The *InforMALL*

Shopping malls as infrastructures to support small-scale informal businesses

UCT Postgraduate Programme in Professional Studies of Architecture
March(Prof)

November 2017

DISSERTATION DOCUMENT: APG5079W

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CONTENTS

Preface		4
Introduction	Presentation of Issue	7
	Intention of Research Inquiry	9
	Design Response to Research Inquiry	9
Site	Macro-Site	13
	Micro-Site	23
	Forthcoming - Critique of final phase of development	29
Design Response	Urban	37
	Site	43
	Tenancy	57
	Architectural/Tectonic	59
Conclusion		65
References	Text	69
	Image	70
Appendices	A - Retail Principles	74
	B - Plagiarism Declaration	76
	C - Ethics Clearance	77
Acknowledgements		78

PREFACE

My dissertation inquiry focuses on the informal economic sector within the emerging economic area of Delft. This was born out of a personal fascination with the concept of informal or 'alternative-formal' economics. The existence of this concept was first brought to my attention through the Spaces of Good Hope Design + Research Studio (SoGH) in my BAS (Hons) year of 2016. Through site visits to the Delft, I became increasingly aware of an economic environment characterized by complex socio-spatial relationships. These differ from multi-layered, highly-mechanized business operations associated with more formal enterprises. The more time I spent observing business practices within Delft, the more I became aware of the sophistication of the sheer magnitude of the social networks which were the lifeblood of the embedded informal economy there. Admittedly, I found the whole system slightly overwhelming, struggling to understand how such apparent chaos could hide such a sophisticated economy, so different in shape and practices from the formal economy.

It was during a SoGH plenary given by property economist, Francois Viruly, on the topic of the informal housing sector within South Africa, that I discovered how significant the informal economy is in sustaining livelihoods for a substantial portion of the country's population who cannot find jobs within the formal sector.[1] Speaking frankly, Viruly, a highly regarded expert within the field of property economics, stressed that in-spite of the prevalence of the informal economy within the South African context, both as a viable source of employment and a significant contributor to our formal economy, there is a distinct lack of understanding of the nature of the interface between formal and informal. The reality is that the existence of either formal or informal is dependent on the presence of the other, and sometimes, as is exemplified in the relationships between *spazas*, *shebeens*, and the corporate giants Coca-Cola and SAB-Miller within emerging economic areas, the links between survivalist enterprises and big corporates are critical.[2]

1. According to Stats South Africa, around 17% of the potential workforce in South Africa is currently employed within the informal economic sector and as much as 34% rely on the informal economy for survival
Viruly, F. "Informality and the Property Market." Lecture, Spaces of Good Hope Plenary Series from University of Cape Town, March 2016

2. Viruly, F. "Informality and the Property Market." Lecture, Spaces of Good Hope Plenary Series from University of Cape Town, March 2016

Clearly, economics, urban design and architecture need to come closer together – they need to inform each other. The spatial aspects of the economy require much more attention. Viruly posed an important question: "Can we create a built environment that starts at survivalist level and is sufficiently flexible to accommodate a fast-moving economy?"[3]

Fig 01 - *The presence of corporate giants such as SAB-Miller and Coca-Cola is clearly evident in emerging economic areas such as Delft*

3. Ibid

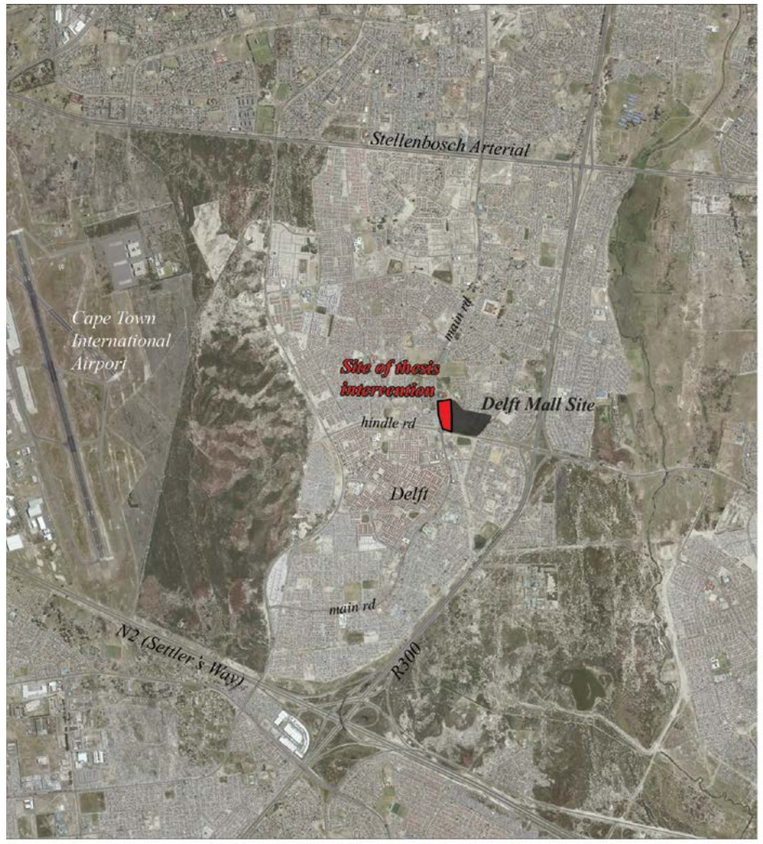


Fig 02 - *Site of the new Delft Mall within the greater Delft context*

Fig 03 - *3D rendered impression of the new Delft Mall within the surrounding context*

INTRODUCTION

*The **Issue***

In spite of the social, political and economic changes across South Africa with the fall of the apartheid government in 1994 the vast majority of the urban-dwelling poor have been slow to experience the positive effects of the, all-inclusive economic policies of the new government. Like many emerging economic areas located on the urban peripheries, Delft has not experienced significant catalytic investment from either the government or the private sector in the wake of the 1994 elections. As a result, the local economy is largely driven by small-scale informal enterprises and bolstered with formal SMME's. As a result of a dearth of infrastructure investments to catalyse economic growth, these businesses are largely limited to survivalist, day-to-day operations. They are thus susceptible to changes in demand driven by market forces such as population size, income levels and changing expenditure patterns.[1]

The economic conditions which support the existence of these small-scale enterprises are, however, changing as the result of increasing interest from a particular kind of private developer. Since the early 2000s, an increasing number of formal 'big-block'[2] shopping malls are being developed in emerging economic areas. This is in response to the favourable economic conditions of vast concentrations of potential shoppers, an increase in retail markets driven by a growing, grant-funded middle-class and the availability of large tracts of cheap, underdeveloped and strategically-located land parcels.[3] The example which I will be investigating is the new Delft Mall, a fairly substantial regional mall anchored by Shoprite (and subsidiaries) and a Cashbuild, which has just been completed in the heart of Delft.

Whilst the inevitable impact of such an investment on the fragile existing businesses operating in the surrounding context could be either positive or negative, evidence would suggest that the smaller enterprises would lose out.[4] In addition to this potential outcome, there is a possibility that the dominance of a Shoprite-anchored mall could remove capital currently circulating within the local economy from the context of Delft.[5]

It is this particular issue which I will explicitly challenge, demonstrating the value of the Delft Mall as a catalyst for economic development rather than a drain.

1. McGaffin, R,. Gavera, L. (2011) "The Development of Retail Centres in Emerging Economic Areas: impact on local consumers, local businesses and local economy". Urban Landmark. p5
2. Refers to the spatial arrangement of the typical shopping mall with a retail anchor and internal tenants. (McGaffin, Robert. "Taking Stock: Development of Retail Centres in Emerging Economic Areas", Lecture. Spaces of Good Hope Plenary Series from University of Cape Town, March 2016)
3. Ibid
4. McGaffin, et al, 2015, 28
5. McGaffin, *Lecture*, Spaces of Good Hope, 2016

Intention of Research Inquiry

The intention of this dissertation is to test the potential which retail centre developments in emerging economic areas hold as catalysts for economic development of their surrounding contexts, with particular emphasis on the development of small-scale formal or informal enterprises. Using the new Delft Mall as a test site, my aim is to explore how the spatial arrangement of the mall in relation to on-site pedestrian and vehicular flows, allows for a strategy of economic in-fill of different scales along these concentrated movement routes, thus expanding the typical shopping centre arrangement. Through the presentation of research findings manifest in a design intervention, I will demonstrate that the potential exists for both small-scale informal enterprises and formal shopping mall tenants to coexist on the same site, taking advantage of the mutually-beneficial economic conditions created by concentrated flows of vehicular and pedestrian traffic.

Design Response to Inquiry

The design intervention is a collection of mixed-use buildings, workshops, housing and covered event spaces organized around on-site pedestrian flows from the fringe of the Delft Mall site (edging Main Road to the West and Hindle Road to the South) to the Delft mall interior. The intention of the elemental arrangement of the design is to facilitate a range of spatial conditions by which small-scale traders can operate. The layout acknowledges existing pedestrian routes, public transport hubs and routes, and existing concentrations of economic activity around the site. Five ‘infrastructure points’ strategically placed at the important intersections of movement routes serve as organizing points from which informal trade operations can incrementally develop. In addition to the infrastructure points, organizing devices such as the ‘event space’ and the ‘flow space’ have been used to determine the pace and concentration of pedestrian movement, with the large multi-purpose event space serving as the collection point.

The intervention is not merely shopping mall, however. My intention was never to challenge the supremacy of the Delft Mall as an urban-scale anchor within Delft. On the contrary, the InforMALL concept relies on this crucial anchorage to draw the levels of pedestrian concentration required to sustain it. Whilst spatially, the layout of the

intervention, with its strategic arrangement of anchor points, vehicular transport gathering spaces, spaces to control (promote/stem) pedestrian flow and economic enterprise infill acknowledges the spatial arrangement of a typical shopping mall, it is the infill enterprises, rather than the anchors, which are allowed the most freedom in determining their position. By providing supportive infrastructure and inhabitable space on a site of immense economic potential, the intervention allows for the incremental development of small businesses in much the same manner as is evident within the context of Delft already. The main difference between the Delft Mall and the InforMALL is the programmatic intention of the InforMALL as a site of retail production as opposed to pure retail. This emphasis on a workshop-type productive environment allows tenants the opportunity to customize or ‘shop-front’ their business space, thus celebrating the simple but innovative building culture evident within the broader context of Delft.

Fig 04 - *MLH's 'activity spine' concept*

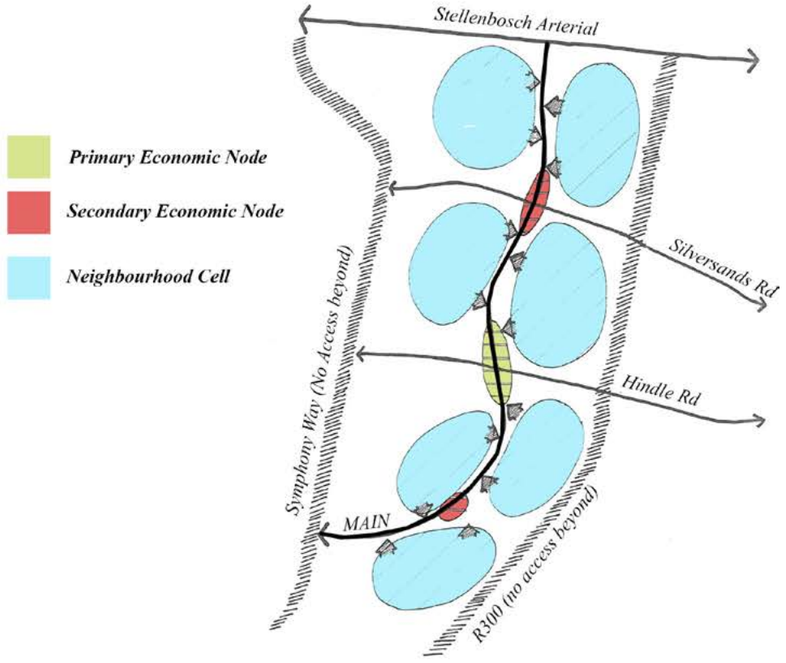
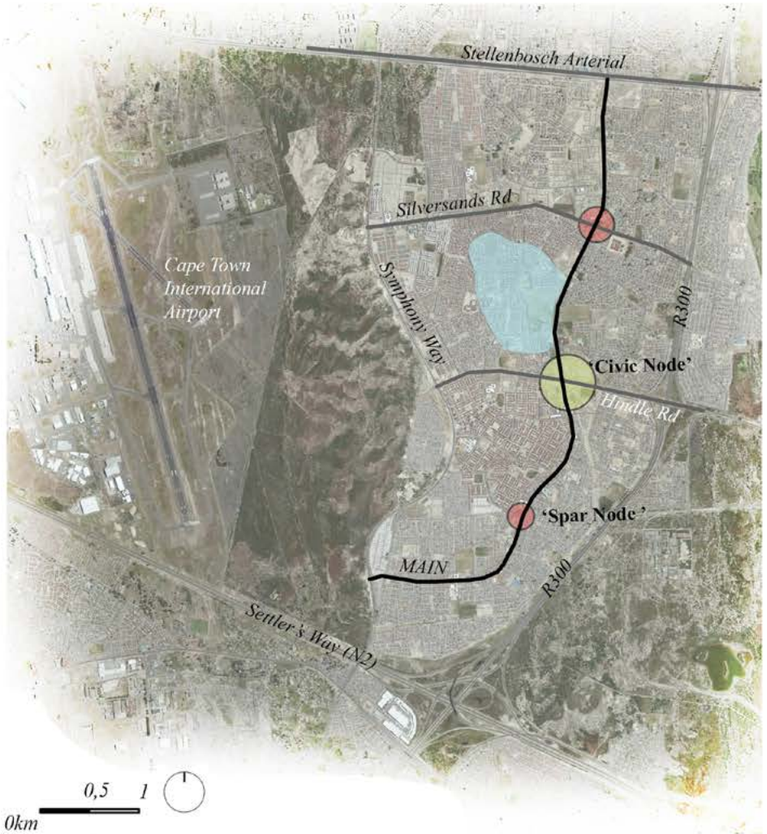


Fig 05 - *The activity spine concept demonstrated in reality*



SITE - Macro

Overview | *Economic Conditions of Delft as a Whole*

The particular conditions which brought about the development of the Delft Mall in 2017 came about as a result of a number of factors which are economic, social and spatial. One of the most significant factors lies in the particular way in which Delft was planned as a low-income residential area in the twilight of apartheid. The area itself was divided into neighbourhood cells linked by means of a Main Road 'activity spine', along which the social, economic and civic facilities of the area were organized. The North-South Main Road axis was bisected at certain points by East-West roads which connected the boundary freeways with the Main Road. 'Economic nodes' - strategically-located areas earmarked for the development of concentrated commercial activity - were located at the intersection of these East-West roads with the Main Road, the largest of which was located at the junction of Hindle Road and Main Road (See *Figs 04* and *05*). It is on the North-Eastern corner of this intersection that the new Delft Mall was created.[1] In addition to these substantial economic nodes, smaller nodes of decreasing size were planned at other points of high accessibility along the activity spine (of which the 'Spar-Sibanye-Sandelhout' intersection is such an example), and at bus stops and strategic corners and embedded within the neighbourhood cells themselves.[2]

In spite of such a promising developmental framework, the lack of catalytic government or privately-initiated investment ensured that their economic potential was never realized. Whilst edges of some of the sites have been sporadically occupied by local traders, the majority of the available land on these erven is vacant, the sites simply too large to develop through limited local capacity.

Home as economic generator[3]

Whilst the large, economically planned sites were never developed, the significant investment in low-density RDP housing in the area, particularly along the Main Road, served to facilitate the development of small-scale businesses along the street-facing edges of residential erven in response to passing vehicular and pedestrian flows. In addition to the typical retail and service enterprises such as *spazas*, hair salons, electronics, fresh produce sellers, take-aways and hardware and building supply stores, a

1. MLH, 1987, 47
2. MLH, 1987, 39
3. Spaces of Good Hope Studio, 2016

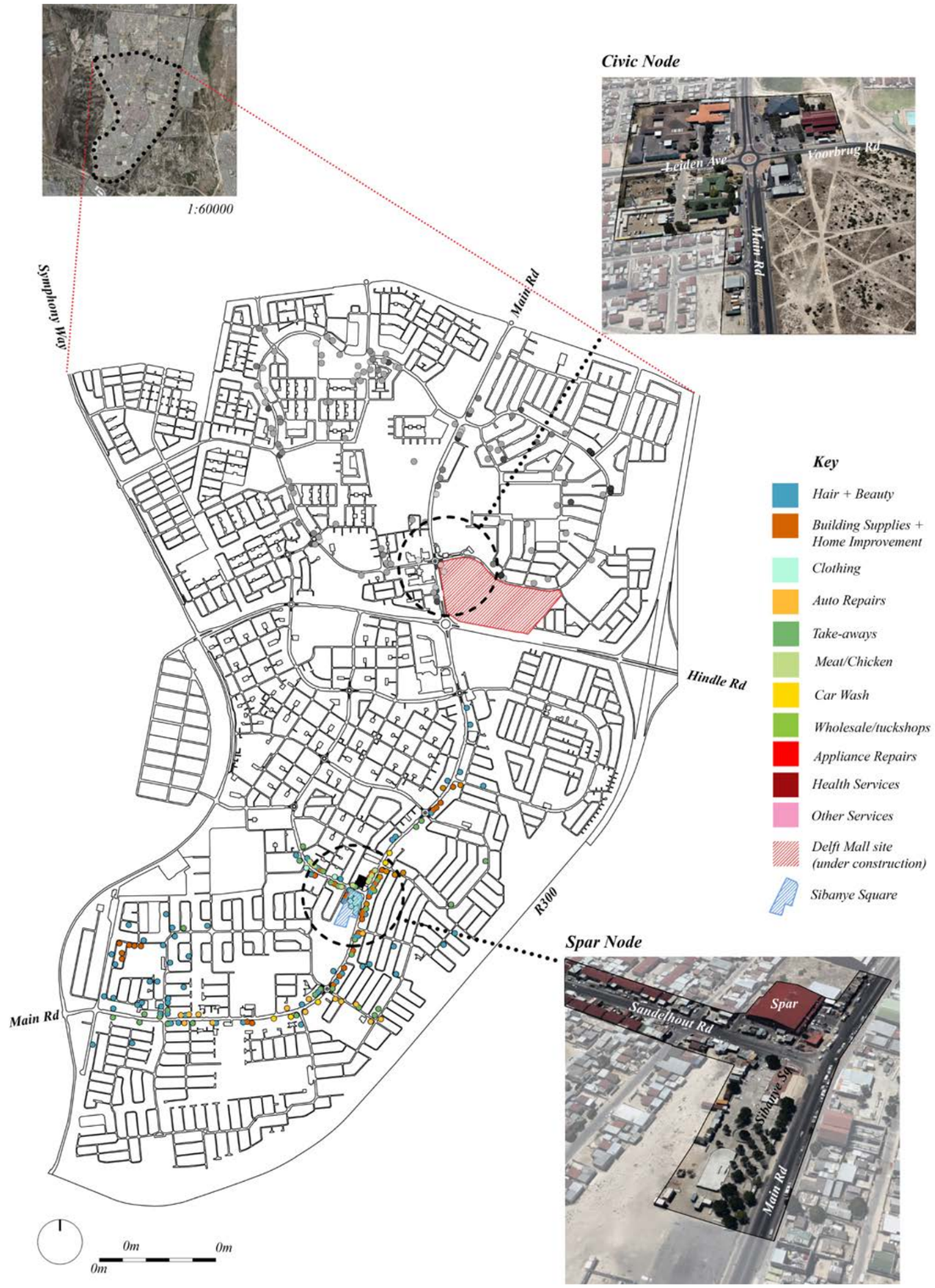


Fig 06 - *Spread of businesses operating on and around the Main Rd in 2016 and 2017 and location of Spar Node and Civic Node*

significant number of residential properties have undergone the construction of additional rooms in the back or front yards of RDP homes. These rooms are rented as a viable source of income, owing to the increasing demand for property in the area. Housing is one of the strongest examples of the interface between formal and informal within the context of emerging economic areas. In a context which often offers little in terms of financial security, house ownership is critical asset, a source of both physical and economic shelter.[4]

Spread of Businesses | 2016 - 2017

As a studio built around research-based design, a significant portion of the first semesters of both 2016 and 2017 was devoted to developing an ethnographically-sourced research base, pertaining to social, educational, residential and economic conditions evident in the area. The dataset most relevant to my dissertation inquiry is that of economic information relating to the spread, size and number and sophistication of businesses operating within the context of Delft. Whilst the findings of the SoGH over 2016 and 2017 revealed a fairly consistent spread of small-scale enterprises operating in close proximity to the concentrated vehicular and pedestrian flows of Main road and the loop roads, it is the sites of concentrated economic activity which were the most significant to the dissertation. Currently, there are only two sites of such significant concentration: 'Spar Node' which is located at the intersection of Sandelhout Road and the Main Road in Delft-South and 'Civic Node', the site of the new Delft Mall (see *Fig 06*).

