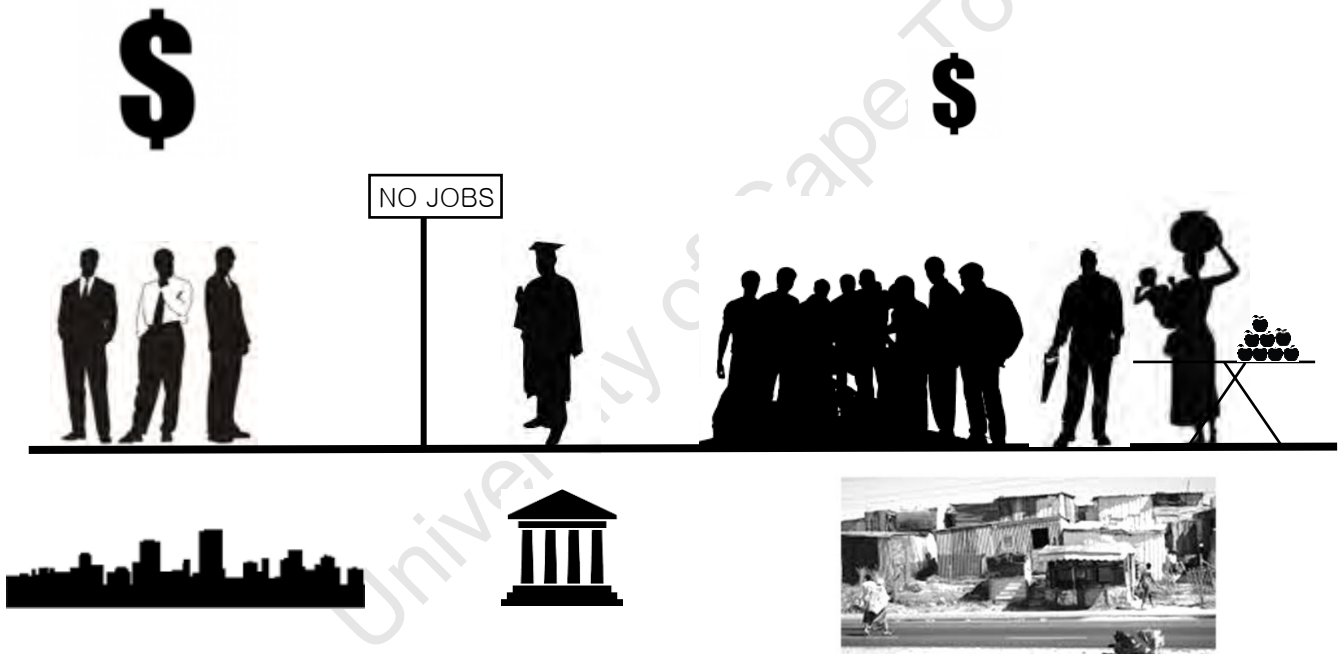


# INCLUSIVE URBAN CENTRES



Tawanda Madzingaidzo

MArch (Prof) Dissertation

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DISSERTATION TITLE: **INCLUSIVE URBAN CENTRES**

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Date

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## ABSTRACT

This dissertation is about addressing the need to make township centres a more socially and economically inclusive space for the majority of the inhabitants. It is about transforming the current status of a township from a dormitory or residential zone that simply repels its inhabitants to look for a sense of wellbeing and livelihood elsewhere to a township with an active centre that retains its people through promoting and supporting context specific socio-economic opportunities of the place

It has become evident in many South African townships that there is an entrepreneurial activity that supports the livelihood of people within the settlements yet this activity is largely unsupported in legislation and in built infrastructure. The entrepreneurial activity is mainly found in the informal and formal small scale, medium and micro enterprises (SMMEs) and the neglect of this mainstream township economy, is reflected in its spatial exclusion from central business districts within cities around the country and within the township centres themselves. The Khayelitsha Business District is a township urban centre that finds its SMME economy operating on the centre's periphery while large scale enterprises, coming from outside the township dominate the built half of the business district. It is precisely this lack of representation of the formal and informal small scale, medium and micro enterprises within the Khayelitsha Business District that this dissertation seeks to address and provide a suitable architectural and urban intervention.

It seems intuitive that through infrastructural interventions, that promote active social and economic participation of the majority of the population, can one seek to create spaces of socio-economic inclusion. Appropriate urban planning strategies, such as those suggested by professors David Dewar and Fabio Todeschini in their book *"Urban Management and Economic Integration"*, and architectural examples, such as the ancient Greek Agora, will be analysed and used to equip me in imagining an inclusive vision for the further urban development of the remaining half of the business district and in

designing a building that celebrates the aspirations and needs of the SMME economy. It is my hope that such an urban scheme and building will contribute positively to the ideal of an inclusive urban centre.

## INTRODUCTION:

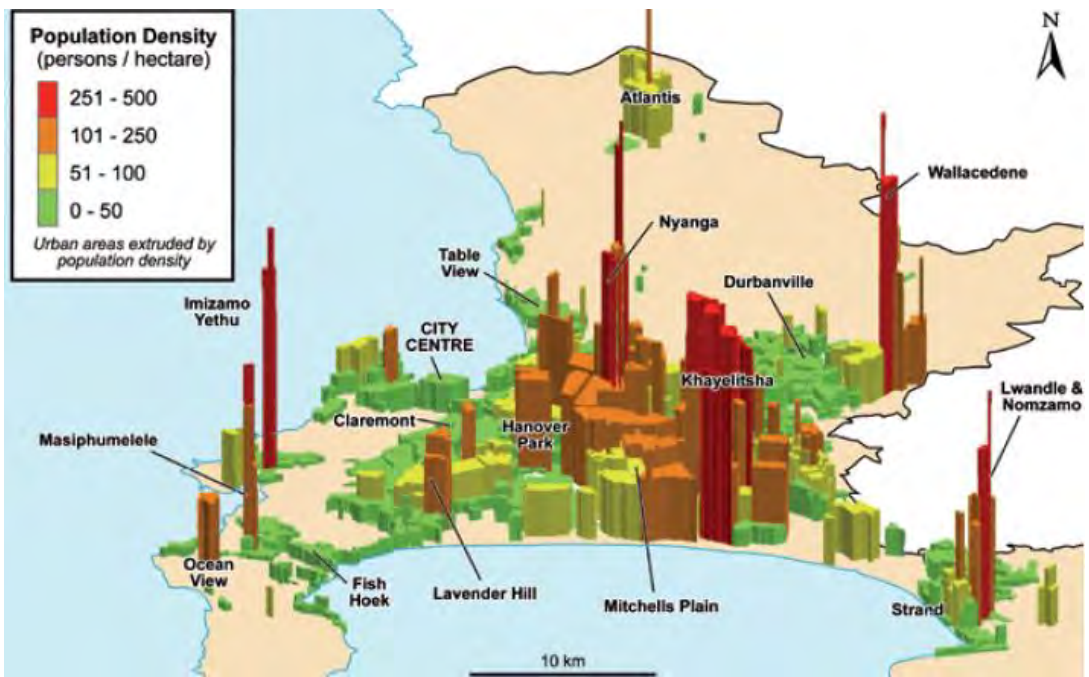
### Exclusive Centres and the Impoverished Margins

In our current South African context, and typically in our Cape Town context, it is apparent in the infrastructural layout of our built environment that there is a spatial mismatch in the social and economic opportunities our country has to offer. The spatial mismatch theory acknowledges that long distances between places of work and places of residence significantly contribute to a rise in unemployment and increases the divide (be it a spatial, economic, social or political divide) between the rich and the poor of our city.<sup>1</sup> **Fig. 1** and **2** (overleaf) give an indication of the spatial arrangement of this divide and its enormity. Through such data capturing, it is a known reality that two thirds of our city's population resides in low-income areas, such as Khayelitsha, Nyanga, and Mitchells Plain, and that these low-income areas are located far away from the inhabitants' places of main economic opportunity; places such as the Cape Town city centre or central business district (CBD), the northern commercial suburban nodes (e.g. Table View) and the southern commercial suburban nodes (e.g. Claremont).

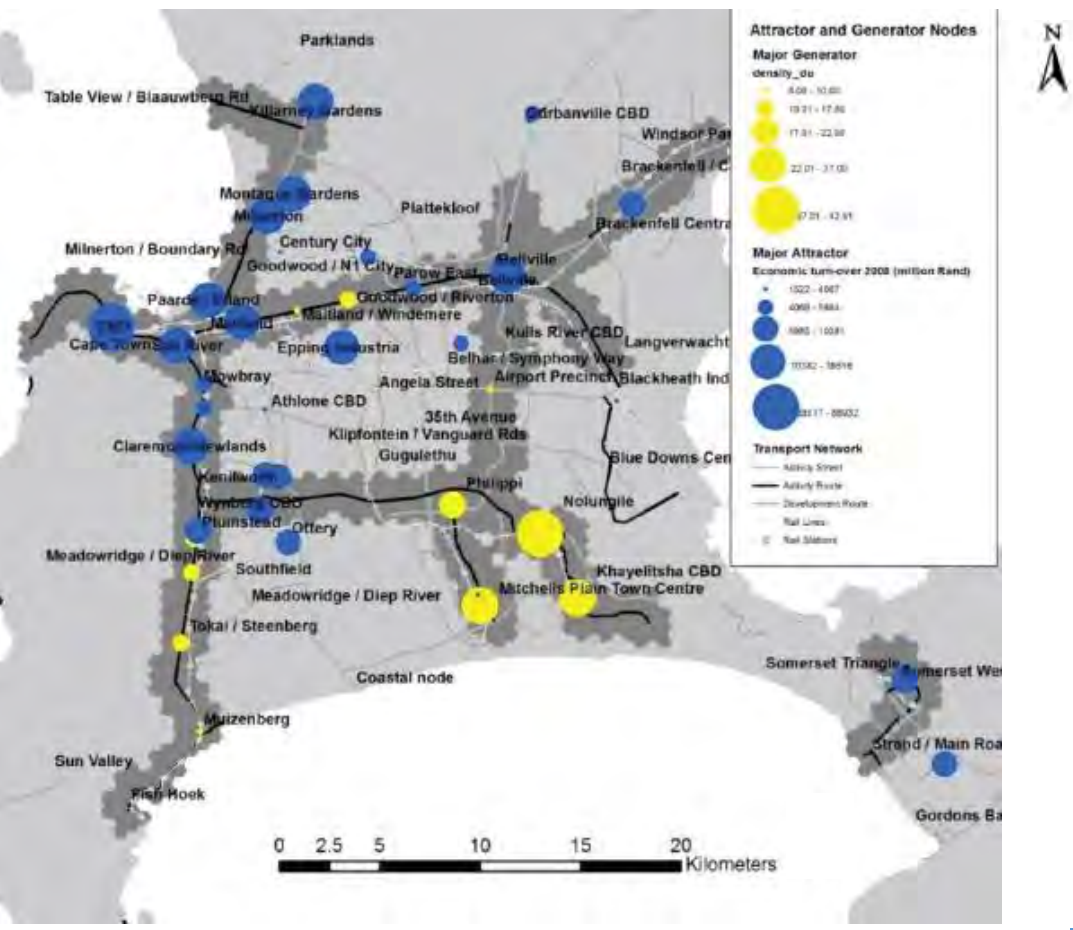
The geographical, spatial separation of the places of strong economic opportunities from the low-income areas is expressed in **Fig 2** through the clustering of the strong economic nodes (attractor nodes) and the low-income nodes (generator nodes) in two separate groups with a roughly 20km minimum travelling distance maintained between the two groups of nodes. The social and economic separation between the attractor and generator nodes is better understood in a glimpse of the Low-income context, that is, a brief understanding of the condition of the low-income settlements or townships that allows one to comprehend the commercial, attractor nodes as exclusive centres and the low-income, generator nodes as the impoverished margins.

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<sup>1</sup> Rosbape, S. & Selod, H, 2003. Does City structure cause unemployment? The Case of Cape Town. *In The World Bank Urban Research Symposium. Urban development for economic growth and poverty reduction.* Washington, D.C., USA, 2003.



**Fig. 1:** Population Density Map of Cape Town. The densest parts of the city happen to be in the low-income settlements of the Cape Flats area: Khayelitsha, Nyanga, Hanover Park Mitchells Plain and Lavender Hill.



