

Our (water)ways

Recovering our past to reclaim our future

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Our Water(ways)

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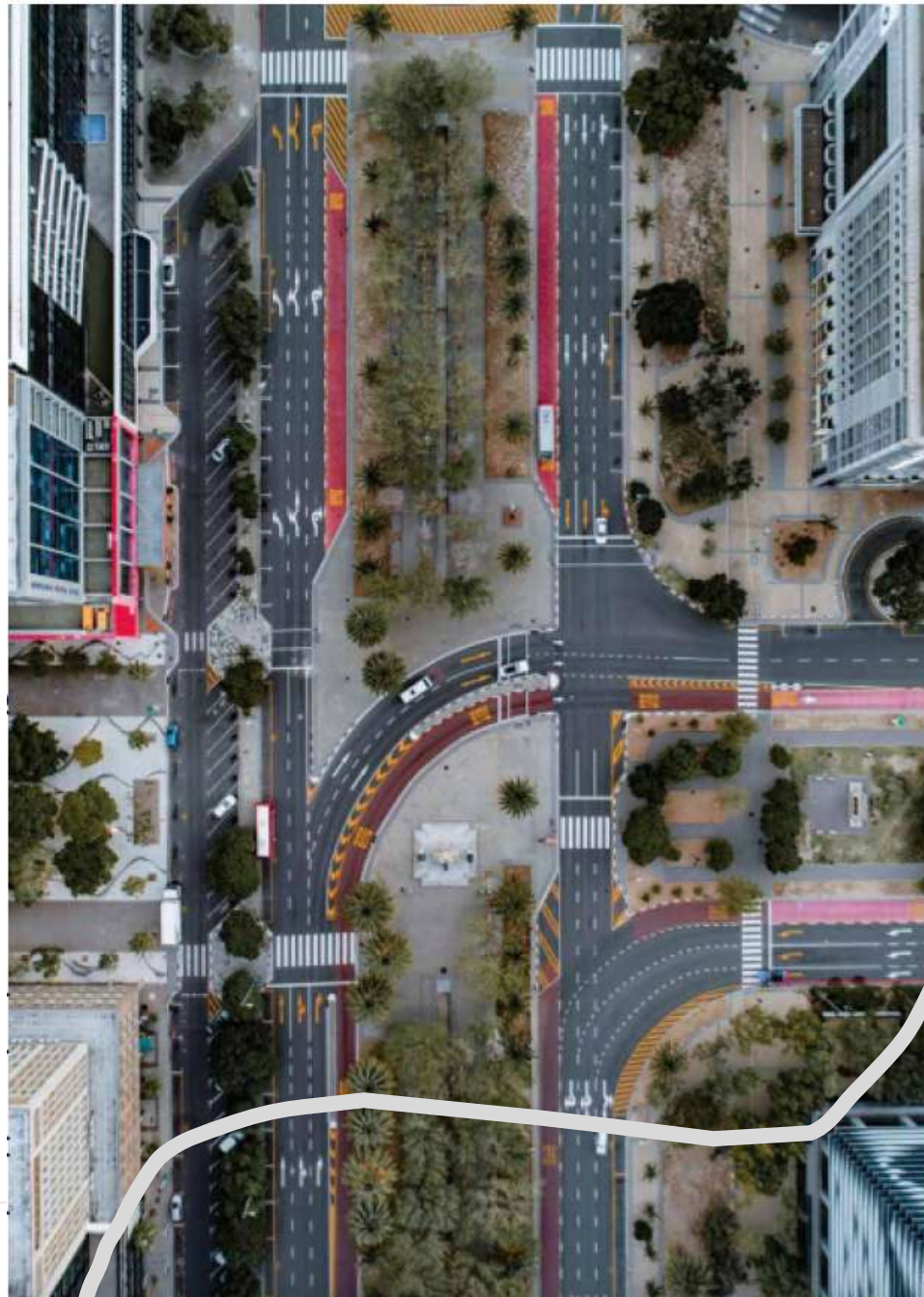
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the artifact

For thousands of years, water has been known to help cure illness, refresh the body and relax the mind.

At the start of the year, I spent a lot of time self reflecting, healing and regenerating after a traumatic incident. The spaces I found myself continually drawn to and coming back to were waterscapes; rivers, streams, waterfalls and the sea. I felt absolutely awake and present sitting next it, feeling entirely peaceful in its meditative presence.

There is something about water that is therapeutic and calming. Water is a power tool in urban design, having the ability to unite people and nature together in meaningful ways.

Water's ability to stay in perpetual flux, simultaneously holding space in the present whilst transporting one into the past through introspection allows it to continuously modify itself, transcending beyond the before and the now to give rise to future potentials.

I have distinct memories of water from my childhood. From an early age growing up on a farm in the Cederberg, I became aware of the delicate relationship between water and the land and its impact on my surroundings. Green and lush in the winter and parched and arid in the sweltering summer. My family and I would making hiking outings to naturally formed rock pools in the mountains. These were where I learnt to swim. These are where some of my fondest family memories occur.

During my honors in landscape architecture, I discovered Cape Town's hidden memory of water, investigating its natural systems briefly for one of my design projects. I was fascinated by

this rich history and shocked that so much of it has been forgotten and was lacking integration with the city especially after the crippling 2017 drought.

Coming into my masters year, I felt it appropriate to find a topic to research in order to holistically apply my previous studies with urban design.

Through the course of my Master of Urban Design dissertation project, my fascination has grown with regards to the practical, theoretical and conceptual ideas surrounding artifacts, memory and tradition, and relics. Arguably, Cape Town's buried water systems, channels and tunnels are the city's oldest and most sacred of relics.

As an exercise, it was encouraged to transform the project into the physical manifestation of an artifact. Initially focusing on the city and its structural blocks, upon introspection I realized that water's hidden underground presence was the project's true artifact.

abstract

Cape Town - a picturesque city located between an iconic mountain range and the glistening bay. At its forefront framed by Table Mountain, the city lies nestled within bowl shaped by mountains on either side with the wide expanse of the ocean at its feet. This image of Cape Town commands the imagination when envisaging the city and used as a key landmark in orientating the individual within its urban environment.

Despite this, a growing spatial paradox is emerging; a paradox of being within yet without. The vantage point from which this mental photograph is understood, represents only a two-dimensional

face value view of its rich personality and a very different city to the realities on the ground.

Today, the city centre is a confusing and chaotic space; on the surface a dizzying cacophony of speeding lights and towering structures, the white noise of sirens whirring within a visually drab, spatially fragmented and harsh hopscotch-like environment.

And yet this reality only illustrates a part of the story, the rest buried underground in tunnels, ancient riverbeds, springs and seabed artifacts. A rich collection of memories closely tied to the character of basin the city finds itself nestled in, hidden from sight.

In this emerging environment, the narrative of water and its visual reminders (both mountain and sea) have been lost. Those remaining are isolated, lacking in understanding within the current context, This is the fractured characterless reality pedestrians must navigate, indicative of the complete disconnect between inhabitants and this unique context.

This thesis argues that by re-hydrating the city, the connections to people, space and place can be restored and reinvigorated.

Typical view of Table Mountain

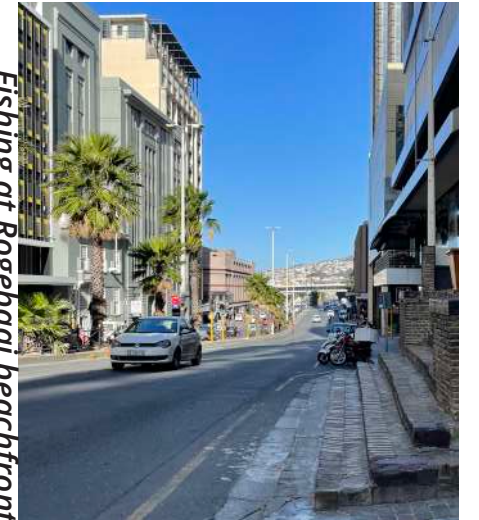


Play me!

City center street conditions



Fishing at Rozebaai beachfront



01 INTRODUCTION



<1600
Khoisan hunters used the rivers and stream for livestock and replenishment

1652
Dutch arrival at the Cape & establishment of settlement and grachte

1834
Slavery abolished at the Cape

1883
Extension of port & harbor

1905
Last of the grachte destroyed

1917
Construction of the harbour and destruction of pier

1947
Construction of the harbour and destruction of pier

2017
Day Zero drought

2022
Present day City Centre



Background to research problem

Water is closely tied to the character of the city bowl, with the city center being the meeting point between land (mountains) and sea (the harbor bay).

Cape Town is founded within an ancient hydrosphere with deep cultural and historic associations beyond the settlements establishment in 1652. Whilst little was recorded about the area at this time, the basin was known as 'Camissa' (a place of 'sweet waters') serving as a vital source of sustenance and life to the Khoisan (Siebert, 2012).

Camissa's watershed was integral to the raison d'être of Dutch outpost, as a refreshment station and fresh produce station, and subsequently was an important spatial informant in the settlement's structuring, with the *Varsche* (fresh) river acting as a natural town boundary edges. As the town flourished, a successful trading port was established with markets and trade businesses developing along the shore edge (Moo-sagee, 2014).

However, with urban expansion, much of the remaining history was destroyed or buried be-

neath the surface of city. Development blocked views of the mountains and ancient rivers and grachte were buried under ground. The city's expansion into the bay was the final blow, cutting the historic core off from the sea and leaving the remaining inner city buildings, such as the Castle, ambiguous islands of a forgotten time. And so the last traces of water's ancient system and its rich cultural heritage was lost.

presents itself as a great investment, located in close proximity to transport hubs, the historic core's retail district and iconic cultural landmarks such as Table Mountain. This marks a transition where the city is focusing on integrating people into the city and creating a more equitable environment, diminishing the exclusive nature of the CBD. However, with more people now living in the city center, this increased densification will have a major widespread impact to traffic congestion, putting increased strain on existing infrastructure.

Since, 2019, the historic city center has experienced a development renaissance in converting office blocks into residential units. The inner city

Pedestrian mobility, a potential relief to this problem, is severely lacking or showing signs of decay. In places it is non-existent or littered with obstacles street infrastructure, resulting in treacherous pedestrian conditions.

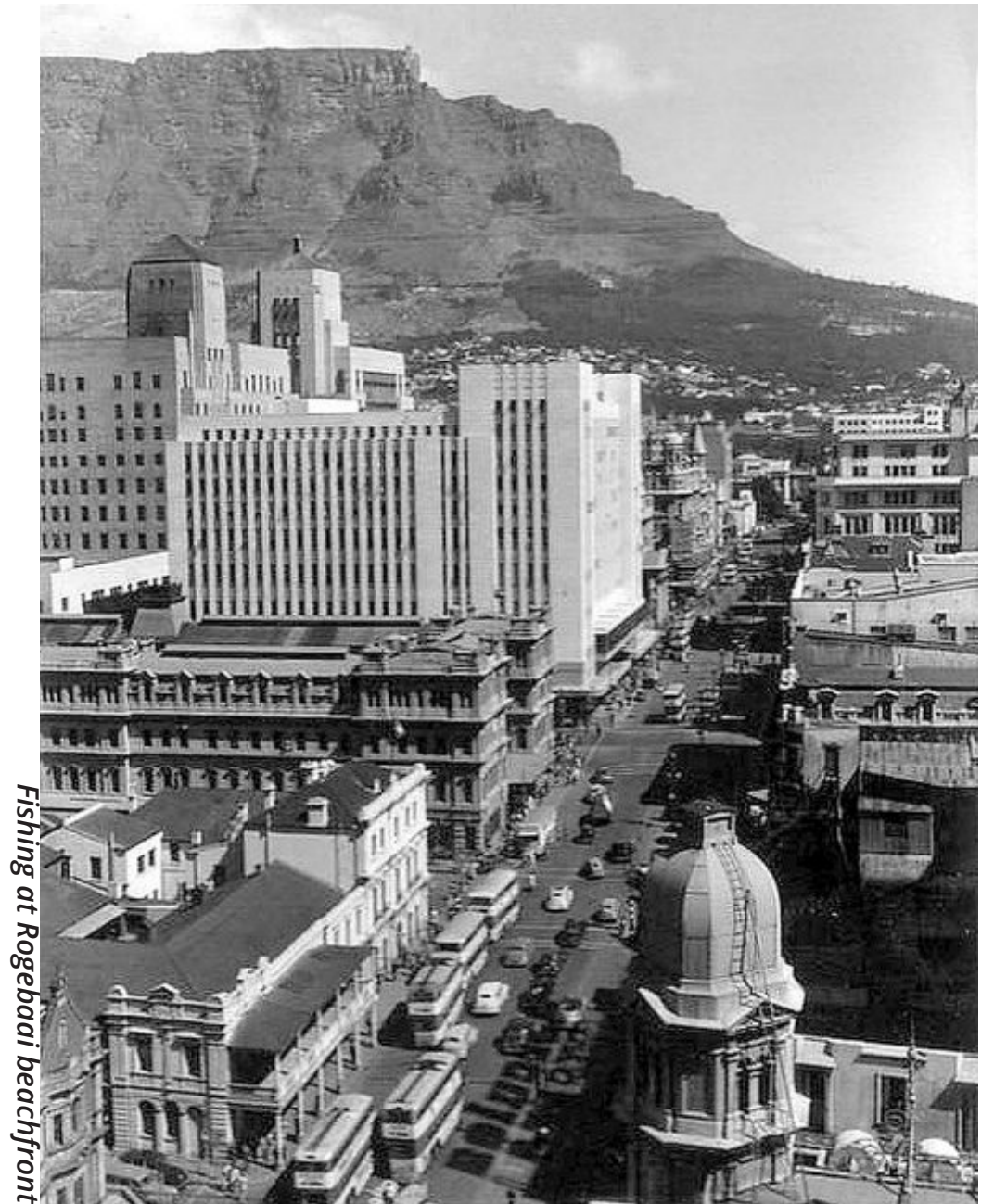
Like many South African cities, Cape Town places heavy emphasis on a car dominated streetscape. The resulting dominance of the car has directly impacted the spatial configuration of space within the city center. Pavements have shrunk to accommodate increased levels of traffic; parking has taken over the function of public squares and pedestrians are increasingly in conflict with vehicles to claim whatever street space is left (Bickford-Smith, 2008).

The resulting urban conditions are drab and hostile, deterring many to venture out into the public realm, causing the city to become increasingly neglected and devoid of public life.

The fundamental mismatch of car environment for a population that largely does not own cars perpetuates an environment of lingering inequality. Car owners have far greater opportunity and access to the city with amenities remaining within easy reach (Briggs, 2014). To the majority of inner city workers, the city center becomes either a place of work or an intimidating, exclusionary space which cannot be accessed.

The implications of this are the negative perceptions of the city in the minds of majority outside. These perceptions limit the individual connections made to place, doing little to promote cohesion and improve urban identity.

Additionally, perceiving the city through the narrow lens of the car windscreen prevents one from interacting and fully engaging with the urban landscape, perceiving instead an 'alien' or 'cyborg' landscape divorced from the rest of everyday life, perpetuating the disconnect between users and their environment.