Lessons from Spar Node

In wanting to understand the potential of informal agglomeration, it was critical to understand the daily life of Spar Node and the conditions which have brought about its existence. As a result of a number of favourable economic conditions, including the stemming of vehicular traffic as a result of the Sandelhout-Main T-junction, the position of a popular taxi rank and the existence of the Delft-South Spar - the only significant formal retail store operating within Delft - an informal trade market has opened up on a fairly substantial site (approximately 100m by 30m) referred to by local residents as *Sibanye Square*. The presence of this market which sits in the intervening space between the taxi rank and the Spar itself, has influenced the economic development of street facing residential frontage in the surrounding areas. The type and scale of trade varies from second-hand clothing vendors operating off tarpaulins spread on the ground, to hair and beauty specialists operating out of re-purposed shipping containers. Whilst the range of businesses in operation is incredibly varied, the majority are positioned to intercept the flow of potential customers moving between the Spar and the taxi rank or along Main Road itself as small-scale businesses rely primarily on visibility, proximity to busy streets and transport hubs and the security of agglomeration to exist.[5]

4. Viruly, F. "Informality and the Property Market", 2016

5. McGaffin, Robert. "Taking Stock: Development of Retail Centres in Emerging Economic Areas", Lecture. Spaces of Good Hope Plenary Series from University of Cape Town, March 2016

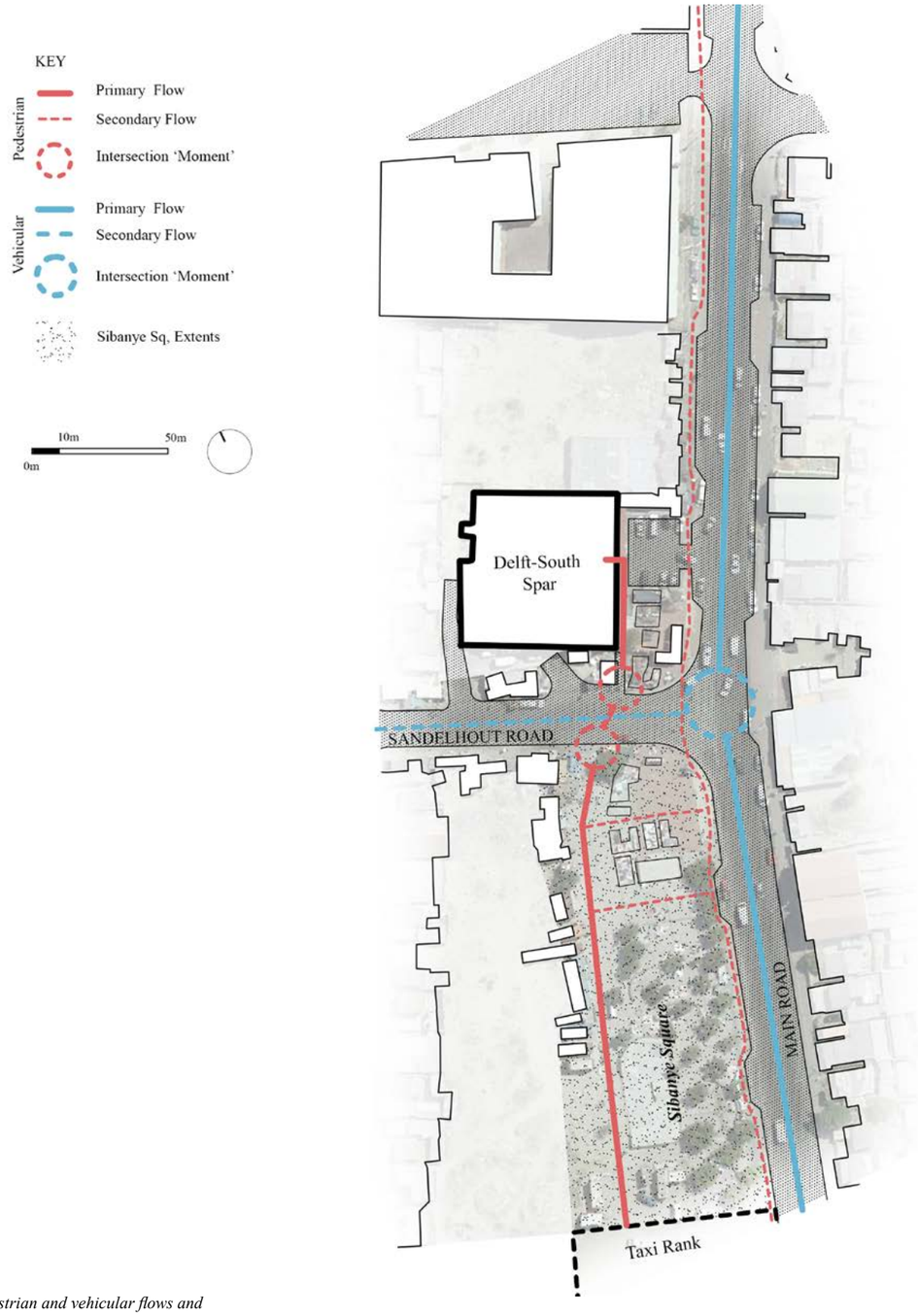


Fig 07 - *Pedestrian and vehicular flows and intersections evident on Sibanye Square*

One spatial characteristic of the Sibanye Square precinct significantly contributes to the business of the site: The physical constraints of the built fabric in conjunction with the natural stemming of vehicular flows at the intersection concentrate pedestrian traffic in a particular way (see *Fig 07*). As visibility is so important to sustaining these businesses, they are primarily located as close to the roads as possible. Indeed, the back edge of the market comprising adapted shipping containers is placed precisely between 35-40m away from the road - the maximum distance by which the passing vehicles can register the presence of these traders.

Another significant spatial characteristic contributing to the existence of the market and precinct is the physical position and architecture of the Spar building itself. The on-site setback of the building allows for the existence of informal traders on the fringes of the site. In addition the outer wall of the building is inhabitable, creating shelter and storage and security.

The study of the Spar Node precinct was critical in determining the shape of my architectural intervention on a number of scales. On an *urban* scale it demonstrated the economic significance of 'moments of pause' in natural pedestrian and vehicular flows. Secondly, on a *site* scale, the physical arrangement of the precinct perfectly reflects an informal realization of the typical 'big-box' mall layout, which strategically places anchor stores in relation to customer parking to facilitate the allowing for in-fill line shops in the intervening space. In this equation, Spar is the anchor, the taxi rank is the parking and Sibanye Square represents the in-fill line shops. On a *tenancy* scale it demonstrated the physical relationships which exist between different types of traders and operations. Finally, on an *architectural/tectonic* scale, it demonstrated the size, position in relation to movement routes, and physical structure of the different scales of enterprise which would make up my tenancy.

Clearly evident in the Sibanye Square precinct, is the role which a formal anchor, strategically placed in relation to significant vehicular transport networks, can create a level of concentrated pedestrian movement significant enough to facilitate the existence of informal traders.

Fig 08 - *2nd hand clothing vendor on Sibanye Square*

Fig 09 - *Traders outside Spar*

Fig 10- *Container boundary wall forming the Western edge of Sibanye Square*

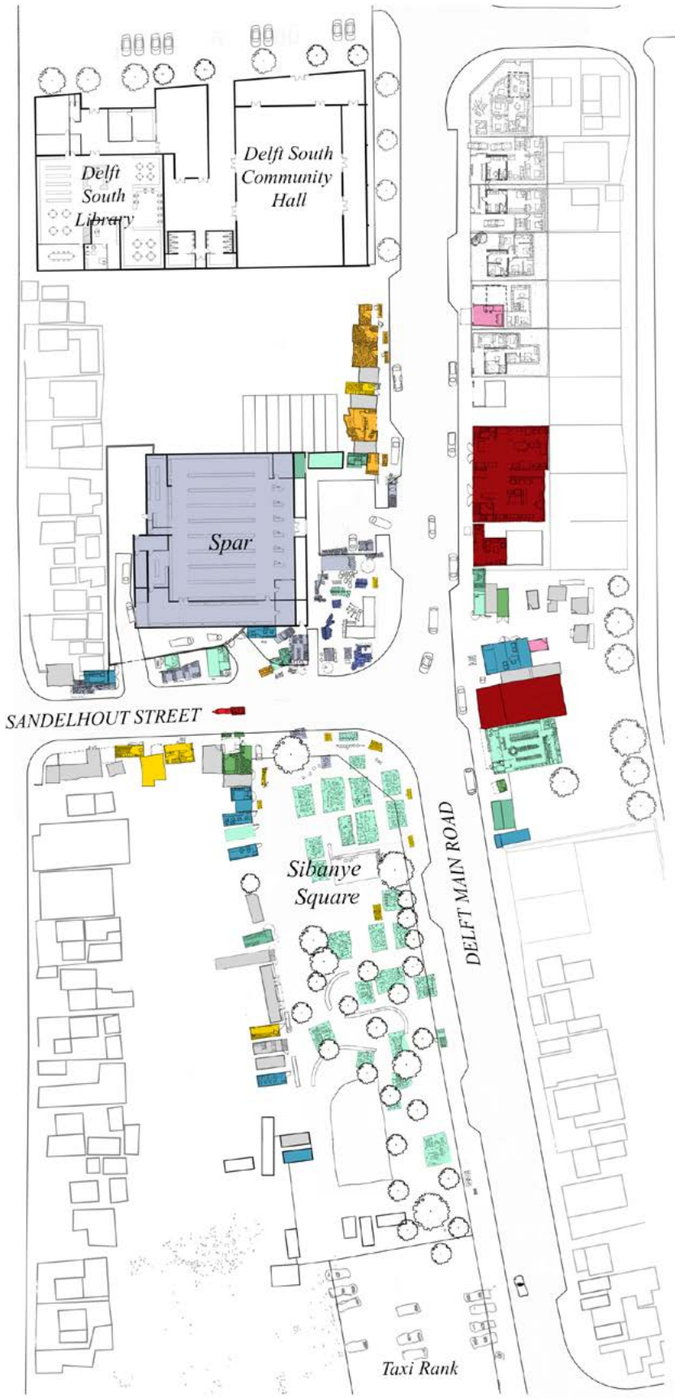
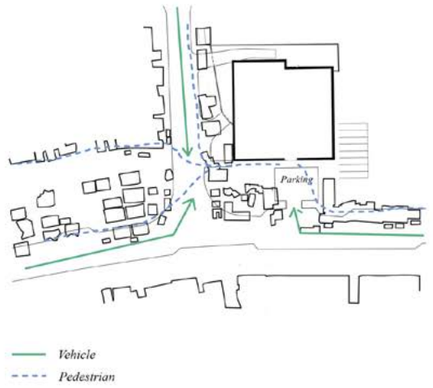
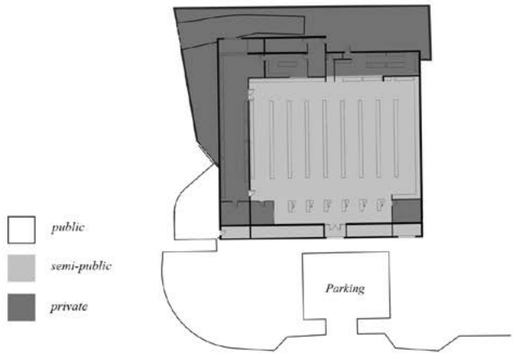


Fig 11 - *Layout of informal trade operations which comprise the Spar Node precinct*

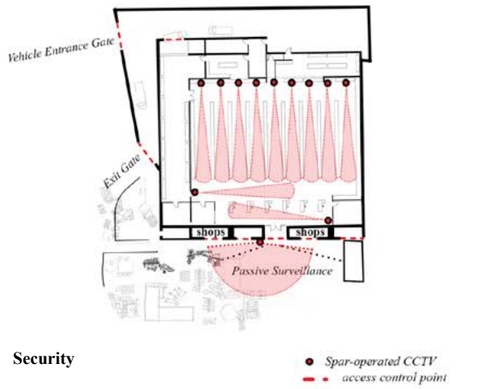
Enabling Devices - Occupation of built edge



Accessibility

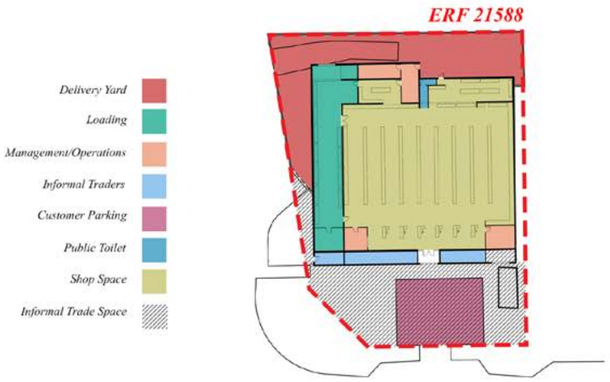


Thresholds



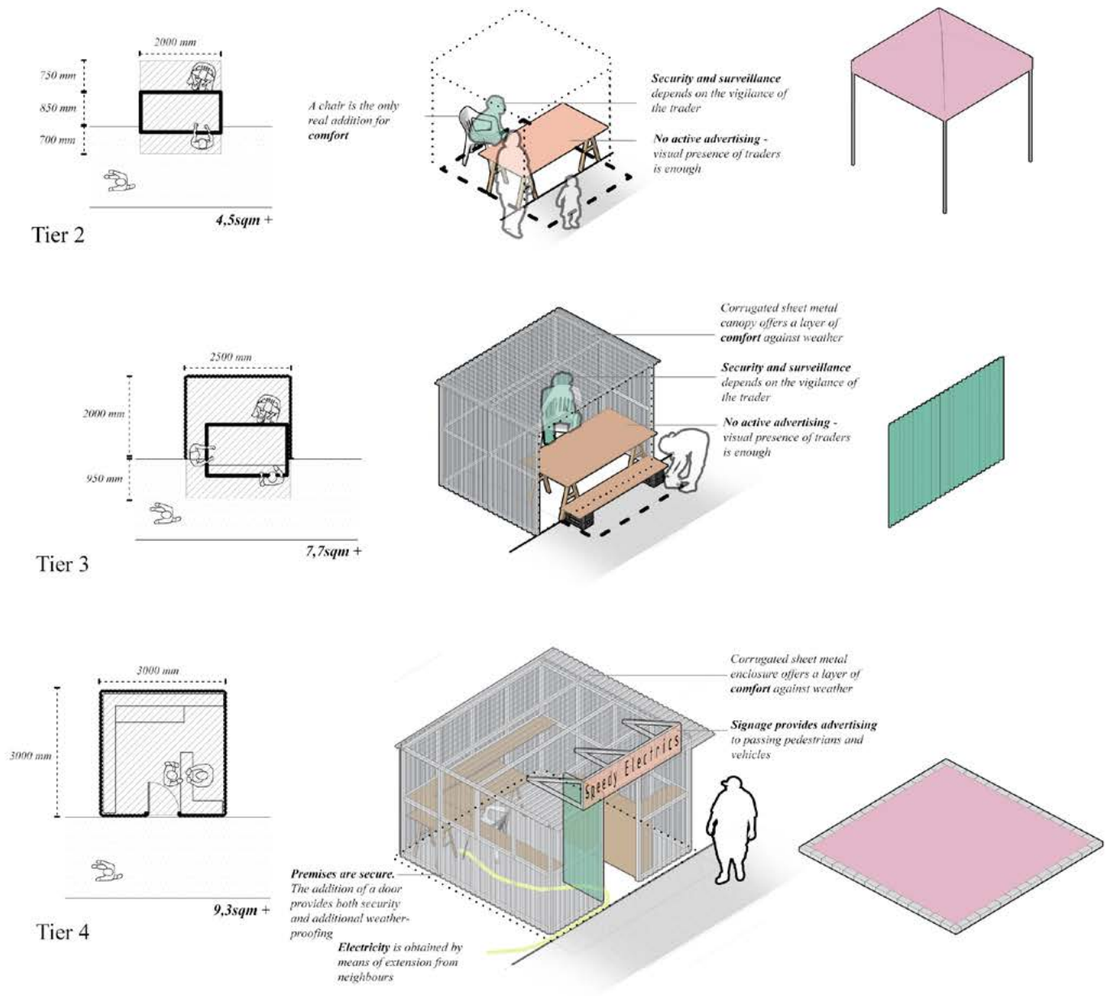
Security

Visual Signifiers



Site Layout

Fig 12 - *Analysis of the Delft-South Spar building.*



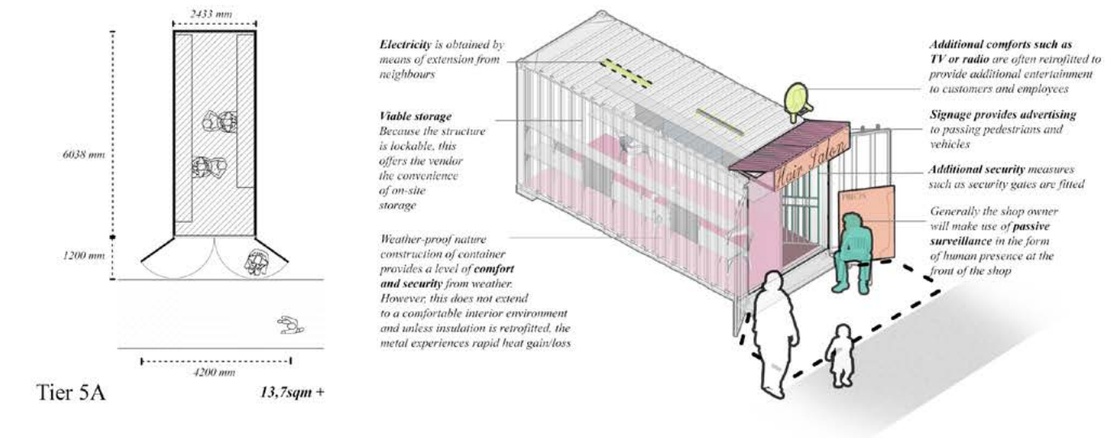


Fig 13 (a) *- Tier 3 example - vendor operating out of a make-shift shelter of heavy plastic tarpaulin stretched over a timber frame*

Infrastructure to support existing enterprises

In considering the ever-adapting nature of consumerist architecture to accommodate such a permanent, yet temporal practice as shopping, I considered it pertinent to invest in the non-negotiable physical infrastructures required to facilitate the existence of local economic enterprises.

One of the most important datasets gathered over the course of the year in shaping the direction of the design response, was the identification of the list of 'operational supports' - the physical infrastructure required to support different levels of informal trade.

Through the process of studying economic enterprises operating both sporadically along the Main Road and at points of concentration such as traffic circles and most notably, **Spar Node** (Spar-Sibanye-Sandelhout), I identified a range of retail typologies of different sizes and which were supported by different tiers of infrastructure (see *Addendum C* for the matrix of different scales of infrastructure supports).

The differentiation between retail typologies which make up the list (comprising *Tiers 1 - 7*) was not determined by size (although the larger the infrastructure supports, the larger the business), but by the number of infrastructural supports required by the respective scales of operation. The list of infratructural supports comprises *visibility (presence, in conjunction with advertising strategies), accessibility, shelter (comfort), water + electricity, security, storage* and *security.* The smallest level operating, *Tier 1*, comprises mobile traders such as cart-bound firewood dealers, whilst the most sophisticated *Tier 7* trader examples included the Delft-South Spar and all the Delft Mall tenants, who could rely on such sophisticated infrastructure as HVAC and CCTV surveillance (*See Addendum C*).

The majority of enterprises fall within the typologies ranging from *Tier 1-5B* (See *Figs 13)*, all of which occupy an operational area of less than 20m^2. This retail typology range, all of which could benefit from additional infrastructure, represent the tenant-base of my design intervention.

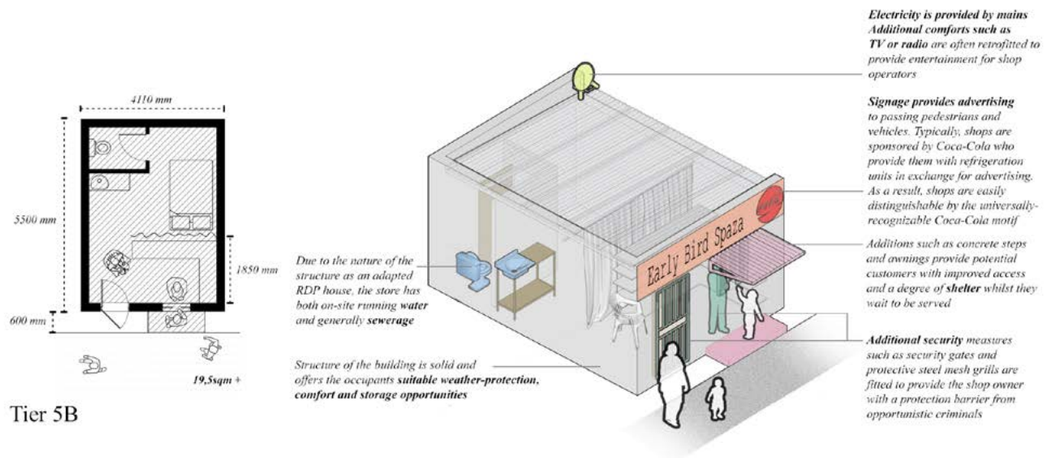


Fig 13 (b) *- Continued*

Fig 14 *- Existing businesses and civic structures operating around the Civic Node site*

SITE - Micro

Whilst the level of economic activity around the Civic Node was previously incomparable to that of the Spar node, the opening of the first phase of the Delft Mall at the beginning of October of 2017 will change this. Since retail centres are usually the first commercial investments to occur in a developing node, they are seen to play an important role in the subsequent growth of an area.[1] Considering the catalytic effect of the Delft-South Spar in generating the formation of Sibanye Square, one could speculate that a similar situation would take place in the area surrounding the Delft Mall site, albeit on a more significant scale. In addition to this, a number of conditions on or around the site are likely to play a significant role in realizing Civic Node as the new Delft economic Centre.

