

DETAILED DISTRICT PHYSICAL PLANS
FOR KICUKIRO & GASABO
KIGALI, RWANDA

KICUKIRO DISTRICT
GAHANGA URBAN DESIGN REPORT

MAY 2013

TASK ORDER 5: URBAN DESIGN



CITY OF KIGALI

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PREFACE

PROJECT BACKGROUND

The City of Kigali (CoK), one of the most active and progressive City Councils of Africa, aspires to see Kigali develop as a competitive, safe and modern city. In the recent past, the Government of Rwanda has undertaken the preparation of several urban development plans as well as other studies related to transport, infrastructure, housing and environment for Kigali. Having completed the Kigali Conceptual Master Plan (2008) and Detailed Master Plans for Nyarugenge District (2010) the City now intends to develop Detailed Physical Plans for the other two Districts, namely, Gasabo and Kicukiro, so as to have an integrated detailed plan for the entire City.

PROJECT COMMISSIONING AND SCOPE

In early 2010, Surbana International Consultants, Singapore (Surbana) completed the Detailed Planning of Nyarugenge District, which included Detailed Urban Design for Kigali's CBD. In October 2011, through a public tender, the City of Kigali awarded the 'Design of Detailed District Physical Plans for Kicukiro & Gasabo' to Surbana.

This master planning project, in addition to the detailed planning of the two districts, has the following objectives:

- To review the planning direction and strategies for the entire City of Kigali, while integrating all the past planning and development initiatives undertaken.
- To prepare detailed master plan, urban design (for key areas) and development control guidelines for the two districts of Kigali, namely Gasabo & Kicukiro. This would also include the review and revision of the Detailed Master Plan for Nyarugenge District,
- To establish a GIS database for the entire City which has a coordinated base map, proposed land use plan

& development control information for all areas of the City of Kigali. This GIS system would form a part of the MIS system being put in place by the Government.

- To ensure participation of the various stakeholders in the development of the Master Plan so as to develop a plan that reflects the needs and aspirations of the City's residents.
- To conduct capacity building of the CoK staff through training programmes in Singapore and Kigali.

PROJECT ORGANIZATION & SCHEDULE

The project is spread over one year and comprises of the following 6 task orders, each with a duration of 2-4 months:

- Task Order 1: Start-up, Reconnaissance & Base-mapping**
- Task Order 2: Existing Conditions Analysis & Vision Formulation**
- Task Order 3: Preparation of Conceptual District Plan**
- Task Order 4: Preparation of Schematic District Plans**
- Task Order 5: Preparation of Detailed Urban Design**
- Task Order 6: Preparation of Implementation Plans**

PROJECT PROCESS

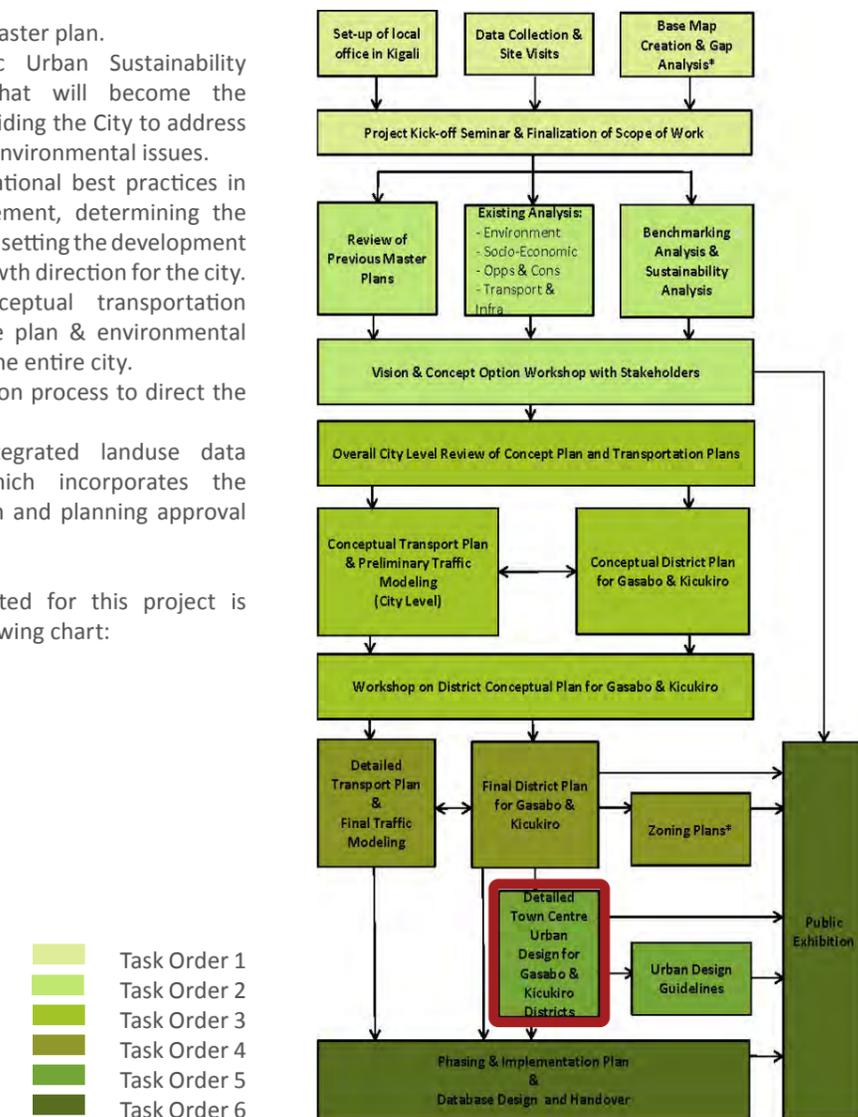
In line with the project scope discussed above, the process to be adopted for this project is as elaborated below:

- Establishment of a proper working base map which incorporates all land use related information for developing the master plan.
- In-depth analysis of various issues facing the City and stock-taking of previous master plans and infrastructure planning initiative in the City in order

to develop an integrated Master plan.

- Establishing the strategic Urban Sustainability Framework for Kigali, that will become the overarching framework, guiding the City to address its key economic, social & environmental issues.
- Benchmarking with international best practices in city planning and management, determining the future growth scenario, and setting the development vision and the strategic growth direction for the city.
- Development of a conceptual transportation master plan, infrastructure plan & environmental management strategy for the entire city.
- Mapping out implementation process to direct the implementation process.
- Putting in place an integrated landuse data management system which incorporates the base map, the Master plan and planning approval process.

The planning process adopted for this project is further illustrated in the following chart:



PROJECT DELIVERABLES

Various reports, corresponding to the various task orders are to be submitted, which include:

Task Order 1:

- Inception Report

Task Order 2:

- Analysis, benchmarking and Visioning Report

Task Order 3:

- Conceptual Transportation Plan report
- Conceptual Plan report

Task Order 4:

- Final Transportation Plan report
- Final Gasabo Master Plan report
- Final Kicukiro Master Plan report
- Gasabo Zoning booklet
- Kicukiro Zoning booklet

Task Order 5:

- Gasabo Town Centre Urban Design report
- Kicukiro Town Centre Urban Design report
- Gasabo Town Centre Zoning booklet
- Kicukiro Town Centre Zoning booklet

Task Order 6:

- Implementation report

In addition to the above reports, various marketing and promotional materials to illustrate the master plan would also be prepared for the public exhibition. A Geodatabase, incorporating the existing land use map, the proposed land use plan & the development control information would be submitted at the completion of the project.

STAKEHOLDERS' PARTICIPATION & CAPACITY BUILDING

A key component of the project would be to ensure adequate participation in the planning process from various stakeholders such as decision-makers from public and private sectors, focus groups, community organizations and various public interest groups. Accordingly numerous meetings, seminars and workshops are to be conducted at all stages of the project. A public exhibition of the master plan will be undertaken at the end of the project with an objective to launch the master plan.

In addition a communication plan, executed through various print, broadcasting & online media would ensure participation and feedback from the wider public.

This comprehensive city wide plan, incorporating the detailed physical plans of the two districts as well as all the past planning initiatives would become the long term development framework for Kigali City, guiding it into an era of progressive and holistic city development.

The Gateway Hub At a Glance.....



A modern
GATEWAY HUB
 integrating
 communities and
 nature...

- Showcasing Technology and Progress
- Recreation Destination for all ages
- Variety of Lifestyle Choices
- Integration with Greenery
- Sustainable Communities
- Distinct Character and Identity

- Seamless connectivity & integration
- Making viable & distinct districts
- Environmental harmony & promoting walkability
- Creating identity & sense of place

- Green Corridors
- Wetland Parks
- Green Business District
- Cultural District
- MICE & Expo District
- Lifestyle Choices
- Community Anchors

- Density, Diversity and Mix
- Pedestrians First
- Transit Supportive
- Place-Making
- Complete Communities
- Integrated Natural Systems
- Local Sources
- Engaged Communities
- Redundancy and Durability
- Resilient Operations

A destination at the entry to Kigali City from the future Airport



Activating the wetland edges with variety of attractions



New venues for events and variety of choice for living.



Well connected by BRT to the City Centre & the Airport



x

MAY 2013



A modern Gateway Hub at the entry to Kigali...



The Framework



Structure Plan

STRUCTURING ELEMENTS

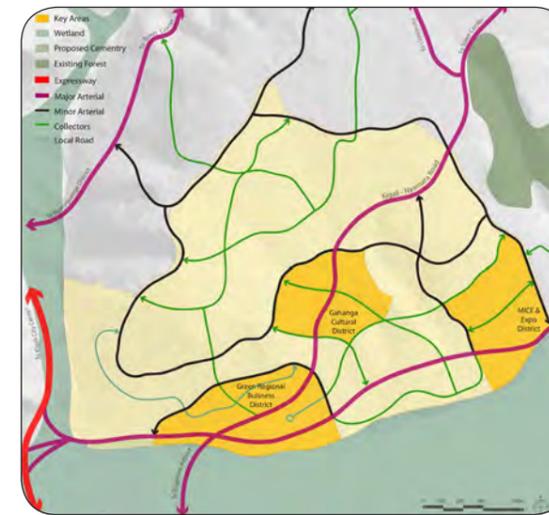
- **Seamless connectivity & integration:** Strategic location of developments around transit nodes and integration with key areas allows for easy movement of people from the surrounding to the transit hubs.
- **Making viable & distinct districts:** Developing distinct districts within the Gateway Hub promotes creation of unique local identity and characters for the various areas.
- **Environmental harmony & promoting walkability:** A variety of greenery and open spaces permeate and integrate the developments.
- **Creating identity & sense of place through landmarks:** Make places that are recognizable and memorable by strengthening the local identity of areas and by enhancing the context.



Proposed Land Plan

PROPOSED LAND USE

- The proposed land use plan has been developed with a purpose of strengthening the overall Urban Design concept and to re-enforce the regional strategy.
- A lot of emphasis has been given to create integrated mix-use developments distributed to create lively areas which are more widely utilized.
- High quality urban landscapes & parks of various scales have been well distributed. These open spaces are located close to residential areas.
- A variety of residential developments are provided to promote social diversity. Higher density residential developments are proposed along the transit corridor.
- Facilities such as schools and local markets are located at walkable distances from the living areas.
- Strategic areas with vantage viewing points are developed as civic and cultural areas with unique identity.

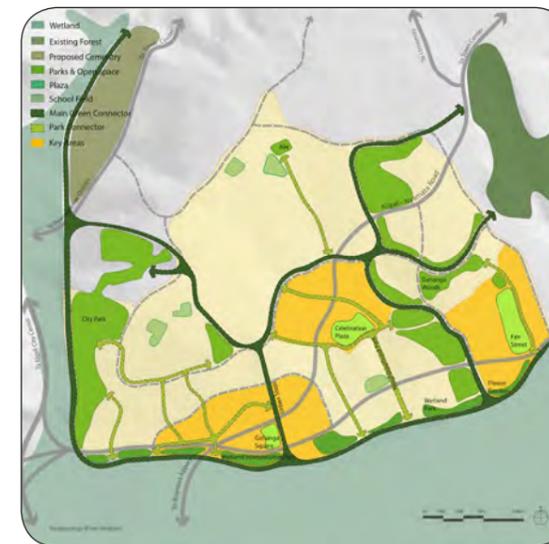


Connectivity Plan

IMPROVED CONNECTIVITY

The movement strategy for Gahanga Hub focuses on streets, transit and pedestrian connectivity within and to the surrounding urban areas. The objectives of the movement framework:

- To provide choices of journeys to the people
- To provide a street network of clear and safe routes
- To anticipate the movements generated by developments and provide connections



Green and Blue Plan

GREEN STRATEGY

As of now, Gahanga is very green with agricultural fields and greenery, and very very houses. With urbanization much of the areas will be built upon. However the plan envisions Gahanga to still maintain its green identity with plenty of quality landscapes. All natural open spaces, streetscapes, public & private open spaces contribute to creating the quality urban landscapes.

The urban design aims to create a cohesive landscape structure with a sense of place. The urban design landscape strategy for the Gateway Hub is to have quality landscapes which focuses on:

- Integrated green network
- Distinctive public open spaces for all ages
- Urban Greenery

Key Nodes

Gahanga Business District



Concept

The Business District will be the economic driver for the region. It will be the region's hub for retail, commerce, banking and financial services. It is also positioned to be a Knowledge Hub with a high tech Business Park. It is strategically located at the entry to Kigali creating a strong sense of arrival. It is well connected with the city centre and the future airport at Bugesera.



Structure Plan



Illustrative Plan



Stepping down to the wetland edge



Urban Character



Artist's Impression



StreetScape

Place Making Strategies

High Tech Business Centre

Connected Business Centre

Creative Knowledge Hub

Image Source: Google Images

Key Nodes

Cultural District



Urban Character



Artist's Impression



StreetScape



Structure Plan



Illustrative Plan



Cultural District



Concept Plan

The Cultural District is the focal point for creative activities at the Gateway Hub. It is where the cultural activities will take place. It is the region's hub for artistic performances, museums and a venue for events, concerts, art exhibitions etc. It will be supported by boutique hotels, restaurants and mixed use developments. It is also surrounded by regional level civic facilities like the hospital and the college. It is strategically located at the high point in the slopes and is well connected to the Business District and the City by public transit.

Place Making Strategies

Iconic Spaces & Development

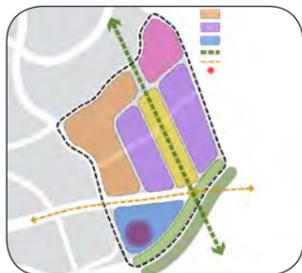
Places to Gather

Places to enjoy the scenic view

Image Source: Google Images

Key Nodes

M.I.C.E. & Expo District



Concept

The MICE (Media, Incentives, Conventions & Exhibitions) & Expo District is located at the edge of the Gateway Hub along the wetland. The development is strategically located due to its proximity to Bugesera Airport. It is positioned to be the destination in Rwanda for large events such as expositions, trade shows etc. A convention centre and hotel are also provided to complement the Expo. Mixed Use developments are used to wrap the big box developments.

Place Making Strategies

Venue for Events

Integrated with Transit

Active Public Spaces



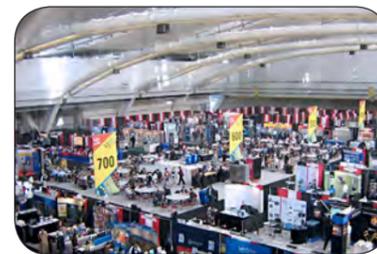
Structure Plan



Illustrative Plan



M.I.C.E. & Expo Plaza



Urban Character



Artist's Impression



StreetScape

Catalyst Projects

OBJECTIVES OF THE PHASING STRATEGY

- To minimize infrastructure costs by prioritizing release and development of land parcels which can tap on existing infrastructure, amenities and natural assets.
- Ensure critical infrastructure and direction to guide the land amalgamation strategies to be carried out.
- Releasing development parcels and early delivery of amenities to offset infrastructure investments.
- To ensure availability of large and contiguous land reserves for future comprehensive development.
- Delivery of facilities and amenities at appropriate threshold and ensuring development on several fronts simultaneously.
- Planned release of later sites to benefit from higher land value in later phases when value of place is established.

PROPOSED PHASING STRATEGY

The proposed phasing strategy looks at development at three key stages to ensure a balanced and sustainable growth, and avoid selection of only the most profitable components of the master plan and deferring the more costly and difficult parts.