Fishing at Rogeabaai beachfront

Study Area & Scope

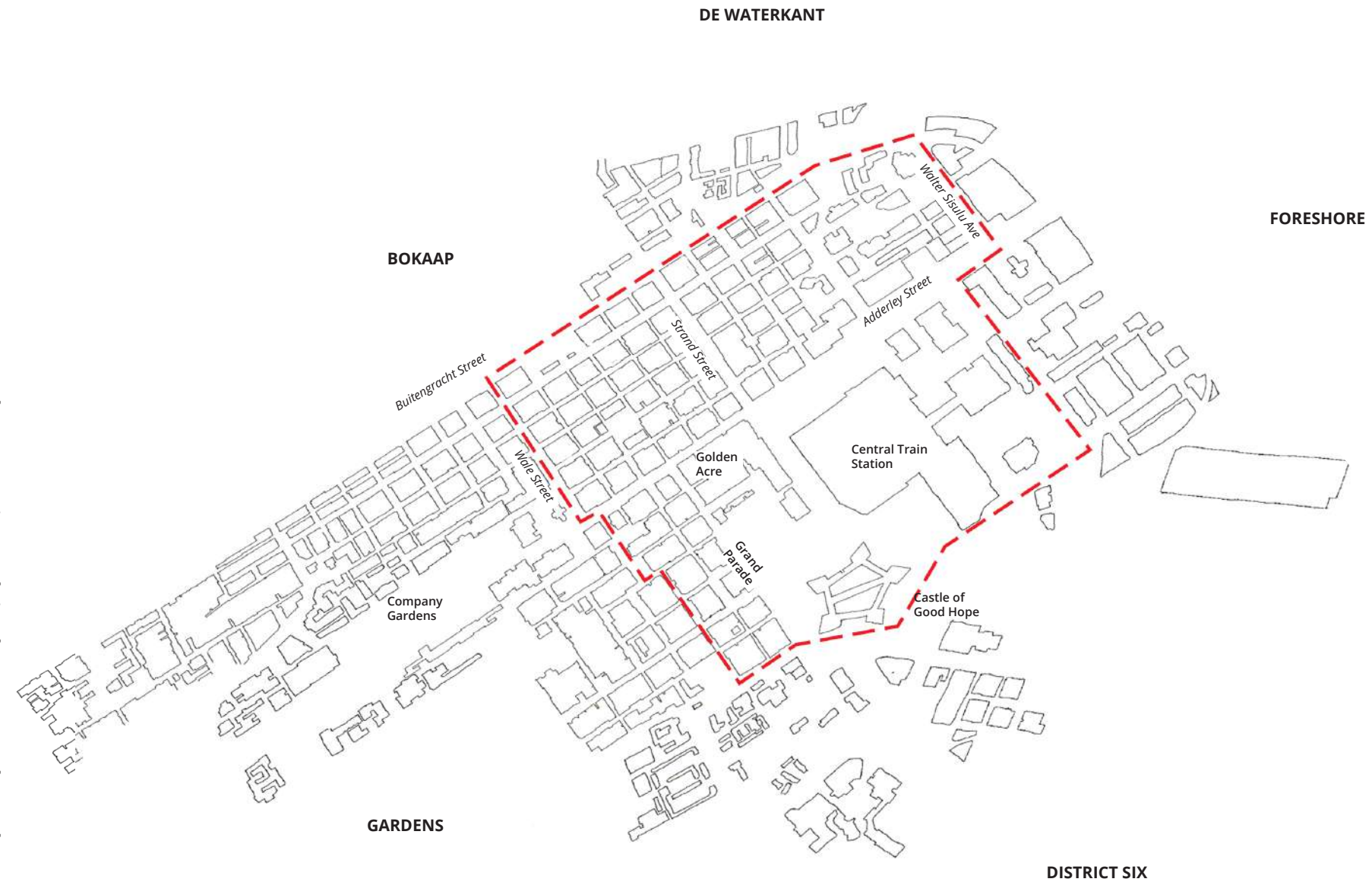
The study area is located in the historic heart of the City of Cape Town's CBD, referred to in this thesis as the *Inner City*.

This area links two distinct parts of Cape Town: the historic core and the Foreshore to the north-east. The Inner city acts as a buffer between the southern and western neighborhood districts and the business district to the north. Its large central transport hub is an important central landmark, reflecting the important role the city plays in promoting opportunity and equality.

Historically, the boundaries of this area were restricted by natural watermarks such as the river and gracht running along the streets of Buitengracht (west) and Buitenkant (east) as well as the shoreline to the north. These boundary edges show the close relationship between water and the city.

Today, these boundary edges have changed with the expansion of the city with remaining buildings lacking purpose and inclusion.

The Inner city (red) in the present day urban fabric



Research Question

To what extent can water – Cape Town's oldest and most sacred artifact – serve as a spatial anchor and place-making tool within the inner city?

Objectives

Quantitatively explore the effects of water urbanism on the perception of urban space

- to study whether water has the ability to serve as a place-making tool and enhance imageability at the street level

Aims

Central to this thesis is the idea of transforming the inner city from being primarily an economic hub, to a destination; a lived place where the full range of diversity can inhabit and claim ownership of space.

This thesis argues that in order to be a destination, the journey must be equally enjoyable. Recognition of the unique heritage of the inner city's natural environment has the ability to create a more human-friendly, equitable and engaging public realm, based on the intrinsic value of water as a collective civic infrastructure contributing towards social cohesion, collective identity and understanding of place.

This thesis will explore reintegrating the hydrological system of indigenous streams by revealing them and the cultural histories that have been hidden associated with it within the public realm. The re-imagining of this hydrological system ties into the need to memorialize untold history that is visually missing in the city we experience today.



02 METHODOLOGY

Research Approach

Inductive research, otherwise known as theory-building research, is an approach with the aim of developing new theories around a process or series of existing phenomena. The outcome can give rise to new models of tactical urbanism by encouraging street-scale interactions in order to bridge mobile, spatial and social divides across the fragmented city landscape.

This project's methodology structure closely followed the investigative methods outlined by Christopher Alexander's *A pattern language*, Kevin Lynch in *The Image of a City* and William Whyte's in *The social life of small urban spaces*. The techniques used in these books informed the methods in obtaining data for this thesis.

The project aims to unlock a top-down approach. To structure this thesis, research was undertaken in three phases:

- ① the initial collection of contextual research relevant to the site and surroundings,
- ② analyzing existing projects completed and gaining knowledge and experiences of professionals in the field and finally,
- ③ identifying stakeholders at various scales within the Inner City.

These three vignettes will enable the project to understand the image of the city of 'before' (phase 1) and 'now' (phase 2 & 3) in order to re-imagine how it could be, 'the future'.

Research Design

Desktop research

Desktop research was useful in providing initial in-depth information regarding contextual background (e.g. historical maps) to the study area. This method was beneficial in identifying gaps in initial research which were filled in by other methods of data gathering.

Interviews

Whilst research has been done previously in the study area's vicinity, the published findings of these projects is limited. Interviews offered the ability to gather deep qualitative data in the form of insights and rich personal descriptions from participants (see Phase 2).

Field observations

Field observations were performed with the help of a field journal to draw and take notes in addition to a cellular device to film, record sounds or take photos with. The technique allowed for the intrinsic character of the place (e.g. sound, day to day activities, interactions in the street) to be documented.

Mapping

Mapping allows for the research to spatially represent a diverse range of information in a synthesized form. Often these forms of information are unquantifiable or are limited in their ability to be replicated via desktop research.

By observing patterns of interaction and phenomena, Christopher Alexander argues that a better understanding of place determined in order to better integrate and strengthen urban identity.

Lynch's book provides a list of key elements essential to creating a strong recognizable image of a city. Lynch illustrated the results of everyday interactions in a series of perception maps. Whilst based on observations gathered through verbal surveys, this technique was used in summarizing findings at each phase of the data procedure. These maps were then compared to inform the design intervention.

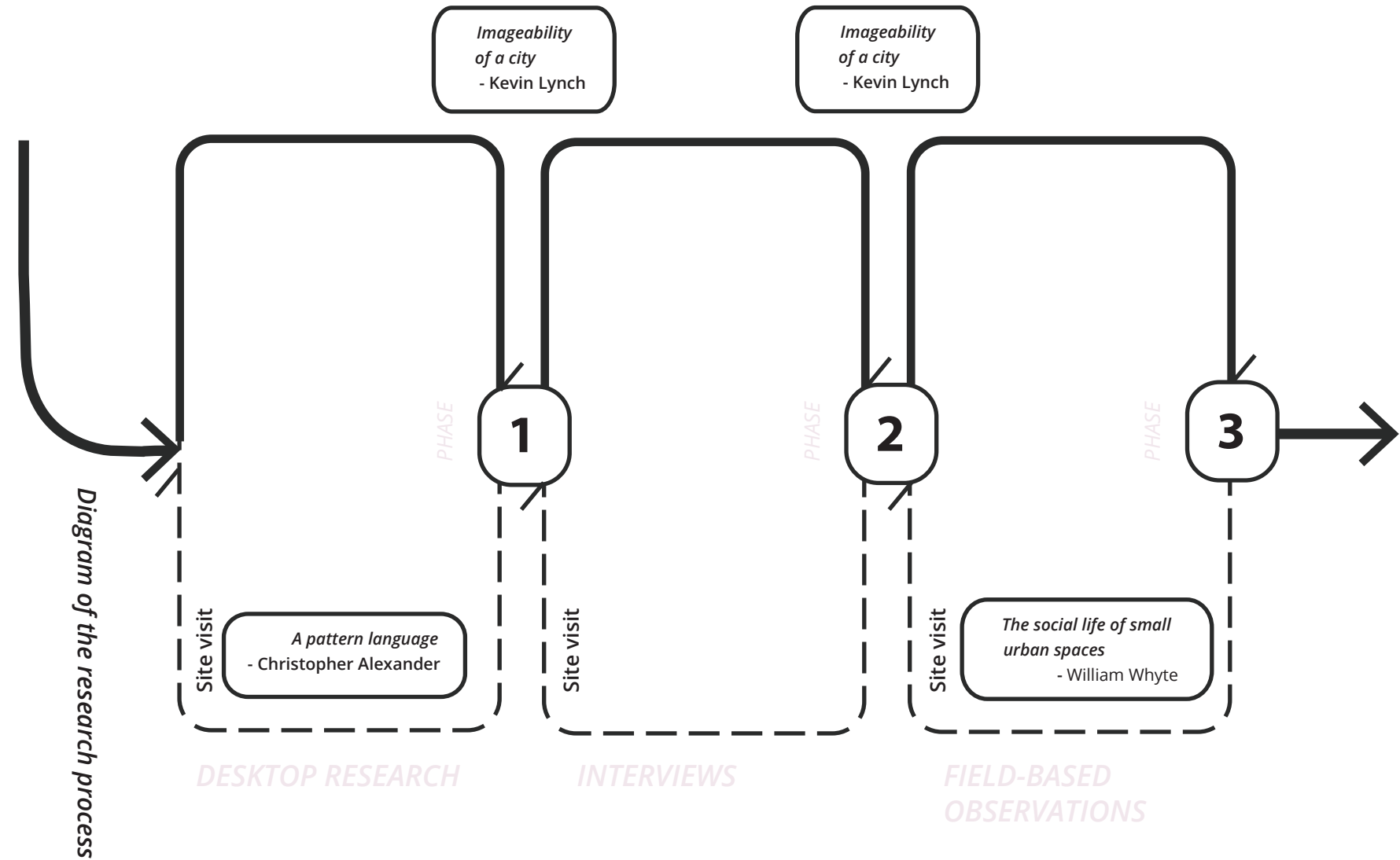
Whyte uses a photographic methodology in order to document and analyze public spaces. His use

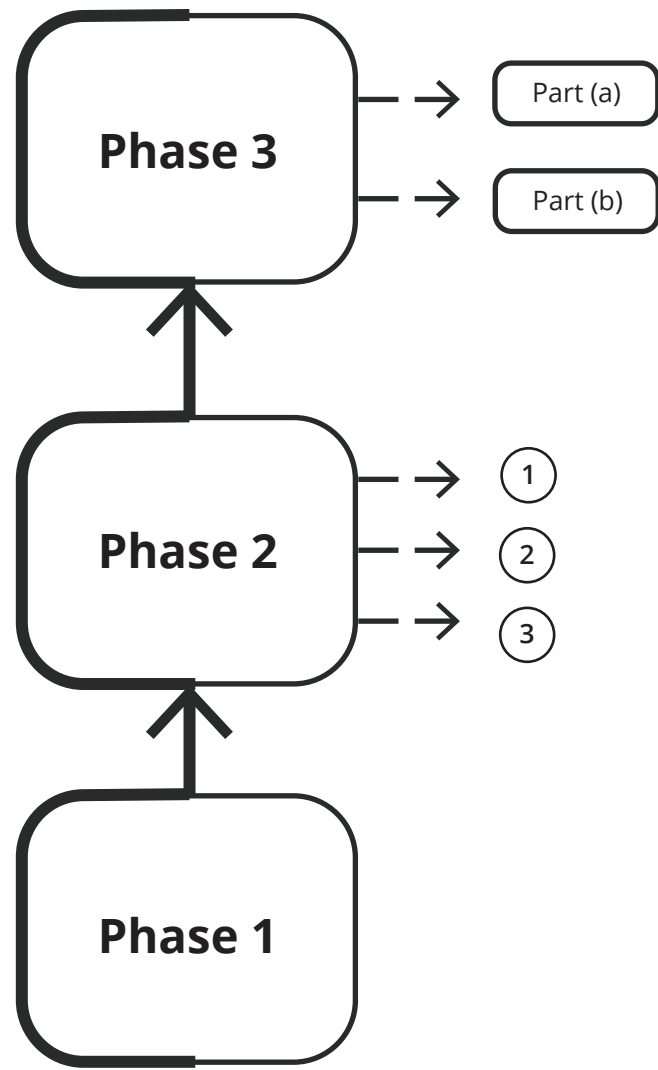
of visual observation is relevant in bridging the divide often found between desktop research and data collected from participants. Although primarily focusing on plazas, his methodology is useful in understanding the success of and what aspects make public spaces successful.

Each street was observed at different times of the day to discover whether these aspects changed or remained fixed. A summarized diagram was produced to map which street(s) contained more or less of these aspects.

Whyte's method of creating a photographic survey was taken of both sides of the street to recreate the view of the Inner City from the street observer's perspective. From these pictures, streets were analyzed for how they are used and perceived by pedestrians and cars.

After gathering and analyzing the visual survey, a comparison of streets within the Inner City was developed. Aspects compared included pedestrian friendly (seating, streetlights and trees) and unfriendly elements (shadows, obstacles, pedestrian width, raised curbs). Analyzed streets were then mapped according to their success in the minds of their observers.





Empirical Data Procedure

Phase 1: the historical vignette

Phase 1 was characterized by desktop research providing contextual information to map the city's developed. This is especially important given its extensive spatial evolution since its original inception. Phase 1 revealed that from the beginning, Cape Town has been strongly tied to its hydrosphere and that during the city's expansion, key characteristic landmarks such as the seafront and waterways, were impacted.

Few accounts exist of the study area's natural landscape and of those who lived off it. However, trips to the Cape Town archives revealed a few written accounts of landmark locations such as the *Varsche* River. Maps of the settlement's early layout throughout the centuries were compared, revealing its reliance on fresh water from the mountain (*grachte*) and the sea (shoreline) for trade.

Phase 1 helped identify key social groups to be approached during Phase 2; those with knowledge regarding the city's water patterns and related activities (present and past).

Phase 2

Phase 2's goal was in obtaining qualitative data from structured interviews with stakeholder groups and professionals working in the city center. These can be broken into three groups:

- ① those working for the city (officials, municipal figures, council experts) ward councilor (Ian McMahon)
- ② professions in the built environment realm (planners, urban designers, traffic engineers, landscape architects)
- ③ organizational groups/ activists working for public events within the city (Young Urbanists, Our Future Cities, Open Streets)

Insights from this phase revealed that much of the original watermarks have been lost and no longer present within the current urban landscape. Remaining structures lack relevance in the resulting cityscape, revealing a urban form divorced from its context.

Phase 3

Phase 3's goal was to understand the ways in which the city is used, interacted with and perceived by the observer on the ground. Taking notes from William Whyte's approach, during Phase 3, primary data was collected through drawings, photographs and sketches done on site along with interviews

A pattern language advocates understanding a city's complex series of matrices in order to understand its character. Observing interactions on the ground, at street level, illustrates the relationship, or lack of, between citizens and their urban environment. Public events held along the street provide a stage to observe these interactions along, as well as unpack the lessons learned from local examples of tactile urbanism. Analyzing these events held within the city will assist in creating determinants and guides in designing for people-centered streets within the Inner City.

These networks fundamental to a city's make-up will be broken into part (a) – tangible and part (b) – intangible:

Part (a)

Part (a) aimed at understanding the observable networks and interactions of city flaneurs commuting into the city center, in particular through public transit or alternative transportation routes. Transit routes include BRT (bus-rapid transit), trains, taxi service, bus systems and bicycle lane.

Part (b)

Part (b) sought to gain insight into the currently invisible or overlooked networks occurring within the city center.