Proximity of Civic Node

Whilst the sites planned for substantial economic development never experienced significant investment (until now), the planned site of the 'civic node' just North of the Delft Mall site did. This precinct, arranged around a traffic circle at the intersection of two loop roads (Leiden Ave and Voorbrug Rd) with Main Road, contains the Delft Police Station, Delft Community Clinic, Delft Library and Delft Civic Centre (see *Fig 14*). It is integral to the daily life of the community and thus is a site of highly concentrated pedestrian and vehicular traffic. Given its proximity, the Civic Node is likely to become the beginning of the most significant primarily-pedestrian movement route into the Delft Mall.

1. McGaffin, R,. Gavera, L. (2011) "The Development of Retail Centres in Emerging Economic Areas: impact on local consumers, local businesses and local economy". Urban Landmark.

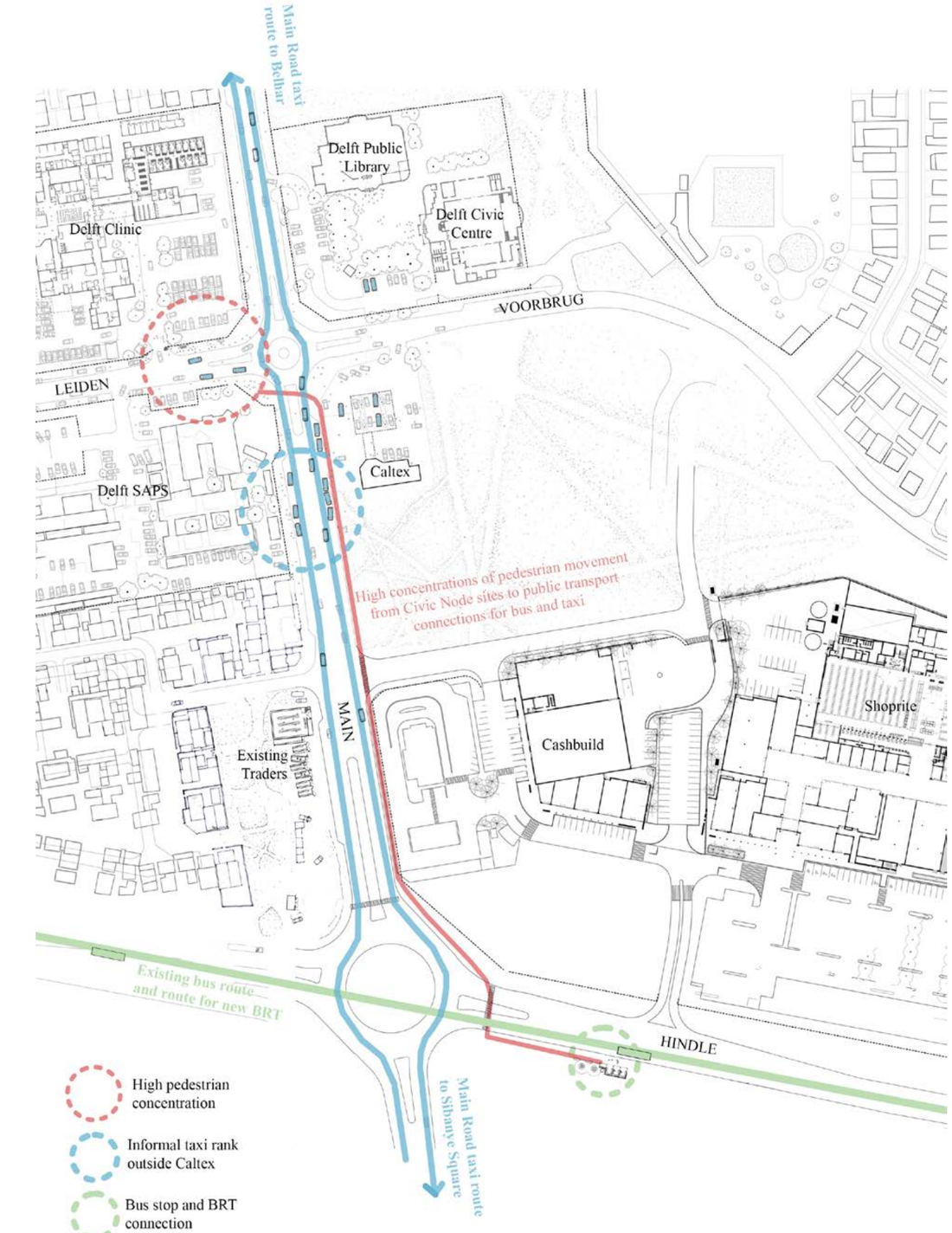


***Fig 16** - Pedestrian and vehicular concentrations and connections located around the Civic Node*

Addition of Hindle Road BRT

The favourable economic conditions generated by the forthcoming BRT link along Hindle Road will help reinforce the status of the Delft Mall site as the new economic centre within Delft. The 4th phase of City of Cape Town's Integrated Transport Development Plan (for 2012-2017) will see the development of a North-South corridor connecting Khayelitsha with the Bellville CBD along Symphony Way, the road which defines the Western border of Delft (see *Fig 16*).[2] An additional feeder BRT along Hindle Road is to be introduced to connect the Blue Downs area to the East of Delft with the Symphony Way corridor, with a number of bus stops located along Hindle Road.[3] The eventual completion of this system will most likely influence changes in the area, with an increase in commercial development of property along Hindle Road. The integration of the existing bus stop on Hindle Road into the new BRT system will significantly increase accessibility to the mall site from further afield.

The addition of this system is also likely to influence the existing public transport network within Delft as existing bus and taxi networks will be adapted as feeder routes for the new BRT. Given the way that taxi's favour traffic circles as drop-off zones, and the fact that an unofficial taxi drop-off currently exists upon the site, a larger, more sophisticated drop-off point for local taxis will become necessary as the new mall gains influence.

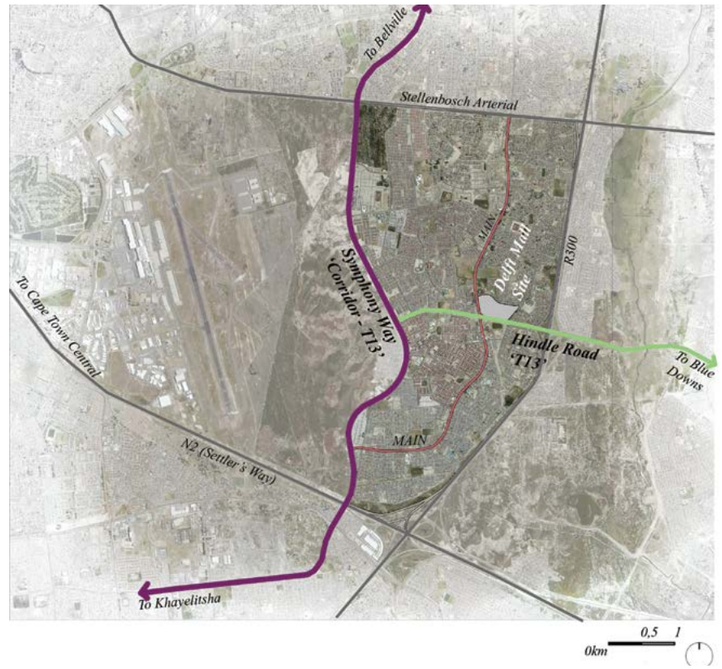


***Fig 16** - BRT routes around site*

2. MyCiTi, 2012, 8
3. MyCiTi, 2012, 32

Fig 17- *Caltex Garage on the corner of Main and Voorbrug Roads at the Civic Node*

Fig 18 - *Traders operating on Main Road accross from the Delft Mall site*

Existing Enterprises Operating around Site

Commercial enterprises operating around the site are limited to a twenty-four hour Caltex petrol station (see *Fig 17*), a small cluster of informal food vendors operating on the pavement outside of the clinic and a small cluster of informal businesses occupying the general-business-zoned site on the corner of Hindle and Main, opposite the Delft Mall development (see *Fig 18*). These businesses offer a range of products and services ranging from auto repairs to furniture construction. Their economic viability can be attributed to strategic positioning, visibility and reputation.

The Caltex serves as a major economic catalyst in its own right, facilitating the existence of an informal taxi rank along its Main Road frontage. The petrol station, which is instantly recognizable owing to the tall Caltex sign, is a popular meeting place for visitors and residents alike. The 24-hour availability of basic food supplies, airtime, cash from an ATM and petrol, ensure that the site is always active.

Up until the opening of the Delft Mall, it was the only formal business of any significant scale operating within the vicinity of the Civic Centre.

Fig 19 *- The final development phase plan as proposed by SVA.*

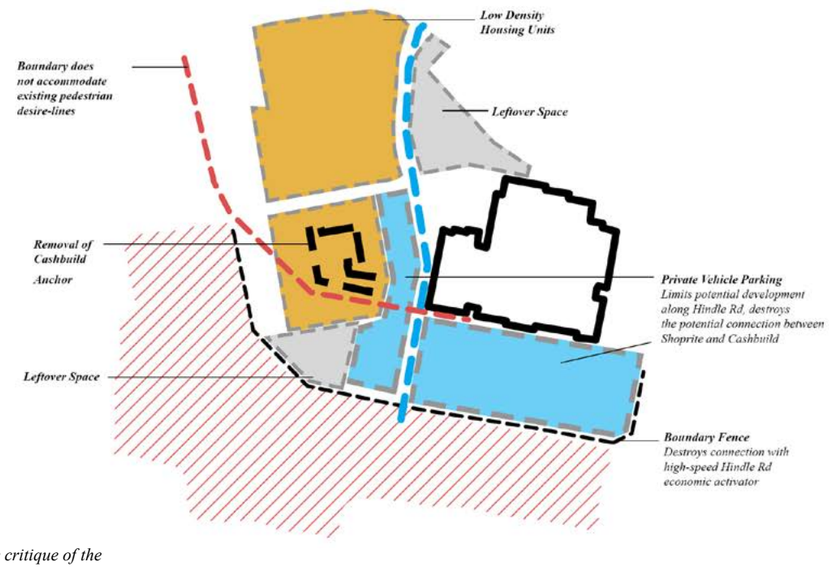


Fig 20 *- Diagrammatic plan of my critique of the proposed final phase*

SITE - Forthcoming

CRITIQUE | Final Phase of Site Development

Whilst it is obviously critical to understand the current urban and site conditions of the Delft Mall site, it is just as important to recognize that the mall forms a component of a larger development proposal for the site (see *Fig 19*). This, according to Stauch-Vorster Architects is conceptualized as follows: the development of low-density housing units (which cover a substantial portion of the open space on site and replace the Cashbuild), the addition of a vehicular thoroughfare between mall and the parking which will bisect the site and the addition of new businesses and business sites to be developed.

There are certain aspects of this proposed final development phase which I support, such as the provision of housing and the development of more logical on-site road infrastructure. However, I believe that a number of significant moves fail to positively respond to aforementioned site informants (see *Fig 20*). These are 'edge conditions, pedestrian and vehicular movement routes, appropriate on-site housing density levels, position and role of retail anchors in generating on-site pedestrian traffic and wasted space of high economic potential.

Presence of the boundary fence

Given the scale and value of the site and reputation of the context, the need for effective security measures are undoubtedly justified. However, this demonstrates a lack of understanding of the significance of existing pedestrian desire lines across the site. The palisade fence not only prevents a seamless connection of existing movement flows between the mall itself and the surrounding context, but negates the important connection between the mall and the high-speed economic activator that is Hindle Road.

Removal of Cashbuild Anchor

Considering the urban fabric of the surrounding context which is characterized by constant small-scale private building developments, the eventual removal of Cashbuild - a potentially valuable source of building materials, services and sophisticated equipment generally unavailable within such a context – is short-sighted, to say the least.

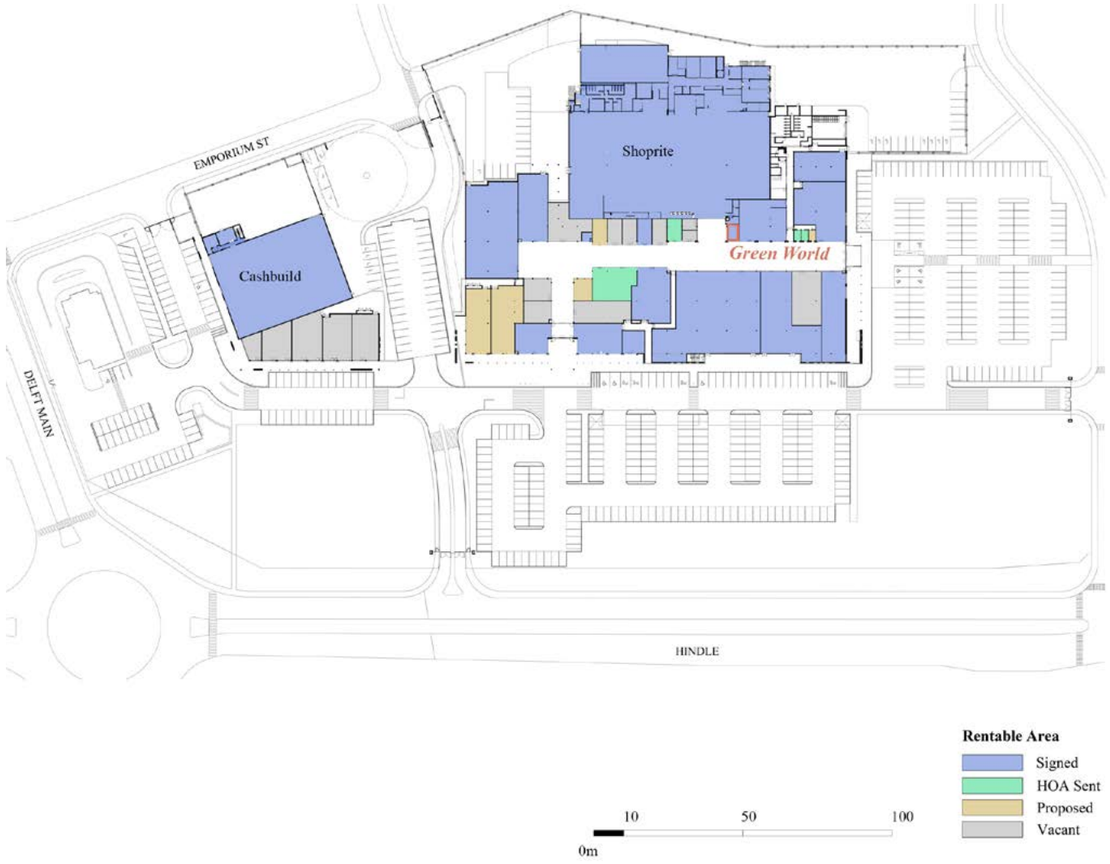


Fig 21 *- First phase tenancy of mall (as provided by SVA)*

Prevalence of valuable 'leftover' space

The corner of the site closest to the circle - arguably the most valuable piece land for economic development owing to its location and visibility of its position - is left un-programmed and undeveloped.

Private vehicular parking

Whilst the presence of a parking lot is a clear visual signifier to passing vehicles and thus an effective device in attracting potential customers, the sheer volume of private parking, given the prevalence of public transport in the area, is inappropriate.

Creation of low-density housing

Whilst the development of housing units is definitely a significant move in enlivening the site and is imperative given the demand for housing in the area, not to mention lucrative, given the strategic position of said development, the implementation of low-density housing is wasteful from both a spatial and services point of view. Rather, the on-site housing should be innovative in both its effectiveness as low-cost housing and in response to the clear economic potential of the area (emphasis on live-work units).

Tenancy

My final criticism, and the one which is the most significant in promoting the validity of my intervention as a solution, is that of the tenancy of the mall itself (see *Fig 21*).

Whilst the mall provides a substantial amount of rental space of varying scales to cater for a wide variety of retail operations, the store areas available for rent are far greater than those required to support the vast majority of existing economic enterprises in the surrounding area. They are thus unaffordable to the majority of business operators. In fact, only the smallest lettable shop space (occupied by an outlet of health chain 'Green World') covers an area less than $20m^2$ (see *Fig 21*). On consideration of required operational floor area alone, this would suggest that the majority of economic enterprises currently operating in the entire area of Delft (which require operational footprints less than $20m^2$) would not be contesting directly with the tenants of the mall. In addition, the tenants of the mall (with the exception of fast food retailers) are exclusively retail operations with no spaces for production. Therefore, the businesses offering alternative services or production in addition to retail (such as hardware and building supply stores), are totally unchallenged by the addition of the mall.

Given these tenancy gaps, there is clearly potential for these small-scale production-orientated businesses to occupy the site in a way which is potentially beneficial to both the mall tenants and the small-scale operators, as the concentrated pedestrian traffic generated through the presence of agglomerated enterprises, both formal and informal, creates conditions conducive to increased economic activity.

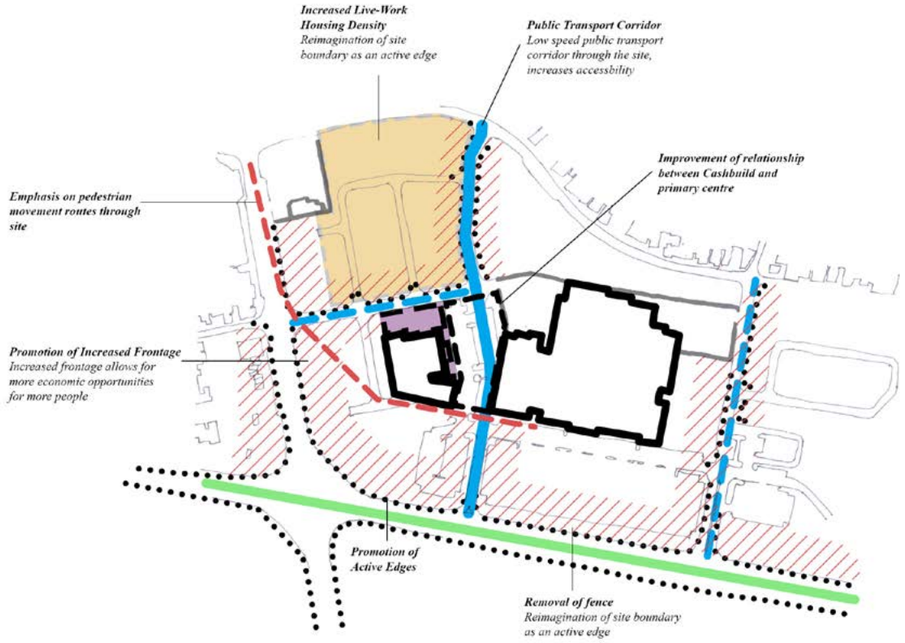


Fig 22 *- Critique of proposed final phase intervention, which serves as an informant for my siting strategy*

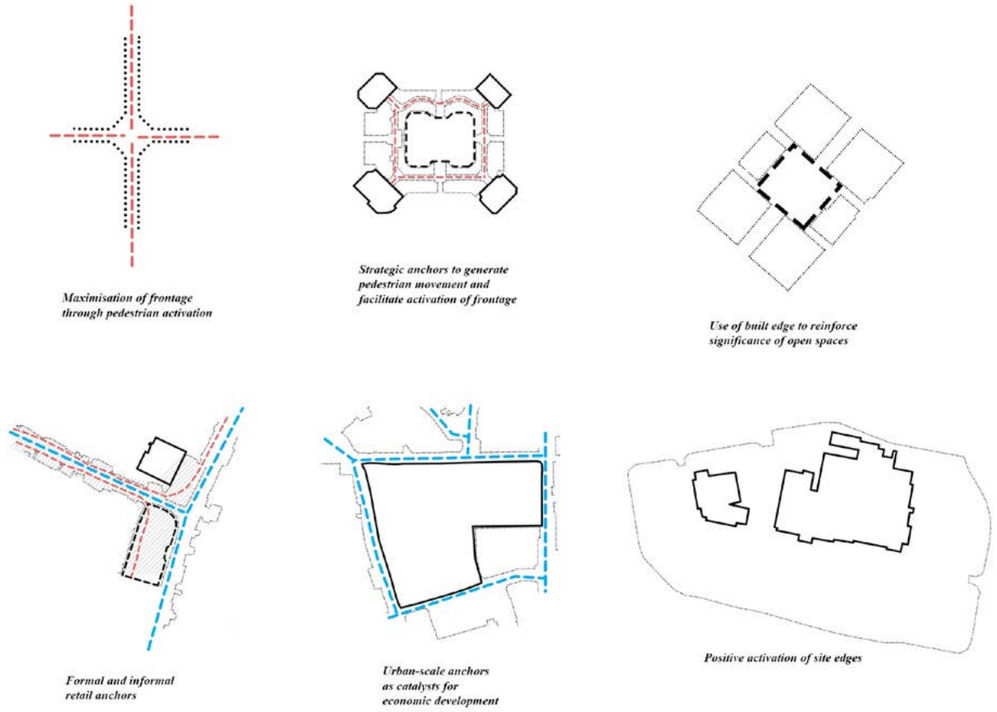


Fig 23 *- Retail principles which reflected in the intervention*

DESIGN RESPONSE

The design intervention is intended to address the following factors: firstly, there is a need to address the concern that the Delft Mall will have an overall negative impact on the existing small-scale businesses operating in the area. Secondly, there is a need to demonstrate the appropriateness of strategically-placed infrastructure allowing for the incremental development of a concentrated economic environment. Then, there is the consideration of favourable or unfavourable on-site conditions. Finally, there is the aforementioned criticism of the proposed final phase of development, the problems of which are addressed in a critique plan (see *Fig 22*). This plan serves as an important informant in determining my siting strategy.

