URBAN FRAMEWORKS - INTRODUCTION

An urban design framework for the Burgers Park District needs to be set up. A group consisting of Andrea Beckenstrater, Samantha Moolman, Conrad Martin and Christiaan Liebenberg developed a group urban design framework for the “Southern Precinct”.

Existing urban design frameworks, developed by various government departments and individuals, were investigated and explored with the result of an urban design framework that built on the ideas and goals set out in these frameworks. The following existing frameworks were analysed: the Tshwane Inner City Project (TICP), Pretoria Integrated Development Plan (PIDP), and the City of Tshwane Compaction and Densification Strategy.

With the above mentioned existing frameworks in mind and analyzed information gathered from the surroundings, a group urban design framework is proposed that consolidates and builds further upon these previous frameworks, and allows further development by other individuals.
EXISTING FRAMEWORK 1

TSHWANE INNER CITY PROJECT

The TICP identifies three strategic corridors:

1. The Church Street Corridor
2. The Paul Kruger Street Corridor
3. The visual corridor between the Union Buildings and Freedom Park.

The TICP also highlights and acknowledges three unique symbolic sites within the Pretoria CBD:

1. Union Buildings (the seat of the Presidency)
2. Church Square (the centre of the City)
3. Freedom Park (a new National Legacy site)

The primary objectives of the TICP are to:

- Link the three symbolic sites mentioned above
- Consolidate infrastructure, pedestrian movement and public transport.
- Consolidate and cluster individual departments in synergistic and functional relationships in the city.
- Integrate urban management.
- Promote Resource Efficient Design (RED).
- Encourage the relocation of the private sector, foreign government offices & institutions to the CBD.

Criticism

The TICP places much responsibility on the government to be the initiator of the urban renewal process which would further influence the private sector to do the same. This means urban renewal will need to become a critical part of the governments’ economic policies. Although this is a holistic and noble strategic initiative, it is highly unlikely.
EXISTING FRAMEWORK 2
PRETORIA INTEGRATED DEVELOPMENT PLAN

The Southern Precinct has many good qualities and high density residential stock, however it is currently suffering serious neglect and decay.

The main intentions of this framework are to develop “Station Square”, “City Hall Square”, “Museum Mall” and the “Skinner Street Crossing”, however it also focuses on many other secondary items listed below:

- Develop the Berea retail, recreational facilities and offices.
- Promote the re-use of the industrial buildings to the west.
- Emphasise the link between Church Square and the Station.
- Develop Skinner Street to break the barrier it forms.
- Increase development around Burger’s Park.
- Encourage residential development.
- Propose an alignment for public transport in terms of new transport nodes and hotspots.
- Emphasise and extend the existing Museum Mall to the Apies River.
- Develop ‘Woonerf’ Street around Burgers Park.
- Develop the Apies River open space.
- Emphasise & pedestrianise the Paul Kruger Street axis.
- Pretoria Station is to house “Station Square”.
- City Hall Square is to become an active civic square.

fig. 4.52 Plan showing the principles set out in the Pretoria Integrated Development Plan

fig. 4.53 Sections showing that the height of a building is proportional to the distance between two buildings to allow sun to enter.

fig. 4.54 A solid street facade is necessary in terms of creating more dense cities
EXISTING FRAMEWORK 3
CITY OF TSHWANE COMPACTION AND DENSIFICATION STRATEGY
The City of Tshwane Compaction and Densification Strategy is intended to inform area specific spatial frameworks for the future development of South African cities. South Africa currently has a problem in that cities are not dense enough, with urban sprawl occurring around the city centres. These guidelines propose certain legislative changes and incentives to encourage densification within the city. This strategy also contains design guidelines to ensure that densification does not negatively affect the experience of the users. The diagrams alongside represent a few examples of these design guidelines as set out in the document.
GROUP URBAN DESIGN FRAMEWORK

OBJECTIVES:
The objectives of the group urban design framework set out in this dissertation intends to achieve the following results:

• Create an environment near the Pretoria CBD that will encourage more people to either visit the area more regularly or move into the area.
• Increase the density within the city and provide a wider range of commercial, social and cultural activities that can take place at all times of the day.
• Restore existing buildings within the city, thereby rejuvenating the area and the surrounds.
• Create an environment that is welcoming to residents, visitors and tourists.
• Re-emphasise and highlight the historic link between Church Square and the Pretoria Station.
• Create a more pedestrian and cyclist friendly environment where people can walk through and experience the city rather than simply passing through it.

