This is the way cities were designed in the past ages. The forum like a main hall had a regular form. Its visible open space was designed to produce a desired effect. Irregularities in the plan, on the contrary, were enclosed in built-over areas or hidden in walls, procedures both simple and clever. We follow the opposite course today. (Cannife, 2006, p.9)

Above quote by Camillo Sitte in 1889

Fig. 401 Concept sketch showing proposed corridor development, infill projects and reconnected grid

Above diagrams by: Author Pencil on tracing paper colour in Copic marker
4.1 DESIGN DEVELOPMENT

The analysis of Grahamstown led to three basic maps.

1. **Basic plan for expansion**, reconnecting the grid in Grahamstown. The main driver for reconnecting the grid was to reconnect isolated land parcels. These land parcels could then be developed as infill development. This also allows for densification within the current footprint of Rini (Grahamstown East) and Grahamstown West (Colonial town). The grid would be connected by extending the existing roads across the corridor on Raglan Road, the old R67. The rhythm of the current road system would be respected, this rhythm would determine the need for collector and pedestrian roads and alley ways. The existing rhythm would also dictate to some extent the size of the blocks.

2. **A preliminary open space plan** was necessary to try and consolidate the open spaces in the township, and move them to areas more suited. The report on PUGS (Shackleton, 2011) was instrumental in the decision to move PUGS (Public Urban Green Spaces) to areas more suited for regular use and maintenance and to use the current space left after moving for infill development.

3. **Preliminary land use and redevelopment plan** for Grahamstown. The existing urban development framework by the Makana municipality, indicated a housing shortage. It also indicated the availability of land for development on the Eastern Commonage. This led to the proposed linkage of High street to Raglan road along Cobden street and out on the existing R67. This corridor lends itself to development in two ways, firstly as a link between Grahamstown East and West, and secondly as a corridor between Rini and the east commonage. By linking across this corridor the east commonage will be drawn in to Rini.

**Methods to heal fractures and fissures in the urban fabric**

- Re-establish the traditional road grid in areas which are isolated
- Re-activate vacant land by linkages to nearby roads and services
- Limit sprawl by determining an urban development boundary
- Terminate with a facility or facilities that clearly form an urban boundary
- Infill development rather than new land use on periphery
- Re-connect the urban centre with the urban fringe along a clearly defined spine or corridor
- Re-organise traffic and transport to facilitate business growth and development within the city spine
- Place buildings in positions as to define space rather than in positions to become objects
- Upgrade and redevelop current roads and infrastructure to handle larger loads rather than develop new roads on periphery
- Re-develop older areas by densification and upgrading of existing
- Densification in areas in the highest need of housing and facilities first.
Cracks and fissures occur in the township social fabric and template as new residential areas engulf older ones and new shack areas sprout up alongside and in-between formal houses. This creates new cracks, splits and seams in an intertwined, but fluid environment. Social fluidity and physical movement, which reshuffle people in confined spaces, is central to fractured urbanism...

Where cracks emerged, social webs of connectivity knit together the torn social fabric. Kinship networks plastered over fissures and cut across residential boundaries and borders, as do social clubs allegiances and other networks. — Leslie J. Banks

The existing and proposed Land use was a starting point for the design. It identifies problems within the current urban fabric and tries to respond in a relevant and concise way. It looks at the strategic change or moving of land use to facilitate development in areas lacking investment.

This is a simulated land use plan that proposes facility spread, to ensure an equal distribution within the development boundary of functions and economic opportunity.

The proposed land use plan also aims to provide land for sustainable subsistence farming.

4.2 Existing & Proposed Land use
Existing & Proposed Land use

Fig. 406

1. Rhodes University
2. Colonial town
3. Existing single storey housing units
4. Existing outskirts to be retained
5. Existing schools to move

Fig. 407

1. Infill development in arterial areas along development spine/reddox.

Fig. 408

1. Upgrading of existing railway age maximum up
   part of beltway

Fig. 409

1. Establish high density residential land along development corridor.

Drawing by Author, Autocad 2011 coloured lines and fill on white background
1. Once critical mass is reached on land already:
bordering the
development corridor to be available for
development of high density mixed use
development, with varying
heights including height, density, and commercial
activity.

Fig. 410

Fig. 411

New University Campus

1. Establish a second
university campus on land
north east boundary of the
city to act
as development boundary
and to inject investment
into the area.

Fig. 412

New World Class Educational Facility

1. Provide land towards the
centre of the East
comprising for a new
school or schools a
combined facility for
existing schools currently
situated on the periphery.