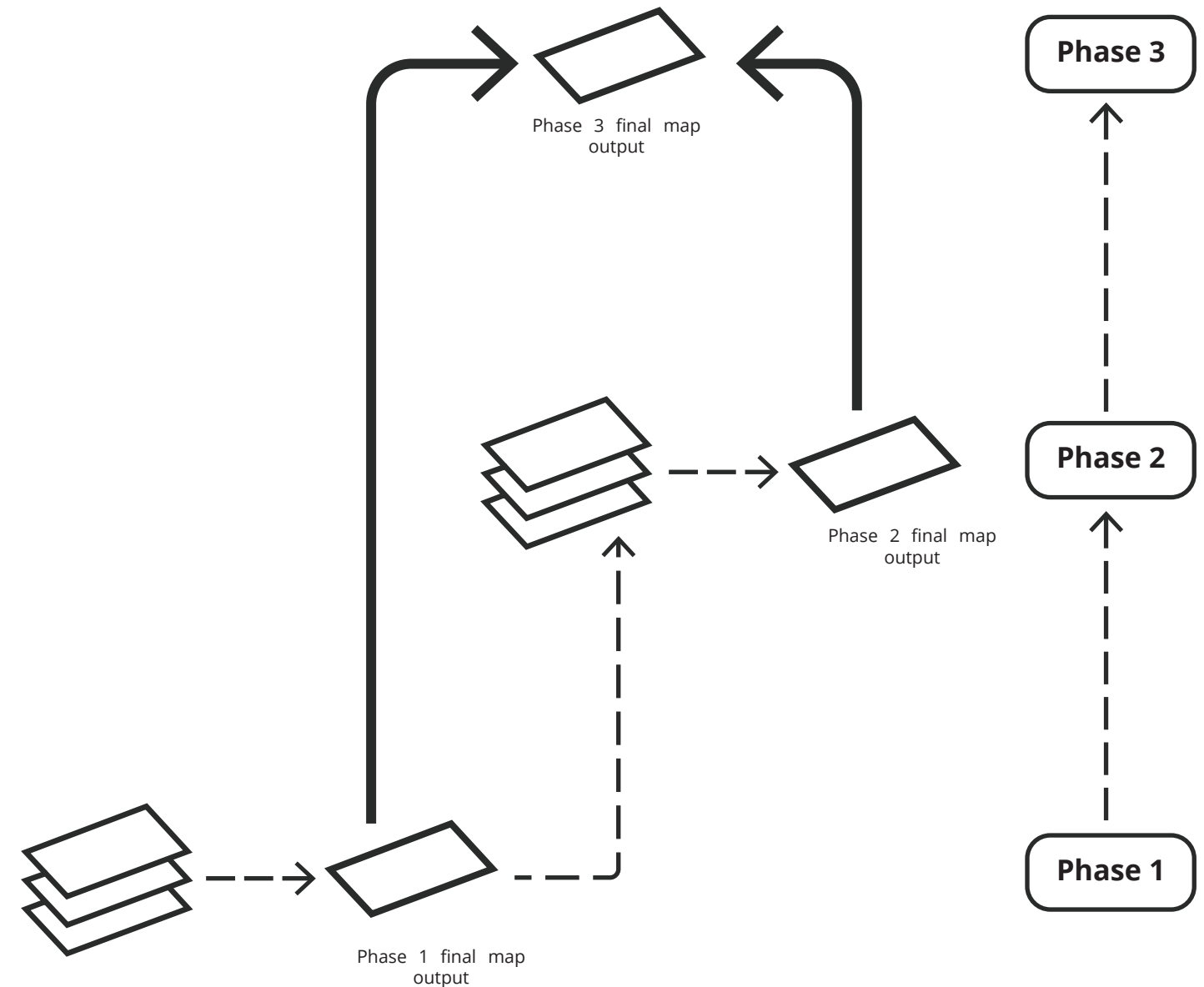
Examples of structures to be investigated include businesses at the micro scale (e.g., 'informal trader', 'street hawker', market vendors) as well as vulnerable groups (mothers with strollers, cyclists, and disabled persons).

Design Procedure

Data gathered from Phase 1 will be represented graphically in the first of a series of mapping exercises. From desktop research, the bones of the first iteration of the Inner City's imagability was identified, used to initially frame Phase 2.

Phase 2 data was layered on top of and compared to the previous iteration. From this, a rich base was created to inform Phase 3. The final series of mapping generated from Phase 3 data were compared with that of the previous mapping iterations. From this, they were overlaid to find points of intersection. These points informed the nodes of intervention within the study area for the subsequent design process.

The design intervention will take stock of lessons learned through a case study or precedent study analysis of projects addressing similar problems across appropriate contexts.



Limitations

Limited topical research

Whilst countries overseas have conducted extensive research on the topic of pedestrianization. South Africa has been slow in adapting to this trend. The implication for this project is that most examples of models in urban spaces come from the Global North with a different urban landscape to ours. Therefore it is hard to judge the success and suitability this topic might have within the South African context.

Limited data duration

Completing a one-year masters impacts the research time, meaning data must be collected within a 3 month period. Therefore, the data is skewed to that obtained during this time-frame, the winter season.

Characterized by its cold and rainy weather, the impact of this time-frame is that streetscape is less frequented by pedestrians, limiting the scope of data. Additionally, this period experiences low levels of tourism, changing the demographic profile of street users.

These factors may have skewed findings, limiting the true nature and impact space within the study area has on the inner city scape

Limited data collection

Few of the public street events, such as Open Streets are held in the winter months, with those that are generally experiencing poor attendance. Additionally, limited advertisement of these events means public awareness is limited, skewing the data pool to those who follow the page (selective) or have attended before.

Obtaining consent from interviewees during Phase 2 was a challenge. Many of these individuals were commuters who were on their way home and hurrying to catch public transport. Therefore, it was difficult to gather quality data from these groups given the limited time frame to conduct interviews.

Individuals within the informal and gray legal realm were often reluctant to give information, citing city officials might use this and threaten their business and livelihoods. Additionally, interviews during Phase 2 were limited given the time-frame and interviewee's tight schedules.

Obtaining historical maps and information was limited given public restrictions on archival trips due to ongoing COVID-19 concerns. The 2021 fire to UCT Jagger Library archives has damaged key maps and restricted access with the slow process digitization of its resources further limiting data which could be obtained.

03 LITERATURE REVIEW

Essential to urban design is the preoccupation with 'place-making', where places are not just defined by a specific space, but by the elaborate meanings attached to them.

For this reason, successful urban space must combine two essential elements in the creation of physical space; *the sensory experience* and *activity*. These aspects encourage engagement and personal connections to be made in order to attach meaning.

The literature review will unpack the core principles and ideas around this discussion, illustrated in the following summarized diagram.

Phenomena of place

Norberg-Schulz (1980) has written extensively about the symbiotic relationship between civic engagement and spatial identity. He asserts the fundamental need for a public space which is equitable and containing elements encouraging the individual to claim ownership of space in order to attach meaning.

Simone's (2004) highlights society's shift towards the creation of utopia-like urban environments, from a highly pragmatic and systematic perspective. Christopher Alexander agrees, asserting that resulting urban conditions are increasingly 'anti-human' with cities having become cold and outward looking devices, disconnected and un-supportive of the complex activities and people that lie at their center.

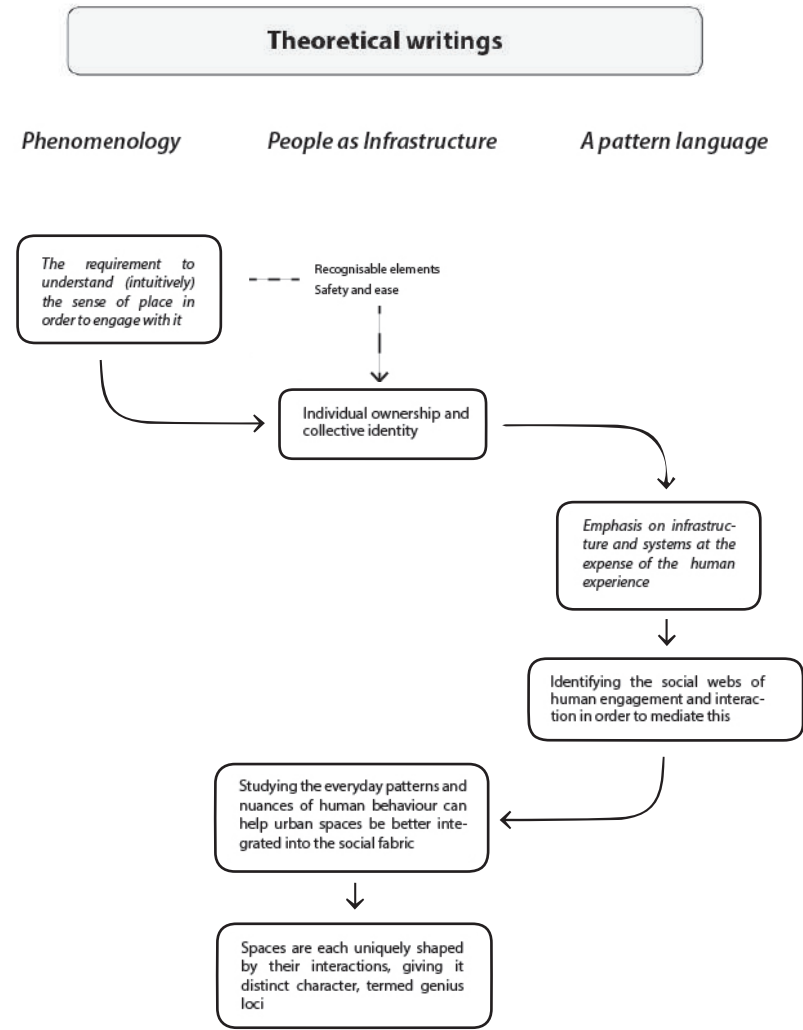
He states that the hierarchical shift towards built form has created increasingly disconnected environments in which the end point becomes the destination, rather than the journey. Simone argues that by forgetting the very thing which activates these systems, urban endeavors will never see their full potential and remain redundant.

Urban design academics

Norberg-Schulz

AbdouMalik Simone

Christopher Alexander



Simone suggests diving deeply into the nuances and complexities sustaining everyday spaces. By understanding these unique and complex social systems can the character of these spaces be uncovered.

Tuan's (1977) work on place and sensory experience emphasizes the importance of repeated and routine engagements with places. It is through such habitual practices, he argues, that we attach particular experiences and memories to places. It is through the daily smelling, touching, seeing, hearing and tasting that places become known to us.

Alexander argues that instead of buildings defining public space, it is shaped rather by its people. He argues that by studying the everyday patterns and nuances of human behavior, that urban space can be better integrated into the social fabric. He suggests that these spaces are each uniquely shaped by their interactions, giving it distinct character. Termed *genius loci*, Alexander notes that in recognizing the complex qualities that make up these spaces, a stronger sense of place can be established.

Streets as the everyday stage

Jane Jacobs argues that through analyzing spaces in which life plays itself out daily at the street level, can the character and identity of place be understood.

Activation by means of walkability contributes to 'sense of place' as it makes up the characteristics that emerge from patterns and rhythms of movement in that space (Lesan et al, 2015). These types of patterns, complex or simple, influence perceptions and connotations of space. Streets can thus influence "legibility" of place (Campos, 2022).

Termed *serial vision* (Cullen, 1961), rhythms reflected the observer's fast paced journey through the automobile offer the dominate perception of the city, revealing a series of stilted snapshot interactions rather than consistent image. However, Jacobs argues that streets act more than just mobility channels, acting as platforms for individuals and communities to interact and come together and where social cohesion can flourish.

Kevin Lynch concluded that *imageability*, the vi-

sual understanding of public space by its users on the ground level can offer key insights into the intangible ways the city is perceived.

Rapoport (1990) argues that streets act as *urban living rooms*, catering for a variety of functions (planned and spontaneous) across various scales. Conceiving the street in this way attaches personal connection to the street promoting a sense of place.

Able to encourage engagement at the local level, streets demonstrate the potential for societal transformation. Movement and mobility have increasingly come to the fore within social sciences in recent years, with 'walking' generally acknowledged as the most equitable form of movement.

In this way they provide an element of collective commonality whilst relatable on the individual level. Walking practices mediate the social and spatial encounters between people and built environments engaging on a personal level the way to understand how all "the senses are integrated by the way the living body moves".



St George's Mall - Cape Town

St George's Mall is a 1km pedestrianized street located within the heart of Cape Town's historic city center. Implemented in the 1990's in response to the city council's solution in reducing congestion within the center of town, it is the only example of a fully pedestrianized street in the city.

The street now forms part of the inner-city pedestrian corridor network. Situated in close proximity to historic landmarks (such as Greenmarket Square and the Company Gardens) and key modern infrastructure (such as the central train station and MyCiti bus stops), the Mall is an important connective pathway.



Part of an urban space's success has to do with its visibility, a notion that for 'space' to become a 'place' it must have a certain clarity of structure and form to leave a strong impression (Alexander, 1977). St George's Mall is an example of an urban space which, despite possessing 'place-making' opportunities, is lacking in elements necessary to entice public participation. Despite its close proximity to important infra-

structure nodes, St George's Mall has become increasingly an exclusive space, catering towards tourists rather than locals.

With little to entice locals to dwell and use the space, the Mall is lacking identity in the minds of locals, contributing to its understanding as a 'pathway', rather than 'destination'.

The Power of Heritage

The city surrounds us with perpetual triggers of pleasant and unpleasant reminders of the past. In this country, heritage is a controversial topic, often viewed as a divisive rather than integrative device, preserving past narratives of some over others thus giving legitimacy to resulting events, notably our colonial and Apartheid past. Viewed as old fashioned and lacking relevance within the contemporary city, there is a disconnect in how heritage is included within urban spaces.

With traces of the past that are inscribed in memory and inhabited spaces continuing to influence people's identities and contemporary activities within the city, it is key more so than ever before to address the tension of space.

Naheed (2022) argues heritage plays a vital role in one's sense of place along with Individual and collective identity. The urban environment, com-

prised of historic buildings, traditional street pattern and activities provide a unique distinctiveness to our city reflective of local cultures and traditions.

Sitas (2021) argues the historical environment also plays a mediating role in cities where culture and heritage were integral to its divisive social and spatial planning. Heritage plays a role in healing societal wounds by addressing social and spatial injustice through continuous inter-cultural encounters and dialogue around painful reminders of the past. In this way, it is a powerful device in engaging citizens with their environment inspiring new or renewed connections and memories with place.

Thus its presence is vital to the endurance of civic memory and in building inclusive societies and vibrant civic spaces of the future.



Cheonggyecheon River-Seoul, South Korea

The Cheonggyecheon project is an example of the restorative power of ancient water systems, reinvigorating urban space. Restored waterways enabled the city to create a more 'livable' environments, connecting citizens with their city in more meaningful ways and promoting sense of place.

Once a cold environment lacking entirely in pedestrian activity, the city tore down the freeway running through the site and daylighted 6km of historic river. Improving public transportation around the area eased congestion levels

and implementing pedestrian bridges across the stream edged by thickets of greenery encouraged civic engagement, representing a shift from car to a human-orientated street.

The river has become a popular recreational destination for civilians and tourists within the city center, with local businesses reporting an increase in trade. The project has brought about changes in civic consciousness, becoming a destination and pleasant place to relax along with hosting various cultural events and spontaneous activities.

Water as a place-making tool

As a place-making tool, water has ambiguous interpretations, making it a legacy for all to celebrate. As a form of civic infrastructure, water reflects the common resource and heritage resource we share as a society, encouraging societal cohesion.

Water is also closely linked to culture and memory with the dynamic ability to influence the living traditional cultures whilst representing traces of those which have disappeared. In this way, 'a sense of place' and identity is kept alive for future generations.

Waterscapes remind us of our collective history surrounding a country's origins and development as well as encourage collective and individual connections and activities.