In addition, the shape and form of the intervention would be guided by the following list of retail principles devised through the research of shopping mall typologies, transport interchanges, urban public spaces and other contexts with suitable concentrated pedestrian levels to facilitate economic activity (see *Fig 23*). Firstly, my intervention aims to maximise frontage through the use of pedestrian activation. Secondly, the intervention implements the strategy of buildings (as opposed to a fence) both to create an active site boundary and to reinforce the significance of the protected open space on-site. Then, there is the use of strategic anchors to generate concentrated pedestrian movement and frontage, thus providing opportunities for informal trade to take place. Finally, the overall strategy will take advantage of the significance of the Delft Mall itself in catalysing urban development around it. (See *Appendix A* for list of retail principles).

The design responses are aimed to address four different scales: *urban, site, tenancy, architectural/tectonic.*

Other Informants

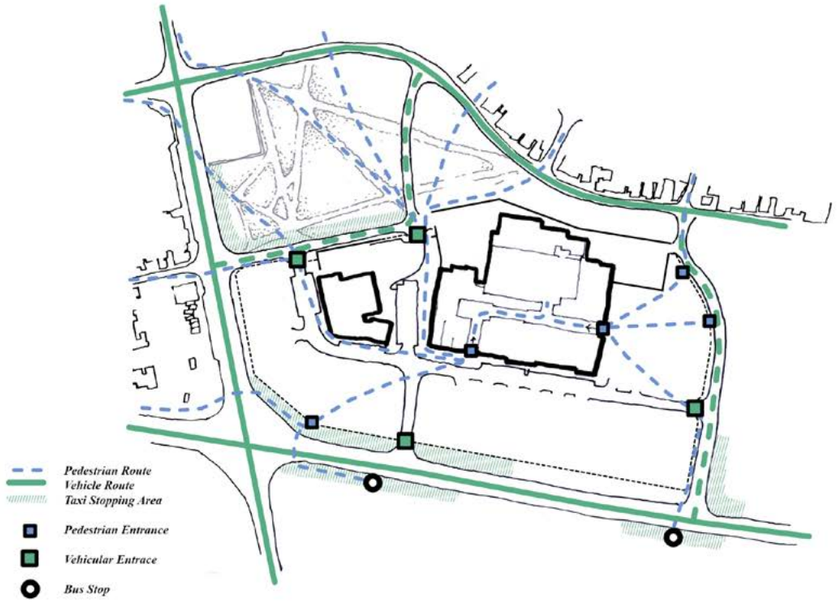


Fig 24 *- Accessibility - pedestrian and vehicular routes, public transport infrastructure and entry points to site*

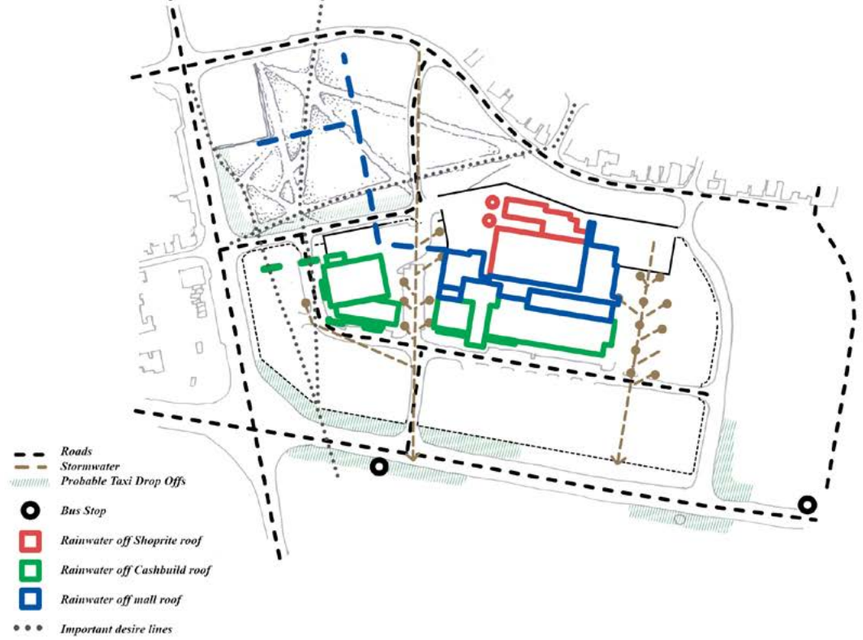


Fig 25 *- Enabling Devices, services, pubic transport infrastructure and rainwater collection*

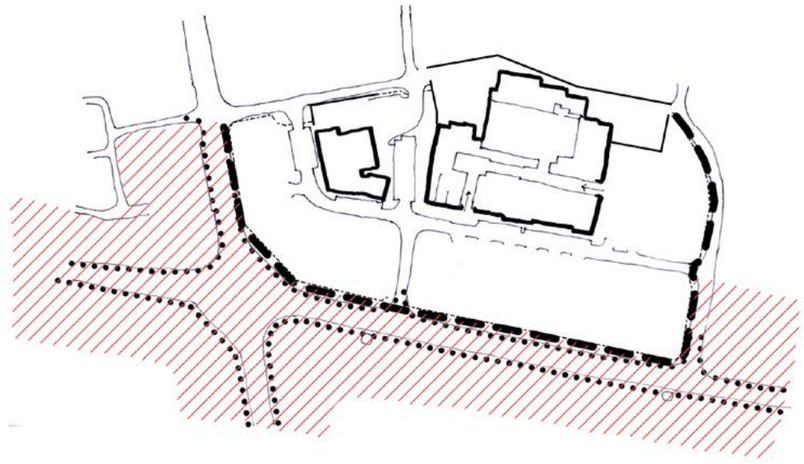


Fig 26 *- Critique of fence which negates the potential economic activation of the Hindle Road edge of the site as a result of the new BRT*

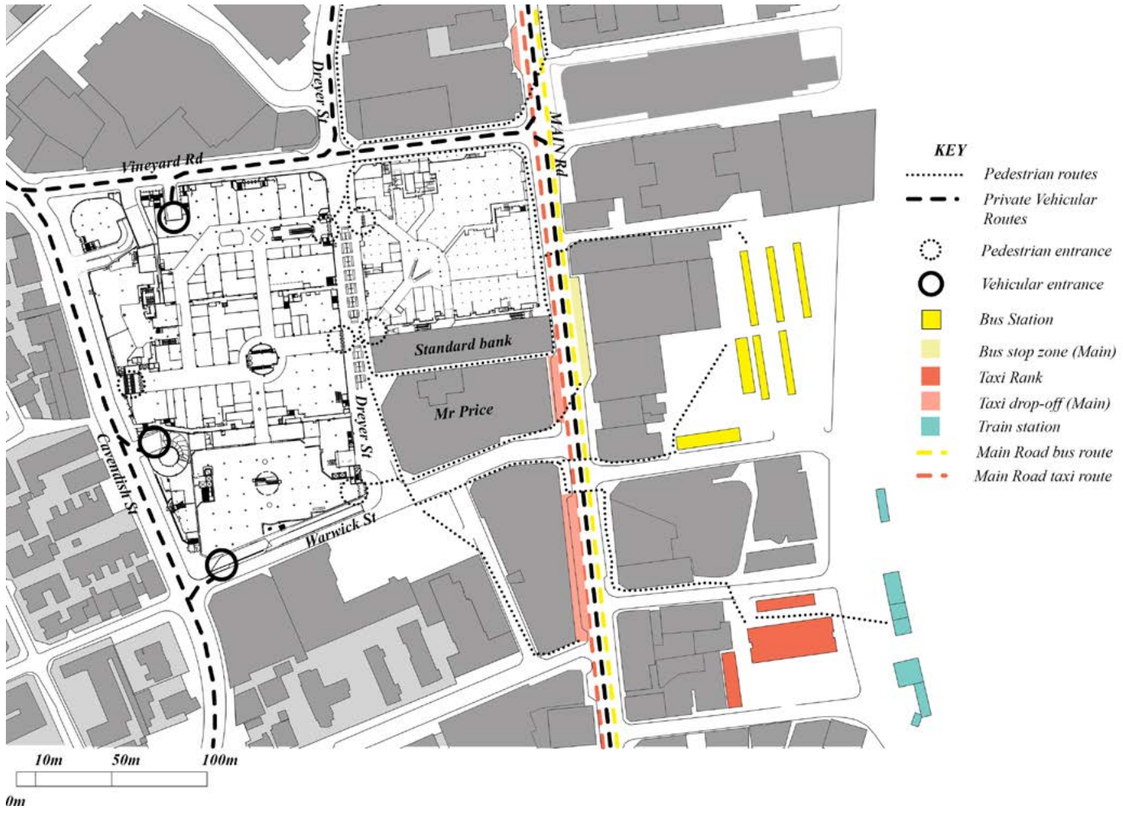
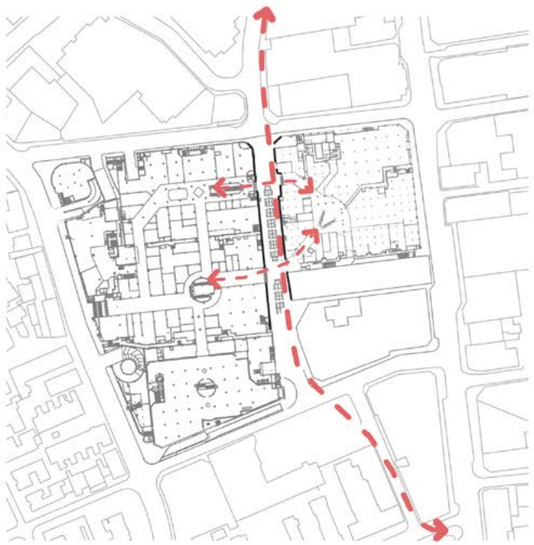


Fig 27 *- Ground-level pedestrian and vehicular accessibility to Cavendish Square precinct*



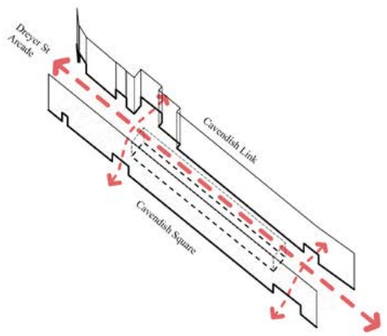


Fig 28 *- Pedestrian movement through arcade with bisecting movement routes between Cavendish Square and the Link*

Urban-scale

The urban response was informed by findings from previous research, examining the potential for a formal shopping mall in acting as an urban-scale anchor to catalyse economic growth of the surrounding area. The two study examples which significantly informed the design intervention were the Delft-South Spar (in relation to the spaces which comprise Spar Node) and Cavendish Square, the iconic shopping mall located in Claremont, Cape Town. Whilst the nature of this mall is decidedly upmarket and thus largely inappropriate considering the low-income context of the Delft Mall, it is the role which Cavendish has played as an *urban anchor* influencing the subsequent economic development of the surrounding area which was directly relevant to my particular site of inquiry. The stand-out findings from both examples pertained to two spatial planning conditions, which if effectively addressed, would ensure that the InforMALL fitted seamlessly into its site whist acknowledging its surrounding context - those of 'edge conditions' and 'movement flows'.

Movement Flows and Edge Conditions

The effectiveness of Cavendish as an urban anchor lies in its nature as a shopping mall hybrid, combining valuable attributes of street-level retail of the inner-city block with the internally-orientated pedestrianized environment of the typical suburban 'big block' shopping mall. The addition of the Dreyer Street Arcade, the ground-level pedestrian thoroughfare which connects the mall with nearby public transport routes, has had a significant effect on the surrounding area (see *Fig 27*). As a result of concentrated pedestrian traffic moving through the truncated space between the Cavendish Link and Cavendish Square, the surrounding buildings have been developed to accommodate ground-level retail and mixed-use enterprises to capitalize on passing pedestrian and vehicular traffic flows. In addition, the previously impregnable edge of the building has been opened at strategic points to allow for a seamless interior-to-exterior transition. As a result, the natural pedestrian movement flows through the arcade are bisected by pedestrians moving between the Link and Cavendish, creating strategic points of intersection - moments of decision for the pedestrian (see *Fig 28*).[1] These intersection points

1. Kevin Lynch, Image of the City, Cambridge: MIT Press, 1960

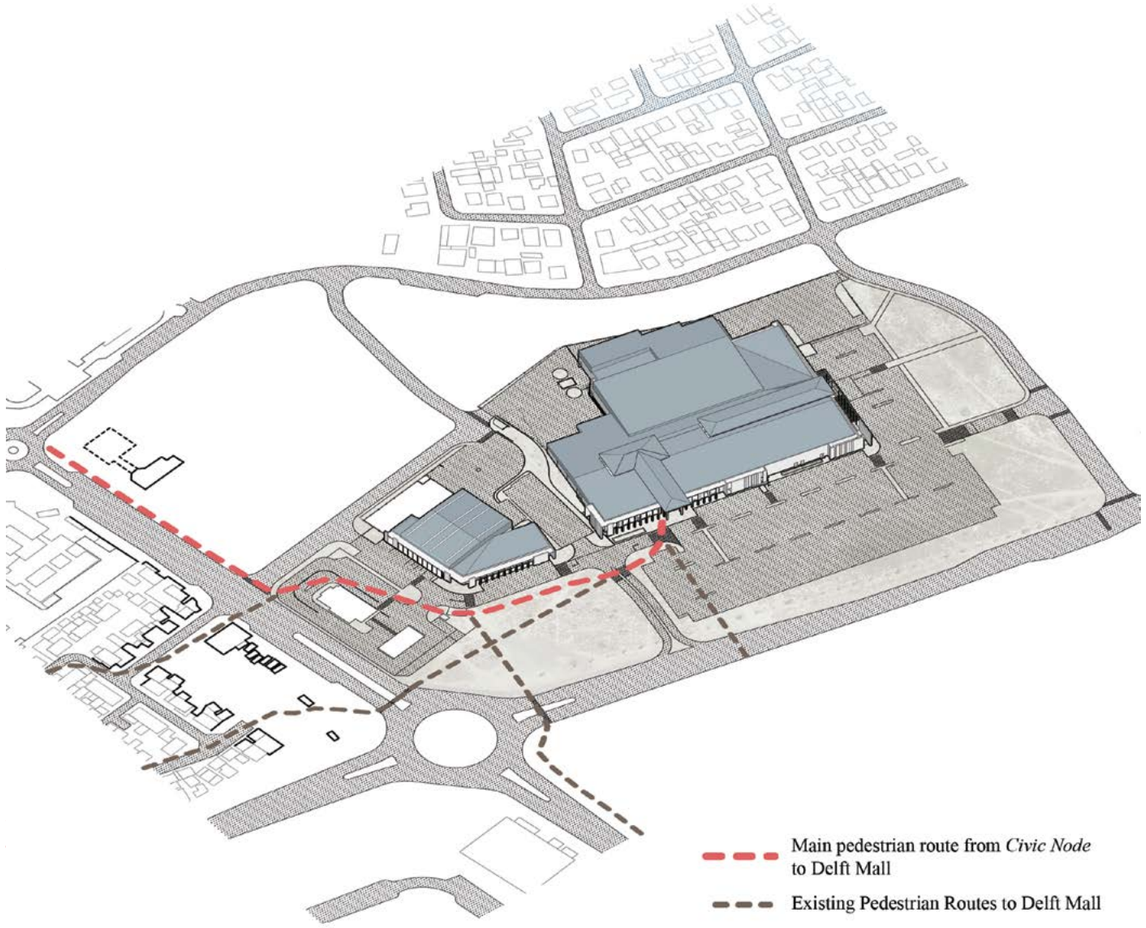


***Fig 29** - Pedestrian movement route network*

are celebrated with spill-out restaurants, landscaping and formal structures to support informal traders.

Acknowledging these conditions in conjunction with the first three retail principles which I had identified, my intervention aims to celebrate the existence of pedestrian movement routes to the Delft Mall site, manipulating movement routes to allow for the maximisation of shopping frontage (see *Figs 29 - 33*). In addition, the intervention seeks to ensure that an effective boundary comprising built form of economic potential (as opposed to a palisade fence) is created. This will ensure that there is a positive connection between the built-edge and the surrounding context.

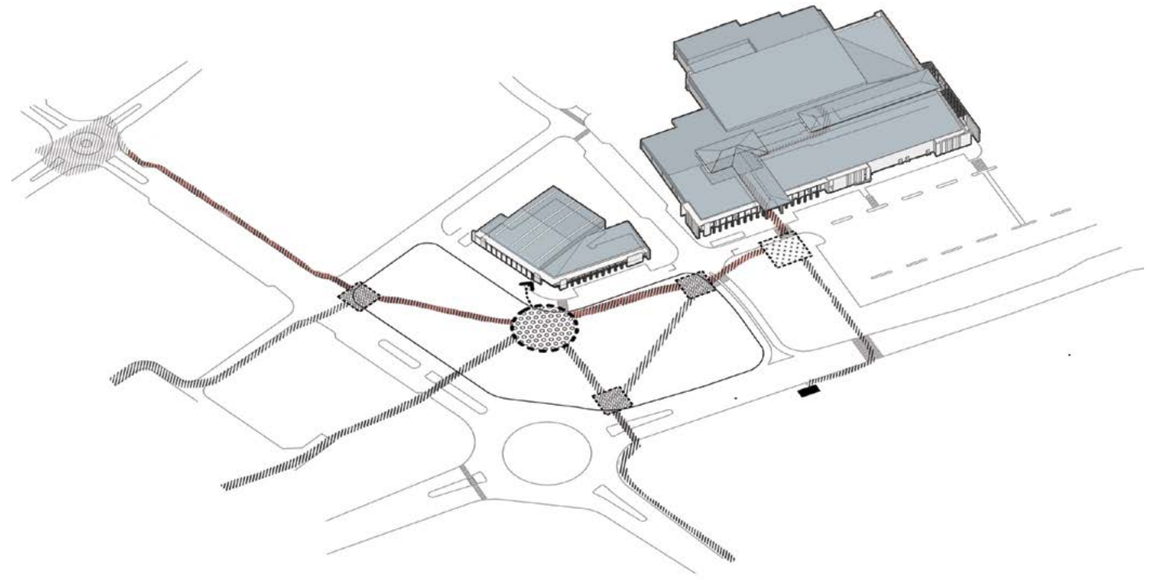


***Fig 30** - Intersections of movement routes (inform important public spaces)*

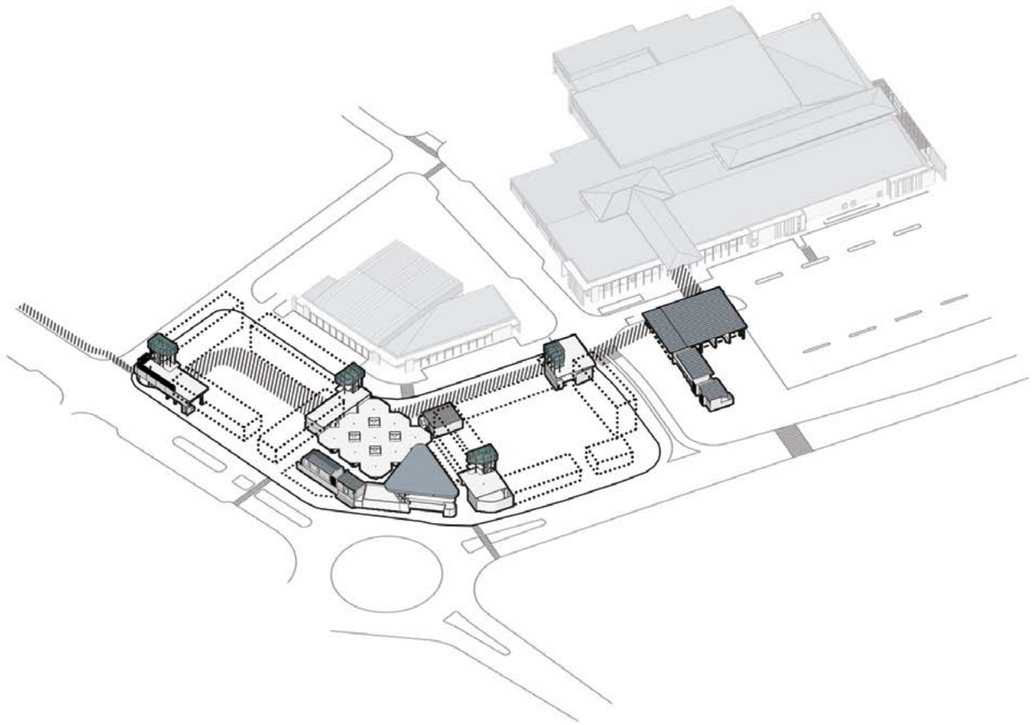


Fig 33 - Intersection points - *(reinforce and support the uses in the public spaces)*

Phased Development

Given the scale and scope of the project and the context into which it is being developed, a phased implementation strategy is critical, as funding for such substantial once-off development is not likely readily available. Learning from i-TRUMP, the management team will ensure that there is income continuity.