PHASE 1- CATALYZE THE DEVELOPMENT

The initial stage of development focuses on initiating the development with some catalytic projects. It focuses on:

- Building from the existing infrastructure and providing critical infrastructure.
- Extend the transit corridor with BRT to connect to the key areas of the initial stage.
- Provide regional facilities along the development corridor to become catalyst projects.
- Create key public realm and critical quantity of core development to establish the gateway hub.
- Provide high density housing along the development corridor.



Catalyst Projects- Key Plan

PHASE 2- CAPITALIZE ON THE GROWTH

In the medium term the development for Gahanga capitalizes on the new developments. It aims to make Gahanga the preferred choice for people to live and work. It focuses on:

- Choice of lifestyles by providing variety of living areas.
- Quality public facilities at walking distances from the living areas.
- New Parks and Open Spaces as regional attractions
- New commercial spaces in the Business District



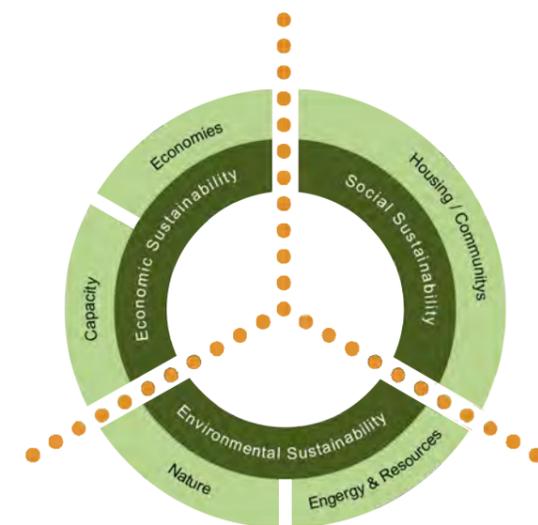
PHASE 3- A UNIQUE GATEWAY HUB

With the achievement of quality living and working, the final phase will focus on creating unique features to reemphasize the distinct Gateway identity of Gahanga Regional Centre. It focus on:

- New public transit to re-strengthen the connectivity.
- New feature developments to take advantage of proximity to the Airports and create specialized precincts to complement the existing Business District.
- Develop Gahanga as a culture and tourism destination.
- New mixed use developments and feature parks

Sustainable Gahanga

The Urban Sustainability Framework at the planning level translates to the urban design of Gahanga Regional Centre. It looks at sustainability in terms of social, economic and the environment. Sustainable strategies are integrated in many aspects of the urban design. Ideas of creating a 'resilient city' is an inherent part of the urban design strategy. The plan is to be flexible and dynamic to address future shocks and stresses associated with climate change, environmental degradation, resource shortages, in the context of global population growth.



Urban Sustainability Framework for Kigali

Master Plans should be taken closer to the people.
- The New Times, Rwanda.



The master plan will look at sustainable development alternatives for Kigali.- OSC.



We need to know how to value the ecosystem services and their contribution to our planet.
- The New Times, Rwanda.



I call upon investors from within and outside the country to seize the opportunity created by the rapid growth of our city to make money.
- The New Times, Rwanda.



Designate areas for different activities and ensure that all amenities are in place to facilitate the investors.
-The New Times, Rwanda.



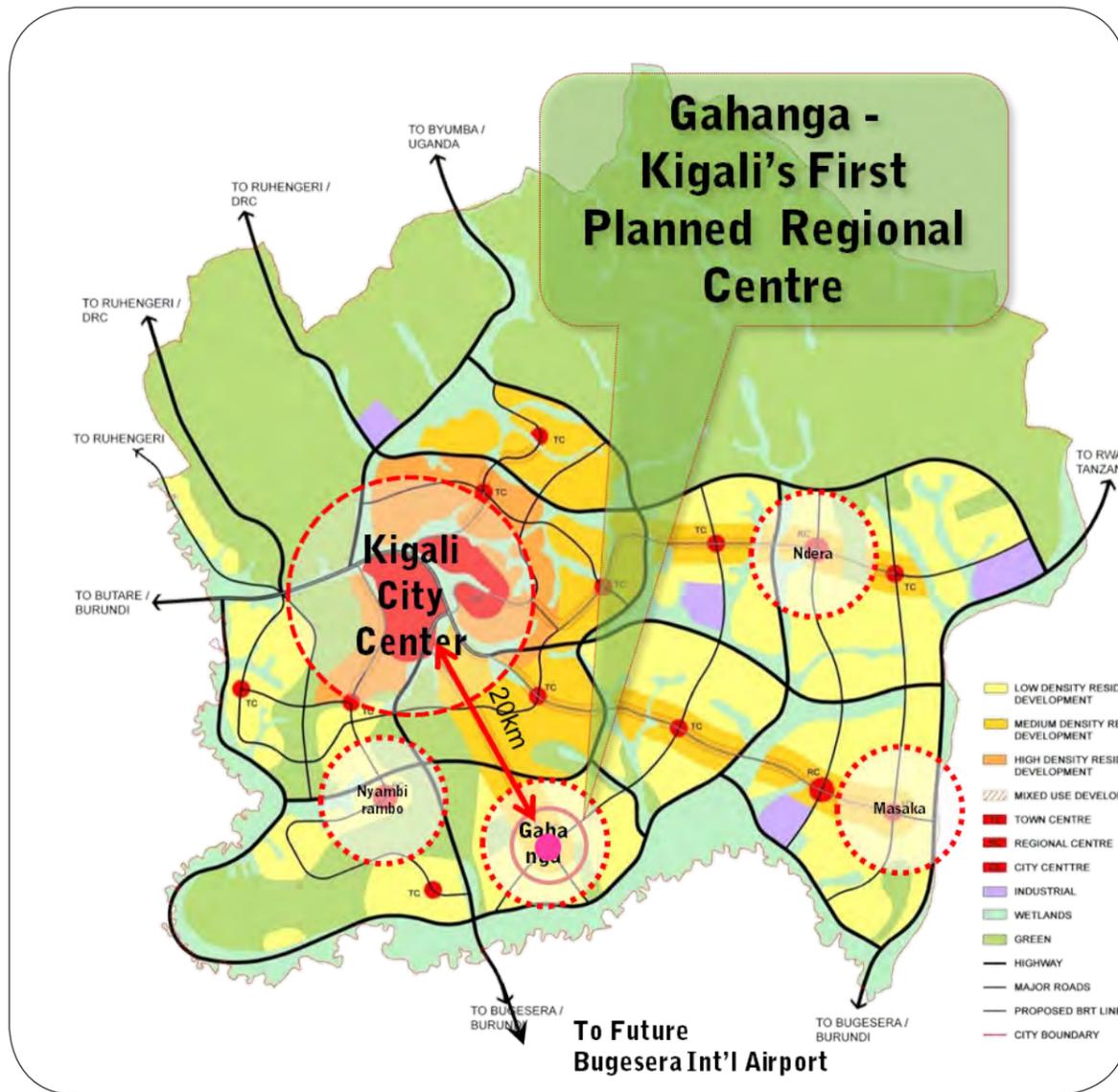
A key element for sustainable growth of Kigali is the provision of decent housing for all.
-The New Times, Rwanda.



Real Estate is one of the most vibrant sectors at the moment.
- The New Times, Rwanda.



1 INTRODUCTION



Positioning of Gahanga in Kigali City

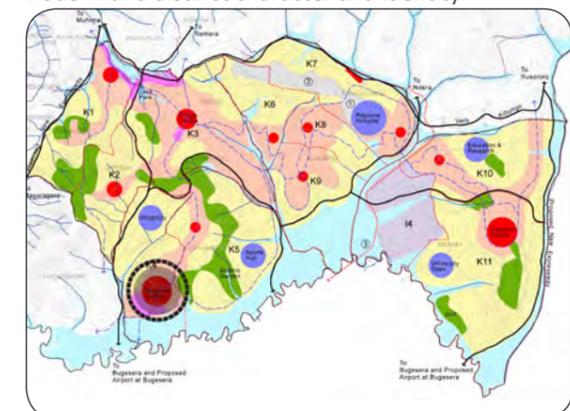


Location of Urban Design site in Kigali City

PURPOSE OF URBAN DESIGN AT GAHANGA

Kigali is a rapidly urbanizing city, with a constant need for new developable land. The Concept Plan recognizes this demand for new growth areas and reorganizes the city along key development corridors, and three major development areas i.e. Inner City, City Fringe and Suburban. Significant key districts with strategic importance within these three areas have identified for detailed Urban Design studies to elaborate how a typical urban development is to be managed. Such showcase examples can be a base to develop urban design strategies for other similar areas within the city.

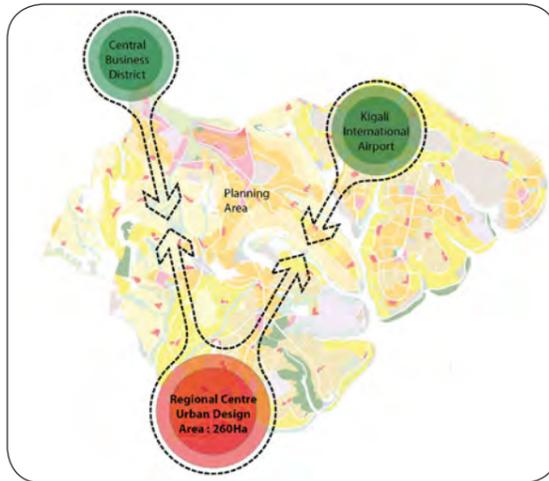
Key urban nodes have also been identified along the growth corridors besides the Kigali CBD at Nyarugenge. These growth nodes would be the key developments in the suburban areas requiring urban design strategies to manage their growth. Gahanga Regional Centre is one of the growth nodes with immense development potential. Urban Design for Gahanga Regional Centre will showcase strategies to create an attractive and unique suburban growth node with a distinct character and identity.



Gahanga in context to Kicukiro District

POSITIONING GAHANGA IN KIGALI

The future Bugesera Airport to the South of Kigali and the high capacity urban road linking the City Centre to it, positions Gahanga as a strategic location with potential to become the gateway development at the entry to Kigali. The largely green field areas provide opportunity to develop Kigali's first Regional Centre supported by integrated townships and other facilities, which could become the model for future developments in the city. The urban design for this Regional Centre capitalizes on this opportunity to create a distinct new gateway Regional centre.

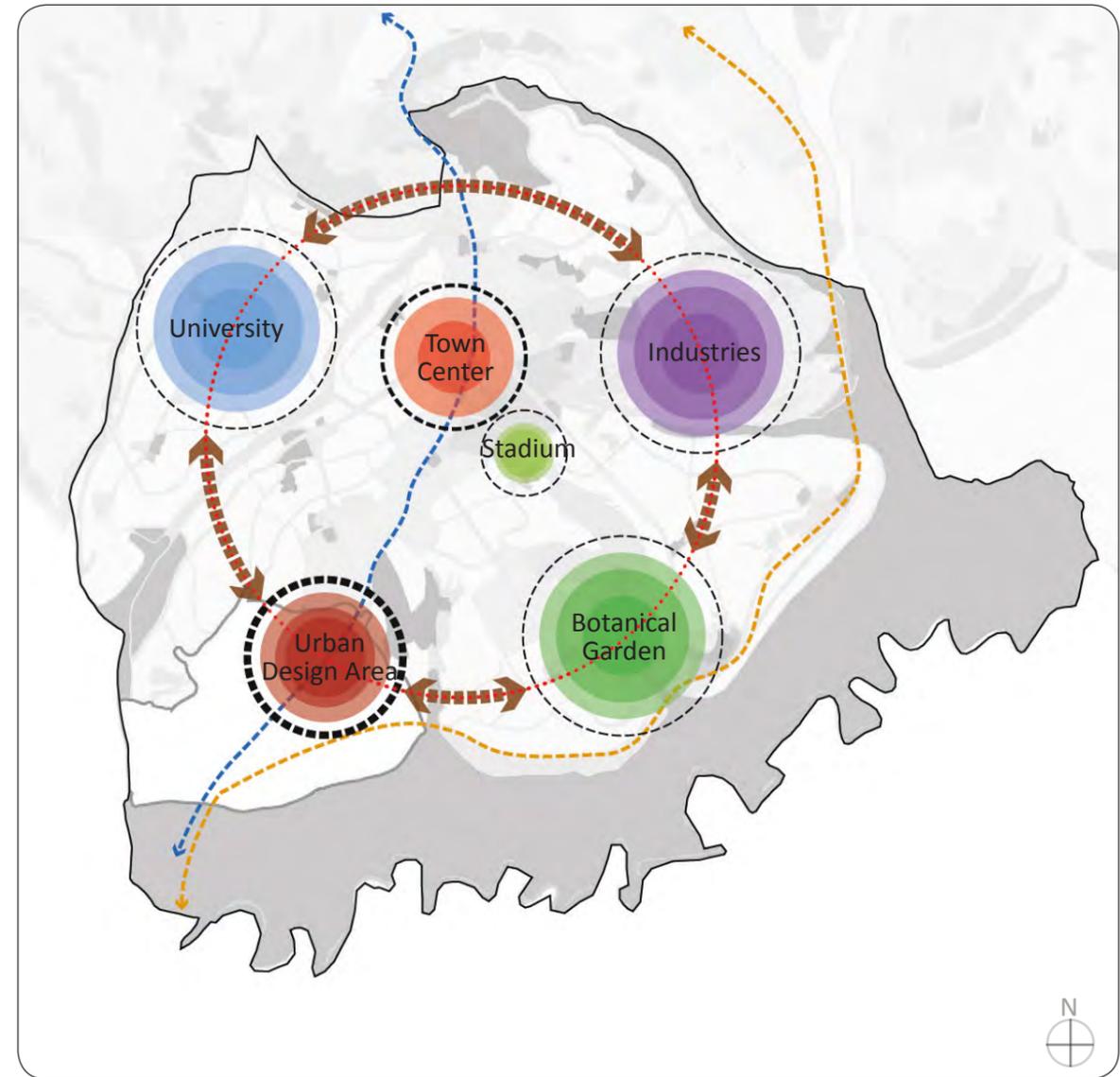


Positioning of Urban Design site in Kigali City

GAHANGA - REGIONAL CONTEXT

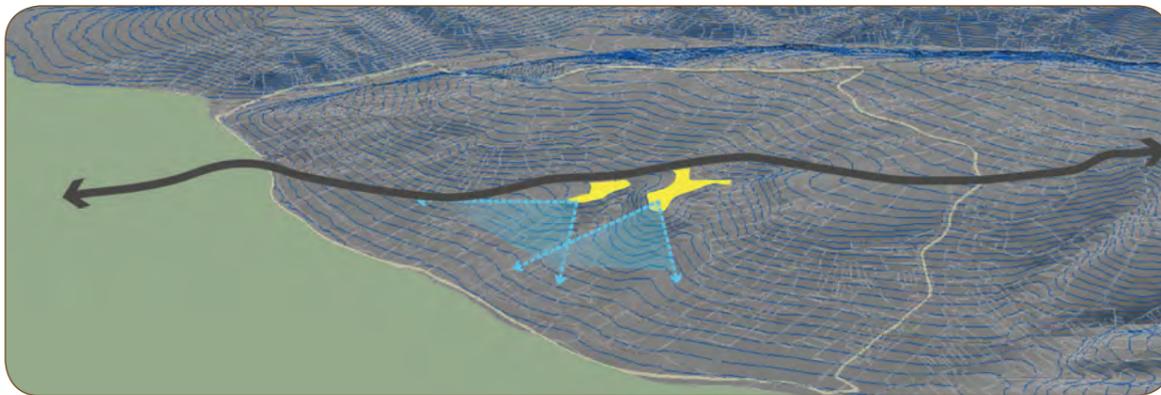
Gahanga is located in the southern part of Kicukiro District. For planning purposes, the administrative sectors of the district have been amalgamated into four distinct planning areas. Gahanga is located within the Southern planning area. The area is relatively less urbanized; however there is immense development pressure due to its proximity to the Kicukiro Centre. The planning area is surrounded by nature and the wetland. The Planning Area is the main entry point into Kigali City from the Southern part of Rwanda. It will also be the gateway into Kigali City from the proposed new international airport at Bugesera.

The key role identified for Kicukiro District is to be the Progressive Knowledge Hub and Green Gateway of Kigali. Gahanga has been identified as a 'regional gateway and a sports city'. The planning area has two townships which consists of a town centre, a regional centre, a 60000 seater Stadium which is current being developed, a future university, a botanic garden, large industrial areas for employment, and a variety of new residential areas. A BRT (Bus Rapid Transit) system is proposed at Gahanga which will connect the area to the City Centre and other parts of Kigali. A future MRT (Mass Rapid Transit) line is also proposed, which will connect the CBD to the future Airport via the proposed Gahanga Regional Centre. The proposed HCUR(high capacity urban road) linking the City Centre to the future Airport passes by Gahanga. Gahanga is also blessed with many forests, and a large wetlands which are to be protected.

