

6 | PRECEDENT STUDIES

6.1 | URBAN CASE STUDY

6.1.1 | FLEXIBLE INFRASTRUCTURE: LAGOS

The West African City of Lagos, the capital city of Nigeria is an example of an African city that represents flexibility and layering of space. It demonstrates an authentic African urban expression, achieved by reversing essential characteristics of the ‘Modern city’ by encouraging the impartial existence of its inhabitants. It is a city that is characterised by energy, intensity, spontaneity, incongruities and juxtapositions (Koolhaas 2000:652), much like that of Marabastad.

Contributing towards the indeterminacy of Lagos’s urban condition is its flexible infrastructural system. This has been categorised by Shephard and Comaroff (2002: 144-145) as consisting of three main components.

- Parasitic infrastructure, due to its ability to modify and manipulate the existing formal infrastructure in order to provide more services.
- Mobile infrastructure relies on cars,

trucks, buses and bicycles to take care of waste, power, transport, telephonic communication and factory production.

- Nodal infrastructure where services and goods are centralized and service a wide area.

Lagos’ urban conditions are not unique in the African context, but its evolving urban centre has succeeded on levels greater than many other African cities in contesting the dominant Modern and Euro-centric norms. It has therefore become an example of the possible approaches towards African city development and can be regarded as a precedent in reconfiguring the way in which African cities function.

Lagos illustrates how focus on cities should be less about their form and more about accommodating forces and flows that move diverse components of the city around, and from which, because of continuous reactions, integrations and symbioses, a creative transformation occurs constantly.

By enabling infra-structural networks, this approach will allow the uninterrupted formation and transformation of conditions on an urban surface.



Figure 6.1. Lagos urban fabric (Udoma, 2015)



Figure 6.2. Innovative development (Udoma, 2015)



Figure 6.3. Urban vision: infrastructural nodes illustrated in red and blue (Udoma, 2015)

6.1.2 | AFRICAN PUBLIC SPACE: KHAYELITSHA SERVICE CENTRE AND PAY POINT

Designers: Piet Louw, Anton Roux
 Location: Khayelitsha
 Client: City of Cape Town
 Date of completion: 2002

“The building is driven by the realization that where there is no significant informing context, it becomes necessary to create one, to plant seeds that can become the beginning of the public places, through the placement of the architectural elements” (Deckler, Graupner & Rasmuss 2008:77)

Intention

- Investigate architecture of public responsibility to make meaningful public spaces within informal environments.
- How a building can be a device in defining urban space.

Background

With the formation of the Government of National Unity in 1994 came a commitment to provide services to South Africa's poorer areas and the subsequent realization that there was a lack of dignified and convenient places for payment of rates and levies. These activities were being carried

out in a series of container-type kiosks, with residents often citing the lack of facilities as a reason for not paying. The Tygerberg Municipality embarked on a programme to create pay points in strategic locations that would also become places of civic significance.

Design

The four Service Centre buildings share common architectural language by rising above the informality of their context and creating civic significance. The nature of the buildings is administrative, including halls with pay points and offices. The designers decided to not use the internalised typology that these kinds of facilities require, but rather to work carefully with the edge conditions to optimise public opportunity (Phaidon 2004).

Analysis

Tectonic

- The programme is small, however, these building are successful in being bold within their context as they are robust and simple.
- Despite their forms being strong and direct, drawing on the mono-pitch roofs and block building of the surrounding shacks, the external spaces are elegantly framed, mediating well

between the scale of the building and individual identities that respond to their specific local context.

- The ground floor is raised which contributes to defining important spaces.
- The buildings have layered facades and portico spaces providing adaptable public forecourts and seating that acts as social gathering and recreation space as well as a smooth transition between different functional spaces.
- The architecture speaks a language of unity, rhythm and proportion.

Programme

- The space was designed to integrate places of civic significance.
- The pay point for governance tax and services acts as an activity generator.
- The built form enables interaction and social engagement through the provision of covered gathering spaces, steps to sit on and a courtyard.
- The building's function ensures a constant flow of people through the site.

Conclusion

Despite the building's small programme it acts as an important urban device in defining public space. The successful architectural language within its context creates an aesthetic approachability.

The building is successful in attaching public space to daily civic function and its dual function ensures that the building is frequently occupied beyond the primary function as a pay point. This building is an example of how architecture can be a successful tool in responding to public and social needs within informal environments as well as creating meaningful public space.



