This report represents a working draft report for the:

Urban Design Status Quo: Technical Node

Revised 14 August 2015 for:
ethekwini Municipality
By:
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1 Introduction

1.1 Purpose and Approach
The urban design technical note assesses the spatial and physical characteristics of the study area in terms of:

- Natural – contextual and local
- Settlement structure – regional and local
- Built form characteristics.

The current reality of the above characteristics of study area within KwaMashu are assessed and synthesised, and evaluated in terms of how it functions as a place for people.

The study develops a spatial perspective of the study area in terms of its natural and urban context, as well as the urban structure, built form, and the public realm as it relates to use by people.

The outcome will seek to highlight unique qualities of the study area as well as its key development challenges drawing out strengths, issues, problems, and opportunities in terms of the above.

1.2 The Study Area
As per the Terms of Reference, the study area depicted in the Figure below is described by Queen Nandi Drive, Dumisani Makhaya Road, Curnick Ndlovu (KwaMashu) Highway and the Malandela Highway including the Crossroads development.

1.3 Methodology and Source Information
The review of previous studies and a spatial assessment of the study area done predominantly through a photo survey of the area.

The desk top survey highlighted trends, issues, problems and opportunities as they are currently and also assists in the critical analysis of recommendations that have emerged from previous studies.

Figure 1.1: Study Area
2 Assessments

2.1 Overall Spatial Assessment

2.1.1 Context – Natural Structure

The study area is set within a natural valley system forming part of the Piesang River valley, a tributary of the uMgeni River. The natural northern and western boundaries of the study area are roughly defined by the Piesang River valley to the north and a small stream, a tributary to the Piesang River, to the west, see Error! Reference source not found.. People navigate using recognisable and familiar landmarks in a landscape. Navigation goes beyond the physical boundaries to objects visually accessible in the landscape. The legibility of the study area, shown in the figures below, reaches beyond the study boundary to landmark high points and undulating ridges that form visual edges and run north-west and south-east, defining eastern and southern boundaries. The ridges run with the prevailing wind and set up north-east vistas from south-west of site.

Figure 2.1: Natural Structure

Figure 2.2: Legibility
OPPORTUNITIES

The study area has an impact on the riverine system of both the Piesang and uMgeni River. An opportunity exists to protect and restore the study area’s polluted wetland, and the benefits of this will not only be local, but will impact on the people and ecological system beyond the boundary of the study area.

The topography of the region impacts the study area. Care should be taken to orientate buildings in an appropriate direction to derive the best possible advantage from the environment e.g. prevailing winds that provide cooling in the summer months and distant views.

The gentle undulating landscape with a valley making up the central part of the study area along with streams that drain the area north-west presents an opportunity to break up a monotonous housing environment.
2.1.2 Context – Urban Structure

The study area is well located regionally to the west of the national N2 highway north-bound towards Umhlanga and en-route to King Shaka International Airport. Duff’s Road station is a major station connecting to Durban and KwaDukuza and beyond, and offers the study area excellent regional accessibility. Sub regional movement routes surround and integrate the site into the system, and these routes include the MR577, M25, Queen Nandi Drive and Malandela Road.

The regional and sub regional access opportunities allow residents the ability to reach other persons, places, resources, services and information.

Key points with regards, the regional accessibility include:

- Excellent regional access
  - Regional and sub regional road
  - Regional Rail
  - Proposed BRT
- Well located close to
  - 2 x sub regional nodes 1 - 2km away
  - 2 x industrial areas 2 -3 km away
  - Regional Hospital
- Gateways into the study area
  - Increase the limited vehicular access (x3)
  - PRASA Stations Duff’s Rd Station Tembalihle Station

**OPPORTUNITIES**

Improved connections will significantly enhance the ability of the people living in the study area to access opportunities further afield. An opportunity exists to boost the integration of the study area into the regional network by adding connections into the sub regional movement system surrounding the study area.
2.1.3 Local Green Structure and Character

The study area has the advantage of having a green system relatively intact indicated in Figure 2.5: Local Green Structure and Character. There are several issues that need to be addressed and these include:

- Rehabilitate the wetland and improve the buffer and other informal open space - highly polluted and compromised by informal settlement
- Integrate formal open space - i.e. sports fields are well used but isolated, often not overlooked by surrounding buildings, and not integrated into the settlement - sports fields on high points
- Well treed in part, predominantly valleys, mostly with invasive alien species but higher lying areas exposed (i.e. formal green spaces and sports fields have no trees)
- Upgrade the limited cultural/historic elements, i.e. small cemetery in valley along Musa Road