Taking a lesson from the Warwick Junction phased development strategy implemented by i-TRUMP, the management team will oversee the distribution of funding in a uniform pattern, ensuring that the holistic vision for the site as a whole is gradually implemented, rather than sequentially 'starting at one end'.[2]

The first phase of development comprises the preparation of roads, surface treatments and service infrastructures such as storm-water and sewerage reticulation, in anticipation of the second phase of development (see *Fig 34*). The second phase of development relies on the implementation of the five strategic infrastructure points (see *Fig 35*), followed shortly by the third stage of development which comprises the housing units required to effectively activate the site (see *Fig 36*). The position of the infrastructure points and layout of the site ensures that different developers could handle different housing segments as need be (see *Figs 37 and 38*), with the InforMALL management team ensuring that each piece is sufficiently responsive to the building systems and aesthetic of the holistic site. Additional housing will then be constructed in response to inevitable demand during the fourth and fifth phases. The sixth phase, implemented in response to the needs of the anticipated occupation of infill enterprises, comprises the construction of the canopy devices which provide shade and the five-a-side soccer pitch (see *Fig 39*). The occupation of space by informal traders is anticipated to take place from the completion of the second phase and to occur continuously at different levels of sophistication as facilitated by the conditions created in the subsequent phases of development.

2. Brian Dobson, Jillian Nicholson and Caroline Skinner. Working in Warwick: including street traders in urban plans. Durban: UKZN School of Development Studies, 2009

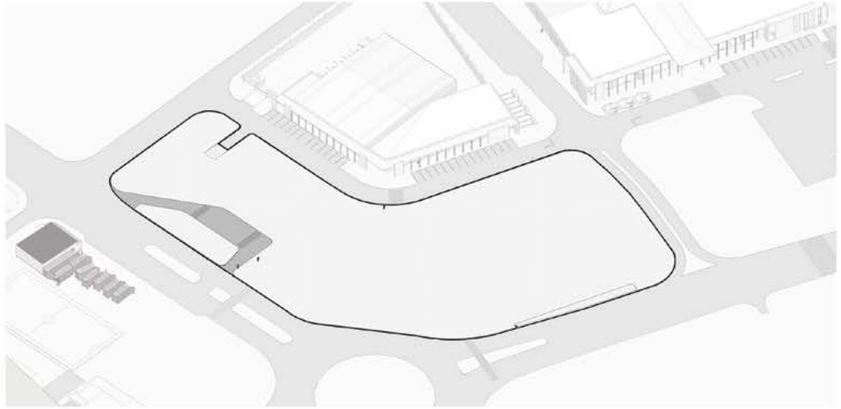


***Fig 34** - Phase 1 - The preparation of the ground plane of the site and addition of entry roads and taxi rank*

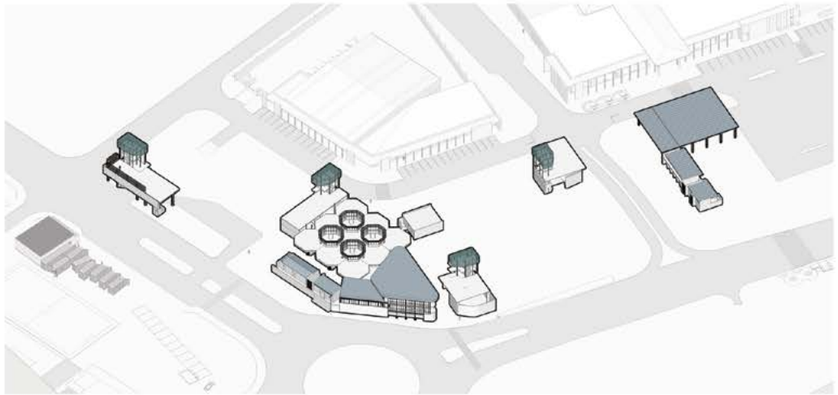


***Fig 35** - Phase 2 - Construction of strategic infrastructure points*

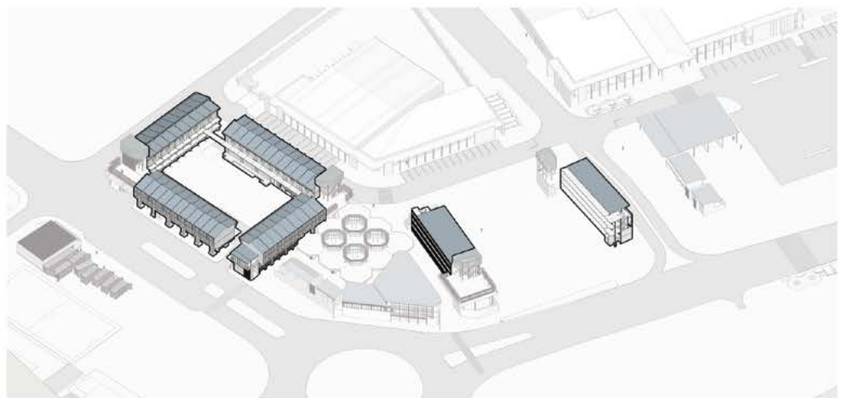


***Fig 36** - Phase 3 - Development of housing out of infrastructure points*

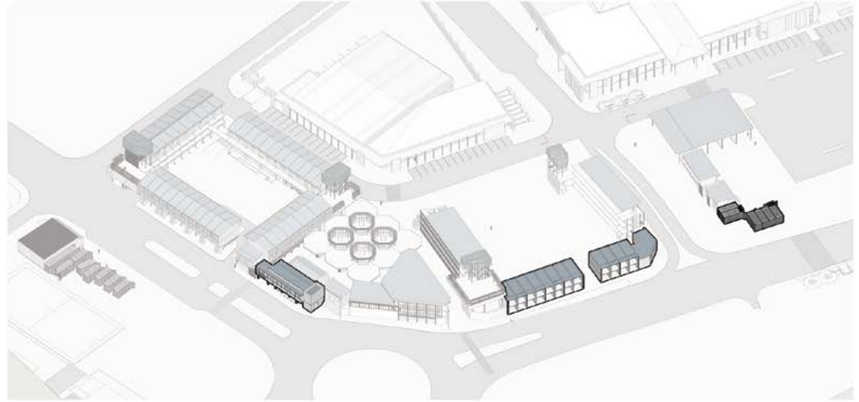


***Fig 37** - Phase 4 - Development of additional housing, and addition of permanent commercial infrastructure*

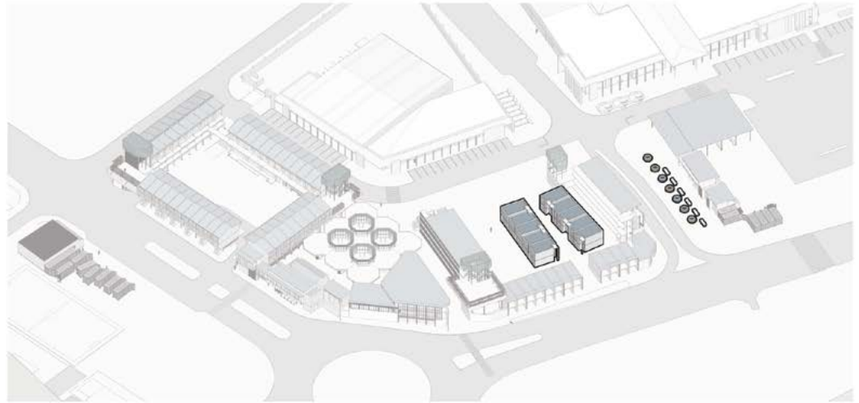


***Fig 38** - Phase 5 - Development of additional housing in courtyard and hard landscaping elements*

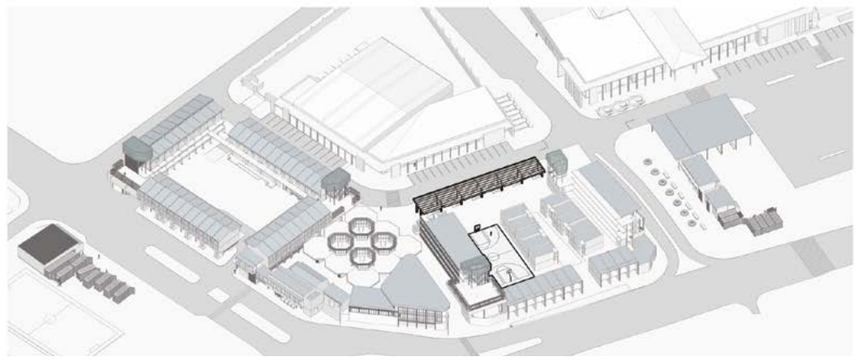


***Fig 39** - Phase 6 - Development of lightweight roof structure to shelter informal traders and five-a-side football field in courtyard*

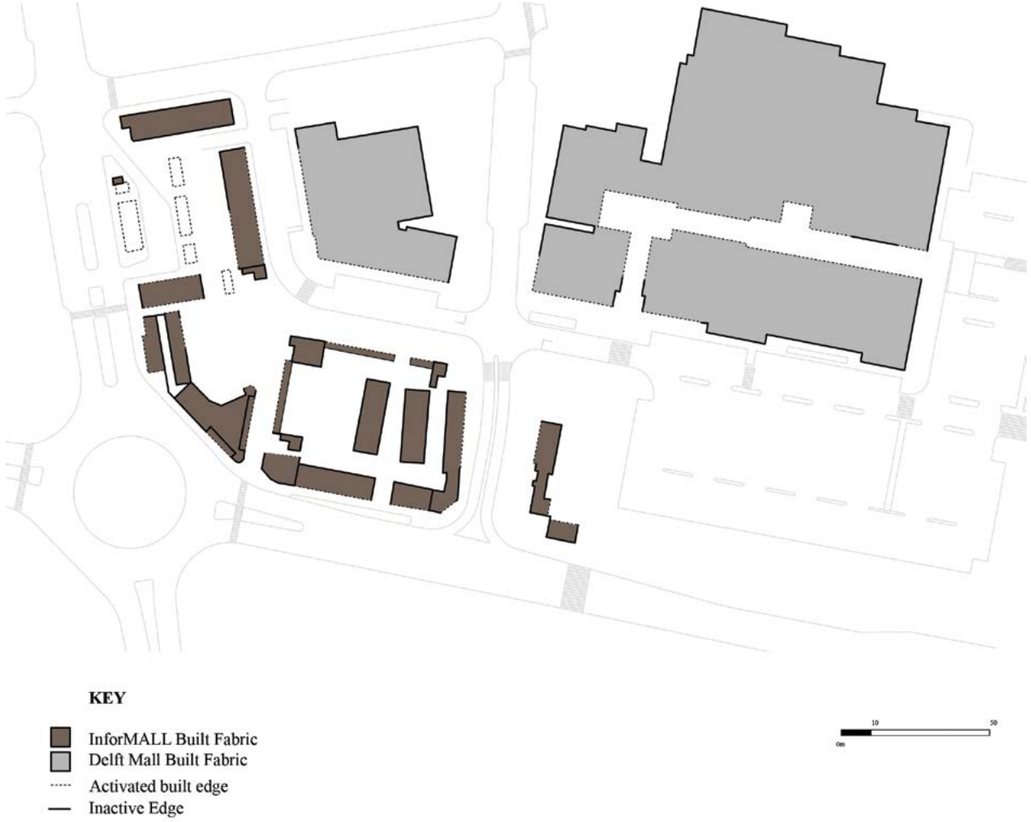


Fig 40 *- Mapping study demonstrating high proportion of active built edge present in the InforMALL in comparison to the Delft Mall which has a high proportion of 'dead edge' to its exterior frontage*

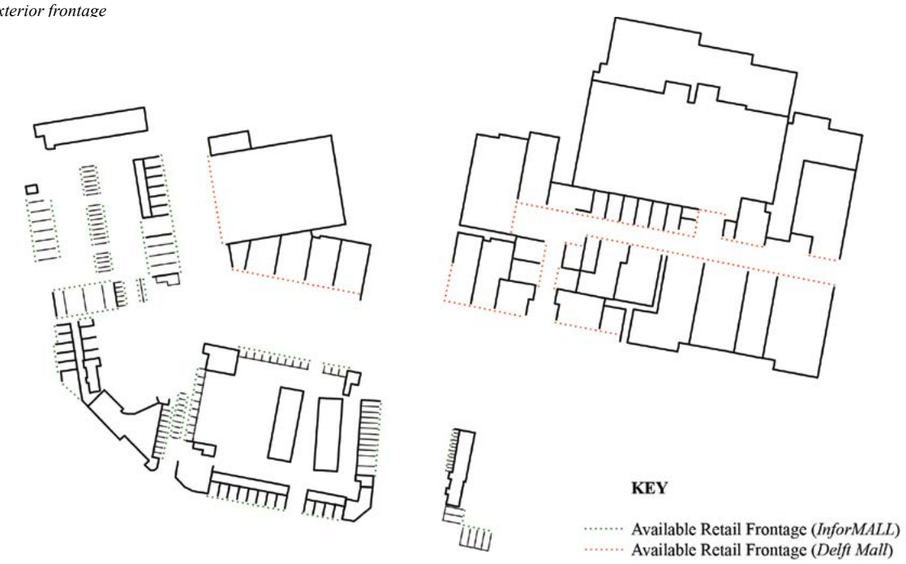


Fig 41 *- Comparison of the available rental frontages of both the InforMALL and the Delft Mall*

Site Plan + Programming Strategy

The programme for the intervention is multi-faceted, with the majority of aspects responding to some sort of economic output. The vast majority of the ground plane is anticipated as a vibrant, productive space, hosting various programmes of living such as eating, shopping, dancing, exercising, washing, etc. The ground plane is anticipated as a busy public realm, hosting large crowds (see *Fig 42*). The majority of the private housing is raised above the crowds, offering a quieter, semi-private realm.

Infrastructure Points

The first aspect of the programme are the 5 infrastructure points which are strategically located at the intersections of on-site movement routes. The intention of the infrastructure points is three-fold: primarily, through the provision of supportive infrastructure, they are intended to facilitate the existence of varying scales of informal enterprise around them (see *Figs 43 - 46*). In addition, they function as vertical circulation devices, connecting the different housing levels with the ground plane. Finally, they are recognizable visual signifiers, providing a substantial vertical reference to aid pedestrian orientation.

The different points respond to different conditions and are thus intended to communicate different things. Points 1, 3 and 4 are entrance points, located pedestrian entry points to the site. Point 5 is a stand-alone, occupying an economically advantageous position at the convergence of movement routes from the InforMALL and the BRT bus stop on Hindle Road. Point 2, which is arranged at different points around the central event space is intended to provide the infrastructure to facilitate traders within the event space, whilst simultaneously providing a spill-out space from the gym anchor.

Housing as catalyst

The development of the housing is anticipated to take place closely after the construction of the infrastructure points. The presence of permanent residents on-site is intended to serve as a site activator, encouraging the use of certain aspects of site after hours for leisure activities such as working out, playing sport, dancing or listening to music. The presence of housing will also catalyse economic development as the physical structures upon which the houses are raised provide opportunities for incremental occupation.

There are four different house types catering to different needs A single bedroom mezzanine, a two bedroom single storey, a two bedroom double-storey and a double-storey live-work unit. (See *Fig 47*):

Workshops

The workshops are rentable spaces intended to facilitate furniture-makers, artists, mechanics and other small building services. The positioning of the workshops was largely determined by the nearby position of the Cashbuild – a useful source of building material – and the taxi rank, providing quick vehicle access for deliveries or product WW-

***Fig 42** - Programmatic strategy for the site*

collections. The workshop spaces are outfitted with the minimum physical structure and infrastructure required, thus allowing tenants to incrementally develop their spaces to suit their production needs.

Spaces of the *Leisure Economy*

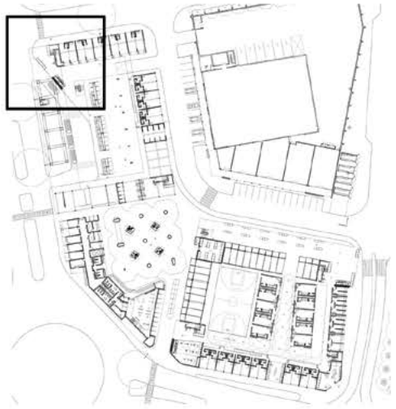
Whilst a substantial emphasis of the intervention is on the facilitation of businesses and economically productive enterprises, additional programmatic aspects such as the strength and fitness gym and the shebeen are both tenants providing after-hours site activation. The gym is the only *Tier 7* typology on the site and serves as a sort of 'anchor-tenant' of the scheme. Given the high rentals associated with such a sophisticated structure with on-site bathrooms and HVAC, a gym is an appropriate tenant for two reasons. Firstly, concerning affordability, the physical spatial requirements of the gym dictate the need for such a substantial space. Also given the lack of effective physical exercise facilities in the area, the presence of a gym would attract a significant number of people to the site outside of typical working hours.

Productive Open Space

There are two significant covered spaces which are intended to facilitate informal trade, the *productive market space* and the *covered event space*. The roofs of these structures provide shelter for the spaces below them and simultaneously provide a quieter raised garden space for the housing units. These spaces can accommodate a range of activities in addition to enterprise such as performance events, promotions and outdoor exercise classes. In addition, there are play spaces and sport spaces to held contained within the quieter housing courtyards.

