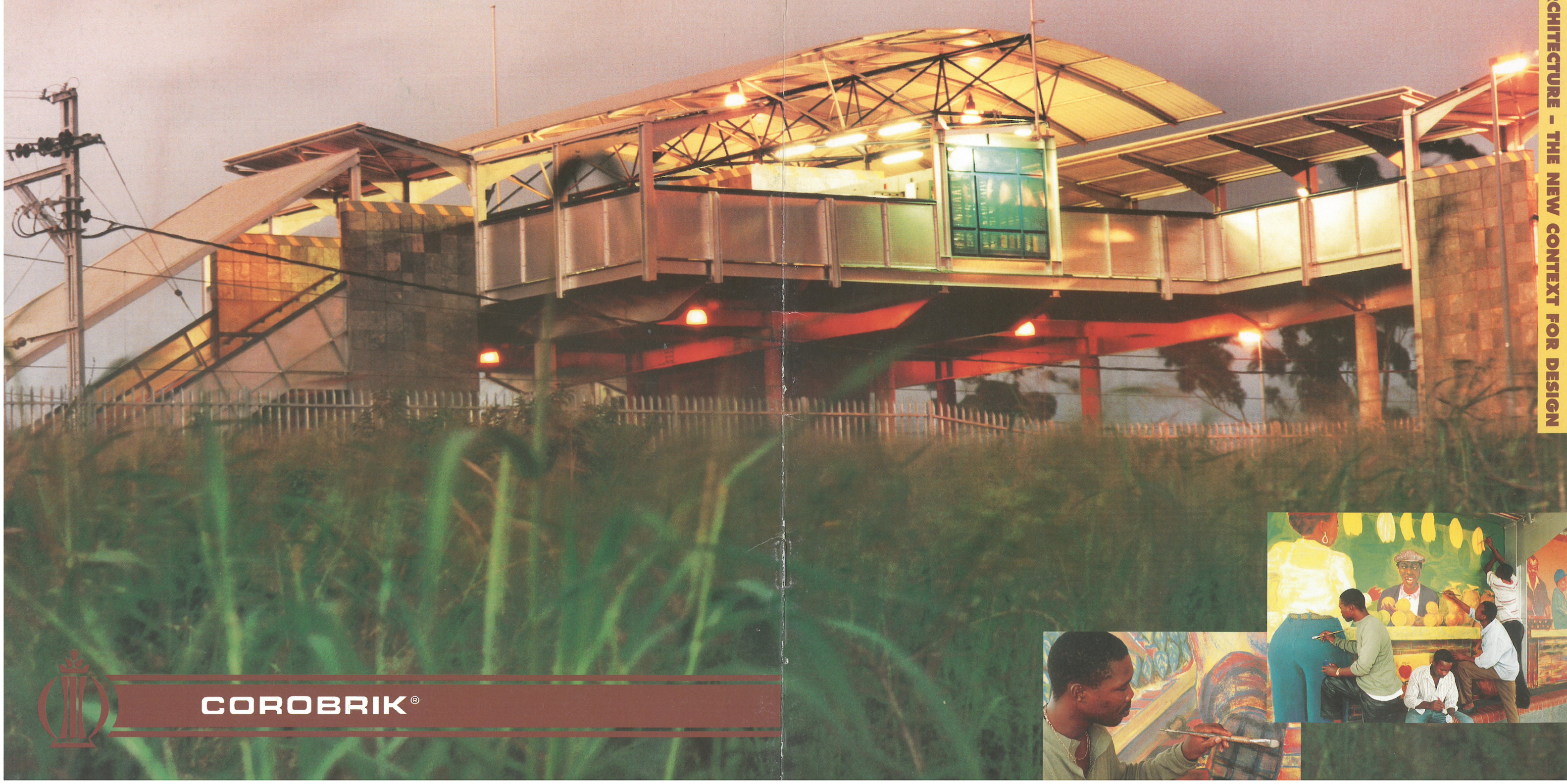


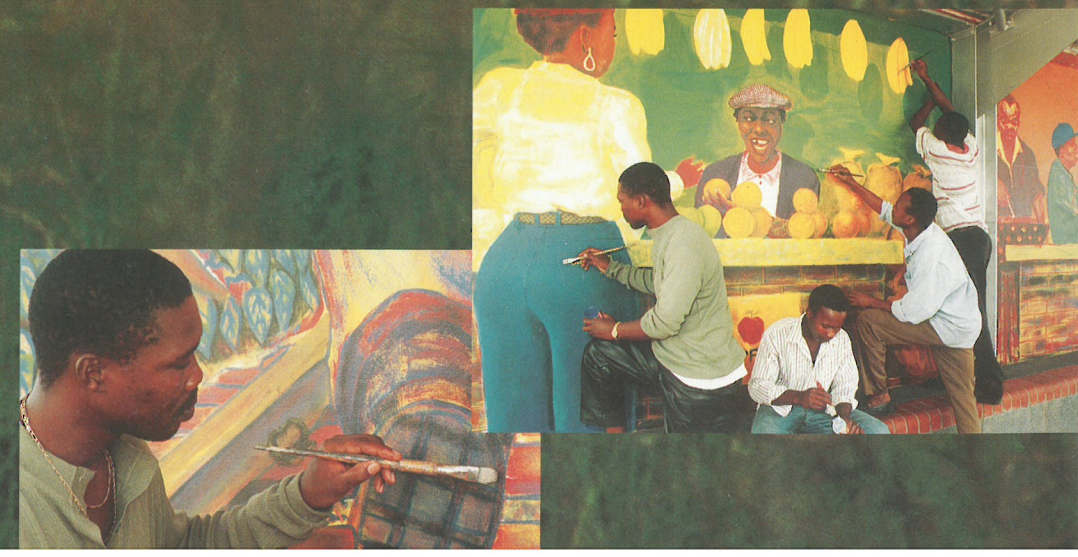


KZ-NIA JOURNAL • ISSUE 4/1997 • VOLUME No 22 • ISSN 0379-9301
Journal of the KwaZulu-Natal Institute for Architecture

SOCIAL ARCHITECTURE - THE NEW CONTEXT FOR DESIGN



COROBRIK®





KZ-NIA JOURNAL • ISSUE 4/1997 • VOL 22
ISSN 0379-9301

Editorial Board

Brian Johnson (Chairman) John Frost
Paul Sanders · Paul Mikula · Rouxlene van Zyl

Production Editor Walter Peters

Editorial Assistant Ted Tollman

Design Maria Criticos

Published by the KWAZULU-NATAL
INSTITUTE FOR ARCHITECTURE
160 Bulwer Road, Glenwood, Durban 4001
Telephone: (031) 21-7590 · Fax: (031) 21-7586

This journal, now in its
22nd year of publication,
has since its inception been
sponsored by Corobrik.



Corobrik Regional Student of the Year

Winner of the 1997 Corobrik Student of the Year for the region of KwaZulu-Natal was Barbara Beier whose Design Thesis was entitled "A Constitutional Court for South Africa".

Students Andrew Nimmo & James Walters were placed 2nd and 3rd respectively.



Social Architecture

The New Context for Design

THE SUCCESS of development is not measured solely by the introduction of infrastructure but by the appropriateness of that infrastructure in responding to its context. By the same measure, successful design is not only that which wins architectural awards, but rather that which engages the public which will utilise the built form.

History has shown that "top-down" and imposed development does not achieve this purpose. All too often, problems are experienced in initiating projects because developers do not take heed of the concerns and needs of stakeholders.

In order for any development to be sustainable, it must be acceptable. In order to achieve acceptance, a sense of "ownership" must be engendered. And "ownership" can only be achieved through active participation of the target community.