WHO SHOULD USE THE FRAMEWORK/GUIDELINES:
Any individual/group that intends to develop in the proposed study area.

WHEN SHOULD THE GUIDELINES BE USED:
When an individual/group intends to develop (on any scale) in the study area proposed.

WHAT ARE THE GUIDELINES BASED ON:
SUSAN MCDONALD FILE
When investigating the study area, the following headings were used as guidelines to ensure that the various levels of investigation into the city’s fabric were explored. They are:

- Character
- Scale and form
- Siting
- Materials
- Detailing

NEGATIVE ELEMENTS IN THE STUDY AREA:
• A lack of cross programming, 24 hour activities and mixed use development.
• There are many dilapidated buildings.
• The social diversity of South Africa is not addressed.
• Fences currently surround public green spaces.
• There are constant breaks in the city fabric.
• There are many run-down industrial developments.
• There is a focus on vehicular movement, rather than on pedestrian movement.
• The sidewalks are harsh and hot with too few trees and shade.

POSITIVE ELEMENTS IN THE STUDY AREA:
• There is high density residential stock in the area.
• There is easy access to the city and transport routes.
• The area is within walking distance from Church square and other significant sites.
• There are many tourist attractions and museums in the area.
• Burgers Park is well used and readily maintained.
• Improved development is already taking place in Minnaar, Visagie and Bosman Streets.
• There are many historically rich buildings in the surrounding areas giving a rich historic layer to the city fabric in the area.
• The area is rich in social and cultural diversity.

Also see Appendix 1.
FRAMEWORK - PRECINCTS
After investigating the areas around the Pretoria CBD, it became apparent that specific areas already possess their own specific character. These characters are created due to different land use, building typology, various social activities, amongst other reasons.

Therefore, in this framework, precincts have been identified according to the particular character and programmes of an area as well as from drawing on boundaries set up in previous frameworks.

The majority of the study area chosen falls within the Southern Precinct, previously mentioned as the Burgers Park Precinct. Another name previously given to this area was the Museum Precinct due to the areas rich variety in museums and tourist destinations, as well as playing host to the ‘Museum Mall’. However the group did not want to limit the area to housing museums only due to its name, therefore it was deemed necessary to change the name.

The areas directly adjacent to this precinct are the CBD Central - where the majority of businesses are found within the city, the Light Industrial Precinct - currently housing light industrial uses, Salvokop Precinct - a ‘koppie’ with recent development on it, Station Precinct - the area south of the study area which houses the Pretoria Station as well as the railway lines, and finally the Nelson Mandela Corridor and Sunnyside Precincts bordering to the east.
FRAMEWORK - SOUTHERN PRECINCT LAND USE & HEIGHT RESTRICTIONS

In general, there is a concern that the study area is not dense enough, however the opportunity for improvement is evident. Land-use as well as height suggestions have been allocated to various areas within the study area to allow the vicinity to increase in density while still addressing the existing urban environment.

Currently, there is a strong residential component around Burgers Park, this must be maintained, however densities could still be increased.

A commercial hub is to be created along Paul Kruger Street as a catalytic development with economic opportunities for the area. Adaptive re-use and introduction of mixed use development into the area will also help achieve these results.

The idea of Museum Mall from previous frameworks is to be extended to the Apies River to allow a cultural link between the CBD and the sprawl and neglect of the east. This will also increase the tourist trade in the area allowing the economic environment of the city to flourish.

This framework also proposes to upgrade and develop historic buildings within the city via adaptive re-use to create functional buildings within the CBD, not simply empty iconic structures.
FRAMEWORK - PHASING
The development of the Southern Precinct will be divided into four phases. The first phase will be the interventions along the Paul Kruger Spine. This will act as a catalyst for the development of the entire area and will encourage future development and growth around it as a commercial hub. This first phase will bring more money, and therefore more interest in development, into the area.

The second phase of the framework is to upgrade and develop the areas around the social and political nodes of Burgers Park and City Hall. From here, commercial, social and residential development will continue around these nodes.

The third phase is to upgrade the existing light industrial area west of City Hall. It is anticipated that development and capital input will be injected back into the area and the light industrial buildings will again be utilized. This area will encourage adaptive re-use of these buildings into studio apartments, as well as spaces for exhibitions and social gatherings.