Fig 43 - *Productive Market Space with Taxi Rank in background*

Fig 44 - *Covered Event Space*



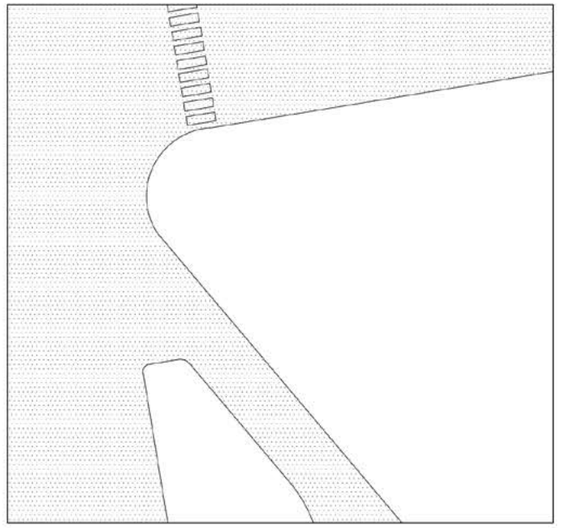


Fig 45 *- Infrastructure Points as catalysts - corner of Infrastructure Point 1 prior to construction*

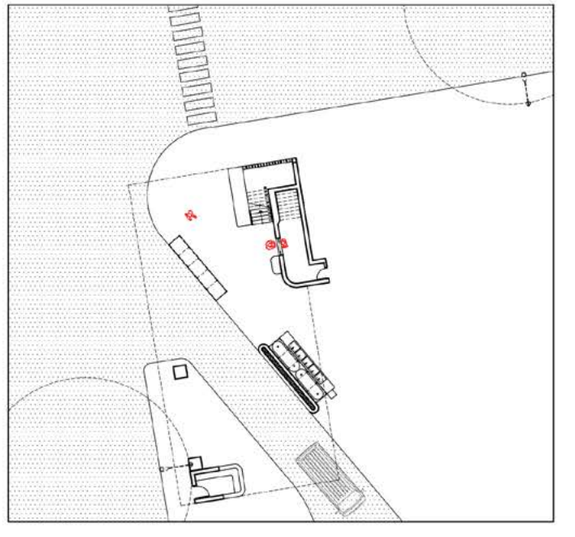


Fig 46 *- The corner following the addition of the components which comprise Infrastructure Point 1*

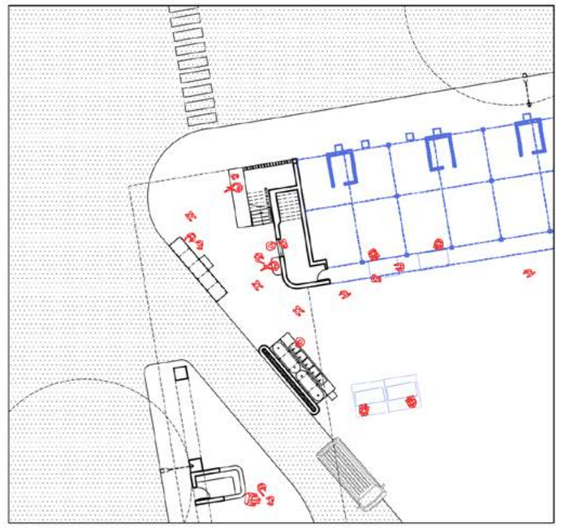


Fig 47 *- Following the construction of the Phase 3 raised housing slabs and the basic service cores for additional ground level housing, the corner sees an increase in both pedestrian concentration and informal enterprises*

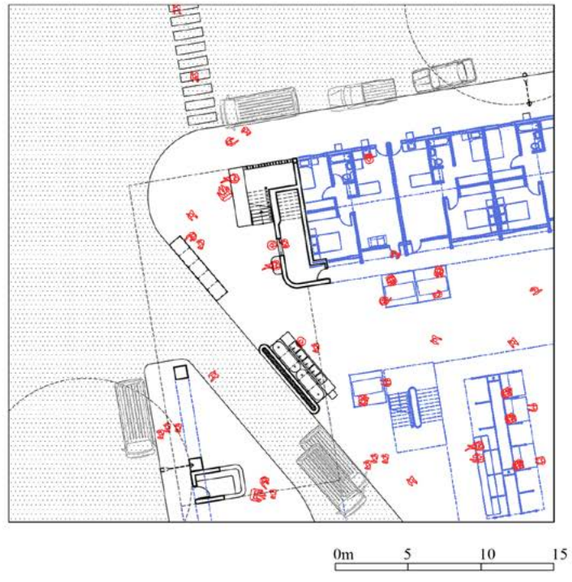
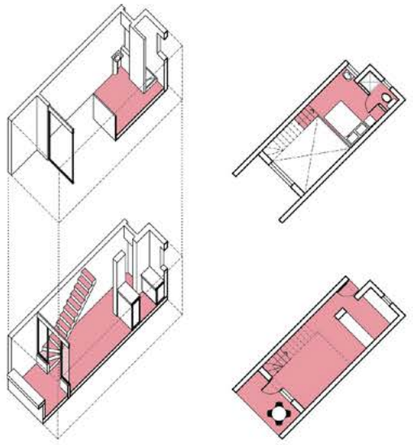
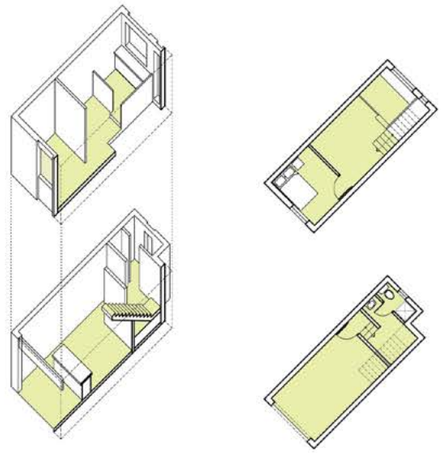


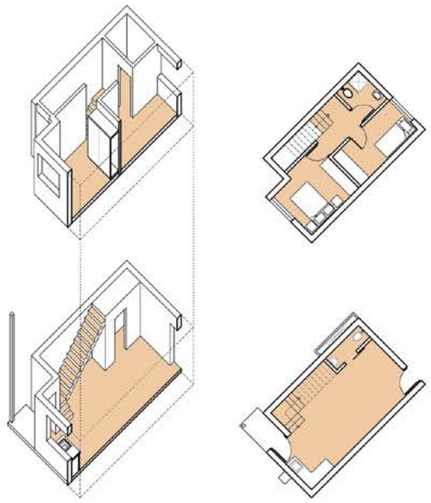
Fig 48 *- Following the construction of the 'productive market' roof structure and through the inhabitation of ground level housing units, the corner becomes increasingly occupied by informal vendors in various forms*



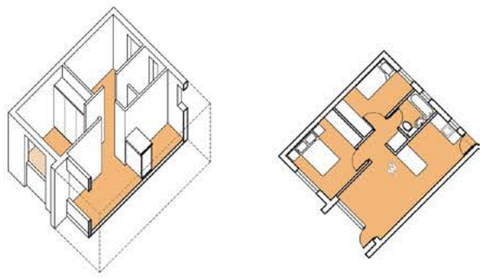
Residential **Type 1**
1 bed mezzanine
33,8 sqm



Residential **Type 2**
1 bed live-work
44,5sqm



Residential **Type 3**
2 bed, 2 bath double-storey
54,7 sqm



Residential **Type 4**
2 bed, 1 bath
41 sqm

***Fig 49** - The range of residential types caters to a range of potential tenants with different needs*

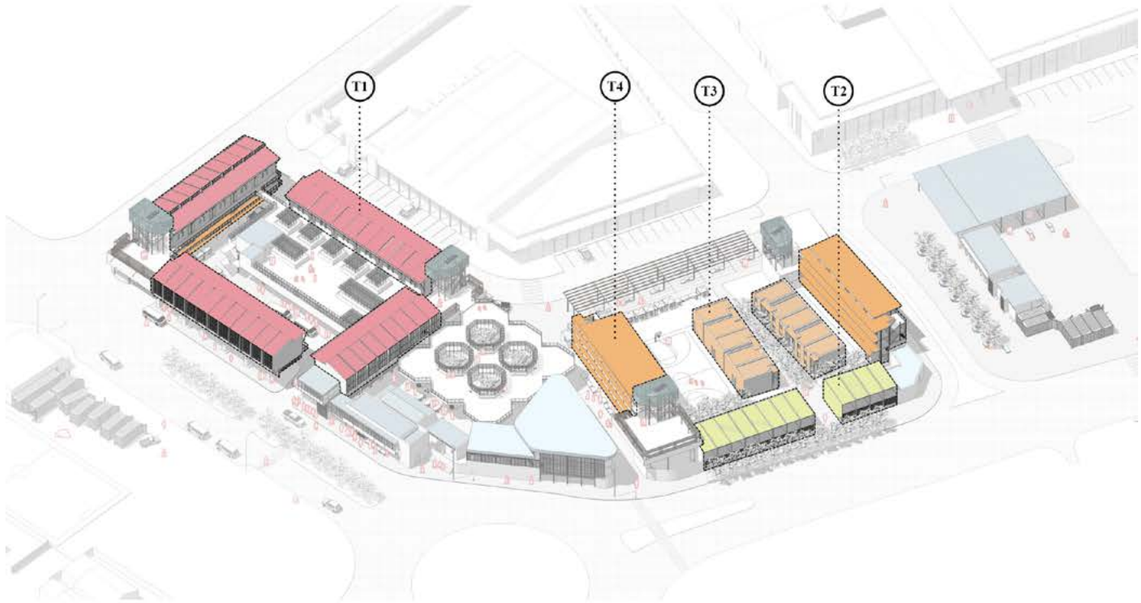


***Fig 50** - Locations of the different residential types within the scheme*

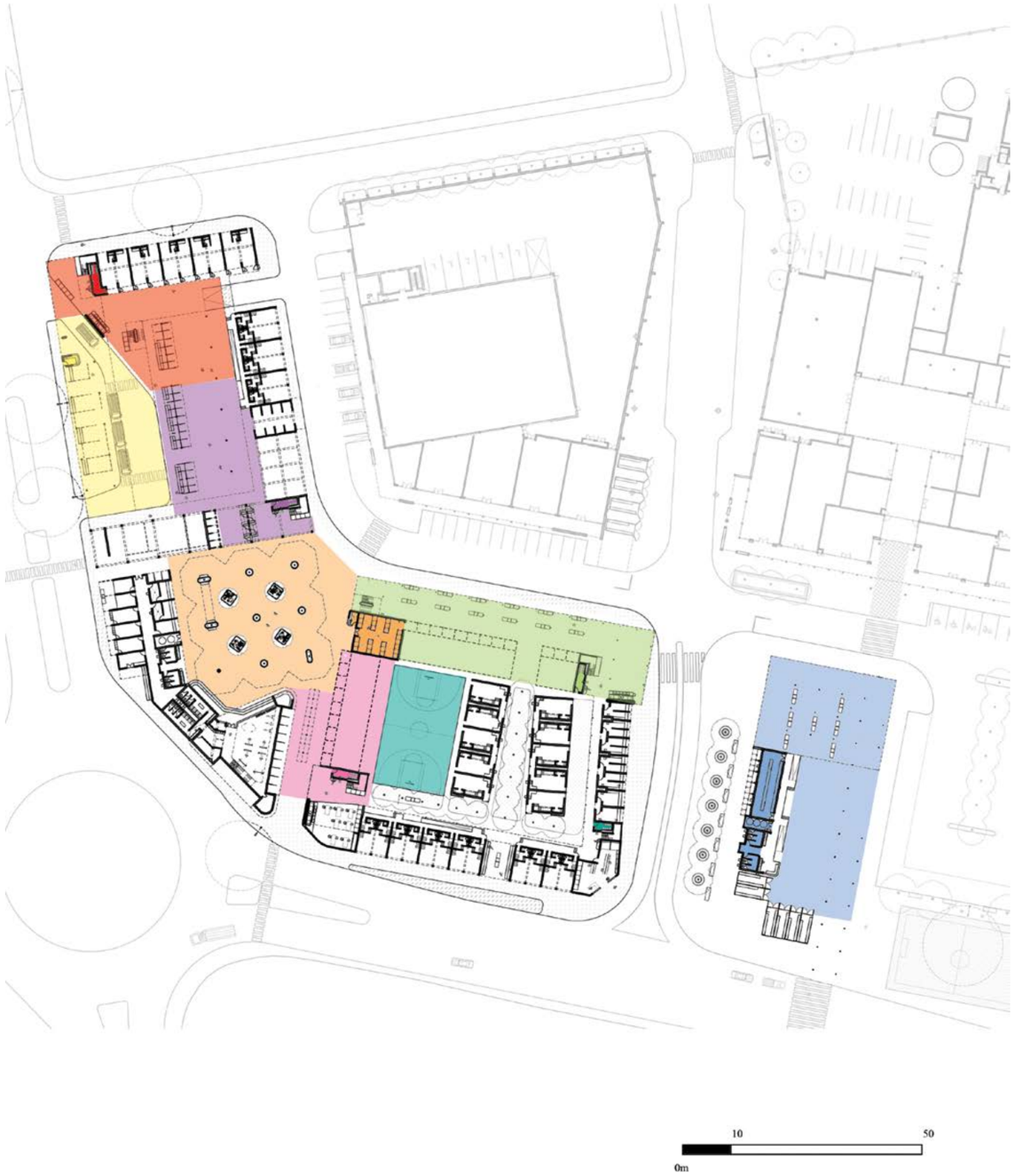


Fig 51 - *Location of facility management offices and the ground floor portions under each manager's supervision*

Management Strategy

In a similar manner to i-TRUMP, the municipal organization which oversaw the implementation of a phased development strategy for the Warwick Junction informal market in Durban, the InforMALL will require a similar overarching development management team to ensure its phased implementation over time. This team will comprise representatives from Shoprite Ltd, the Delft Development Forum (DDF), a local mall management team, an architectural consultant and a consulting representative of the city of Cape Town's Department of Water and Sanitation. In addition to ensuring effective holistic management of such a substantial site, the management team also ensures that a consistent vision is maintained throughout the phased implementation. The on-site facilities management team will be located at each of the strategic infrastructure points.

As the vast majority of the ground plane of the development is anticipated facilitate a vibrant productive retail environment, this will result in a substantial amount of waste being generated. For this reason, refuse holding points will be located in close proximity to the strategic management points for each portion of the scheme. (See *Fig 49*)

The need to keep the ground plane clean requires effective site drainage strategies. In addition to this, the choice of ground cover material is determined by the level of robustness required to facilitate the different anticipated programmes within different spaces. Materials such as stone-chips and permeable pavers allow for drainage of surface water to a soakaway for the designated informal trade areas (see *Fig 42*). Concentrated movement routes will be floored with stabilised laterite - an incredibly cost-effective, durable paving material which can be cleaned easily.

The permeable nature of the mall poses a potential security problem, but evidence from Sibanye Square and other contexts would suggest that the close proximity of agglomerated retail affords each tenant a notable degree of security from passive surveillance. However, the InforMALL will still have active security points with a security officer located at each of the infrastructure points.

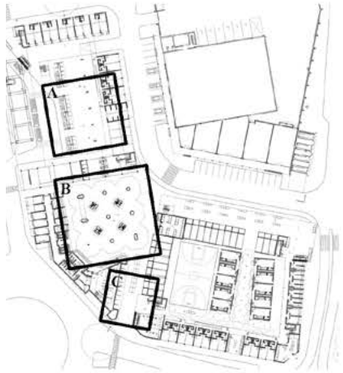
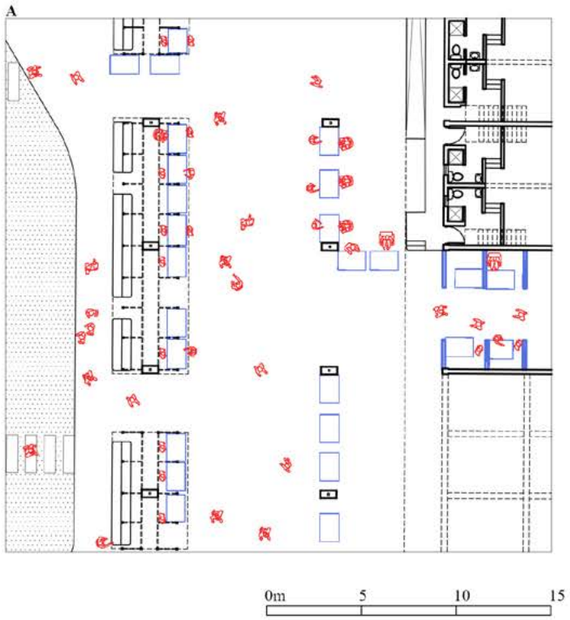


Fig 52 - *The 'productive market' space*



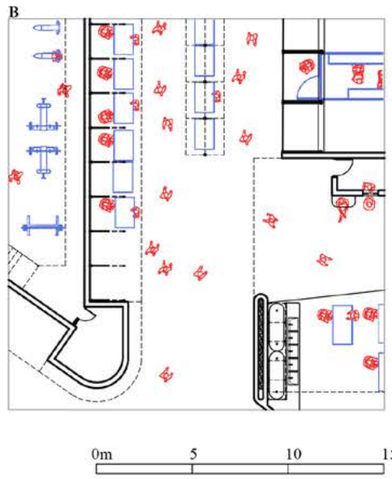


Fig 53 - *Pedestrian activation of the shopping arcade between the gym and the shebeen*

Tenancy-scale

Anticipated Occupation

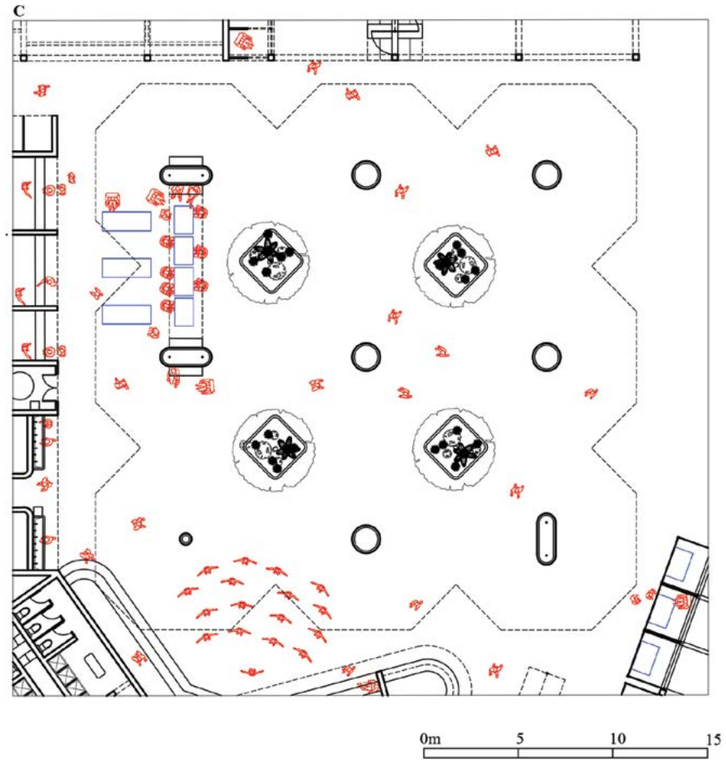


Fig 54 - *Pedestrian activation of the 'event space' which can facilitate different functions such as eating, gathering, performing or exercising*

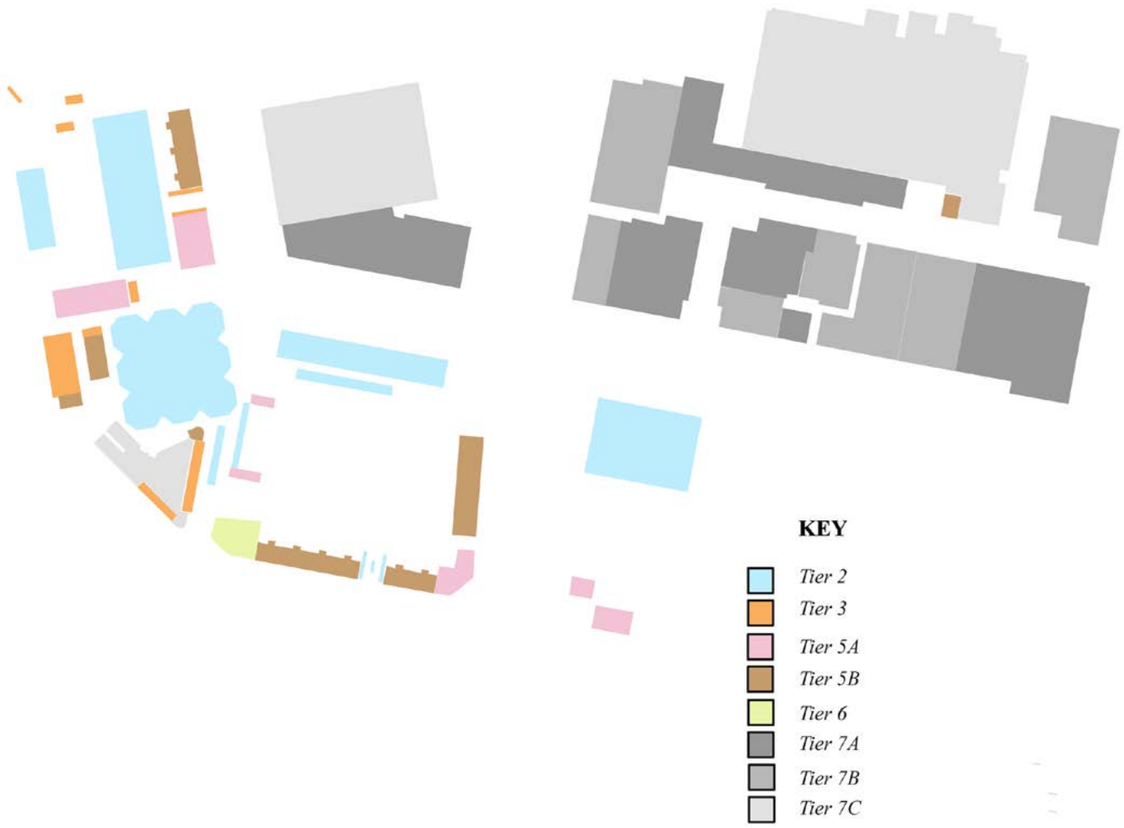


Fig 55 *- Comparative diagram demonstrating the wide range of tenancy options provided by the InforMALL in comparison to the Delft Mall*

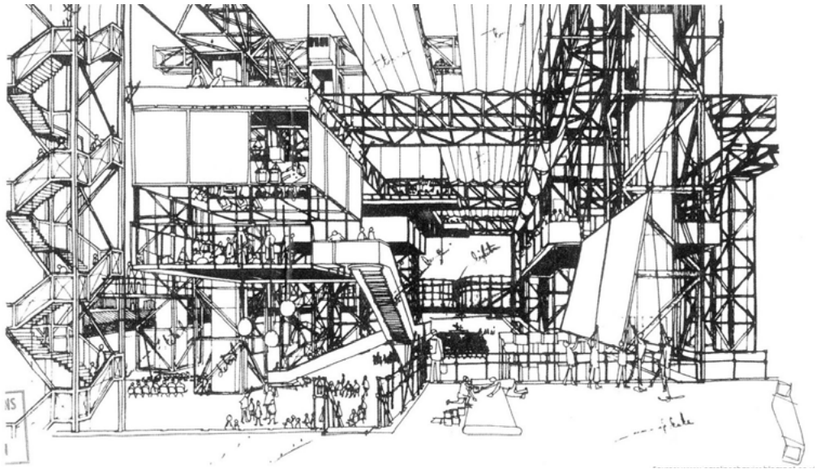


Fig 56 *- Cedric Price's interior perspective sketch of his seminal work 'Fun Palace'. The building comprised a kit of parts whereby the inhabitants could shift and adapt their space to suit their needs*

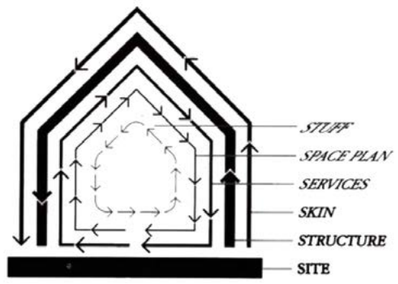


Fig 57 - Shearing Layers of Change *| Because of the different rates of change of its components, a building is always tearing itself apart*

Architectural / tectonic-scale

This section focuses on the more technical aspects of construction and structure and the principles for construction which determine tectonic nature of the various structural offerings of the project

Life-span and Adaptability of Buildings

According to Stewart Brand, the tectonics of a building comprises six systems affectionately refered to as "the 6 S's" all of which have different inherent material lifespans (see *Fig 54*). These are *site, structure, skin, services, space plan and stuff*.[3] *Site* obviously refers to geographic location of the building and obviously outlasts anything constructed upon it. *Structure*, the foundation and load-bearing elements are the most permanent of the building systems and generally have a performative lifespan of 60 to 100 years. The exterior surfaces, which comprise the skin, are generally changed around 20 years after implementation due to fashion trends. The *services* such as plumbing, wiring and sprinkler system are generally replaced after 7-15 years owing to wear and tear.[4] Many buildings are demolished early is their systems are too deeply integrated to be replaceable.[5] The *space plan* refers to the components which create the interior layout such as walls, doors, ceilings and floors.[6] The lifespan of these components is highly dependent on the programme which they facilitate – an office environment might change once every 3 years, whilst changes to a residential home might only take place after 30. Finally, the *stuff* refers to the furniture and objects which move around on a daily basis.[6]

An adaptive building allows for slippage between these differently paced systems otherwise the slow systems inhibit quick and vice versa.[7] As a result, the timber-frame construction system which I have implemented conveniently separates the components of the services, structure and skin. Acknowledging the continuous development of Delft, the construction systems implemented offer permanence, robustness and security with qualities of impermanence and are both lightweight and adaptable.