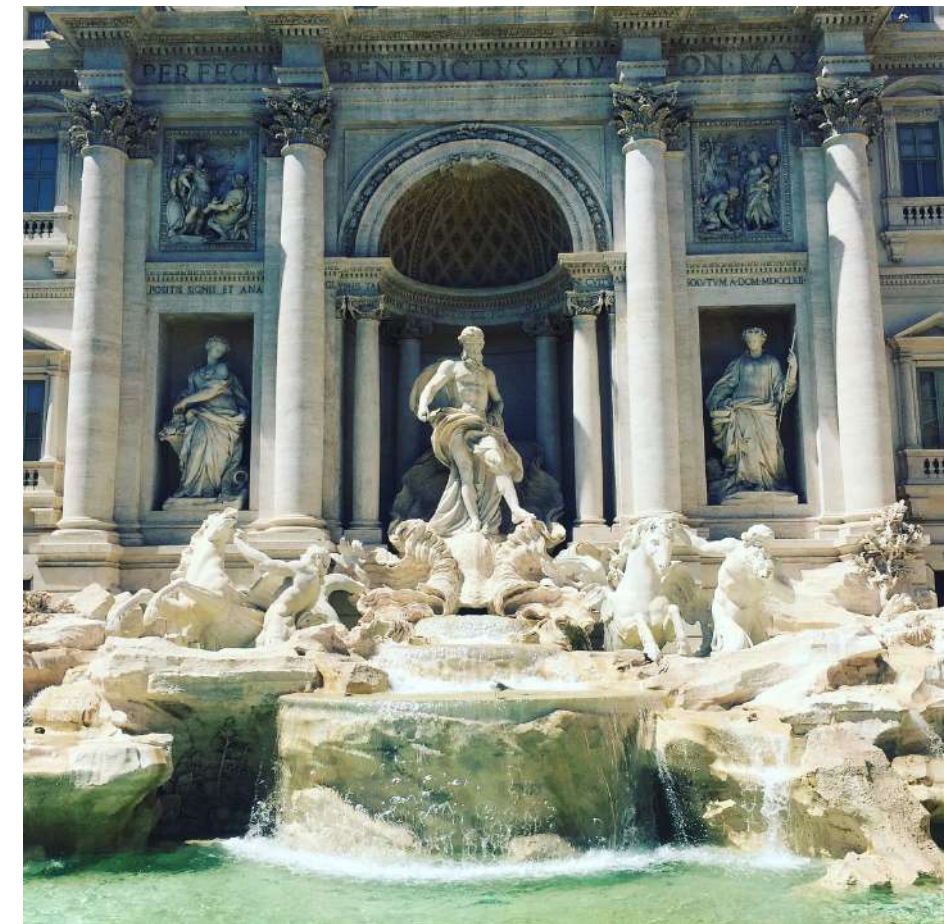
By providing a gathering space for everyday social, economic and recreational opportunities and activities, water demonstrates its inextricable connection to everyday life.

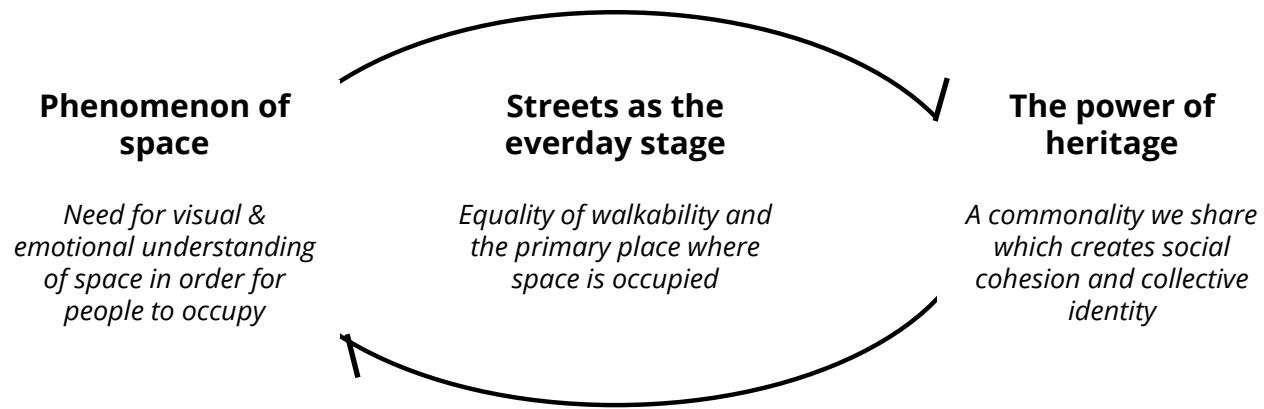
La regina dell'Acqua - Rome, Italy

Rome is a successful example of using water as an urban place-making device. So ubiquitous is water's presence within the urban fabric that Rome it is affectionately known by locals as the 'water queen'.

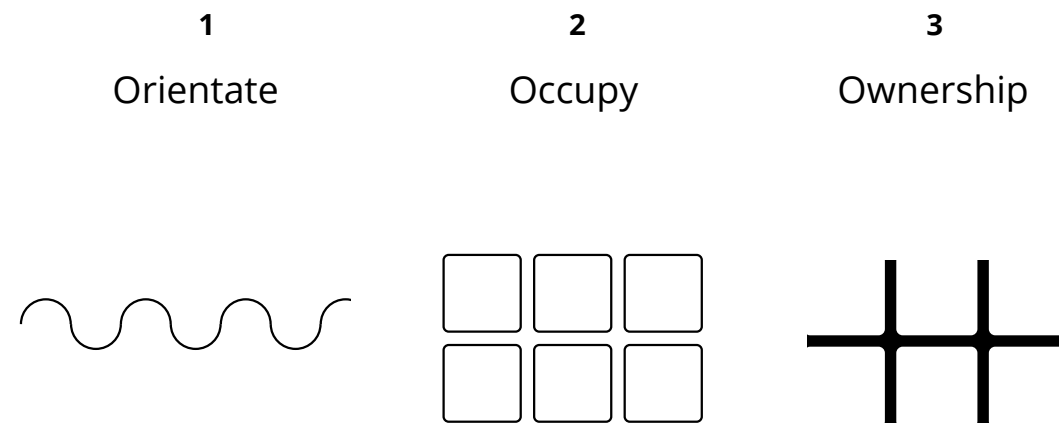
Water infrastructure serves a variety of functions ranging in typological forms. These vary from cultural spectacles for public delight, such as the Trevi fountain and public spas to private civic uses from *nasoni*, public drinking fountains, which facilitate drinking, cooking, washing purposes.

Water as civic infrastructure allows for spontaneous activities to occur, bringing people together and allowing citizens to mix and meet. In this way, water infrastructure is considered essential to daily life and the functioning of the city, reflecting the strong relationship between citizens and their environment.





Spatial strategies



Take-aways

From the literature review, Three themes can be extracted. These include:

Phenomenon of space, Streets as the everyday stage and the Power of heritage

From a macro scale, by understanding the ‘phenomenon of space’ can the character of spaces be understood in order to create individual connections. By analyzing the micro spaces, the street, within these space can the realities on the ground be addressed, arguably the space where the everyday life plays out.

Three spatial strategies were established in order to address these takeaways and to take forward in the proposal. These include:

*Orientate
Occupy
Ownership*

Heritage can play a part in bringing a common understanding and identity to spaces by encouraging engagement on the street scale. These three themes can be used in tandem with one another, suggesting an intangible cyclical relationship and exciting opportunities within the urban realm.

04

CONTEXT

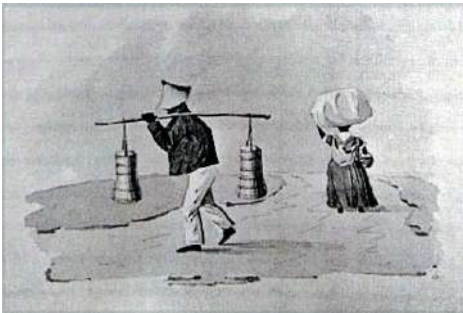
The Relics of water's cultural landscape

An overlaid map of water's impact over time on Cape Town's urban fabric, from its natural and subsequent man-made course to the buildings and urban spaces it influenced.

Despite much of its existence now expunged from the visible city fabric, it is clear from this map that the inner city lends its origin to water and contains the richest abundance of artifacts within the city center.

The following section unpacks the cultural relics within the city centre.





Water and Power

The city bowl's natural valley watershed is the meeting point of strong dynamic natural forces between the mountain and the sea. At times, their connection through water would act as a device for inclusion and displacement.

Even before the city existed, the mountain exerted a power over the landscape. Known to the earliest occupants of the Cape as *Hoerikwaggo*, the mountain of the sea, and to the amaXhosa as *Umlindi Wemingizimu*, the watcher of the south, its presence created a landscape which was instantly recognizable.

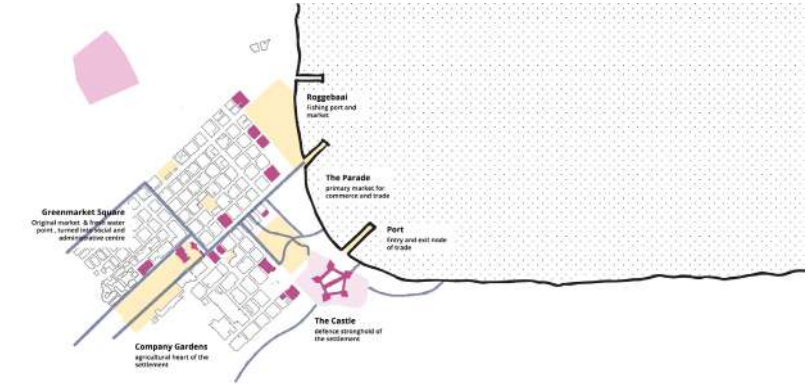
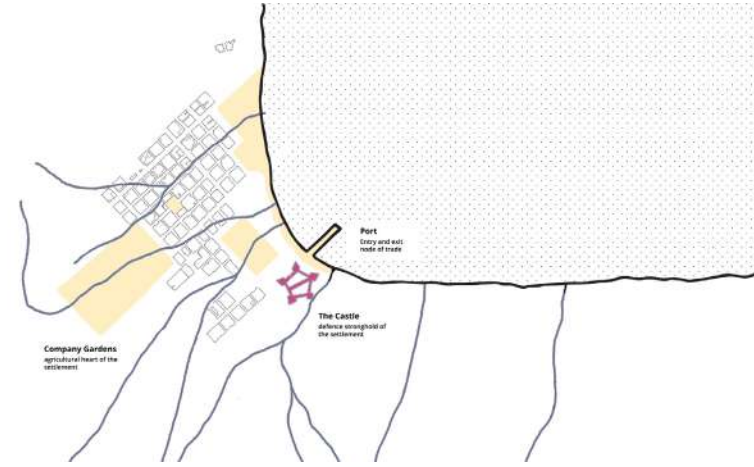
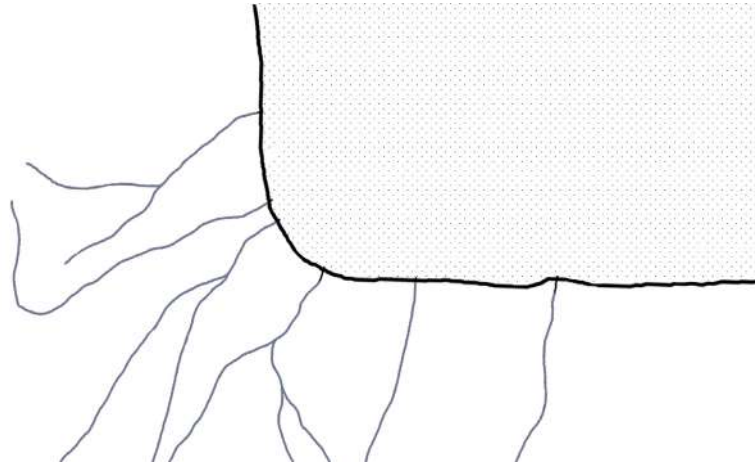
Known to the First Nation as '*Camissa*' - the place of sweet waters - the abundance of fresh water within the valley basin brought the nomadic Khoikhoi to the valley every spring for thousands of years. Early travelers from Europe were also struck by its singular outline along with the year-round water sources. The latter was a key factor in the VoC's decision to establish a way-supply station for passing ships traveling to the Dutch East Indies.

Camissa (renamed the *Varsche* River), the valley's main water artery, was used to irrigate a vegetable garden for the station with its smaller streams directed into a series of 'grachte', becoming the lifeblood of the surrounding settlement.

The names given to present day streets in the city bowl reveal the paths water flowed through the settlement. Heerengracht (now Adderley Street)

was the first principal street in the settlement, directing water from the gardens into the sea.

Water informed the settlements boundary edges such as Buitengracht, dividing colonizers from the First Inhabitants and cutting off these historic lands and resources from the Khoikhoi.



Culture and Memory

As the settlement expanded, the *grachte* became sites of unique cultural and social gatherings. Slaves and washerwomen would gather along these singing and dancing, whilst washing laundry. The sound of their distinctive *kapperrangs* (clogs) clattering as they walked along the street's cobble stoned surface signaled to others their path.

Soon however, *grachte* become dumping nodes for town rubbish and household waste. After the Smallpox epidemic of 1713, these channels were buried underground and by the end of the 19th century, this iconic memory was lost.

The discovery of diamonds and gold in the Witwatersrand turned the city's focus towards

upgrading the harbor to facilitate transporting goods up and down the country.

Emancipated slaves took advantage of this, establishing fishing businesses along *Roggebaai* beach. Fishermen hauled their wares along the beach front to the early morning market at the Parade for trade. However, with increased speculation, the harbor edge was redeveloped and extended, destroying many livelihoods and traditions.

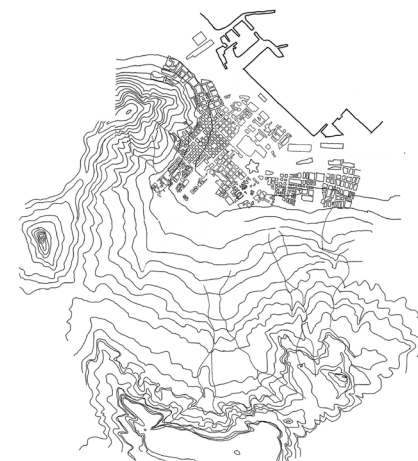
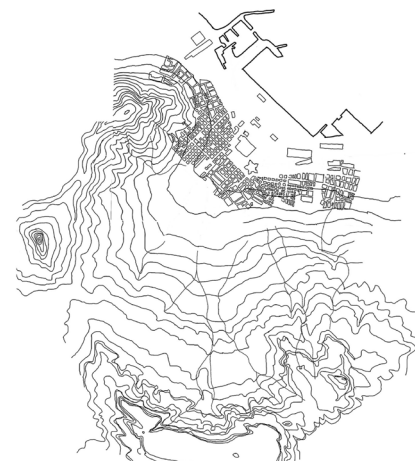
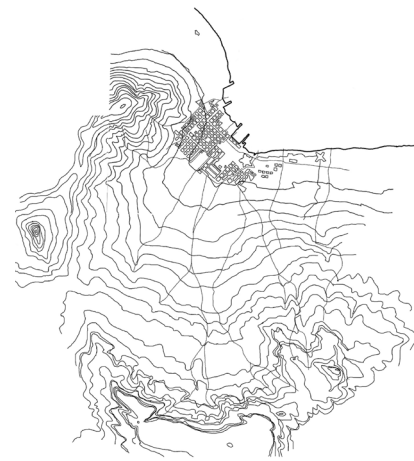
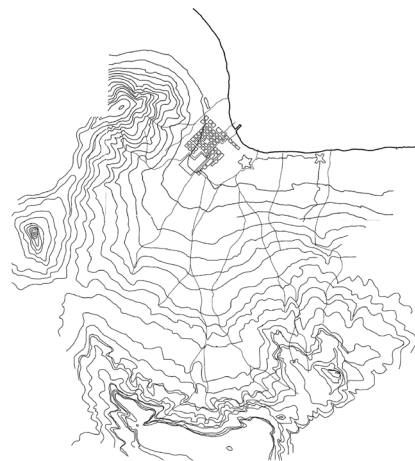
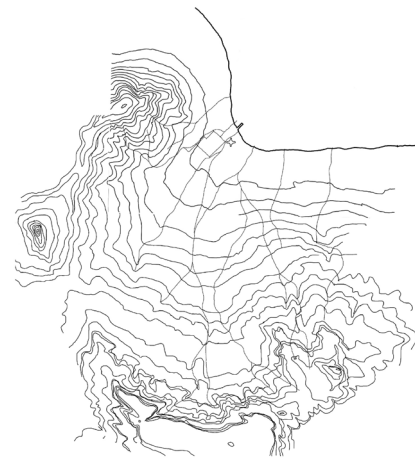
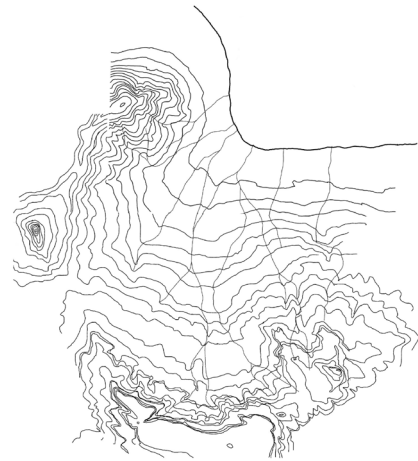
Lost Spaces

Cape Town has a strong cultural legacy of water within its inner city spaces with much of the historical center's layout and configuration informed by these water bodies. However, much of the city's memory of water has now been lost and can no longer be felt within the city today.

