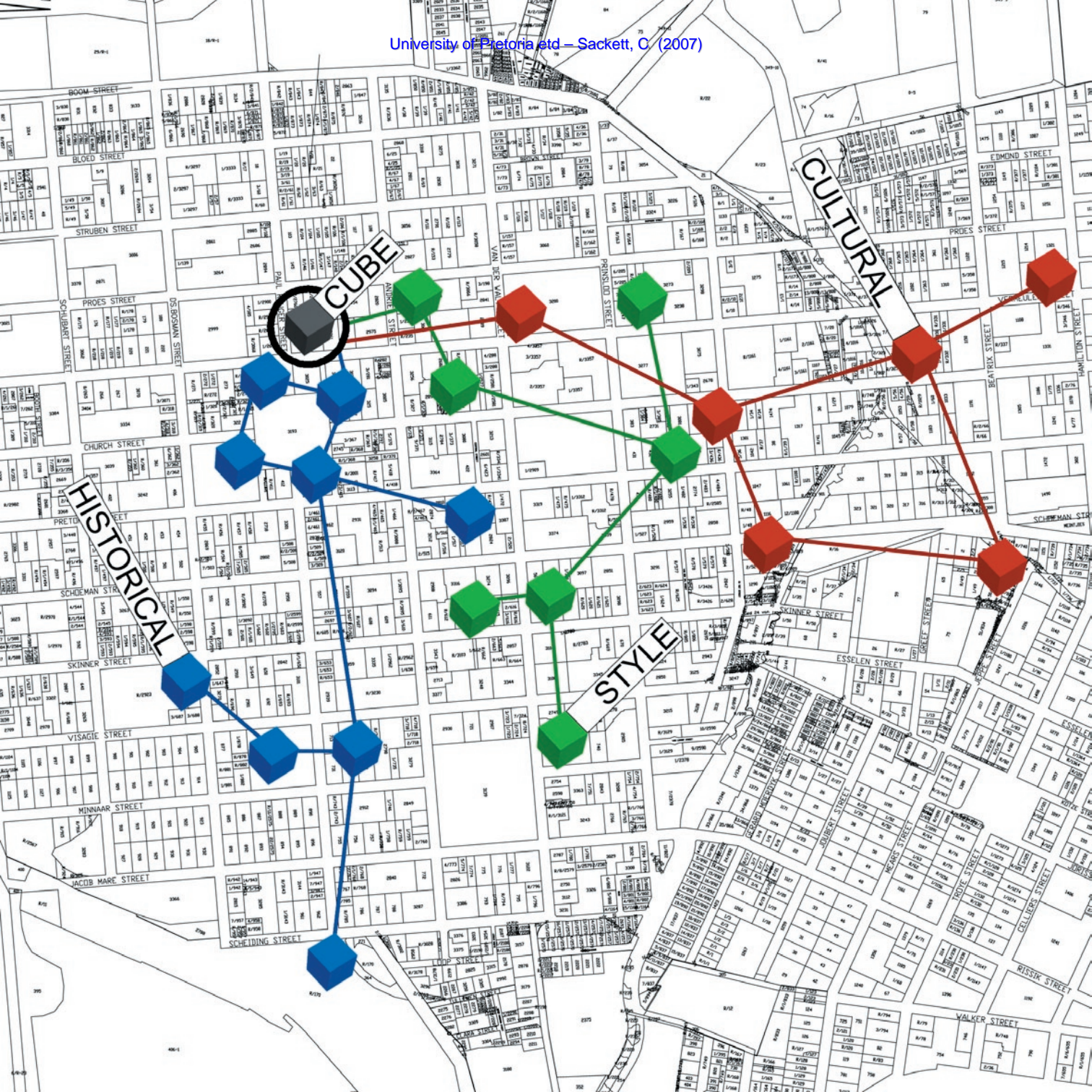


Fig.4\_08.Heritage sites, TICP SDF 2005







There is a large focus on the part of the framework to connect with all the cultures and people of South Africa. Since the end of apartheid, extensive work has gone into celebrating the historical events of the previously marginalised cultures. The recent proposals to change city, street and building names is typical of the change authorities are trying to make to include all people in the future of the country. Heritage thus forms a large part of the revised framework and shares this sentiment with the objectives of CUBE in educating people about their city.

#### Post Site Selection

The proposal to develop a Historical Network in the city connecting places and buildings of similar styles, functions and history will develop an awareness in the people of their city.

