The theoretical basis of the thesis informed a process of investigation that consisted of: (a) understanding the types of sound in the city, and (b) the spaces that these sounds occupy. The ability of sound to occupy, and be heard from, any space prompted a search for spaces within the proposed study area that would not necessarily be considered for architectural interventions.

As such the analysis is split into three parts. The first is an analysis of the physical aspects of the city and includes an introduction to the city, the process of exploration that was carried out (as outlined by the group framework proposal), and an introduction to the study area. The second part consists of a sonic analysis of the study area, overlaid on the physical context. The third deals more directly with the sites of intervention and incorporates both the physical and sonic qualities.

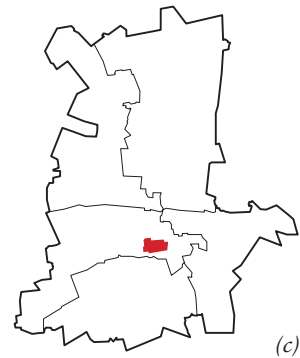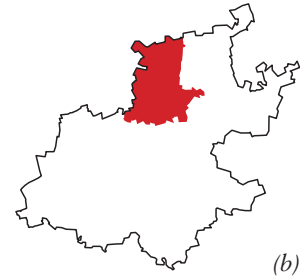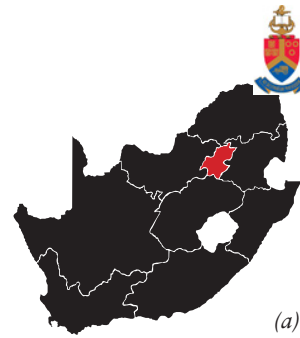# Context

Part 1: Physical Context

History

The Pretoria Business District is found at the centre of the municipal ward of the City of Tshwane. The name Pretoria applies to the area bordered by D.F. Malan Drive to the west, Nelson Mandela Avenue to the east, the Pretoria railway station to the south and Boom Street to the north.

Pretoria was founded in 1855 and due to its orientation and positioning developed along a predominantly east-west direction, restrained by the terrain to the north and south. The city's historical and contemporary centre is Church Square, previously known as Market Square. From this centre the CBD follows a logical, grid-based layout, predominated by wide streets. The area between Prinsloo Street in the east and Bosman Street in the west is dominated by high-rise modern structures that house retail on the ground floor and offices above. The occupancy rate of the city currently lies below optimum levels despite recent regeneration and development programmes. Thus the city centre remains an area of intense, yet dormant, potential.

(a)

(b)

(c)
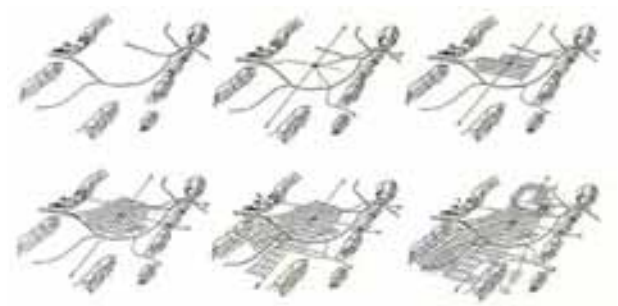
▲ Fig. 40
Physical context
(a) South Africa (Gauteng highlighted);
(b) Gauteng (Tshwane highlighted); (c)
Tshwane (Pretoria CBD highlighted)

◄ Fig. 41
Pretoria as 'Urbs Quadrata'

▲ Fig. 42
SchizoCity mascot

(a)

(b)

(c)

(d)

▲ Fig. 43
Two typical Pretoria blocks
Diagram illustrating: (a) figure-ground study, (b) assumed accessible spaces, (c) nali diagram of block, (d) actual active edge

▶ Fig. 44
Interrogation of the city block

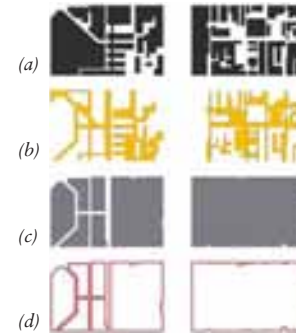## Framework of Intervention: SchizoCity Urban Framework

In developing the discourse surrounding a possible urban framework proposal it was necessary to investigate the relationship between programme and existing block typologies that are found in many contemporary cities, including Pretoria.

The grid has been the de facto generator of urban form since antiquity, a way of human civilization to logically define its presence on the earth. This framework accepts the condition of the grid as a given, but questions the nature of urban design itself, denying the nominally efficient process of planning and zoning and instead proposing a large-scale architectural mindset that is spatially and programmatically driven, a mindset that allows specific interpretations of context and program without necessarily being restricted by an inhibiting framework.

The 'efficient' and pervasive grid that structures Pretoria CBD has to be accepted as a given condition to react to – leading to an interrogation of the block itself as a formal typology to be investigated and executed differently. The destructive nature of Pretoria's continuous sprawl necessitates a counter-action that posits an insertion of new programme and form within the existing structures of the city – alien program that begins to inform urban regeneration, as well as formal possibilities suggesting programmatic interventions.
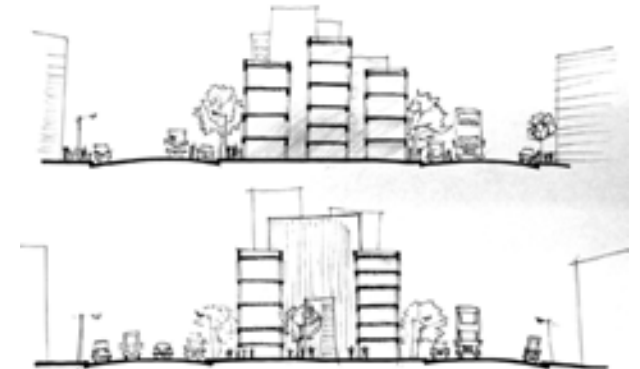
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◀ Fig. 45
Existing Tshwane spatial development framework

▲ Fig. 46
Theatres of 'collective appropriation' within the existing city blocks

◀ Fig. 47
Digital three-dimensional exploration of permeable city block concept

▶ Fig. 49
Conceptual collage showing three dimensional exploration of Pretoria city block

▶ Fig. 48
Various approaches to the problem of the block

◄ Fig. 50
*Conceptual diagram: lack of scalar
and spatial hierarchy in Pretoria public
spaces*

Problems of Pretoria CBD
(as identified by the SchizoCity Urban Framework)

Privatisation
• Ownership
• Permiability
MONOCity
• Dull City
• Art-less
• Mono Function
• Mono Level
• Curfew
• Monochrome
• Lack of Identity
Orientation
• City Communication
• Transport Language
• Connective Tissue
Public Comfort
• Public Facilities
• Safety
• Urban Health
• Green Space
• Green Heirachy
• Repose Spaces
Heirarchy
• Scales
• Spaces
• Functions
• Public Space

▲ Fig. 51-52
Haussmann's Paris
Photographs of wide boulevards and ruptured urban fabric

Haussmann's Process of Strategic Rupture

• **A Network of Large Avenues**
• **North-South and East-West Openings**
• **Rings of Boulevards**
• **A Network of Districts**
• **Squares at crossroads**
• **Railway Stations**
• **Monuments**
• **Modern Public Facilities**
• **Green Spaces**

One of the more well known urban projects of recent history is that of Haussmann in Paris, an endeavour that was initiated and executed between 1850 and 1870. Haussmann's development of Paris was guided by capitalism and viewed the city as a business – a business that had become cumbersome in the modernised global economy.