2. This should focus intensity
of use for further
development of the East
comprising.

Fig. 413

Relocate City Hall

1. A strategic move of the
city hall and government
functions to this position
would inject investment
into the neglected
township area.

2. This would in theory
not cause any harm to the
commercial area in the
original colonial part of
Grahamstown.
Housing for Blacks in urban areas of South Africa has long been a problem which authorities have been unable to overcome. The growth of industrialisation provided a magnet which has attracted an ever increasing proportion of the essentially agrarian Black people to urban areas in search of employment opportunities offered by western civilisation.

(Granelli et al, 1977, p. 9)
4.3 Proposed Concept

The proposed concept was based on the premise that the urban form and texture in the current colonial town could be analysed, and certain elements that work well could be used to inform new proposals and layouts in the current township of Rini, whilst still respecting the existing urban form. Conceptually Rini needed to be connected to the old colonial town in a linear fashion, and also connected to the N2 in a more efficient way. The concept plan looks at Grahamstown in its constituent parts, but also shows how they integrate along various planes. Linkages, infill, containment and redevelopment are all key factors to motivate growth within a clearly defined boundary.

The Major Metropolis in almost every newly-industrialising country is not a single unified city, but, in fact, two quite different cities, physically juxtaposed but architecturally and socially distinct----these dual cities have usually been a legacy from the colonial past.

Janet Abu-Lughod
The original colonial design of Grahamstown is still evident in the character of the town today.

The idea is to analyse areas in the Grahamstown town that work well and determine if they can be used as principles for future development in and along the township areas.

Fig. 418

The township developed separate from the indigenous town and a great division exist between them.

Most of the initial investment has been in the indigenous town with very little investment in the townships in terms of infrastructure and design.

Fig. 419

It is proposed that the East area manage which belongs to local council be earmarked for intensive development.

This would inject much needed investment and housing into the township.

Fig. 420

The Remainder of the East area manage to become small holdings or area allotments for subsistence farming.

Fig. 421

Drawing by: Author, Autocad 2011 coloured lines and fill on white background
The land to either side of the East commonage are characterised by deep resecces with steep embankments and small rives running through them. These areas should be protected as natural green belts within the confines of the city. Various recreational and research activities could take place here. The flood plains of the river should be protected against erosion.

Fig. 422

Land not fit for Development

Fig. 423

Development Corridor / Spine

Fig. 424

New Link to N2

Fig. 425

Better link between Colonial and Township areas

A new more effective link to the N4 national highway will be created towards the northern part of the East commonage to allow better transport opportunities to the current township area. This new link will allow a termination of klagan road to the North East of the commonage, which allows a development boundary to the north side of the city.

The high street of colonial town will be streamlined to Raglan street by extending Gordon Street to link directly onto Raglan street. Raglan becomes the R67 once you pass Mahonnes bus station. Raglan street is lengthened and the road is made shorter by this proposal.

Drawing by: Author, Autocad 2011 coloured lines and fill on white background
**Proposed Concept**

It is proposed that various highways around Reglan road be developed linking deep into the townships. These linkages will be developed across Reglan at Frigo village with a new link cutting the very long blocks of Frigo village in half.

Also by linking Joppa streets from the north.

Joppa locations right down and across Reglan street into the new development on the east commonage.

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**Drawing by:** Author, Autocad 2011, coloured lines and fill on white background
According to King, most Post Colonial cities have common characteristics:

- They are all products of culture contact situations between an industrialising or industrialised European colonial power and a traditional, agrarian or craft based economy.

- They all manifest certain comparable spatial characteristics, both in terms of the relationship between different cultural settlements and, within each settlement area, between its component parts.

- The cities today are characterised by cultural pluralism.

- Despite the fact that they were deliberately planned to promote residential segregation, they are now required to promote processes of integration, at the national cultural, social, economic and ethnic levels.

- In comparison with urban centres in industrial societies and, in many cases, according to their own administrators, these cities all have problems of housing, a shortage of economic resources, under-developed communications systems and a lack of the institutional infrastructure required to deal with social, administrative and political needs.

