

URBAN CHURCH

RE-DEVELOPING SPACE
WITHIN PRETORIA'S
SCHUBART PARK COMPLEX

by **johan swart**

study leaders:
nicholas clarke + nico botes

Submitted as part of the requirements of the
degree of Magister in Architecture (Professional)
in the Faculty of Engineering, Built environment and
Information technology, University of Pretoria.

2010

TABLE OF CONTENTS

	page	6	ABSTRACT
	page	8	LIST OF FIGURES
A			SETTING THE SCENE
A	1	page 18	INTRODUCTION
A	2	page 24	BACKGROUND
B			ANALYSIS
B	3	page 46	CONCEPTS OF CHURCH IN PRETORIA
B	4	page 58	URBAN ANALYSIS
B	5	page 70	SCHUBART PARK
B	6	page 90	PROGRAMMATIC DEVELOPMENT
C			DESIGN
C	7	page 100	PRECEDENTS
C	8	page 112	DESIGN DEVELOPMENT
C	9	page 132	DESIGN RESOLUTION
	10	page 154	SOURCES AND REFERENCES

0.1 ABSTRACT

The study investigates the development of church infrastructure within the urban environment. A symbiotic interaction between church form and urban conditions is proposed and contextualised through analysis of existing church models and current spatial concerns within Pretoria's inner-city.

The potential of church as agent for urban renewal and community development is identified and the study generates a spatial and programmatic model aligned with the inner-city's need for meaningful and integrated interventions.

A systemic definition of church proposes a multi-layered programme based on partnership and interaction while alternative church positioning suggests the concept of re-claiming inner-city spaces, applied through the re-development of the Schubart Park housing complex.

Hierdie studie ondersoek die ontwikkeling van kerk infrastruktuur in die stedelike omgewing. 'n Simbiotiese interaksie tussen kerkvorm en stedelike kondisies word voorgestel en gekontekstualiseer deur analise van bestaande kerk modelle en ruimtelike kwessies in die middestad van Pretoria.

Die studie identifiseer die potensiaal van kerk as agent vir stedelike hernuwing en gemeenskapsontwikkeling en vervolgens word n ruimtelike en programmatiese model in lyn gestel met die middestad se tekort aan betekenisvolle en geïntegreerde ingrypings.

'n Sistemiese definisie van kerk stel n gelaagde program voor gebaseer op vennootskap en interaksie terwyl alternatiewe plasing van die hergebruik van stedelike ruimtes voorstel wat toegepas word deur die herontwikkeling van die Schubart Park behuisings kompleks.

0.2 LIST OF FIGURES

Chapter 1 - Introduction

Fig. 1.1 Inner-city of Pretoria, north-west quadrant indicated. Aerial photo (University of Pretoria, 2010) reworked with mapping data added.

Fig. 1.2 North-west quadrant, precinct indicated. Aerial photo (University of Pretoria, 2010) reworked with mapping data added.

Fig. 1.3 Development Precinct, Schubart Park (site) indicated. Aerial photo (University of Pretoria, 2010) reworked with mapping data added.

Fig. 1.4 Schubart Park (site), design focus indicated. Aerial photo (University of Pretoria, 2010) reworked with mapping data added.

Chapter 2 - Background

Fig. 2.1 Church as "event": Honduras celebrates 500th Catholic mass. Getty images, Aug 14, 2002. (LIFE Magazine, 2010:72209792)

Fig. 2.2 Church as "place": Dutch Reformed Church, Wakkerstroom. (Oxley, 1992:162)

Fig. 2.3 Church as "group": Methodist churchwomen. Alfred Eisenstaedt, September 1, 2005. (LIFE Magazine, 2010:tlp5581091)

Fig. 2.4 Church as "institution": Pope Benedict XVI delivers "Urbi Et Orbi" message and blessing. Getty images, 4 April, 2010. (LIFE Magazine, 2010:98239207)

Fig. 2.5a-e Concepts related to proposed definitions of church.

Fig. 2.6 Relationships between church and external concepts.

