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5. PRECEDENT STUDIES

5. CRITICAL REVIEW OF PRECEDENT STUDIES

A hierarchy of spaces have been identified within the framework. It is necessary to study precedents and analyse the methods in which legibility, circulation control and optimum utilisation were dealt with. None of the precedents are located in an environment which is similar to the study area. Nevertheless, it is believed that valuable lessons can be learnt from their in/ability to address these issues. After discussion of the precedents items with specific application to the Hospital Hill, will be listed.

5.1 Nelson Mandela Square

The Nelson Mandela Square in Sandton City is defined by three conspicuous buildings flanking a large public square, with a fourrh building, a library, containing the space.

In terms of legibility the following can be noted:

- *Nodes*. An erratic, flat fountain defines the centre of the square. When the fountain is not working, the square appears too large and people tend to recede into the shade of edge structures. A fleet of fancy cars that are being washed in the square further invades the space. Although the activity is not endorsed, it does add a human factor to a scale that could otherwise be too daunting.
- *Paths and corridors.* The edges of buildings are flanked by a series of arcades that provide interesting texturrs and perforate the solidity of the edges.
- *Edges.* The Square is contained by tall building edges. The façades vary in detail and this strengthens the character of each building. The façade interface with the square was softened with a pedestrian interface in the form of restaurants with seating space from where activities can be observed. There is a row of *Ficus* trees that provide welcome shade and shelter from the glare caused by bleak surfaces.
- *Landmarks.* On a larger scale the Michelangelo Towers and Sandton City subjectively proclaims the location of the square. Within the square the statue of Nelson Mandela, in front of the entrance into Sandton City and the flanking staircases, forms a recognizable image.

A taxi rank is located at the rear of the library. It is interesting to note that the commuters do not take a short cut through the square – the users of the square concur with the users of the upmarket buildings between which it is located, and are not representative of the general public.

Design implications:

Activities during different times of the day promote passive surveillance. Interactive features like the erratic water fountain provide a sense of playfulness and encourage participation of and fascination for all ages. Shaded edge areas become resting and observing spaces, while the sunny open areas host activities. Landmark elements strengthen the character of the square and become a point of reference.

Fig. 5.1: Nelson Mandela Square. (Author, 2008)

Fig. 5.2: Erratic fountain. (Author, 2008)

Fig 5.3: Car washers in the square. (Author, 2008)

Fig. 5.4: Shady seating on the edges of the square. (Author, 2008)

Fig 5.5: Corridor flanking the Library. (Author, 2008)

5.2 Baragwanath Public Transport Interchange and Trader's Market

The Baragwanath Public Transport Interchange provides a parking and pick-up area for approximately 650 taxis and 22 buses. It furthermore houses 500 market stalls to serve the commuters. The transport interchange stretches 1.3 km along the Old Potchefstroom Road, one of the main entrances into the Soweto Township. The arcade-like structure is made from structurally sculpted concrete with redbrick infill. The users do not approve of the concrete architecture and they regard the structure as being incomplete.

Attention was given to architectural detail and public art was made a feature. These features were employed as landmark structures. The structures are partitioned according to function and destination. Circulation within structures take place in a rectangular one-way fashion, bisected by drop off and pick up zones. The spaces are vibrant and busy. The arcades with traders and waiting areas promote social interaction.

An interesting similarity to the Hospital Hill is the Chris Hani Baragwanath Hospital which is located on the opposite side of the Potchefstroom Road. The hospital complex and facilities of the Faculty of Health of the University of Witwatersrand generated enough pedestrian influx to warrant the building of a pedestrian bridge was built from the Baragwanath Transport interchange, across the Potchefstroom Road to the main entrance of the hospital. This hospital complex experiences problems similar to the Hospital Hill. These include illegibility and under-utilised space. Spaces between buildings are larger and this results in a more accessible environment.

The area is accessible by vehicles, but they drive at slow speeds and the vehicles do not hinder movement of pedestrians. Although the area is at least just as neglected in the sense of maintenance as the Hospital Hill, it is visually perceived as being safer. Furthermore, intra-institutional movement is limited, because the related institutions are located on the same premises. The largest influx is thus from pedestrians crossing the bridge and and the private vehicle entrance; therefore the hospital does not experience access and preference anarchy at their main entrances.