All the research points to Grahamstown as growing at an astonishing rate. This growth rate has led to amongst others, a shortage of housing, under investment in new townships, in terms of infrastructure and economic opportunity. It has also led to urban sprawl on the fringe of the city. Future food security is also a problem. This proposed framework looks at a possible path along which development might proceed, and shows proposals for housing along a defined development corridor. The framework looks at proposed investment within and along the development corridor, the main proposal would be the development of a second campus to Rhodes University on the North East Periphery. The framework although showing development in its entirety, is proposed incrementally.
**Urban Framework**

**Fig. 430**

Existing Built Form

1. Rhodes University
2. Colonial town centre 2-3 storey mixed use.
3. Existing housing 1 storey mostly township.

**Fig. 431**

Soft Buildings to be Demolished and Replaced

**Fig. 432**

New High Density Residential and Infill Residential

1. Establish high density residential land along development corridor.

**Fig. 433**

Key Investment in new areas

1. By moving city hall from the existing colonial town centre investment will be injected in this area.
2. The creation of a second University campus.

Drawing by: Author, Autocad 2011 coloured lines and fill on white background.
1. Once critical mass is reached, land already bordering the development corridor to be available for development of high density mixed use developments, with varying heights, density, and commercial activity.

Drawing by: Author, Autocad 2011 coloured lines and fill on white background
Due to the fact that funds are not available for a full implementation of a proposed framework, it is necessary to phase development over a number of years. The often means implementing proposed structures incrementally. The idea would be to create impetus for future development by creating opportunity through infrastructure and services. Therefore a small investment now, might have far reaching effect in the future. The simple action of linking a road, could have a significant im-

Results of possible infill areas, road linkages and redevelopment of existing

Percentage saved on road surface by linkage rather than roads in new township  50%

Infill development on available land as ratio to overall existing development  35%

Percentage higher density achieved by redevelopment in existing suburb  25%
**Fig. 439**
Linking High street with Raglan road

1. Upgrade road along the R67
2. Terminate R67

**Fig. 440**
a. Build three new traffic circles to ease traffic flow

b. Create three new links across Raglan road
1. Into Raglan village
2. Into Jota location
3. Into Neuma Street

**Fig. 441**
Move Key Investment into New Area

1. New City Hall Civic Precinct
2. New University Campus
3. New World Class Community School

**Fig. 442**
High Density Residential Development

1. Create serviced stands along main corridor for residential development

Drawing by: Author, Autocad 2011 coloured lines and fill on white background
Proposed Phasing

Fig. 443

High Density Mixed Use

1. Once critical mass is achieved, mixed use land should be in high demand.
2. These stands will border on the new main corridor.
3. The stands along the border of the new links across the corridor will also have the same rights.

Fig. 444

Parks to be constructed

1. Parks to be set out
2. Parks to be serviced
3. Parks to be maintained

Fig. 445

Future Development

1. The basic grid for future development to be determined
2. The township should be proclaimed
3. Land should be made available to developers as need arises
4. Stands closest to the core should be serviced first.

Drawing by: Author, Autocad 2011 coloured lines and fill on white background
The initial design proposal was based on the full installation of the entire design concept in a limited area. The design principles and concept is tested and simulated in the initial design proposal. The full extent of the design is realised in this proposal although in a reduced study area and along the full length of the proposed development corridor.

The initial design proposal assumes that the entire development would take place incrementally over a limited period of time. The proposal is not open ended. The full cooperation and funding of local and provincial government is assumed. Community buy-in is not guaranteed and the design proposal although flexible in some respects is not fully adaptable once realised. It does however give opportunity for critical analysis and critical re-evaluation.
Fig. 447
Set out and build New Extension to Raglan Road along centre line of R67

Fig. 448
Move Functions to New Position as Investment

Fig. 449
Set out and Service Land for High Density Residential Development

Fig. 450
Parks to be constructed

Drawing by: Author, Autocad 2011 coloured lines and fill on white background
1. Once critical mass is reached, land at already
bordering the
development corridor to
be available for
development of high
density mixed use
development, with varying
rights including height,
density, and commercial
activity.

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**Fig. 451**

High Density Mixed Use

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**Fig. 452**

a. Build three new traffic circles to ease traffic flow

b. Create three new links across Raglan road

1. **Fig. 454**
   - Old town
   - New town

2. **Fig. 455**
   - Existing road network
   - Proposed road network

3. **Fig. 456**
   - Overall boundary
   - Proposed boundary

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**3D VIEW**

**Fig. 453**

- Colonial centre 2–3 storey buildings
- Existing single storey housing Township
- Existing Rhodes university
- New infill and high density housing
- New city hall and University campus
- New High density mixed use development

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**Fig. 454**

Install urban development boundary

**Fig. 455**

Re-plan the grid and south access corridor

**Fig. 456**

State physical boundary towards NNE

**Fig. 457**

Delineate existing urban boundary

**Fig. 458**

Develop nodes on existing network

**Fig. 459**

Develop urban corridor / spine

**Fig. 460**

What happens to land on urban boundary?