Fig. 2.7 Church and spiritual expression in a post-modern environment. Way of the cross procession crosses over New York's Brooklyn Bridge. Mario Tama, April 2, 2010. (LIFE Magazine, 2010:98215687)

Fig. 2.8 Church and the need for refuge and contemplation. Congolese Struggle To Survive In War Torn Conditions. Spencer Platt, March 24, 2006. (LIFE Magazine, 2010:57174282)

Fig. 2.9 Church and the moral consciousness of a community. Desmond Tutu Speaks At A University In Florida. Joe Raedle, Feb 26, 2010. (LIFE Magazine, 2010:97120531)

Fig. 2.10 Church and spiritual needs related to death and burial. Funeral Service Of Lech Kaczynski And First Lady Maria. Carsten Koall, Apr 18, 2010. (LIFE Magazine, 2010:98530681)

Fig. 2.11 Church as traditional focus-point town layouts. Dutch Reformed Church, Graaff-Reinet. (Oxley, 1992:43)

Fig. 2.12 Integration of church and urban fabric. Map of Rome drawn by Giambattista Nolli in 1748. (Ching, 1996:95)

Fig. 2.13 Church and the provision of public/civic spaces. The Spanish Steps in Rome. (Reichold & Graf, 1999:115)

Fig. 2.14 Church and poverty/social ills. St. James Church, London, serves as night shelter for the homeless. (Mcmaners, 1990:630)

Fig. 2.15 Church and education. Inkululeko home-work centre, Pretoria. (TLF: 2010)

Fig. 2.16 Church and community interaction. Fellowship lunch at the Iglesia Pentacostal Church in The Bronx, New York. (Vergara, 2005:208)

Fig. 2.17 Church and healthcare. Missionary doctor in French equatorial Africa. (Chadwick, 1995:280)

Fig. 2.18 Church, tourism and urban identity. Tourist map indicating the position of St. Paul's Cathedral, London. (St. Pauls, 2006)

Fig. 2.19 Church and historic cultural identity. Travel wagons at a communion service at the Dutch Reformed Church, Pretoria, 1870. (Mcmaners, 1990:473)

Fig. 2.20 Pilgrimage as part of cultural identity. Annual Zion Christian Church pilgrimage, South Africa. (Collins & Price, 1999:212)

Fig. 2.21 Church and activism/societal reform. Martin Luther King leading a freedom march, Alabama, 1965. (Collins & Price, 1999:218)

Fig. 2.22 Church and identity of urban communities. Mural artwork in the parking lot of Hays Tabernacle Church, Los Angeles. (Vergara, 2005:248)

Fig. 2.23 Church and state/politics. Funeral service for German soldiers killed in Afghanistan. (LIFE Magazine, 2010:98344422)

Fig. 2.24 Various positionings of church.

Fig. 2.25 Church placed on the roof of an existing structure. Stella Maris Church. (Flickr, 2010: 2584311049)

Fig. 2.26 Church within an airport prayer room. Heathrow's multi-faith prayer room. (Flickr, 2010: 2567462898)

Fig. 2.27 Church utilising the natural landscape. St. Augustine Mission, Modderpoort. (Oxley, 1992:181)

Fig. 2.28 Building adapted for use as a church. Living Waters Assemblies of God, Richmond, California. (Vergara, 2005:42)

Fig. 2.29 Church part of a system of interrelated structures. Abbey of Cluny. (Norberg-Schulz, 1975:169)

Fig. 2.30 Church as an event on the sidewalk. Preacher Sam, Fifth Street, Los Angeles. (Vergara, 2005:36)

Fig. 2.31 Church gathering temporarily using open, un-programmed space. Outdoor gathering of New Creation Ministry, Brooklyn, New York. (Vergara, 2005:xi)

Fig. 2.32 Church integrated with residential urban fabric. Iglesia El Refugio, Philadelphia, 2003. (Vergara, 2005:94)

Fig. 2.33 Sunken church spaces. Rock-hewn churches of

Lalibela, Ethiopia. (Folkers, 2010:42)

Fig. 2.34 Church within a run-down urban precinct. Church within east New York. (Vergara, 2005:17)

Fig. 2.35 Church gathering in a slum area underneath a temporary shelter. Scripture Baptist Church, Samar, Phillipines. (Payatas, 2010)

Fig. 2.36 Church in an outdoor environment. A church service in Kongor, South Sudan. (Collins & Price, 1999:202)

Fig. 2.37 Church placed on an elevated and visible position. Chapel of St. Micheal d'Aiguilhe, Le Puy-en-valley, France (Stancliffe, 2008:8)

Fig. 2.38 Mobile church. Father Hubka On Tour With Mobile Confessional Booth. Andreas Rentz, 27 March, 2010. (LIFE Magazine, 2010: 98083213)

Fig. 2.39 Church within rented commercial space. Christ Apostolic Church International, Pretoria.

Fig. 2.40 Mass church gathering in a sport stadium. Church gathering in the Metrodome Stadium, Minneapolis. (Collins & Price, 1999:223)

Fig. 2.41 Secluded church within the landscape. St. Catherine's monastery, mount Sinai. (Collins & Price, 1999:223)

Fig. 2.42 Church positioning in the city: 3 Typologies.