In this scenario, successful design is dependant not only on the quantity or quality of the built form but also on embracing a holistic ethos to development.

Intersite is one of the institutions which has become known for its holistic approach to design and development – an approach which brings both profit and social objectives together in a way which is not only financially viable but also addresses social and historical needs within the community.

Levels of Integration

In this issue of the KZ-NIA Journal we will explore the role of public involvement in the design process and show how this impacts both on the design of the built form and on the sustainability of the development.

Through the use of case studies from

Intersite's KwaZulu-Natal operation, we will examine the role of both the architect and the community in the design process and the management of this relationship.

We will thus step through the following defined levels of integration:

- Macro policy level.
- Development requirement level.
- Commercial integration level.
- Modal / Transport integration level.

At each level, the interaction between the architect and the social environment will be explored. It is important to note that each level requires both an enabling environment and an appropriately designed Public Involvement Process (PIP) in order to plan successfully.

These levels, as applied to the KwaZulu-Natal railway stations include the following:

- A change from apartheid's social engineering to social architecture.
- Balancing requirements of Metrorail (provider of the commuter rail service) with commuter needs.
- Developing the commercial potential of the station precinct from hawker to anchor tenant.
- Facilitating Intermodal Transfer Facility development.

Public Involvement Programmes

Since its inception, Intersite has implemented a model of public involvement that ensures ownership and sustainability. This model that recognises community structures and enhances the reconstruction of communities, PIP, has been refined over the past five years based on extensive experience gained in the field.

As a support function to planning, PIPs are goal oriented and community guided brief col-

lation exercises. They are not designed to inform the public of predetermined intentions but rather to involve communities in the formation and realisation of those intentions.

The PIP model has as its main objectives acceptance, ownership and sustainability of the development. Specifically, PIP aims to:

- Introduce the concept to the public.
- Learn from the public about the issues or problems as they see them.
- Identify solutions that are feasible.
- Develop support for the selected solutions.
- Benefit communities not only through the development itself but, by establishing a relationship with the community.
- Ensure sustainable growth of business and jobs.
- Ensure acceptance and therefore long-term commitment to the development.
- Create a sense of ownership by involving people in the development process.

Development Sustainability

For the effective implementation of projects it is essential not only to identify the needs, fears and aspirations of the stakeholders surrounding a development, but to ensure that these requirements are accommodated in the best possible way.

The underlying principles which guide PIP include the following:

- Key decision-makers must agree to participate in the PIP process.
- The process must be inclusive.
- Regular, free-flow of information is essential.
- Participatory processes must be well designed and agreed upon.
- Decisions are best made and sustainable if reached through consensus.

One must create and maintain a high level of public awareness for the project so as to develop both active and passive support. This will result in credibility for both the planning process and planning authority.

Furthermore, it is important to convince policy-makers and developers of the legitimacy and seriousness of public concerns so as to avoid prejudice and non-representative development ideologies. It is critical that a non-partisan stance is maintained by the developer. This, however, must not be seen as a lack of concern.

Embracing these objectives will prevent, where possible, speculation, polarisation, conflict and stalemate.

Public Involvement Programmes minimise investment risk by obtaining community support for the project before implementation and

COVER: Thembalihle
Railway station and
examples of station art.
Photographer: Ted Brien

by identifying and solving conflicts during the process of consultation resulting in a



Upgrading of KwaMnyandu Station

sense of ownership thereby reducing the risk of vandalism and avoiding costly maintenance.

PIPs are also cost effective because they reduce the possibility of budget and time "over-runs". This is achieved by securing community support and circumventing community objection during the process at a cost of only 1-2% of the budget, depending on complexity. This also adds value to the investment by ensuring cost effective, soft marketing and market response as a by-product of the process, while building relationships between the developer and the community which will endure long after the project is completed.

PIPs also offer benefits to the community such as involvement in the process, developments more suited to their needs, a sense of ownership, strengthened relationships, development, empowerment and upliftment.

Black Economic Empowerment

In order to ensure project sustainability and acceptance, community empowerment must take place. Included in this is the issue of significant Black Economic Empowerment (BEE) on the project.

Contracted works should ensure local job creation. Entrepreneurial spirit should be identified and encouraged by placing fixed orders with local emerging businesses enabling them to raise the necessary capital required so as to meet that order.

While traditional contractors are used on many Intersite projects, they are required to show sufficient levels of BEE before their appointments are confirmed.

Finally the project should incorporate training and mentorship programmes in order to facilitate skills transfers.

Defining the Process

The success of a project is dependant both on the appropriateness of the product and on the process. A number of techniques are available to the PIP practitioner. These include stakeholder meetings, focus groups, hot lines for geographically dispersed stakeholders, interviews, polls and surveys, public hearings, referenda and ballot initiatives, team-building activities, workshops and written comments. The aim of this process is to find consensus on

the issues at stake within the project. The Development Facilitation Act does however make allowances for adjudication provided that consensus approaches have been exhausted.

The typical PIP project cycle steps through the following process in order to build a case for a feasible development project:

- Project identification.
- Setting the vision for the project.
- Process design.
- Extensive stakeholder analysis

- including a need and issues analysis.
- Finalisation and implementation of the development plan.
- Final project planning.
- Construction.
- Development maintenance and management.

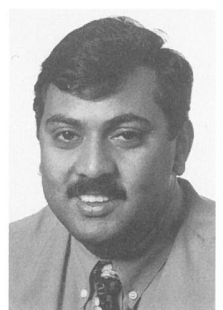
An appropriate PIP process must include flexibility, both in the planning and implementation phases; consultation from project inception with all relevant stakeholders; an understanding of the community's issues of concern; local community empowerment; transparency; and feedback to the community.

PIPs offer more than information, they offer knowledge and understanding both of opportunities and aspirations.

If development is seen as a holistic programme of community reconstruction then one will ensure that:

- We reconstruct and develop both the people and their environment.
- We take history and community structure into account.
- We are strategic rather than reactionary.
- We consult rather than prescribe.
- We deliver rather than theorise.
- We maintain transparency of the process.
- We meet three basic needs – product, process and aspirations.

Laren Beni, assisted by Sean Callaghan of Simeka TWS Communications.

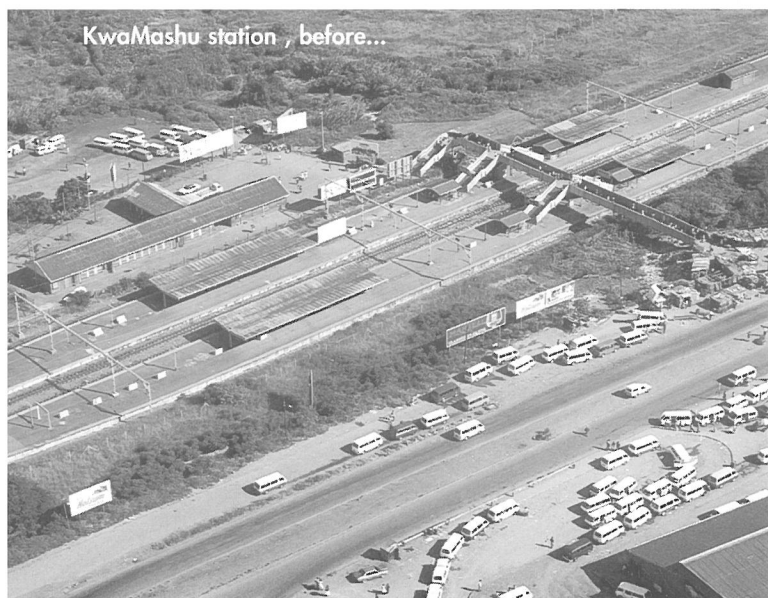


Laren Beni graduated from the University of Natal, School of Architecture in 1990. On a Transnet bursary, he then worked for

Protekon Architects (which provide in-house architectural services for the Transnet group). Five years later, he was appointed to manage the KwaZulu-Natal region of Intersite Property Management Services, the property development arm of the South African Rail Commuter Corporation. Mr Beni has recently left Intersite to join Ebrahim Kazee, a university colleague, in private practice.