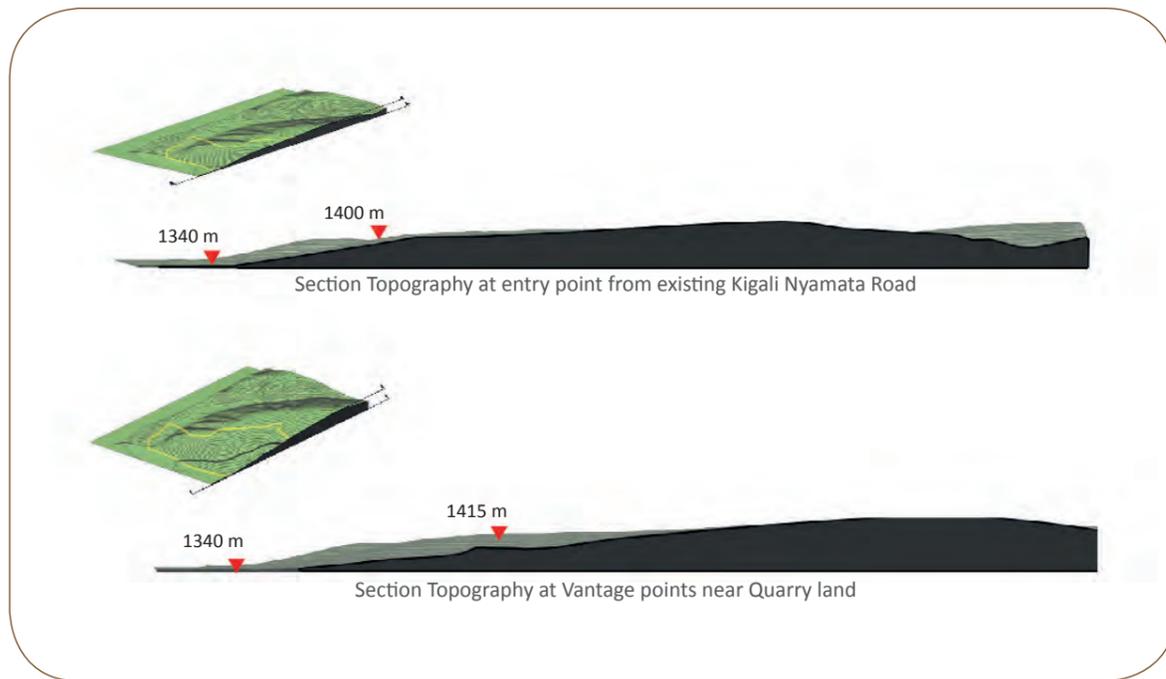


Urban Design Area in context to Gahanga Planning Area

Urban Design Area: 260 Ha



Site Topography and vantage points



Site Section

URBAN DESIGN SITE AS IT IS TODAY

LOCATION

The Urban Design (UD) study area is strategically located at the southern edge of Gahanga Planning Area. The study area is approximately 260 ha and is bounded by wetland to the south and east. The UD area is located in-between the CBD and the future Bugesara airport. It is located approximately 15 km from both the CBD and the future airport.

TERRAIN

The Urban Design area largely has an undulating terrain. The majority of the area falls in gentle slopes. 10% of the land has slopes greater than 20% and is not suitable for development. These areas have been identified for parks and open spaces and afforestation. The highest point in the site is 100m above the wetland. The gentle sloped terrain provides a prominent backdrop at the entry to Kigali

CONNECTIVITY

A two lane paved road passes through the site and is the main link to other parts of Kigali as well as the Southern District. The site also has minor unpaved road linking areas within the site.

NATURAL FEATURES

The site is located next to a large wetland with view of the Nyabarongo River. It has an approximate 2.6 km frontage to the wetland. As per REMA guidelines, a 20m wetland buffer is required along this edge. The site also has some forested as well as steep areas. The area today is largely being used for agricultural purposes. Few natural water channels run through the site. The existing Quarry is currently being used as soil dump site.



View of the Nyabarongo River from the Urban Design Site

Image Source: Surbana

EXISTING DEVELOPMENTS

The area is largely greenfield with no major urban developments. The area currently is being used for agriculture and related uses. Clusters of low density developments along the road can also be seen. There are also several scattered rural houses in the area. Some of these living areas are currently not accessible by road.

The available cadastral plan shows the organization of the land parcels. Existing parcel sizes range between .008 Ha to 6.181 Ha. Majority of the parcels along the wetland are linear and follow the slope. The clusters of smaller parcels are located along the road. The larger parcels are located away from the main road.

The site also is seeking other developments. A steel manufacturing industry is being developed along the road. The site also has large areas being used for quarrying and landfill.

Images of Gahanga urban Design Area



The Greenery at Gahanga



Landfill site



Existing Road



Factory Construction



Gahanga Urban Design Area - Existing Land Use Plan

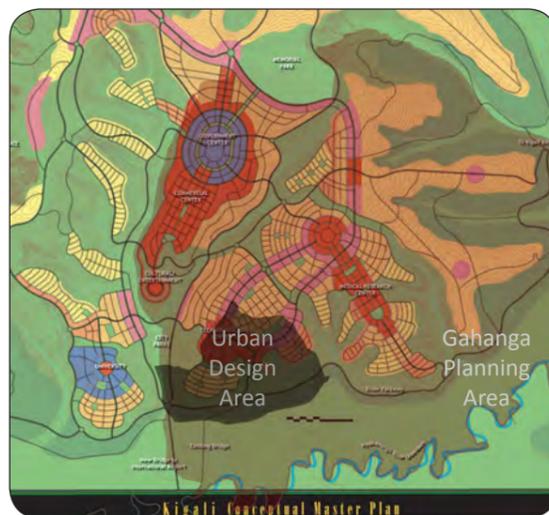
THE URBAN DESIGN AREA AS PLANNED FOR

GAHANGA URBAN DESIGN AREA AS PER THE KCMP 2007

As per the KCMP 2007, Gahanga area was proposed to be the new City Centre with a variety of facilities and centres. The Urban Design area was to have a Technological Centre.

GAHANGA URBAN DESIGN AREA AS PER REVISED KCMP 2013

Due to the rapid urban growth of the city, and pressures for more population growth than projected earlier, the KCMP was revised to capture the new approved projects and the new development direction. Similar to KCMP 2007, the revised KCMP 2013 focuses on creating multiple centres with a new focus on public transit integrated growth model. In line with the KCMP 2013, the Urban Design area was proposed to be one of the new growth centres of Kigali. The Urban Design area was designated to be developed as a Regional Centre.



Urban Design Area in the KCMP 2007 (left); KCMP 2013 (right)

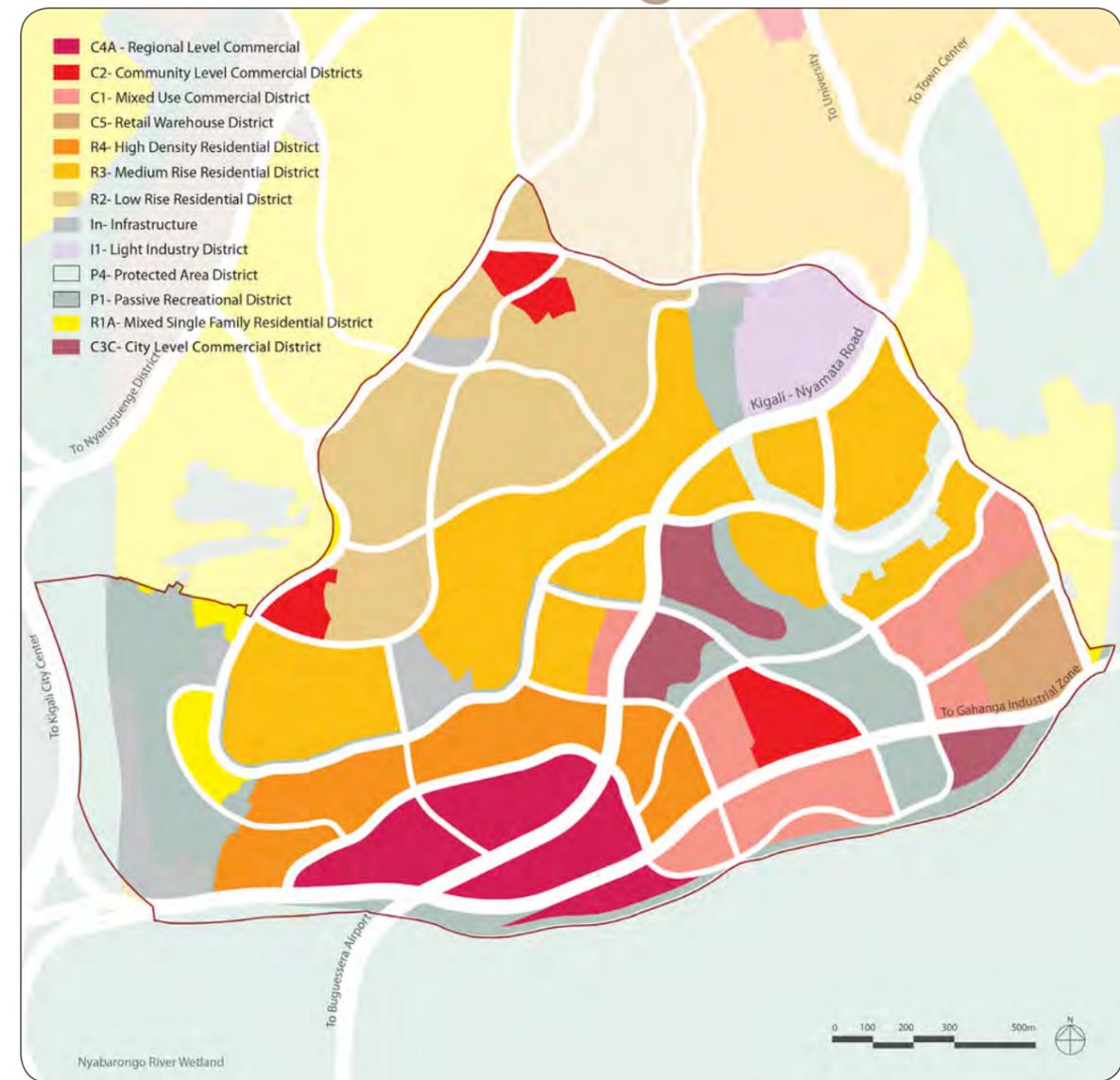
GAHANGA REGIONAL CENTRE URBAN DESIGN

The Regional Centre is a key component of the integrated township development proposed for Gahanga. It will be the commercial employment centre in the suburban areas, and will promote decentralized development. It will also have a variety of regional level facilities and institutions.

The Regional Centre as proposed by the master plan is in line with the strategy to develop high density development corridors served by high capacity dedicated public transit. The Regional Centre will be connected to other parts of the city by both the BRT and the future MRT line. The Regional Centre, is also well connected to the future airport and the CBD by the new HCUR (high capacity urban road). The Urban Design of the Regional Centre is focussed on providing a distinct character and identity for the new growth centre at the periphery.



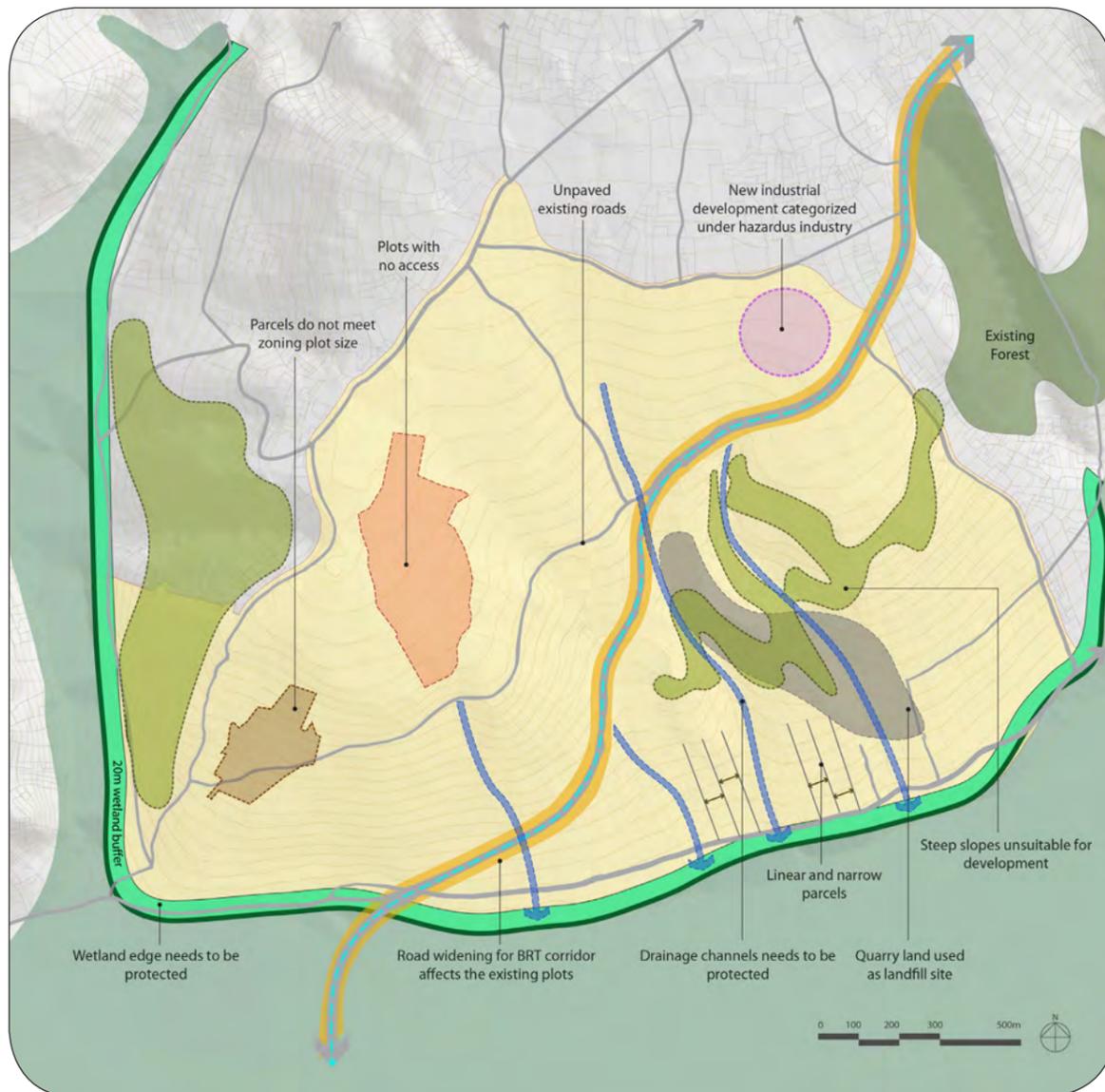
“ ... a new Regional Centre at Gahanga ”



Urban Design Area in the proposed Zoning Plan

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2 MAPPING THE POTENTIAL



Constraints Map of Gahanga Urban Design Area

CONSTRAINTS

NATURAL AND LAND CONSTRAINTS

- 10% of land within the Urban Design area is unsuitable for developments due to steep slopes greater than 20%. These steep sloped areas need to be protected. Though development for steep areas is conditionally allowable, it should be restricted in the urban design area.
- Quarry land is currently being utilized as land fill area. This could prove hazardous in the long run and would require to be rejuvenated.
- 2.6 km long wetland edge needs to be protected through buffer zone. A 20 m buffer as per REMA will require to be provided.
- Key Drainage channels form the natural storm water drainage within the site. These major natural drain channels need to be protected from encroachments to prevent flooding.

DEVELOPMENT CONSTRAINTS

- The scattered low-rise development along the road could grow to become large unplanned areas. These areas fall within the transit corridor with potential to redevelop as high density areas.
- The land ownership is fragmented with many small and irregular parcels. These will require to be amalgamated for redevelopment through effective land readjustment strategies.
- The new developments such as polluting industries could affect the future potential of housing and commercial developments. Buffer for the existing steel factory will be required to allow a safe distance for other residential development to.
- The existing ROW of the road is less than what is required. Road widening will be necessary to allow for the functioning of the BRT line.

It is necessary to produce a realistic master plan which can be implemented and could provide direction to the public in regards to urban development.