3. Stewart Brand. How Buildings Learn. New York: Viking Press, 1994
4. Ibid
5. Ibid
6. Ibid
7. Ibid

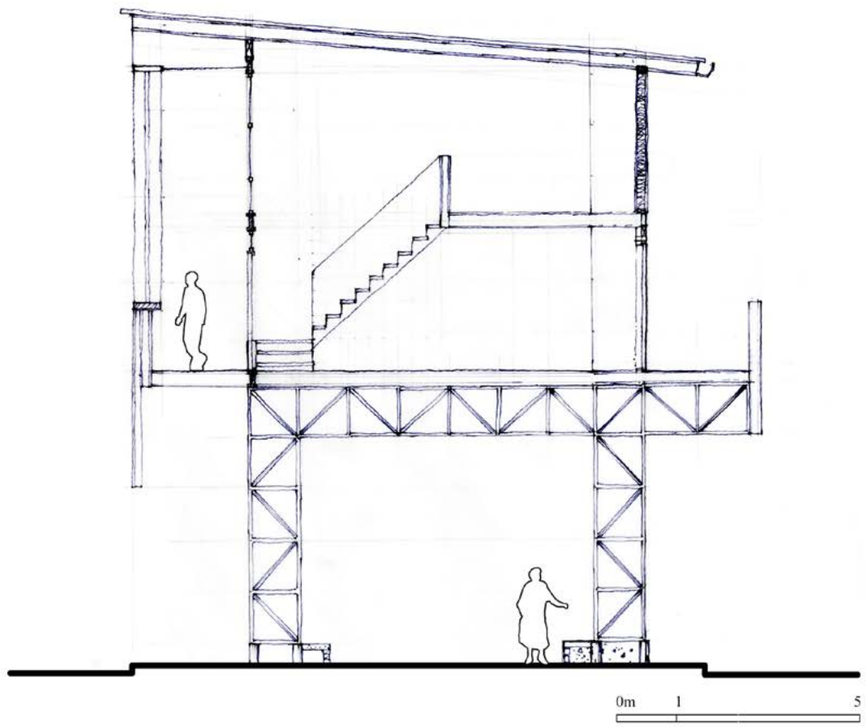


Fig 58 - *Section through house Type 1. The timber frame construction allows for simpler joinery and adaption for the inhabitant*

Didactic Construction Techniques and Materiality

The choice of timber as primary structural material (and inherent construction techniques) was influenced by two main of factors, namely, the desire for sustainable, locally-sourced building materials and the desire for a didactic building system which acknowledged existing building practices within the Delft area and was thus replicable to a certain extent.

The choice of material reflects the level of adaptability required for each programmatic aspect, with the lightest materials and construction systems being used for the most adaptable aspects of the programme. The simplest infrastructures available are timber trestle tables which are manufactured from recycled timber palettes within the workshops and are available for a monthly rental from the facilities management. Whilst the intention is for traders to customize their operational spaces according to their requirements, more sophisticated adaptable systems are available through the facilities management team (see *Fig 56*). These stall structures comprise an up-cycled steel scaffolding frame with adjustable timber elements. The more permanent workshop and showroom spaces make use of a timber-framed column and beam structure which provides a sufficiently robust base upon which spaces can be incrementally outfitted as the tenant sees fit. The heaviest structural elements will be constructed with the use of cross-laminated timber beams of varying sizes and lengths. These are clearly evident in the free-plan structures of the productive market and the event space. Lighter timber components will be constructed from SA structural pine members.

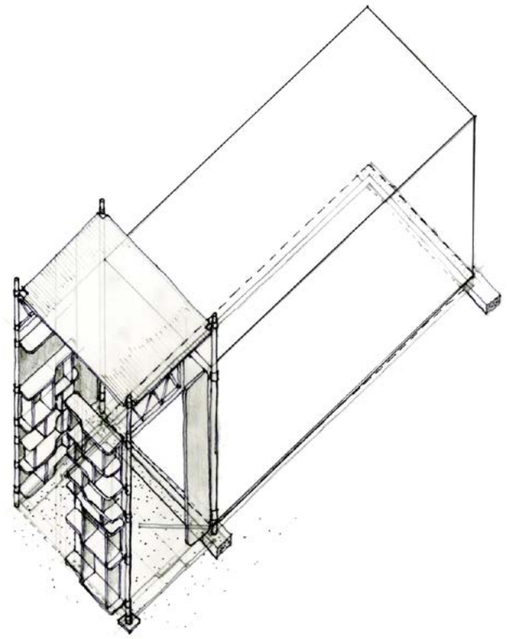


Fig 59 - *An example of the fold-away stall structures constructed within the workshops and rented out to vendors*

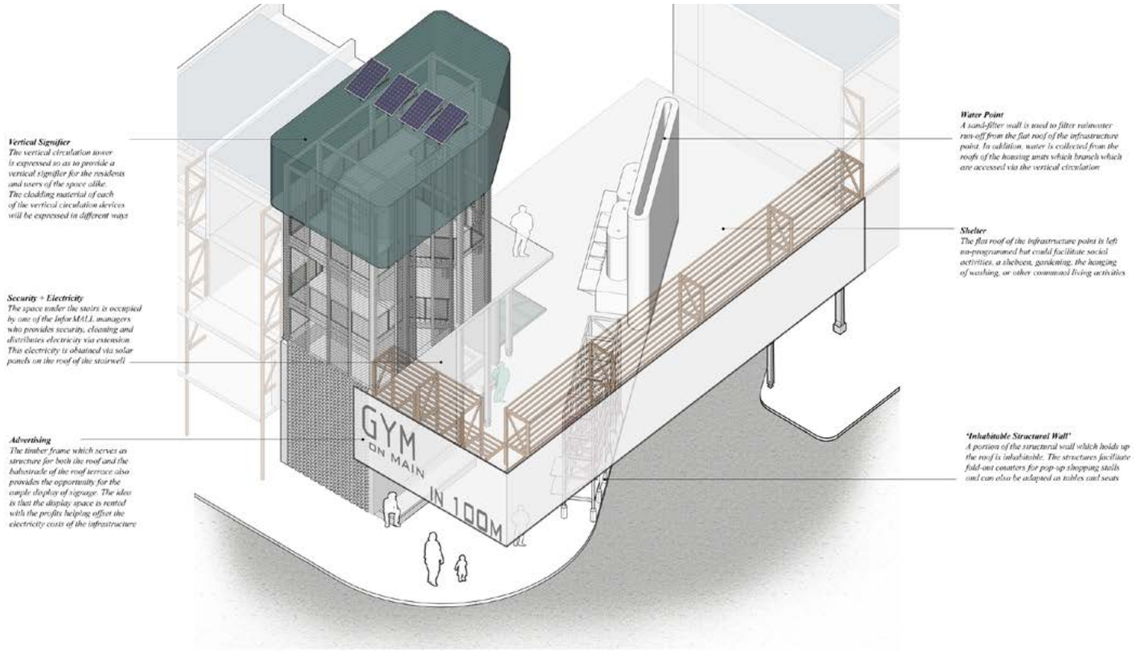


Fig 60 *- Axonometric of Infrastructure Point 1 (See below)*

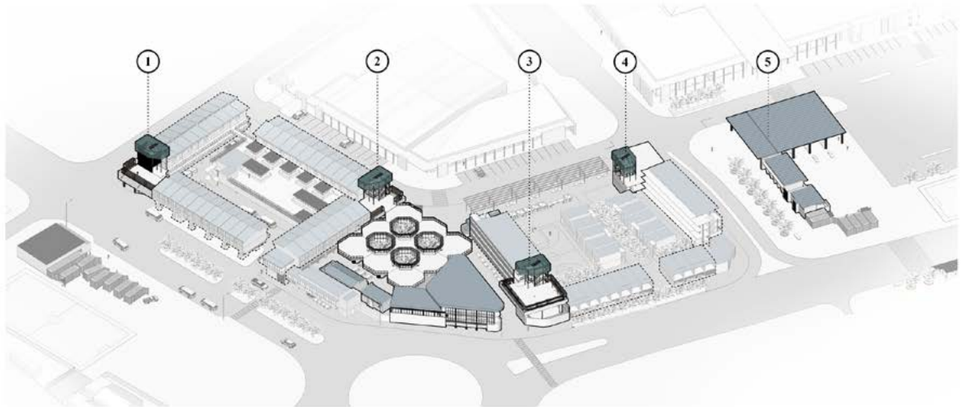


Fig 61 *- Location of Infrastructure Points and programmatic components which rely directly on them such as housing and lettable space*

Infrastructure Points | A kit of parts

The infrastructure points are made up of several components common to all. Each point has a roof structure, a circulation tower, a utilties connection (both water and electricity, a facilities manager's office and rentable advertising space. In addition to providing vertical circulation, the circulation tower provides the structure for the manager's office and an important visual signifier. The roof of the structure provides rentable advertising space and the means to generate electricity (via converted solar energy) for the facility. The rental from the advertising covers the electrical costs.

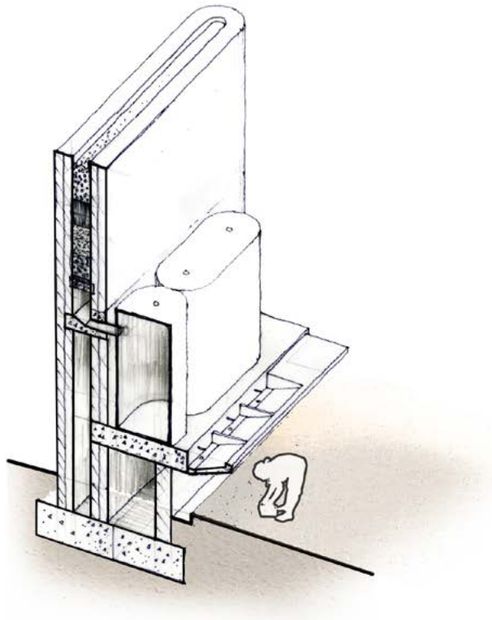


Fig 62 *- Section cut through sand-filter wall component*

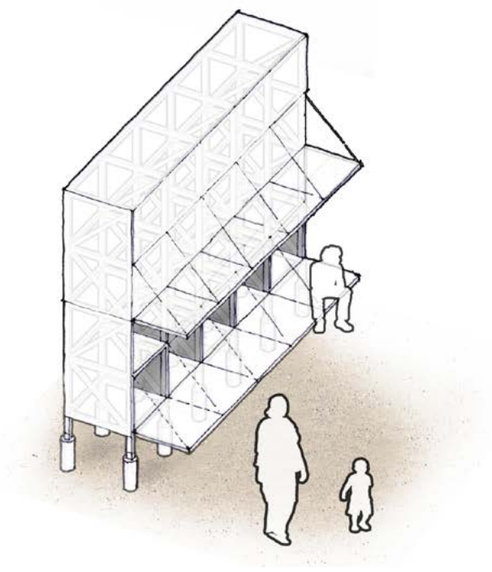
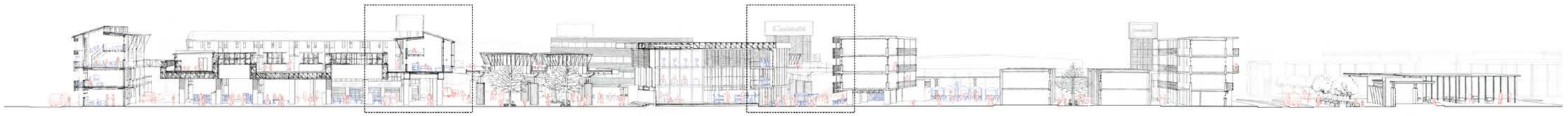
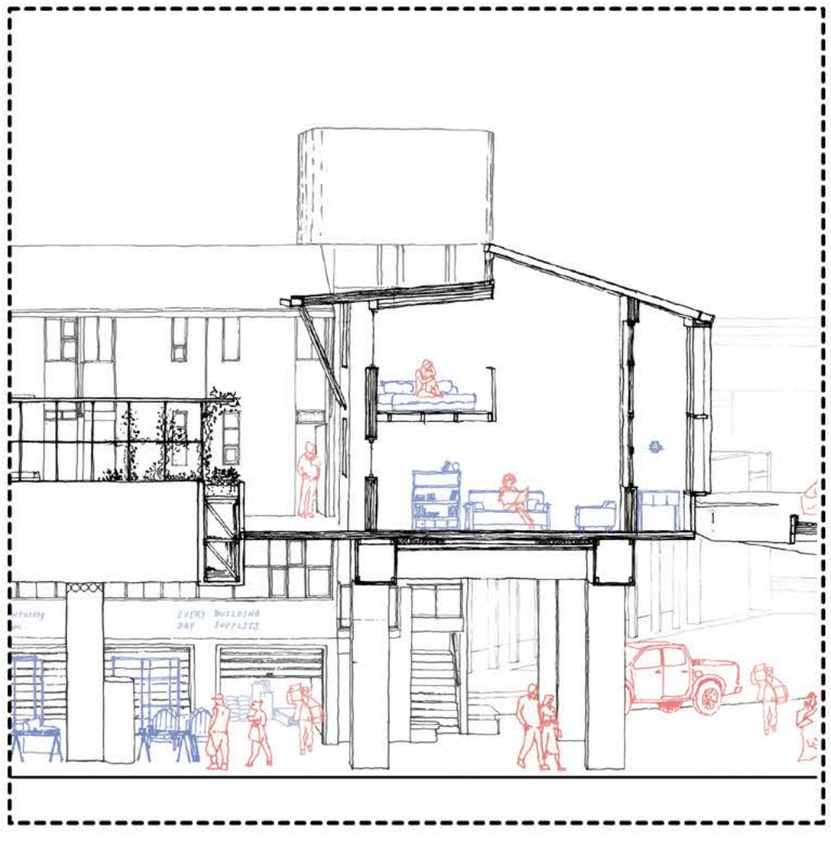


Fig 63 *- Axonometric of inhabitable structural wall demonstrating the value which the structure provides as fold-out stalls, storage units or advertising space in addition to the structure it provides*





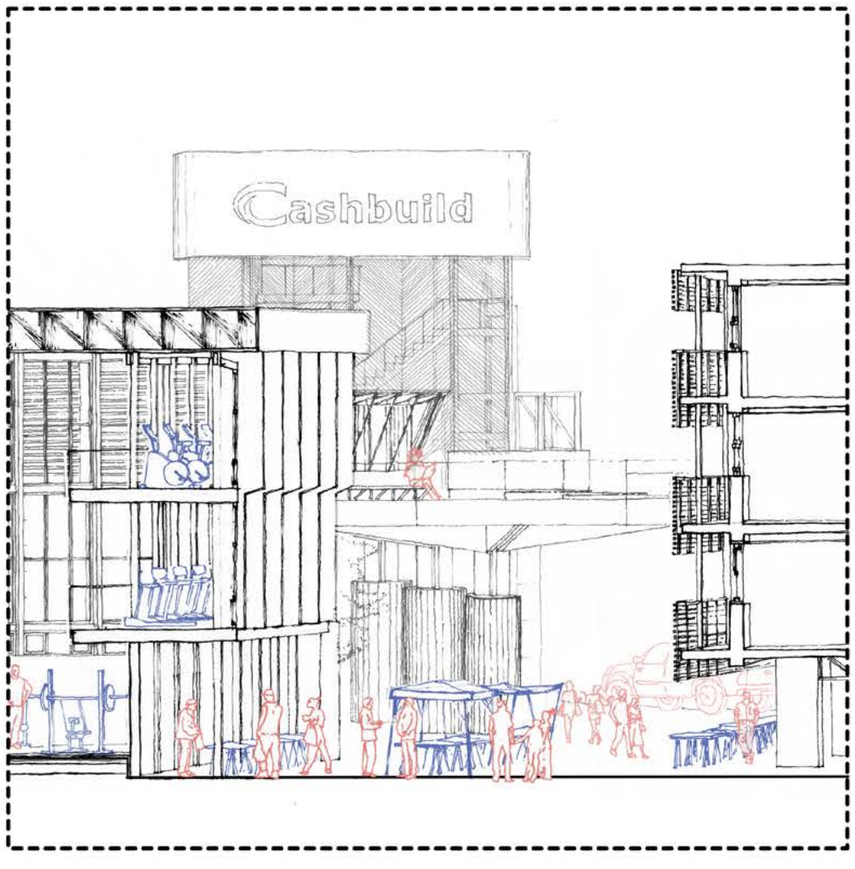


Fig 64 *- Cross section through the entire scheme*

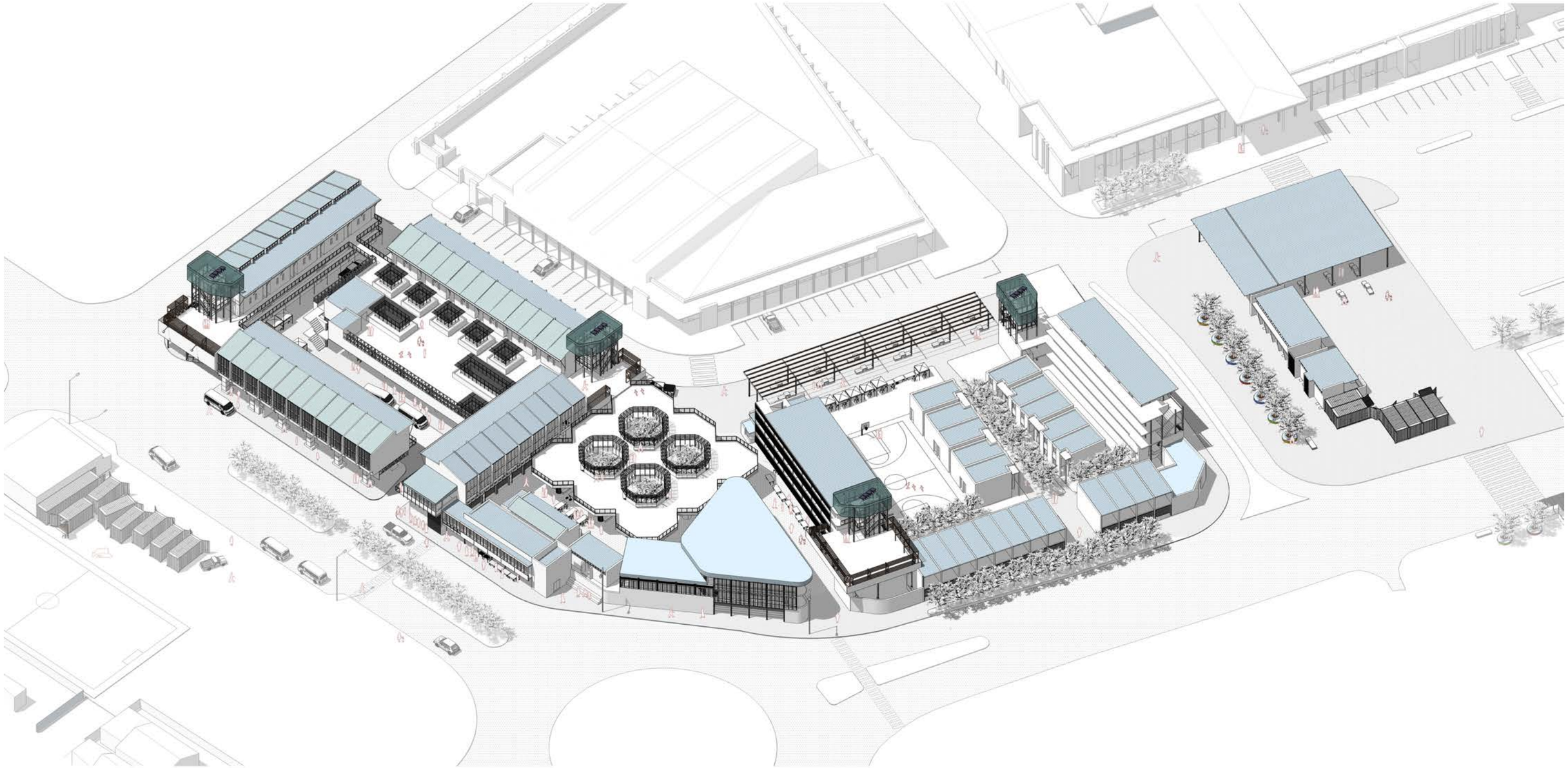


Fig 65 *- Perspective view of the InforMALL scheme*

Fig 66 *- Completed first phase of the Delft Mall exterior viewed from the Hindle Road boundary*

Fig 67 *- 'Dead' exterior edge of mall*

Fig 68 *- The new Delft Cashbuild is already a popular source of building supplies in the area*

CONCLUSION

The process of addressing the topic of *shopping malls as infrastructures to support small-scale informal businesses* over the course of this year has revealed several significant things to me.