Fig. 2.43 Development, urban regeneration and community formation.

Fig. 2.44 Provision of social services.

Fig. 2.45 Integral transformation.

Fig. 2.46 Connection and mutual engagement between church and the city.

Fig. 2.47 The ideal of unity between all Christian churches. (Celebration of life, 2010)

Fig. 2.48 World Council of Churches (WCC) founding assembly in Amsterdam in 1948. (United Council of Churches, 2010)

Fig. 2.49 Perceptions of church symbolism.

Fig. 2.50 Definition through form.

Fig. 2.51 Recovering layers of meaning through study of precedent.

Fig. 2.52 Wolfsburg church in Germany, designed by Aalto and completed in 1960. (Weston,1995: 212)

Fig. 2.53 Plan of the Church of the three crosses, Vuokkseniska, Imatra, designed by Aalto and completed in 1957. (Weston,1995: 207)

Fig. 2.54 Exterior of the Church of the three crosses, Vuokkseniska, Imatra, designed by Aalto and completed in 1957. (Weston,1995: 202)

Fig. 2.55 Interior of the Church of the three crosses, Vuokkseniska, Imatra, designed by Aalto and completed in 1957. (Weston,1995: 210)

Fig. 2.56 The Dominican Monastery of Sainte-Marie-de-la-Tourette, designed by Le Corbusier. (Tzonis, 2001:184)

Fig. 2.57 Section through Saint –Pierre Firminy-Vert, designed by Le Corbusier. (Le Corbusier et. al. 1981:75)

Fig. 2.58 Exterior view of Le Corbusier's Chapel of Notre-Dame-du-Haut at Ronchamp. Reichold & Graf, 1999:161)

Fig. 2.59 Axonometric drawing of Le Corbusier's Chapel of Notre-Dame-du-Haut at Ronchamp. (Tzonis, 2001:181)

Fig. 2.60 Change in architectural expressions of church during the 19th and 20th centuries. (Langmaack, 1971:book cover)

Fig. 2.61 Examples of plan forms for church buildings during the 19th and 20th century. (Langmaack, 1971)

Fig. 2.62 Holy Trinity Church, Caledon, designed by Sophia Gray and completed in 1854. (Martin, 2005:28)

Fig. 2.63 All Saints Chapel - Durbanville, designed by Sophia Gray. (Martin, 2005:68)

Fig. 2.64 Fig. 2.64 Adapting the greek and latin cross as plan forms to accommodate theatre seating focussed towards the speaker. (Koorts, 1974:57)

Fig. 2.65 Plan of the N.G. Church Delmas, designed by Gerhard Moerdijk. (Le Roux, 2008:31)

Fig. 2.66 Interior view of the Wynand Louw's N.G. Church in Napier. (Le Roux, 2008:31)

Fig. 2.67 J. Plan of Anthonie Smith's design for the N.G Church in Bellville. (Le Roux, 2008:34)

Fig. 2.68 The Parys Reformed Church designed by Johan de Ridder. (Le Roux, 2008:40)

Fig. 2.69 Digrams explaining different configuration for the position of an organ within a church layout. (Koorts, 1974:77)

Fig. 2.70 Published text by J.M.J Koorts setting out principles for reformed church design in South Africa. (Koorts, 1974:book cover)

Fig. 2.71 Symbolic art preferred over representational art. (Koorts, 1974:103)

Fig. 2.72 Axonometric drawing of Jo Noero's prototype for a rural church. (Sorrel & Noero, 2009:23)

Fig. 2.73 Sections and elevations of Jo Noero's prototype for a rural church. (Sorrel & Noero, 2009:23)

Fig. 2.74 Drawing of St. Paul's Cathedral in Soweto, designed by Jo Noero. (Sorrel & Noero, 2009:21)

Fig. 2.75 St. Paul's Cathedral in Soweto, designed by Jo Noero. (Sorrel & Noero, 2009:21)

Fig. 2.76 The Anglican Church in Kliptown, designed by Jo Noero. (Noero Wolff Architects, 2010)

Fig. 2.77 Drawings of Jo Noero's design of a chapel for Archbishop Desmond Tutu. (Sorrel & Noero, 2009:25)

Fig. 2.78 Evolution of a building type in response to context.