Photo: Ted Brien



KwaMashu station, before...

...and after.

Social Architecture – The New Context for Design

From Social Engineering to Social Architecture



THEN AND NOW: Above: Typical apartheid-era station, Dalton Rd., Durban. Photo: Ted Tollman, c1968. Left: The upgraded KwaMashu Station, 1997. Photo: Ted Brien



NOTHING SHOWS the change in attitude and approach associated with the changes in political dispensation like the shift from apartheid social engineering to today's focus of socially responsible design.

The KwaMashu-Durban-Umlazi rail trajectory is a classic product of the social engineering of the recent past. By nature, railways form barriers, separating communities. Stations offer the potential location to bridge this barrier, socially and physically.

In apartheid planning, railways linked isolated townships to the CBDs, often passing through white suburbia en route. Township stations spawned third class commuters who

travelled at one end of the train. First class commuters from the suburbs travelled at the other end. The inner city destination stations were designed to provide separate station facilities for whites and blacks. Apartheid on land, apartheid on wheels.

The entire system was held in place by force, the Railways Police being the main instrument. Rail commuting was seen in mono-functional terms – a basic transportation system. Multi-modalism was ignored or discouraged; commercial opportunities restricted; commuter comfort scantily regarded. A hawker being chased across a footbridge by an overweight Railway policeman was a common sight at our stations.

Station planning necessitated a dual-symmetry – the side-by-side symmetry of the “up” and “down” lines separated by island platforms and the end-to-end symmetry of facilities separated into first and third class zones.

Station aesthetics displayed a brutal pragmatism. Combating theft and vandalism and minimising maintenance-cost, took precedence over homeliness or civic pride.

Quick Fix

When South Africa Transport Services (SATS) was incorporated and became Transnet, the commuter rail assets were transferred to the newly formed South Africa Rail Commuter Corporation (SARCC). Metrorail, a business unit of Transnet, was responsible for running

the service.

This separation of operating and ownership functions under two Ministers (Public Enterprise and Transport) has been a source of conflict for architects working in the arena.

As the old regime wound to a close, the townships became unmanageable. So had the rail service. The Railways Police was disbanded and a culture of non-payment of fares became rampant.

The “success” of the apartheid rail system was due to forced compliance – without policing, lawlessness became endemic.

Fare-evasion, fraud, intimidation, uncontrolled informal trading, lack of capital investment and even basic maintenance, had resulted in a sordid reality of neglected, unsafe station environments.

An accelerated “quickfix” security upgrade project was implemented by SARCC on the recommendation of the Goldstone Commission. This was aimed at decriminalising the system by the implementation of razor wire barriers and fencing, more effective ticket collection and access control methods, security posts, lighting etc.

The “quickfix” projects partially transformed the stations – focusing once again on forced compliance, and with very little attempt to improve the quality of the commuting experience. The transformation was towards a grey prison-camp aesthetic and most of our stations are still visibly the product of this exercise.



Soweto Seven-Stations-Project

In the early 1990s Intersite developed an alternative model for station upgrading which was first implemented in the Soweto Seven-Stations-Project.

This initiative sought to exploit the commercial potential of the township stations by creating secure shopping zones on the public approaches to the stations. In addition new turnstiles were developed by Metrorail to prevent fraud by station staff at access control points.

Whilst a great improvement on previous stations, and one that pioneered public participation in the process, this project had a number of weaknesses. The security phobia of the time resulted in laager-like commuter enclaves on either side of the station, where high-tech security contrasted with picturesque aesthetics. This layout was not always conducive to facilitating informal trade.

More critically, the heart of the station – the platform zone – was virtually neglected.

This project was an important precedent for the KwaZulu-Natal Station Upgrade Project, and indicated the necessity of an integrated approach which united both rail and community inputs.

The Emergence of a New Vision

At about the same time, the Management of Metrorail in Durban was championing a new approach to the management of commuter rail – one which involved Metrorail staff, commuters and local communities in a populist approach which stressed ownership

BELOW: Rendering of an ideal railway station for KwaZulu-Natal

and participation.

Protekon Architects, in conjunction with Craig Simmer (civil engineer), Derek van Heerden and Janina Masojada, developed a vision for the ideal commuter station based on this approach. This vision was applied to concept designs for all stations on the Umlazi-KwaMashu line.

The essential feature was the realisation that it was insufficient to force commuters to pay their fares – it was essential to attract them to use the service in the first place.

Stations were seen as vital community

nodes, with improved modal transfer facilities, opportunities for a variety of commercial development, an appropriate and popular identity, and a focus on commuter comfort and convenience.

Lifecycle costing exercises were done to establish the financial viability of the proposals; the township stations were highlighted as prime projects; and a successful motivation was made to the SARCC to provide capital funds for the KwaZulu-Natal Station Upgrade Project.

Dave Stromberg, Project Developer, Protekon Architects

Social Architecture – The New Context for Design

Intermodal Transfer Facilities

APARTHEID era transportation planning was designed to support the social engineering philosophy of the day. This resulted in a rail commuter transport system designed to move the workforce from the dormitory to the factory.

This view gave way to parallel servicing by all three modes of public transport, namely bus, minibus-taxi and rail. This in turn has resulted in conflict and has undermined the financial viability of the commuter transport industry.

A new macro commuter transportation plan is beginning to emerge. In this vision, trains transport people between major centres, buses then feed from these centre points in a radial pattern along major arterial routes, while minibus-taxis provide commuter services within the various suburbs and townships.

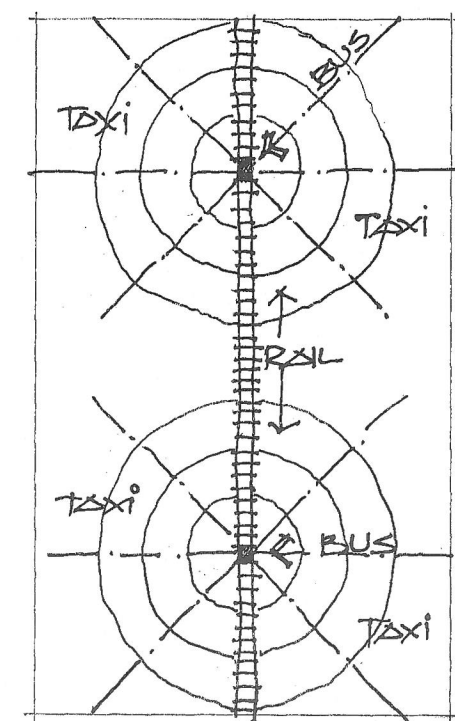
This new approach requires a number of key elements, including:

- The formalisation of the minibus-taxi industry.
- Co-operation between operators of the various modes of transport.
- The restructuring of routes.
- Intermodal Transport Facilities at the various nodal points.
- Single trip tickets which cover the various transport modes required en route.
- Co-ordinated scheduling.

Progress on many of these modes is being made by the Department of Transport in its ongoing negotiations with various stakeholders in the industry.

The impact of this shift in thinking, on both the architect and the design process is obvious, particularly when designing a railway station such as KwaMashu which forms a central node in the new transportation planning model.