Figure 6.7. Paypoints

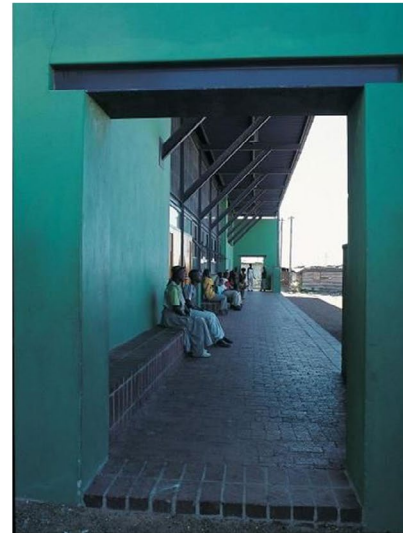


Figure 6.8. Layered facades & public interfaces

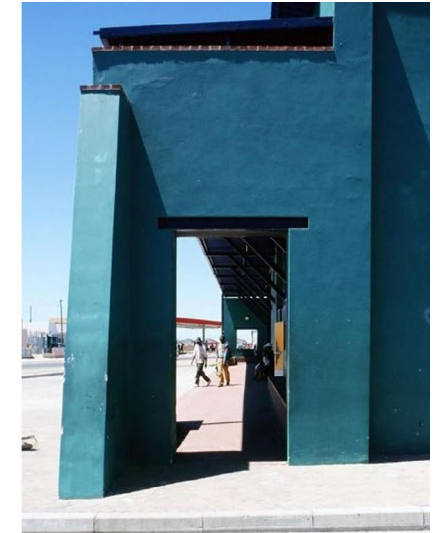


Figure 6.9. External spaces framed elegantly

Figure 6.1 - 6.3. Paypoints with public interfaces (Phaidon 2004:640)



Figure 6.4. Meaningful public space (Phaidon 2004:640)



Figure 6.5. Landmark in the landscape (Joubert 2009)



Figure 6.6. Response to surrounding context (Joubert 2009)

6.1.1.3 | URBAN RENEWAL PROJECT: WARWICK JUNCTION

Architects: Architects Collaborative cc, Lees & Short, Laren Beni, Mike Legg Architects cc, OMM Design Workshop, Langa Makhanya & Associates, MA Gafoor Architects, Emmett & Emmett, Matic Van Zyl, Lee Saunders & Kooblal & Steyn
 Location: Berea, Durban (2001)
 Client: the eThekweni Metropolitan

“Widely recognised as a model of sensitive integration of street traders into urban plans” (Challenging city imaginaries: Street traders’ struggles in Warwick Junction, 2009: 101).

Intention

- African market upgrade as a tool for urban renewal
- Interconnection between retail and transport.

Background

Warwick Junction terminates the N3 highway and serves as an entry point and primary transport node for 460 000 commuters travelling by bus, mini-bus, or train into the Durban CBD. It is therefore the prime position for informal trade and

supports the highest densities of vending in the eThekweni Metropolitan area (Unknown, s.a.:3). Located in the city centre, the area facilitates 5 000 to 8 000 vendors (Skinner & Valodia 2003), with many of these sleeping overnight on the pavement next to their stock.

The Warwick Junction Market occupies the area between and around the Warwick Avenue Mini-bus Taxi Rank, Victoria Bus Rank, and Berea Train Station. These form a movement triangle across the market area, resulting in high volumes of pedestrian traffic across the various different markets spaces. The area supports a wide variety of traders, currently including clothing, fruit, fish, meat, spice, vegetable, lime/ochre, cooked mealies, bovine head vendors and herbalists. Each of these sectors occupies a different area of the market within the precinct including the English Market, Early morning Market, Bovine head Market, Berea Station Market, Brook Street Market, Music Bridge Market, Lime Market, Muthi Market and associated street markets.

Intervention Summary

- Protection of markets from vehicular invasion through use of bollards and the provision of alternate parking facilities.
- Provision of water and sanitation

facilities

- Muthi (traditional medicine) Market for approx. 1 000 vendors
- Early Morning Market refurbishment
- Five off-street mini-bus taxi ranks completed
- Herb Traders Market
- Improving mielie cooking facilities
- Improved bead selling facilities
- Infrastructure for Brooks Street vendors (designed by Architects Collaborative)
- Provision of facilities for bovine head cooking
- Informal Economy Policy’ reviewed and amended.

Intervention intentions

- Shelter from sun and rain for trading
- Night time personal shelter from weather
- Secure goods storage
- Water and sanitation facilities
- Access to electricity
- Lighting allowing night time trade and security
- Security policy
- Health and safety facilities.

Outcomes and observations

- Social organisation on internal co-operation among vendors at the Warwick Junction triangle has shown itself strong among the different groups of vendors.