It is important to note that Haussmann was reacting to an already structured urban environment and through a process of limited intervention imposed a specific spatial model on the city that created a "new type of space... not totally dissociated from the old space but capable of reinterpreting it, to reproduce or to deviate its forming mechanisms, to develop them into a more ample and coherent project" (Panerai et al. 2004:7). Haussmann's ambitious project remains the dominant experiential ordering factor of contemporary Paris, a tribute to the quality and depth of his thinking at his time. His program of networked, connected spaces, wide sidewalks and a series of aesthetic and experiential guidelines established the grain of Paris as it is known today.

Globally the city block experienced a metamorphosis as a process of classification, specialisation and zoning sought to modernise existing structures in order to better respond to the modern industrial landscape that had been generated. This process removed much of the finer grain of the city, resulting in blocks that no longer handled transitions between ascalar places and varying functions. The additional layer of control and separation imposed on Pretoria through security concerns has removed complexities of difference and continuity. The complex interior-exterior, private-public relationships of the city, the influence they have on spatial practice and ideas of hierarchy and control, have been destroyed.

Haussmann's process of strategic rupture, the opening of the block both physically

and experientially creates opportunities for previously interiorised spaces of the block to become the 'theatre of collective appropriation' into which individual modes of expression can be imprinted. The possibilities of this previously inaccessible space allow for an urban tissue of greater depth and experience, a tissue that forms a framework for human experience that successfully supports its inhabitants and their complex needs. It is the success of this framework of interaction that determines the success or failure of the city, and of the life of its inhabitants. Jan Gehl, a Danish architect, subscribes to the aphorism that 'life takes place on foot'; but with the advent of automobiles, computers and the internet on a massive scale, the possibilities and opportunities for chance encounters and interaction that were for so long an everyday occurrence have diminished (Barnett, 2003:17) – people have stopped engaging with their environment on a variety of levels. This situation Gehl believes can be remedied through the design of a physical environment that promotes 'optional activities' (Barnett, 2003:17) such as lingering in the shade of a tree, watching a water fountain, pausing for a cup of coffee – which in turn promotes an environment of sociability and community so crucial to the convivial nature of a successful urban space.
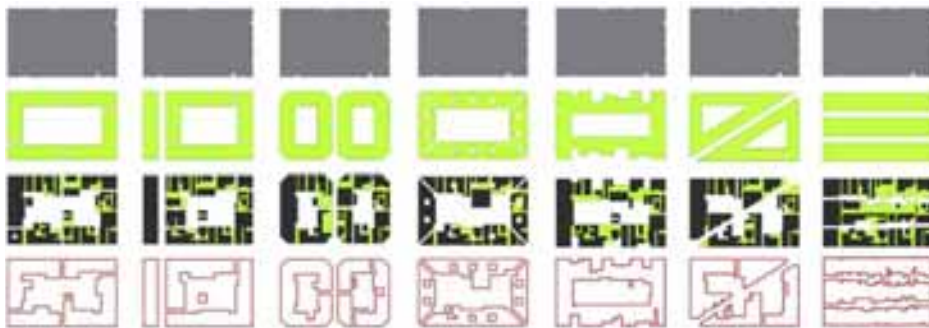
SchizoCity is an experiment that questions accepted practices of urbanism - practices that fail to address complexities of existing context and fabric.

Process replaces product, mindset replaces solution – a generative ideology that exposes the latent multiplicity of the urban situation.

The experiment interrogates and violently mutates the role of urban architecture as an instrument of social invention.

SchizoCity Manifesto

▲ Fig.54
Aerial photograph of the historical centre of Pretoria, showing Church Square

▼ Fig. 55
Proposed area of study within Pretoria CBD (indicated by dotted blue line)
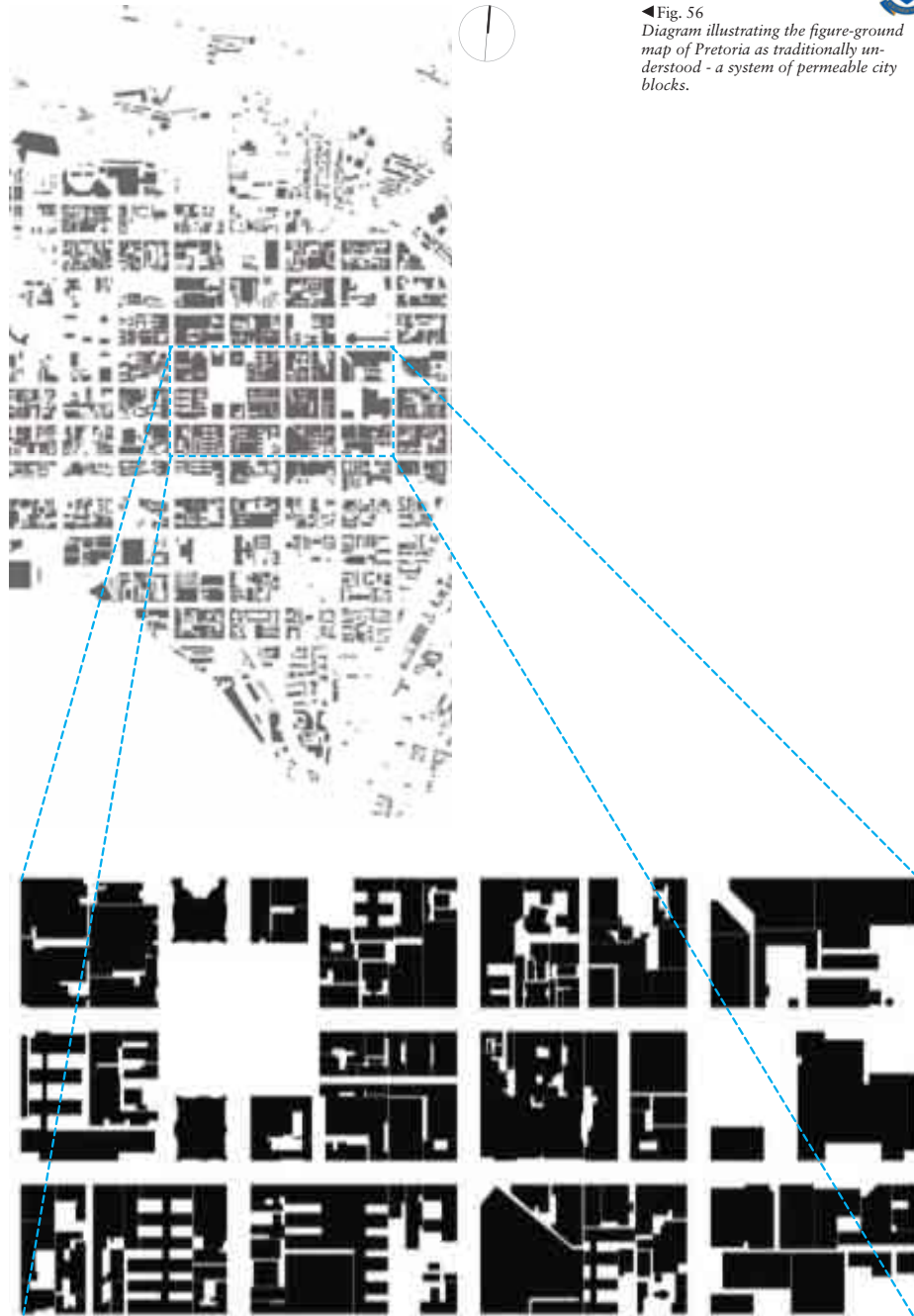
The Block Typology