The final phase for the study area is to upgrade the existing commercial strip along Skinner Street. There will be an even larger demand to create a safe pedestrian link between Church Square and the newly developed Southern Precinct, therefore it is proposed to connect these two sides of the CBD as well as creating a continuous commercial street.
FRAMEWORK - ACTIVE EDGES
A wider range of activities and facilities need to be provided within the area to allow social and cultural diversity to enter the CBD. There is a lack of 24 hour activities along the streets of this area, posing unsafe and unfriendly environments. Mixed use buildings with active ground floors and open public spaces need to be introduced to the area to create these 24 hour utilized spaces.

Currently, Burgers Park and the areas around it are well utilized, however the lack of activities and movement around this area at night make it an unsafe area to be in after dark. Twenty-four hour activities and nodes need to be created at specific places around the park to allow for a safe environment. The buildings that form these nodes, therefore need not be bound to the residential zoning in the area, they may vary from this typology to provide such activity nodes.
FRAMEWORK - VISUAL LINKS & CIRCULATION

- Many historic visual links are currently obstructed and need to be restored:
  The view of the Cultural Museum from Schubart Street
  The view of the Station from Paul Kruger Street
- Many historic links still exist, however they need to be emphasized:
  View between Church Square and the Station via Paul Kruger St.
  View of Burgers Park via Minnaar St.
- Many visual links need to be created to enhance clarity in the area:
  Create a “Gateway” to the east of the prison
  View of Salvokop from Paul Kruger Street

The current emphasis on the design of the city for cars is to be shifted to that of design for pedestrians in conjunction with public transport, minimizing traffic and vehicular flow to, from and through the city.

Skinner Street, is to be re-designed to allow safe pedestrian movement across it, creating a safe passage through the city. Development on the Skinner Street Island is encouraged to break the current barrier it presents.

The Gautrain Stop at the Station will bring more people to the study area with more economic, cultural and social opportunities. The BRT Route will run down Paul Kruger Street, reducing the need for private transport in this area and creating an environment more welcoming for pedestrians and cyclists, as well as reducing the number of unsightly parking lots and on-street parking.
FRAMEWORK - STREET EDGES & SETBACKS
There is an existing rich dialogue within the city. New developments in the area should not exclude and ignore this, but rather embrace the diversity and rich layering that is present in the city. Designers should add another layer to this dialogue, not limit it.

Sidewalks and setbacks of buildings need to be created that will encourage the pedestrian movement and interaction through the city. Buildings should not be closed off and only visually accessible to cars passing by. Vibrant, energetic environments need to be created that are democratic and accessible to all.

Building setbacks, paving details, greenery and street furniture all need to work together to create an environment where the pedestrian feels free, unthreatened and able to access and experience the city on all levels.

Various elements have been highlighted in the framework that need to be used on specific street edges to create such environments which can be seen in the sections and details that follow.
SECTIONS - GENERAL
There are general principles that have been incorporated throughout the framework, they are as follows:
• Soffit heights on ground floor levels should be a minimum of 3,8m and a maximum of 4,5m in height for both commercial & residential use.
• Floors above the ground floor ought to have a minimum soffit height of 3m.
• Buildings that are located on active street edges must be well defined.
• Semi-private areas should be demarcated by items like low walls, however no high fences or walls are to be constructed within the city.

SECTIONS - PAUL KRUGER STREET
Figure 4.68 is a typical section through Paul Kruger Street which shows the following principles:
• The build-to line is 5,5m from the street kerb. 100% of the ground floor façade must be built to this line. If the building is higher than 6 storey’s, like the building on the left, a step back above the third floor of no less than 2m from the build to line applies.
• Pedestrian comfort is taken into consideration through the incorporation of canopies which extend no more than 2.5m over the active street edge. Consideration as to what happens with adjacent buildings when implementing these elements is to be considered.
• Trees are to be incorporated along Paul Kruger Street, also for pedestrian comfort.

Figure 4.69 shows a section through Paul Kruger Street between City Hall and the Transvaal Museum highlighting the following principles:
• The BRT and cycle lanes are indicated in the middle of Paul Kruger Street.
• Street furniture is to be implemented on major routes within the precinct to create a specific identity for the precinct, as well as pause areas for pedestrian comfort.
• The open area in front of City Hall offers an opportunity for an intervention.
• Figure 4.70 illustrates the position of additional lighting within the area for safety reasons.
SECTIONS - PAUL KRUGER & SKINNER STREET CROSSING

Figure 4.71 is a section and intervention through the intersection of Paul Kruger & Skinner Streets which shows the following:

• Active street edges are encouraged along the length of Paul Kruger Street

• To break the harsh environment of the city, vegetation in the form of trees and shrubs have been provided. Not only do they create shade for pedestrians, but they also begin to break the streetscape into a scale appropriate to the users of the city

• BRT and cycle lanes flow continuously down Paul Kruger Street from the Station, past Church Square.