- Fixed furniture made the area difficult to keep clean and provided hide outs for criminals. A simple collapsible trestle table was the solution, allowing mobility.
- Provision of sanitation facilities was problematic with high incidences of blockages. Management of the facilities was suggested. A small fee is paid for use of the facilities which supports an attendant responsible for cleanliness, basic maintenance, and safety of the facility and the provision of toilet paper.
- The Markets are multi-levelled and this change in level often defines a change in formality. Generally the higher levels attract more formal businesses with the ground floor being open and allowing for self-organisation of informal traders.

Conclusion

One of the most significant aspects of the renewal is the acceptance of informal trading and the formal recognition of the street as a legitimate market area through the demarcation of pavement spaces to individual vendors (Working in Warwick: 10). This allows the vendors a measure of security, allowing entrepreneurs to buy larger volumes of stock, and create business plans in a more stable environment, while allowing regulation of health and safety standards through engagement of authorities with known communities, as is the case at Warwick Junction. Police are then able to provide market security, rather than fighting against the market participants. The demarcated spaces allow a movement corridor on the

pavement where pedestrians are safe from passing vehicular traffic. Vendors pay rent on these spaces as they would with any market stall, and so they are therefore legally recognised and legitimised by formal structures.

The built architectural fabric is not unimportant, however, the intangible “... social configuration and cultural influence [of the market] on the surrounding urban fabric is significant (Ganther 2009: 2). Markets are mainly controlled by their participants, and although they might be inherently chaotic this allow for a “...rapid, improvised change that is characteristic of modern societies...” without excluding lower-income participants (ibid.:14).

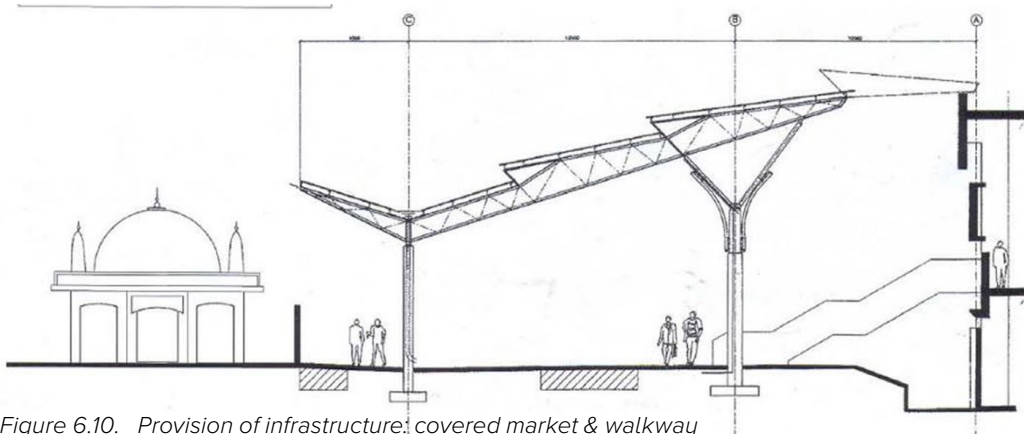


Figure 6.10. Provision of infrastructure: covered market & walkway



Figure 6.11. Covered market space



Figure 6.12. Muthi Market

Figure 6.7 - 6.10. Warwick Junction iTRUMP

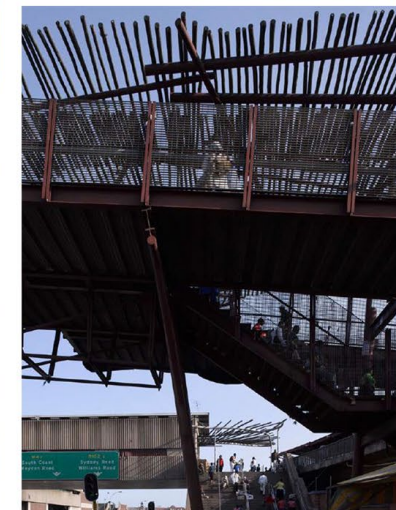


Figure 6.13. Market on the pedestrian bridge

6.2 | PROGRAMMATIC PRECEDENT STUDIES

6.2.1 MARKET SPACES

Markets have always formed an important function within the city. They offer opportunity for both economic and social activity. “Public space produces some of the most vibrant, complex, and most locally identifiable spaces experienced in urban Africa” (Ganter, 2009: 1) The market place allows for adaptation to changing demands, inter-trader support and opportunity for enterprise.

Spatial character

Spaces within market systems seem to facilitate shifting functions and it is therefore important to allow for this shifting flux of needs.

Anchor

Vendors in all the analysed markets often group together into market sectors, with the largest sector often acting in the same way as an anchor tenant would in a shopping centre. These groupings are often off the street, forcing prospective customers to move through a series of smaller sectors

and individual stores before arriving at the anchor (Dewar & Watson, 1990: 42).