Chapter 3 - Concepts of church in Pretoria's inner-city

Fig. 3.1 Pretoria's development from natural landscape to city around the point where its first church gatherings were held. (Jordaan, 1989:27)

Fig. 3.2 The first church building on Church Square, completed in 1854. (Allen, 1971:29)

Fig. 3.3 The Victorian Gothic structure that replaced the original church on Church Square after it burnt down in 1882. (Allen, 1971:100)

Fig. 3.4 Within twenty years after construction, the second church on church square was demolished after its tower was declared unsafe. (Allen, 1971:34)

Fig. 3.5 Bosman Street Church, completed in 1905 on the corner of Bosman and Vermeulen streets. Declared a national monument. (Ned. Geref. Kerk Pretoria, date unknown)

Fig. 3.6 Inauguration of C.R. Swart, the first State President of the Republic of South-Africa. (Smit, 2010)

Fig. 3.7 Aerial photo (University of Pretoria, 2010) of Grootekerk and surrounding buildings.

Fig. 3.8 Collage: Photos of the Bosman Street N.G. Church.

Fig. 3.9 Eucumenial service within the Bosman Street N.G. Church building.

Fig. 3.10 Eucumenial service within the Bosman Street N.G. Church building.

Fig. 3.11 Plate erected by the Dutch Reformed Church to mark the start of construction of the Bosman street N.G. Church 1903.

Fig. 3.12 Congregations currently using Grootekerk for Sunday church services: United Reforming Church's Melodi ya Tshane congregation and the International Church of Pretoria.

Fig. 3.13. Collage: Activities on the Grootekerk site managed by Pretoria Evangelism and Nurture (PEN) including housing, small enterprises and healthcare.

Fig. 3.14 Map indicating religious structures with architectural or historic significance. Aerial photo (University of Pretoria, 2010) reworked with mapping data added.

Fig. 3.15 Photo-collage: Religious structures with architectural or historic significance.

Fig. 3.16 Some components of TLF. (Tshwane Leadership foundation, 2008:2)

Fig. 3.17a+b. Tau village social housing development. (Tshwane Leadership foundation, 2008:39)

Fig. 3.18a+b. Thembelihle village social housing development. (Tshwane Leadership foundation, 2008:37)

Fig. 3.19a+b. Inkululeko Community Centre. (Tshwane Leadership foundation, 2008:26)

Fig. 3.20a+b. Riviningo care centre. (Tshwane Leadership foundation, 2008:30)

Fig. 3.21a+b. Feast of the clowns. (Tshwane Leadership foundation, 2010)

Fig. 3.22 Map indicating the occurrence of churches that are situated in rented shops, warehouses or offices. Aerial photo (University of Pretoria, 2010) reworked with mapping data added.

Fig. 3.23 Photo collage: Appropriated spaces: Shops, offices and warehouses rented for church usage.

Fig. 3.24 Signage marking a church space in the inner city.

Fig. 3.25 Interior usage of a church space illegible to those passing by.

Fig. 3.26 Exterior/approach.

Fig. 3.27 Entrance/Threshold.

Fig. 3.28 Interior/enclosed space.

Fig. 3.29 Warehouse complex occupied by the Christ Embassy congregation. Aerial photo (University of Pretoria, 2010) reworked with mapping data added.

Fig. 3.30 Main church sanctuary.

Fig. 3.31 Interior of secondary chapel.

Fig. 3.32 Component diagram of the Wesley Community Centre (WCC). (Methodist City Mission, 2010)

Fig. 3.33a+b Small enterprise and informal trade.

Fig. 3.34a+b Children's facilities and healthcare.

Fig. 3.35a+b Social housing: Living stones project

Fig. 3.36 Various components of the Methodist City Mission complex. Aerial photo (University of Pretoria, 2010) reworked with mapping data added.

Fig. 3.37 Courtyard surrounded by: (left to right) Church hall, Social housing project, chapel and main sanctuary.

Chapter 4 - Urban analysis

Fig. 4.1 First scale of analysis: Inner-City.

Fig. 4.2 Second scale of analysis: North-west quadrant.

Fig. 4.3 Third scale of analysis: Development precinct.

Fig. 4.4 Aerial photo (University of Pretoria, 2010) showing the inner-city of Pretoria.

Fig. 4.5 Interpretation of urban conditions and identification of community clusters in Pretoria's north-west inner city quadrant.

Fig. 4.6 Government and institutional office buildings.

Fig. 4.7 Familiar elements: Bosman Street N.G. Church with Poyntons Centre behind.

Fig. 4.8 Derelict site.

Fig. 4.9 Steenhoven Spruit.

Fig. 4.10 Open site north of Schubart Park.

Fig. 4.11 Marabastad.

Fig. 4.12 Infrastructure.

Fig. 4.13 Schubart Park housing complex.

Fig. 4.14 Kruger Park housing complex.

Fig. 4.15 Buildings of heritage value.