Design implications:

Durable and robust materials should be used and spaces should be designed for flexibility of use.

Fig. 5.6: Baragwanath Transport Interchange (Author, 2008)

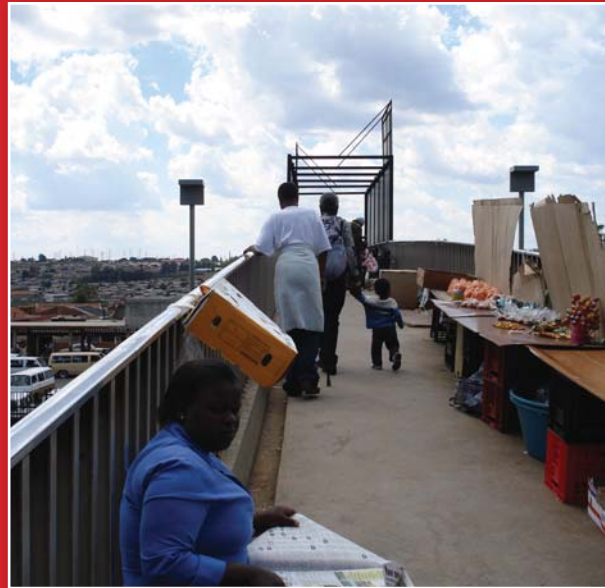Fig. 5.7: Concrete architecture: Trading corridor. (Author, 2008)

Fig. 5.8: View from Chris Hani Barnagwanath Hospital accross pedestrian bridge towards the Baragwanath Transport Interchange. (Author, 2008)

Fig. 5.9: Pick-up and drop-off areas. (Author, 2008)

5.3 Olievenhoutbosch Ext 13 – Legong Activity Street

Legong street was regarded as an ideal location to commence the creation of a sense of place and identity for Olievenhoutbosch, as it is a major entrance into the Olievenhoutbosch Ext 13. An activity street that takes into account the need for an existing pedestrian and public transport system, would be a good backbone around which to design other amenities that will initiate a sense of belonging and ownership. Introduced functions include Rethabile Park, a public square which servesas a trading area and taxi ranks.

These amenities are located on intersections. The existing community centre on the western end of the street and the shopping centre to the east, serve as anchors for the activity street (UGF, February 2007).

Four taxi ranks were constructed in the same language as the trading stalls on the square. The ranks are increasingly utilised, although taxis still tend to stop illegally at intersections. The surfaces are hard and durable. Traffic is kept off

the pedestrian boulevard by a series of bollards, whichemphasise movement and direction. A local artist crafted artworks and the seating areas in the square are painted in bright colours. The facilities are not being used to the optimum, but it is expected that the corridor will become more active when the market stalls are in use (UGF, February 2007).

Design implications:
Intervisibility between directional movement and resting spaces encourages passive surveillance and creates incentive for exploration.

Fig. 5.10: Pick-up and drop-off areas for taxis (Gerald Garner in UGF, Feb. 2007)

Fig. 5.11: Small square which emphasises intervisibility of different activities (Gerald Garner, UGF February 2007)
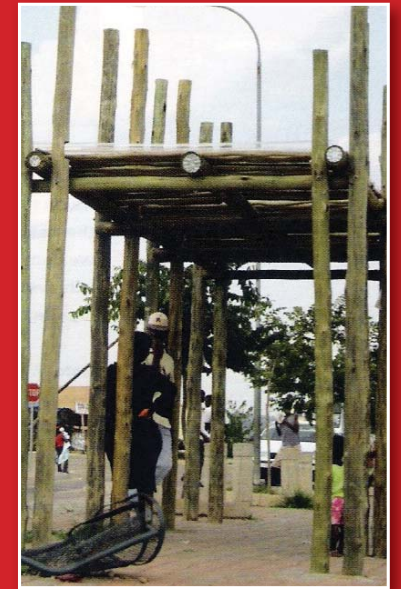