Market Levels: There are also different market levels within the sectors with vendors operating at different levels of formality, from the mobile pavement trader to the enclosed market shop. Vendors at lower levels may not want to change levels for business reasons (Personal Correspondence, 11 July 2011).

Equality in the Market

The self-organization of market social structures means that these organizations are fairly democratic. Vendor’s stalls seem to be fairly uniformly sized and distributed where stalls of the same sector and level are grouped, with the main size change being across market levels. Smaller less formal stalls seem to be closer to faster moving pedestrian traffic.

Theoretical Guidelines: The following illustrations describe the general situations found in the studied markets, and confirmed by the research on African and International markets by Prof. David Dewar and Vanessa Watson (1990: 42-53)

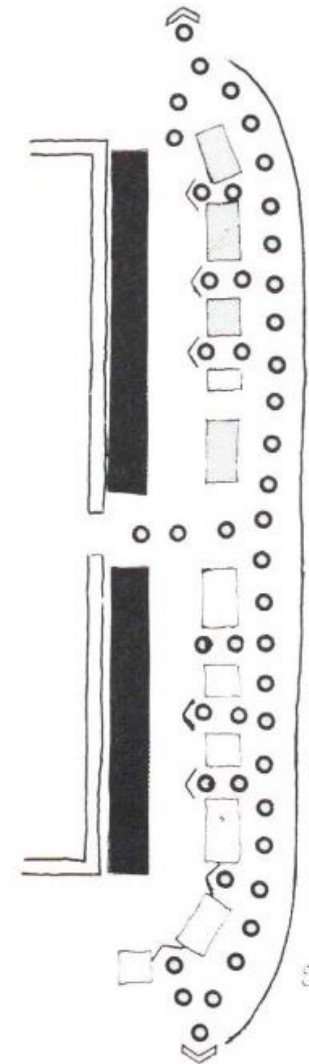


Figure 6.14. Market scenario 1 (Dewar & Watson, 1990:49)

Some stalls survive by 'intercepting' customers who are drawn to stalls behind them

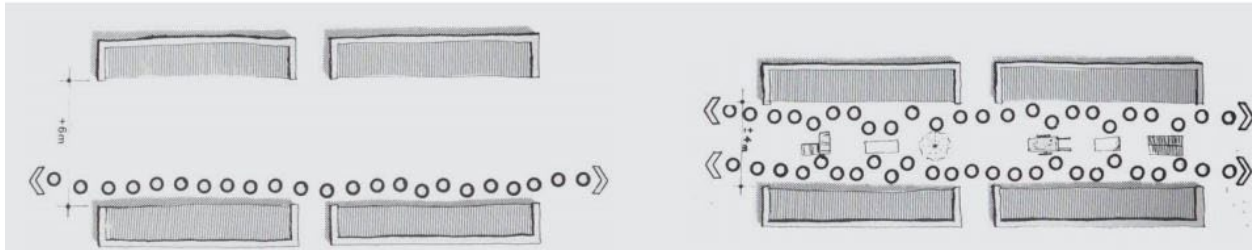


Figure 6.15. Market scenario 2 (Dewar & Watson, 1990:49)

A circulation space that is too wide (+6m) causes customers to favour one side.

Figure 6.16. Market scenario 3 (Dewar & Watson, 1990:49)

Loose stalls in circulation spaces wider than 4m promotes cross movement

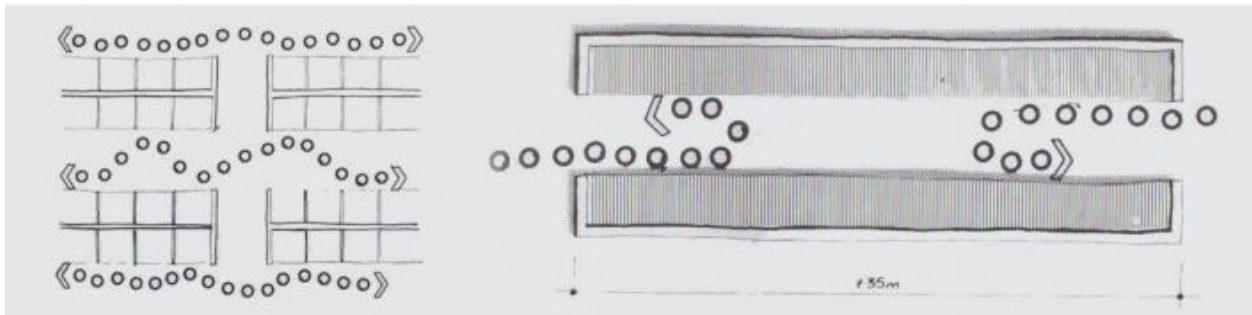
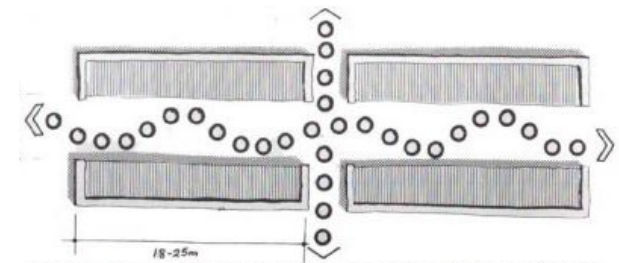