Fig. 4.16 Aerial photo (University of Pretoria, 2010) showing Pretoria's north-west inner city quadrant.

Fig. 4.17 Interpretation of urban conditions in Pretoria's north-west inner city quadrant.

Fig. 4.19 Figure ground study of site precinct: 1947.

Fig. 4.20 Figure ground study of site precinct: 2010.

Fig. 4.21 "Kruger Plein" development as proposed in the 1970's. (Nuwe plein om Kruger se figuur beplan, date unknown)

Fig. 4.22 The proposed 1967 Freeway scheme for Pretoria's inner city. (Jordaan, 1989:29)

Fig. 4.23 Collage image interpreting the original planning intention of duplicating developments such as Schubart Park throughout the North-West quadrant. (Image by author based on photograph by Pace Construction, date unknown)

Fig. 4.24 Open site for development of the the Thembelihle social housing scheme to be developed by Yeast City Housing.

Fig. 4.25 Plan of the Thembelihle social housing scheme to be developed by Yeast City Housing. (Tshwane Leadership foundation, 2008:37)

Fig. 4.26 Open site for the development of Social housing by the Tshwane Housing Company.

Fig. 4.27 Open site proposed for mixed use development by the Gauteng Development Fund. Aerial photo (University of Pretoria, 2010).

Fig. 4.28 Derelict site adjacent to the Kruger Park housing project proposed for new development.

Fig. 4.29 Empty corner site adjacent proposed for new development.

Fig. 4.30 Precinct map indicating development proposals

Fig. 4.31 Open site adjacent to the Schubart Park housing project proposed for new development.

Fig. 4.32 Open site adjacent to the Schubart Park housing project proposed for new development.

Fig. 4.33 Site of the Government Printers to be re-used in a mixed-use development after the Printers' move to a new location is completed.

Fig. 4.34 Kruger Park housing complex to be refurbished.

Fig. 4.35 Schubart Park housing complex to be re-developed.

Fig. 4.36 Low scale commercial development to be redeveloped and densified.

Fig. 4.37 Eendracht Primary School to be densified. (photograph by author)

Fig. 4.38 Existing government office building.

Fig. 4.39 Existing Telkom office tower.

Fig. 4.40 Existing heritage structures at the Government Printers.

Fig. 4.41 Existing heritage structure: Kruger house. (photograph by author)

Fig. 4.42 Existing government offices: Poyntons building.

Fig. 4.43 Existing housing.

Fig. 4.44 Existing housing.

Fig. 4.45 Existing college.

Fig. 4.46 Existing nursery school: Tekkies.

Fig. 4.47 Existing nursery school: Pennies.

Fig. 4.48 Existing housing.

Fig. 4.49 Existing government offices.

Chapter 5 - Schubart park

Fig. 5.1 Aerial photograph (University of Pretoria, 2010) of Schubart Park.

Fig. 5.2 View of Schubart Park from the west.

Fig. 5.3 Elevated north-west view of Schubart Park. (Pace Construction, 2010)

Fig. 5.4 Figure ground study indicating Schubart Park within

its surrounding context.

Fig. 5.5 Collage of photos of the Schubart Park building complex taken in 2010.

Fig. 5.6 Collage of photos of the Schubart Park building complex taken in 2010

Fig. 5.7 South-east view of Schubart Park during construction

Fig. 5.8 Collage of photos of the Schubart Park's construction captured during 1975. (Pace Construction, 2010)

Fig. 5.9 Responsible for Schubart Park: The City of Tshwane municipality. (City of Tshwane Metropolitan Municipality, 2006: 1)

Fig. 5.10 Residents of Schubart Park protesting against looming evictions. (Times live, 2010)

Fig. 5.11 South African National Civic organization (SANCO). (South african national civic organization. 2010)

Fig. 5.12 On 22 July 2008 a fire was started in the Kruger Park building during attempted evictions at Schubart Park. (Aviation Africa. 2010)

Fig. 5.13 Fire-fighters attempt to contain a fire at teh Kruger Park building. (Democratic Alliance, 2010)

Fig. 5.14 Newspaper headline reading: "Building's decay heading towards disaster". (Claasen, 2010)

Fig. 5.15 Conditions within Schubart Park's Tower D: Total destruction of lift-room. (Fire brigade services. 2010:14)

Fig. 5.16 Conditions within Schubart Park's Tower D : Ducting and internal walls removed. (Fire brigade services. 2010:7)

Fig. 5.17 Conditions within Schubart Park's Tower D: Occupation by illegal tenants. (Fire brigade services. 2010:9)

Fig. 5.18 Damage to Schubart park;s Tower D caused by vandalism and looting.