**Fig. 2:** Map showing the main commercial and economic centres in Cape Town (blue) that attract the employed of the low-income population of the Cape Flats (larger yellow dots) mostly from a distance +20km due to the indirect transport route system; the indirect train route forces commuters to go through the CBD before reaching commercial destinations in the north, increasing transport costs.

# The Low - Income Context

## Economic Condition

What exactly makes the townships to be categorised as low-income zones? Firstly it is the high unemployment rate - about 40 % of the country's 80% black majority population, most of which is residing in townships, is unemployed.<sup>2</sup> Secondly it is the type of employment - 82% of the country's black employed consists of individuals who are either low-skilled (e.g. domestic worker) or the semi-skilled (e.g. clerks and machine operators).<sup>3</sup> The low-skilled or semi-skilled jobs translates to low wages and salaries, hence a low income for most of the townships' inhabitants.

Since the current Capetonian infrastructural model requires for low-income, formally and informally employed, people to spend a significant amount of their low wages and salaries on transport costs to places of employment and good business markets,<sup>4</sup> the participation of the low-income individual in the urban centre is generally inefficient and hinders his/her economic growth. There is an *income drain* from low-income settlements/townships to places of higher income because of such infrastructural inefficiency. The combination of the income drain and the nature of employment of the township inhabitants in the economic centres has allowed townships to become simply generators of wealth, hence the term generator nodes, for the economic urban centres they are attracted to - attractor nodes. Further income drain in an already economically struggling township community and the townships' status as a generator of wealth for the urban centres gives the existing urban centres an image of space that serves the needs of the minority of the city's population at the exclusion of the majority of the population. Thus, the current spaces of economic opportunity are exclusive urban centres while the townships are consequently the impoverished margins of these centres.

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<sup>2</sup> Statistics South Africa, *Skills and Unemployment*, <http://www.statssa.gov.za/presentation/Stats%20SA%20presentation%20on%20skills%20and%20unemployment%2016%20September.pdf> (accessed April 1 2016)

<sup>3</sup> Ibid. (accessed April 1 2016)

<sup>4</sup> David Dewar and Fabio Todeschini, *Urban Management and Economic Integration* (Cape Town: UCT, 1996)

The roughly 40% unemployed township residents, who are also considerably unemployed due to their spatial mismatch from the urban centres, have resorted to the creation of and participation in an urgent informal and formal small scale, medium and micro enterprise (SMME) economy located in the townships themselves. The Khayelitsha Township is one such low-income settlement with a large SMME economy and is Cape Town's most populated urban area, making it a suitable low-income context to reference in this dissertation's goal of imagining an inclusive urban centre.

### A Glimpse into the SMME Economy

According to the University of Stellenbosch Business School's studies, the scale and activities of SMMEs in Khayelitsha range as follows:

- Medium scale enterprises comprise of 20 to 50 members and the business models can be a taxi operator, a local food grower, or a large crèche.<sup>5</sup>
- Small scale enterprises have 6 to 20 staff members and the enterprise can be a corner shop, a large hairdresser, repair workshop and a restaurant.<sup>6</sup>
- Micro enterprises have a staff of 5 or less people and can be a spaza shop, a home-based shebeen, a small hairdresser, or a taxi.<sup>7</sup>
- Survivalist operators – these are individuals engaging in domestic labour and untaxed activities, such as street vending, for survival.<sup>8</sup>

As indicated in **Fig. 3** (overleaf) the business school also realised that about 90.6% of the 85 000 recorded enterprises in Khayelitsha fall into the informal micro-enterprises and the survivalist category. This means that the main business activity in the township is informal, that is, it is: untaxed; not

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<sup>5</sup> University of Stellenbosch, *Khayelitsha Small Business Project, Diversity of Businesses in Khayelitsha: Fact Sheet 2*, 2014. [www.usb.ac.za/Common/Pdfs/sba\\_facts/DiversityofBusinessesinKhayelitsha.pdf](http://www.usb.ac.za/Common/Pdfs/sba_facts/DiversityofBusinessesinKhayelitsha.pdf) (accessed April 8, 2016)

<sup>6</sup> Ibid., (accessed April 8, 2016)

<sup>7</sup> Ibid., (accessed April 8, 2016)

<sup>8</sup> Ibid., (accessed April 8, 2016)

registered as a business by the municipality; is home-based rather than operating in formal business premises, operates on an irregular basis and does not comply with health and sector-specific conditions.<sup>9</sup>

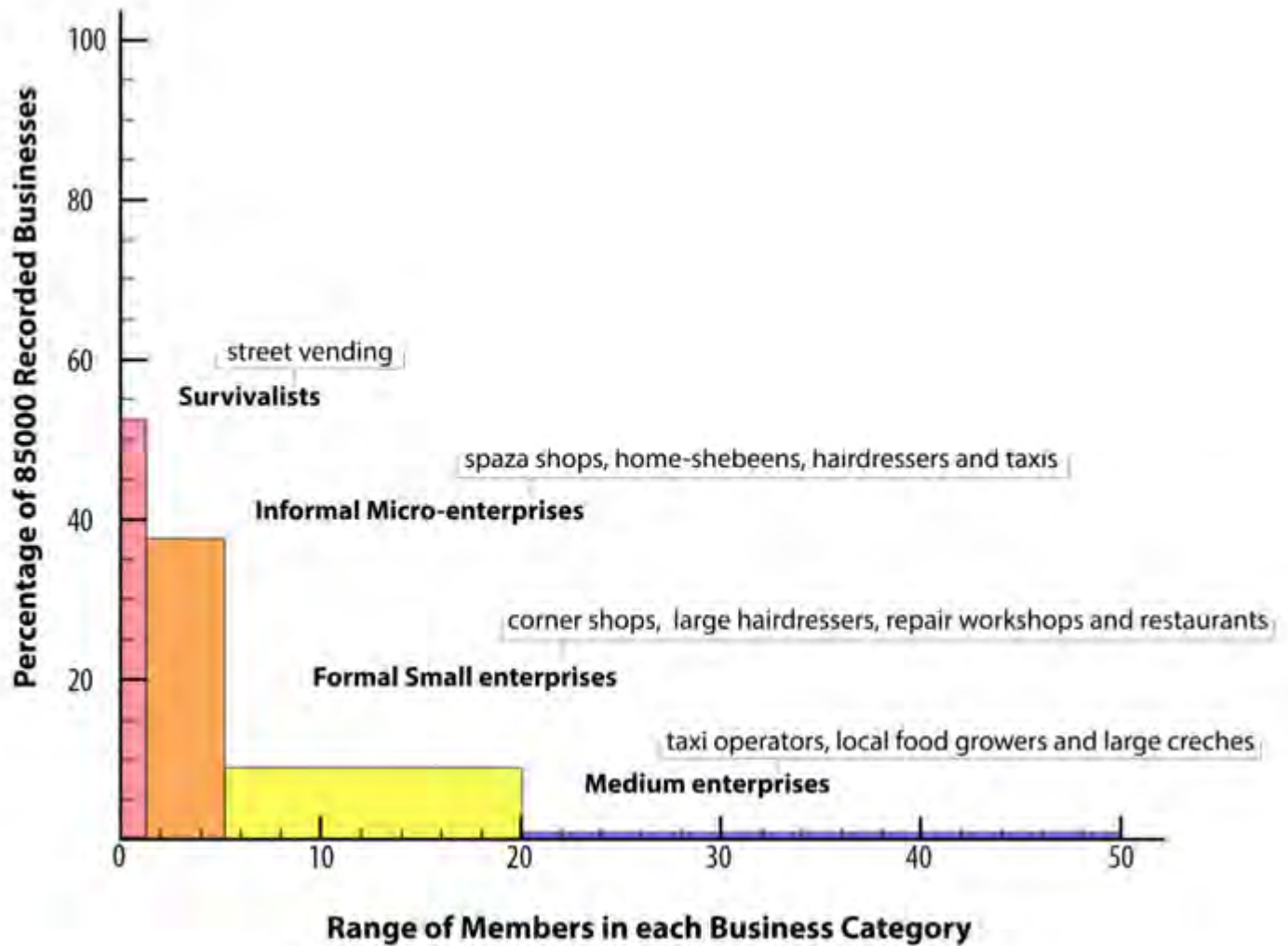


Fig 3: A diagram indicating the participants of Khayelitsha's SMME economy

<sup>9</sup> Ibid., (accessed April 8, 2016)

There is no adequate support and regulation for Khayelitsha's main business activity. The formal, small scale medium scale enterprises (which are shown to make up 9, 4% of the total number of enterprises) have the main challenge of being spatially accessible to the higher income markets in the commercial centres outside Khayelitsha. Thus the Khayelitsha SMMEs need a space of legal infrastructural support and wide accessibility to economies within and beyond Khayelitsha. This central space of support and maximum access is essential to the growth in the livelihood standards of the township.

## The Built Environment

In his State of the Nation address in 2001, former president Thabo Mbeki recognised the need to support local economies within South African townships so as to increase social and economic opportunities within low-income settlements and to prevent further income drain from them. Through the Presidential Urban Renewal Programme (URP), he had a vision for the major low-income settlements in South Africa:

To "attain socially cohesive, resilient and stable communities with viable institutions, sustainable economies, and universal access to social amenities, able to attract and retain skilled and knowledgeable people who are equipped to contribute to growth and development."<sup>10</sup>

Mbeki's presidential urban renewal programme (URP) attempts to address the socio-economic disparity between the high-income settlements and the townships. There is a clear objective, in the vision, of "mobilising people to become active participants in their own development."<sup>11</sup> In Cape Town, the Khayelitsha and Mitchells Plain townships were seen by the government as the key areas to implement the urban renewal vision due to the two townships' combined population of 21% of the city's total population.<sup>12</sup> The Khayelitsha Business District (KBD) and the Mitchells Plain Town Centre were

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<sup>10</sup> Department of Local Government, Environmental Affairs and Development Planning, *Presidential Urban Renewal Programme: Final Draft*, 2010, 3, Cape Town: Government Printing Office  
[https://www.capetown.gov.za/en/urbanrenewal/.../Lekgotla\\_Report\\_Dec\\_2010.pdf](https://www.capetown.gov.za/en/urbanrenewal/.../Lekgotla_Report_Dec_2010.pdf) (accessed April 5, 2016)

<sup>11</sup> Department of Local Government, Environmental Affairs and Development Planning, *Presidential Urban Renewal Programme, Business Plan*; 2001, 3, Cape Town: Government Printing Office  
[https://www.capetown.gov.za/.../urbanrenewal/.../URP\\_Business\\_Plan\\_-\\_PDF\\_682007](https://www.capetown.gov.za/.../urbanrenewal/.../URP_Business_Plan_-_PDF_682007) (accessed April 5, 2016)