OPPORTUNITIES

NATURE AND OPEN SPACE

- 10% of the site is affected by steep slopes. These steep areas are considered to be undevelopable areas but have the potential for the creation of new parks and open spaces. Afforestation can be carried out in selected steeper areas. Similar such strategies could increase the green quantum in the site and improve the local environment. All this would be integral part of developing the integrated network of parks and open spaces.
- The existing quarry land is being utilized for land fill. Such usage in the long run would be undesirable and not suitable for the local environment. Such environmentally blighted areas can be rejuvenated by strategies to heal the land by converting the quarry into a rejuvenated park for the local population to enjoy. This could also be a feature for the regional centre attracting visitors.
- The site is blessed with an extensive wetland edge. The 20 m buffer required for the wetland edge can be utilized to create a variety of active as well as passive recreational areas. The buffer can be turned into an attractive feature in the Regional Centre.



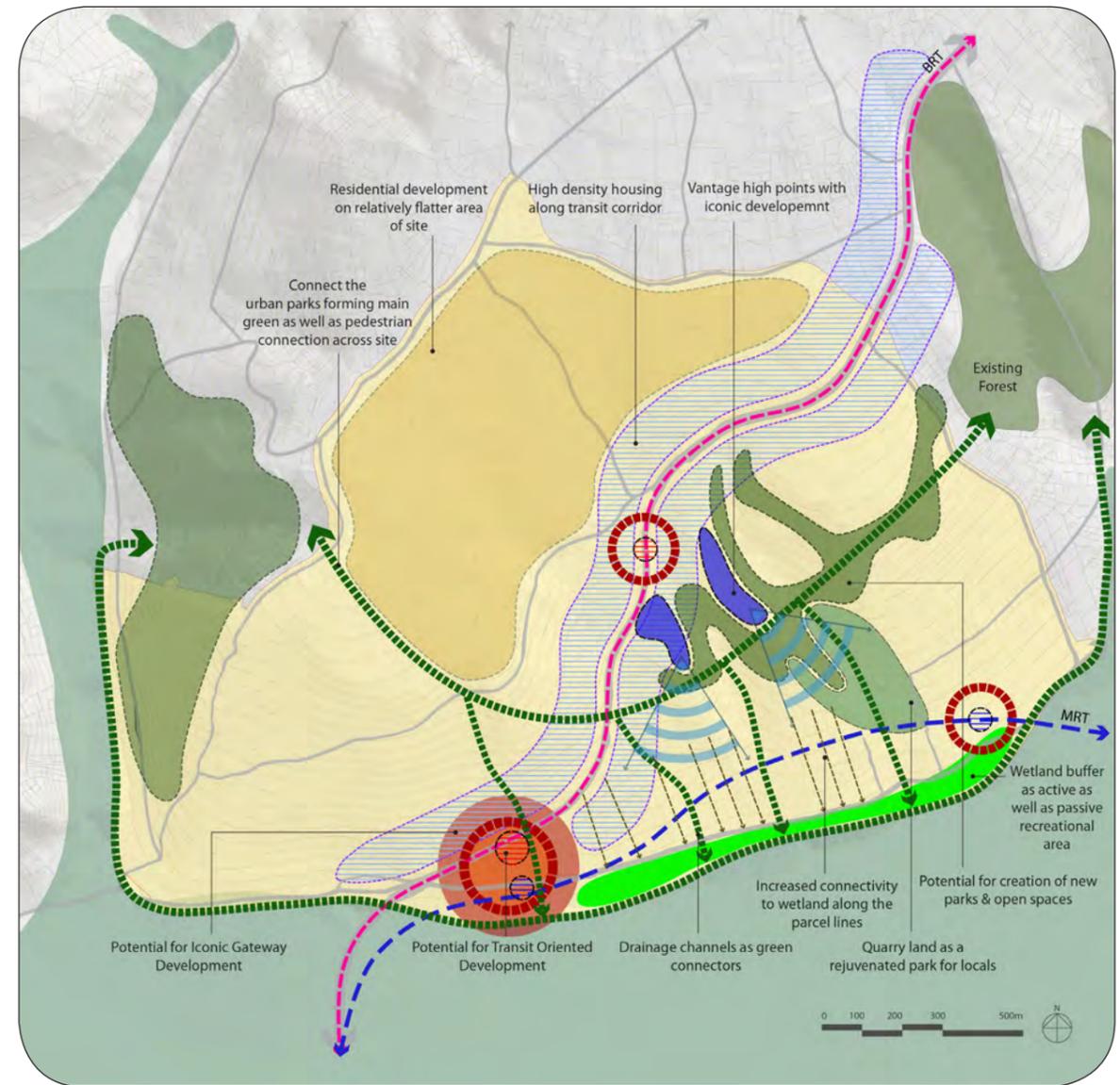
There is a need for an ambitious Master Plan to support the growth of the City and Rwanda in general

CONNECTIVITY

- The site is connected by an existing Kigali-Nyamata Road, which provides an opportunity to be developed as a future BRT route.
- Existing local rural roads existing within the site can be upgraded to be developed as internal roads for the Urban Design area.
- A future MRT line is proposed to link the CBD to the future Airport which will pass through the site.
- The intersection of the MRT and BRT offers potential to be developed as the well-connected core of the development from which the development could grow.
- The existing drainages and green buffers should be conserved and redeveloped as green connectors which form an integral part of the pedestrian network and to promote non-motorized transport within the site.

DEVELOPMENT

- Potential to develop an iconic Gateway development to create a new image at entry to Kigali
- Opportunity to develop high density housing with facilities like school etc. along the transit corridor.
- To introduce special features like the Quarry Park by utilizing site opportunities.
- Develop the vantage high points with iconic developments to enjoy the panoramic views.
- Future MRT stop will provide potential for Transit Oriented Nodes with function that can attract large number of people.



Opportunities Map of Gahanga Urban Design Area

3 VISION AND GOALS

Showcasing Technology and Progress



Recreation Destination for All Ages



Developing Variety of Lifestyle Choices



Integrating with Greenery



Making Sustainable Communities



Creating Distinct character & identity

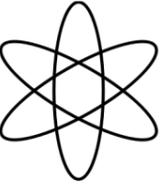
A modern GATEWAY HUB integrating communities and nature...

The **GATEWAY HUB** is envisioned to be the destination in Kigali showcasing an image of progressiveness and modernity. It will present an image of a high-tech community living in harmony with the surrounding nature. It will feature attractions and opportunities for variety of communities. For the Business Community, it will have vibrant modern work places. For the Resident Communities it will provide choice of living close to nature with facilities at walking distance. For the Visitor it will have a variety of attractions for all ages. All this can be accessed by world class public transit network connecting the Gateway Hub seamlessly to the rest of the city. It will be a distinct an attractive Gateway Hub welcoming all to Kigali. It will demonstrate all this to become a symbol of sustainable compact development that will strive to achieve the *Quality of Life*.



Image Source: Google Images

Quality of Life - Essentials

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Definitions</p>	<p>Safety</p>  <p>Sense of physical and emotional security for individual as well as the family.</p>	<p>Health</p>  <p>Physical and mental wellbeing of the residents and visitors.</p>	<p>Education</p>  <p>A chance to receive high quality education for all incomes, abilities and ages.</p>	<p>Prosperity</p>  <p>An opportunity to develop a fulfilling career that allows growth, self-sufficiency and wealth generation.</p>	<p>Community</p>  <p>Natural sense of belonging to the community, sharing common interests and working collectively to achieve universal objectives.</p>	<p>Physical Condition</p>  <p>The condition of the built and the natural environment.</p>	
	<p>Housing</p>  <p>Options of quality residences that will provide shelter and safety to the residents.</p>	<p>Public Services</p>  <p>Services provided by the government and their allies such as utilities, sanitation, infrastructure and its maintenance.</p>	<p>Mobility</p>  <p>Providing convenient options to access employment, housing and amenities through public and private transport.</p>	<p>Environment</p>  <p>The factors that affect the state of the surroundings in which people, animals or plants live.</p>	<p>Recreation</p>  <p>Places that give an opportunity to refresh the strength and spirits of people and encourage social interaction.</p>	<p>Culture</p>  <p>Activities and events that showcase the cultural composition of the place.</p>	<p>Amenities</p>  <p>Facilities that are within easy reach and provide for services, materials, entertainment and other daily necessities.</p>

Source: Detroit Future City, Detroit Strategic Framework Plan, December 2012
 Image Source: Google Images



GOAL 1

SHOWCASING TECHNOLOGY AND PROGRESS

OBJECTIVES

To create a distinct mixed use business district with quality offices spaces that is well integrated with public transit

STRATEGIES

- Develop a high-tech Business Park at the entry of Kigali to showcase technology and progress. It is proposed to have a campus feel that will promote synergy between businesses and innovation.
- Strategically develop the Business District Commercial Core as a compact well connected centre with modern offices & active retail streets.
- Locate the Business district close to the BRT stop and future MRT line for easy accessibility.
- Integrate a regional bus terminal into the public plaza and link with surrounding developments to create a distinct and iconic transit oriented development.
- Lay emphasis on developing attractive public realm throughout the Business District by creating clear street edges, interesting streetscapes, and variety of public plazas.
- Develop a venue for events at the new MICE and Expo Centre. It will be located strategically close to the future airport and the Regional Business District and is well connected by the future MRT line and roads.



Image Source: Google Images

GOAL 2

RECREATION DESTINATION FOR ALL AGES

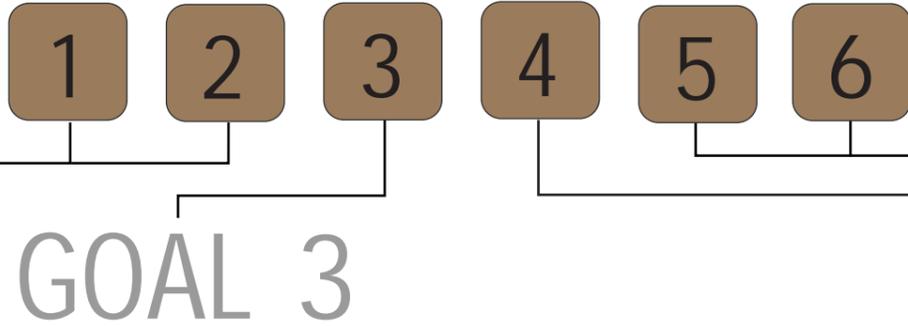
OBJECTIVES

To distribute a variety of recreational attractions for all ages that are well integrated with the surrounding nature

STRATEGIES

- Develop an attractive new Entertainment Precinct besides the Business District along the wetland to be a new destination for visitors, as well as daily users.
- Activate and utilize the continuous wetland buffer by creating new public spaces and parks.
- Identify the vantage points with panoramic views and develop the area as the Gateway Cultural Centre with Civic buildings, public areas, mixed use and hotels.
- Rejuvenate the Quarry by creating a new City Park. The creation of the park will help in the process of healing the land that has been used for quarrying as well as landfill. The park is meant for people of all ages and will have variety of landscapes and activities to suit variety of users. It will also be an attraction for visitors.
- Introduce sports fields and playgrounds at the neighborhoods close to schools and other public facilities.





GOAL 3

DEVELOPING VARIETY OF LIFESTYLE CHOICES

12

MAY 2013

OBJECTIVES

To develop a choice of distinct well connected neighborhoods with their own unique character having ample local facilities at walkable distances.

STRATEGIES

- Develop variety of local neighborhoods, each with its own distinct character and identity.
- Develop high density residential developments along the BRT corridor and around the Regional Business District.
- Develop mid density residential areas around the parks and forest to promote the idea of living by the parks.
- Create more mixed use development in and around the commercial areas so as to have vibrant and active business district at all times.
- Promote mid density mixed use development along the wetland edge to promote active living by wetland edge.
- Locate schools, health centres, sports facilities, religious centres and community centres at walking distance from the living areas. Ensure these local facilities to have a distinct local character and identity.
- Promote walking and cycling within the neighborhoods by promoting sensitively designed local roads with slower traffic.



GOAL 4

INTEGRATING WITH GREENERY

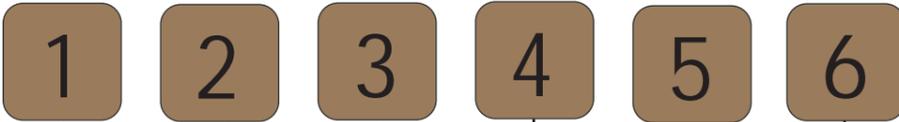
OBJECTIVES

To have a variety of interlinked open spaces which are connected to the linear greens which integrate with the wetland

STRATEGIES:

- Conserve the drainage corridors to be utilized as natural storm water drainage channels as well as green connectors.
- Conserve existing greenery in the site to be pocket parks and neighborhood parks.
- Protect the steep sloped areas (slopes greater than 20%) as areas that can have afforestation and become new public parks.
- Utilize the green buffer along the wetland as publicly accessible parks.
- Develop broad walks along the linear green buffer that will protect the wetland as well as make it accessible to be enjoyed by the public.
- Develop the roadside verges as linear greens through appropriate and planned tree planting.
- Integrate the public plazas to the larger green network.





GOAL 5

MAKING SUSTAINABLE COMMUNITIES

OBJECTIVES

To develop compact communities that live in sustainable low impact developments that integrates with the surrounding nature.

STRATEGIES

- Promote public transit through timely introduction of BRT and MRT lines.
- Develop compact transit oriented developments.
- Promote walkable compact communities with facilities at close distances.
- Develop Low Impact Development Strategies for the green areas.
- Promote green and sustainable design for buildings.
- Promote non motorized transportation e.g. cycling, walking etc. by developing cycling lanes and dedicated pedestrian areas.



GOAL 6

CREATING DISTINCT CHARACTER AND IDENTITY

OBJECTIVES

To develop precincts and districts with a distinct character and identity

STRATEGIES

- Identify distinct roles and development programs to the different areas so as to differentiate the precincts.
- Bring variety of local flavor to the neighborhoods to create more exciting lifestyles opportunities.
- Develop Urban Design Guidelines for different areas so as to promote different characters
- Promote well designed streetscapes to make the experience of moving within the districts an enjoyable experience.
- Integrate and utilize the terrain and existing landscapes to develop the character for the various precincts.



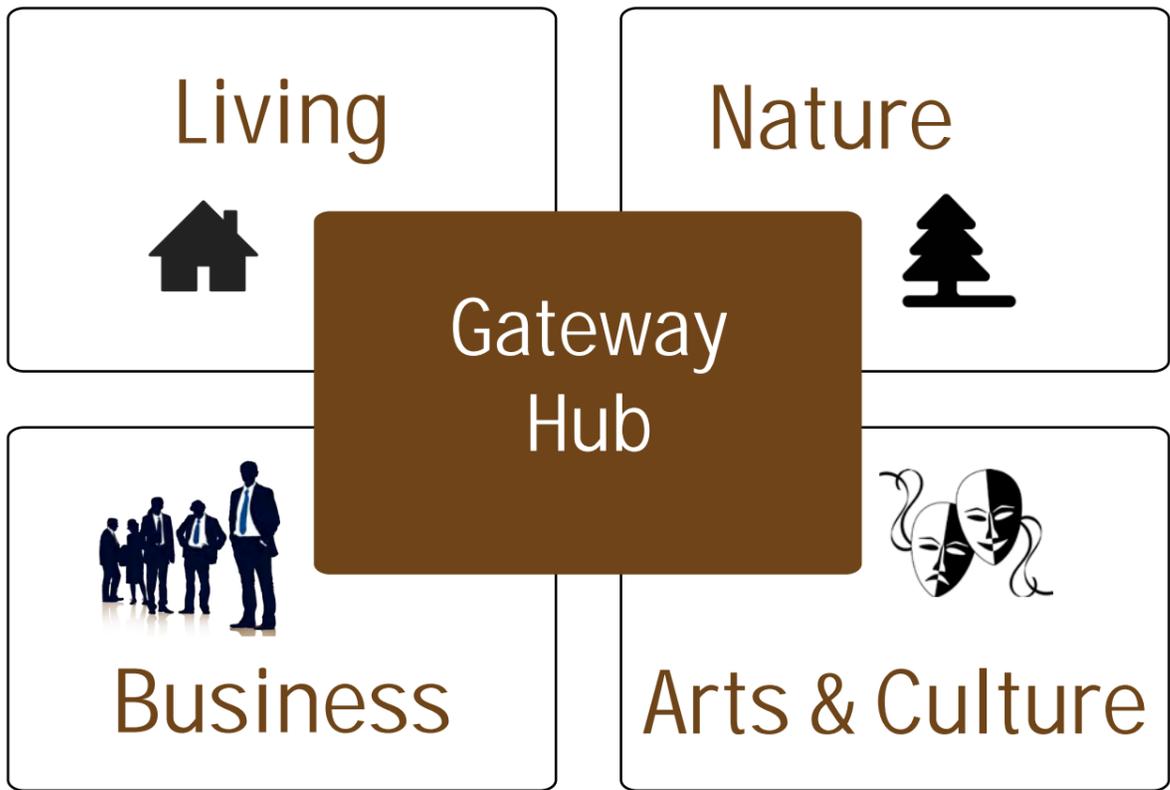
Image Source: Google Images

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4 URBAN DESIGN FRAMEWORK

Concept

Building on the Vision and Goals, the overarching concept is to develop a vibrant and attractive Regional Centre at the entry to Kigali i.e. "THE GATEWAY HUB". The key focus is on having a compact gateway development infused with greenery and activating the wetland edges.