In order to investigate the possibilities latent within the block typology of Pretoria, a study area was set out and investigated. This study area is bounded by Vermeulen Street (North), Pretorius Street (South), van der Walt Street (East) and Bosman St (West). The study area encompasses the area of the CBD in which the grid is most rigorously applied. It includes the historical centre, the arcade system, and the main pedestrian artery of Church Street. The investigation was carried out by attempting to access areas of the blocks not usually open to the public or not traditionally seen as inhabitable. These were seen as 'points of initial rupture' that could be further expanded upon at a later date.

▼ Fig. 53
Latent Potential of Block Typologies
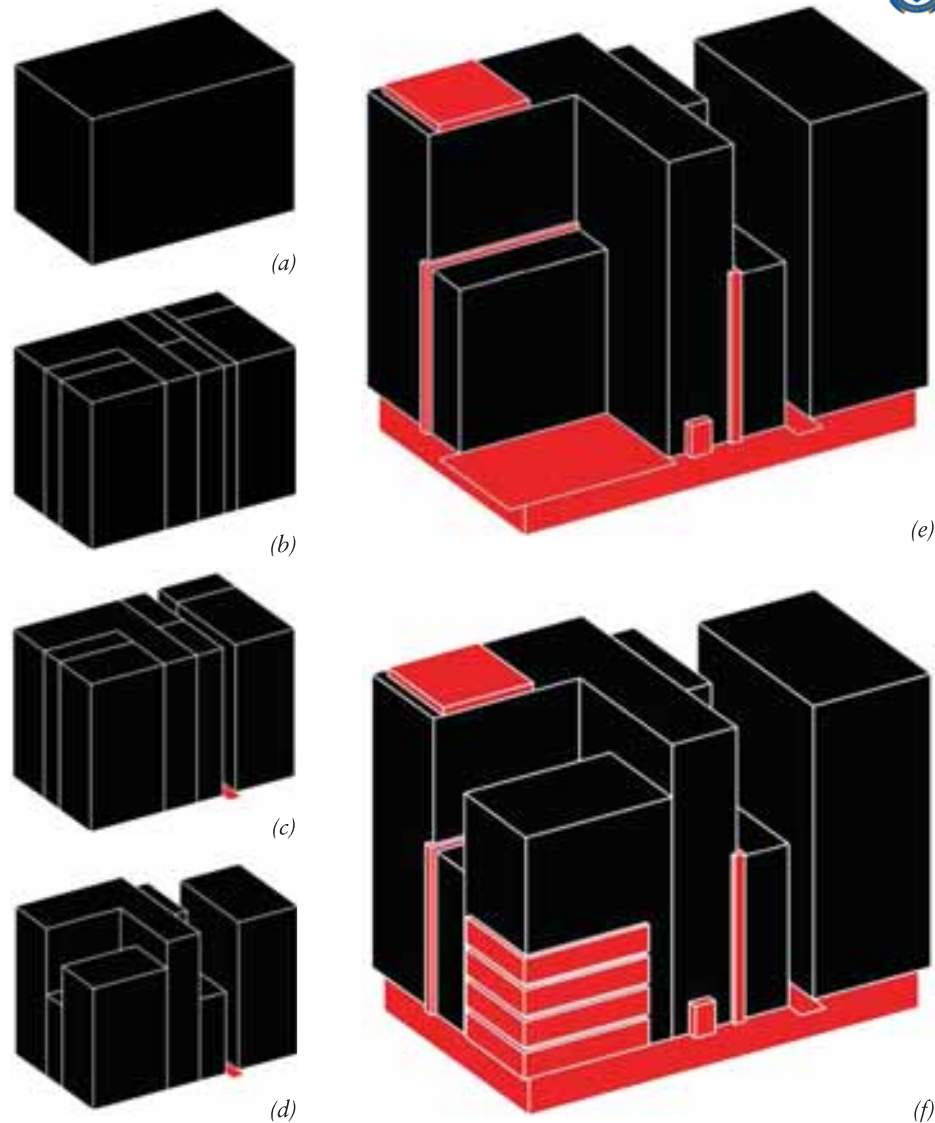
◄Fig. 56
Diagram illustrating the figure-ground map of Pretoria as traditionally understood - a system of permeable city blocks.
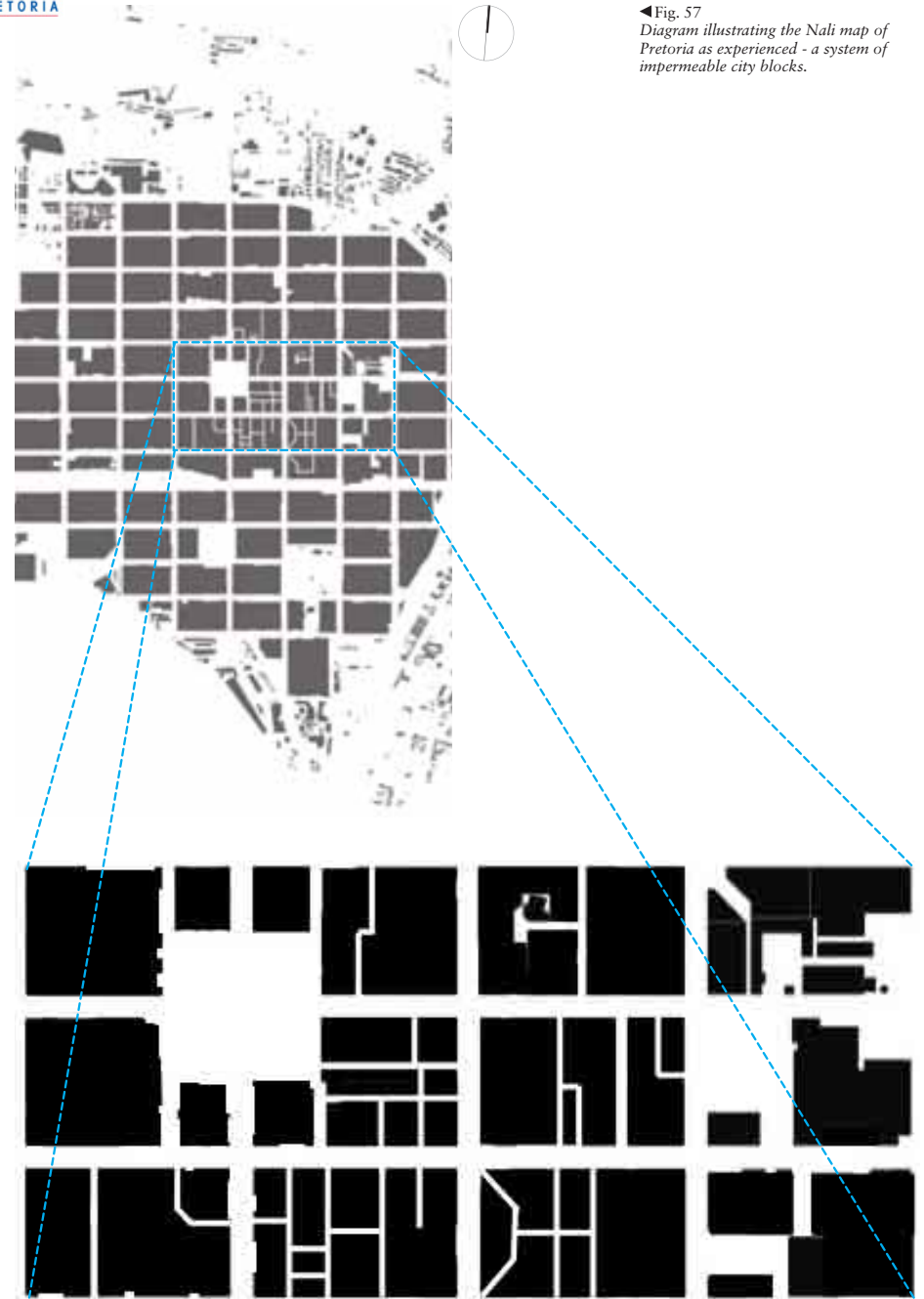
◄Fig. 57
Diagram illustrating the Nali map of Pretoria as experienced - a system of impermeable city blocks.