<sup>12</sup> Ibid, 13

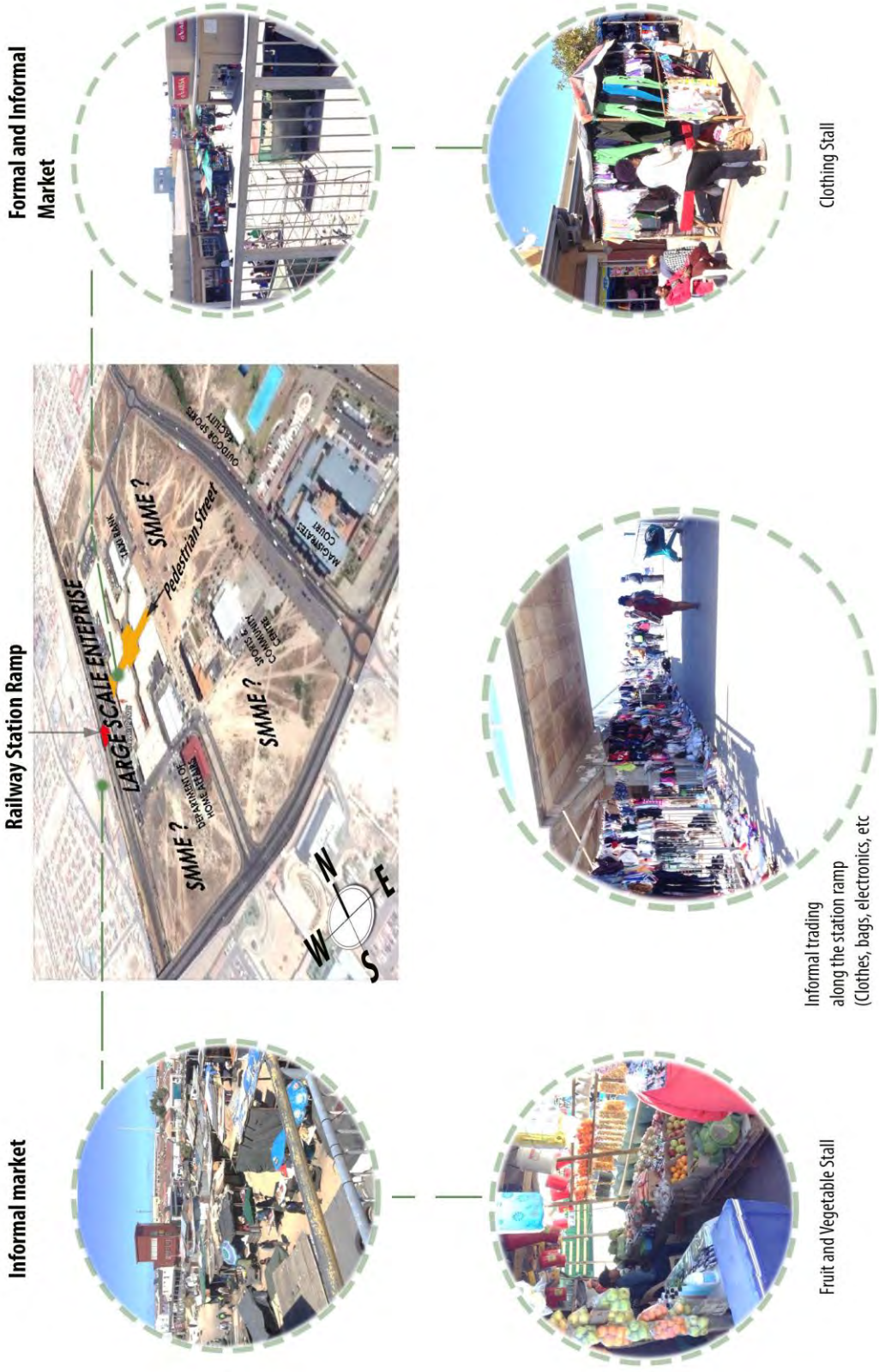
identified to be the two primary township centre projects to implement the presidential URP of socio-economic empowerment of major townships within Cape Town. Thus from the URP there seems to be already a theoretical understanding of the need to make township centres, such as the KBD, to reflect and support the main local economy of a township, the SMME economy, yet the current built fabric of the KBD and the conceptual urban development framework seems contrary to this idea.

**Fig. 4** shows the current built fabric of the KBD and two things immediately pop out at a single glance of the image. Firstly, the large shopping mall covering about a third of the business district and secondly, the open, unshaded, bleak looking, sandy land that takes up almost the entire remaining two thirds of the district.

With the shopping mall dominating the built fabric of the KBD, one wonders where the representation of the SMME economy actually is. A closer look at the functions of the built fabric of the KBD in **Fig. 4** indicates that most of the survivalist and micro-business activities closest to the KBD are happening at its periphery, west of the railway track and along the railway station ramp, while some are located on the pedestrian street within the mall complex. This literally means almost all of the 85 000 recorded informal and formal SMME businesses happening in Khayelitsha are located within the neighbourhoods and households outside the KBD. The built fabric of the centre is essentially supporting a mall of large scale external enterprises, such as PEP and Spar stores, while the survivalist and micro-businesses have appropriated the smaller spaces of the KBD, such as the station ramp and portions of the central pedestrian street.

The built fabric of the SMME businesses that have some form of shelter within the KBD, as indicated in **Fig.4**, is mainly temporary shelters made of canvas and plastic sheets, indicating a lack of permanent ownership these businesses have of the KBD. The ideal envisioned by the urban renewal programme of a township centre that supports the local mainstream economy is not being realised.

The open, yet to be developed, barren land occupying half the KBD further alienates the inclusion of the township's people participation and ownership of the town centre as it spatially separates it from the rest of the Khayelitsha urban fabric and household businesses.



Formal and Informal Market

Clothing Stall

Railway Station Ramp

Informal market

Informal trading along the station ramp (Clothes, bags, electronics, etc)

Fruit and Vegetable Stall

Fig 4. A Collage of the Khayelitsha KBD

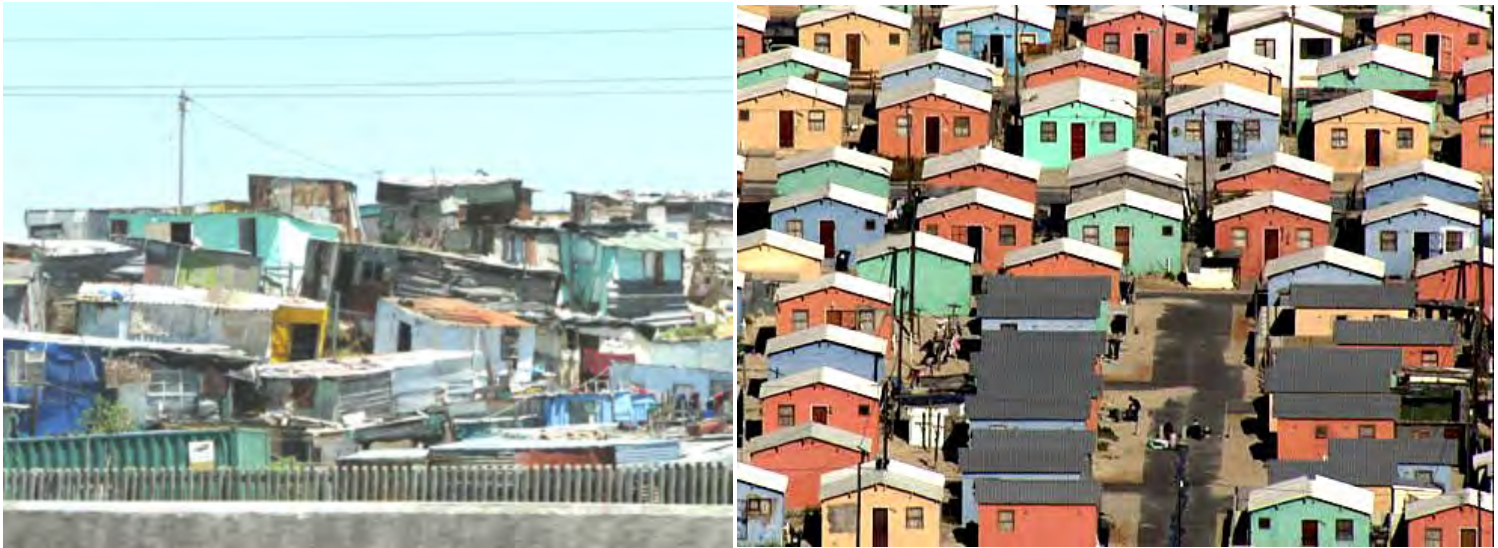
The urban fabric of the wider settlement gives an idea of its social condition. The low-income residential zone status of Khayelitsha, and other townships in the city, has seen the local government building subsidised housing for the residents of the areas (most of whom are not able to raise their own funds to build municipal-approved decent housing). With the use of a low rise, low density, brick and mortar housing scheme, in a condition of inadequate funding, the government has been unable to meet the housing infrastructural demands of the ever growing township population. An urgent, non-municipal approved, makeshift architecture has emerged in these low-income settlements out of the need to address the lack of housing - the architecture of scrap metal, plastic and wood. The makeshift houses, also known as shacks, do not offer adequate security, robustness and maintenance for inhabitants due to the poor material choice used in constructing them. For example, the one layer of metal sheeting that makes up the exterior wall of a shack results in a poorly insulated shelter that overheats in summer and is very cold in winter.

The illegal (non-municipal approved) condition of the shacks and lack of funding for the government housing delivery scheme has seen many shacks lack basic municipal services, such as water drainage and reticulation services. Furthermore, the illegal settlements are life threatening as the congested layout of shacks and their poor fire rated materials can result to massive fire disasters as seen in the 2015 fire accident that saw at least 600 people losing their homes in the shack settlement of Masiphumelele, near Fish Hoek, Cape Town.<sup>13</sup>

In a nutshell, the built fabric in the wider Khayelitsha generally looks bleak; it is congested yet undeveloped, inadequately serviced and separated spatially and economically from the township's centre- the KBD. The URP role of the center in alleviating poverty and improving the social and economic condition of the wider township is yet to be realised.

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<sup>13</sup> Genevieve Quintal, "Masiphumelele Fire Leaves 600 Displaced," *News 24*, February 13, 2016, <http://www.news24.com/SouthAfrica/News/masiphumelele-fire-leaves-600-displaced-20160213> (accessed May 15, 2016)



**Fig. 5:** Image of the informal housing in Khayelitsha (left) and that of the formal housing (right). Both the informal and formal spaces are in a condition of extreme congestion. In such a landscape, outdoor “urban rooms”<sup>14</sup> of relief become vital in compensating the lack of indoor and outdoor social space created by the cramped housing. Public parks and playgrounds can be such relief spaces.

## THE VISION: An Accessible Space and Place

According to a well renowned architect and urban planner, the late Louis Kahn, human beings across different cultures have three fundamental aspirations which are: the desire to learn; the desire to communicate; and the desire for wellbeing.<sup>15</sup> My intuitive understanding of Kahn’s position is that when we are born into the world, we are instantly bombarded with information of all that exists around us and we gradually become eager to understand this information, some more than others. While we are in the unending process of understanding this information, we communicate and express our response to it to others. This exchange of the learning and communication of information should lead us in a state of well-being, that is, a state of comfort, health and happiness; the evidence of well-being can be expressed in various ways such as in the quality of our shelters, diet, health and earnings.

<sup>14</sup> David Dewar and Fabio Todeschini, *Urban Management and Economic Integration* (Cape Town: UCT, 1996), 30

<sup>15</sup> Romaldo Giurgola, *Louis Kahn* (Barcelona: Imprenta Juvenil, 1979), 34

Consequently, in any space occupied by a human being, there needs to be an opportunity to experience these three fundamental aspirations should the space claim to identify with the human essence. The fundamental nature of these aspirations allows them to be also seen as essential human needs. Amidst a low-income township context of severe socio-economic challenges, it appears apparent that such spaces that nurture the fundamental human needs are lacking. At the scale of a town such a space should be located where most people have access to should the space be enjoyed by most townsmen and women, hence the central location of the Khayelitsha business district within the Khayelitsha township makes it have the potential of being such a space.

More than being a space the KBD needs to be a place and the idea of a place is not simply a physical fact which could be represented by an image. **More than an image**, “place is the consequence of a programme which satisfies the human needs with regards to a particular area.”<sup>16</sup> Thus space can be seen as an area to be occupied and place can be understood as a gathering of context specific activities that meet the essential human necessities. It is my intent to propose an urban and architectural intervention that makes the KBD such a place. What is the architecture and urban framework of a place that promotes the fundamental human needs at the scale of a town or city?