• The most prevalent intervention that is proposed, is the sinking of Skinner Street underneath Paul Kruger Street. This has been proposed to decrease the barrier effect created by Skinner Street and allow pedestrians and cyclists to move more freely in their daily migrations through the city

Figure 4.72 illustrates the position of new lighting in the area. It is important in this framework that sidewalks and cycle lanes be well lit in order to be safe and promote a 24 hour cycle of activity through the city.
SECTIONS - SKINNER STREET
Figure 4.73 is a section taken through the widest part of Skinner Street, which features the taxi rank in the middle with 4 lanes of traffic on either side which illustrates the following principles:

- A building line of 3m from the street kerb is implemented with 100% of the ground floor façade to be built to this line.
- BRT lanes are located on either side of the taxi rank island with a dedicated cycle lane to the south of the street.
- Another intervention opportunity has been identified, this time over Skinner Street whereby the barrier effect of the disjointed north and south of the city can be brought together.

SECTIONS - MINNAAR STREET
- Figure 4.74 shows Minnaar Street to have a build-to line of 5m from the street kerb
- However, if the building has a publicly accessible, active ground floor, this build-to line can be extended to between 2 and 3.5m from the street kerb.

SECTIONS - TYPICAL NORTH/SOUTH STREET
Figure 4.75 indicates a typical North/South Street section within the boundaries of the framework, conveying the following information:
- The build-to-line is 3m from the street kerb with the exception that buildings with publicly accessible ground floors may extend the street façade to 2m from the street kerb.

SECTIONS - BURGERS PARK NORTH/SOUTH STREETS
Figure 4.76 illustrates the principles incorporated around the Burgers Park area, which is slightly different to the other north/south streets due to its unique qualities, however the approaches are similar to that of Minnaar Street:
- The build-to line on the streets around Burgers Park are 5m from the street kerb.
- Once again, there is an exception for buildings that have publicly accessible, active ground floors. Such buildings can extend the build-to line to between 2 and 3.5m from the street kerb.
- Figure 4.77 shows how lighting has been added to Burgers Park and the surrounding streets in order to create a safe 24 hour active zone.
STREET CORNERS

The framework proposes that building lines be set back from corners at street intersections. These setbacks can potentially serve three functions, the first being that it will allow improved line of sight for vehicles at the intersections. The second function is that it will allow spaces for informal trade to take place, which is common in the area, without interrupting the flow of pedestrians. These setbacks can be scaled in relation to the importance or size of the intersection, thus the third function would be to create a hierarchy of spaces along roads, aiding orientation.
THE SITE & CHOICE THEREOF

When awarding a license for a particular amount of beds to a specific hospital or facility, the Gauteng DoH has two methods by which they calculate whether or not to allow these beds/licenses in any given area.

These two methods are; firstly the use of *Thiessen Polygons*, and secondly the *Drive Time Method*.

*Thiessen Polygons* (see fig. 4.79) are used whereby borders are drawn around a specific medical facility to show which people in which area will go to a specific hospital. The amount and extent of people in these areas and that are likely to go to that specific hospital is calculated by using the population census for the area.

The *Drive Time Method*, (see fig. 4.80) is used to show that even if a hospital is closer to a particular area as the crow flies, there may be quicker/easier access to another hospital for the people in a specific area. This method is read in collaboration with road maps and census information.

The ideal method of calculation would be to look at these two methods together to determine where the ideal situation for a facility lies. One may place a facility in an open ‘gap’ in the topography, however this area may not be easily accessible to the many people in the areas around it.

There are some complaints about these calculation methods as the hospitals argue that people will travel further to use a specific hospital/doctor. The DoH has however argued that for every one that goes to hospital A from area B, one from area A may go to hospital B. These calculation models therefore refer to the average of the population rather than the few exceptions.

The DoH employs the services of a man at MandalaGIS to calculate the *Thiessen Polygons* with reference to the various hospitals and population stats. From here, the polygons are placed onto google satellite images where the population groups are allocated to each hospital.

To determine where a sub-acute facility will ideally be placed, these models need to be considered. The sub-acute facility needs to be placed within the same *Thiessen Polygon* as the hospital that it links to, but due to the fact that these polygons can cover a rather large area, it is important to consider that such a facility should be situated relatively close to the hospital to which it is linked and to which it receives patients from.