Figure 6.17. Market scenario 4 (Dewar & Watson, 1990:49)

Dead spots caused by end walls

Figure 6.18. Market scenario 5 (Dewar & Watson, 1990:49)

Ineffective customer penetration, due to stall run being too long, ie. +35m



Illus. 54: More appropriate stall-run dimensions (Dewar & Watson, 1990: 50)

Figure 6.19. Market scenario 6 (Dewar & Watson, 1990:49)

More appropriate stall-run dimensions

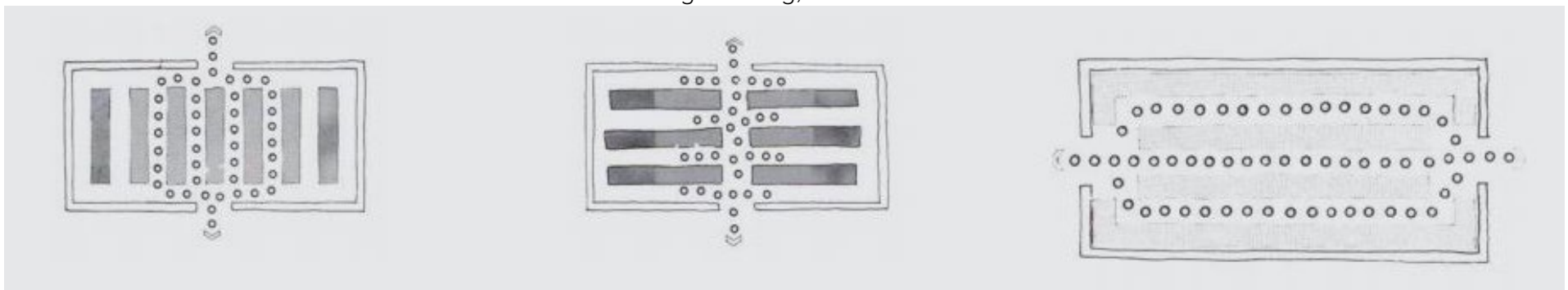


Figure 6.20. Market scenario 7 (Dewar & Watson, 1990:49)

Ineffective customer to stall exposure because of stall run layout

Figure 6.21. Market scenario 8 (Dewar & Watson, 1990:49)

Ineffective customer to stall exposure because of stall run layout

Figure 6.22. Market scenario 9 (Dewar & Watson, 1990:49)

Entrance position & grain of stall-runs working with customer flow

6.2.2 | BOVINE HEAD COOKS: WARWICK JUNCTION

Architects: MA Gafoor: Kooblal & Steyn

Location: Berea, Durban (2001)

Client: the eThekweni Metropolitan

Date of completion:

Intention

- The relocation of an evolved traditional Zulu cooking practice into a specialist bovine head cooking facility.
- Providing infrastructure and service support for existing activities and networks.
- Economic opportunity generated by providing appropriate infrastructure.
- Investigate the requirements for bovine cooking in informal environments

Background

Traditionally, the slaughter of the bovine would be confined to the middle aged Zulu males. The head would specifically not be handled by women or children and a select few males would eat the boiled facial meat. Despite this, bovine head cooking has become a common practice even among women. The assimilation of a significant Zulu male tradition into an urban practice where female cooks are in the majority has been overridden on account of economic opportunity.

The cooks commenced their enterprise in Warwick Avenue alongside the western boundary wall of the Early Morning Market. Their numbers increased progressively and it became known as the location for this delicacy. A traditional delicacy was being provided by bovine head cooks to commuters within the area, but as the size of the cooking community increased, so did the urban management challenges.

Original issues

- Open fires in large drums became a safety risk
- Degreasing of sidewalks was problematic
- Discharge of cooking effluent into storm water reticulation blocked systems and attracted rodents
- Lack of solid waste disposal resulted in rotting wastage
- Sidewalk congestion due to occupation by vendors
- Health and hygiene issues raised regarding food preparation.