## The ANCIENT GREEK ATHENIAN AGORA

In search of an image of a place that exudes a population’s desire to learn, communicate and have a sense of well-being, the historic ancient Athenian Agora comes to mind. The word ‘Agora’ is a Greek word “meaning open place assembly.”<sup>17</sup> In ancient Greece the Athenian Agora was a formally chosen area in the city where free-born citizens could gather to hear civic announcements, assemble for military campaigns or talk about politics thus being a space that facilitated the strong human aspirations of the desire to learn and communicate. Later the Agora defined the open-air, often tented, market place of a city where merchants had their shops, and where craftsmen made and sold their wares,<sup>18</sup> indicating the

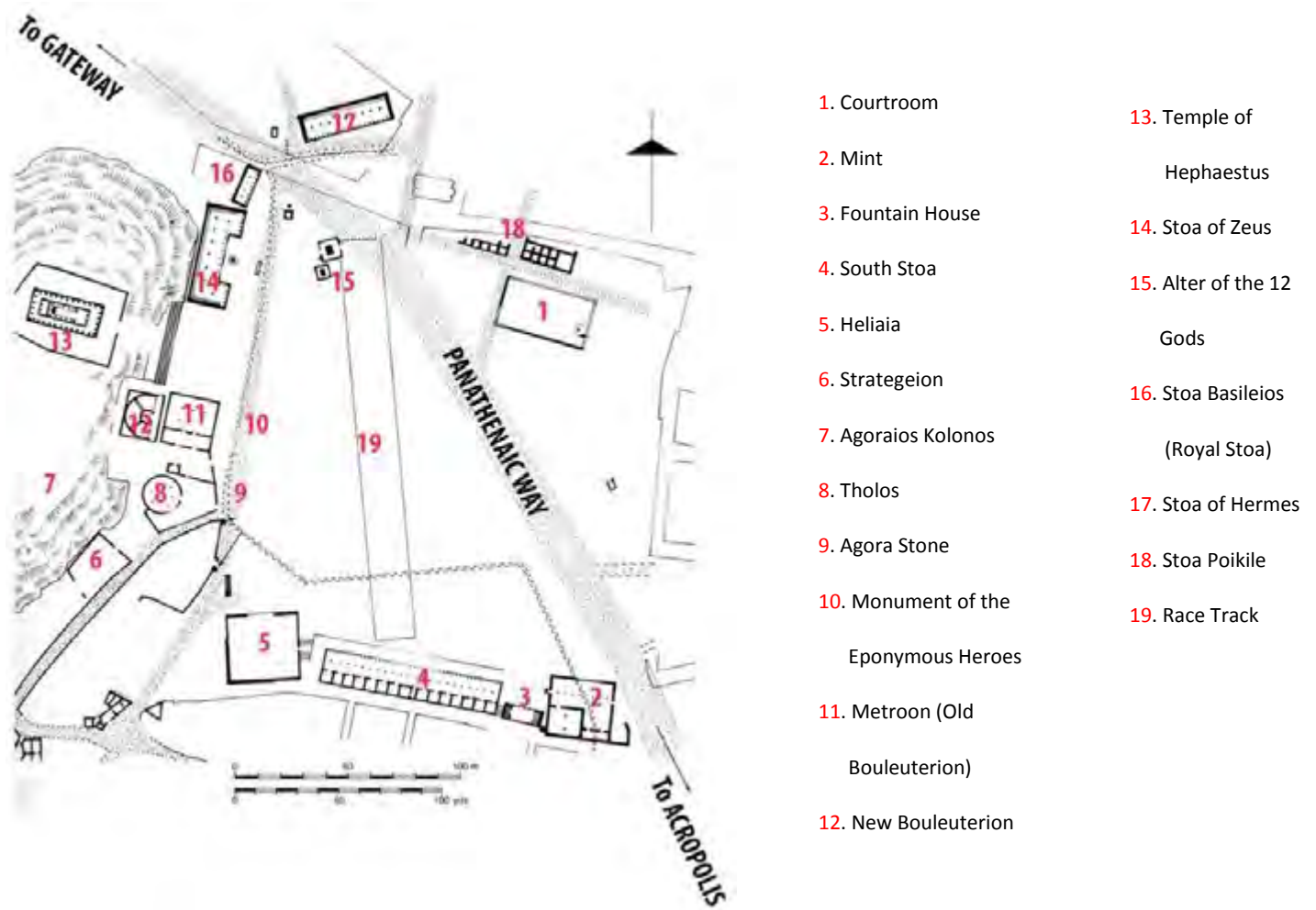
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<sup>16</sup> Romaldo Giurgola, *Louis Kahn* (Barcelona: Imprenta Juvenil, 1979), 53

<sup>17</sup> Joshua Mark, *Agora*, September 2, 2009, <http://www.ancient.eu/agora/>.(accessed April 6, 2016)

<sup>18</sup> Ibid. (accessed April 6, 2016)

support of another human need; the need to work in order to attain wellbeing. Yet a closer look at the spatial layout and architecture of the Agora and its context specific programming gives an idea of just how inclusive the ancient Athenian Agora was in providing a place for expressing the essential human needs for the majority of the inhabitants of Athens.



**Fig. 6:** Plan of the 5<sup>th</sup> Century BC Agora of Athens



**Fig. 7:** Colour coded plan of the Agora indicating the different spatial functions within the Agora

## Location along a Public Route

Fig. 6 and 7 show the spatial planning of the 5<sup>th</sup> Century BC Athenian Agora. The images show a string of buildings clustered around an open land with a wide movement route cutting diagonally off-centre across the open space. This movement route (the Panathenaic Way) started at one of the city gates and ended

at the most important religious building in Athens at the time -the Parthenon - which sat on a religious citadel known as the Acropolis. The wide width of this route, in comparison to the other roads that led to the Agora, served the purpose of accommodating large crowds of people who would participate in the annual religious festival procession to honour the patron goddess of Athens – Athena- who was worshiped in the Parthenon. <sup>19</sup> Hence the location of the Agora along a movement route that had strong gathering nodes (the city gate and the acropolis) at either end meant that the Agora was along a vital pedestrian traffic route.

The location of the Agora along a major, public route starts to suggest its wide geographic accessibility to the ancient citizens of Athens. However for the space not only to be geographically accessible, so as to transform into a place that is socially and economically accessible through its facilitation of fundamental human needs, the programming and the architecture that shaped this place had to be reflective of these needs.

## The Open-Air Market

Surrounding the Panathenaic Way was an open piece of land which was mainly used as an open-air market. The nature of the open-air market was so diverse such that “there were confectioners who made pastries and sweets, slave-traders, fishmongers, vintners, cloth merchants, shoe-makers, dress makers, and jewelry purveyors”<sup>20</sup> Many of the retailers acted as middle-men between the craftsmen and the consumers whilst being owned as slaves by the craftsmen.<sup>21</sup> Thus the craftsmen produced their products in their homes, which were a walking distance, if not, a horse ride from the Agora, and sent their slaves to sell the produce in the market.

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<sup>19</sup> [http://www.ancientgreece.co.uk/acropolis/explore/pana\\_func.html](http://www.ancientgreece.co.uk/acropolis/explore/pana_func.html)

<sup>20</sup> Ibid., (accessed April 6, 2016)

<sup>21</sup> Ibid., (accessed April 6 2016)

Accommodating governmental administrative, jurisdictional and commercial structures (**Fig. 6**) meant that the Agora also housed well educated people and being educated in ancient times was a privilege of the wealthy. Thus within the market space one could expect to bump into people of diverse economic statuses, that is, the well-educated government official, the farmer or craftsman and the slave all in one setting. There were no physical barriers that prevented entry into and out of the market from the Panathenaic Way, making the market space a very permeable space for anyone travelling along the major route. Multiple roads penetrating most edges of the market space compliment the language of permeability and free flow into and out of the market and suggest it to be a space that was woven into the urban fabric, not spatially separated from the rest of the city as seen in the KBD with its railway track on one edge and barren land on the other. Therefore, the ease of access into the market and the social and economically diverse people it served shows the Agora's attempt to identify with well-being aspirations of a diverse population, a well-being of the majority of the citizens.

Similar to the SMME shelters trading within the KBD, the architectural expression of the open-air market was that of temporary, tented wooden stalls. The temporary nature of the stalls allowed the open, trading land to be used as a racetrack as well since the stalls could be shuffled around. Though the mobile and temporary nature of the stall structures (**Fig. 8**) allowed the market space to be multifunctional, it did not give the traders a sense of permanence in the Agora. This was proven by the construction of two more permanent buildings in the open land at the expense of the traders' trading space in later years.



**Fig .8:** An artist's informed impression of how an ancient Greek Agora may have looked like. Note the tented, temporary and mobile wooden structures that accommodated the market activity.

Unlike the temporary trading shelters of the Khayelitsha business district that largely operate on the edge of the district and on a small footprint within the centre of the district, the trading stalls of the Agora occupied the largest and central space within the Agora. This is because the agora identified with the main economic activity of its citizens. However of a temporary stronghold the market infrastructure had on the Agora, the permanently built structures that framed the Agora facilitated the diverse market economy.

## The Mint and the South Stoa 1

The Mint (**Fig. 9**) was a rectangular building on the southern edge of the Agora. The building accommodated furnaces and water basins used in the metalworking activities of the production of coins for trading within the Agora and the wider city of Athens. Not only did the mint produce coins, it also produced “official lead and bronze weights that were used to check the weight of goods sold by merchants in the Agora.”<sup>22</sup> Thus the mint not only manufactured the medium of trade for the market economy but also manufactured the medium of regulating trade in the market.

A stoa (**Fig. 6 and 7**) is a “porch with one row of columns along the façade.”<sup>23</sup> Similar to the Mint, South Stoa 1 it had a trade regulating role in the Agora through its “inspector of weights office”<sup>24</sup> in one of its rooms and this inspector had the official measuring methods and weights that the city of Athens used in all its trade. Another important function of the South Stoa 1, that was unlike the regular Greek stoa and probably accounted for its 80m length, was its use as a dining area for noblemen within the Agora. The 16 rooms at the back of the stoa were used for the dining of the aristocrats while the double colonnaded space in front of the rooms provided a good permanently shaded viewing platform for the officials to watch the racing games and the market activity.

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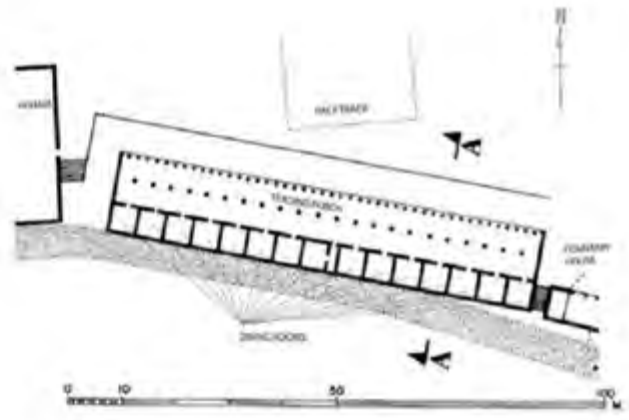
<sup>22</sup> Harrys Greece Travel Guide, *Athenian Agora-The Mint*, <http://www.greeceathensaegeainfo.com/h-athens/ancient/agora-mint.htm> (accessed April 7, 2016)

<sup>23</sup> Ibid, *Athenian Agora-The South Stoa 1* <http://www.greeceathensaegeainfo.com/h-athens/ancient/agora-south-sq.htm> (accessed April 7, 2016)

<sup>24</sup> Ibid., (accessed April 7, 2016)

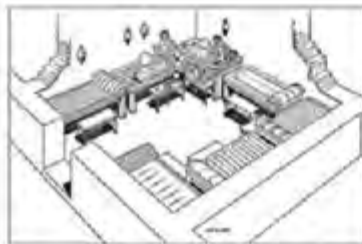


Ground Floor Plan of the Mint



Ground Floor Plan of South Stoa 1

Permanent Structure



Temporary Structures



Officials' Dining



Open Air Market



Section A-A

Fig. 9: A collage of the mint and stoa drawings

**Fig. 9** illustrates the spatial programming of the mint and the south stoa 1 respectively and the architecture that framed the buildings' functions. The striking difference between the two architectural expressions is the colonnade expression used in one design and not the other. The dining rooms of the stoa served the upper class citizens of the Athens such as the magistrates and other governmental officials; the columns that made the colonnade were labour intensive, ornate stone carvings by skilled craftsmen. The result was an expensive and elaborate form of construction similar to that of the temples of the Acropolis. Thus the South Stoa 1 – a place where the wealthy gathered - was given similar significance in architectural expression (hence construction cost) as the temples.

The section in **Fig. 9** illustrates the spatial relationship between the South Stoa 1 and the market space. The floor of the Stoa is raised about two metres above the market space, creating a distinct barrier between the two. Furthermore the raised ground floor gives the Stoa a surveillance over the market space, re-emphasizing its role as a monitor of the market activity below. The massive and heavy colonnade exudes a sense of permanence and grandeur importance to the building, re-emphasizing the wealthy social status of the people that inhabited it and the crucial role of the building in regulating trade in the square. The tectonic expression of the building was a straightforward, unashamed expression of structure, that is, a clear expression of columns beams and roof. Though the columns and beams had intricate carved patterns and moldings on them, they did not take away from the visual clarity of the structural assembly of the building, hence though the building was an impressive scale of engineering and its architectural expression of structural clarity communicated the tectonic knowledge to whoever laid eyes on it in the Agora. Such an architecture echoes the human aspirations of learning and communication.

The mint on the other hand had no spatial relationship with the market space as it had no space overlooking the market; its raised ground floor was bordered by a brick wall rather than a colonnade, shutting it out from any visual, verbal communication with the vibrant market space. Though the building's programme facilitated the trading activity, its architectural expression did not allow for the communication of building's tectonics and function to the wider population of the Agora.