The site chosen for the facility that will link to Louis Pasteur Private Hospital, needs to fall within the boundaries of the *Thiessen Polygon* for this hospital. The site also needs to possess therapeutic qualities within itself that can be highlighted and emphasized in the design of the facility. After extensive searching within the area of the *Thiessen Polygon* for Louis Pasteur Private Hospital, a site was chosen only three blocks south and four blocks west of the hospital which possesses therapeutic qualities, making it an ideal situation for such a facility that is confined to the limits of the city.
SITE ANALYSIS
50M WALKING CIRCLES
Figure 4.82 shows 50m walking circles radiating from the centre of the chosen site showing the various activity areas and public spaces easily accessible by the patients at the facility. Some of these places are the Transvaal Museum, Melrose House and Burgers Park.
As mentioned previously, the area south of Church Square is underutilized and needs densification. It is clear to see that new developments around the site have begun to increase the density of the city, however more room for improvement is evident.

Due to the fact that Burgers Park is close to the chosen site, there is opportunity to densely occupy the site. However, due to the nature of the theory and design of this dissertation, access and views to exterior green spaces are still required around the building itself.

The exterior spaces around the new building need to be public open spaces (green or paved) to allow a continued interaction between the patients within the facility and the general public. However, patients will also need to be provided with more private, open spaces where they can return to if they do not feel like social interaction with the public.

There is a variety of older to more recent developments in the vicinity of the site. The majority of buildings around Burgers Park are residential developments, creating a calm environment. There is however a problem with this as purely residential developments (this particular strip being called ‘Woonerf Street’ by previous frameworks) create no 24 hour activity in the vicinity. As mentioned in the Group Urban Design Framework, there needs to be a building in the area that can create such a 24 hour active environment.

By introducing a programme with an active function on the site (however one that will retain the calm, quiet atmosphere), it is believed that the area would become a safer place to be in after dark. The activities that evolve would strengthen those created by the Transvaal Museum and residents, tourists and passers-by will have a safer environment to move through from one destination to another.
fig. 4.85 Building number 1 on fig. 4.84
fig. 4.86-4.88 Images of the site at present, taken from the Minnaar Street boundary (number 2 on the fig. 4.84)
fig. 4.89 Building number 3 on fig. 4.84 (CBD Residency)
fig. 4.90 Building number 4 on fig. 4.84

fig. 4.85 fig. 4.86 fig. 4.87 fig. 4.88
fig. 4.89 fig. 4.90 fig. 4.91 fig. 4.92
fig. 4.87 fig. 4.88 fig. 4.93 fig. 4.94

fig. 4.91 Building number 5 on fig. 4.84 (Tom’s Place)
fig. 4.92 Building number 6 on fig. 4.84
fig. 4.93 Building number 7 on fig. 4.84
fig. 4.94 Building number 8 on fig. 4.84
fig. 4.95 Minnaar Street (number 9 on fig. 4.84)

fig. 4.96 Andries Street entrance to Burgers Park (number 10 on fig. 4.84)
The site is ideally situated close to all public and private transport routes to, from and through the city.

Minnaar Street, a quiet one way avenue, borders the site to the south allowing both pedestrian and vehicular access from this side. There is an access servitude between the site and the building to the east of it, which is currently used to access a parking lot on the east. It is however proposed that “the centre for healing” does not have any cars moving through it, and that this space be designed for pedestrian circulation and social gatherings. Another access servitude to the north of the site allows access to the site, as well as to the buildings to the east and west. This servitude is accessed from Andries Street, a major two way transport route through the city which allows for easy access and good visibility of the facility.
CONCLUSION

With regards to the context, numerous elements on various layers and scales need to be considered in the design of the Centre for Healing within the confines and public realm of a Pretoria city block.

The scales that need to be considered when designing such a facility are: Country wide - SA, Provincial - Gauteng, Municipal - Tshwane, City - Pretoria, and finally, the study area and site. These multiple layers of understanding and consideration will create an architecture not only suitable to its surroundings, but also make it a relevant design in South Africa in the year 2010.

The following main principles are highlighted in the dissertation from the above studies:

- Consider the existing urban environment
- Create pedestrian friendly sidewalks and environments
- Create active edges and 24 hour eyes on the street facade, especially around Burgers Park
- Design a public building that can still incorporate the private needs of patients
- Incorporate and enhance existing therapeutic qualities
- Create a visual and physical link to Burgers Park
- Add another layer to the history and environment of the surroundings
- Climatic and geographical factors need to be considered
- Create an identity for the facility and the area through the architecture, making this a destination not only for patients, but a building that the general public will also want to visit.

fig. 4.98