Furthermore, the need to provide for intermodal transfer at the various stations is highlighted by the fact that more than 80% of the 10000 commuters boarding trains at Kwa-



Mashu station each day, arrive at the station by taxi with a further 10% arriving by bus.

Durban's Metropolitan Transport Advisory Board identified the need for intermodal transfer facilities at this station in the 1980s, but was unable to meet this need due to restrictive legislation at the time. The democratisation of the country and the resultant refocusing of resources has made implementation possible.

An intermodal transfer facility, which includes two taxi ranks, one of either side of the station, with a combined holding capacity of 160 taxis and a 12 bay bus lay-by facility, has been developed at KwaMashu station to the benefit to local commuters.

Intermodal developments at other KwaZulu-Natal railway stations, including Berea Road and Durban Station are all part of the implementation of this macro transportation plan.

Laren Beni



Social Architecture – The New Context for Design

The KwaZulu-Natal Station Upgrade Project

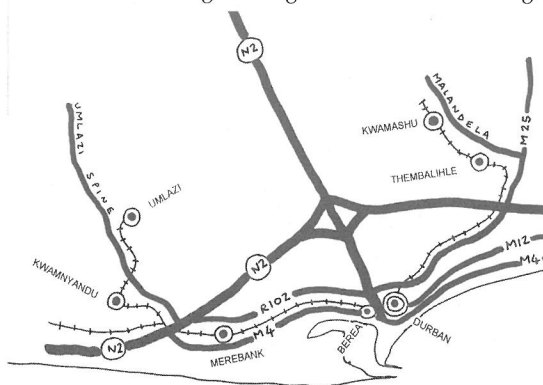


Umlazi Station—before upgrading

THE KWAZULU-NATAL Station Upgrade Project was launched in December 1995 with the following specific objectives:

- Enhancing of the rail commuting environment.
- Creating intermodal transport facilities.
- Achieving long term financial sustainability.
- Creating black economic empowerment opportunities.
- Improving station access control.
- Facilitating private sector investment within the station precinct.

Architects Collaborative in association with John Royal Architects were appointed by Intersite to design and build the KwaMashu, Thembalihle, KwaMnyandu and Umlazi stations to Metrorail's specifications and budget. The challenges facing the team were daunting.



Capital was limited, and the percentage of the budget to be spent on rail functions as opposed to "nice-to-have" commuter comforts, was not always clear. The designs required to compromise in utilising often unsuitable existing buildings and structures to cut cost.

A policy on disabled access had not been formulated and the new turnstiles were complex.

Conflict resulted from the numerous stakeholders involved in the process from Metrorail and Intersite to Rail Focus Groups, local community's and commuter committees from each station.

In terms of both the government's Reconstruction and Development Programme (RDP) and the National Transportation Policy Forum (NTPF), it was recognised that the upgrade should be used as an instrument of transformation. Emphasis was therefore placed on the creation of new businesses and empowerment.

Furthermore, the professional team took cognisance of the criteria established by the KwaZulu-Natal RDP Transport Task Force which included the following:

- The project must integrate the city and the urban area through improving mobility as well as creating opportunities for access to services and facilities.
- The project must contribute to economic and social opportunities.
- The project must build on existing initiatives and structures aimed at democratisation and empowerment.

The design brief resulted from an investigation of the macro-environment within which rail commuting facilities are found. Here attention was given to identifying problem areas and the level of integration that each station had with its surroundings. These investigations highlighted the need to develop a safer, more streamlined integrated commuting node which reduced fare evasion and ensured disabled access.

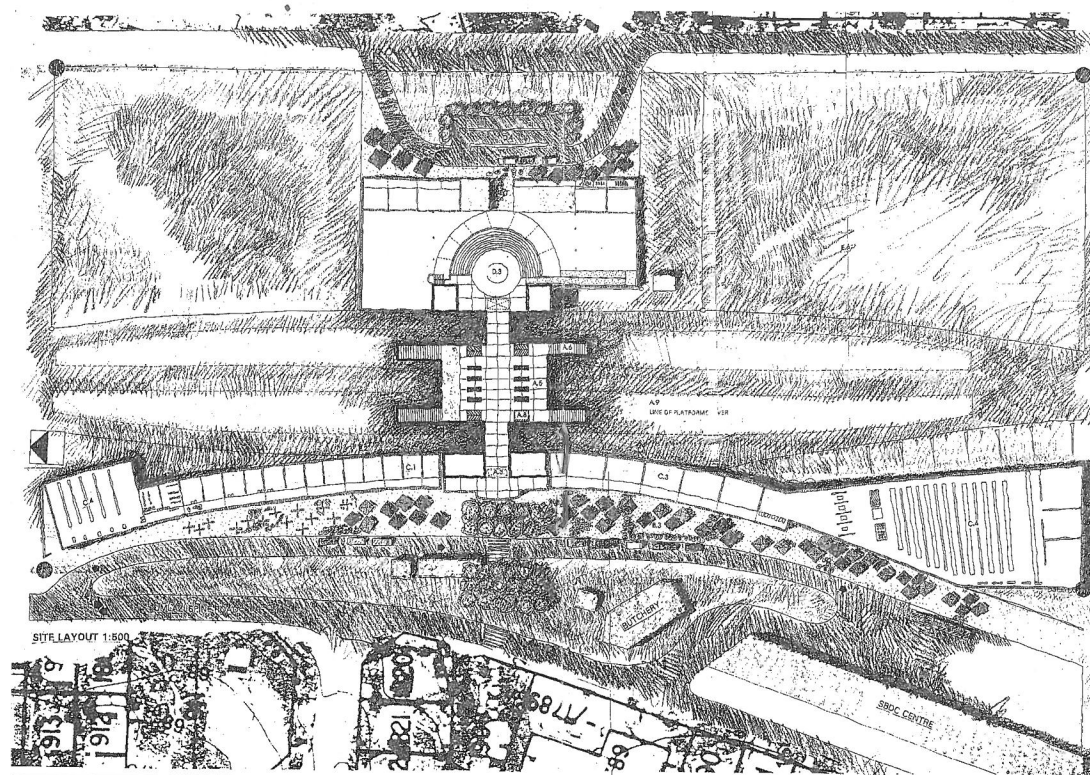
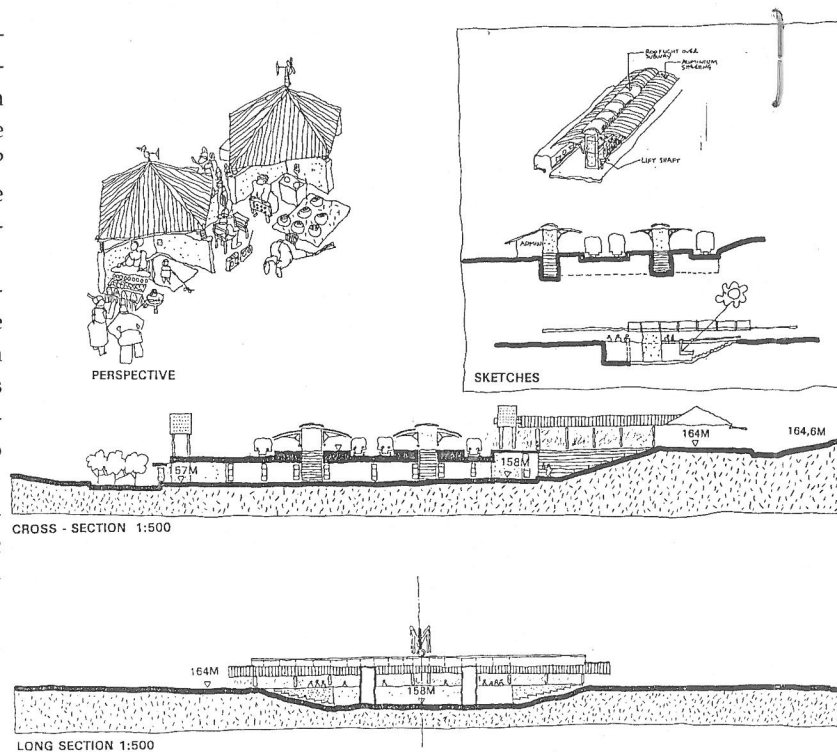
The study concluded the following:

- The stations acted as dynamic local points of interchange and commercial activity, the potential of which had been poorly developed.
- Fare evasion was occurring on a substantial scale.
- Little security existed on the platforms, in the trains and on the periphery.
- The stations were icons of the old apartheid era, lacking image and quality.
- There was a lack of basic commuter facilities such as inadequate seating, limited shelter and poor ablution facilities.
- No special disabled provisions were made;
- Dismal conditions existed on the periphery

where informal trading was being conducted.