The mint also had a very modest construction technology compared to the stoa as it essentially was not a stone column and beam structure but a clay and stone load bearing brick wall structure. This modesty

re-instated that the blacksmith activities that occurred in the mint were not occupations of the elite and accordingly, the traders' stalls (**Fig.8**), which were also partly operated by slaves, were the most modest architectural tectonic in the Agora. The socio-economic hierarchy of the Athens was: the educated (noblemen: government officials and philosophers) at the top; craftsmen and merchants in the middle; then slaves at the bottom.

## The other Permanent Framing Buildings and their Contribution to the Socio – Economic Condition of the Agora

The Heliaia (supreme court), the Bouleuterions (large senate buildings), the Royal Stoa (the kings Temple), the tholos (a 24 hour senate service), the Painted Stoa (a gathering place for citizens, frequented by famous philosophers and had framed paintings of military achievements) and the Stoa of Zeus (similar function to the Painted stoa, a multipurpose space where philosophers gathered for casual discussions and where battle artefacts were kept for public viewing) were permanent structures that framed the rest of the 5<sup>th</sup> B.CE. Athenian Agora. These structures mainly offered political and judicial services to the people of Athens and also offered permanent shelters for the educated elite and the crafting commoner to engage in educational conversations as in the Stoa of Zeus and in the Painted Stoa. Nevertheless, the open design of both stoas, that is, the absence of walls but columns on the entrance façade - allowed educational discussions within the stoa to filter through the outdoor market and reach the ears of the less educated trading citizens and slaves. Having court buildings and senate buildings in the Agora created the atmosphere of an economic activity that was supported and controlled by the government. The tholos, for example, had senators who served the citizens on a 24/7 basis to cater for midnight emergencies. "The Tholos must therefore also have served as a dining room and as sleeping area for the 'night shift'"<sup>25</sup> The fountain house directed water from an aqueduct for public use in the Agora. The functions of all these buildings aided the mint and the south stoa 1 in governing the socio-economic dynamics of the participants of the outdoor market.

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<sup>25</sup> Harry Greece Travel Guide, *Athenian Agora – The Tholos*, <http://www.greeceathensaegeaninfo.com/h-athens/ancient/agora-tholos.htm> (accessed April 7 2016)

Since the participants were a mixture of free-borns and slaves, the educated and the illiterate, the rich elite and the middle class craftsmen and merchants; and some of the permanent structures, such as the stoas, accommodated social dialogue among citizens of different socio-economic classes, the Agora was an **agglomeration of the diversity of Athens**. It identified with the economic and social activities of all the people of Athens and supported these activities through a central set of accessible infrastructure. This inclusive image of the Agora was also reflected in the diverse architecture of the place: elaborate colonnade stone buildings with a strong sense of permanence for the wealthy; clay brick buildings for the middle class craftsmen and temporary, wooden tent structures for the retailers – many of whom were slaves. Thus one could get a comprehensive image of the entire city of Athens through the 250m x250m plot of the Agora.

The KBD on the other hand does not give a comprehensive image of the rich diversity of Khayelitsha's economy. One has to travel to the periphery of the KBD and within its surrounding residential neighbourhoods to catch an all-inclusive scope of the Khayelitsha's diverse economy. With all its commercial, political and social activities accommodating the fundamental human aspirations of a diverse range of people, the Agora was not just a central space in Athens but a central place; an inclusive urban centre.

How can the Khayelitsha business district become a modern, context specific interpretation of the Ancient Greek Athenian Agora?

## THE CONTEMPORARY AGORA

In their book '*Urban management and Economic Integration*' Professor David Dewar and Professor Fabio Todeschini explore the ideal of integrating the urban poor within the urban growth processes and the effective use of local resources so as to bridge the gap between the poor and the rich of our city and country. Their fundamental understanding is that "the central urban management task is improving the quality of life of all urban dwellers. This demands significant reduction in poverty. Poverty, therefore,

rather than employment needs to be centre-stage.”<sup>26</sup> This fundamental understanding of the task of urban management is taken from the reality that “it is possible to increase levels of employment in a climate of non-reducing and even increasing poverty,”<sup>27</sup> as seen in the ever rising number of informal settlements in Khayelitsha and other townships across the country. Thus the real way in which urban management can reduce poverty is by maximising opportunities for income generation at all levels.<sup>28</sup>

From an architectural and urban planning point of view, addressing income generation opportunities across all levels within the Capetonian context, largely “explores the physical and spatial preconditions for maximising urban economic activity and particularly the generation of income activities for small operators.”<sup>29</sup> Dewar and Todeschini see the primary preconditions for small, micro and survivalist business enterprises to flourish to be:

- a) a high density, intense and vibrant environment and,<sup>30</sup>
- b) the poor’s ability to benefit from the purchasing power of the wealthy<sup>31</sup>

These two conditions are very similar to those that facilitated the diverse participation of citizens in the socio-economic opportunities of the ancient Athenian Agora. In a contemporary time of a much larger population and scientific and technical advancement, especially in the transport industry, in comparison to the ancient time, one wonders what is the complex infrastructural system that allows for variations of economic enterprises (survivalist, micro, small, medium and large) to coexist and benefit a wide range of citizens?

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<sup>26</sup> David Dewar and Fabio Todeschini, *Urban Management and Economic Integration* (Cape Town: UCT, 1996), 6

<sup>27</sup> Ibid.

<sup>28</sup> Ibid.

<sup>29</sup> Ibid., 1

<sup>30</sup> Ibid., 119

<sup>31</sup> Ibid.

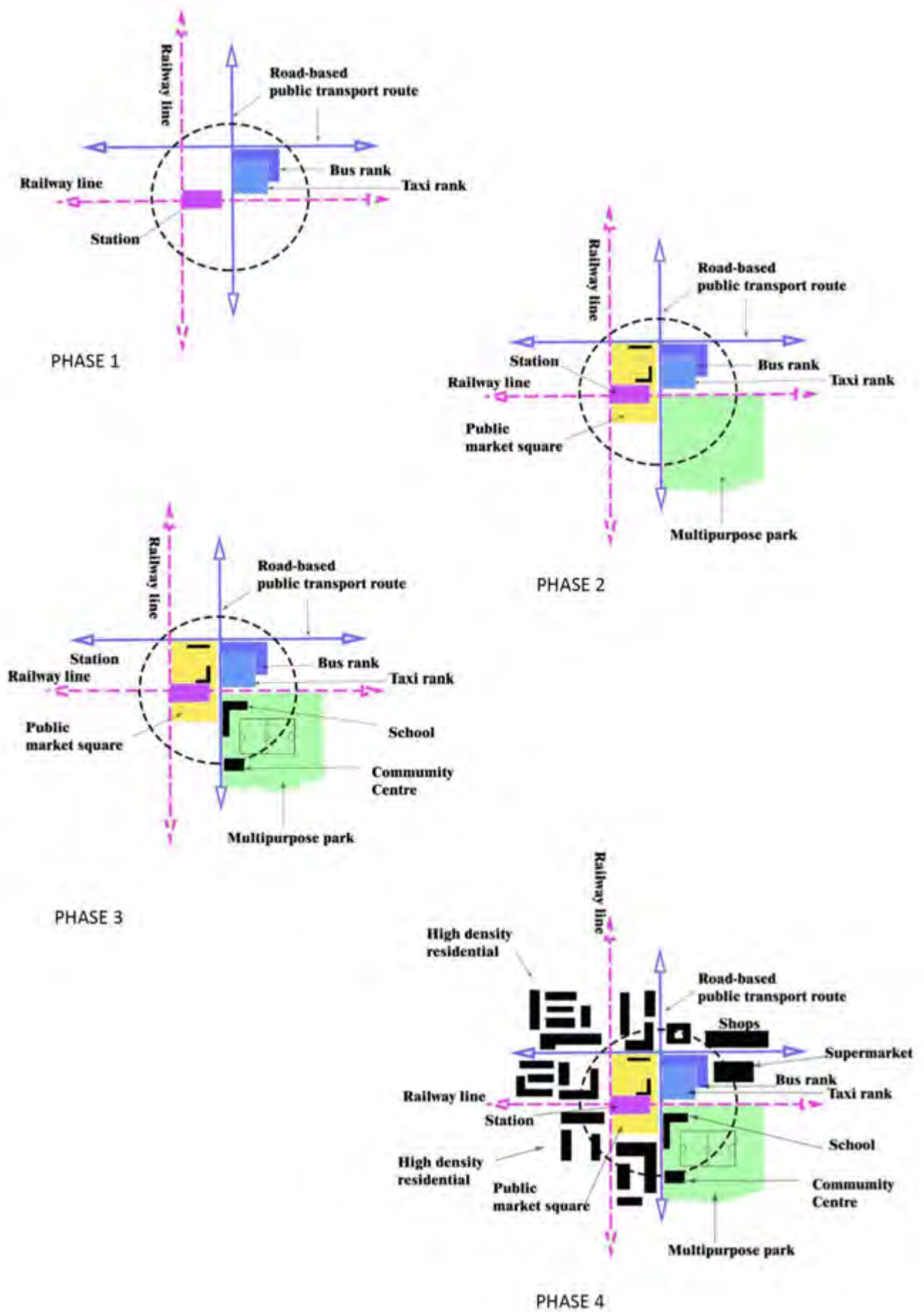


Fig. 10: Conceptual model diagrams of the growth of an inclusive urban center

**Fig. 10** is Dewar and Todeschini's conceptual model of the growth of a highly accessible, socially and economically inclusive urban centre. The first programmatic and infrastructural building phase of the Centre is the construction of a transport interchange area. Three transport modes (taxi, train and bus) are all represented in this interchange area indicating a very public and widely accessible centre. It is also of interest to note that the railway track is an underground line so as to prevent it from creating impermeable barriers across the ground plane of the urban centre.

**Phase 2** in the model is the provision of a public market square within the transport interchange area. This is an open piece of land to be appropriated by the informal small and micro enterprises of the surrounding city. The location of the market within the public transport interchange zone is meant to give the SMME full exposure to the economically diverse public that uses the interchange. Hence, similar to the Agora, the open market traders come into contact with the wealthy.

**Phase 3** becomes the development of a multipurpose park. Apart from it being a leisure facility for the public, the park can become a shared facility between institutions bordering it, such as a high school and a community center, thus increasing human dialogue (the communication aspiration) between institutions and reducing the risk of building barely used infrastructure.

**Phase 4** is the introduction of medium and large scale retail businesses into the center simultaneously with the high density housing that would provide a constant market for the retail businesses. High density housing close to an interchange zone reduces the spatial mismatch between areas of employment and areas of residence.

In its essence, this model promotes making public facilities and economic opportunities as accessible to as wide a range of potential users as possible. The smallest economic participator – the SMME trader - has been given a distinct operating space and wide exposure to a diverse market thus increasing his/her chance to benefit from the economy and improve his/her urban life. Unlike in the Agora, whereby the open air market could be used for sport, the separation of the multipurpose park from the market square in the new model allows both functions to operate at the same time giving the trader of the contemporary model a stronger sense of permanence and belonging in the centre.

Careful spatial planning has been made to protect the SMME open market traders from being swallowed up by the large enterprise – the supermarket- through locating the supermarket at the back

of the taxi rank, creating a less permeable barrier between the two forms of retail. The open market has also been protected by careful project phasing that places the large scale enterprises only after the open market has been built (giving the SMME traders time to gain regular customers) and only when they become absolutely essential (such as in providing goods for the high density residents)

The architectural expression of such a contemporary inclusive urban centre is not communicated in the model diagrams. What is the architectural expression of an inclusive urban centre that identifies with the SMME economy of Khayelitsha?

## A RELEVANT TECTONIC

In a low-income, township context whereby a makeshift architecture of scrap metal, plastic and wood dominates the built fabric, there needs to be a robust architecture that gives the people a sense of permanence within their own township. The SMME shelters within and on the periphery of the KBD are no exception to this need of a permanent and robust representation within the settlement.

Furthermore, this tectonic should address the fundamental human aspirations (the desire to learn, the desire to communicate and the desire to attain wellbeing) in order to build a place within the KBD.<sup>32</sup> For a building method to address the essential human aspiration of wellbeing within Khayelitsha, it cannot avoid addressing the impoverished socio-economic condition of the settlement.