Concept- Gateway Hub

Image Source: Google Images



Structuring the Gateway Hub

Urban Structure means the arrangement of developments, streets, open spaces, landscapes and other elements that make up the urban areas. The relationship of these various elements helps to provide a foundation to creating a good urban place.

SEAMLESS CONNECTIVITY & INTEGRATION

MAKING VIABLE AND DISTINCT DISTRICTS

ENVIRONMENTAL HARMONY AND PROMOTING WALKABILITY

CREATING IDENTITY AND SENSE OF PLACE

ELEMENTS OF THE GATEWAY HUB

SEAMLESS CONNECTIVITY & INTEGRATION

Enhanced Connectivity and integration of the urban area and the surrounding area is key for a success of the Gateway Hub. The area has been strategically sited close to the future airport. The site is well connected by public transit as well as new roads to various parts of Kigali. Key developments have been proposed to be integrated with the public transit modes such as the BRT and MRT. The integration of these various modes of travel promotes seamless connectivity allowing for ease of transfer from regional to local modes of travel. Strategic location of developments around transit nodes and integration with key areas allows for easy movement of people from the surroundings to the transit hubs.



Seamless Connectivity

MAKING VIABLE & DISTINCT DISTRICTS

Developing distinct districts within the Gateway Hub promotes creation of unique local identity and characters for the various areas. The urban form and pattern of these districts also differ providing variety of urban experiences within the Gateway Hub. These programs have been identified and located to further strengthen the regional strategies for the district without compromising on the market potential. The four key districts identified within the urban design area are the Green Regional Business District, Gahanga Cultural District, MICE District and the Lifestyle Districts. Each district will have a very distinct mix of programs, character and delivery. Together the variety of districts will help create a rich urban mix with unique identities for the Gateway Hub.



Making Distinct District (Districts, Nodes, Edges)

ENVIRONMENTAL HARMONY & PROMOTING WALKABILITY

Gahanga is blessed with nature, panoramic views, an extensive wetland edge and undulating terrain. All these natural elements combine to create a image of lush greenery. The variety of greenery and open spaces are identified and integrated in the urban framework. The green network permeates all the developments. Greenery reaches the doorsteps of all developments making it easily accessible. The walkable areas are then seamlessly integrated to the green network which steps down to the wetland edge. The edge itself becomes a conduit for variety of activities and events and a celebration of the wetlands itself.



Integrating greenery and promoting walkability

CREATING IDENTITY & SENSE OF PLACE

Creating identity means creating places that are recognizable and memorable which can strengthen the local identity of areas. Local identity should be generated from the site by its very landscape, views, local culture and experiences of the loci. New identity can be achieved by creation of landmarks and features that celebrate all these and strengthen the local character while introducing something new. Key locations and spots within the district are identified to have there markers, landmarks and special articulations which will make the area more legible and memorable. Visual axis, Vistas and View Corridors have been identified to be accentuated in the urban design to further enhance the experience of the site and improve way finding.



Creating Identity (Landmarks, Views and Vistas)

Promoting Balanced Growth

PROPOSED MASTER PLAN

LAND USE DISTRIBUTION

A strategic and organized land use is necessary for a successful development. The proposed land use plan has been developed with a purpose of strengthening the overall Urban Design concept and re-enforcing the regional strategy. The master plan provides a balanced distribution of land uses in line with the transit oriented development where higher density and more intensive developments are located along the major roads and transit corridors.

COMMERCIAL AND MIXED USE:

The strategy is to create integrated mix developments distributed at key areas to create lively destinations. The Regional Centre has a large commercial component. The commercial and office areas are located along the main road with access to the BRT. The commercial is surrounded by mixed use developments. Mixed use developments are also proposed along the wetland and other transition zones which will help to create active areas. A high-tech Business Park is proposed at the entry to showcase Gahanga as a progressive gateway hub.

Big box developments like the MICE & Expo have been placed at the edge of the development to become part of the urban mix. Smaller commercial development & mixed use are injected within the big boxes to increase vibrancy and activate the street frontage.

Neighborhood Centres and localized commercial are evenly distributed within the residential areas, which will help to create local identities and focal points for the neighborhoods.

RESIDENTIAL USE :

A variety of residential developments are mixed to promote social diversity. Higher density residential developments are proposed along the transit corridor and are injected close to the Regional Business District. Similarly other areas have been identified to be developed as mid density developments. Low density developments are proposed for the peripheral areas. Affordable housing is proposed to form a significant component of the medium and high density residential and promote a diverse society.

INSTITUTIONAL AND CIVIC USE :

The strategic points with vantage views are developed as areas with unique identity by designating them for civic and cultural developments. Similarly major developments such as hospitals and colleges are proposed close to the civic areas to create a distinct development cluster. All these facilities are located at close proximity to the BRT system.

PUBLIC FACILITIES :

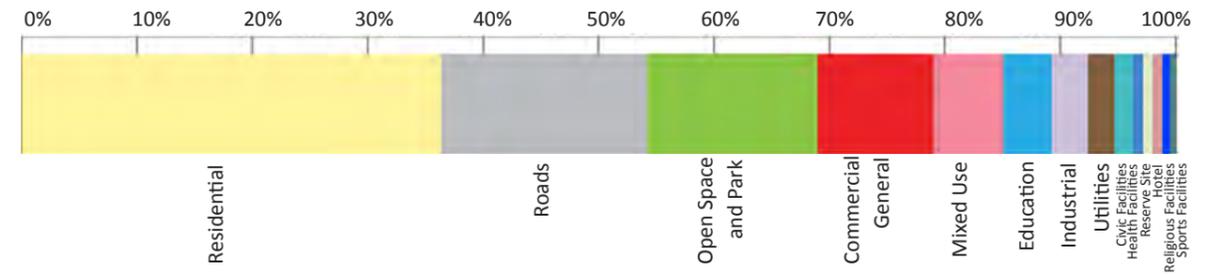
Public Facilities that service the residential areas become the local focal areas creating a sense of belonging. Developments such as schools, religious & health centres have been clustered and evenly distributed as per population catchment and are located at walkable distances within residential areas.

OPEN SPACES :

High quality landscape are proposed by utilizing the steep slopes, drainage corridors, wetland buffer. Parks of various scales have been identified as open spaces and form an integral structuring element.

INDUSTRIES :

Existing industries have been identified as heavy industry due to its polluted nature and will require a minimum buffer from the residential areas.



Proposed Land Use Plan for Gahanga Regional Centre

1. High Tech Business Park
2. Gateway Pedestrian Bridge
3. Gahanga Square with Bus Interchange
4. Gateway Business District
5. Urban Steps
6. BRT Stop
7. MRT Stop
8. Entertainment Precinct
9. Gallery & Entertainment Promenade
10. Wetland Interpretation Museum
11. Eco-Pond Gardens
12. Mixed Use Development
13. College/ Institutions
14. Hotel Precinct
15. Hospital
16. Regional Library
17. Cultural Centre
18. Cultural Centre Outdoor Plaza
19. Viewing Deck & Seasonal Gardens
20. Pedestrian Bridge
21. Rwandan Arts Museum
22. Linear Museum Deck
23. Schools
24. Linear Park
25. Neighborhood+ Community Centre
26. Sports Centre
27. Church
28. Community Club
29. Quarry Park
30. Expo Halls
31. MICE Development
32. Expo Plaza + Thematic Market
33. Gahanga Woods
34. Expo Promenade
35. Flower Garden
36. Linear Wetland Park
37. Wetland Education Park+ Boardwalk
38. City Park
39. Medium Density Housing
40. High Density Housing
41. Existing Industry
42. Public Car Parking
43. Gahanga Wetland
44. Gahanga Boulevard
45. Low density Housing
46. Single Family Housing



Density and Urban Form

QUALITY URBAN FORM WITH DENSITY

URBAN DENSITY AND URBAN FORM

Density is merely a measure. The key objective is to create a critical mass of people to sustain the urban services and developments. Density is not a determinant of quality of the urban form. Monotonous repetitive designs and poor spaces for the same density can result in bleakness and poor urban quality. However, higher density with higher urban quality and design can result in a better urban form of higher value.

Higher density is not necessary to be equated with high rise as many areas with high density are low rise as buildings there can have larger ground coverage. Attention to creating places with human scale, appropriate building massing and high quality urban landscapes can have high density yet have character and are comfortable to live in.

DENSITY PROFILE FOR GAHANGA

The need to increase the density of developments in Kigali to house the future population and to optimize the infrastructure upgrading is one of the key drivers for higher density developments along the transit corridors. The existing Kigali - Nyamata road within the urban design area is upgraded to accommodate dedicated BRT line. Hence, higher density development is proposed along the BRT Line. Similarly, a future MRT line is proposed to connect the City Centre to the Future Airport. Higher density and more intensive developments are proposed for areas around the stations. Two such stations are proposed for the Gahanga Gateway Hub around which higher density development is proposed. Refer “Public Transit Strategy” on page 38.

URBAN FORM IN CONTEXT TO GATEWAY HUB

The density and urban form relates to the context. As Gahanga is located on the slopes and forms an attractive backdrop at the entry to Kigali, the urban form responds and complements the landscape. Very high buildings on the slopes is not preferred at the regional centre. To maximize the views, medium rise developments punctuated by greenery along the slope are proposed. A variety of typologies and mix of densities will create a varied and exciting urban form. Some of the principles for the urban form are:

- Urban form steps down to the wetland
- Streets with human scale and community open spaces.
- Building working with slopes.
- Clear street edge along the commercial areas with active uses at the ground level.
- Medium rise developments with few iconic

buildings and special articulation.

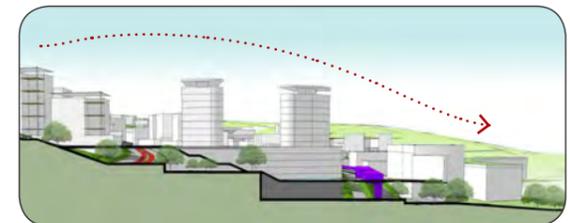
- Punctuate dense urban areas with well landscaped urban spaces and greenery to create relief.
- Attractive streetscapes which are pedestrian friendly.
- Attractive roofscapes.

VISTAS AND SKYLINE

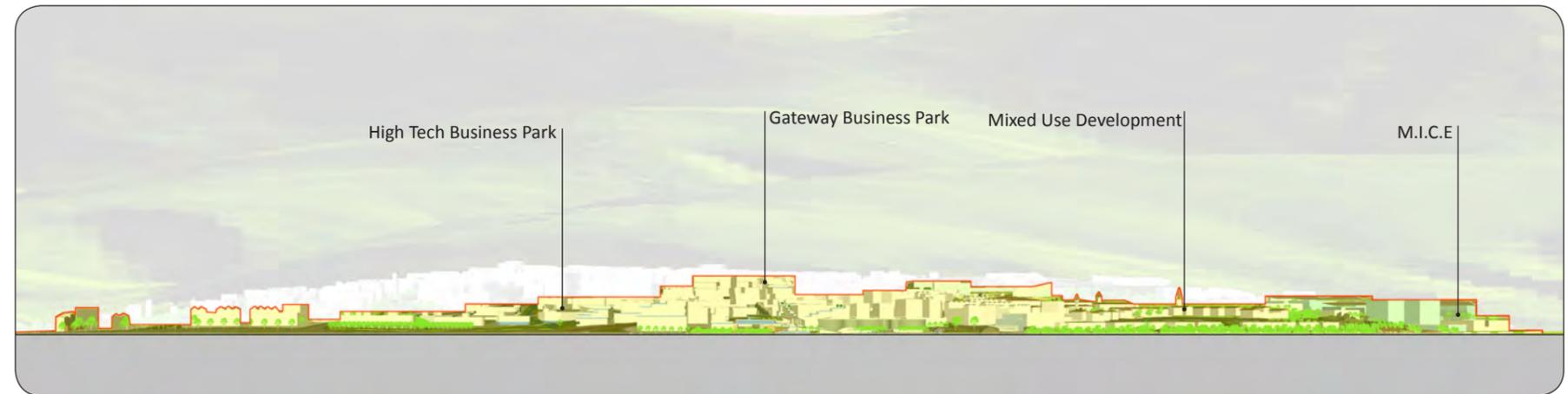
The natural terrain of the site provides for a distinctive backdrop for a unique skyline which emphasizes the natural land form. The plan identifies key areas that will provide distinct high points in the skyline with the large wetland in the foreground. Vistas along the slopes are visible as green corridors. The key districts also form the focal points within the urban areas.



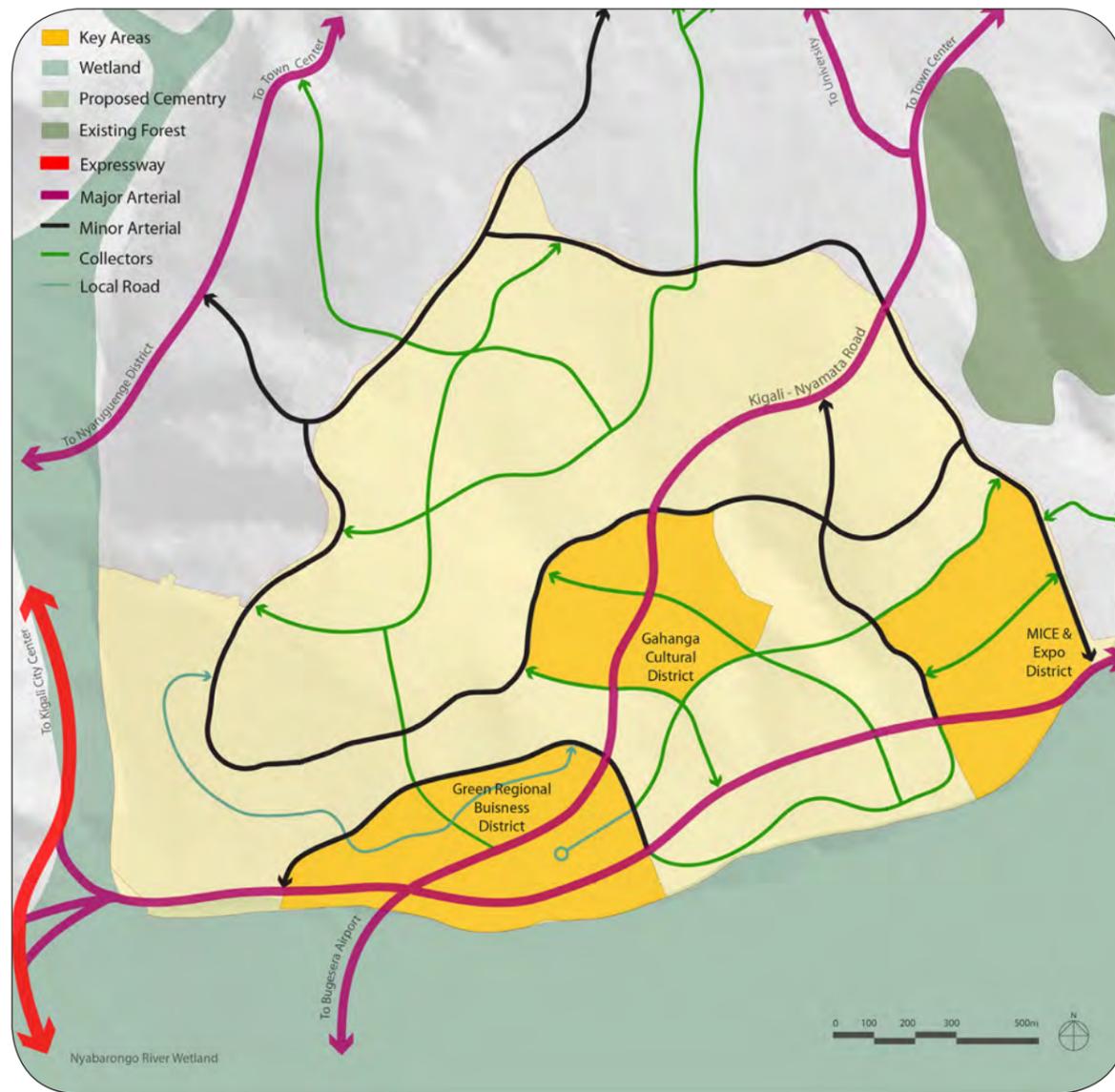
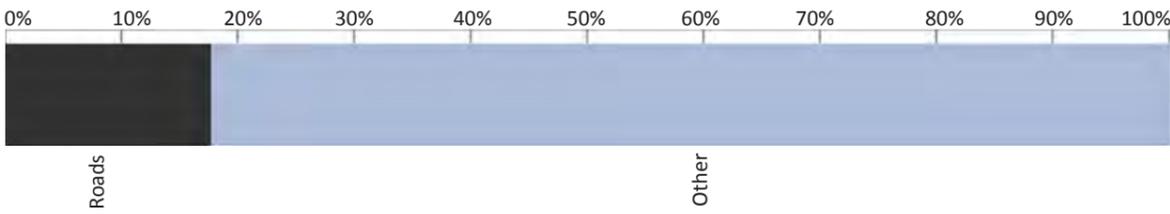
Buildings working with slopes



Stepping Down to the wetlands



Gahanga Skyline



Proposed Road Network Plan

Enhancing Connectivity

MOVEMENT STRATEGIES

The movement strategy for Gahanga Hub focuses on streets, transit and pedestrian connectivity within and to the surrounding urban areas. The objective of the movement framework:

- To provide choices of journeys to the people
- To provide a street network of clear and safe routes
- To anticipate the movements generated by developments and provide connections

STREET NETWORK

The proposed street network in the Urban Design area builds from the existing main road and rural roads. The alignments and slopes are utilized to create a clear hierarchy of roads in the urban area. The streets are defined by capacity and character which can be categorized as: Arterial, Collector, Local Road, Cul-de-sac.