With CUBE as the central focal point from which to access this network it will ensure that the facility will not only be used by local people but also visiting tourists and foreigners who have travelled to Pretoria to see and learn about South Africa.

Fig.4\_09. Historical Network (left)

## M E D I U M S C A L E

## C H U R C H S Q U A R E P R E C I N C T

Conceptually, Church Square will be designed to become the centre of justice for the people and national development. This precinct is already highly developed with major landmark and historical buildings forming a significant heritage factor. The establishment of the Historical and Heritage Network in CUBE will promote routes through the city which interact with the important sites for tourists and locals alike.

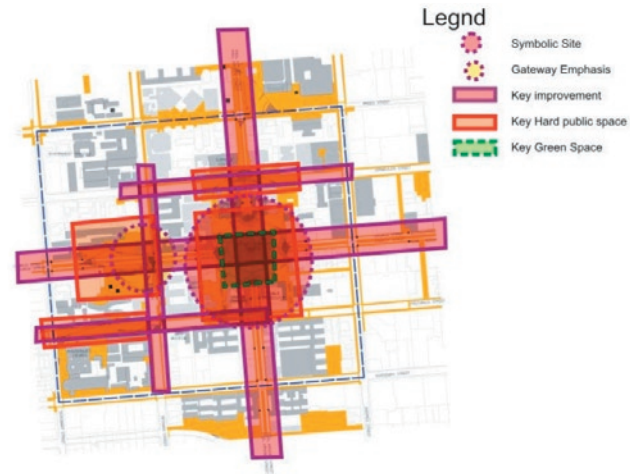


Fig.4\_10. Church Square proposal, TICP SDF 2005

Presently, several government departments are already positioned within the precinct with a final target of 24% of all departments to be located into this area (TICP SDF Phase 2:192) Included amongst these is the Department of Public Works, identified through the Built Environment Network as a key location for generating spatial connections to CUBE.

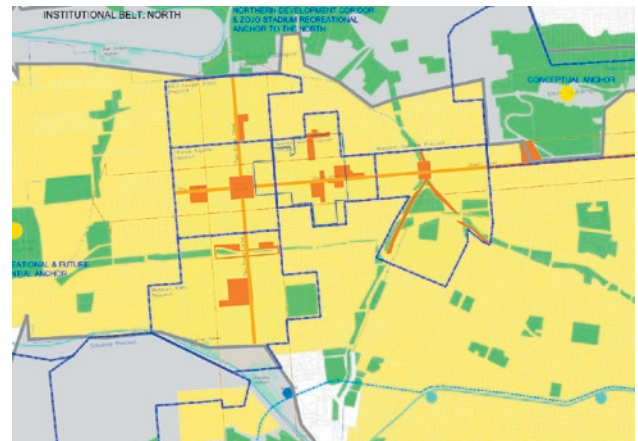


Fig.4\_11. Land use strategy, TICP SDF 2005

Pedestrian movement through the area will in future be predominantly along the pedestrianised Paul Kruger and Church routes. However this change will promote infiltration of movement adjacent and perpendicular to these routes.



Fig.4\_12.Future pedestrian movement

Public space improvements and upgrades will form a large part of the urban works planned for this precinct. The development plan has identified the intersection of Paul Kruger and Vermuelen Streets as one focus area which will require consideration through the design. Ideally, the design must seek to allow this public space to 'participate' in the building space.

New developments in the future which will alter the urban environment can be summarised as follows:

### 01\_Creation of Bosman Square to the west of Church Square

### 02\_Development of Justice Place and accompanying square

### 03\_Pedestrianisation of main routes

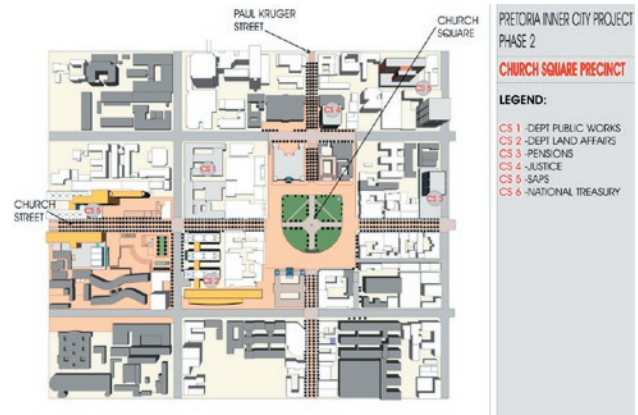


Fig.4\_13.Church Square precinct development plan, TICP SDF 2005

P A U L K R U G E R  
N O R T H  
P R E C I N C T

"...one of the precincts where the impact of government accommodation investment could have its greatest urban renewal impacts, as it is still an under developed area in terms of the Inner City."