Design intervention

The officials within the Warwick Junction Project acknowledged the bovine cooks as a viable informal economy activity and an essential livelihood for the women who

undertake the activity. A development approach and matching infrastructure strategy was therefore necessary. City Health, ITSBO (Informal Trade and Small Business Opportunities), iTRUMP (inner Thekwini Regeneration and Urban Management Programme) worked together with the informal traders themselves to find solutions.

Through extensive site observation, short term interventions and interviews with the bovine cooks the following design interventions were made:

- The relocation of the bovine cooks to an existing roofed trading node north of the English Market on Warwick Avenue, presented opportunity to congregate the majority of existing enterprises preparing cooked meals in the form of a food court.
- Pretreatment 'buckets' designed to separate fats and gelatin from liquid waste, were allocated to each pair of traders.
- Running down the entire length of the facility was a central drain, connected to a purpose designed interception gulley, prior to the drain discharging into a sand, oil and grease trap, connected to the local authority sewer. The gulley

and the trap are de-sludged as part of a regular maintenance plan.

- Specialist solid waste removal is provided by the local authority.
- The floor of the cooking facility is graded towards the central drain to facilitate the easy pressure cleaning of all the surfaces.
- Concrete tables inlaid with either stainless steel or decorative mosaics were provided and similar material was used to provide the “cooking benches” that had protective raised sides to act as windscreens for the primus stoves.
- The entire area was conduited for the later provision of electricity through a prepaid meter system.
- Water was provided at two convenient points that could be secured when unattended. The water point was operated by a “bailiff” who sold water to the individual cooks as a business in its own right. The bailiff contracted with the local authority and paid for the bulk consumption. The cost differential translated into the bailiff’s income.
- The Bovine Head Cooking Facility occupied approximately 1/3 of the sheltered area and the remainder was reallocated to those exiting enterprises trading in prepared plated food.

Conclusion

The interventions and provision of appropriate infrastructure have established the activity as an enterprise and created new economic opportunity. There is no doubt that this sort of design process requires a degree of trial and error, however, through observation of the process undertaken to accommodate the bovine cookers at Warwick Junction, more informed design decisions can be made sooner in environments such as these.

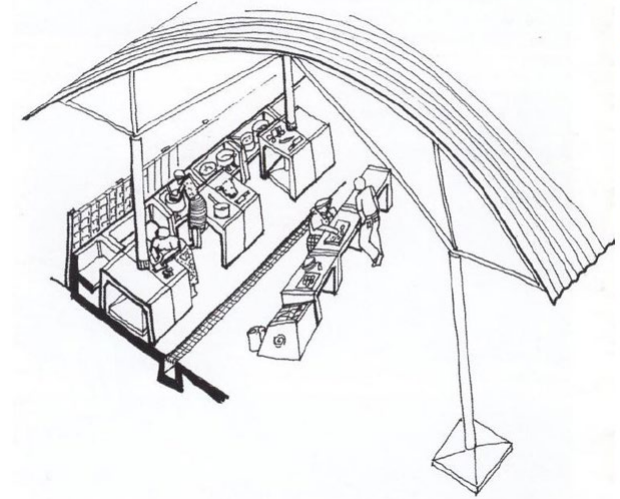


Figure 6.23. Bovine butchery layout

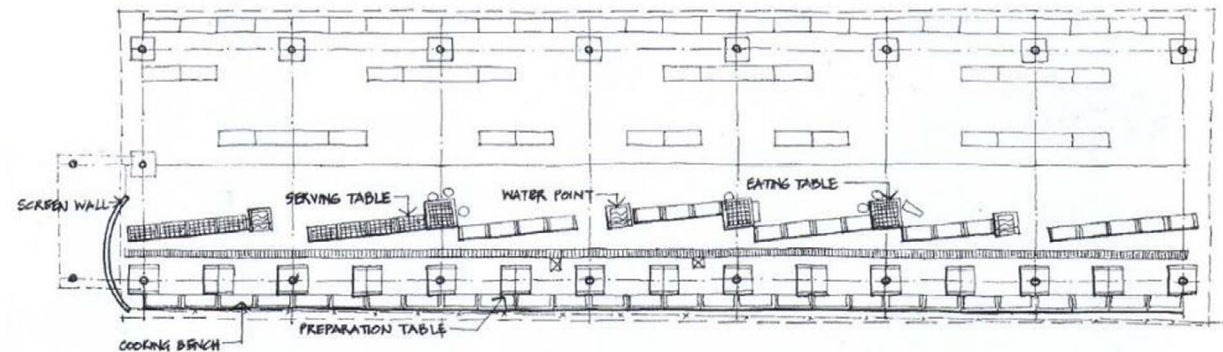


Figure 6.24. Layout plan of bovine butchery



Figure 6.25. Skinning of bovine head



Figure 6.26. Butchering of bovine head



Figure 6.27. Bovine head chopping



Figure 6.28. Food preparation



Figure 6.29. Informal restaurant serving bovine meat



Figure 6.30. Serving & eating of bovine meat

6.2.3 | MEAT MARKET: THE CENTRAL MEAT MARKET, GUGULETHU

Architects: Carin Smuts Studio
 Location: Gugulethu, Cape Town
 Client: City of Cape Town
 Date of completion: 1994

Intention

To investigate the following:

- The importance of public space in promoting socio-economic opportunities of existing activities.
- How the provision of the formal should still leave room for the informal to establish itself.