- Limited community involvement in the station.

The thrust of the design for upgrading the stations shifted from the periphery to the central part of the station, this being considered as the "engine room" of the rail environment. In



DEVELOPMENT PROPOSALS FOR **Umlazi** STATION

this regard the need to resolve problems at the core was considered a first priority.

The physical requirements of the brief were set by the norms and standards defined by Metrorail: eg a station located in a dip requires an overhead platform for access "over and down" while a station located on a rise necessitates an underground subway for access "under and up".

Initial designs were based on these criteria with the architectural team concentrating their efforts on station access rather than on the surrounding buildings.

Then, input from commuters, Rail Focus Groups, informal traders etc became pivotal, the concept designs being amended through a process of community consultation. Designers were thus able to establish a common architectural style, and ensure a similar design "fingerprint", while accommodating the significantly different requirements of each of the stations.

Accessibility

One of the most important findings to emerge from the public involvement process was the issue of accessibility. The importance of "travelling-through" commuters had traditionally been underestimated at these stations. It was discovered that a substantial number of non-rail commuters merely used the station bridge as a link between the two sides of town.

Most of these non-commuter through-travellers are aged women. This unintended utilisation had significant impact on the design of KwaMashu station. While the level of travel through the station was unchanged, the seven metre difference in height on the southern side

had to be tempered through the introduction of half ramps, double landings, low-riser stairs and double balustrading.

A further accessibility consideration was the movement of disabled and infirm commuters through the station. Platforms proved to be too narrow to accommodate 1:12 ramps resulting in the introduction of lifts on each platform. In the absence of a clear national policy on the issue of disabled access to railway stations, the community had to appeal to Intersite's humanitarian attitude to resolve the issue.

Enhancing the commuter environment

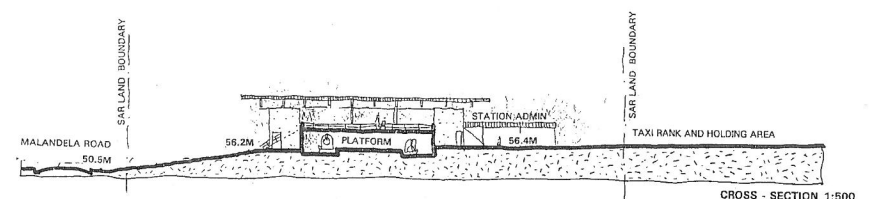
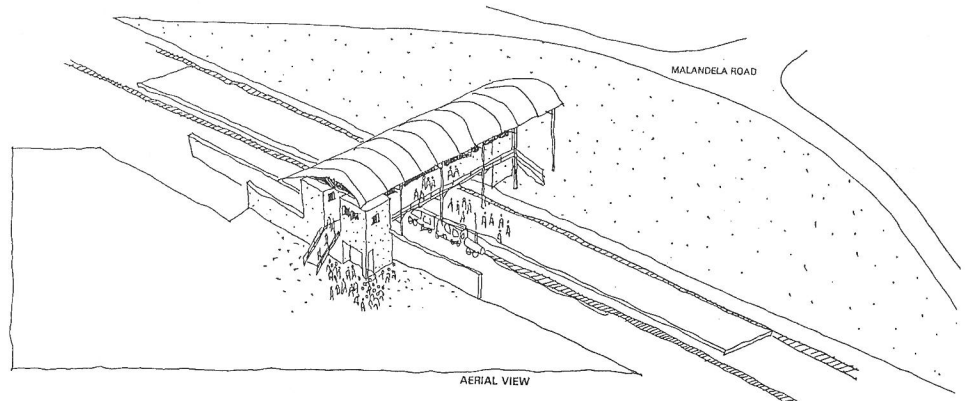
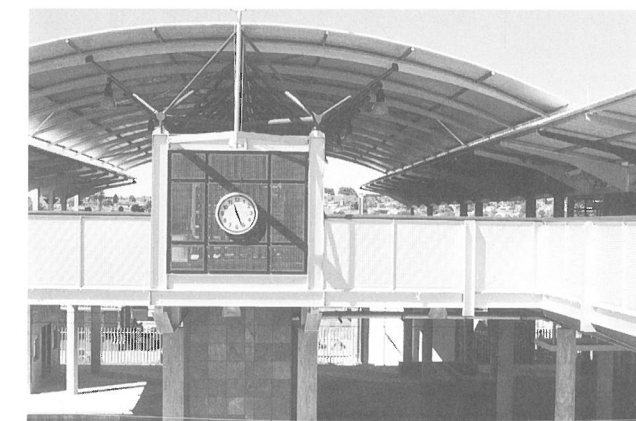
Another key element of the design brief was to ensure that conditions at the upgraded stations significantly improved the commuting envi-

ronment. The designs go to great lengths to provide shelter from the weather for the commuter – from entry into the station precinct to access onto the train. Community concerns which were addressed in the design included substantial wind and weather control, improved ablution facilities, office facilities for the local community forum and informal trading kiosks. Furthermore, the beautification and "softening" of the platform was achieved through the introduction of hardy palms and the commissioning of murals by community artists.

The professional teams working on the KwaZulu-Natal Station Upgrade Project ensured that each development responds to the uniqueness of its environment. In this regard, strong community participation has resulted in a sense of ownership.

As anticipated, the upgrade process has sparked peripheral development: from taxi and bus ranks, to informal trading and community facilities.

John Royal, John Royal Architects cc



DEVELOPMENT PROPOSALS FOR **tembalihle** STATION

Social Architecture – The New Context for Design

Return of the Urban Poor Man – Mansel Road Bus Facility

AFTER THE IMPOSITION of apartheid the estimated population of central Durban was halved as Black people were systematically relocated to racially exclusive zones, usually on the periphery of the city. Large tracts of land were left vacant.

During the last decade the gradual relaxation of exclusion laws resulted in an increasing flood of informal traders as the poor returned to the perceived opportunities offered by the relatively wealthy CBD. Today they number an estimated 3500 street traders. Informal trading and sleeping on the streets, to get early access to these opportunities, are concentrated around the railway stations.

At the same time long-distance bus chartering has become a phenomena. Groups of villagers from as far afield as the Northern Province band together and send representatives on overnight bus excursions with cash to buy from Indian traders and street vendors in Durban. Six years ago this trade was estimated to generate R12m cash into the city every month.

Trading starts at about midnight when the buses and long distance taxis arrive. One favourite venue was the 'car-boot market' at Sunkist Beach. The showers and toilets used during the day by beachgoers were a particular attraction at night. At daybreak the whole

operation would have evaporated, apart from the mess, and passengers would be dropped off elsewhere for further shopping excursions. The drivers, their buses stacked with newly acquired goods, would retreat to a large vacant area to sleep and refresh themselves for the overnight journey back to their homes.