The sea edge running along the side of the Castle was the site of a variety of seaside activities from recreational to harbor and trade related. Public squares such as the Parade located in close proximity to the seafront served as important trading spots for harbor activities. Now the city remains cut-off from the sea, providing a challenge for remaining historical structures to find relevancy.

The Roggebaai precinct enabled early trade and industrial activities to flourish, key factors in the city's expansion. The shoreline was an important pathway connecting the Parade with the sea edge. The Foreshore development uncovered numerous shipwreck and fishing boat archaeological finds. Yet, little of this history has been acknowledged within the space today.

The Golden Acre Shopping Mall was constructed on the original shoreline at the start of Jetty Pier. This was a popular destination for locals to walk along and enjoy magnificent views from, maintaining the public's connection with the sea. However with the harbor's expansion, this connection was broken with the seafront now cut off from city life.



Urban Morphology

Modeled after a medieval Dutch town, waterways were central to Cape Town's early planning. Cape Town's historic urban fabric was structured around its ancient river system, influencing the urban grain and boundary edges.

The Varsche River, the valley's main water artery was canalized into a system of 'grachte', used to

irrigate the VOC's vegetable garden (now Company Gardens), the lifeblood of the surrounding settlement. The gracht system informed the rest of the town's layout with the urban form emerging around these open water bodies.

Buildings were arranged perpendicular to these waterways for irrigation and everyday purpos-

es, leading to the eventual square street grid (40x60m).

Heerengracht (now Adderley Street) was the first principal street in the settlement, routing water from the gardens into the sea. In this way it provided a central axis around which the settlement grew.

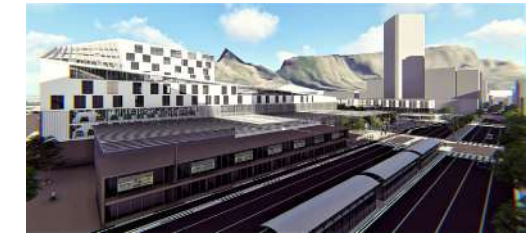
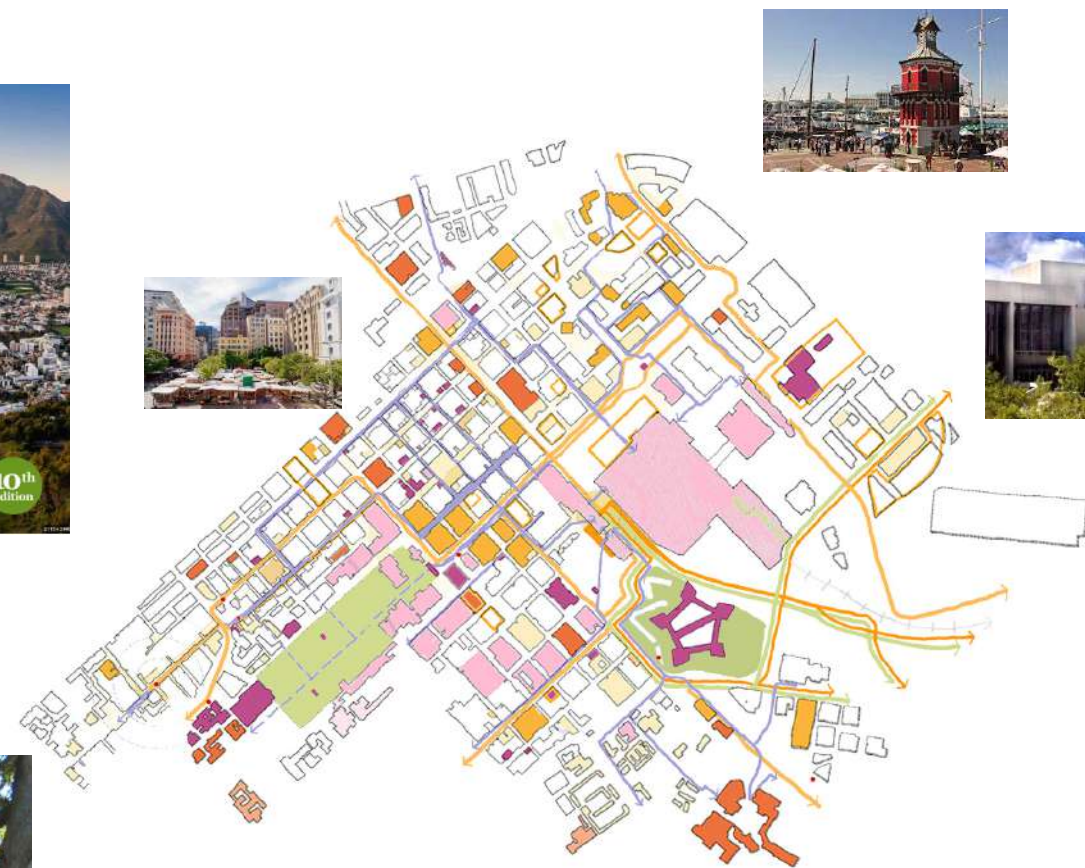
The Foreshore district development extended the city into Table Bay, creating a new modern business district. However, this rectangular grid, double the length of one historic block, negatively impacted the pedestrian experience and perception of place

Amenities

The city center is a rich tapestry woven with modern urban amenities and important cultural landmarks. The most significant of these, such as the central train station and Company Gardens are located within the inner city.

The city center has experienced a development renaissance, converting office blocks into residential units. This developmental speculation is in lieu of the growing need for housing within the city center as people are increasingly living and working within the space. This can clearly be seen along Adderley Street and St George's Mall, the unofficial hotel and residential district within the inner city. It is speculated by the City that this trend will continue into the Foreshore in coming years.

These amenities are located in close proximity to key vehicular and pedestrian corridors making them ideal nodes of integration. Yet, the latter system suffers due to the difficult mobility across the dominant automobile landscape.





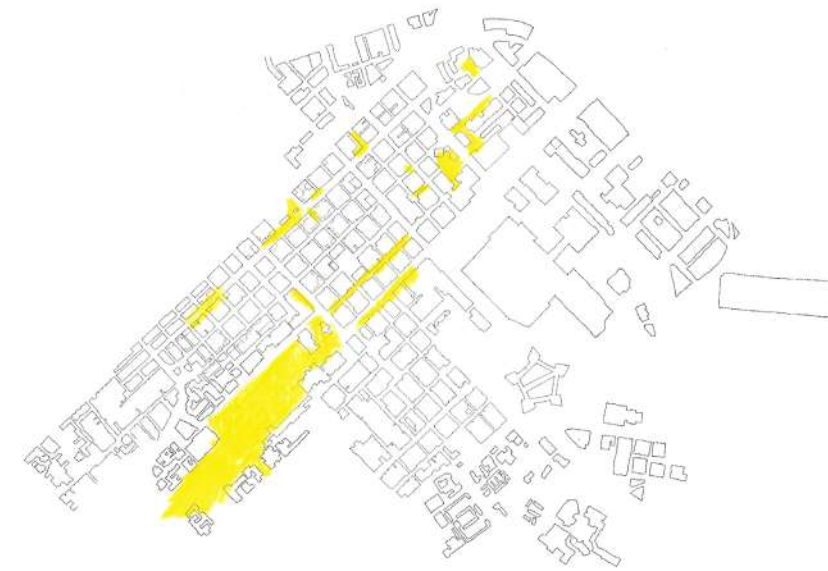
Cultural Events

Because of its close proximity to popular amenities, cultural landmarks and public transport infrastructure, the inner city is the ideal location to host public events. Events encourage engagement in order to strengthen connections between the city and its citizens.

Recreational events (ABSA Fun Run and Slave Route Run) along with cultural occasions (Open Streets, First Thursday) bring large crowds and high levels of engagement to the city center.

Popular streets include Wale, Adderley, Long and Riebeek Street, used for their views and ease of access in and out of the city center. The Parade, Greenmarket Square and Company Gardens are popular for their rich cultural history.

Despite moments of activation, these spaces remain underutilized and disconnected from the day-to-day activities. This is partly down to the challenge in accessing these spaces as well as the lack of a destination feel, with little to entice people to linger.



Everyday activities

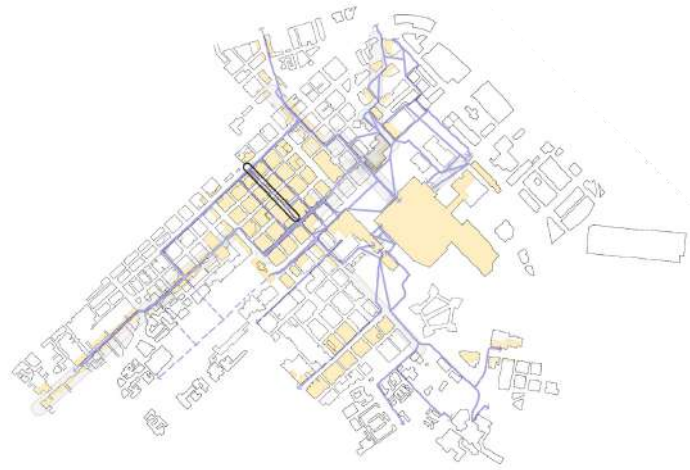
Despite its ability to host formal activities, the inner city is lacking the ability to cater towards spontaneous events on the ground.

The inner city being a popular lunch hub, with an abundance of eateries found within the historic core. However, public seating generally lacking. The city's green lung, the Company Gardens, is a popular destination for mid-day activities. However, its placement on the edges of the city center, means for some it remains inaccessible.

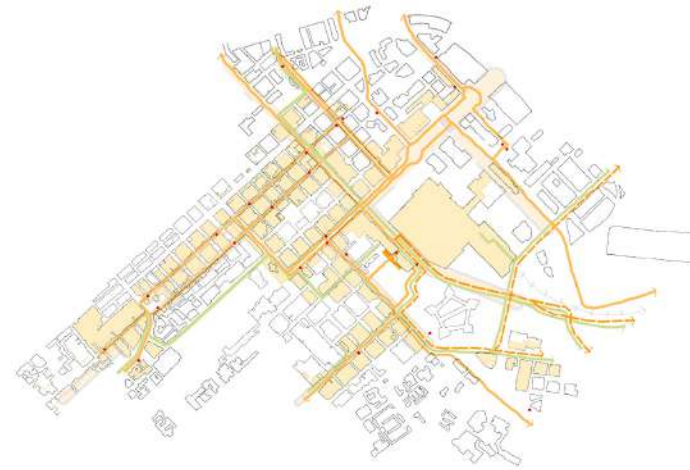
Pavement edges, instead play host to where these activities take place. Public performances along with small trade stalls are a common sight at these intersections, yet lacking in space, are limits.

Increasingly, the lack of provision of and difficulty accessing amenities, result in many remaining indoors during the day perpetuating the disconnect between the city and its citizen.

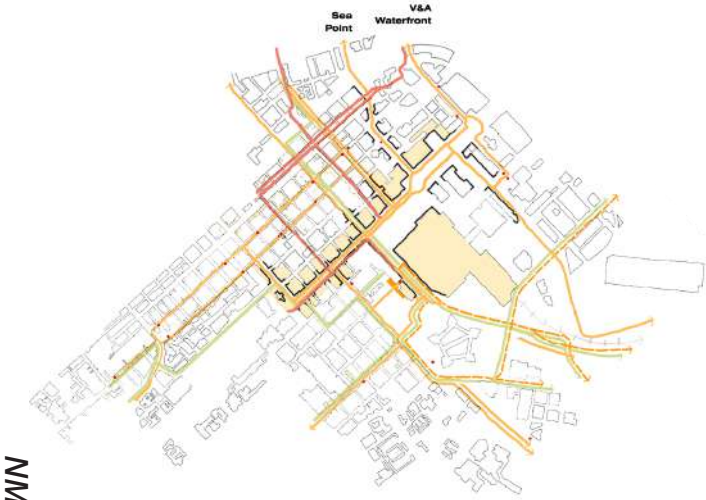
Pedestrian



Vehicular



NMT



Systems

Spaces surrounding public transport hubs see the highest levels of pedestrian activity. St George's Mall, Adderley, Shortmarket, Waterkant street and the Roggebaai precinct all form important pedestrian corridors. However, the size and condition of pedestrian realm along these streets varies.

Vehicular transport dominates all aspects of life within the city center with the majority owing to the private car. The main arteries within this are along Buitengracht, Strand, Wale, Riebeek and Adderley Streets, allowing two way traffic and multiple lanes. The constestation for space within the inner city means these corridors share limited space with key pedestrian and NMT corridors creating high congested traffic conditions.

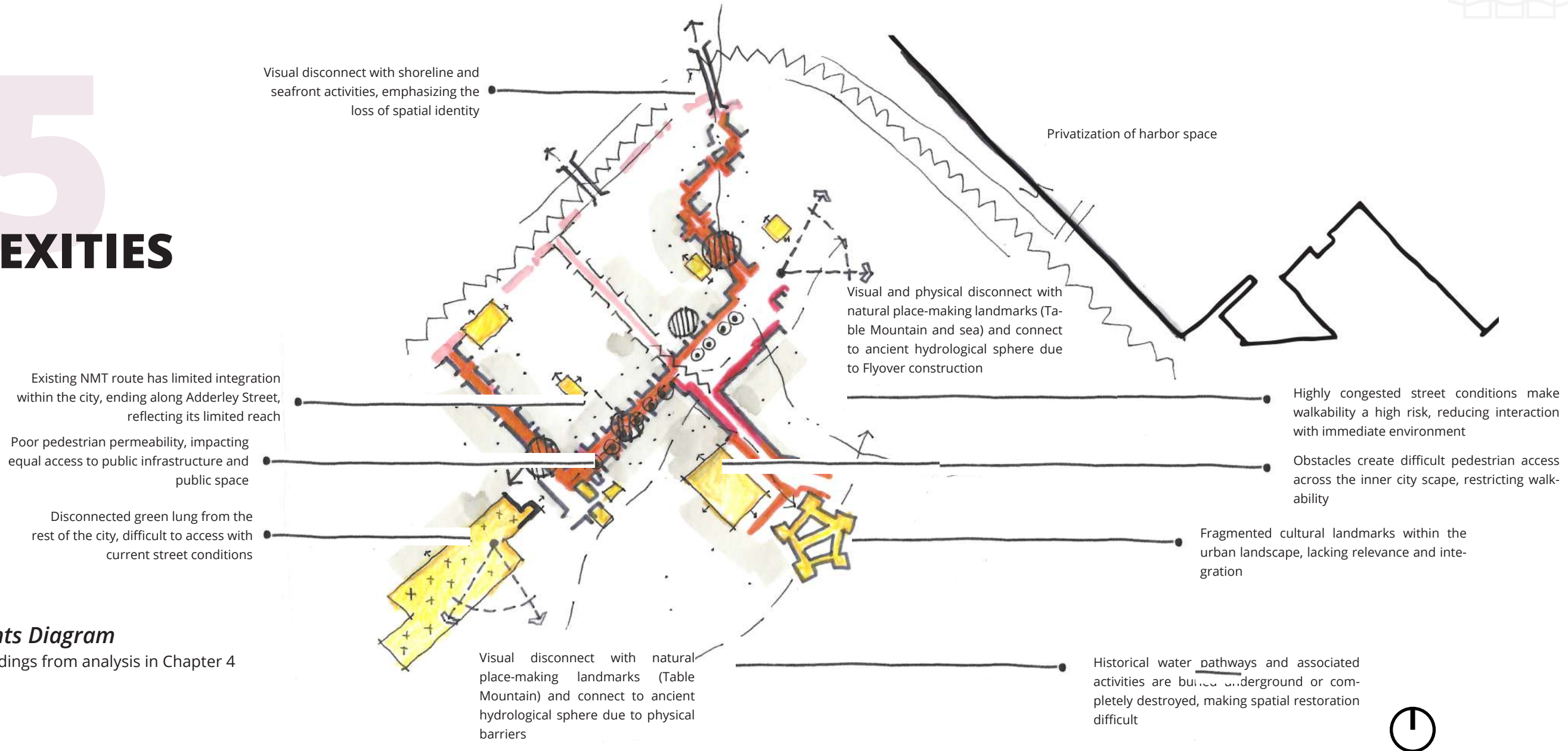
Public transport has seen great improvements within the last 15 years, notably with the introduction of the MyCiti Bus system, and NMT routes. The system has led to greater access and opportunities within the city center. Yet, infrastructure remains limited and has reduced space along the pedestrian realm, creating a tense standoff between vehicles and pedestrians.