**Fig. 461**

Develop green belt / green belt to correct

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Drawing by: Author, Autocad 2011 coloured lines and fill on white background
I think that I shall never see
A poem lovely as a tree.
A tree whose hungry mouth is pressed
Against the earth’s sweet flowing breast
A tree that looks at God all day
And lifts her leafy arms to pray
A tree that may in Summer wear
A nest of robins in her hair
Upon whose bosom snow has lain
Who intimately lives with rain. Poems are made by fools like me
But only God can make a tree.
Joyce Kilmer, “Trees,” 1914

After wrestling with the design proposal and considering many changes, I came to the conclusion that many urban design proposals that I have seen over the years have been over ambitious, especially in a developing country such as South Africa. The initial base problem is forgotten once the design picks up momentum, aesthetics and shape take over. Flexibility and manoeuvrability is sacrificed for bricks and mortar and development profit. This proposal hypothesises that, if the problem is understood, the intervention could be very small, and will still be successful in guiding future development to solve the problems and issues initially identified. This “less is more” approach is flexible and can easily adapt to new challenges.
design proposal

Fig. 467
Existing Footprint of Study Area

Fig. 468
Determine Road Reserve along Corridor

1. Set out the road reserve
2. Protect the road reserve by law
3. Build 3 new traffic circles and build road at City Hall
4. Link High street to Raglan Road via Cobden

Fig. 469
Set out Public Urban Green Spaces (PUGS)

Fig. 470
Plant trees to define road reserve

1. Set out parks and maintain them
1. Plant trees and protect them

Drawing by: Author, Autocad 2011 coloured lines and fill on white background
**Intervention**

- **Fig. 471**
  - Move Functions to New Position as investment
  1. Create second campus for Rhodes University to act as development boundary
  2. Move City Hall

- **Fig. 472**
  - Build Roads incrementally as money becomes available

- **Fig. 473**

Drawings by: Author, Autocad 2011 coloured lines and fill on white background
Fig. 474

Drawing by: Author, Autocad 2011 coloured lines and fill on white background
Fig. 475

Fig. 476

Fig. 477

Fig. 478

Fig. 479

Fig. 480

drawing by: Author, Autocad 2011 coloured lines and fill on white background, photograph imported
Trees

1. Set out position for trees
2. Determine indigenous trees that will require minimal maintenance
3. Setting out of trees will have to be considered carefully
4. Only trees that do well in the specific climate will be considered

Above Photos by: Google Images
The trees that will grow well and are indigenous to the area:

**White Stinkwood** *(Celtis africana)*

**Wild Current** *(Rhus chirendensis)*, fast growing pioneer species that will attract wildlife and biodiversity back into the area

**Jacket Plum** *(Pappea capensis)* which is a very pretty tree and 2011 tree of the year

**Sneezewood** *(Ptaeroxylon obliquum)*, which is generally popular among younger men as it is used extensively in Xhosa initiation ceremonies

**Yellowwood** *(Podocarpus falcatus and latifolios)*, which is of course South Africa’s National Tree

*Fig. 486 Fig. 487 Fig. 488 Fig. 489 Fig. 490*

*Fig. 491 Fig. 492 Fig. 493 Fig. 494*

*Fig. 495 Fig. 496 Fig. 497 Fig. 498*

*Photos by: Google Images*

*Drawing by: Author, Autocad 2011 coloured lines and fill on white background*
Major Arterials  Minor Arterials  Boulevards

Due to the fact that the trees will be the first element in the design to be realised, it is important to plan for other services that will come in future. Trees are affected by road widths and setbacks, overhead services and underground services. Trees are also affected by surface treatment such as pavement road surface, driveways and kerbs. With proper forward planning the trees can be placed taking all of the above services into account. Above and on the next page are examples of 5 types of streets and various scenarios to avoid clashes.
The various tree shapes shown above have to be considered in advance to ensure the trees chosen are correctly shaped for the positions they are placed in. The ultimate size of the fully grown tree is also important. A smaller tree should be planted where very high overhead service utilities are planned and larger trees can be planted when they are away from utilities. Trees routes play a large part in how successful the tree is. If the routes are not controlled, it could cause problems with paving and road surfaces.
Above diagram by: Author Pencil on tracing paper
Above diagram by: Author Pencil on tracing paper