ARTERIALS

The high capacity or major arterial roads are the key regional connectors providing connections across the city. Provision of additional alternative routes reduces the traffic levels in these roads within the Gateway Hub. The intention is not to make these roads merely as fast thorough routes which can become separators of communities, but provide ways of stitching them into the urban area. Integrating the key public transit (BRT & MRT) into these road helps to convert these roads into the main activity corridors is one such strategy. In addition, the BRT route in the Gateway Hub has been developed as an urban avenue with retail activities and special street landscape. Pedestrian and cycling facilities along these routes helps to make the corridor

more vibrant and attractive and better connected to the surrounding. The site has two main major arterial roads. The existing Gahanga Road is upgraded to be a BRT integrated major Arterial road. A new Major arterial road is introduced along the wetlands. Minor Arterial roads connect the key districts and help to disperse the traffic in the the larger roads.

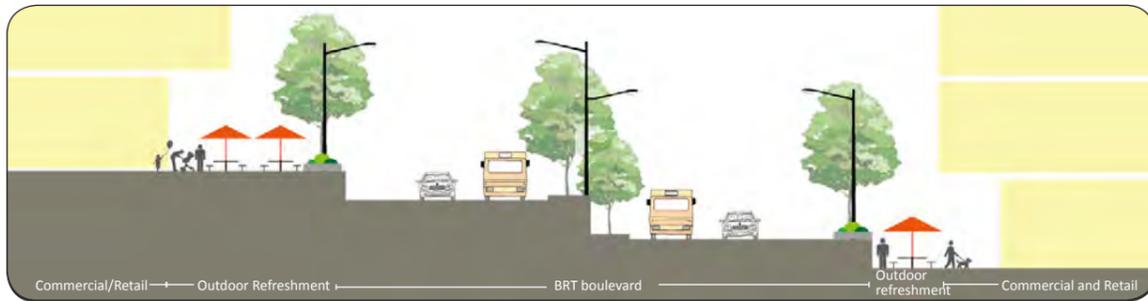
COLLECTORS AND LOCAL STREETS

These secondary level collectors roads help to link up the various precincts and neighborhoods together. These roads will cater for more local activities and pedestrian movements and cycling so as to make the areas they pass through feel safe and pleasant.

Within the neighborhoods the local streets are specially design with traffic calming measures or 'slow streets'. These are streets that give priority to the pedestrians and cyclists and urban spaces. Here the road flows through the spaces without dominating the surroundings. Buildings are also encouraged to form a street frontage with footpaths, and minimum carriage ways are provided. This will produce low traffic speeds but quality streetscapes for residents.

STREETS AS SOCIAL SPACES

For the streets to become active spaces for quality interaction, traffic calming is necessary. Traffic Calming is the deliberate slowing of vehicular speed on roads to get a better balance between pedestrian and traffic speed. It can be done through medians, traffic islands, chicanes, bollards, crossings, raised junctions, curb extensions etc. Quality lighting and landscape and tree planing schemes will improve the aesthetic quality of the streets and improve the users experience. These measure along with activity generating uses, footpaths and cycling lanes along the streets will make the streets safer, and more attractive and a quality public space not only for cars.



Proposed Typical Road Section - Arterial Roads - BRT Boulevard near Gateway Business Park



Proposed Typical Road Section - Collector Roads



Proposed Typical Road Section - Local Roads



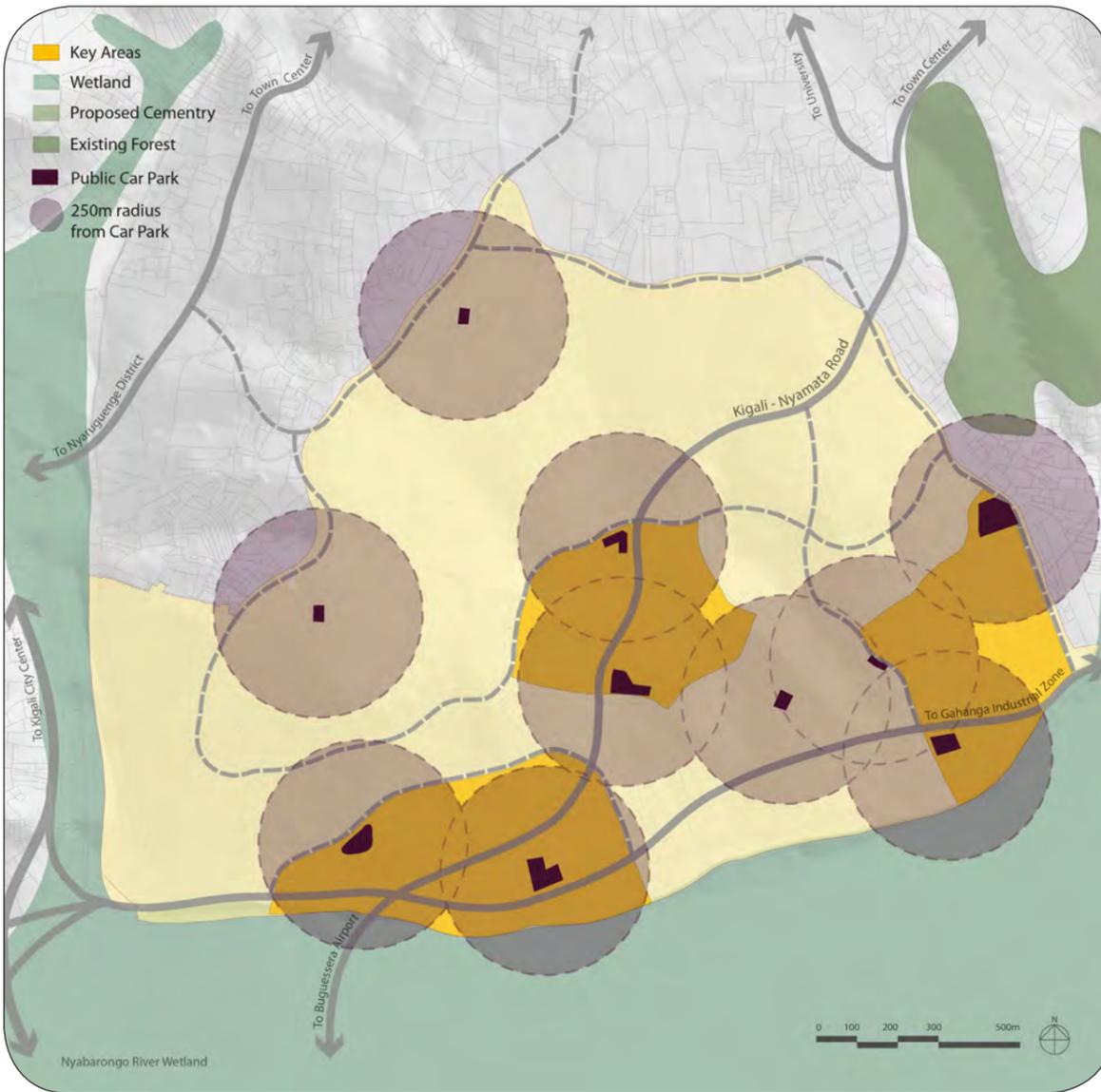
Proposed Typical Road Section - Arterial Roads with Public Transit (BRT)



Proposed Typical Road Section - Arterial Roads (MRT Corridor)



Traffic Calming Measures



Public Car Park Location Plan

Image Source: Google Images

PUBLIC CAR PARK STRATEGIES

CAR PARKING IN URBAN DESIGN AREA

The plan promotes public transport usage, however car parks for private vehicles needs to be adequately provided as they are integral part of a successful development. Off-street car parks are encouraged and all developments are required to provide on site car parking as per the proposed zoning regulations. Car parks in developments however should be done sensitively so that it doesn't dominate the other uses and become a eye sore. Potential locations for designated public carparks are identified for easy access near major destinations. These public carparks are be integrated with the proposed developments. Communal parking spaces are encouraged, where the parking space is used by multiple users at various times.

CAR PARKING STRATEGIES

Some strategies are proposed while developing car parks in the Gateway Hub:

- Try to place car parks behind, under, above(Multi Storey Car Parks) or to the side of the buildings to allow more street frontage for buildings.
- Provide landscape softening or screens at the road side to allow better street frontage.
- Provide serving areas of buildings at the rear and frame with the building.
- More greenery for surface car parks by adequate space for landscapes and trees. Surface parking should also have low impact water management systems.
- Selective locations for on-street car parks at local and collector roads can be effectively managed to provide traffic calming measures.



Integrated car parks at transit hubs



Landscaping in surface car parks

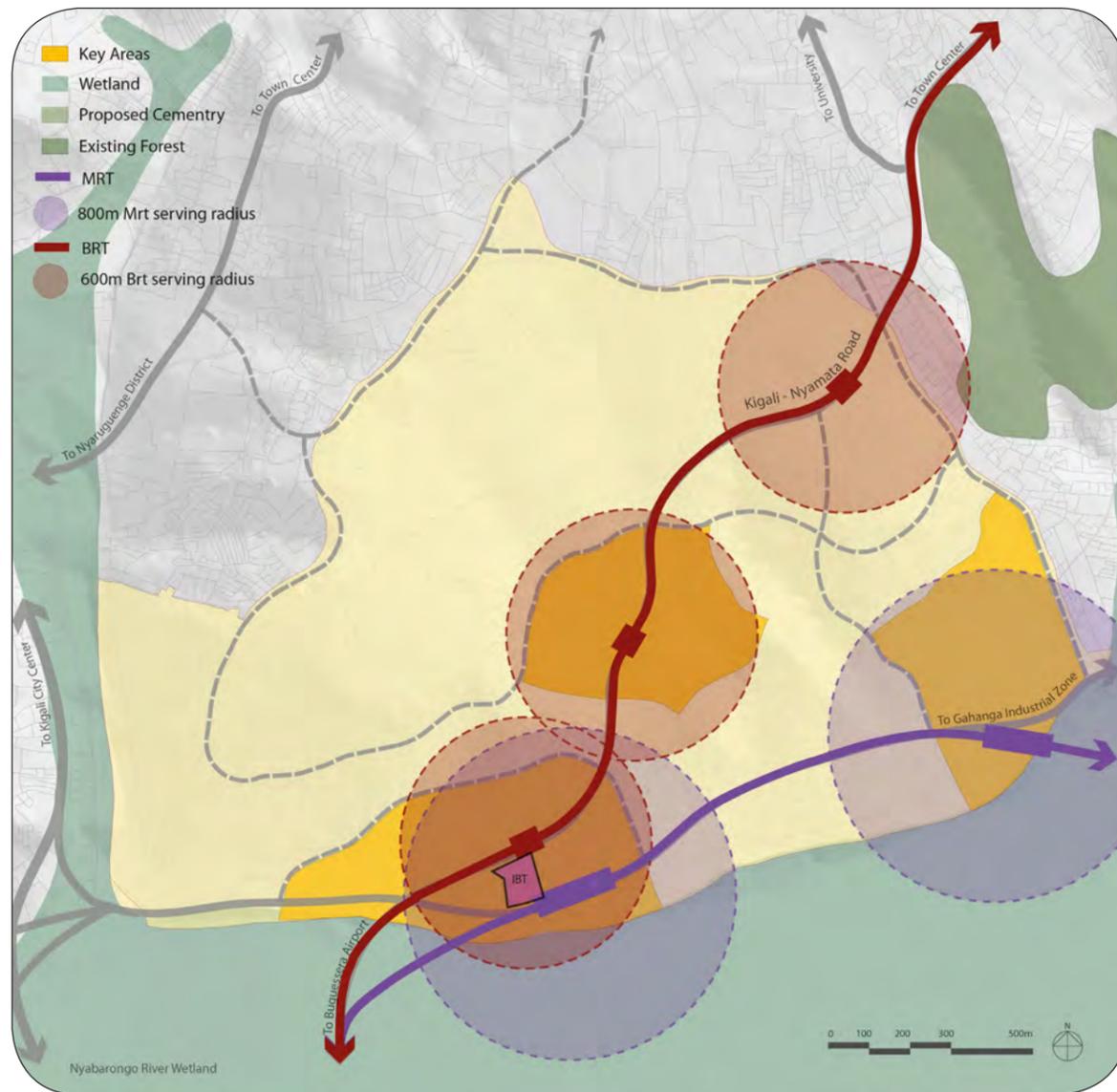


Soften and screen multi storey carparks (MSCP)



Selective Road side carpark as traffic calming





Public Transit Strategy

PUBLIC TRANSIT STRATEGY

The public transit in the form of BRT line is the key organizing element of the Urban Design area. Developments are organized along the transit corridor with the key district located besides the BRT stops. A bus interchange to cater to other regional and feeder buses is also developed at the Business District core. In the future a MRT line is proposed which will extend to the Bugesera Airport.

BUS RAPID TRANSIT

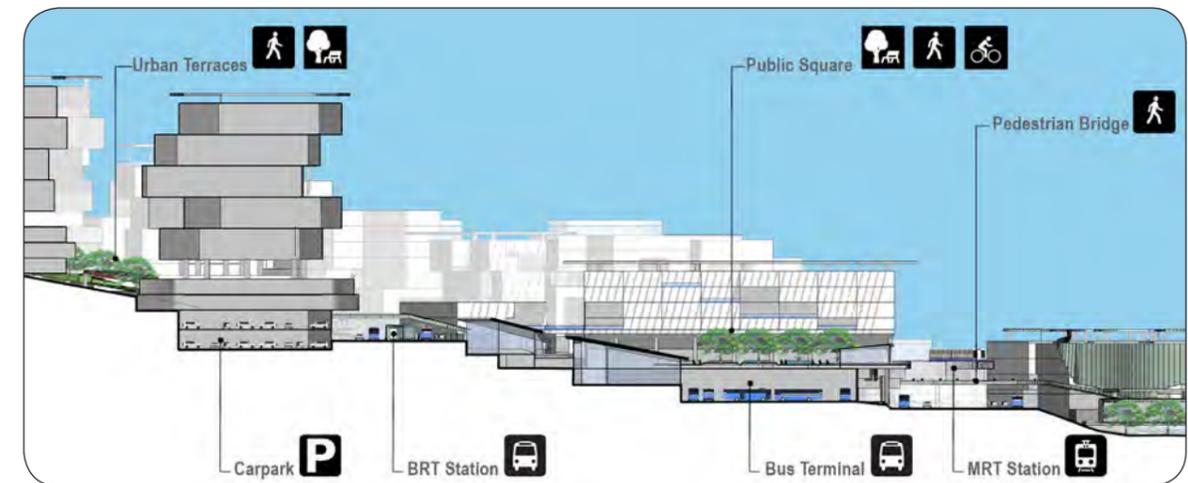
A dedicated BRT Line is proposed to link the Business District and the Cultural District to the Muhima CBD. The high density developments are located around this transit corridor, provided there is enough catchment population to sustain the infrastructure. The bus stops are located close to the junctions or are provided with overhead pedestrian bridges for better connectivity.