Despite its prime location by important public and pedestrian port commuting corridors, the route lacks consistency with signage lacking, the route suddenly terminating at the end of Adderley and bicycles and skateboards banned along Shortmarket.





05 COMPLEXITIES



Constraints Diagram

Based on findings from analysis in Chapter 4



Re-introducing forgotten cultural heritage of water activities to give sense of place to the car dominant Foreshore space and upgrade space surrounding its pedestrian corridor, increasing connections to the area and encouraging understanding as to the identity of the city as a whole

Adderley's new role as central spine providing needed urban space for nearby residential and hospitality industries

Public realm reinvigorated to better accommodate its role as a key pedestrian corridor

Company Gardens to play central role again in the everyday activities of the city as the start of the central avenue, reconnecting this historic landmark with the city integrating green public space in more meaningful ways

Urban greenery contributes essential ecological values for the city as well as social and cultural values relating to well-being and health, beauty, culture and possibilities for social relations, turning the intersection with Wale and Gardens as a public square

Increased walkability to reinvigorate and reconnect the historic core to the city center and create a pedestrian friendly environment in foresight of future development activities within the city center

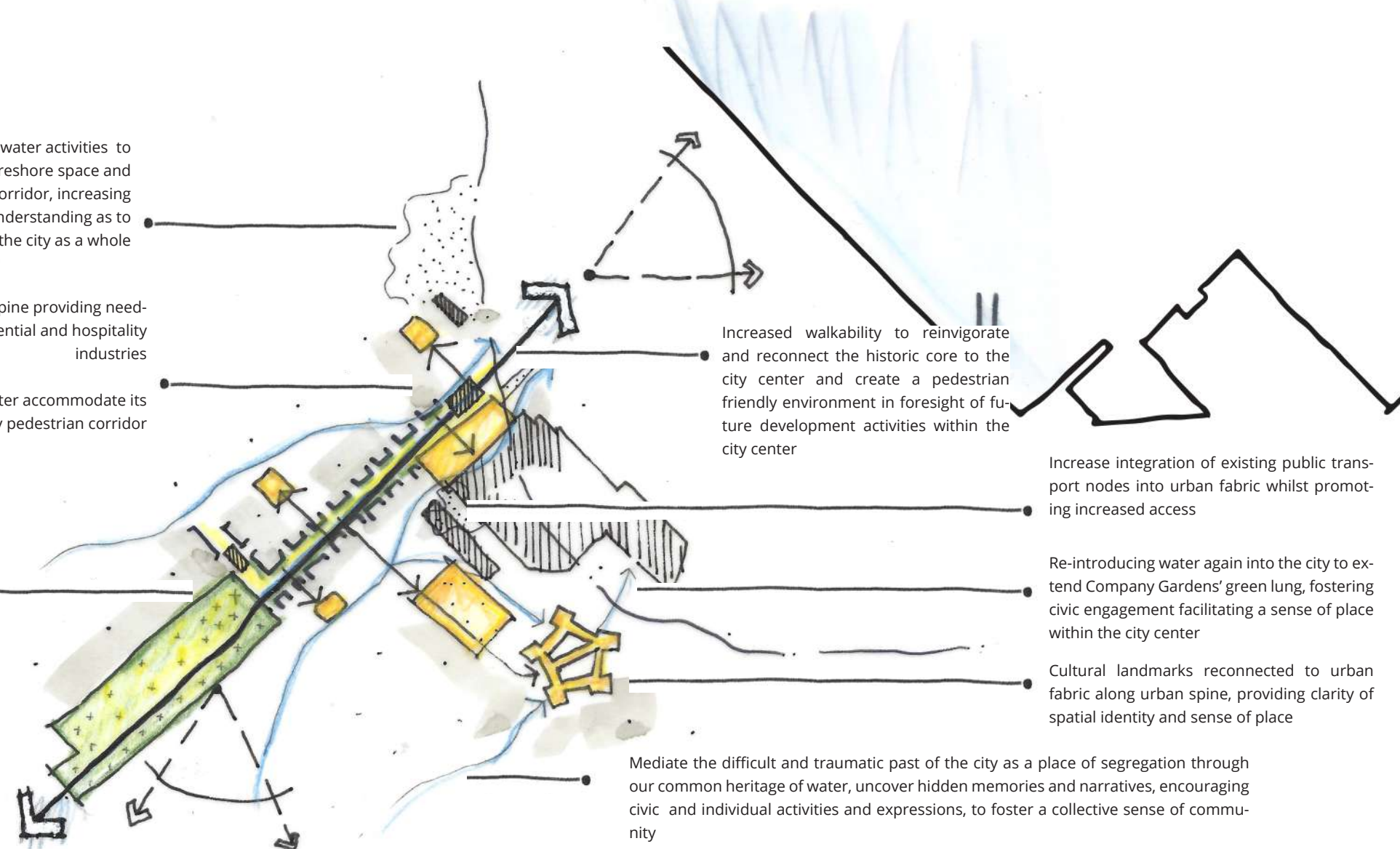
Increase integration of existing public transport nodes into urban fabric whilst promoting increased access

Re-introducing water again into the city to extend Company Gardens' green lung, fostering civic engagement facilitating a sense of place within the city center

Cultural landmarks reconnected to urban fabric along urban spine, providing clarity of spatial identity and sense of place

Mediate the difficult and traumatic past of the city as a place of segregation through our common heritage of water, uncover hidden memories and narratives, encouraging civic and individual activities and expressions, to foster a collective sense of community

To reconstitute intangible cultural memories of place (genus loci) in meaningful ways by relinking natural water system to the contemporary landscape



Opportunities Diagram

Based on findings from analysis in Chapter 4

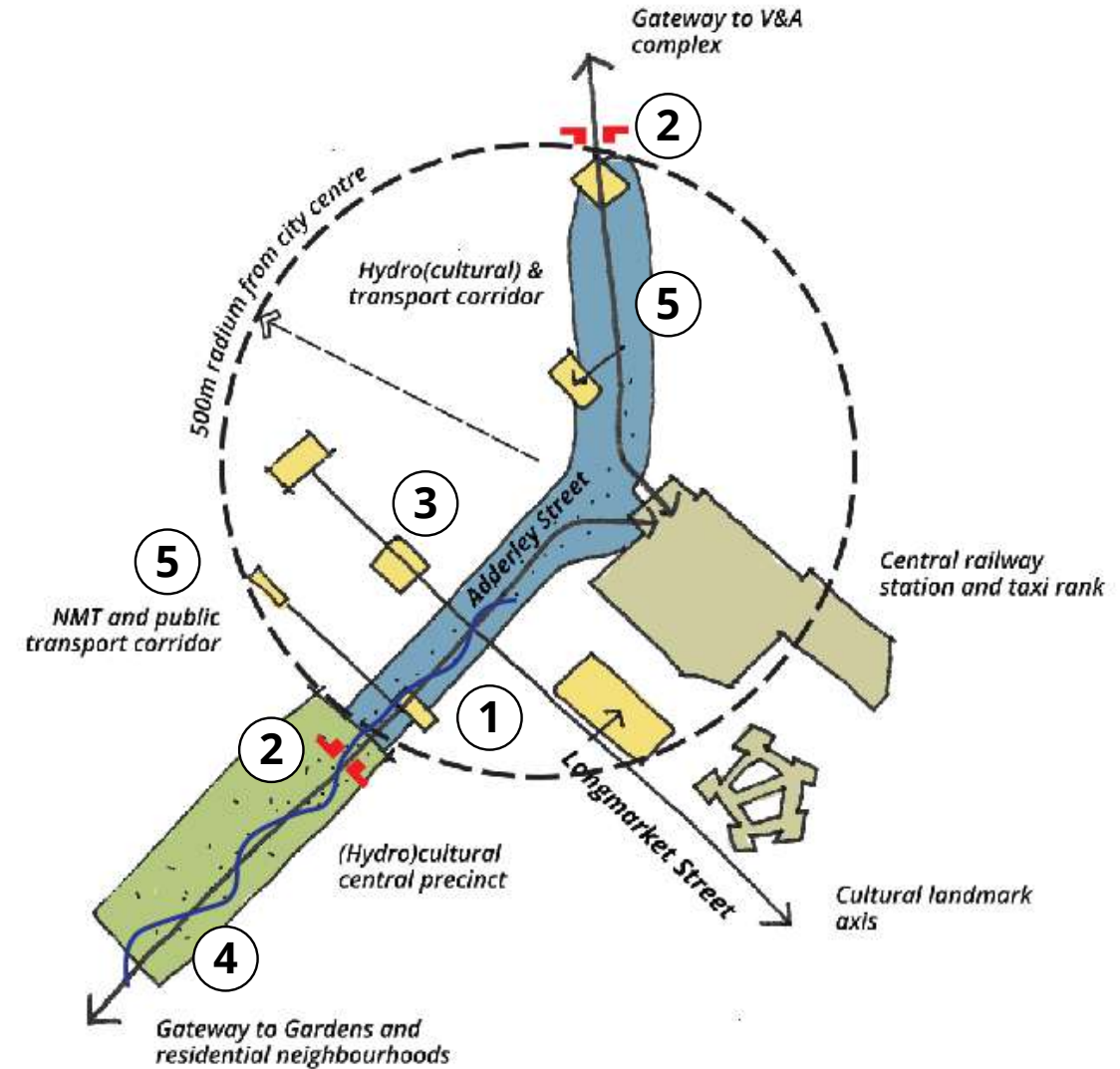


06 INTERVENTION

- 1** Reinforce the main axis of Adderley Street as the city's primary 'feeding artery' by celebrating moments of water along the spine, thus establishing a consolidated cultural destination precinct
- 2** Establish high quality walkable inner city precincts at key entrance pathways into the CBD core from the Company Gardens and V&A Waterfront
- 3** Establish parks and public space axis linking hydro cultural landmarks such as Thibault and Greenmarket Square, the old Roggebaai harbor and Parade
- 4** Re-establish the experience of the Varsche River, reintegrating it into the fabric of the town by establishing active public spaces and connection points along its banks
- 5** Create improved access routes and connections and reflective points optimizing the experience of the unique hydro cultural landscape and natural setting

Conceptual Framework

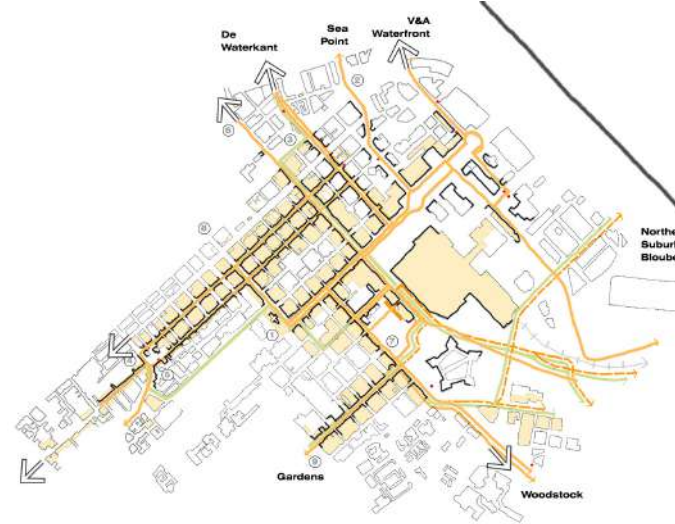
Establish an extended blue-green living room from the Company Gardens, connecting public transport hubs, such as the central train terminal and MiCity stops, and key pedestrian corridor of the Roggebaai district together in an integrated inner city heritage corridor.



Primary pedestrian pathways (a)



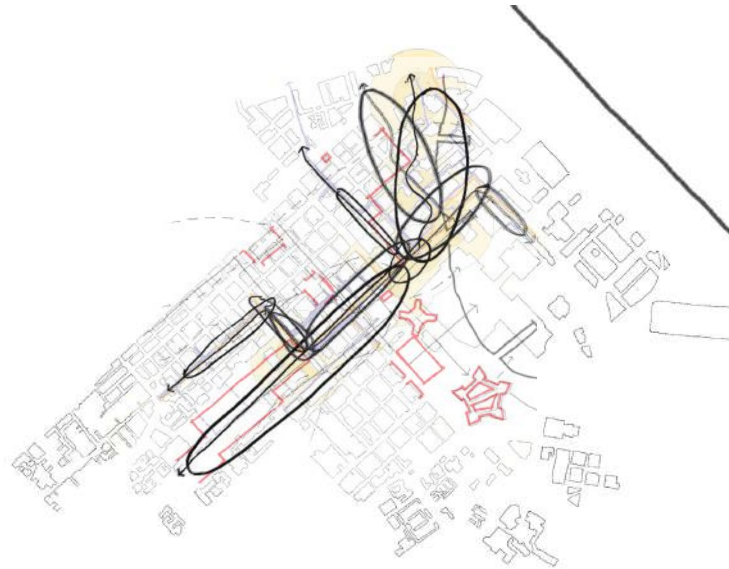
Primary vehicular pathways (b)



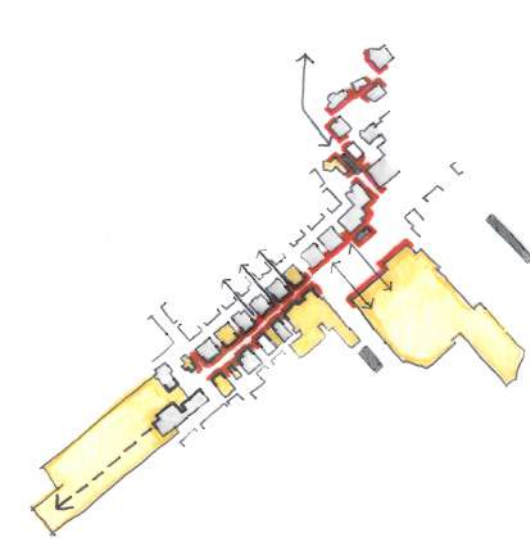
Overlaid historical & modern systems (c)



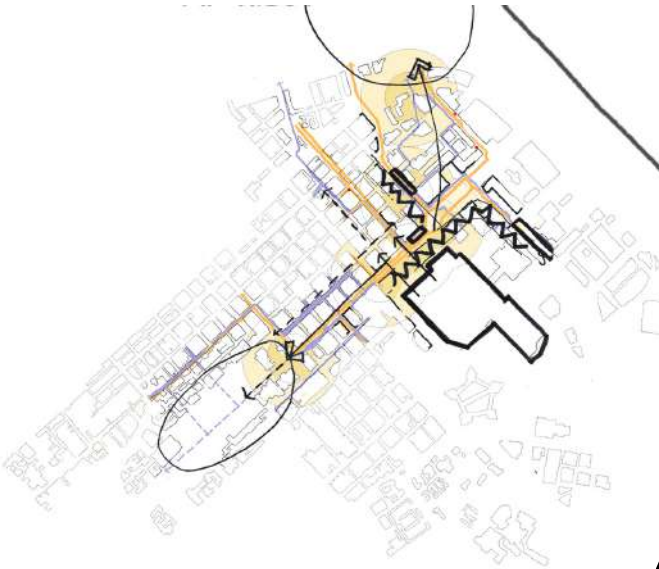
Consolidated pathways (d)



Conceptual framework beginnings (f)