## A Socio-Economic Relevant Tectonic

In the book, *Modifying Infrastructure Procurement to Enhance social Development*, Hawkins, Wells and Herd acknowledge that to achieve socio-economic growth and development for the masses, “it will be necessary for planners to find the right balance between the social opportunities derived from the following: the service provided by the infrastructure asset; and the process of design, construction,

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<sup>32</sup> Romaldo Giurgola, *Louis Kahn* (Barcelona: Imprenta Juvenil, 1979), 34

operation and maintenance.”<sup>33</sup> Thus there is recognition of socio-economic opportunities being found in the function of an infrastructural asset and in the conception, making, operating and maintenance of the asset. If the asset happens to be a building, then one can say that there are socio-economic opportunities found within a building’s function and the designing, construction and maintenance of the building.

Hawkins, Wells and Herd further suggest that the social and economic development opportunities inherent in infrastructural development projects can be found in three spheres:

- The *industrial* sphere: social opportunities are seen to “increase employment, the input of local consultants, contractors and suppliers , training, and improved on-site working conditions;”<sup>34</sup>
- The *environmental* sphere: opportunities are noticed in managing the environmental impact of the building in its material choice and construction methods.
- The *society* sphere: here, opportunities are noticed in the empowering of disadvantaged community groups to live better lives through use of the building(s).

## Concrete Blockwork

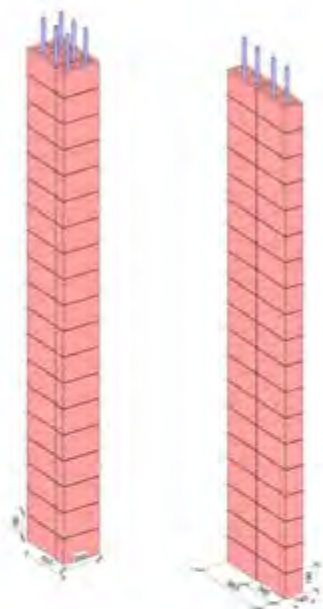
Simply from walking around a neighbourhood, touring the city and watching television images of our country’s built environment one can agree that masonry construction (be it clay bricks or concrete blocks) is the most widely used, legally approved, building technology in Cape Town and South Africa at large. In an effort to try to meet the housing demands of our city’s and country’s low-income masses, concrete blockwork has been more readily used than clay brickwork in the government subsidised housing schemes and this has been largely influenced by the material’s qualities such as its “considerable economic advantage over brickwork in respect of speed of construction .”<sup>35</sup> The construction speed of blockwork can be attributed to the standard block module (390mm x 140mm x 190mm) being a larger, yet easy to handle, module than a standard brick module (233mm x 110mm x 76mm) thus taking less time to assemble.

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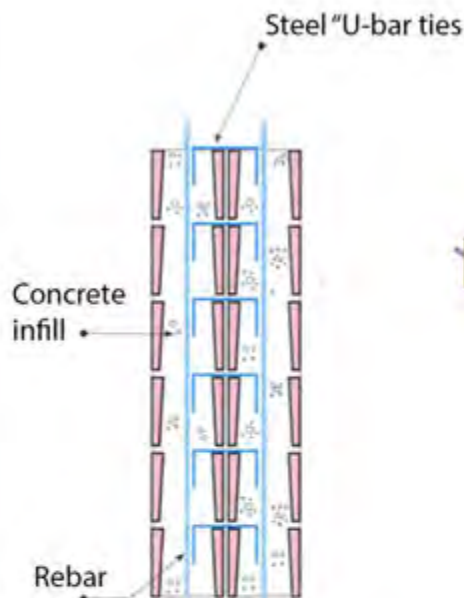
<sup>33</sup> George Ofori, *Contemporary issues in Construction in Developing Countries* (New York: SPON Press, 2012), 62

<sup>34</sup> Ibid., 62

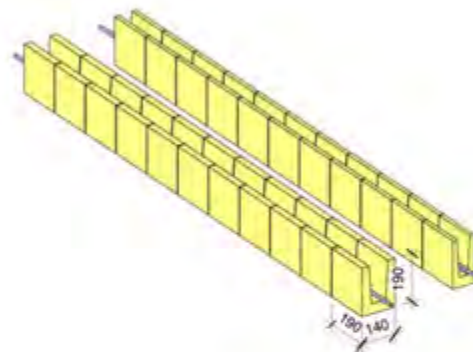
<sup>35</sup> Arthur Lyons, *Materials for Architects & Builders* (Oxford: Elsevier Ltd, 2010), 36



**Reinforced hollow block columns**



**Typical Section through hollow block column**



**Reinforced hollow block Lintel (rebar and concrete infill placed in blocks' void)**



- Reinforced concrete beam (formwork stripped off)
- Hollow, rock face textured, reinforced block column. The hollow blocks act as permanent formwork.
- Hollow, standard fairfaced, block wall
- Hollow reinforced fairfaced lintel blocks almost indistinguishable in appearance from the fairfaced block wall due to the lintel's modular composition

**A Hybrid composition - a mix of permanent and non permanent formwork elements. The use of different fairfaced block textures shows the aesthetic depth, low maintenance, durable qualities of concrete blockwork. (Man applying a transparent water repellent coating)**

**Fig. 11 : A collage showing hollow concrete blockwork elements and qualities**

In a context of economic hardship, low cost building technologies are a positive response. Apart from the large, easy-to-handle block sizes that increase construction speed, hence reducing construction cost, further cost reduction of this construction technology is achieved when it is used in a thin bed mortar hollow concrete blockwork system. As shown in **Fig .11**, this is a masonry construction system that uses 3mm mortar joints between the blocks (as opposed to the conventional 10mm masonry mortar joints) and makes use of hollowed out concrete blocks rather than solid blocks. The 3mm mortar joint is easily applied using a precisely crafted scoop that allows a single filling of the scoop to efficiently make the thin mortar joint between each concrete block. Thus there is no time and resources wasted in subtracting or adding mortar in an effort to achieve the required joint size.

The other cost reducing element within the thin bed mortar hollow concrete blockwork construction system is the hollow concrete block module itself. Apart from the lightweight quality of hollow concrete blocks that allows them to be more easily handled than the solid ones, hence increasing the speed of construction, the hollow blocks can be used to make reinforced concrete columns without any formwork (molding used to contain liquid concrete while it solidifies). The hollow block itself acts as permanent formwork as shown in **Fig. 11**

Fairfaced concrete blocks can be produced in different colours and textures, hence increasing the aesthetic flexibility of the material without any painting and plastering costs. When it comes to addressing the need of an image of permanence concrete blocks are very durable as “dense concrete blocks are resistant to freeze/thaw conditions below damp-proof course level”.<sup>36</sup> As desirable as these blockwork qualities may be, their socio-economic contribution can be qualitatively analysed within the three spheres of infrastructural development suggested by Hawkins, Wells and Herd:

- The industrial sphere: the use of blockwork appeals to the most widely available construction skill in our country – masonry construction - and in particular Khayelitsha. This gives an opportunity for local builders of that community to participate in further infrastructural development of the KBD. The ease of creating reinforced concrete structure without the aid of separate formwork allows smaller building enterprises to engage in the construction projects as less resources are required to produce a finished product.
- The environmental sphere: though the cement ingredient used in the production of concrete blocks is produced in cement plants that increase CO<sub>2</sub> emissions in the atmosphere, which contributes negatively to global warming, concrete still remains “the most widely used building

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<sup>36</sup> Arthur Lyons, *Materials for Architects & Builders* (Oxford: Elsevier Ltd, 2010), 36

material on Earth because of its beauty, strength and durability,<sup>37</sup> among other benefits discussed earlier. The product has its own way of fighting the CO<sub>2</sub> emissions its production emits through carbonation (a process in which concrete absorbs CO<sub>2</sub> emissions throughout its lifetime, helping reduce its carbon footprint<sup>38</sup>) and through the use of concrete paving and exterior cladding as “this helps minimize the urban heat island effect thus reducing the energy required to heat and cool our homes and buildings.” Thus one can say concrete has a take and give relationship with the environment which is more environmentally friendly than a purely extraction relationship.

- The Social Sphere: the low maintenance and durable qualities of the concrete block give the low earning masses of a settlement such as Khayelitsha robust, long lasting structures that ease the people’s worries of maintenance expenses. Such a strong and durable tectonic reassures an individual of his/ her long lasting, permanent belonging within the settlement.

We have discussed the socio-economic tectonic that address the fundamental human desire of wellbeing, but I am also interested in a tectonic that also expresses the other essential human desires of learning and communication.

## An Intellectually stimulating and Communicative Tectonic

Modernist architectural theory is driven by the desire to make spaces reflect the scientific advancements of the understanding of space and the technical advancements of building materials of the time. It sees the harmony between intellectual advancement and the built spaces we live in to be a necessary element to boost human morale since “just as the ancients draw inspiration for their art from the elements of nature, we who are materially and spiritually artificial – must find that inspiration in the elements of the utterly new mechanical world we have created.”<sup>39</sup>

The key scientific understanding of space that the modernist architectural theorists and professionals adopted in the early 1900s and is still used in contemporary science is the notion of space as “the

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<sup>37</sup> National Ready Mixed Concrete Association, *Concrete CO<sub>2</sub> Fact Sheet*, June, 2008, 3 <http://www.nrmca.org/greenconcrete/concrete%20co2%20fact%20sheet%20june%202008.pdf> (accessed October 22, 2016)

<sup>38</sup> Ibid.

<sup>39</sup> Sant’Elia, *Manifesto of Futuristic Architecture* (Florence: Direzione del Movimento Futurista, 1914), 171

relation between the position of bodies"<sup>40</sup> Since science also realised that there are infinite potentiality for relations within space, "Space in modern physics is conceived as relative to a moving point of reference, not as the absolute static entity of the baroque system of Newton."<sup>41</sup> The architectural theory's response to this understanding of space is "In order to grasp the true nature of space, the observer must project himself through it."<sup>42</sup> Manifestation of this understanding of the experience of space is shown in **Fig. 12** whereby a winding staircase is suspended within an atrium such that moving along the winding route of the staircase allows one to engage with the void of the atrium in different directions, hence one develops different relations with it and the space it holds. It allows one to start to grasp the true nature of space – "its many-sidedness, the infinite potentiality for relations within it."<sup>43</sup>



**Fig. 12:** Macquarie Group's London office atrium space

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<sup>40</sup> Laszlo Moholy-Nagy, *The New Vision* ( London: Faber & Faber Limited, 1938), 163

<sup>41</sup> Siegfried Giedion, *Space, Time and Architecture* ( Massachusetts: Harvard University Press, 1967), 436

<sup>42</sup> Ibid.

<sup>43</sup>Ibid., 435

In terms of relating technical advancement, modernist architecture believes in the use of the most technically advanced material of the time in a clear, unconcealed, honest expression of that material. That is, if the advanced material used has lightweight, long spanning qualities, such as structural steel for example, then the way the material is assembled and the spaces it articulates should clearly reflect those qualities. As a futurist movement architect (the architectural movement that strongly influenced modernist thoughts), Antonio Sant'Elia, once said, "Futurist architecture is the architecture of calculation, of audacious temerity and of simplicity; the architecture of reinforced concrete, of steel, glass, cardboard, textile fiber and all those substitutes for wood, stone and brick that enable us to obtain maximum elasticity and lightness."<sup>44</sup> The highly malleable, long spanning and lightweight qualities of steel is clearly expressed in the unhidden, winding form of the staircase in the atrium void in **Fig. 12**. The use of glass wall to frame the office spaces framing the atrium adds more lightweight expression of lightweight steel structure of the staircase and building and adds visual relations of the atrium space with the office space, thus increasing one's grasp of the infinite potential of relations within space.



**Fig. 13.** Le Corbusier's Parliament building in Chandigarh, India. The form of the building celebrates the elastic qualities of reinforced concrete as most clearly indicated by the use of a massive, u-shape concrete roof that appears to be sailing over the entrance of the building. A clear expression of the building's massive structural elements on both facades gives it its monumental feel.