Fig. 5.19 Conditions at Schubart Park posing potential health risks.

Fig. 5.20 Garbage piling up wihtin the Schubart Park site.

Fig. 5.21 Sewerage leaking from damaged pipes.

Fig. 5.22 Clear drinking water flowing from the building into the storm-water system.

Fig. 5.23 A newspaper reporti about the municipality's promise to spend 40 million rand upgrading Schubart Park and neighbouring Kruger Park. (Hlahla, 2010)

Fig. 5.24 The Pruitt-Igoe housing complex in St. Louis, USA. (Flickr, 2010:3030680392)

Fig. 5.25 Demolition of Pruitt-Igoe in 1972. (U.S. Department of Housing and Urban Development. 2010)

Fig. 5.26 Spruitstigpark, situated in Pretoria and of similar ar-

chitectural intention as Schubart Park, have proven successful as housing complex.

Fig. 5.27 Private ownership and management of housing developments like Spruitstigpark in Pretoria.

Fig. 5.28 Image explaining Le Corbusier's plan for a contemporary city of 3 million inhabitants in contrast to the urban fabric it proposed to replace. (Bessard, 2008)

Fig. 5.29 Drawing of a tower-block within Le Corbusier's plan for a contemporary city of 3 million inhabitants. (Bessard, 2008)

Fig. 5.30 The cross-shaped Tower D of Schubart Park.

Fig. 5.31 High density verticalall developments of New York.

Fig. 5.32 A High-density housing development in Singapore. (Affordable housing institute US. 2010)

Fig. 5.33 Cover image of J.G.Ballard's novel "High-rise". (Mcgrath, 2004)

Fig. 5.34 high density tenement housing in Nairobi, Kenya. (Huchzermeyer, 2009:46)

Fig. 5.35 Plan of Le Corbusier's plan for a contemporary city of 3 million inhabitants. (Bessard, 2008)

Fig. 5.36 Abstracted and rectilinear nature of Schubart Park.

Fig. 5.37 The edge-condition of Schubart Park stands unsympathetic towards the street.

Fig. 5.38 A typical street within Greenwich village, New York.

Fig. 5.39 Basic components of the Schubart Park complex.

Fig. 5.40 Analysis of Level 1 (semi-basement).

Fig. 5.41 Analysis of Level 2 (ground floor).

Fig. 5.42 Analysis of Level 3 (raised podium).

Chapter 6 - Programmatic development

Fig. 6.1 Stages of programme development: 1) Origins, 2) Grouping, and 3) Application.

Fig. 6.2 partnership profile based on existing inner-city organizations.

Fig. 6.3 Grouping of organizations and funcions into a system of relationships.

Fig. 6.4 Application of programme on site

Chapter 7 - Precedents

Fig. 7.1 Blessed Sacrament Parish. Plan of the new church explaining the composition of elements. (Digest, 2006:181)

Fig. 7.2 Courtyard as communal space and entrance foyer. (Digest, 2006:181)

Fig. 7.3 A covered walkway surrounds the central courtyard. (Digest, 2006:181)

Fig. 7.4 Street-facing volumes are broken up to reduce the otherwise overwhelming scale of the building. (Digest, 2006:181)

Fig. 7.5 Church steeple placed on the public end of the building. (Digest, 2006:182)

Fig. 7.6 Elevation of the proposed Lebaleng Church by Jo Noero. (Le Roux, 1999:27)

Fig. 7.7 Axonometric drawing of the proposed Lebaleng Church by Jo Noero. (Le Roux, 1999:27)

Fig.7.8 Model indicating the urban positioning of the Cathedral of the Holy Nativity.

Fig. 7.9 New design adjacent to the original St Peter's Cathedral designed by Sophia Grey.

Fig. 7.10 Public throughfare populated with trees and seating.

Fig. 7.11 A ribbon-like wall defines a pedestrian route into the site.

Fig.7.12 A pedestrian corridor widens to become a public space in front of the cathedral.

Fig.7.13 The Dutch Reformed Church in Welkom-west by Roelof Uitenbogaardt achieves sculptural massing by the stacking of geometric volumes. (Nuttal, 2005:65)

Fig.7.14 Section drawing of the Dutch Reformed Church in Welkom-west explaining the 3 main components of the building: The bridge, the concrete bell tower and the main massing. (Nuttal, 2005:65)

Fig.7.15 Plan drawing: The plan has a diagrammatic quality (essentially a square within a square) and creates patterns, rhythms and relationships that orders the scheme. (Nuttal, 2005:65)

Fig.7.16 Perspective drawing of the main interior volume of the Dutch Reformed Church in Welkom-west. (Nuttal, 2005:66)

Fig. 7.17 Light falls on brick infill walls and brings to the interior to a terracotta glow.