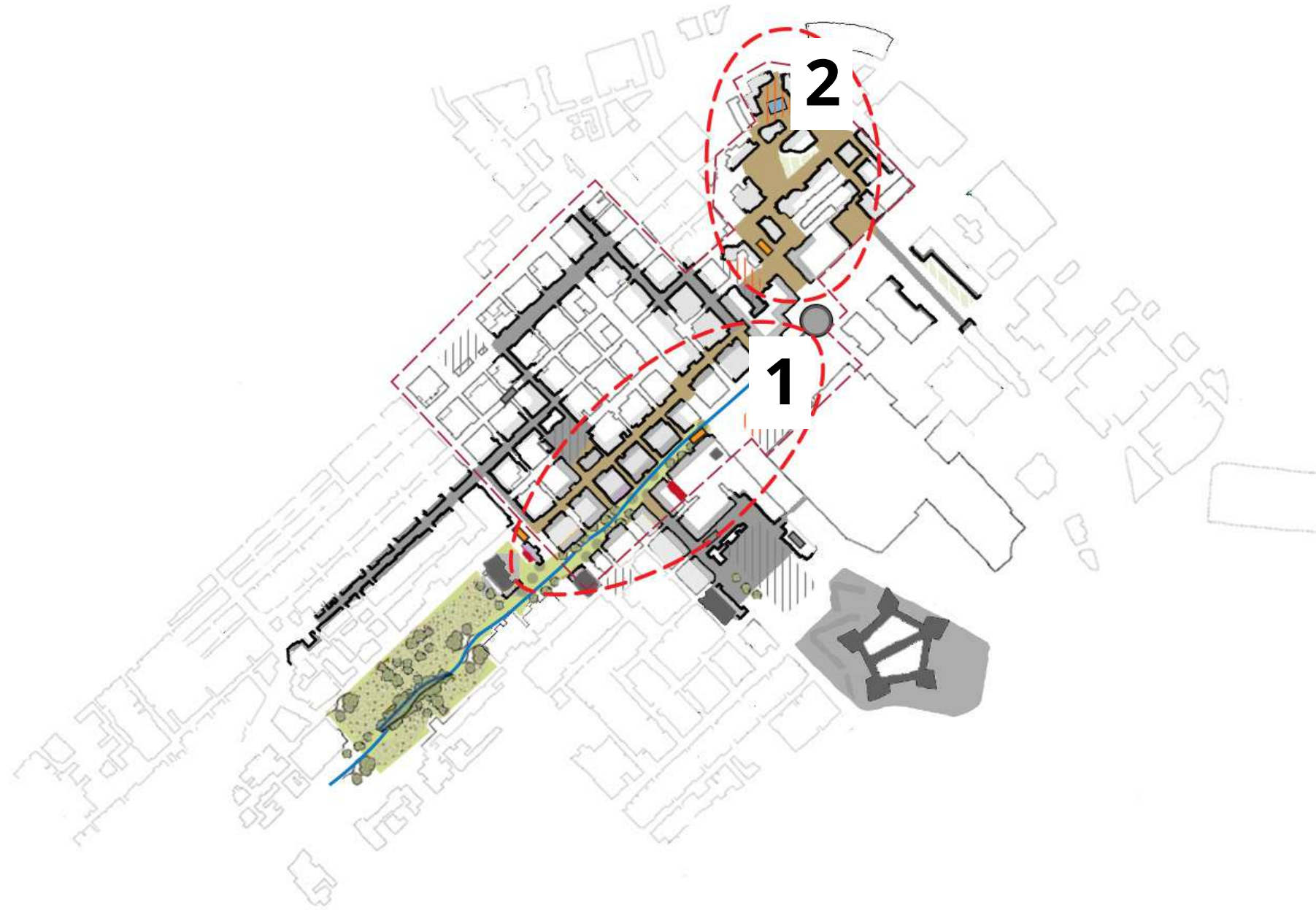
Conceptual precinct plan (e)



Precinct Plan

Determined by overlaying historical waterways with key transport and commuting corridors, Adderley Street runs as the central spine of the precinct plan connecting cultural landmarks along the way.

The three streets that form the precinct plan are
(1) Adderley street and
(2) Hans Strijdom avenue.

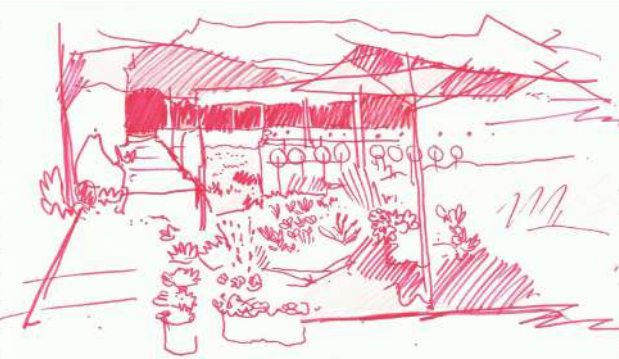


(1) Adderley Street

An important vehicular and pedestrian corridor, Adderley serves as the urban spine of the precinct plan, connecting urban amenities with key previously isolated cultural landmarks.

Built on top of the Varsche river, Adderley has strong cultural and historical significance as the oldest street in Cape Town and views up to Table Mountain, connecting the city with its environment. However, Adderley is now a very congested space with cars dominating all aspects of its sense of place.

The aim is to promote the extension of a green urban corridor starting from Company Gardens at the top by reintroducing the river through the street (*orientate*). More space was given to the pedestrian realm with cars being replaced with public transport and NMT systems given the close proximity to key infrastructure. In addition, this will benefit the residential and hospitality functions along this street and encourage engagement within the space (*occupy*) and connections to the city and one another (*ownership*).



Landmarks: Company Gardens – Golden Acre – grachte – Varsche River – Trafalgar Park – slave routes

Oriente



Water promenade as visual landmark

Occupy

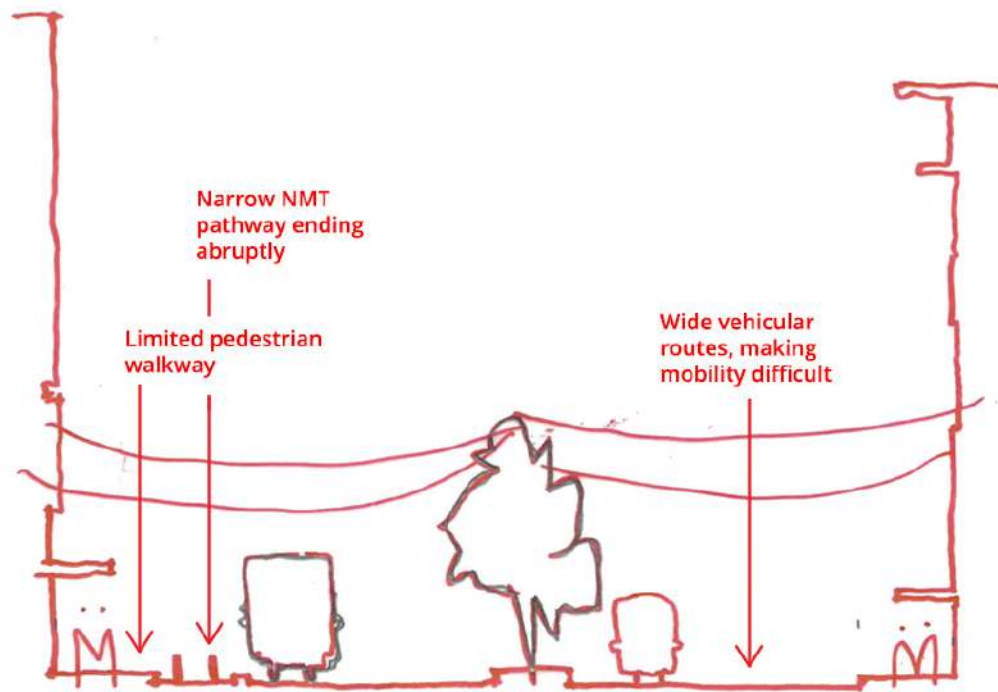


Improved mobility along Adderley, creating mixed-use active edges

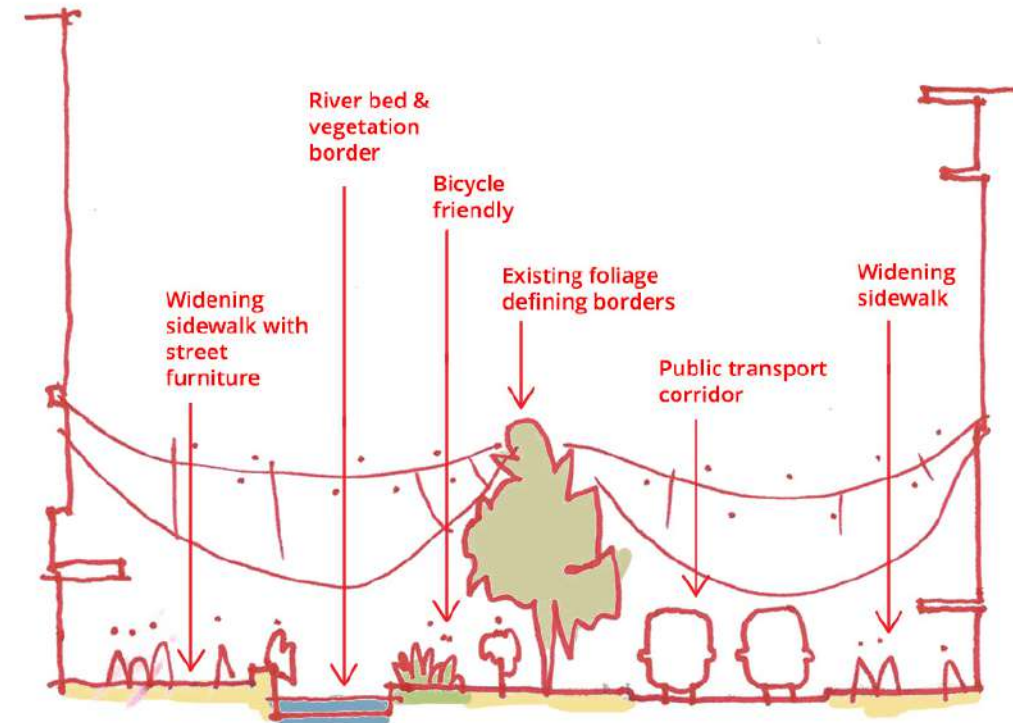
Ownership



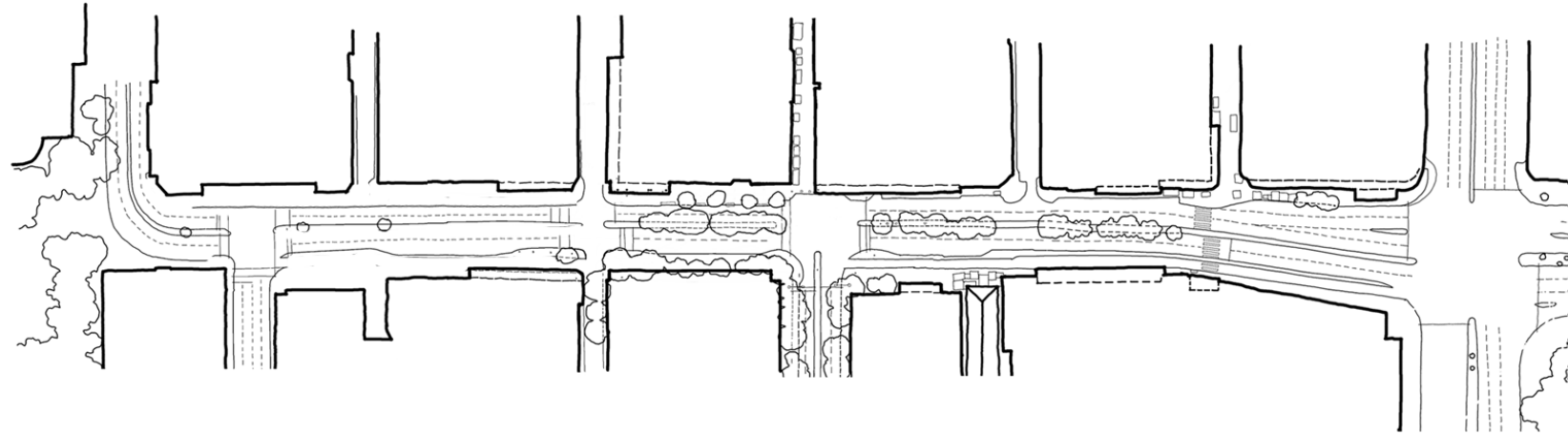
Connective public space integrating historic hydrosphere with cultural landmarks



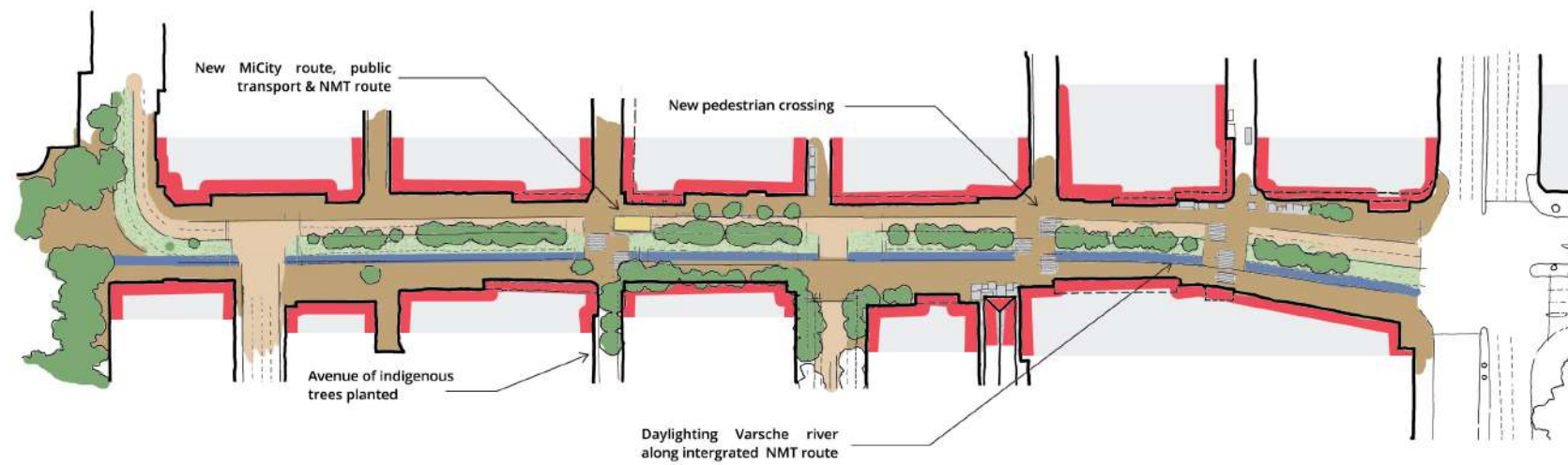
Existing



Proposed



Existing



Proposed

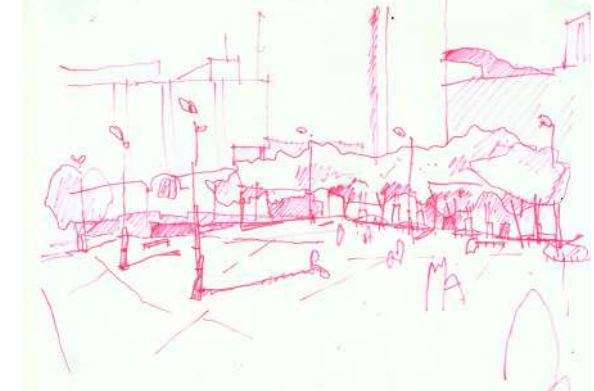
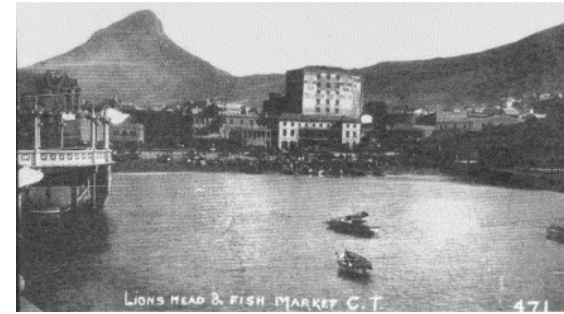
- Active edges
- Public transport node
- Public realm
- Street
- Varsche river
- Tree foliage

(2) Roggebaai Precinct - Hans Strijdom Avenue

Part of an area with rich historical and cultural heritage, the Roggebaai precinct contains a portion of the old harbor, the shoreline and fishing and sea-trade related artifacts.