MASS RAPID TRANSIT

With adequate catchment population and affordability, an elevated mass rapid train system is proposed in the urban design to be developed in the long term to connect the CBD to the future Airport. This MRT line will stop at the MICE district and the Business District of the Regional Centre. Provisions for the stations and future connectivity are provided for in the urban design.

AN INTEGRATED TRANSIT HUB

A new bus interchange is proposed at the Business District. The bus interchange is located under the main plaza and is well integrated to the surrounding developments. The interchange is also well connected to the BRT stop and the MRT station. This Integrated Bus Terminal (IBT) will be in the heart of the Business District. It will cater to the regional buses, local feeder routes and special airport routes linking the Regional Centre with other parts of Kigali as well as the future Airport.



Seamless Connectivity: Integrated Transport System at the Business District

Quality Landscapes for the Gateway Hub

LANDSCAPE STRATEGY

Currently Gahanga is mainly agricultural with fields and trees and few houses. With urbanization much of the area will be built upon. However the plan envisions Gahanga to still maintain its green identity with plenty of quality landscapes. All natural open spaces, streetscapes, public & private open spaces contribute to creating the quality urban landscapes. The urban design aims to create a cohesive landscape structure with a sense of place. The urban design landscape strategy for the Gateway Hub is to have quality landscapes which focuses on:

- Integrated green network
- Distinctive public open spaces for all ages
- Urban Greenery

INTEGRATED GREEN NETWORK

The vast wetlands edging Gahanga are its greatest natural & ecological asset. The sloping site naturally creates gullies and storm water corridors linking down to this wetland. The Green Network builds on this by identifying and linking the interconnected network of waterways, wetlands, green buffers, woodlands, wildlife habitats, steeped sloped areas and other natural areas. This Green Network frames the other urban developments introducing seamless green connectivity encompassing cycling routes and footpaths, as well as 'wildlife corridors' and storm water management system.

DISTINCTIVE PUBLIC OPEN SPACES FOR ALL AGES

A variety of open spaces including hard and soft landscapes, active and passive spaces, and large and intimate spaces have proposed for the Gateway hub.

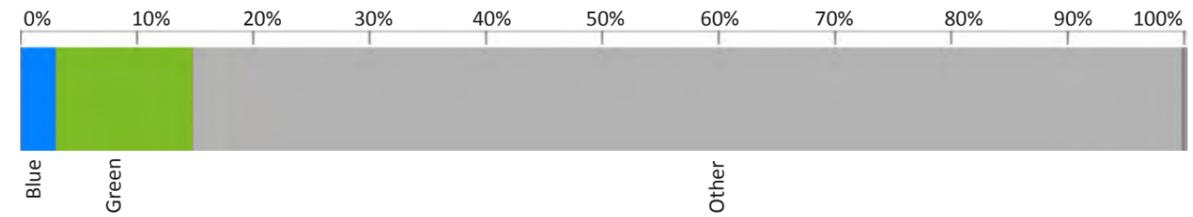
Different types of parks are distributed throughout the area providing variety of recreational activities close to living and working areas. The existing quarry is redeveloped as a Quarry Park which has various recreational activities like flower conservatory, natural water ponds, kids play area etc to attract people of all ages. The wetland buffer itself is divided into variety of public open spaces. Some are active and vibrant such as the entertainment promenade parks, while others are educative such as the wetland conservation park. A flower garden park is also proposed as part of the wetland buffer. The natural drainage is converted into linear parks connecting down to the wetlands. Within the urban areas, plazas and smaller squares are also proposed. The variety of open spaces are all interconnected and are located at walking distance from the neighborhoods.

URBAN GREENERY

Vertical greenery are proposed for buildings to soften the developments. Similarly the streets and plazas are proposed to have quality landscapes and tree planting strategies. Areas will have a unique sense of place through tree planting. To create a sense of arrival the main urban avenue will have colorful flowering trees. Tree planting within developments will also help the buildings on the slope to blend harmoniously with the landscape.



Buildings blending harmoniously with the landscape



Proposed Green Network Plan

Image Source: Google Images

Green Transport Choices

NON-MOTORIZED TRANSPORT

Walking and cycling are important components of the Gateway Hub. The 'Five C'¹ principles (Connections, Convenience, Convivial, Comfortable, Conspicuousness) are key to address walking and cycling in urban areas.

PROMOTING CYCLING WITHIN THE REGIONAL CENTRE

Safe and convenient cycling within neighborhoods and between districts is integrated into the street network system. Cyclists are provided with clear cycling lanes along the pedestrian footpaths connecting key areas. Recreational cycling routes along the parks and green network also allow connections within and beyond the site. Provision of safe cycle storage areas at popular destination and close to stations and stops help promote cycling as a popular healthy and green alternative to cars within the Regional Centre.

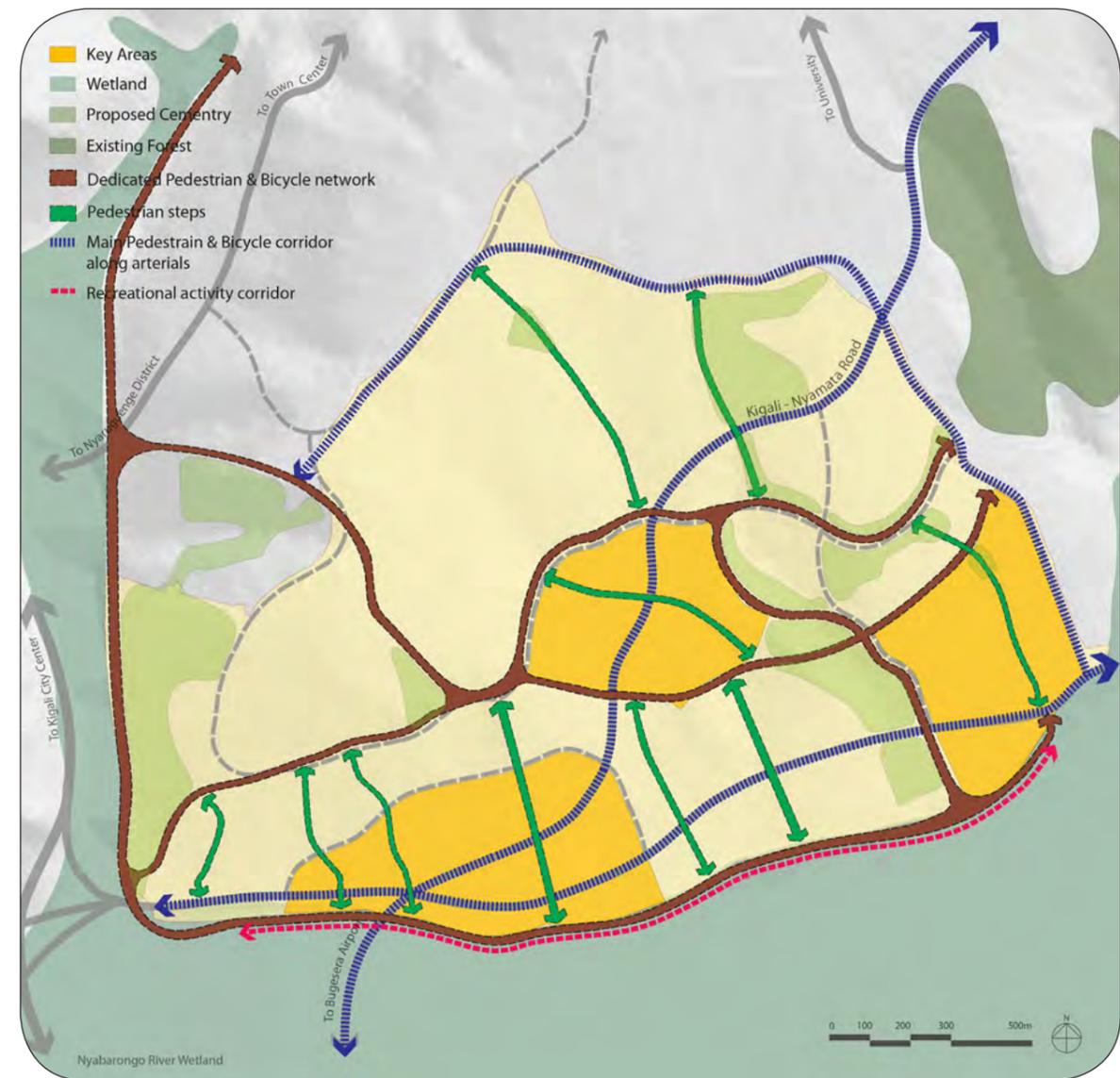
1 Urban Design Compendium (English Partnership, The Housing Corporation)



Cycling paths along the roads (left); Recreational Pedestrian Connectors at the wetland edge (Right)

ENCOURAGING WALKING & CAR FREE AREAS

Urban steps, green connectors, linear parks, landscaped walkways, all weather arcades all contribute to the walkable Regional Centre. Slow Streets and traffic calming measures help make the neighborhood roads more safer and friendlier for pedestrians. Well lit, barrier free and designed curbs and walkways make the experience safer for all users. Provision of pedestrian bridges and steps make walking and crossing busy roads more easier in the sloped areas. Direct and visible landscaped walkways along activity areas make the journeys more pleasant. Variety of recreational and playful routes are also incorporated within the open spaces to make walking and jogging a fun experience at the Gateway Hub.



Proposed Bicycle & Pedestrian Network Plan



The Vibrant Gateway Hub of Kigali

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5 KEY TRANSFORMATIVE MOVES



Key Nodes and Features

KEY MOVES

The key strategies for the transformation of the Gahanga Gateway Hub focuses on creating:

- Linear Greens
- Distinct Precincts
- Variety of Lifestyles

These special features will create distinct character and identity for the Gateway Hub which will make the places more attractive, memorable and enjoyable.

LINEAR GREENS

Gahanga will have a variety of open spaces and parks for the residents to enjoy. The green are also connectors linking various precincts and places. The two main types of open green spaces are:

- Green Corridors
- Wetland Parks

DISTINCT PRECINCTS

Distinct areas in Gahanga have special roles and uses which will attract different activities. The three key areas are:

- Green Business District
- Cultural District
- MICE & Expo District

VARIETY OF LIFESTYLES

Choices in living areas and convenient location of amenities and facilities are provided for the population living in Gahanga. To make Gahanga an attractive place to live the following features are provided:

- Lifestyle Choices
- Community Anchors



A Green Corridors

USING NATURAL AREAS TO CREATE GREENS

The natural areas in the site which have been identified for protection, such as steep slopes and natural drainage corridors, are developed as open green spaces. These natural areas also connect various parts of the Regional Centre and form Green Corridors. Some of the various types of Green Corridors are:

COMMUNITY LINEAR GREENS

These are the natural storm water channels that are developed not only as low impact natural drainage corridors, but also work as community open spaces. They work to integrate the developments and the open spaces. In residential areas, these linear greens can have pedestrian footpaths, pocket parks, and playgrounds with small activity spaces. In urban areas they can have retail and food areas integrated with them as is proposed at the Urban Steps at the Regional Centre.

GAHANGA WOODS

The steep areas are planted with trees for slope stabilization and also become the local parks. These green areas can be neighborhood parks for the surrounding residents to enjoy with pedestrian pathways. Gahanga Woods is one such cluster of afforested area along the slopes which is surrounded by residential areas. The developments can take advantage of the lush greenery and the continuous greens.

QUARRY PARK

The landfill quarry area is identified to be rejuvenated as a city level park with attractions, gardens, ponds, and activity features. The park will cater to all age groups with variety of activities. It will also have sections for children, adventure activity areas, calm and serene gardens and exercise areas and lawns for picnics and activities.

Image Source: Google Images



Green Corridors



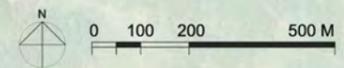
The proposed road infrastructure near the wetland shouldn't affect the endangered species and the eco-system around the wetland.

What are the proposed strategies by the master plan to protect the existing wetland?



Linear Green Corridors

- 1. Existing Forest
- 2. Gahanga Woods
- 3. Steel factory Buffer
- 4. Quarry park
- 5. Stepped Terraces
- 6. Linear Park
- 7. City Park
- 8. Urban park
- 9. Urban Steps
- 10. Gahanga Square
- 11. Riparian Buffer
- 12. School Fields
- 13. Gahanga Gateway Park
- 14. Entertainment Promenade
- 15. t Pond garden
- 16. Linear Wetland park
- 17. Flower Promenade
- 18. Expo Promenade
- 19. Community Garden



B

Linear Wetland Parks

ACTIVATING THE WETLAND BUFFER

The mandatory green buffer along the wetland edge is provided with variety of activities and uses to activate the wetland edge. The entire 2 km of wetland along the Regional Centre will have a variety of parks to attract people to the continuous public wetland edge. The key open spaces along the wetland edge are:

GAHANGA GATEWAY PARK

This is the park at the entry to Kigali City. The linear park along the wetland will have passive uses such as cycling & jogging paths. A green overhead landscaped bridge links the Business Park area and marks the entry to Kigali.

WETLAND EDUCATION PARK

Part of the buffer is developed as a Wetland Education Park with an Information Centre, galleries, boardwalks, and wetland appreciation areas to promote the wetland conservation in Kigali.

ENTERTAINMENT PROMENADE & ECO- GARDEN

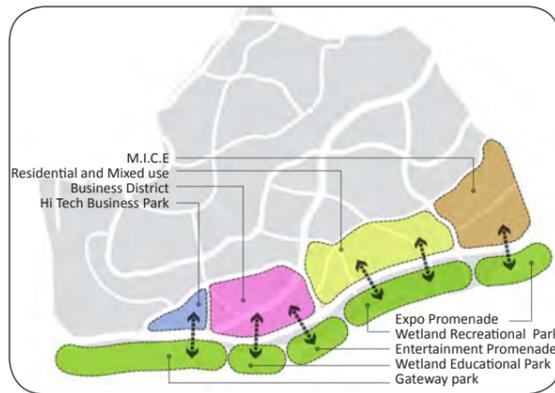
The area along the Entertainment Precinct is to be developed as an active promenade for activities complementing the Entertainment Precinct. It will have kiosks, alfresco dining areas, promenade decks, art galleries and open spaces for a variety of activities. The eastern edge of the promenade has a Eco-Garden with a bio-retention pond.

FLOWER GARDEN & EXPO PROMENADE

The wetland edge along the MICE is to be developed as a landscaped plaza with promenade and activity areas. It will have restaurants spill over areas and public art features. The Flower Garden is located besides the Expo Plaza and will showcase the variety of flowers found in Rwanda. A Linear Residential Parks connects the flower garden to the Entertainment precinct.



Activating the Wetland Edge



Linear Park along the wetlands



Image Source: Google Images



A Green Gateway Business District...

There is a need for monuments or land marks in the selected urban design areas.
- OSC



The Regional centre will have a different identity from the Muhima CBD



The slopes should be utilized as well as the existing infrastructure while making the Regional Centre



Gateway Business District



Green Regional Centre



An Iconic Gateway Development at the Entry

CONCEPT

The Business District will be the economic driver for the region. It will be the region's hub for retail, commerce, banking and financial services. It is also positioned to be a Knowledge Hub with a high tech Business Park. It is strategically located at the entry to Kigali creating a strong sense of arrival. It is well connected with the city centre and the future airport at Bugesera.

KEY IDEA

The Business District is envisioned to be a 24 hour city with a vibrant and thriving business, retail and shopping areas which is also well integrated with the surrounding nature. The key strategies are:

- **Compact:** The Business District is proposed to be compact and walkable with variety of developments at close proximity. It will have high quality office spaces catering to need of businesses.
- **Transit Integrated:** Sufficient density of jobs is proposed in the Business District to support variety of public transit. Developments are also closely integrated with the BRT stop, and the future MRT station. A regional bus terminal and integrated public car parks are also provided.
- **Attractive Public Realm:** A variety of streets and open spaces are present in the Business District. They are all well integrated and form an attractive seamless movement network. There are grand boulevards and intimate pedestrian streets, and landscaped overhead bridges making navigation easy. The Gahanga Square will be the central public space with other public plazas and promenades.
- **Green Development:** Strategies and incentives for a sustainable and green Business District are provided to showcase the development at the gateway to be a 'Green Development'.