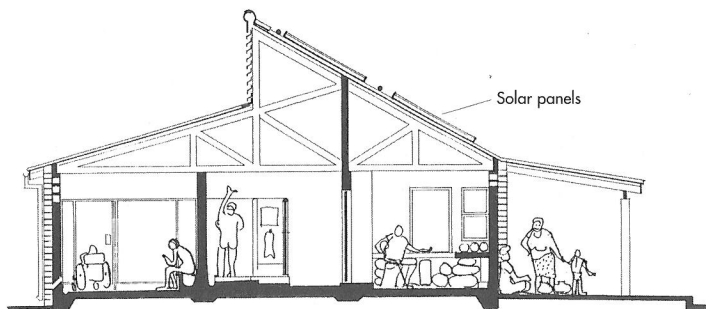
The favoured resting spot was 'Block AK' – itself a victim of forced removals. 'Drum-ladies' would bring industrial waste, particularly large plastic chemical drums, to this venue to sell to the passengers prior to their departure. At the end of the day they simply covered their unsold drums with tarpaulins and slept among their wares.

The 'drum-ladies' and their children, living on the pavements, became a problem. They encroached onto the street and over forty families shared one tap and two chemical toilets provided by the apprehensive Health Department. Worse still, waste water swilling the chemicals from drums was discharged into the municipal stormwater system. Officials wondered why fish were dying in the Bay!

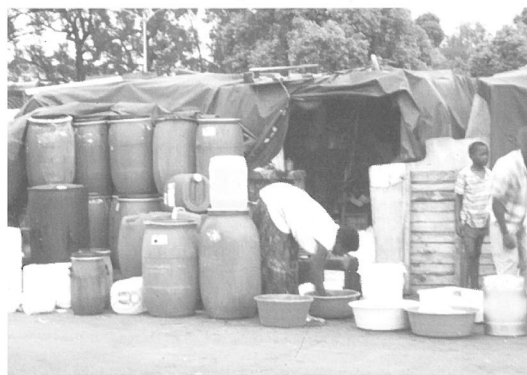
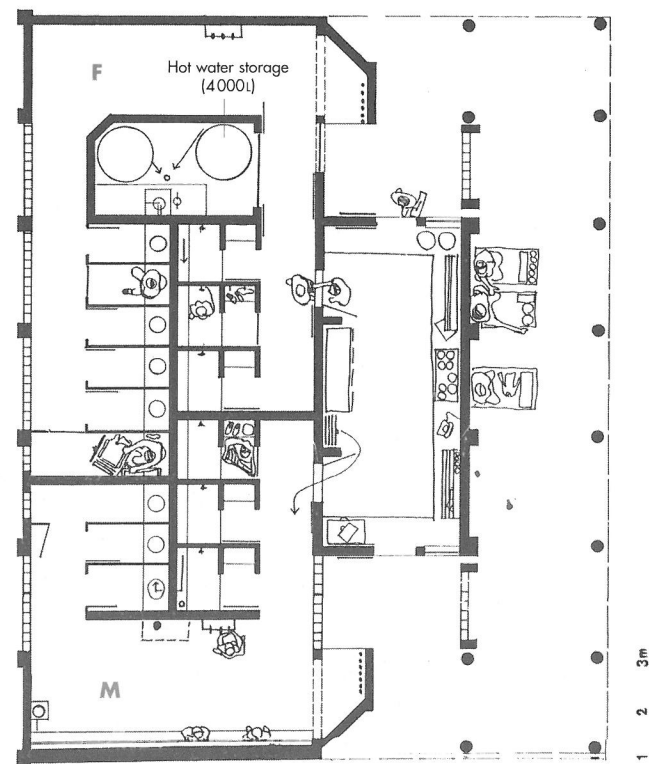
The story begins with a multi-pronged approach by the City to clean up

informal trading, provide decent facilities for street people and ultimately release Block AK for medium-density economic housing.

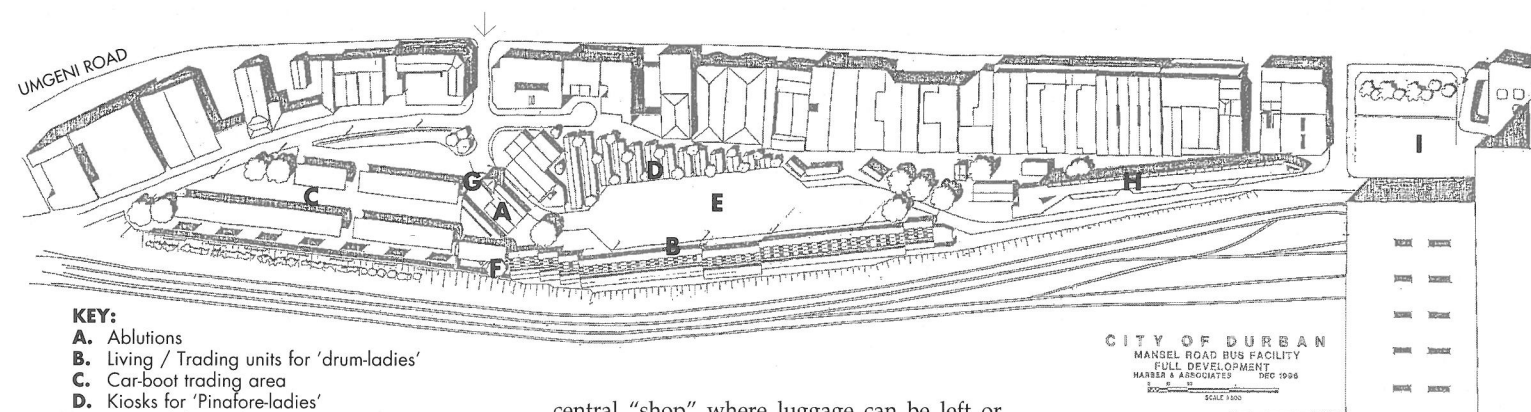
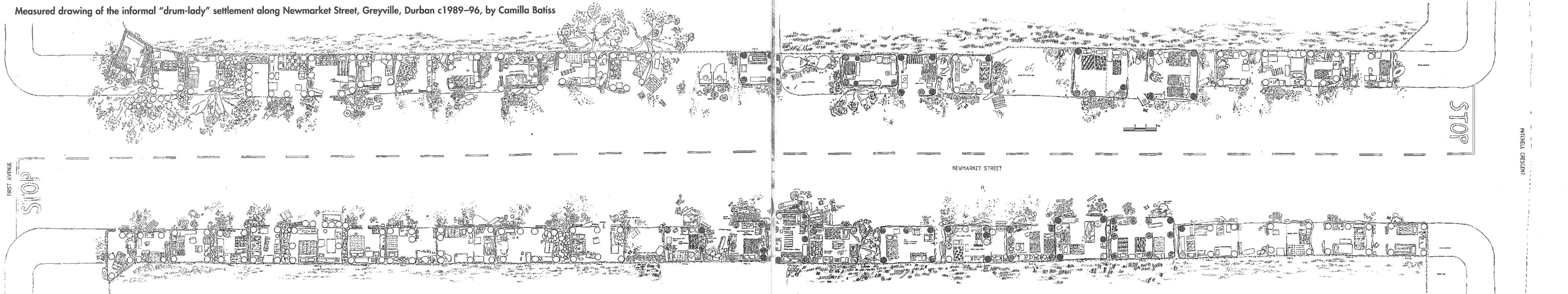
A nearby sliver of low-lying land owned by SARCC, 2.6ha in extent, was identified as a possible site. It was "left-over" land where rail



SECTION THROUGH PUBLIC ABLUTIONS



Measured drawing of the informal "drum-lady" settlement along Newmarket Street, Greyville, Durban c1989-96, by Camilla Batiss



KEY:

- A. Ablutions
- B. Living / Trading units for 'drum-ladies'
- C. Car-boot trading area
- D. Kiosks for 'Pinafore-ladies'
- E. Bus rank for 48 buses
- F. Crèche
- G. Surveillance tower
- H. Proposed rental accommodation
- I. Durban Station



Car-boot trading area

tracks had been realigned for the new Durban station.