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<sup>44</sup> Sant'Elia, *Manifesto of Futuristic Architecture*, 171

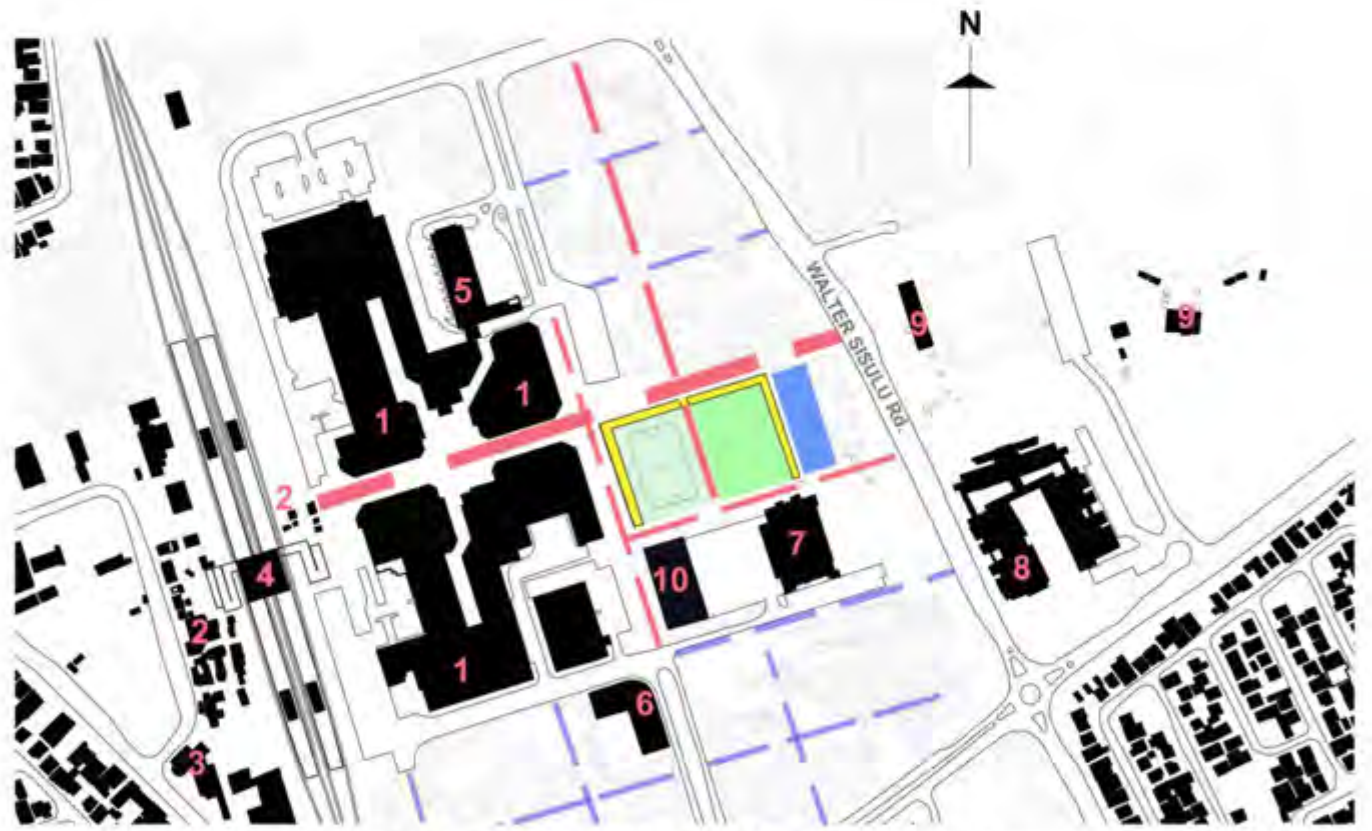
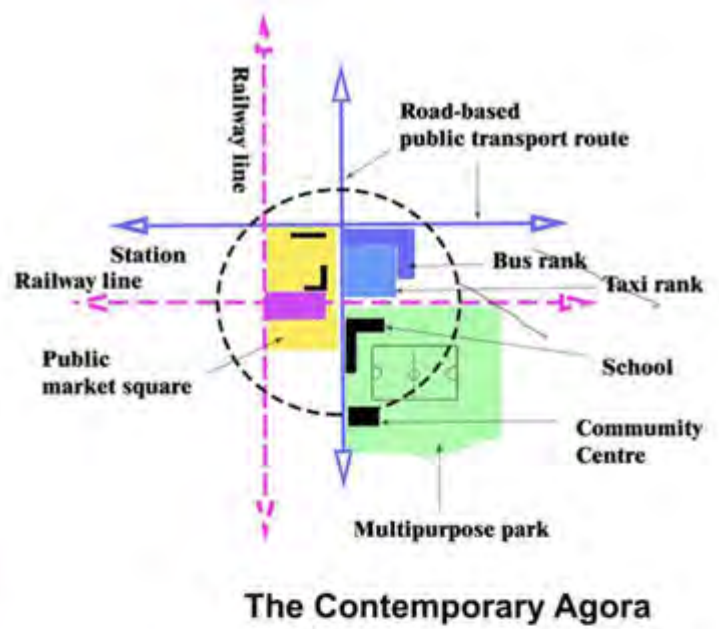
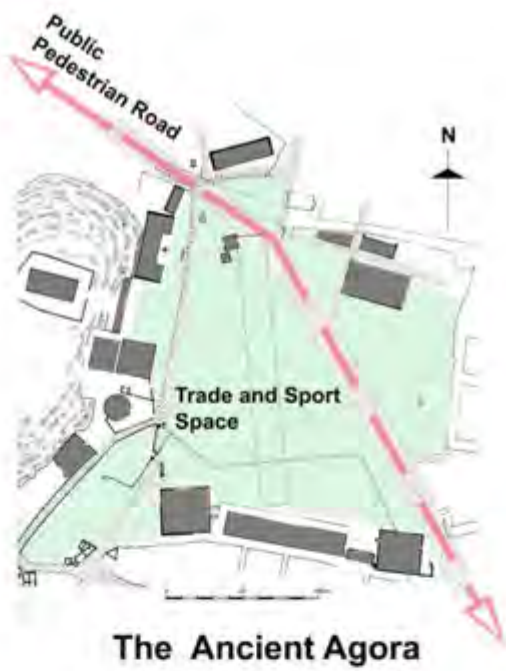
A clear expression of the function and qualities of a building material in the tectonics of a building communicates knowledge of construction methodology of that building to one who lays his/her eyes on it either from the interior or exterior side of the building (**Fig. 12 & 13**). Such an approach to architecture, as noticed in the Stoa of the Ancient Athenian Agora, resonates with facilitating the human aspirations of learning and communication. Using the most technically advanced building materials may produce the required stimulating qualities of space but may contradict in expense with the positive contextual response of low cost construction materials. It seems like a hybrid tectonic will be required to achieve a relevant building tectonic for the Khayelitsha KBD; a tectonic that facilitates the desire to learn, communicate and have a sense of wellbeing.

## DESIGN PROPOSAL

With the vision of transforming the Khayelitsha Business District into a contemporary Agora – a place that gives a comprehensive, celebrated experience of the livelihood of Khayelitsha and facilitates the other fundamental human aspirations of learning and communication – **Fig. 14** is an imagined urban layout of my interpretation of the ancient and contemporary Agora layouts onto the empty, yet to be developed land the KBD.

### Public routes

The first step was to identify and extend all public movement routes leading to the undeveloped, empty land of the KBD so as to create fluid movement from the western edge (the railway facing edge) to the eastern edge (the Walter Sisulu Rd. facing edge) of the KBD. The existing pedestrian walkway in the middle of the mall, starting from the train station, became no exception to the desire to extend existing routes across the business district, thus I relocated the current taxi rank to the other end of the extended pedestrian route so as to create a highly active public route across the KBD urban centre from which new programs, other than the mall, can benefit from.



- 1. MALL
- 2. SMALL SCALE INFORMAL TRADING
- 3. ENTREPRENEURSHIP FACILITATON OFFICE
- 4. TRAIN STATION
- 5. TAXI RANK
- 6. DEPARTMENT OF HOME AFFAIRS
- 7. MULTI-PURPOSE COMMUNITY CENTRE
- 8. MAGISTRATE'S COURT
- 9. SPORTS' MEETING & CHANGE ROOMS
- 10. HOSPITAL
- 11. NGO OFFICES

- Road
- Existing Built Fabric
- Outdoor Multi-Sport Court
- Relocated Taxi Rank
- Pedestrian Street
- Survivalist & Micro Trading
- Multi-Purpose Park

Fig. 14: Interpreting the Ancient and Contemporary Agora Spatial Layouts

The space where the existing taxi rank was, before being relocated, can be used for a future bus rank that is yet to be realised in the business district. The type of programmes I imagined to form the edge of the extended main pedestrian street leading to the relocated taxi rank, are the survivalist and informal micro-enterprises (which make up most of the recorded enterprises in Khayelitsha as shown in **Fig. 3**). Locating these smaller enterprises along a main, highly active, public pedestrian route allows the businesses to be exposed to a more economically diverse Khayelitsha community that uses the public transport facilities (taxi and train stations) at either end of the route.

In a context of congested living conditions (**Fig. 5**) creating an urban room that allows for social spaces of relief (such as outdoor leisure activities) is a way of increasing a sense of wellbeing within the township.<sup>45</sup> The multi-purpose park and multi-sport's outdoor court I have proposed in the layout of **Fig. 14** are meant to address this social need. Unlike the layout of the ancient or contemporary Agora whereby a single space is being used for sport and leisure in the form of a multi-purpose park, I have proposed to accommodate both programmes in two separate spaces so as allow the urban centre to welcome a diverse range of relief needs at the same time. The combination of a shared public area of relief and the representation of the townships' main business typology – informal market, the KBD starts to give a comprehensive image of the livelihood of Khayelitsha and begins to address the socio-economic needs of the settlement.

**Fig. 15** is a wider urban framework diagram of the business district I proposed to illustrate the relationship between the informal trading /park space with the wider, predominantly residential, existing fabric of Khayelitsha.

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<sup>45</sup> David Dewar and Fabio Todeschini, *Urban Management and Economic Integration* (Cape Town: UCT, 1996), 30



Fig. 15: A proposed urban framework plan of the KBD

In this more developed urban framework of the business district, I introduced another pedestrian street on a north-south axis starting from the market place and leading to the proposed and existing residential fabric. This was an attempt to establish a clear movement root that increases access into the heart of the KBD from the surrounding neighbourhoods; encouraging more participation and engagement of the centre with its periphery. The proposed programming of the KBD, follows the conventional city planning layout of formal, small to medium sized retail activities along the ground plane of pedestrian streets, and large commercial activities along vehicular routes, such as Walter Sisulu Road.

Another interesting development in the urban framework was in clarifying the SMME intervention within the urban centre. Though the proposed informal enterprises line up along one edge of the main east to west pedestrian route and frame the multi-purpose park and sports court, nothing addressed the formal small to medium scale enterprises within the SMME category. Thus I proposed an entrepreneurship studio/office building (entrepreneurship hub) across the main pedestrian street (east-west pedestrian street in **Fig .15**) to accommodate the formal small to medium scale retail activities of the north-south pedestrian street.

The location of the entrepreneurship hub at the meeting point of two main pedestrian streets at the centre of the KBD put it in a position of being at the most accessible point of the business district, thus becoming a powerful point of geographical reference within the urban centre. A strong building image would make such a powerful geographical reference more memorable.