This is an important vehicular and pedestrian commuting corridor, linking to city center with the recreational and financial hub of the V&A and local businesses along Sea Point. Whilst the tangible aspects of its history no longer remain, the memory of the sea is still present with one being able to hear and smell the sea within this area. Where Adderley is closely connected to water from the mountain, this area has strong sea connections

Roggebaai is a very cold and bland environment, lacking any connect to place. Connecting into the existing public infrastructure, this street will host pedestrian and public transport activity with pedestrians given better access to infrastructure. The shoreline will be felt in the ground paving following its original line.



Landmarks: Shipwrecks – shoreline – Roggebaai fishing harbour – Thibault Square

Oriente



Paving responding to memory of shoreline edge whilst reflecting its cultural heritage of sea born activities

Occupy

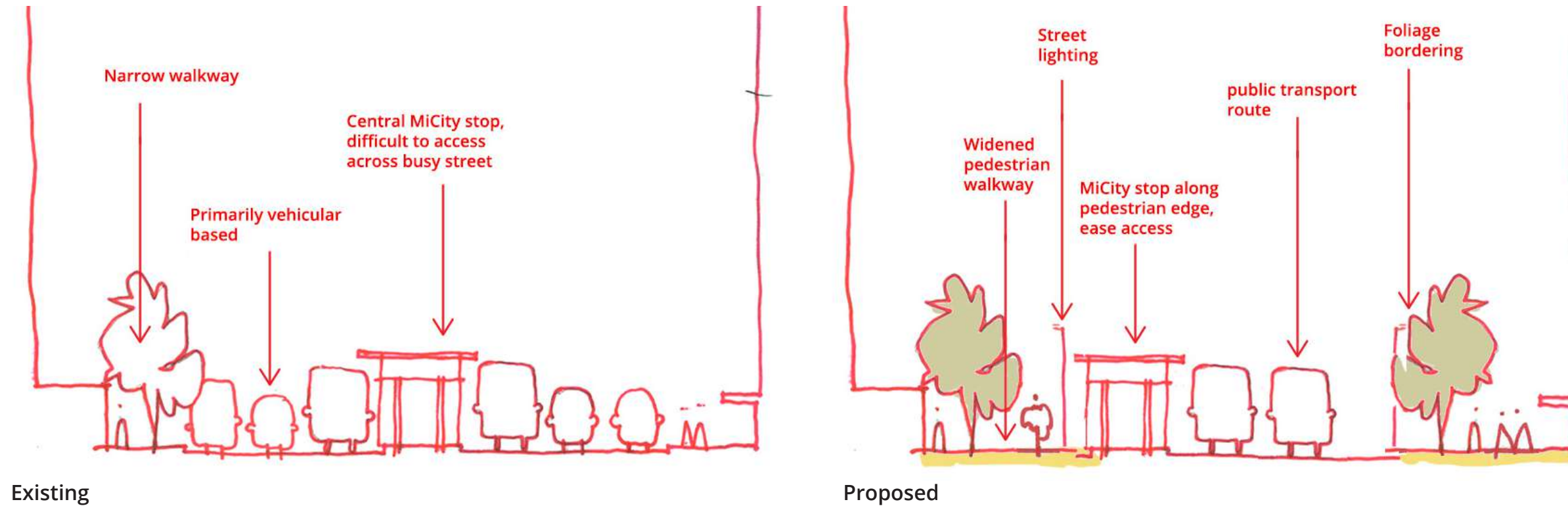


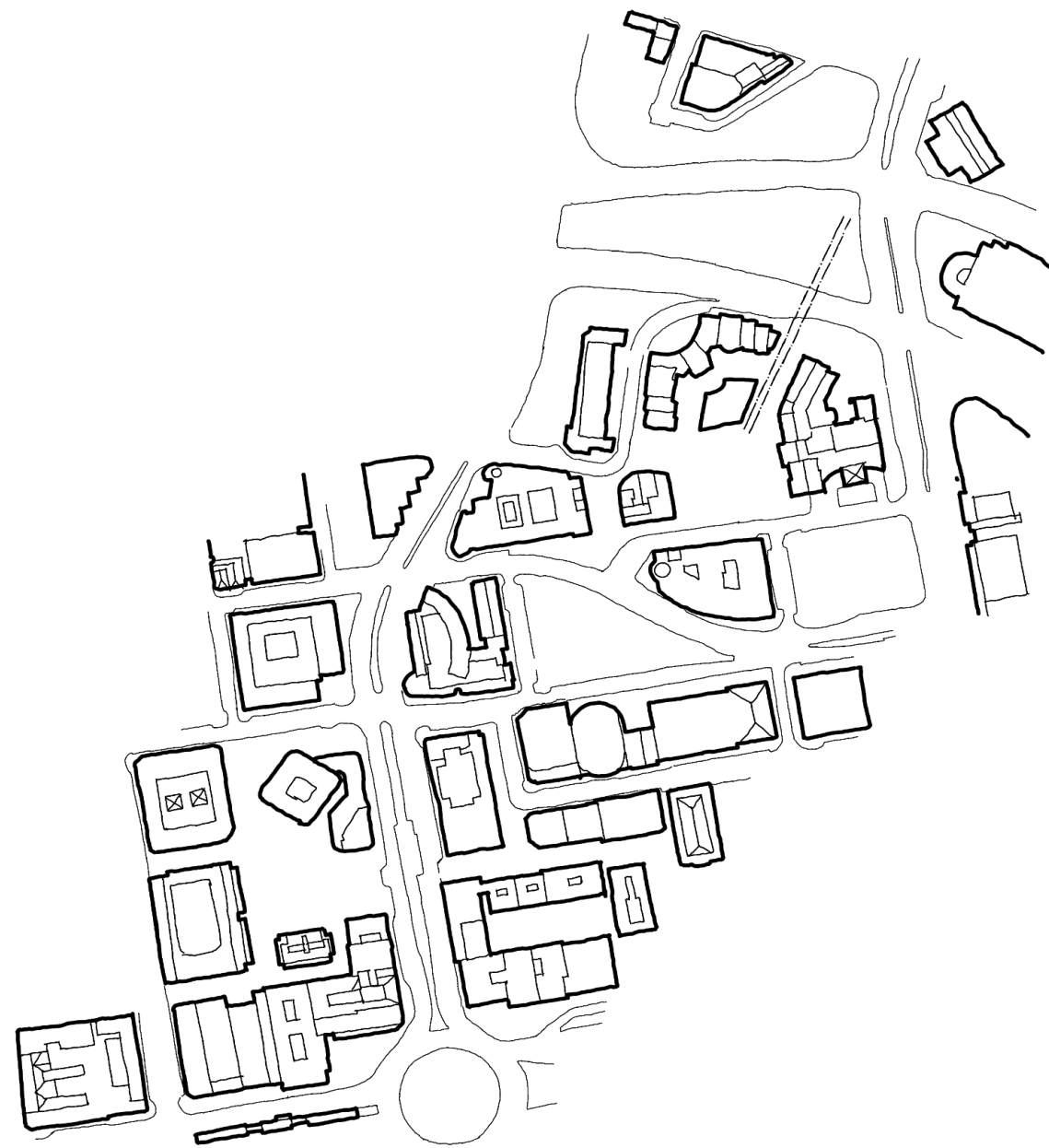
Integrated public transport, NMT & pedestrian corridor

Ownership

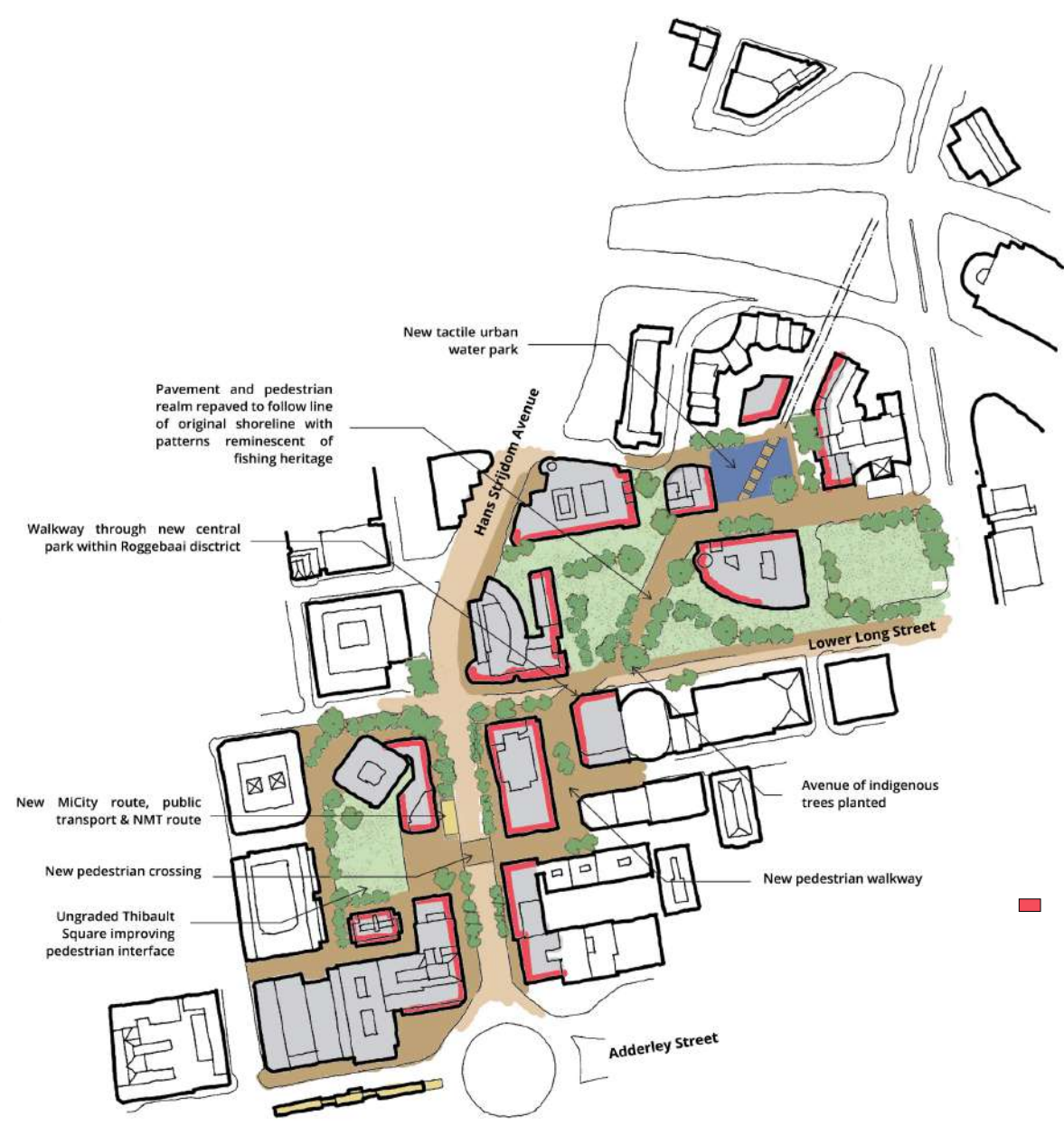


Landscaped corners doubling up as micro urban parks





Existing



Proposed

07

EPILOGUE

Conclusion

Water has many meanings and interpretations, which as a spatial tool is beneficial in catering to diverse social needs. It is generally acknowledged that humans are drawn to water, and thus has the power to foster relationships as well as connect people with their urban environments.

The abstract, visual and sensory (intangible) aspects of water were explored through a spatial lens in order to encourage social connections, bringing people from diverse backgrounds to-

gether over the common heritage that water provides.

Water is an under appreciated resource within Cape Town's city center, despite its rich historical and cultural history. Yet despite this, it remains, though invisible, an important factor in its day to day functioning having informed the city's spatial layout along with the location of some of its most significant landmarks which exist even today.

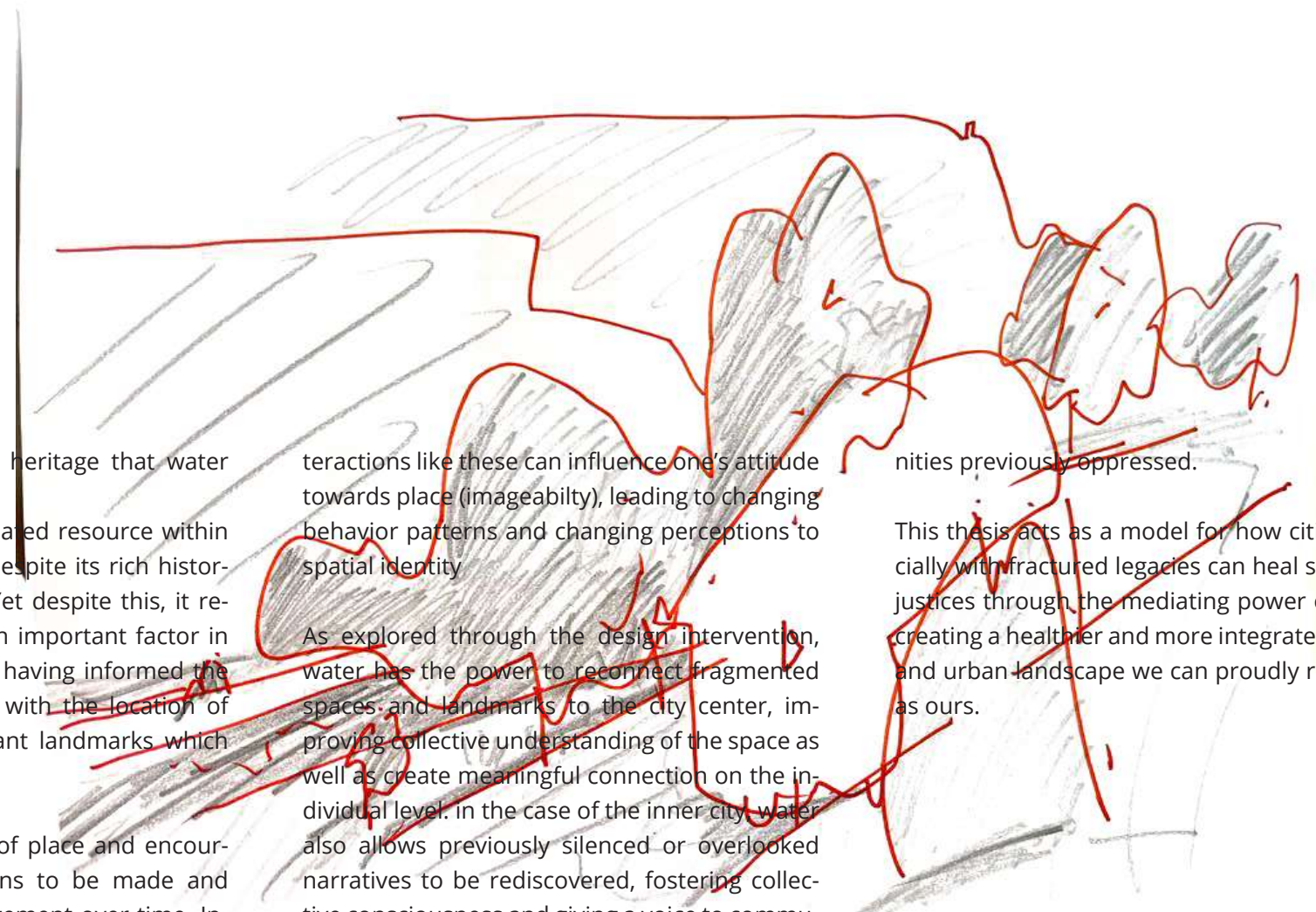
Water adds to the sense of place and encourages individual connections to be made and contributing to civic engagement over time. In-

teractions like these can influence one's attitude towards place (imageability), leading to changing behavior patterns and changing perceptions to spatial identity

As explored through the design intervention, water has the power to reconnect fragmented spaces and landmarks to the city center, improving collective understanding of the space as well as create meaningful connection on the individual level. In the case of the inner city, water also allows previously silenced or overlooked narratives to be rediscovered, fostering collective consciousness and giving a voice to commu-

nities previously oppressed.

This thesis acts as a model for how cities especially with fractured legacies can heal spatial injustices through the mediating power of water, creating a healthier and more integrated society and urban landscape we can proudly recognize as ours.



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