Fig. 7.18 Pierced brickwork infill.

Fig. 7.19 Controlled light entry draws attention to important element such as the pulpit.

Fig. 7.20 Detailing of concrete and timber components.

Fig.7.21 Section drawing of the musgrave road congregational church designed by Paul Mikula. (Raman, 2005:14)

Fig.7.22 Lively mosaic exterior of the formal entrance into the Musgrave Road Congregational Church. (Raman, 2005:14)

Fig. 7.23 Interior view of Reims Cathedral. Light illuminates

the stone vaults through a rose-window. (Stancliffe, 2008:126)

Fig. 7.24 View of the chapel interior at the Dominican Monastery at La Tourette, designed by Le Corbusier. Light enters the contemplative space from above through light wells. (Tzonis, 2001:188)

Fig. 7.25 Sweeney Chapel, USA, by Edward Barnes. A lattice of glass emit light mutating continually in shape, position, angle and hue. (Plummer, 2009:49)

Fig. 7.26 Sweeney Chapel, USA, by Edward Barnes. A lattice of glass emit light mutating continually in shape, position, angle and hue. (Plummer, 2009:51)

Fig. 7.27. Pilar and Joan Miro Foundation, Spain, by Rafael Moneo. Routes thread through spaces along a succession of contrasting light conditions. (Plummer, 2009:72)

Fig. 7.28. Pilar and Joan Miro Foundation, Spain, by Rafael Moneo. Routes thread through spaces along a succession of contrasting light conditions. (Plummer, 2009:72)

Fig. 7.29 Kunsthaus Bregenz, Austria, by Peter Zumthor. Overlapping panes of glass form a skylit glass wall in the lobby. (Plummer, 2009:108)

Fig. 7.30 Kunsthaus Bregenz, Austria, by Peter Zumthor. Overlapping panes of glass form a skylit glass wall in the lobby. (Plummer, 2009:110)

Fig. 7.31 Rovaniemi Airport terminal, Finland, by Heikkinen-Komonen. Steel Mesh screens shape spaces and defines routes. (Plummer, 2009:122)

Fig.7.32 Church of the Sacred Heart, Germany, AllmannSattlerWappner. A series of pervious layers subtly transforms the flow as well as quality of light. (Plummer, 2009:161)

Fig. 7.33 Church of the Sacred Heart, Germany, AllmannSattlerWappner. A series of pervious layers subtly transforms the flow as well as quality of light. (Plummer, 2009:162)

Fig. 7.34 Enghoj Church, Denmark, by Henning Larsen. Interior looking towards altar: Bare concrete walls are grazed by light from rooftop slits and punctured holes. (Plummer, 2009:195)

Fig. 7.35 Tirschenreuth Chapel, Germany, Bruckner & Bruckner. Illumination of the interior through a series of vertical cuts in the wall. (Plummer, 2009:247)

Fig. 7.36 Tirschenreuth Chapel, Germany, Bruckner & Bruckner. Illumination of the interior through a series of vertical cuts in the wall. (Plummer, 2009:246)

Fig. 7.37 Catholic Community Church, Germany, by Cheret + Bozic. Light illuminates the cells in a ceiling constructed from unfinished commercial plywood. (Plummer, 2009:238)

Fig. 7.38 Exterior view of the Chapel at the Dominican Institute. Tower rising above the main building. (Godwin, Nwoko & Hopwood, 2007:50)

Fig. 7.39 View towards the entrance of the Chapel at the Dominican Institute. (Archnet, 2010)

Fig. 7.40 Garden pools flanking the entrance into the Chapel. (Archnet, 2010)

Fig. 7.41 Exterior of the Joint Christian Chapel, Dar Es Salaam, designed by Anthony B. Almeida (Van de Belt, Kassonga, Liombo & Van Langen, 2005)

Fig. 7.42 Plan drawing, the Greek cross plan divides the building into a central space and 4 secondary "arms" with independent entrances. (Folkers, 2010:37)

Fig. 7.43 Exploded axonometric view. (Van de Belt, Kassonga, Liombo & Van Langen, 2005)

Fig. 7.44 Interior view of the Joint Christian Chapel, Dar Es Salaam, designed by Anthony B. Almeida. (Van de Belt, Kassonga, Liombo & Van Langen, 2005)

Fig. 7.45 Facade detail, concrete fins articulate the facade, spaced apart to receive window openings and provide solar control. (Van de Belt, Kassonga, Liombo & Van Langen, 2005)