(a)

(b)

(c)

(d)

(e)

(f)

▲ Fig. 58
Diagrams illustrating progressive deconstruction of the city block: (a) the block before deconstruction begins; (b) individual building boundaries within the block; (c) pedestrianised street cut through the block; (d) individual building heights; (e) deconstructed block showing rooftop spaces, service alleys, closed arcades, open squares and basement; (f) as (e), but with multi-storey car park and internal atrium
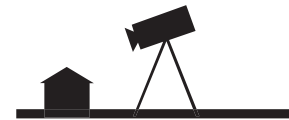
An Exploratory Film
On April 13th 2009 Philip du Toit (24022528), Jaco Bruwer (24006760) and myself presented a short video documenting the exploration of a city block. The film consisted of a number scenes filmed from within the block and featured a soundtrack composed of on-site recordings. The film aimed to reveal the hidden spaces of the block that could be accessed through (determined) exploration, and also the types of sound that dwell in these spaces.

▲ Fig. 59-61
Images from the short film

Porosity by Richard Goodwin
Porosity (2007) was submitted in application for a PhD in Fine Arts by Richard Goodwin at the University of New South Wales, Australia. His dissertation explores the functional boundaries of built form through haptic experience, and thus the revision of public space within the city. Although not specifically an architectural thesis, the investigation into the relationship between art installation and built form proved to be useful, and the sheer depth of the research has provided a solid grounding on which to build. The intersection between public and private spaces in the city is seen as an open framework ready to be interpreted. This is achieved through the reinterpretation of existing circulation spaces as 'game spaces' that respond to the desires of the buildings themselves.

The investigation identified a number of ways in which the city blocks of Pretoria are deconstructed and spatially permeated, including:

• Basements
• Service Alleys [Pedestrian]
• Service Alleys [Vehicular]
• Pedestrianised Streets
• Open Arcade
• Closed Arcade
• Atrium or Enclosed Volumes
• Multi-Storey Parking Lots
• Open Squares [Soft]
• Open Squares [Hard]
• Roofs
• Gaps between Buildings

These main categories, in addition to a number of smaller anomalies, such as facade indentations, form the physical make-up of the city blocks of Pretoria. Through documenting these spaces, listening to them and observing, it hoped that either functional or recreational programme will be suggested. Thus, by taking advantage of a large number of smaller spaces, the blocks themselves begin to break apart and become accessible. These 'points of initial rupture' form the basis in which the thesis is carried out.

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80 spaces

During each visit to the CBD an effort was made to document as many inbetween spaces as possible within the study area. Shown here are a collection of 80 such spaces. Although not a comprehensive selection it never the less illustrates the variety of spaces that lay dormant within the block typology of the city.
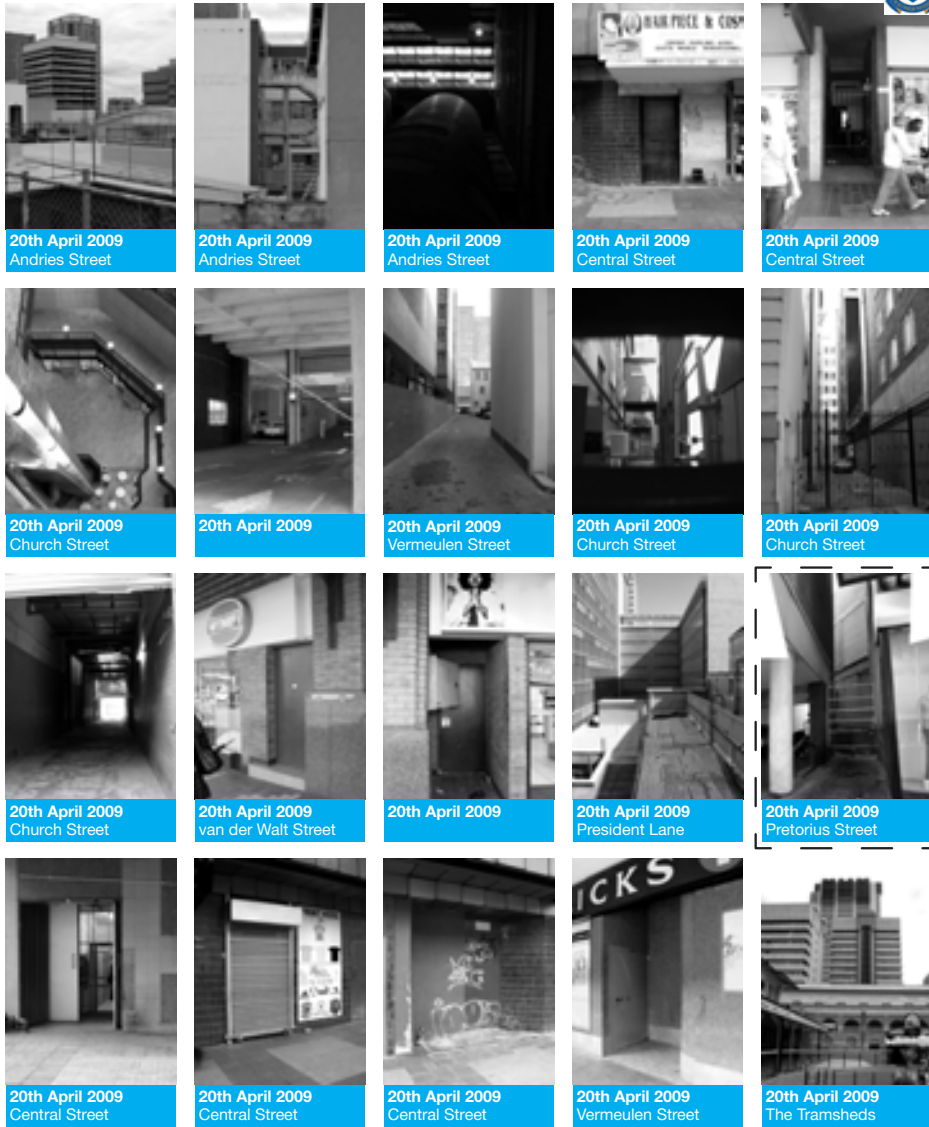
▶ Fig. 62-142
Photographs of the 'inbetween' spaces of the Pretoria CBD