Opportunities

Integrate the open space system using green corridors, reorientation of buildings onto the open space system, uncluttering and cleaning up the existing polluted space providing a flexible system that caters for a variety of uses such as protection (conservation), production (urban agriculture), recreation and a continuous movement network integrating the settlement.
Images showing open space character:

NW sloping with vegetated valley and dominant exposed hill tops

Wetlands are polluted and clogged with alien vegetation

Exposed and flat hill tops often occupied by sport fields

Wetland buffer with agricultural allotments

Fine historic buildings require both restoration and an upgrade to their setting (i.e. improve surfacing and introduce planting)
2.1.5 Local Access

The figure above indicates the existing limited local access. Although well located, the study area is isolated due to the surrounding commuter rail corridor and sub regional movement corridor. Designed for vehicles, the movement network isolates the pedestrian.

Lack of permeability within the study area is partly due to the limited internal routes that hinder pedestrian access, see Figure 2.7: Barriers to Access.

Key issues with the local access include:

- Movement Corridors that isolate, limiting
  - Access (x3) into area
  - Integration
  - Activity
- Limited access within study area - reduced permeability due to:
  - Curvilinear road network and large blocks
  - Segregation buffers
  - Limited internal routes with no hierarchy
- Poor pedestrian environment
  - Limited routes along & over existing movement corridors
  - Public space unsafe due limited overlooking/territoriality
  - None/limited sidewalks, lighting or trees
Figure 2.7: Barriers to Access

OPPORTUNITIES

Opportunities to improve local access are indicated notionally Figure 2.8: Conceptual Access Opportunities, and include:

- Increase access off the movement corridors
- Improve pedestrian access throughout study area
  - Network of hierarchical routes including a pedestrian system
  - Pedestrian scaled block layout
- Implement clear and safe pedestrian connections to proposed popular destinations, i.e. Social Facilities

Figure 2.8: Conceptual Access Opportunities
2.2 Assessment of Built Form Character

Character relates to the performance dimension Sense, which is the degree to which an area can be clearly perceived and to which it connects to the values of its residents.

The predominantly uniform residential land use of the study area is suburban in character lacking spatial definition or notable public places and spaces. Further to this the predominantly suburban built form has a limited typology, comprising single dwellings, hostel blocks, CRUs, informal settlement.

The resulting environment is uninspiring and monotonous with few special defining features.

Three distinct character areas, identified in Figure 2.9: Character Areas are discussed in detail below. These include KwaMashu A, with hostel blocks, CRUs and informal settlement; KwaMashu B and Duff’s road with single dwellings; and the Crossroads administrative area with offices and some community facilities.

A summary table of each is included in Annexure 1.
The central portion of the study area consists predominantly of poorly laid out derelict hostels systematically being upgraded and converted to Community Residential Units (CRU). Informal settlements fill any vacant public and private space that have no defined purpose. Blocks are large and inconvenient for pedestrians, with housing typologies lacking territoriality and variety. There is no true centre to the settlement with the train stations, small commercial centre, community hall and welfare building offering the only facilities. Public places/spaces are non-existent. Key issues and opportunities include:

- Lack of territoriality – clearly define public and private
- Poor edge treatment – address poor overlooking - insert of buildings with active edges/visually permeable boundaries for interesting and safe environments
- Poor connectivity – dissect large blocks to improve pedestrian access through the area
- Informal housing on open space, wetlands and other informal open space

Figure 2.10: KwaMashu A
**KwaMashu B And Duff’s Road**

Both areas are modelled on the Garden City concept, with centrally located community facility, wide streets and generally uniform single residential. The layout lacks spatial definition and is oriented around vehicles with large blocks and curvilinear roads that create an inconvenient and poor pedestrian environment. The character is monotonous lacking interest or definition.