Fig. 7.46 Structural composition of St. Peter's Church. (Van de Belt, Kassonga, Liombo & Van Langen, 2005)

Fig. 7.47 Interior view, up towards vaulted roof. (Van de Belt, Kassonga, Liombo & Van Langen, 2005)

Fig. 7.48 Detail view of the structural system and perforated facade. (Van de Belt, Kassonga, Liombo & Van Langen, 2005)

Fig. 7.49 Exterior view, Basic elements visible: Structure, roof covering and vertical screen. (Van de Belt, Kassonga, Liombo & Van Langen, 2005)

Fig. 7.50 Umkhumbane Community Health Centre: A veranda waiting area provides seating for community users. (Saunders, 2006:18)

Fig. 7.51 Simonstown. Public space as urban furniture. (Cooke, 2005:34)

Fig. 7.52 Nyanga bath house. Creating distinctive urban spaces. (Cooke, 2005:33)

Fig. 7.53 Layered public space and creating thresholds. (Cooke, 2005:33)

Fig. 7.54 and 7.55 Constantia town hall. Variety in type and quality of spaces. (Cooke, 2005:32)

Fig. 7.56 and 7.57 Khayalitsha public space. Contribution of a building to public space as a major determinant of its form. (Cooke, 2005:35)

Fig. 7.58 Constantia town hall. Hierarchy of public spaces and interaction between various scales of intervention. (Cooke, 2005: 32)

Fig. 7.59 Rocky Street Trader Market, Yeoville. Flexible trading spaces and street definition. (Hansen, 2008:44)

Fig. 7.60 and 7.61 Baragwanath Transport Facility and Trader Market. Legibility of space, identity and a sense of permanence for previously marginalised users. (Hansen, 2008:47)

Fig. 7.62 Phillipi Lansdowne Public Space Project. Robust colonnade defining open space and allowing to be built onto. (Digest 2002, 58)

Fig. 7.63 Phillipi Lansdowne Public Space Project. Public space integrated with the surrounding context and facilitating growth and adaptation over time. (Digest 2002, 58)

Chapter 8 - Design development

Fig. 8.1 Schubart Park: 4 housing towers on a continuous base structure

Fig. 8.2 Focus of design resolution on the eastern portion of Schubart Park

Fig. 8.3 Position of project core within broader intervention

Fig. 8.4 Program concepts: Phasing, interaction and spatial systems

Fig. 8.5 Application of programme on site and grouping into phases

Fig. 8.6 Various funding principles

Fig. 8.7 Approach Schubart Park as a 3-dimensional landscape to re-develop

Fig. 8.8 Introduce finer grain and spatial complexity

Fig. 8.9 Create ownership and control of spaces

Fig. 8.10 Deal with edge conditions

Fig. 8.11 Connect and integrate levels

Fig. 8.12 Activate dead surfaces

Fig. 8.13 Design for a continuous urban surface

Fig. 8.14 Create layering and thresholds

Fig. 8.15 Concepts for approaching intervention within the existing Schubart Park structure

Fig. 8.16 Collage of sketches

Fig. 8.17 Collage of sketches

Fig. 8.18 Semi-basement (level 1)

Fig. 8.19 Ground floor (level 2)

Fig. 8.20 First floor (level 3)

Fig. 8.21 First floor (level 3) including tower

Fig. 8.22 Photographs of various conceptual models

Fig. 8.23 Ground floor (level 2)

Fig. 8.24 Main gathering space

Fig. 8.25 Semi-basement (level 1)

Fig. 8.26 Ground floor (level 2)

Fig. 8.27 First floor (level 3)

Fig. 8.28 Collage of sketches

Chapter 9 - Design resolution

Fig. 9.1 Site plan, scale 1:500

Fig. 9.2 Semi basement floor plan, scale 1:250

Fig. 9.3 Ground floor plan, scale 1:250

Fig. 9.4 First floor plan, scale 1:250

Fig. 9.5 Section A-A, scale 1:500

Fig. 9.6 Section A-A, scale 1:250

Fig. 9.7 Section B-B, scale 1:250

Fig. 9.8 Detail drawings

Fig. 9.9 Adapted concrete slabs

Fig. 9.10 New super-structure

Fig. 9.11 Basement configurations

Fig. 9.12 Flexible gathering space

Fig. 9.13 Stairs/terraced seating

Fig. 9.14 Light box and pivot panel

Fig. 9.15 Various photographs of final models

Fig. 9.16 Various photographs of final models

Fig. 9.17 Various renderings