11th April 2009
Lilian Ngoyi Square

12th February 2009
Queen Street

12th February 2009
Queen Street

12th February 2009
Queen Street

12th February 2009
Queen Street

20th April 2009
Andries Street

20th April 2009
Andries Street

12th February 2009
Church Street

12th February 2009
Church Street

12th February 2009
Church Street

12th February 2009
Vermeulen Street

12th February 2009
Queen Street

20th April 2009
Bureau Lane

20th April 2009
Bureau Lane

20th April 2009
Vermeulen Street

20th April 2009
Pretorius Street

20th April 2009
Andries Street

20th April 2009
Queen Street

20th April 2009
Bosman Street

20th April 2009
Andries Street

20th April 2009
Vermeulen Street

20th April 2009
Burlington Arcade

20th April 2009
Andries Street

20th April 2009
Andries Street

20th April 2009
Andries Street

20th April 2009
Queen Street

20th April 2009
van der Walt Street

20th April 2009
Central Street

no investigation into sound and the city would be complete without a trip through Burlington Arcade, where jazz fills the air on a daily basis

the space between these two buildings on the western side of Church Square will eventually become the site for the proposed infill typology and festival that will be encountered later in the document

listening to the sound of the mosque from this space had special significance during the process of investigation - alerting the author to the possibilities of sound structuring and instigating activities within the city

20th April 2009
Andries Street

20th April 2009
Andries Street

20th April 2009
Andries Street

20th April 2009
Central Street

20th April 2009
Central Street

20th April 2009
Church Street

20th April 2009
Church Street

20th April 2009
Church Street

20th April 2009
Andries Street

20th April 2009
Pretorius Street

20th April 2009
Church Street

20th April 2009

20th April 2009
Vermeulen Street

20th April 2009
Church Street

20th April 2009
Church Street

20th April 2009
Opera Plaza

20th April 2009
Vermeulen Street

20th April 2009
Pretorius Street

20th April 2009

20th April 2009
President Arcade

20th April 2009
Church Street

20th April 2009
van der Walt Street

20th April 2009

20th April 2009
President Lane

20th April 2009
Pretorius Street

20th April 2009
Andries Street

20th April 2009
Andries Street

20th April 2009

20th April 2009
President Arcade

20th April 2009

20th April 2009
Central Street

20th April 2009
Central Street

20th April 2009
Central Street

20th April 2009
Vermeulen Street

20th April 2009
The Tramsheds

20th April 2009
Sammy Marks Sq

20th April 2009
Sammy Marks

20th April 2009

20th April 2009
Bureau Lane

20th April 2009
Bureau Lane

the form and sound of this space, situated between two building on Pretorius Street, are very closely related and rflect the nature of the relationship between space, sound and architecture. possibilities of how to inhabit and listen to such spaces are explored later in the document
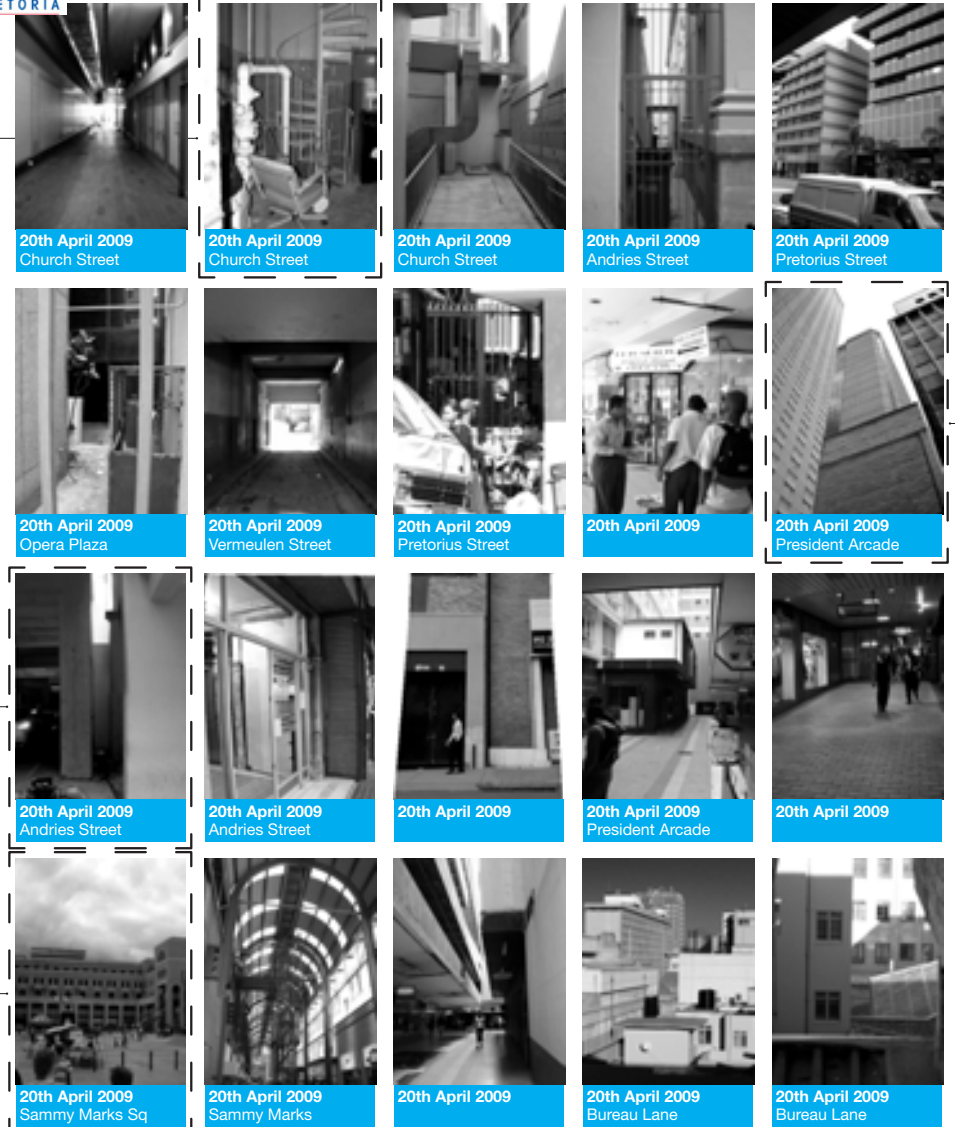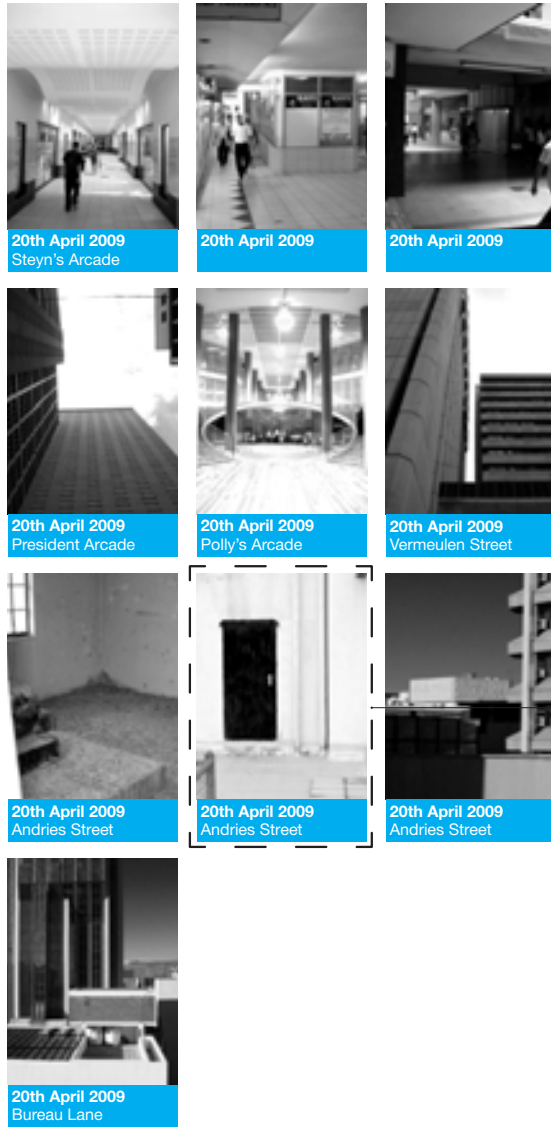
public squares offer a hive of acoustic activity