TICP SDF Phase 2:199

One of the identified aims of the precinct plans seeks to expand the poorly developed green areas and the limited public space provided at present.

Thus Paul Kruger street as one of the main movement corridors in the city will become a proper continuation of the strong north-south axis generated with Pretoria Main Train Station.





Fig.4\_14. Paul Kruger North proposal, TICP SDF 2005

### Post Site Selection

The creation of a symbolic site as identified by the framework to be at the intersection of Paul Kruger and Vermuelen streets gives an indication into the level of design required should development occur in this area.

The envisioned design seeks to incorporate a technical and inspirational structure to stimulate interest in the public. The site thus provides an ideal setting for something of this nature.

## M I C R O S C A L E

## A R C H I T E C T U R A L G U I D E L I N E S

Each precinct sets out specific guidelines to the design of any building within the precinct limits in an attempt to develop an identifiable aesthetic through the city.

These guidelines will set all building parameters from height and build-to lines to material usage. It is

important that in adhering to the TICP SDF, note is taken of the various characteristic visual requirements in order to develop a design in harmony with its surroundings.

Some debate however can be placed over the setting of visual criteria. The TICP SDF makes reference to past African and European design aesthetics and seeks to re-establish the usage of these historical styles. Whilst the symbolic stability of a good government is reflected through some historical, especially classical, styles one must question the relevance in a modern society. This point however falls outside the realm of consideration of this dissertation with the awareness of such design regulations considered of greatest importance.

### Post Site Selection

Situated in the heart of the city, the Church Square precinct is dominated by government departments which reflect the historical classical and renaissance styles of architecture. Use of stone, concrete and brickwork is mandatory to establish a formal and grand aesthetic.

## B U I L D I N G T Y P O L O G Y

The local zoning of the site requires a mixed use design solution to any development within the area. Framework recommendations seek to create ground floor retail areas with the upper floors dedicated to offices or residential space.

### Post Site Selection

The design of CUBE follows these recommendations by creating the openly public ground and first floors of the facility with the upper floors dedicated to the offices of the respective councils and the CBE.

Additional commercial activities are included through the inclusion of a bookshop and restaurant in the public realm of the building.

# STREET DESIGN

The change of Paul Kruger Street into a pedestrian route will lead to changes in the design of the route. Fig.4\_14 shows a typical section through the street landscape with the focus on pedestrian movement evident. As a result of this however, it must be noticed how this change will allow a change to the manner in which a visitor will approach the project building.

Reducing the sense of isolation on either side of the road experienced at present, the redesigned route will promote focus and experience towards the buildings lining the route and inwards on the route itself as an axis.

Opportunity is thus created to establish a more direct link between the building and its surroundings. The formation of public areas adjacent to structures is ideally suited where travel on foot is the dominant mode of transport.

## Post Site Selection

Pedestrianisation of the route adjacent to the project structure will promote public accessibility to the structure. Advantage of this aspect can be furthered through the incorporation of publicly orientated spaces in connection with the building. The existing arcade on site provides the initial inspiration to re-develop this public forum to share a connection with the project structure.

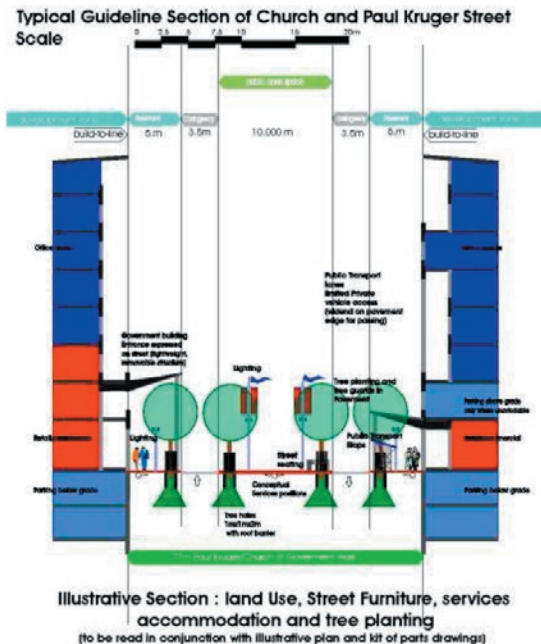


Fig.4\_15.Street section, TICP SDF 2005