Fig. 5.12: Trade space Christelle Jordaan in UGF, Feb 2007)

5.4 Mitchell's Plain Transport Interchange

The Mitchell's Plain transport interchange aims at improving public transport facilities for approximately 70 000 users by creating a sense of place, and safer living and shopping experience (UGF, 2007). The landscape interventions included a tree-planting programme, installtion of a site-specific range of street furniture and installation of interactive artworks. Mitchell's Plain is characterised by harsh environmental conditions, and therefore consideration of maintenance was very important:

- Only hardy trees, which are known to grow well in Mitchell's Plain, were used
- Automatically-operated, underground, drip-irrigation systems and a tree hole with a stone-chip mulch layer was used protect the soil and irrigation rings (UGF, 2007)
- In areas where the pavement could not be lifted to install irrigation, 'dry water gel' was used.
- A fertilisation programme and tree-root protection zone was employed to further encourage growth.

- The paving pattern is simple but effective. The patterns aim to allocate spaces to specific users – trading stall allotments and parking lines are embedded in the paving pattern and needn't be painted.
- Public artwork designs were in the form of a competition for the primary school children of Mitchell's Plain. The winning entries were reproduced making use of galvanised-steel artwork in the form of individual panels and sculptures for tree guards.
- A large interactive play sculpture was constructed

Design implications:
Paving patterns can be used to gently enforce direction, and also to demarcate areas with similar use. Play structures activate a space by drawing passive surveillance, creating opportunities for soft fascination through observation and generating a vibrant atmosphere.

Fig. 5.13: Waiting areas (Graham, 2007)

Fig. 5.14: Interactive play equipment (Graham, 2007)

Fig. 5.15: Street furniture and paving (Graham, 2007)

Fig. 5.16: Aerial view of Mitchell's Plain Transport Interchange (Graham, 2007)

5.5 St. Andrews Square, Cape Town

The remains of approximately 2000 bodies, dating from the 17th and 18th century, were found during excavations for the construction of a shopping centre. SAHRA and the City of Cape Town initiated a process of finding a suitable place for reburial. The space which was chosen for this, is the St. Andrew's Square. It is situated adjacent to an envisaged pedestrian link between the central city, Green Point Stadium and the V&A Waterfront (UGF, 2007). Furthermore the space has historical significance, and so does spaces along the line of movement. "*The site will therefore form part of a network of spaces hat are intended to revitalise the pedestrian network, link with elements of memory, and help to positively change the public realm of the city.*" (UGF, 2007) It is envisaged that these spaces will act as public "living-rooms" to connect communities and inform people's mental maps by improving legibility. The site was constructed in three phases consisting of the St. Andrew's Square in front of the 1830's Presbyterian Church, an ossuary and visitor's centre as phase 2, and finally a memorial garden in front of the ossuary.

Seen in plan, the three spaces flank the diagonal line of movement, forming a hierarchy spaces that will draw the pedestrian into deeper areas from where movement can be observed, but not obstructed. The availability of public ablution, a kiosk and visitors centre will increase activity in the spaces – this will ascertain its value as a public open space and not merely a graveyard. The choice of materials is natural but robust.

Design implications:

A clear hierarchy between private, public and semi-private space improves the legibility and usability of a space. The addition of activities that draw people in to the square (kiosk and ablution) activates the space, resulting in passive surveillance.

Fig. 5.17: Paving detail. (Manie Meyer, UGF, April, 2007)

Fig 5.18: Material use. (Manie Meyer, UGF, 2007)