one of the smallest, and most intriguing spaces encountered during the urban investigation - a space where two buildings refuse to touch by the smallest of margins

"[S]omewhere in the middle of all these buildings as a place where you can clap your hands and be heard in heaven." Allen Ginsberg in Manaugh (2009:143)

one of the more diffult spaces to get to, but worth it in the end

20th April 2009
Steyn's Arcade

20th April 2009

20th April 2009

20th April 2009
President Arcade

20th April 2009
Polly's Arcade

20th April 2009
Vermeulen Street

20th April 2009
Andries Street

20th April 2009
Andries Street

20th April 2009
Andries Street

20th April 2009
Bureau Lane

rooftop spaces revealed some peculiar secrets, including accomodation.

▲ Fig. 143-144
Still images from City Slivers *(1976)*

Mini-Precedent:
Gordon Matta-Clark

Gordon Matt-Clark is closely associated with images of the deconstruction of abandoned buildings, his oeuvre packed with a variety of architectural cuttings and slicing. *City Slivers* (1976) continues his philosophical enquiry into urban spaces, but does so using film as its medium, showcasing architectural snippets as vignettes of activity and movement.

Sounds of Nature
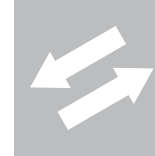
Sounds of Movement

Sounds of People

Sounds of Alert

Sounds of Buildings

Sounds of Trade & Industry

Sounds of Culture

Part 2: Sonic Context

Kourosh Mavash proposes in his article *Site + Sound: Space* (Resonance, 2007:53) a method of design and analysis based purely on the sounds of the site, allowing access to a "unique and rich databank of history, culture and [the] nature of the site" (Resonance, 2007:63). His method of observation, documentation and representation does not point to any specific conclusions, but rather acts as a complementary system with which to analyse a given site.

Mavash points to R. Murray Schafer in his discourse, sighting the latter's comprehensive taxonomy of sounds according to their referential aspects. This included sounds of nature, of human activity, of society, and of industry as well as "mythological sounds", "utopian sounds" and quiet and silence (Resonance, 2007:63). Murray Schafer also defined the following three categories of sound (Resonance, 2007:64): **keynote sounds** (natural and man-made background sounds), **signals** (foreground sounds), and **soundmarks** (community sounds which are unique or possess qualities which make it specially regarded or noticed by the people in that community).

Mavash's categories of sound were developed into a graphic protocol that enabled the study area to be mapped according to its sonic qualities. Particular attention was paid to the in-between spaces identified in the deconstruction of the block; what could be heard within these spaces and what could be heard from them.

Firstly, a series of soundwalks were conducted within the CBD, followed by a closer look into a specific environment.

◀Fig. 145
Graphic Protocol based on Koroush Mavash's categories of sound

Soundwalks

06:30 | van der Walt St |
long distance conversation

06:35 | Church St | vendor setting up stall

06:45 | Vermeulen St | taxi horns

06:55 | Church Square | film crew meeting

07:00 | Church Square | bell

07:02 | Church Square | pigeon taking off

07:05 | Church Square |
photography group

07:10 | Pretorius St |
people queuing at bus stop

07:15 | Pretorius St |
wheel chair lift on bus

07:17 | Pretorius St | bus doors

07:20 | Central St | vendor setting up stall

07:30 | Queen St | vendor pushing cart

07:30 | Queen St | swifts

07:40 | Vermeulen St | coffee cups

This soundwalk, conducted on the 26th of March 2009, attempted to reveal the awakening of the city during the morning. The recordings revealed a number of activities that grew in intensity and volume as the morning progressed. Of particular significance, and sonic contribution, was the tolling of the bell on Church Square and the swifts. The swifts provided a natural contrast to the trade and industrial driven sounds that dominate the city. The most prevalent sounds are those of automotive transport, such as buses and taxis. Accompanying this however are the sounds of people gathering and waiting for transport - causing pools of conversational sound within the city.