Fortunately, at that same time, construction work started on the basement of the nearby International Convention Centre, so it was possible to raise the whole site by 2m with fill and make gravity reticulation possible. A linear design for up to forty buses was prepared with living/trading units for the forty four relocated families along one edge. Lighting levels were to be high for security and the whole area overlooked by a surveillance tower.

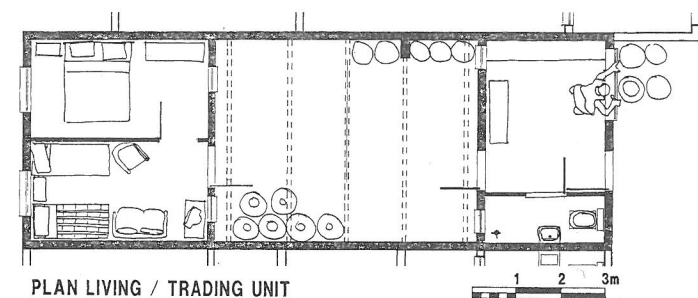
To compete with the attraction of the beachfront showers, a 'Roman bath' was conceived with solar heated pay showers and virtually unblockable toilets, including facilities for the handicapped. The ablution facilities have a

central "shop" where luggage can be left or items bought. The "shopkeeper", who tendered for the position, is keeping the toilets spotless to stimulate trade, and the warm showers are doing a roaring trade at R1 for two minutes of water at 39°C – all discharged by a solenoid at the push of a button, after payment.

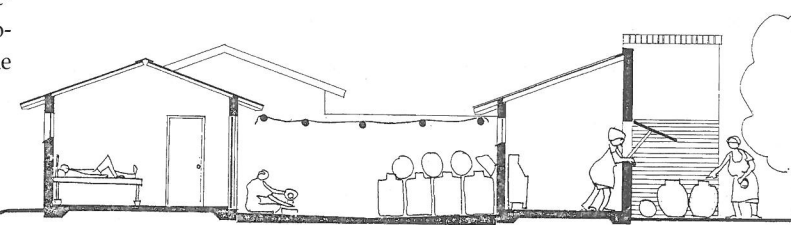
Four designs were put forward for living / trading units. The one thing all families rejected were communal toilets after their years of shared chemical toilets. This pushed up the overall development costs considerably.

The final design for the living/trading units has areas based on a measured drawing of the original drum shelters. This was to avoid "downward raiding" by more affluent traders at a later stage. A small room with a hatch and adjacent ablutions addresses the trading street with two tiny living rooms behind, beyond a pole covered courtyard.

The site also has 180 covered stalls for 'car-boot sellers', 180 bays for 'pinafore-ladies', and a proposed 24 hour crèche as well as a learning centre and accommodation for drivers in which to relax.



PLAN LIVING / TRADING UNIT



SECTION THROUGH LIVING / TRADING UNIT

The units were built by 'emergent contractors' working on a labour-only basis. Materials were supplied by the City. Bills of Quantities, with associated time allocations, were workshopped with interested black contractors who tendered on their mark-up. The object was to teach management skills and not merely the physical building process.

The Mansel Road Bus Facility offers poor people a viable existence in the CBD with its associated trading, living and training opportunities. It is an important formal step because it signifies that Durban now recognises its responsibility to the poor.

Rodney Harber, Harber Associates

Social Architecture – The New Context for Design

Formalising Nodes of Commercial Activity

TRANSPORT INTERCHANGES be they bus ranks, train stations or airports are major nodes of business activity. The KwaZulu-Natal Station Upgrade Project prompted the development of a number of commercial nodes.

Informal trade on the periphery of the stations remains a vibrant and varied activity. A degree of formalisation has been necessary to define limits and edges, but with close input of the traders themselves, this has been translated successfully. The formalisation process has also led to greater co-operation on security issues.

Some five different levels of trading activity are now accommodated at the various station sites. These range from informal pavement traders, to small kiosks, to semi-formal line shops, to formal small shop owners to major commercial activities.

This multi-level approach ensures ease of entry to grassroots traders while encouraging growth and formalisation into the mainstream economy.

Traders at Thembalihle Station were given the opportunity to move their operation off the pavement and into small kiosks built as part of the Station Upgrade Project.

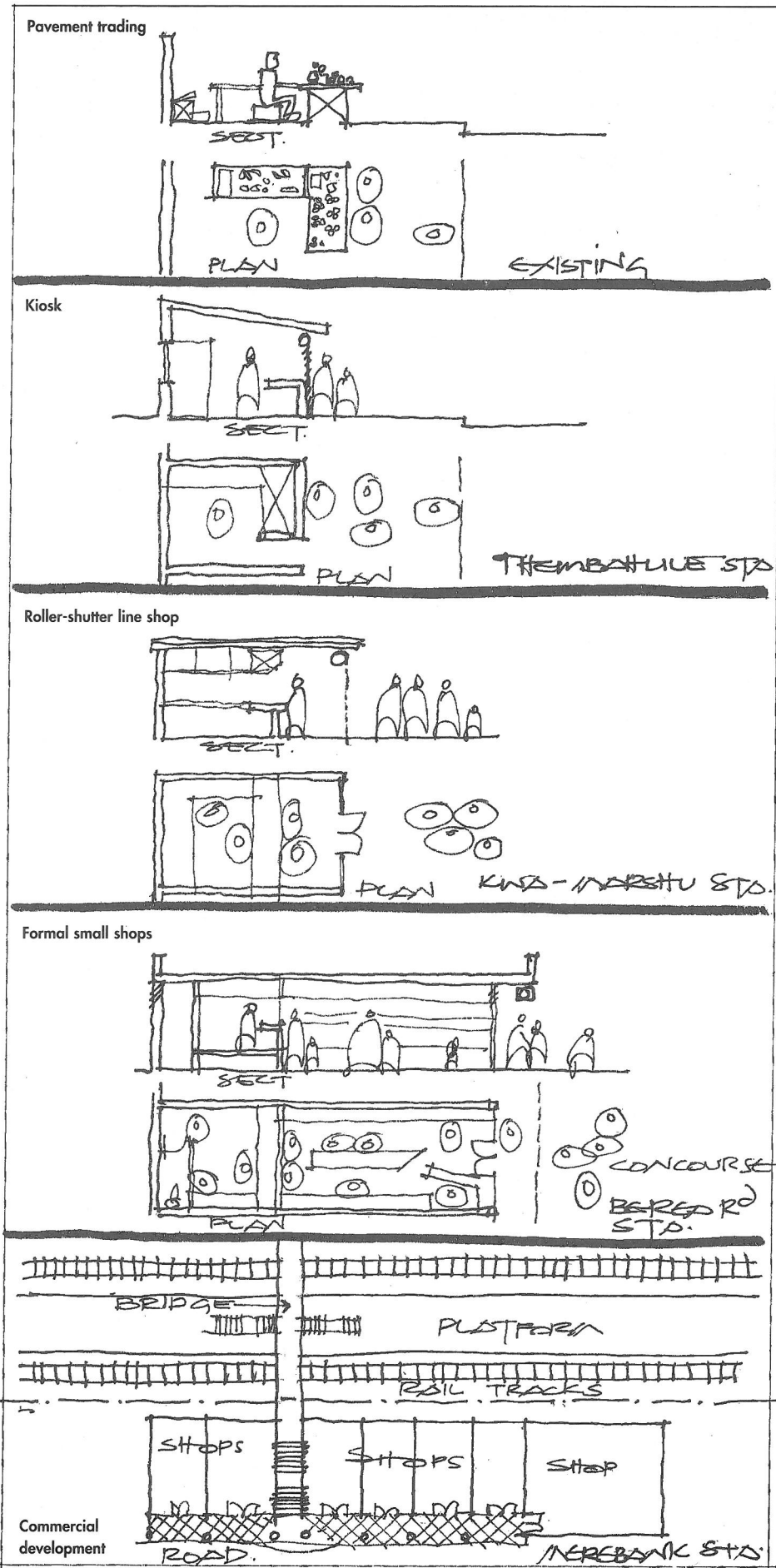
Whilst trading on the raised platform at Thembalihle is restricted due to its conflict with pedestrian traffic, the KwaMashu station was designed to become an exception of this norm. Skeletal lockable structures have been built in order to accommodate informal traders who are ready to move to the next level of sophistication. Minimal rentals and flexible leasing agreements are negotiated with local informal traders who wish to operate from these facilities.