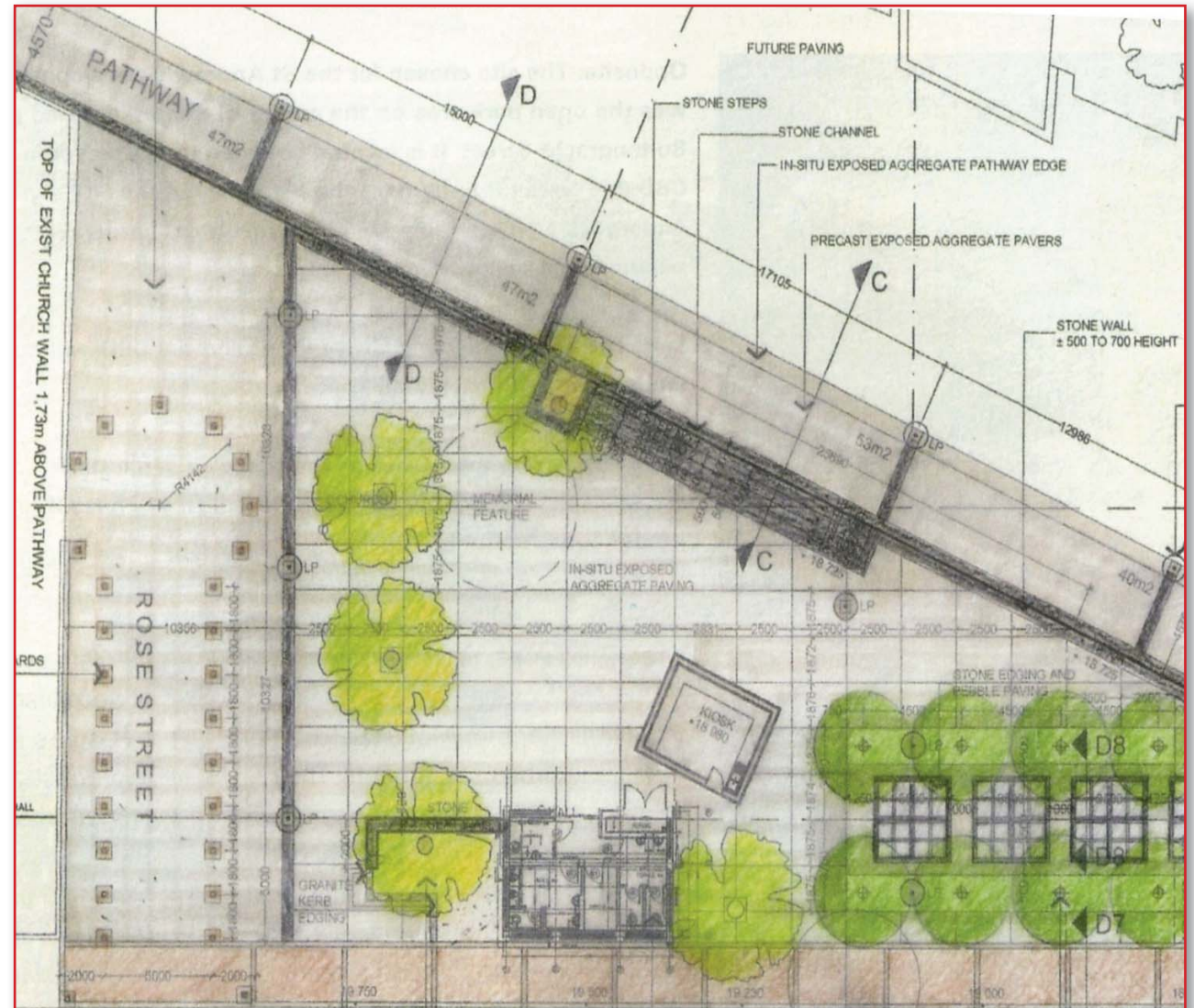Fig. 5.19: St. Andrew's Square. (Karen Eicker, UGF, April 2007)

Fig.5.20: Site plan of St. Andrew's Square: (OVP Associates, in UGF, 2007)

5.6 Paley Park, New York

This park is a good example of a privately owned public space in the form of a 'vest-pocket' park in Manhattan, New York. The park is located directly on the street, but elevated by a few steps. This feature encourages people to look in and enter. The street is a source of noise, but the waterfall, which also forms a prominent feature, disguises the noise. The furniture is movable which allow s for greater freedom of use. Tall trees provide shade and soften the building edges. Even though the space is heavily used and noisy, people claim that they enjoy it because the surroundings give them a feeling of calmness and being away (www.pps.com).