Pretoria CBD | March 26th 2009 | 06:30-08:58

0m 50m 100m   500m

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▲ Fig. 146
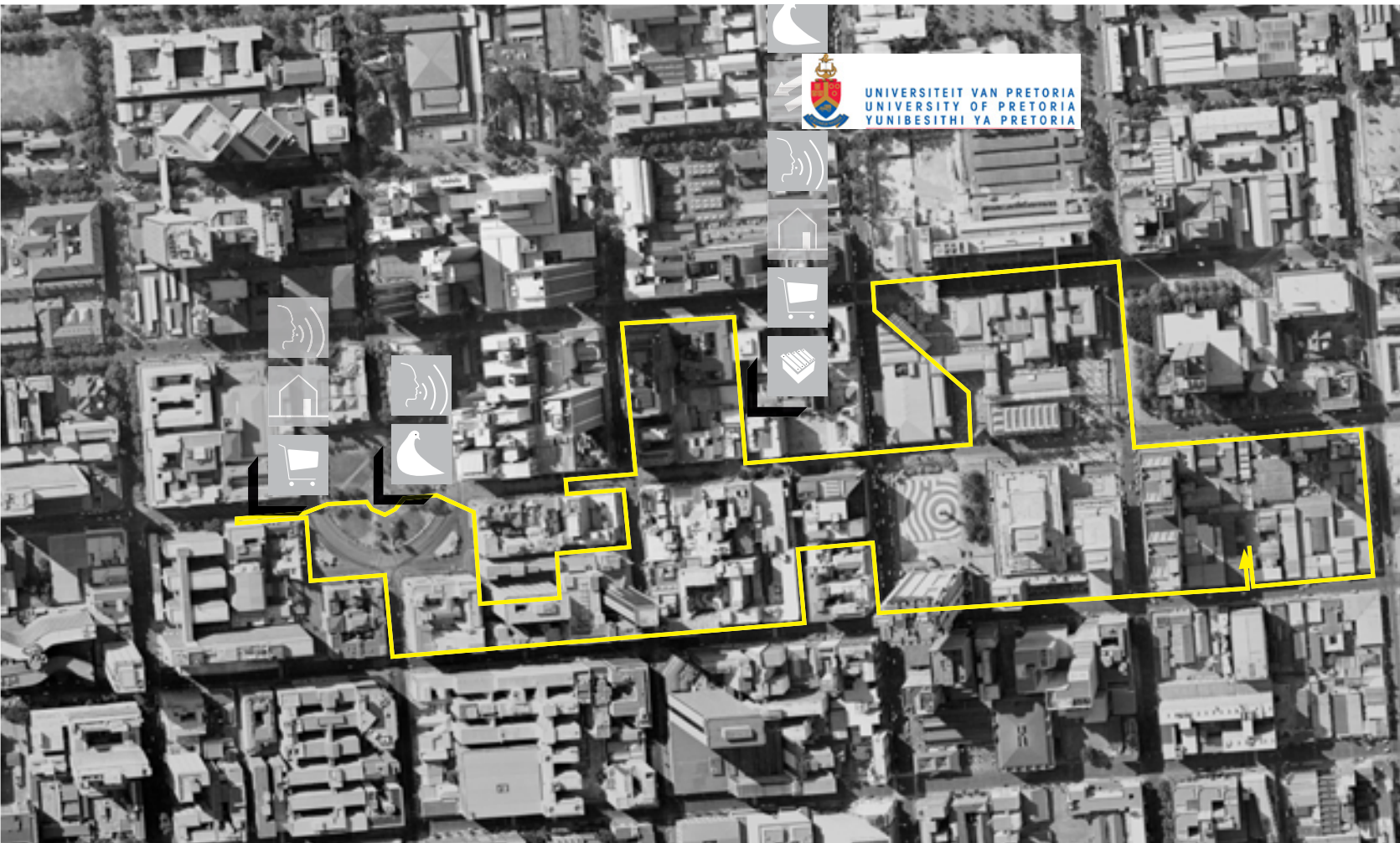*Soundwalk map for 26th March 2009*

Soundwalks

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0m 50m 100m 500m

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06:35 | Church St | vendor setting up stall

06:45 | Vermeulen St | taxi horns

06:55 | Church Square | film crew meeting

07:00 | Church Square | bell

07:02 | Church Square | pigeon taking off

07:05 | Church Square | photography group

07:10 | Pretorius St | people queuing at bus stop

07:15 | Pretorius St | wheel chair lift on bus

07:17 | Pretorius St | bus doors

07:20 | Central St | vendor setting up stall

07:30 | Queen St | vendor pushing cart

07:30 | Queen St | swifts

07:40 | Vermeulen St | coffee cups

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▲ Fig. 146
Soundwalk map for 26th March 2009

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07:15 | Pretorius St | wheel chair lift on bus

07:17 | Pretorius St | bus doors

07:20 | Central St | vendor setting up stall

07:30 | Queen St | vendor pushing cart

07:30 | Queen St | swifts

07:40 | Vermeulen St | coffee cups

Pretoria CBD | March 26th 2009 | 06:30-08:58

0m 50m 100m 500m

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▲ Fig. 146
Soundwalk map for 26th March 2009

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On the 1st of April 2009 a second soundwalk was conducted, this time blindfolded. The intention was to mask off the dominant visual sense and focus concentration on the particular acoustic qualities of the experience. Although it took some significant time to become accustomed to being led around the city, it became possible to identify certain types of space through their acoustic characteristics. For example, arcades are naturally more reverberant due to the closed ceiling. Open Squares, such as Church Square, can be perceived as sounding different from spaces enclosed between buildings. The State Theatre has a very particular sounding HVAC system. The sounds of the spaces could be felt quite physically, a very different experience from looking at the city from outside. The heightened sense of hearing also brought with it a heightened sense of touch and smell; passing from internal to external spaces and fruit and vegetable dealers were particularly apparent. Lastly, having been sat down for coffee, it was necessary to orient one's proximity to the street and wall by 'sounding' them out; locating them based on the sound of one's own voice and surroundings.
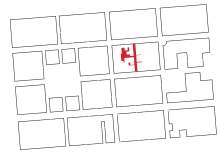
Pretoria CBD | April 1st 2009 | 09:30-11:09

0m   50m   100m   500m

▲ Fig. 147
Soundwalk map for 1st April 2009

Queen St Study

FurnCity
Adisas Clothing
Ali's Electronics & Cellphones
Indian Delites Restaurant & Take Away
Curtain Master

Mosque
Sweet Penny
ATM CashExpress

MacCoys Cutlass Trousers
Anamites Gold Exchange
PCC Cell Repair Centre
Precision Twist Hair & Beauty Salon & Hair Products
van Schaik Bookstore

Capitec Bank
Department of Sports & Recreation
Hardy's Mens & Boys Boutique
Dallas Sports Centre

Grossberg Civil & Military Tailors & Outfitters
Telkom Pay Phones

Hollywood International Hair Salon
Dunns
Minister of the High Court

Within the study area defined previously, Queen Street was selected for a more thorough examination. The pedestrianised street revealed a number of inbetween spaces and sonic characteristics. A list of the functions contained within the street was made and assessed according to their physical size, sonic contribution, and cultural impact. Further, the graphic protocol developed was overlaid onto the street in order to identify particular sounds that contribute to the overall affect.