Background

In 1994, The Central Market became the first project in Gugulethu on the list of small business development initiatives. Informal businesses in the area and a management team worked with Carin Smuts (CS) Studio architects to develop the project. The main objective was to solve the immediate problem of the traders and public space by providing shelter from the elements for a meat market which had successfully operated in the open.

Design

The design process was complex and involved many workshops, meetings and negotiation. The ‘Eurocentric’ market proposal was transformed into a more appropriate and locally expressive market through active involvement by all traders. The traders proposed an L-shaped building which would form a boundary and block prevailing South-west winds. The boundary wall, ‘thickens’ to accommodate the formal activities: spaza shops, cold rooms, public toilets and offices. The North and East sides of the Market were left open to allow for an effect public interface. Roller shutter doors allowed the Market to be completely closed at night for security. Stainless steel tables, sinks and indoor fire places allow for the hygienic preparation of meet and braaing. The roof resembles a giant wave and its aesthetic establishes The Gugulethu Meat Market as an iconic place within the landscape which promotes it as a socio-economic viability.

Analysis

The L-shape is successful in defining the boundary of the market and accommodating the more formal functions but it is also successful in defining the inner informal meat market space. The architecture provides the formal but still

allows for a transition to the informal. Keeping construction minimal by creating envelopes that will allow for self-organisation and adaptation. Once the programme is set it should not impose the goal but rather propose an infrastructure that the inhabitants will then be able to adapt and self organise. The fitting out is done by the inhabitants.

The L-shape also prompts how people move through the space with the open North and East sides allow for easy access to the Market. Socio-economic engagement is encouraged by the market’s free plan. Meat preparation, cutting and braaing all happen in one place which allows for members of the community to interact and engage with one another.

Although the formalisation of trade has been extremely successful on the whole, it is still necessary to analyse how specific design elements have been re-appropriated to better accommodate trader needs. The arcade on the East, designed as a pedestrian walkway, has been occupied by informal fruit and vegetables traders. It is an unclaimed covered space and offers opportunities of socio-economic vigour which result from the meat market. It is important to note that design elements

need to be tools in either allowing for or preventing re-appropriation and adaptation of certain spaces. Where the local authority has acquired an asset, as in the case of the Gugulethu Central Meat Market, it also has a measure of influence on rents, rates, and maintenance levels. While grocery shops and spazas are paying their rents regularly, sometimes in advance, the meat traders are not meeting their own, lower rent payments.

Conclusion

The Gugulethu Central Meat market is a good example of how architecture can be a tool in enhancing specific existing activities and functions. Providing infrastructure for existing functions, like that of a meat market, provides better conditions for food preparation and health safety. There is a need for architects to be a part of an economy of self-development towards a sustainable development as opposed to sustainable architecture. The architecture needs to be flexible, expandable and made to accommodate a society that needs development rather than codes of practice.



Figure 6.31. Interior of meat market



Figure 6.32. Braai area



Figure 6.33. Pedestrian arcade



Figure 6.34. Informal f & v markets



Figure 6.35. Roof resembles a giant wave



Figure 6.36. Central Meat market truss structure

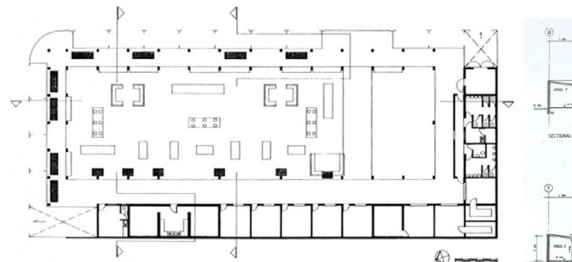


Figure 6.37. Central Meat Market ground floor plan

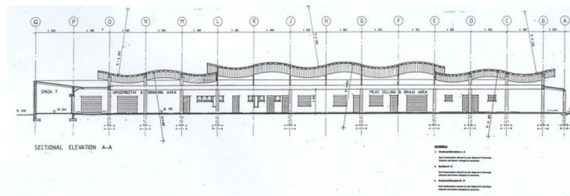


Figure 6.20 - 6.27 Gugulethu Central Meat market images (CS Studio Architects)