Design implications:

Level changes as a way of emphasizing the hierarchy of space is always effective, but it should not restrain people with disabilities to use a space. A series of small, more intimate spaces are often more effective than one large mono-functional space.
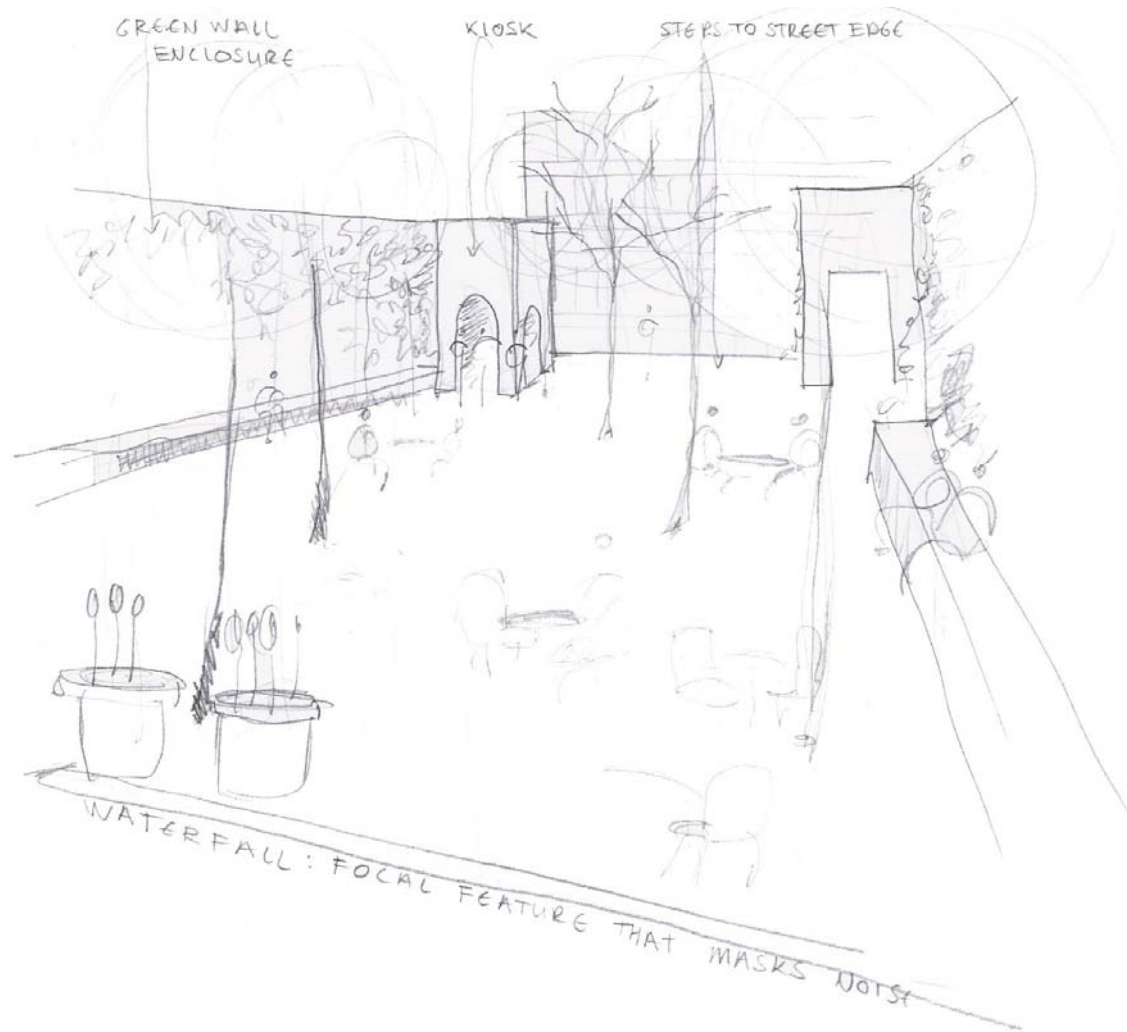

Fig. 5.21: Paley Park - view from the waterfall towards the street. (Author, 2008)

5.7 Open spaces for the Domicil Senior Citizen's Residence

This modern senior citizens residence aims at creating small courtyard spaces that are multi-functional and very accessible, especially for residents who cannot walk long distances. The garden is essentially aimed at restoration and the spaces, in terms of restorative design principles , the following was noted:

- The garden is high in ephemeral qualities like sun and shade patterns, moving water and seasonally flowering plant species.
- The garden is high in visual complexity.
- The colour and texture of pathways are consistent throughout the garden and provides a sense of coherence.
- Movable furniture allows for user comfort
- Due to the small size an adequate feeling of "being away" cannot be obtained.