Key issues and opportunities include:

- Implement strategic landscape treatment to establish a legibility and identity to the area i.e. boulevards/ promenades/ tree lined avenues along key routes
- Improve public space at key locations (entrance/ Duff’s station/ village centres) with quality landscape and tree planting
- Improve the pedestrian environment through an upgraded street scene, focusing on improved pedestrian facilities with hard and soft landscape treatment

![Figure 2.11: KwaMashu B and Duff’s Road](image)
CROSSROADS AND MALANDELA ROAD

Malandela Road:

- Blank edges - sterile environment with no activity or overlooking compromising the safety of users
- The pedestrian environment is inconvenient and hostile, with some sidewalk and lighting provision but no protection from the elements

Opportunity:

- Potential role as an activity spine/ integrating route

Crossroads

- The entrance, buildings and public space lack character and identity
- The building and boundaries have blank edges to public realm – reducing safety and interest
- Very poor public realm with no pedestrian facilities - no street trees/ sidewalk
- There is limited connectivity with a single entrance off Malandela Road

Opportunity:

- Improve edge treatment and building interface with public space
- Upgrade street scene focus on pedestrian/trading facilities

Figure 2.12: Crossroads and Malandela Road

KwaMashu B and Duff’s Rd
Aerial view showing a road dominated space that is vast and spatially undefined
Malandela Road Poor pedestrian environment lacking quality public realm
Malandela Road Insufficient pedestrian facilities
Entrance to Cross roads – requires pedestrian facilities and a defining character and identity
2.3 Facilities

Key opportunities include:

**Stations:**
- Further improve reception areas to the stations with landscaped public spaces that relate to transport interchange facilities
- Provide adequate public transport interchange facilities as well as NMT facilities such as bicycle parking etc
- Focus on improved pedestrian and trading facilities - upgrade the pedestrian links and commercial opportunities on routes to and at the stations

**Commercial Facilities:**
- Need to establish an accessible commercial node in the study area to focus energy, provide economic opportunity and much needed facilities
- Improve existing building interface and establish landscaped public space
- Upgrade the street scene surrounding commercial areas focusing on improved pedestrian and trading facilities
- Provide dignified public gathering places and spaces

**Train Stations and Associated Facilities**
- Tembalihle Station entrance
- Station building and platform
- Station building and platform
- Duff’s Road Bridge over rail line valuable to the community
- Upgrade required to the informal taxi stop outside
- Tembalihle Station entrance
- Tembalihle Trading facilities
- Upgraded trading facilities at Duff’s Road station

**Historic, Social and Commercial Facilities**
- Community Hall with no public space
- Community Hall with poor setting
- Historic welfare office building requires upgrade
- Historic welfare office building complex
- Beer Hall with blank edges
- Limited retail with poor public realm
- Station trading facilities
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3 Key Findings

Emerging from the above assessment the following are the key issues and findings moving forward into the next phase of work:

- **Accessibility** – need to improve access into regional network and neighbourhood with new vehicle and pedestrian entrances
- **Integration** – potential to downgrade sections of Malandela Road into an activity spine (i.e. from taxi rank to Tembalihle train station). Edge with commercial activity/ pedestrian facilities
- **Permeability** – need to establish a pedestrian centred environment within - layering a fine grain pedestrian network to improve connectivity through the study area enabling access to facilities and integration of communities – with a system of walkable blocks
- **Pedestrian upgrade** – focus on basic pedestrian improvements, introducing generous sidewalks (incl lighting/street tree planting)
- **Rehabilitation** – re-establish a functioning natural system. Relocation of poorly located informal settlement and restoration of wetlands and natural storm water runoff
- **Flexible Open Space** – introduce a system of flexible open space within the wetland buffer strips for appropriate community use such as agriculture and recreation
- **Green Network** – establish an integrated system of connected open spaces, linking protection (wetland), production (agriculture) and recreation (sports fields) with a continuous, safe and pleasant pedestrian route through the area
- **Territoriality** – define public and private to ensure stewardship
- **Redevelopment** – redevelop hostel area with good urban place making, with an integrated green system, pedestrian network and landscaped public realm with good links to public facilities. Ensure mix of land use, typology and tenure
- **Legibility** – use key development sites to establish landmark buildings and public spaces
- **Identity and character** – Upgrade the character with a range of public spaces/ streets with special landscape treatments (i.e. boulevards/ promenades/ shaded lanes/ pedestrians streets)

Figure 3.1: Towards a Vision
## Annexure 1: Built Form Character

<table>
<thead>
<tr>
<th>KWAMASHU A</th>
<th>KWAMASHU B AND DUFF’S ROAD</th>
<th>MALANDELA ROAD</th>
<th>CROSSROADS</th>
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### KWAMASHU A

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### MALANDELA ROAD

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