Similar structures have also been constructed at Berea Road station together with small formal shops. These shops, which include chemists, fast food outlets and the like, constitute the penultimate level of commercial formalisation on the stations.

Recent developments at Merebank station, on the other hand, show the full integration of this process of progression. Here a commercial development, situated on a narrow strip between the railway line and South Coast Road, replaces a series of adhoc buildings. The development consists of two buildings, a medical centre with a pharmacy, herbalist, optician, dentist and doctor, and a shopping centre with convenience shopping and a fast food franchise, while the walkway clearance allows for covered hawker stalls.

Laren Beni & Saeed Jhatham

FIVE STEPS OF ECONOMIC EMPOWERMENT ►



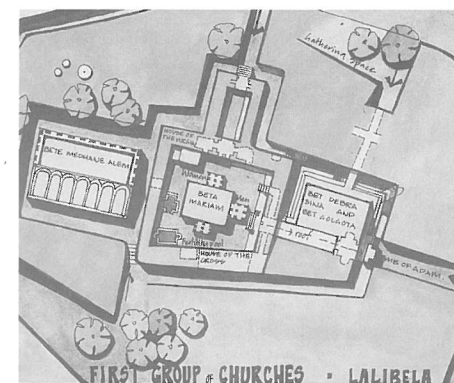
ACCESSIBLE ONLY recently to outsiders, Ethiopia presents itself as a fascinating journey of discovery for the intrepid explorer. Relative isolation from the outside world and a complex and eventful history have given rise to a unique civilisation and set of cultural traditions.

Ethiopia operates on a 13-month calendar, 70 different languages, a system of telling the time based on 12 hour cycles starting at sunrise and, more importantly from an architectural point of view, the Ethiopian Orthodox religion established in the 4th Century AD. This manner of worship has given rise to a number of architectural expressions the most impressive of which is undoubtedly the monastic settlement of Lalibela.

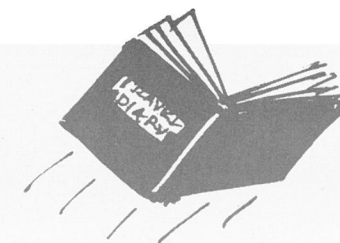
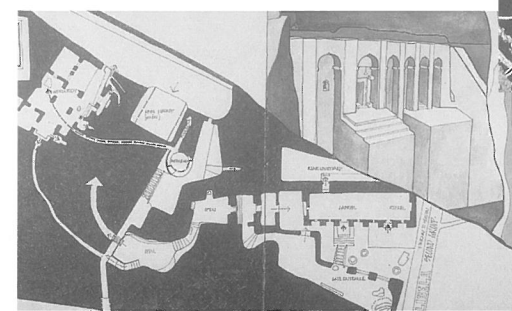
Under threat from invaders in the northern parts of the country, rulers retreated to the highlands that characterise the top of the Great Rift Valley. Located at 1000m altitude, the town saw an amazing feat in the construction of two complexes totalling 12 rock-hewn churches. Legend has it that the vision for the church complexes was revealed to King Lalibela in a dream and that excavation took place, with the aid of divine intervention, over an astonishing 24 years around 1200 AD.

The effect of the labyrinthine series of courtyards, tunnels and monolithic churches hewn from the pink rock of the hillside, is one of a continuous sense of discovery as one emerges from the utterly dark connecting tunnels into the dazzling sunshine of the courtyards and through to the cool stillness of the church interiors. The majority of the monolithic structures are intact, as are the traditions and manner of worship in an area of the country that is remote enough to have remained relatively untouched by western civilisation.

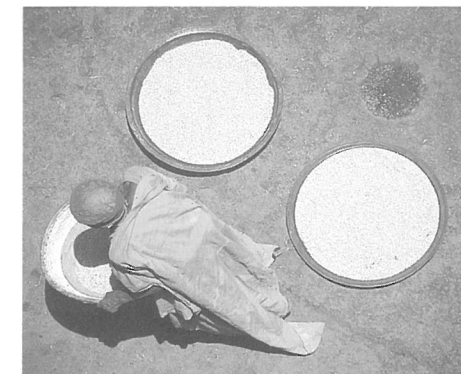
Angela Baker



▲ First group of churches, Lalibela. Courtyards, connecting tunnels and church interiors hewn from the hillside rock.



A Travel Diary – Ethiopia

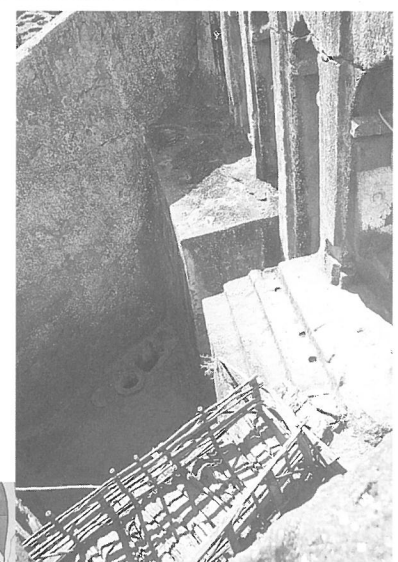


▲ Monks and nuns inhabit small grottos carved out of the walls of the church courtyards. Daily activities such as the drying of grain form part of the life of the courtyard spaces.



▲ Bet Giorgis viewed from above. The churches are not visible from afar but can only be viewed on approach by standing very close to the edge of the rock and looking down.

► A timber bridge spans the excavated pit at the entrance to Bet Gabriel-Rufa'el. The original means of access to these two churches has not been accurately determined.



◀ Second group of churches, Lalibela, and elevational view of Bet Gabriel-Rufa'el. A complex series of interconnecting tunnels originate from "Bethlehem" where the bread for communion is consecrated and lead directly into the inner sanctum of each church.



▲ Entrance to Bet Golgota Church.

► View from inside the excavated courtyard of Bet Giorgis. Excavation of the courtyards and church interiors took place simultaneously form the top down, with the top row of windows to the churches providing access to the interior for excavation purposes.

BELOW RIGHT: The unforgiving landscape has resulted in construction techniques that make full use of the available resources. The indigenous huts made of the "false banana".