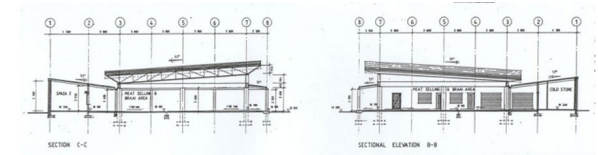


Figure 6.38. Central Meat Market sections

6.2.4 | TRANSPORT INTERCHANGE: BARAGWANATH PUBLIC TRANSPORT INTERCHANGE AND TRADER'S MARKET

Designers: Urban Solutions Architects and Urban Designers

Location: Soweto, Gauteng

Client: City of Johannesburg

“The building takes the form of a colonnade, linking taxi stands and bus bays along a major traffic artery”. (Phaidon 2004)

Intention

- Investigate how the upgrade of infrastructure and support structures facilitates existing transport and retail networks and generates greater economic opportunity through increased legibility.
- Investigate the requirements (materials, scale etc.) of a building through which thousands of commuters pass each day.

Background

The improvement of transport connections between Soweto and Johannesburg is one of the components of the development scheme that aims to integrate Johannesburg's south-western townships into the city's urban economy and landscape. The upgrade of the existing

Baragwanath Public Transport Interchange shapes one of the busiest transport nodes in South Africa through which 70% of all Soweto's commuters pass in order to get to work or home. The site stretches for 1,3 kilometers and is on average 50 metres wide. The oblong shape of the site posed a challenge in accommodating the requirements of all the functions of the building.

Understanding the competition for space between traders and transport in the area was the critical design challenge. In the past, few formal facilities were provided for any of these sectors. Minibus taxis and especially traders have for the most part been marginalized, with few proper amenities and support structures.

Design

The development accommodates 500 street traders and their associated amenities, including storage facilities, management offices and support infrastructure. The trader stands vary in size to accommodate the different types of formal and informal businesses. The transport facilities also include 22 bus ranks and 650 minibus taxi parking bays. The planning principle was to provide an arcade as a structural spine along the

length of the site. The arcade which is constructed of sculpturally formed concrete elements connects commuters from one public transport node to the next and becomes the binding element into which all the various functional requirements are attached. The arcade is the focal point along which traders and public amenities and spaces are positioned. The enormous length of the arcade is spatially differentiated in reference to the functions that happen along it. Landmark structures have been positioned at focal points and public entry points to ensure a greater sense of orientation.

Analysis

The design acknowledges the importance of the new facility as a hub and gateway to Soweto and this importance is evident in the scale and boldness of the architecture. Concrete construction is used to provide a robust, permanent structure for this public building which is necessary for a space through which thousands of people move each day. The concrete structural spine offers variety in the different types of functions that plug into it while also providing space that allows for self-organisation and adaptability of activities. Its rhythm is punctuated by market halls and trading kiosks. A varying degree of

physical and visual accessibility throughout the spine creates numerous different spaces and urban conditions. The material occasionally erupts into sculptural tile-adorned pavilions which serve as orienting markers, avoiding monotony and increasing legibility. The Baragwanath Public Transport Facility presents a public catalyst for the development of new urban spaces and fabric in a previously marginalised environment.

Conclusion

The following are noted with regards to a transport node:

- Appropriate architectural scale in defining the threshold of and gateway to the city
- Necessary robustness of a building through which thousands of people move each day.
- The importance of landmarks in creating greater legibility.
- Accentuating pedestrian movement and economic possibility through an arcade typology
- Investigation into how a core structure can allow for self-organisation of different types of activities to plug into it.
- Providing appropriate infrastructural support for existing networks can increase economic prosperity.



Figure 6.39. Traders' Market

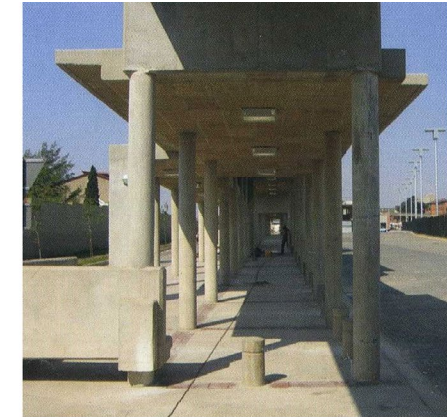


Figure 6.40. Robust walkway



Figure 6.41. Public seating



Figure 6.42. Landmark



Figure 6.43. Predominant entrance



Figure 6.44. Space defining concrete elements



Figure 6.45. Taxi terminal

Figure 6.46. Figure 6.25 - 6.31. (Contemporary South African Architecture in a Landscape of Transition)