Fig. 5.22: Domicil Senior Citizen Residence - Meeting places. (Baumeester, 2007)

Fig. 5.23: Domicil Senior Citizen Residence. Secluded resting. (Baumeester, 2007)

5.8 Hospital of the Brothers of Charity, Munich.

This hospital with the theme of "quality of life in illness" is located in a green belt that was converted into park-like gardens for the patients. (Baumeister, 2007). There are three types of gardens:

- *Flowering roof garden*. High in complexity, texture and ephemeral qualities. A few trees provide pleasant seating space. The plants are grouped according to flowering colour, which provides coherence.
- *Internal courtyard.* A covered space that can be used in all seasons. The materials are fabricated, with plexiglass walls, an enormous plastic grass sculpture and a fishpond with plastic fish. Shapes are generally geometric. Although it is high in coherence, the limited space and visibility thereof results in a space that will probably be beneficial, but not restorative.
- *Patient's gardens.* Large trees provide shade to sit on designed seats, watching flowerbeds and water features. The gardens are rich in texture, but lack complexity. The shapes are geometrical which somewhat decreases the feeling of naturalness.

Fig. 5.24: Hospital of the Brothers of Charity
- Internal courtyard. (Baumeester, 2007)

Fig. 5.25: Hospital of the Brothers of Charity
- Roof garden (Baumeester, 2007)

5.9 Critical review

Review of the precedents provided valuable input. The following general guidelines regarding the three sub-problems were adopted:

5.9.1 Legibility

- The left-over spaces between tall buildings can be successful open spaces, provided that they are contained and encourage passive surveillance without intruding on privacy. Such squares should preferably be located adjacent to main routes, and not be divided by the main route.
- Landmarks as points of orientation and corridors as means of gently enforcing direction, can find specific application in the axial lines of movement.
- The buildings should not overshadow the human scale – open areas that are too large or spaces that are defined by edges that are too smooth overwhelm the user and results in the user not observing detail.

5.9.2 Circulation control

- Durable and robust materials should be used. This could be employed in a creative manner to enforce spaces and functions in a two-dimensional way, for example depicting trading areas and parking spaces with paving patterns, rather than paint.
- Spaces should be designed to allow for flexibility and diversity of use.
- Taxi ranks, waiting areas and drop-off zones should be located in areas that are as convenient as possible for the user, otherwise the taxi will ignore the intervention and still drop-off his client as close as possible to his/her destination.
- Intervisibility between directional movement and resting spaces encourages passive surveillance and creates incentive for exploration.
- Trading stalls must make provision for safe storage of equipment and merchandise. Preference should be given to existing traders.
- Involvement of the community (users) to guide the decision making process. This will induce a sense of belonging, pride and ownership.

5.9.3 Space reclamation

- Spaces to be re-claimed for use as public open spaces, should be adjacent to major pedestrian routes.

- The space should preferably encourage some visibility into and from the space, but the interface between the line of movement and the space should be subtly defined.
- People want to be able to contemplate, but not feel isolated. Therefore the scale of the space is important, and if very small, measures should be taken to mask noise so that the user does not feel too exposed.
- Ephemeral qualities are extremely important.
- The principles of inclusive design should be incorporated.

5.9.4 Restorative space

- Restorative spaces can be created in small, flat spaces. Using elements with varying height can enhance texture and variety and develop a sense of containment.
- The precedent gardens require lots of maintenance, which should be avoided at the Hospital Hill. Furthermore, the concept of moveable furniture in open spaces in South Africa is not established, but could be explored.