▲ Fig. 148
Diagram of Queen Street pedestrianised road, Pretoria CBD

▶ Fig. 149-151
Three views of Queen Street pedestrianised road, Pretoria CBD

▶ Fig. 152-154
Four inbetween spaces located within Queen Street pedestrianised road, Pretoria CBD
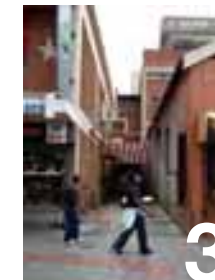
▶ Fig. 155
Diagram Showing Physical Size of Functions on Street Front

▶ Fig. 157
Diagram Showing Sonic Contribution (Enhanced)
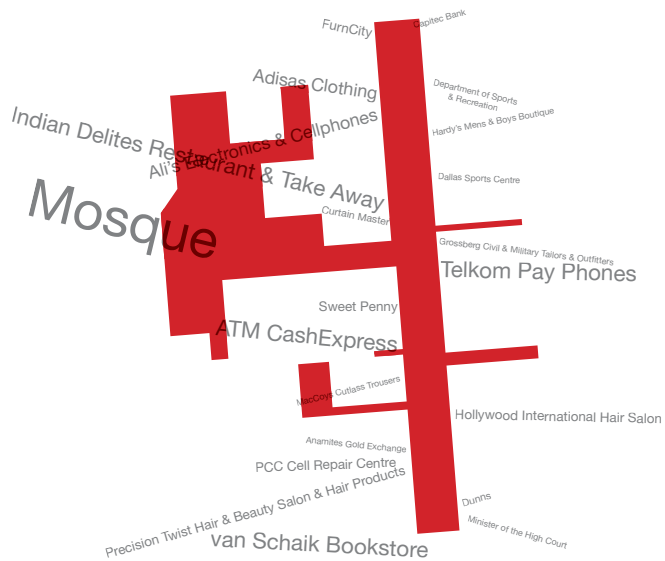
▶ Fig. 156
*Diagram Showing Sonic Contribution of Functions (According to Volume)*
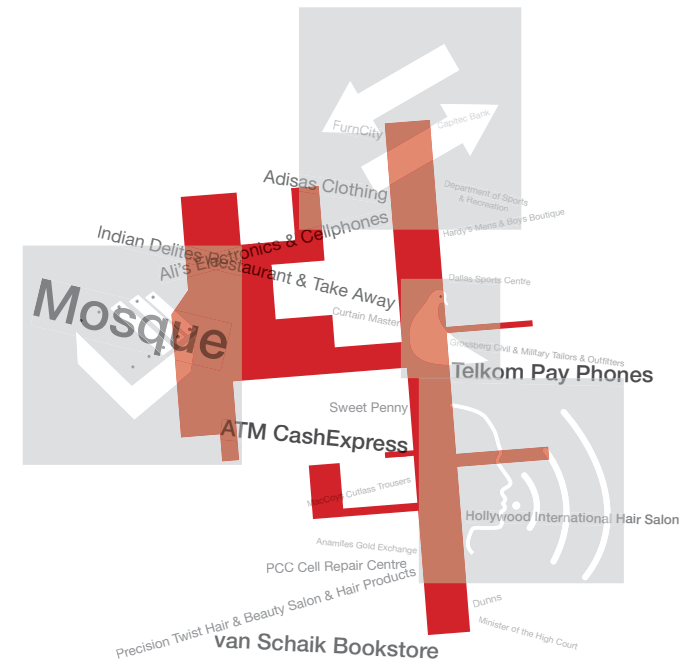
▶ Fig. 158
Diagram Overlaid with Graphic Protocol

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The sonic study revealed particular sonic characteristics within each of the 'points of rupture' identified previously. These characteristics are based on the qualities of the materials within each of the spaces and what the spaces play host and witness to. The question of how to intervene within these sonic environments required a closer inspection of three sites in which an installation will later be proposed.

The three sites were chosen based on their potential for intervention. Although the study identified a multitude of types of space, the spaces identified as possible sites of intervention were chosen for their proximity to human activity. Whilst the rooftop spaces discovered are fascinating, the potential for people to inhabit during their normal city routines is admittedly slim. The sites chosen are therefore situated on ground-level and are spaces that are currently un-or-under-used.
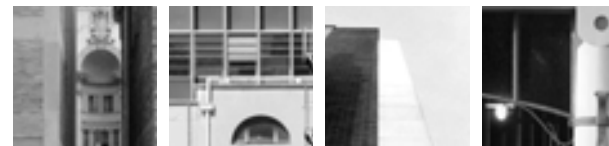
Space 1: Church St
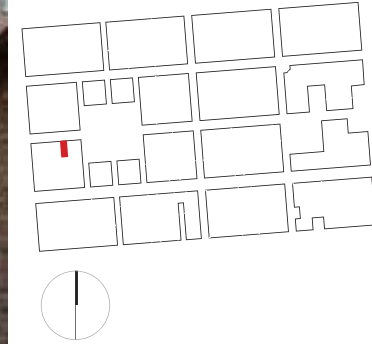
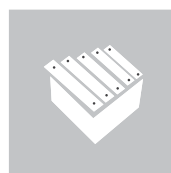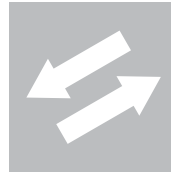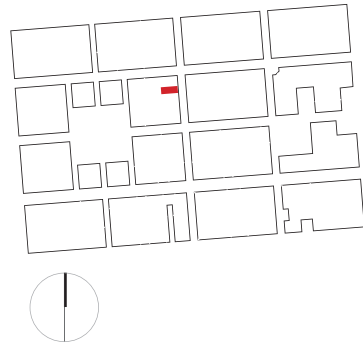### Forms
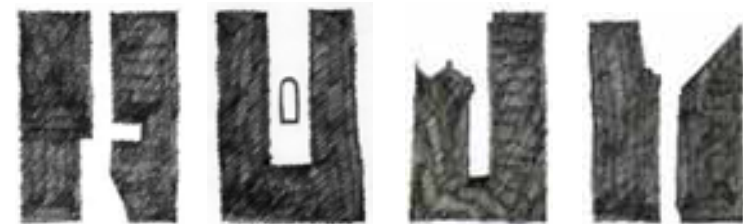
Materials

Vignettes

▶ Fig. 159-161 (followwing pages)
Combined physical and sonic analysis of three urban spaces, Pretoria CBD; Church Street, Andries Street and Pretorius Street
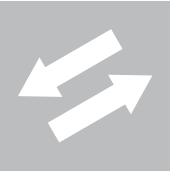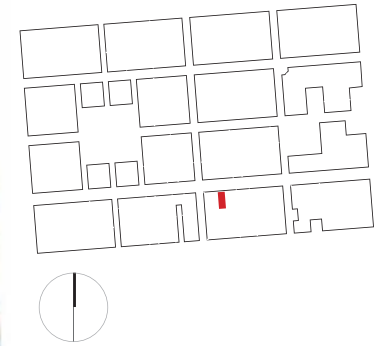
Space 2: Andries St

Forms

Materials

Space 3: Pretorius St

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Forms

Materials