Firstly, the nature of informal economics within South Africa is highly complex. In spite of a research base greatly influenced by such rich sources as *The Harvard Guide to Shopping*, *The South African Informal City* and *Working in Warwick* (to name a few), it became clear that there is no 'fits-all' response to the ever-changing economic, social and spatial conditions which characterize the businesses within a context like Delft. It is clear that a comprehensive level of understanding (if such a thing exists) of the intricate spatial and social relationships which characterise informal economics can only be attained through consistent engagement with the lived realities of the site of engagement. For me, the real value of the project lay in engaging with the place, with the inherent spatial conditions which shape economic conditions within Delft as a whole and specifically around the Delft Mall site. It is impossible to develop an understanding of the site without a holistic overall understanding of the area considering sites such as *Spar Node* and the Delft Main Road.

Secondly, in the process of engaging with such a topic it is important to acknowledge not just the conditions of place, but of time, especially considering the temporality of conditions which govern economics within a context such as Delft. For this reason, I chose to focus the project on the development of non-negotiable infrastructures – those supports such as water, electricity, storage, shelter and security, etc – which respond to consistent requirements of both enterprises and daily life, as evidence would suggest that any attempt at 'shop-fitting' such a space with built elements might at any time become 'out-of-date' or 'unfashionable'.

From this point, it would be remiss not to indicate the sophisticated level of development which my InforMALL has reached at this stage. Whilst my project reflects a speculated level of development, which would require phased implementation, the aim of the project is explicitly to provide the infrastructure to traders, who would occupy the

Fig 69 *- The boundary fence along Main Road has already become a back edge for informal traders*

Fig 70 *- The existing traders who used to operate out of a line of containers have disappeared*

Fig 71 *- An informal taxi rank has been established on the corner of Main and Hindle roads opposite the Delft Mall site*

site in different ways following the completion of the *Infrastructure Points*. In reality, this occupation is more likely to be less regimented than my current site plan would suggest. This is evident on the site today, as informal responses to the presence of the first phase of the mall have taken place in various ways (see *Figs 64 - 66*). The next stage of my design process requires a more rigorous engagement with the architectural scale and spatial arrangement of my speculated 'tenants', so as to better understand how my intervention might be occupied. In this way, the implementation of the different phases might better accommodate the inhabitants.

Since the identification of my issue – that of the need to demonstrate the value of the Delft Mall as an economic catalyst, creating economic opportunities for small businesses rather than reducing them – I have been engaging with the architecture of shopping. The typologies which historically facilitated shopping from the open-air market to the *big-block* mall are constantly developing in nature and size, entirely dependent on market forces, the economy and tastes, as is evident in Daniel Herman's quote from his essay *The Next Big Thing* published in *The Harvard Guide to Shopping*:

"*The Next Big Thing is always on the way. If you don't like this one, just wait until the next one. And then the next one, always bigger, faster, fresher…Architecture was never so lively and so crude. This is the architecture of shopping. It is unstable, always in transition. It is obvious in its tactics, but confident in its ability to seduce, for however brief an interlude."*

So what is the *next big thing*? I would suggest that regarding the development of informal enterprises, the emphasis should be placed on first understanding the 'small things' which comprise informal economics prior to addressing the big things. In my opinion, the answer to the question lies in developing an understanding of complexity of the social and physical networks as well as the operational requirements of informal traders. Thus, through the implementation of relatively small moves such as the strategic investment of infrastructure to support small-scale enterprises, 'small' might evolve into something 'big'.

8. Daniel Herman, "The Next Big Thing," in Project on the City 2: the Harvard Guide to Shopping, edited by Chuihua Judy Chung, Jeffrey Inaba, Rem Koolhaas and Sze Tsung Leong, 128-156. Cologne: Taschen GmbH, 2000

REFERENCES

Text

- McGaffin, Robert. “Taking Stock: Development of Retail Centres in Emerging Economic Areas”, Lecture. Spaces of Good Hope Plenary Series from University of Cape Town, March 2016

- Viruly, F. “Informality and the Property Market.” Lecture, Spaces of Good Hope Plenary Series from University of Cape Town, March 2016

McGaffin, R,. Gavera, L. (2011) “The Development of Retail Centres in Emerging Economic Areas: impact on local consumers, local businesses and local economy”. Urban Landmark.

- Brian Dobson, Jillian Nicholson and Caroline Skinner. *Working in Warwick: including street traders in urban plans*. Durban: UKZN School of Development Studies, 2009

- Rob McGaffin, Mark Napier and Geci Karuri-Sebina. *South African Townships and Commercial Property Markets: A conceptualization and overview*. Pretoria: Urban Landmark, CSIR and SA Cities Network, 2015. Accessed August 3, 2017. http://www.urbanlandmark.org.za/downloads/SACN_ULM_township_economies.pdf

- Kevin Lynch. *Image of the City*, Cambridge: MIT Press, 1960

- Stewart Brand. *How Buildings Learn*. New York: Viking Press, 1994

- Chuihua Judy Chung, Jeffrey Inaba, Rem Koolhaas and Sze Tsung Leong (eds.) Project on the City 2: the Harvard Guide to Shopping. Cologne: Taschen GmbH, 2000

- Daniel Herman, “The Next Big Thing,” in *Project on the City 2: the Harvard Guide to Shopping*, edited by Chuihua Judy Chung, Jeffrey Inaba, Rem Koolhaas and Sze Tsung Leong, 128-156. Cologne: Taschen GmbH, 2000

- Marc Angélil and Rainer Hehl (eds). *Building Brazil! Proactive Urban Renewal of Informal Settlements*, Ruby Press: Berlin, 2011

- Stanley Matthews. *From Agit-Prop to Free Space: The Architecture of Cedric Price*, Black Dog Architecture: London, 2007

- Karen Eicker, Lone Paulsen and Melinda Silverman. The South African Informal City. Johannesburg: Architect’s Collective, 2012.

- Deyan Sudjic. “The Architecture of Consumption.” In The 100 Mile City, Deyan Sudjic. London: Andre Deutsch Limited, 1992

Image

Fig 01 - Tiaan Zietsman, *Untitled*, 2016. Space of Good Hope Studio Archive. https://drive.google.com/drive/folders/0B2d6MsQe2rV-YkRMX0JCRy1oWGM (Accessed 16 May, 2017)

Fig 02 – Author, *traced from* City of Cape Town, *Aerial Image*, February 2015. City of Cape Town GIS. http://emap.capetown.gov.za/egispbdm/ (Accessed 13 August, 2017)

Fig 03 – SVA, *aerial perspective render*, Computer rendered drawing. From SVA, *Lead Build Design – Delft Mall*. Cape Town: SVA Architects and Urban Planners.

Fig 04 - MLH Architects and Planners, *Activity Spine Concept*, 1987. Pencil drawing. From MLH Architects and Planners, *Blue Downs – Delft: Structure Plan.* Cape Town: MLH, 1987.

Fig 05 – Author, *traced from* City of Cape Town, *Aerial Image*, February 2015. City of Cape Town GIS. http://emap.capetown.gov.za/egispbdm/ (Accessed 13 August, 2017)

Fig 06 - Space of Good Hope Studio 2016, *Mobility and economic interests*, 2016. Space of Good Hope Studio. (Edited)

Fig 07 – Author, *traced from* City of Cape Town, *Aerial Image*, February 2015. City of Cape Town GIS. http://emap.capetown.gov.za/egispbdm/ (Accessed 13 October 2017)

Fig 08 - Andre le Roux, *Untitled,* 2016. Space of Good Hope Studio Archive. https://drive.google.com/drive/folders/0B2d6MsQe2rV-YkRMX0JCRy1oWGM (Accessed 16 May, 2017)

Fig 09 – Tiaan Zietsman, *Untitled*, 2016. Space of Good Hope Studio Archive. https://drive.google.com/drive/folders/0B2d6MsQe2rV-YkRMX0JCRy1oWGM (Accessed 16 May, 2017

Fig 10 – Tiaan Zietsman, *Untitled*, 2016. Space of Good Hope Studio Archive. https://drive.google.com/drive/folders/0B2d6MsQe2rV-YkRMX0JCRy1oWGM (Accessed 16 May, 2017

Fig 11 – Author, *traced from* City of Cape Town, *Aerial Image*, February 2015. City of Cape Town GIS. http://emap.capetown.gov.za/egispbdm/ (Accessed July, 2017)

Fig 12 – Author, *traced from* City of Cape Town, *Aerial Image*, February 2015. City of Cape Town GIS. http://emap.capetown.gov.za/egispbdm/ (Accessed July, 2017)

Fig 13 (a) – Author, 2017

Fig 13 (b) – Author, 2017

Fig 14 - Author, *traced from* City of Cape Town, *Aerial Image*, February 2015. City of Cape Town GIS. http://emap.capetown.gov.za/egispbdm/ (Accessed July, 2017)

Fig 15 - Author, *traced from* City of Cape Town, *Aerial Image*, February 2015. City of Cape Town GIS. http://emap.capetown.gov.za/egispbdm/ (Accessed July, 2017)

Fig 16 - Author, *traced from* City of Cape Town, *Aerial Image*, February 2015. City of Cape Town GIS. http://emap.capetown.gov.za/egispbdm/ (Accessed July, 2017)

Fig 17 - Andre le Roux, *Untitled,* 2017. Space of Good Hope Studio Archive. https://drive.google.com/drive/folders/0B2d6MsQe2rV-YkRMX0JCRy1oWGM (Accessed 16 May, 2017)

Fig 18 - Andre le Roux, *Untitled,* 2017. Space of Good Hope Studio Archive. https://drive.google.com/drive/folders/0B2d6MsQe2rV-YkRMX0JCRy1oWGM (Accessed 16 May, 2017)

Fig 19 – Author, *tenancy plan*, hand-traced. From SVA, *Lead Build Design – Delft Mall*. Cape Town: SVA Architects and Urban Planners.

Fig 20 - Author, *tenancy plan*, hand-traced. From SVA, *Lead Build Design – Delft Mall*. Cape Town: SVA Architects and Urban Planners.

Fig 21 - Author, *tenancy plan*, AutoCAD and photoshop drawing. From SVA, *Lead Build Design – Delft Mall*. Cape Town: SVA Architects and Urban Planners.

Fig 22 - Author, *critique of tenancy plan*, hand-traced. From SVA, *Lead Build Design – Delft Mall*. Cape Town: SVA Architects and Urban Planners.

Fig 24 - Author, *traced from* City of Cape Town, *Aerial Image*, February 2015. City of Cape Town GIS. http://emap.capetown.gov.za/egispbdm/ (Accessed July, 2017)

Fig 25 - Author, *traced from* City of Cape Town, *Aerial Image*, February 2015. City of Cape Town GIS. http://emap.capetown.gov.za/egispbdm/ (Accessed July, 2017)

Fig 26 – Author, *traced from* City of Cape Town, *Aerial Image*, February 2015. City of Cape Town GIS. http://emap.capetown.gov.za/egispbdm/ (Accessed July, 2017)

Fig 27– SVA Architects, *Ground Plan and Basement Plan*, 2003. AutoCAD drawing. SVA Architects. (Edited)

Fig 28 – SVA Architects, *Ground Plan and Basement Plan*, 2003. AutoCAD drawing. SVA Architects. (Edited)

Fig 29 – Author, 2017

Fig 30 – Author, 2017

Fig 31 - Author, 2017

Fig 32 - Author, 2017

Fig 33 - Author, 2017

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Fig 36 - Author, 2017

Fig 37 - Author, 2017

Fig 38 - Author, 2017

Fig 39 - Author, 2017

Fig 40 - Author, *critique of tenancy plan*, hand-traced. From SVA, *Lead Build Design – Delft Mall*. Cape Town: SVA Architects and Urban Planners.

Fig 41 - Author, *critique of tenancy plan*, hand-traced. From SVA, *Lead Build Design – Delft Mall*. Cape Town: SVA Architects and Urban Planners.

Fig 42 - Author, 2017

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Fig 44 - Author, 2017

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Fig 50 - Author, 2017

Fig 51 - Author, 2017

Fig 52 - Author, 2017

Fig 53 - Author, 2017

Fig 54 - Author, 2017

Fig 55 - Author, *critique of tenancy plan*, hand-traced. From SVA, *Lead Build Design – Delft Mall*. Cape Town: SVA Architects and Urban Planners.

Fig 56 – Cedric Price, *Fun Palace*, 1961. http://uk.phaidon.com/agenda/architecture/articles/2014/march/06/obrist-and-herzog-and-de-meuron-disrupt-the-biennale/ (Accessed: 28 October 2017)

Fig 57 – Donald Ryan, *Shearing Layers*. From Stewart Brand. *How Buildings Learn*. New York: Viking Press, 1994

Fig 58 – Author, 2017

Fig 59 - Author, 2017

Fig 60 - Author, 2017

Fig 61 - Author, 2017

Fig 62 - Author, 2017

Fig 63 - Author, 2017

Fig 64 - Author, 2017

Fig 65 - Author, 2017

Fig 66 - Author, 2017

Fig 67 - Author, 2017

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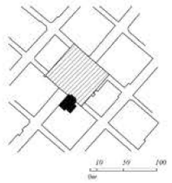
Fig 70 - Author, 2017

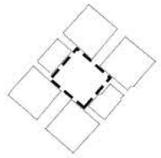
Fig 71 - Author, 2017

Appendix A

Retail Principles

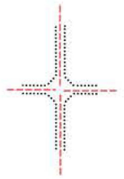
GREENMARKET SQUARE, Cape Town





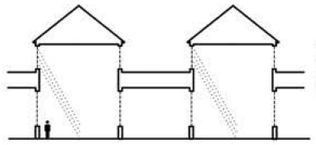
Scale
Space held by built edge

GALLERIA VITTORIO EMANUELE II, Milan



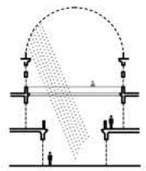
extended activated frontage through interior pedestrian access street

FIRST ARCADE
GALERIE DU BOIS, Paris



Building technology in the form of clerestory lighting allows for effective lighting of the first enclosed shopping arcade

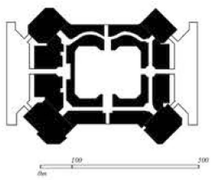
GUM DEPARTMENT STORE, Moscow

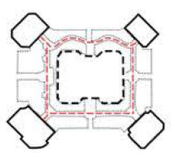


Technological innovations to allow for effective daylighting of deep interior spaces

Vast scale of interior is mediated by innovative circulation devices such as raised corridors and bridges

FIRST NATIONAL-SCALE MALL
Mall of America, Bloomington



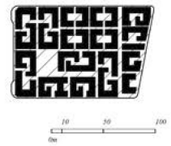


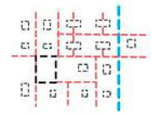
anchor stores arranged around central anchor to generate activated frontage for line shops

CAVENDISH SQUARE, Claremont

mall as urban-scale anchor to activate edges of the surrounding built fabric through increased vehicular and pedestrian concentration

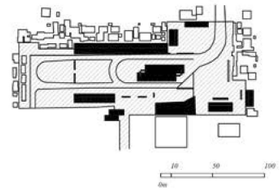
JOE SLOVO PHASE 3A, Khayelitsha

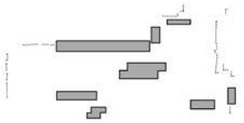




different scales of residential courtyard

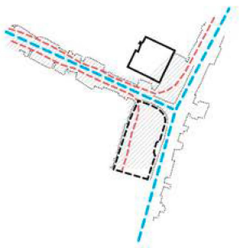
PHILIPPI TRANSPORT INTERCHANGE, Philippi





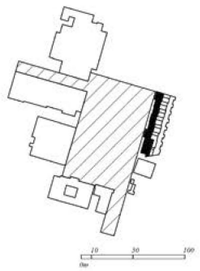
scale of physical transport infrastructure and activated edges of buildings in vicinity as a result of increased pedestrian activity

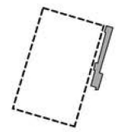
SIBANYE SQUARE, Delft-South



formal urban-scale anchor (Spar) facilitates the formation of an informal anchor (Sibanye Sq.) Resulting junction is a hub of informal retail activity where vast numbers of passing pedestrian traffic facilitate and sustain hundreds of informal businesses

CS STUDIO's LIVE-WORK UNITS at HARARE SQUARE, Harare Park





Scale of live-work units in relation to important public square

Name: SIMON JAMES FERRANDI

Student Number: FRRSIM003

Course: APG 5079W

Supervisor: MELINDA SILVERMAN & FADLY ISAACS

Declaration

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Date 01 - 11 - 2017

Application for Approval of Ethics in Research (EiR) Projects
Faculty of Engineering and the Built Environment, University of Cape Town

APPLICATION FORM

Please Note:
Any person planning to undertake research in the Faculty of Engineering and the Built Environment (EBE) at the University of Cape Town is required to complete this form **before** collecting or analysing data.The objective of submitting this application *prior* to embarking on research is to ensure that the highest ethical standards in research, conducted under the auspices of the EBE Faculty, are met. Please ensure that you have read, and understood the **EBE Ethics in Research Handbook**(available from the UCT EBE, Research Ethics website) prior to completing this application form: http://www.ebe.uct.ac.za/usr/ebe/research/ethics.pdf

APPLICANT'S DETAILS		
Name of principal researcher, student or external applicant		Simon James Ferrandi
Department		Architecture, Planning & Geomatics
Preferred email address of applicant:		simonferrandi@gmail.com
If a Student	Your Degree: e.g., MSc, PhD, etc.,	March(Prof)
	Name of Supervisor (if supervised):	Melinda Silverman
If this is a researchcontract, indicate the source of funding/sponsorship		Not Applicable
Project Title		**INFRASTRUCTURE TO SUPPORT AGGLOMERATED FORMAL AND INFORMAL ECONOMIC ACTIVITY**

I hereby undertake to carry out my research in such a way that:

- there is no apparent legal objection to the nature or the method of research; and
- the research will not compromise staff or students or the other responsibilities of the University;
- the stated objective will be achieved, and the findings will have a high degree of validity;
- limitations and alternative interpretations will be considered;
- the findings could be subject to peer review and publicly available; and
- I will comply with the conventions of copyright and avoid any practice that would constitute plagiarism.

SIGNED BY	Full name	Signature	Date
Principal Researcher/ Student/External applicant	Simon James Ferrandi		**23-06**

APPLICATION APPROVED BY	Full name	Signature	Date
Supervisor (where applicable)	Melinda Silverman	Signed	**23-06**
HOD (or delegated nominee) Final authority for all applicants who have answered NO to all questions in Section1, and for all Undergraduateresearch (Including Honours)	Click here to enter text.		**23-06**
Chair : Faculty EIR Committee For applicants other than undergraduate students who have answered YES to any of the above questions	Click here to enter text.		**23-06**

ACKNOWLEDGEMENTS

- My supervisors Melinda and Fadly, who have advised, counselled, poked and prodded me to reach this stage and who have developed such a valuable research platform as the Spaces of Good Hope Design and Research Studio

- My family for their endless love, support and ready-cooked meals

- The members of the Delft community who have been so welcoming and willing to engage in the research process

- My classmates and friends, for making the toughest times bearable