# Permeable Thresholds

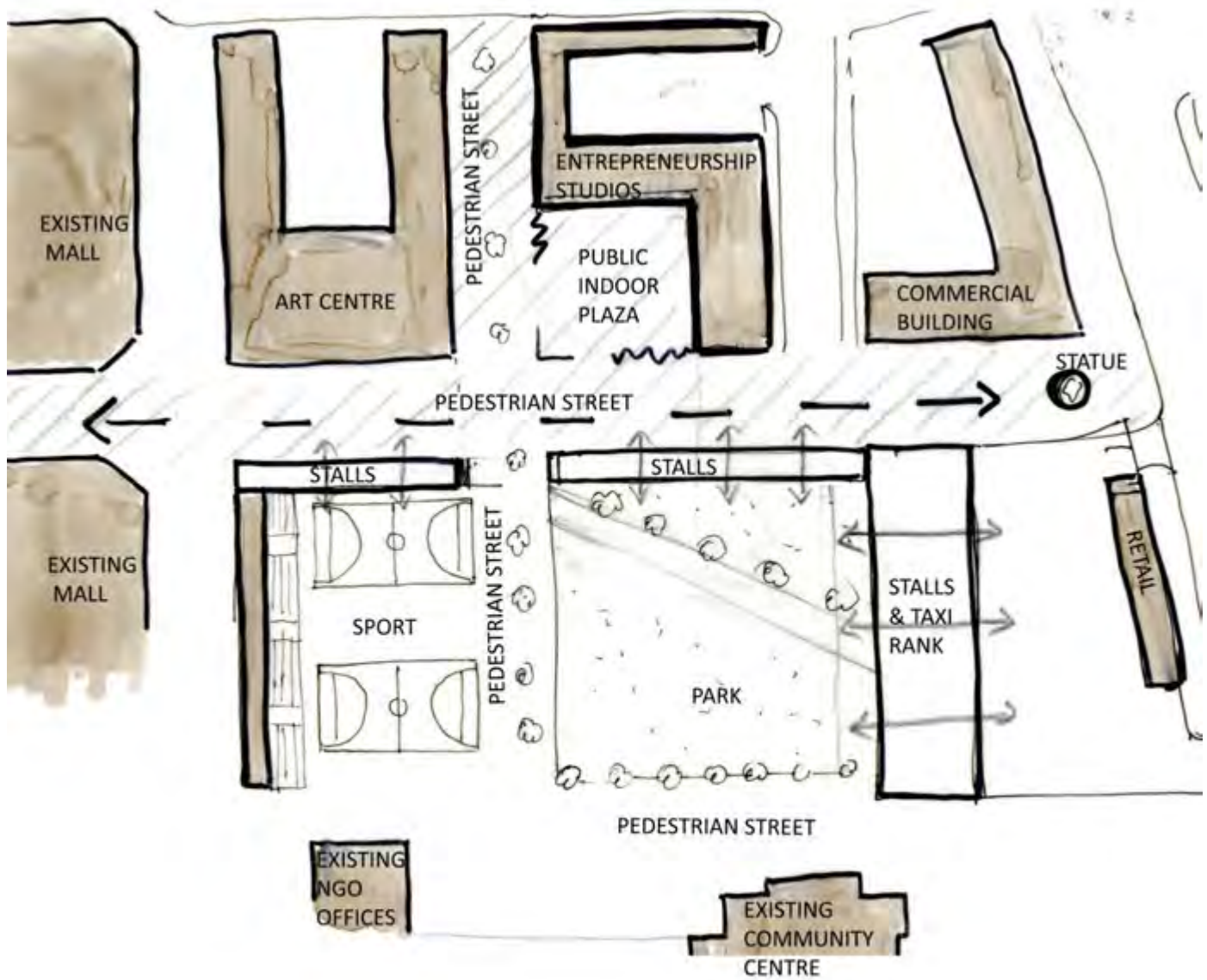


Fig.16 : Framing the centre through permeable thresholds

**Fig. 16** is a diagram indicating the programming of the heart of the KBD (the central focus area indicated in **Fig. 15**). This is to be the part of the urban centre that is to most vividly capture the essence of Khayelitsha's livelihood and the essential human aspirations (the desire to learn, the desire to communicate and the desire to attain a sense of wellbeing), all in an effort to attain an inclusive urban centre. One architectural approach I decided to use to attempt achieving this inclusive vision was through the use permeable thresholds.

Similar to the ancient Greek Agora stoas whose colonnaded facades allowed for visual and verbal communication to filter through the building façade (hence being a permeable entrance or threshold) from within the stoas to the market place and vice versa, I intended to make the buildings framing the heart of the KBD to have permeable edges. This was meant to start facilitating an active public engagement with all the different proposed programmes within the centre simultaneously such that a person participating in the informal trading stalls can easily engage (visually, verbally or through an easy walk through the stalls) with the park activities, sport activities and the taxi rank activity. Such an architectural attitude creates spaces that facilitate the fundamental human aspirations of learning and communication. The indoor plaza of the Entrepreneurship building is also meant to facilitate the human needs of learning and communication through its use as a publicly accessible indoor space where SMME business forums, award ceremonies, and exhibitions can take place. Through its public access on the ground floor plane, the indoor plaza becomes a potential space whereby the informal and formal entrepreneurs can engage in some social activity.

Apart from providing a focal point at the end of the pedestrian street, the Walter Sisulu statue is meant to add a culturally and historically relevant feel towards the pedestrian street and similar cultural logic applies to locating the arts centre along street. The type of trading stalls located along the pedestrian street are also meant to capture culture of the township through the selling of context specific food and other goods. Proposing a context specific set of activities and spaces within the heart of the KBD was essential in aiming to transform the central space into a place.<sup>46</sup>

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<sup>46</sup> Romaldo Giurgola, *Louis Kahn* (Barcelona: Imprenta Juvenil, 1979), 53

## Site Specific, Permeable Stalls and applying a Relevant Tectonic

**Fig. 17** is a poster showing my identification of three types of trading stalls within Khayelitsha and an architectural response in making the design of the structures that hold the stall activity become permeable and of a relevant tectonic.

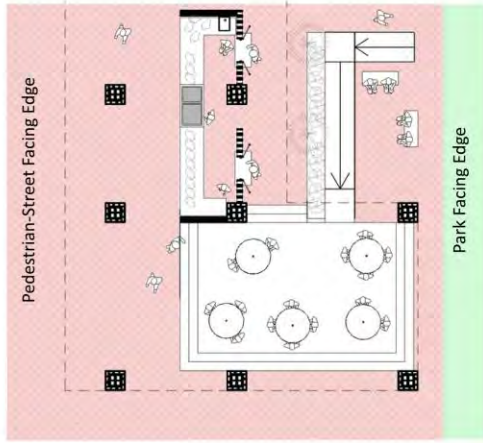
The existing informal trading on periphery of the KBD (**Fig.4**) is mainly categorised into food and non-food items. The food items are further categorised into ready-made dry food (typically fruits, vegetables and factory packaged food) and food to be prepared on site (such as raw meat and stews to be cooked). All three types of stalls, namely the dry food, clothing, and site-prepared food stalls, can serve both edges of the pedestrian street, that is the park facing edge and the street facing edge, through the use of service hatches on the stall walls facing the park and in having no walls on the stall sides facing the street. The structural columns demarcate the boundaries of each stall and 800mm gaps between the columns and the stall walls allow ease of movement into the park from the street and vice versa right through the stalls.

All the food stalls have serving tables but the site-prepared food stalls have braai pits and kitchen sinks to prepare the food. A famous township meal often located within the neighbourhoods' streets is the braaied goat's head.

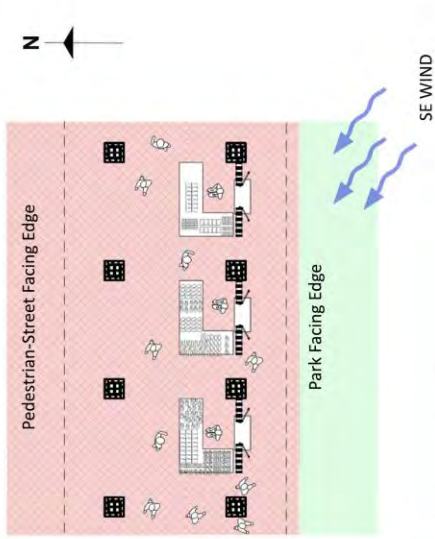
The clothing stalls do not have any readily installed furniture as they can be appropriated in any way depending on how the trader wants to display his/her goods

In coming up with the structure of the stalls, pigmented, fairfaced, hollow, dense concrete block columns with reinforced concrete infill have been used to create a structure that reduces construction costs and promotes the participation of smaller contracting companies due to the technology's no use of expensive formwork for the column construction. The pigment selected for concrete columns is one that can camouflage the bloody stains of site prepared meat such as a red-brown colour

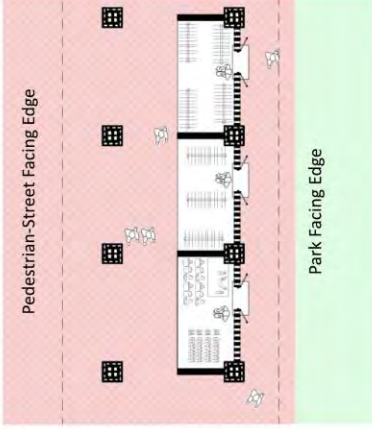
Precast concrete vault roofs were used to give a celebratory, elastic form to the informal business activity stalls and the roof spans wide enough to create a rain and sun shaded walkway along the pedestrian street. Pigmented Concrete breeze blocks have been used to shield off the prevailing southeast wind from blowing away the traders' goods.



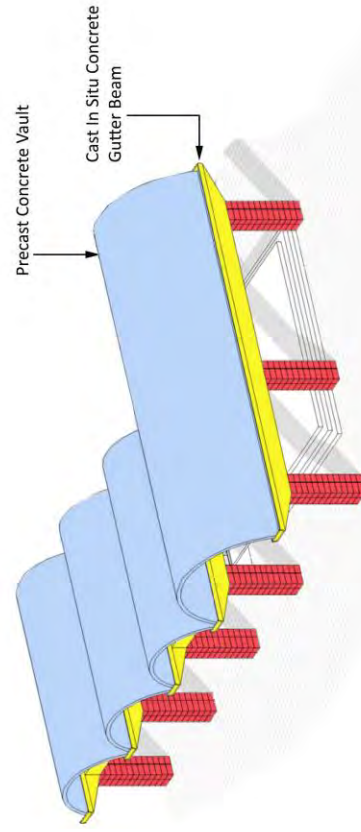
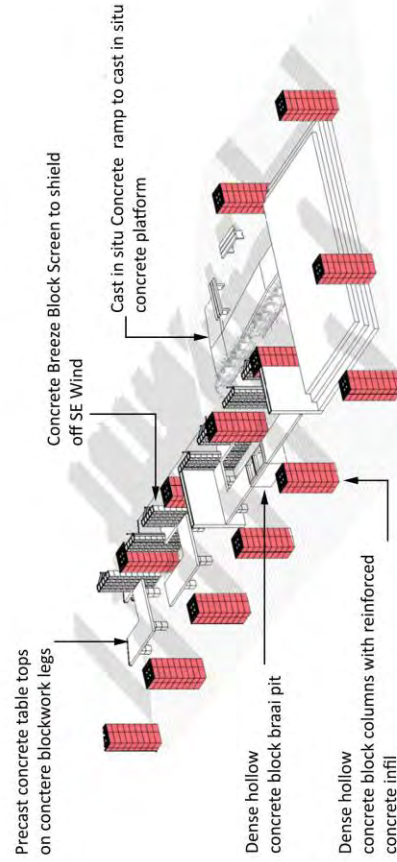
**SITE PREPARED FOOD STALL**



**DRY FOOD STALLS**



**CLOTHING STALLS**



**Fig. 17: Permanent, permeable, low maintenance, trading stalls**

The fairly modest tectonic of the stalls is one that clearly expresses and communicates its structural assembly to users and passersby. The columns are placed 4m apart along the length of the pedestrian street so as to match an 8m column spacing grid of the proposed entrepreneurship hub building.



**Fig .18:** *A forest of columns leading up to the focal point of the main pedestrian street – The Walter Sisulu statue. Columns in both structures on either side of the street use the same building technology and aesthetic to emphasise the two structures as being of the same SMME intervention; encouraging dialogue between the buildings.*

## CONCLUSION

Transforming the Khayelitsha Business District into a place that gives a shared image of participation amongst the township's residents means creating a centre that addresses the social and economic needs of the average person. The social and economic needs of the average individual in Khayelitsha and similar contexts within the country, largely includes the infrastructural recognition and support of the informal and formal small to medium scale and micro-enterprises within the settlement.

The infrastructural recognition and support of the informal and formal SMMEs within the urban centre involves locating the enterprises along strong public movement routes that are normally reserved for large scale enterprises. Infrastructural recognition and support of the SMMEs also means giving them a sense of belonging and permanence within the business district through permanent, robust, low maintenance trading structures that reassures the traders' sustainable, long lasting participation in the economic opportunities of the centre.

A shared image of the proposed KBD urban layout and architectural intervention is most expressed when the programming of spaces within the KBD and the architecture that holds the spaces reflect the fundamental human aspirations/needs of learning, communication and wellbeing. Programmatically such a vivid expression demands spaces that encourage the public learning and communication of the activities that the residents are typically involved in in their daily attempt to attain a sense of wellbeing. Tectonically, such an image calls for a clear, communicative expression of building methodology that promotes participation of smaller, local contractors of the township in the economic opportunities of building the infrastructure of the KBD.

In creating an urban centre that identifies with the aspirations of the people of Khayelitsha can the KBD retain and attract people to Khayelitsha rather than simply repelling them to opportunities at the periphery and to other suburban economic centres in the wider city of Cape Town. Such a KBD becomes an inclusive urban centre.

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