Place Making Strategies

High Tech Business Centre

Connected Business Centre

Creative Knowledge Hub



Potraying Progressiveness with Green Technology



Compact modern offices and iconic public spaces

Image Source: Google Images

Urban Park

The local urban park is located within the residential precincts. The parks is the publicly accessible green space for the residents and is connected to the Urban Steps.

Regional Centre MRT

Overhead Pedestrian connections enable easy accessibility over roads. They link the Entertainment Precinct and the Commercial area with the MRT station.

Wetland Education Park

The Wetland Education Park is a place to understand the wetland systems of Rwanda. It is a venue for environment awareness events, workshops, galleries, nature museums etc. It is also a place for nature walks, outdoor events, and picnic areas. A continuous boardwalk connects this park with entertainment precinct.

The Urban Steps

The Urban steps is a linear green in an urbana area which connects the residential areas to the wetland. Various public verandahs with cafes and outdoor spillover and overlooks the urban steps. Pedestrian bridges over road make movement along the urban steps a seamless experience.

The Gahanga Square

The Gahanga Square is the central open space in the Regional Centre that is strategically located above the Bus interchange. The 'Urban Steps', a continuous pedestrian connection, links the Square to the entertainment promenade and the linear green park. The landscaped square is also surrounded by retail and active commercial areas.

The Entertainment Promenade

The The Entertainment promenade forms the vibrant edge of the regional centre. It is an publicly accessible active wetland edge with landscaped decks, alfresco dining, kiosks and public art etc. It is connected with the rest of the city with both MRT and BRT.

Stepping Down to the Wetlands....



Gahanga Green Business District - Illustrative Plan

KEY URBAN FEATURES

The Green Business District of Gahanga will be more than just office spaces. It will have a variety of developments and spaces that are very vibrant and active at all times. Some of the key features are:

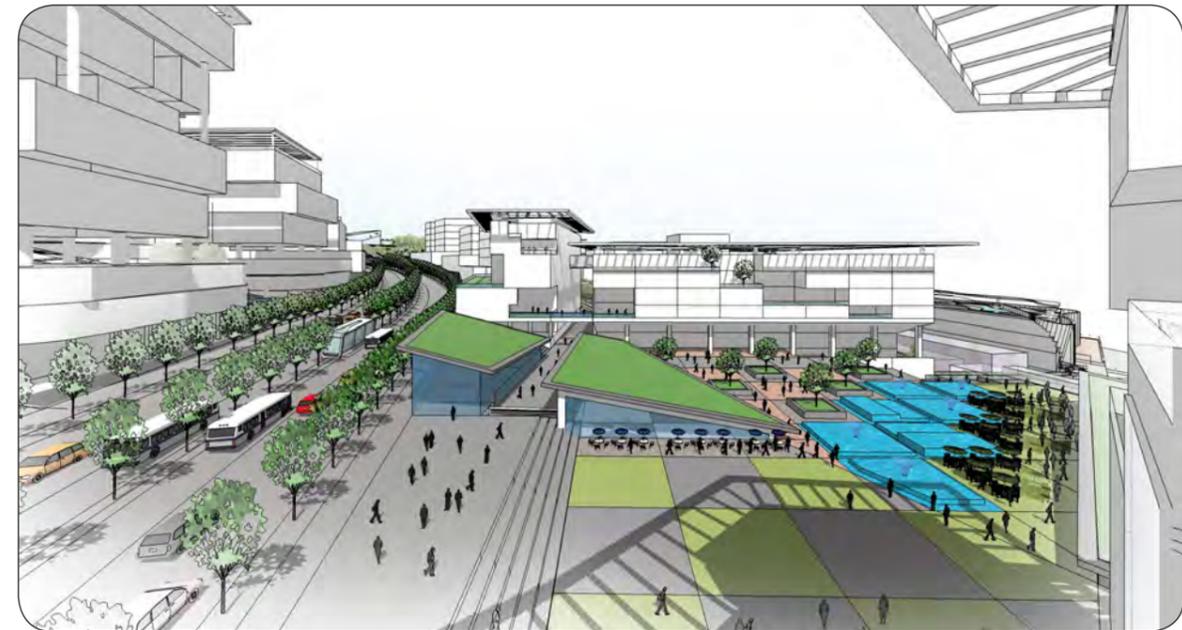
A HIGH-TECH BUSINESS PARK

The 4.6 ha High tech Business Park is located besides the business district. It will act as an innovation hub attracting variety of technology companies and people with ideas. It will be an incubator for new technology based companies and a key component driving the knowledge economy. The Business Park will have a campus like ambience surrounded by greenery. The development will act

as a showcase for green buildings promoting energy conservation. It will have features like green roof, solar panels, rain gardens etc. The development is also connected to the wetlands by the Gateway Pedestrian Bridge. Green Corridors connected to the wetlands permeate the developments. These Green Corridors are the natural drainage and form internal parks and movement corridors.

MODERN OFFICE AND SHOPPING DISTRICT

A compact cluster of commercial developments at the entry to Gahanga forms the Business District. It is located on both sides of the landscaped Gahanga Boulevard, which will be planted with special flowering trees. Both sides of the boulevard (BRT Corridor) will have commercial buildings with active



Buildings edged with vibrant arcades along the boulevard



ground floor uses. The mandated minimum setback will create a clear building edge with arcades along the major streets. Urban vertical greenery and urban balconies are also promoted in these developments to create a vibrant commercial corridor. Connections at a higher level are also proposed. The office buildings are to have larger floor plates to be flexible enough to accommodate more variety of development programs. The BRT stop is centrally located within the district and is located close to the central Gahanga Square. Developments around the Gahanga Square are to be integrated with the plaza and the bus interchange. The buildings are also designed to take advantage of the slopes and will have access from different levels. Vehicular access into the developments from the boulevard is not allowed so as not to hamper the traffic flow. Provision for access from the rear are provided.

GAHANGA SQUARE

It is the central public square in the Business District. It is surrounded by commercial development and retail shops. The landscaped square will have a visitor information centre, cafes and restaurants and public art. It is a venue for events and activities. The square is also strategically located between the BRT & the future MRT. The Gahanga Square is integrated with the regional bus terminal located below them. The square is developed as a landscaped roof of the bus terminal. The square is surrounded by a continuous retail arcade which will help to make the area vibrant. Special lighting and Public Art is proposed for the plaza to make the spaces more intimate and playful. The developments around the square are seamlessly integrated to the bus terminal located below it. The developments around the plaza are kept relatively low to ensure a human scale to the space. The buildings are also proposed to have special articulation to create a distinct character to the space. The plaza also

forms a viewing platform that overlooks the wetland and the entertainment promenade.

URBAN STEPS

The Urban Steps is a part of the green pedestrian network and a key feature of the Business District. It is an example of the green corridor in the urban area. The Urban Steps form a seamless connection linking the high density residential areas to the wetland, passing through the central Gahanga Square. Various activities occur in different sections of the Urban Steps. It is the central spine and the main movement corridor within the business district. It starts as a neighborhood park in the residential area. It gains vibrancy and activity in the commercial areas with restaurants & cafes opening into it. It connects to the BRT through an overhead bridge, and continues to the Gahanga Square. Within the square it integrates with the development. The pedestrian linkage further extends over the road and connects to the MRT station. It further connects to the entertainment precinct and eventually steps down to the wetland entertainment promenade.



The Urban Verandahs look into the Urban Steps

ENTERTAINMENT PRECINCT

The Entertainment Precinct is an iconic development located between the Business District & the wetland. It is a strategic development that aims to activate a section of the wetland edge, at the entry to Kigali. It's an integrated mixed use development and is well integrated to the future MRT. It is also connected to the Gahanga Square and the Bus Interchange by the urban steps linkage. It consists of hotel, retail, restaurants, museums, theatres and various entertainment programs. The precinct is strategically located to take advantage of the business district as well as the traffic from the MICE development. It is also located close to the wetlands to take advantage of the scenic views. The proposed buildings are low-rise to prevent obstruction of the views. The development has active edges on both the street as well as the wetland edge. The building is proposed to have a landscaped roof with variety of activity generating uses to attract the people. Along the wetland promenade, there will be retail, cafes, and alfresco dining to take advantage of the well landscaped plazas and the scenic views.



The entertainment Precinct extends to the Wetland Park

ENTERTAINMENT PROMENADE

It is the section of the wetland park along the Entertainment Precinct that is designated for active usage. The promenade starts after the Wetland Eco-garden, which is a wetland pond integrated with a garden. The landscaped promenade along the Entertainment Precinct will have landscaped decks overlooking the wetland. It will have a play and balance of hard and soft landscape. The promenade allows the visitors and tourists to enjoy the wetlands and be closer to nature. The Entertainment promenade will have activity generating uses along the entertainment precinct such as restaurants, cafes, retail etc. A Wetland Art Gallery is also proposed on the promenade. This art gallery will be raised above the ground by stilts and overlooks the wetland. The landscaped roof of the gallery will be accessible to the public from the promenade. The promenade also has several pier like decks projecting out into the wetland. The promenade ends at the Wetland Education Museum. The promenade will have special night lighting, public art and band stands to create a lively and attractive venue along the edge,



The entertainment promenade is lively with many activities



A venue for celebrating Rwandan culture...

RDB is proposing a cultural village at Rebero, however proposing another one at Gahanga is also acceptable
OSC- RDB



D Cultural District

38

MAY 2013

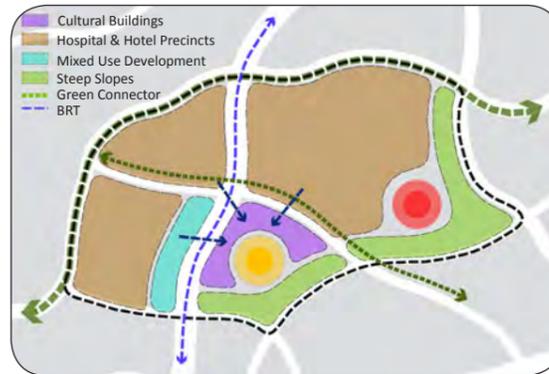
CONCEPT

The Cultural District is the focal point for creative activities at the Gateway Hub. It is the region's hub for artistic performances, museums and a venue for events, concerts, art exhibitions etc. It will be supported by boutique hotels, restaurants and mixed use developments. It is also surrounded by regional level civic facilities like the hospital and the college. It is strategically located at the high point in the slopes and is well connected to the Business District and the City by public transit.

KEY IDEA

The Cultural District is envisioned to be a vibrant destination to experience the arts & culture of Rwanda, both modern and traditional. It is positioned to be a major tourist attraction with variety of public spaces to appreciate the iconic architecture and the panoramic view of Gahanga. The key strategies for the Cultural District are:

- **Iconic Buildings:** Iconic designs celebrating the culture of Rwanda will help position the district as a special district and a key feature in Gahanga Hub. The architecture will be sited strategically to take advantage of the panoramic views of the area.
- **Playful Public Spaces:** The landscaped plazas and public spaces will take advantage of the scenic views and will make the district an attractive destination in Kigali. It will showcase Art of the Rwanda and tell the story of the people in a creative and playful manner making the spaces enjoyable.



An Iconic Gateway Development at the Entry



Green Regional Centre

Place Making Strategies

Iconic Spaces & Development

Places to Gather

Places to enjoy the scenic view



Iconic designs celebrating Rwandan culture



A place to enjoy the view and experience culture

The Hotel Precinct

The Hotels and restaurants are strategically located close to the hospital, cultural centre and the museum for commercial viability. The ground floor of the developments have a continuous arcade with restaurants, retail and cafes. The hotels overlook the linear park and are further connected to museum and viewing point by the public landscaped deck.

Museum of Rwandan Arts

The Museum of Rwandan Arts is located strategically on a ridge which provides panoramic views of the Nyabarongo River and wetlands. The museum is connected to the performance centre by iconic pedestrian bridge. The roof of the museum is publicly accessible enabling scenic views of the Quarry park below.

Neighborhood Centre

The existing natural drainage channel is developed as the neighborhood park adjacent to the community centre, religious and educational facilities. The linear neighborhood parks is park of the linear green stormwater channel which connects to the wetlands.

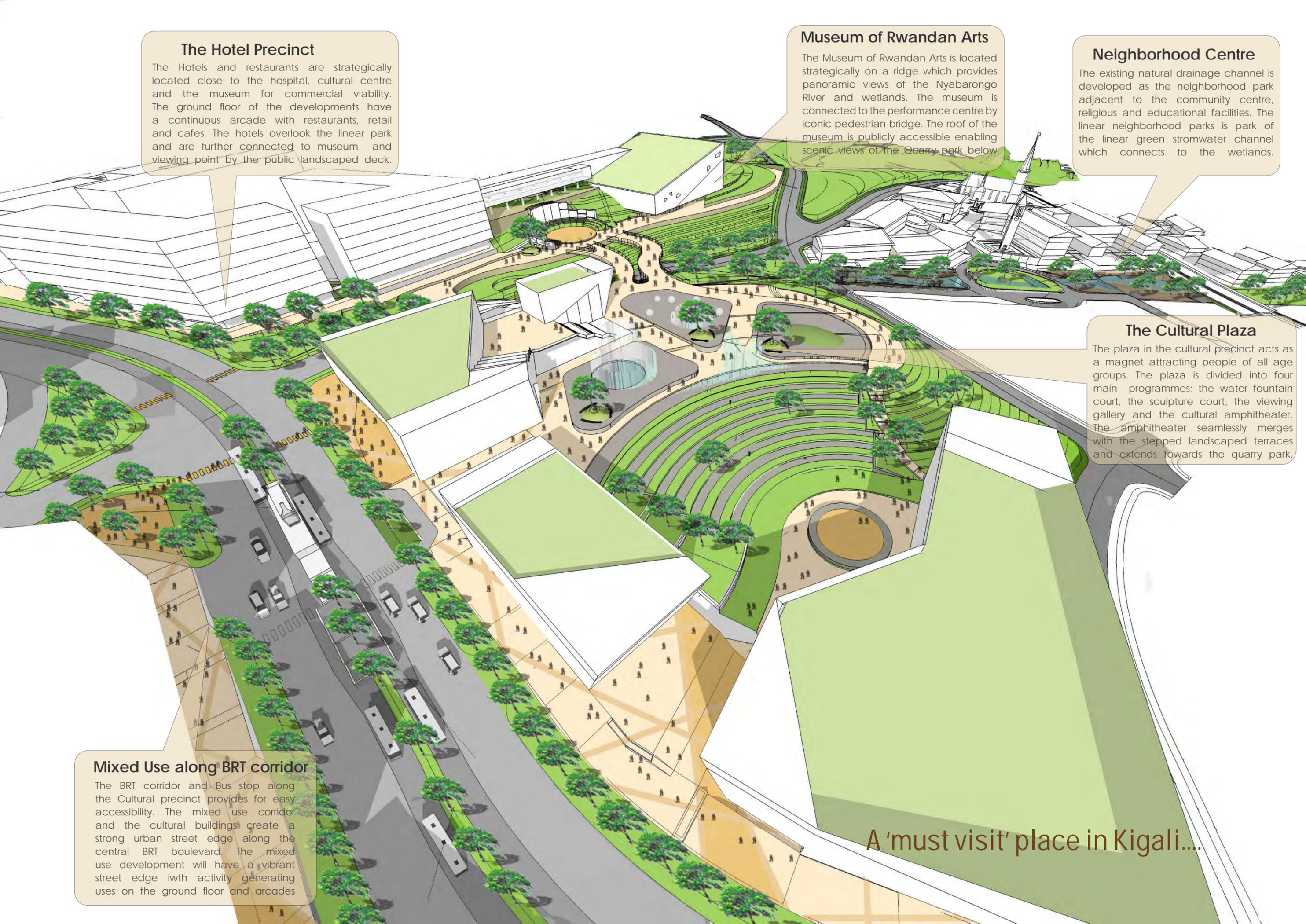
The Cultural Plaza

The plaza in the cultural precinct acts as a magnet attracting people of all age groups. The plaza is divided into four main programmes; the water fountain court, the sculpture court, the viewing gallery and the cultural amphitheater. The amphitheater seamlessly merges with the stepped landscaped terraces and extends towards the quarry park.

Mixed Use along BRT corridor

The BRT corridor and Bus stop along the Cultural precinct provides for easy accessibility. The mixed use corridor and the cultural buildings create a strong urban street edge along the central BRT boulevard. The mixed use development will have a vibrant street edge with activity generating uses on the ground floor and arcades

A 'must visit' place in Kigali....



KEY URBAN FEATURES

The Cultural District in Gahanga will be a regional cultural hub catering to a larger population and a key destination in the city itself. It will not only host the cultural centre but will also be the hub for learning and knowledge. It is also well connected with the BRT station. Some of its key features are:

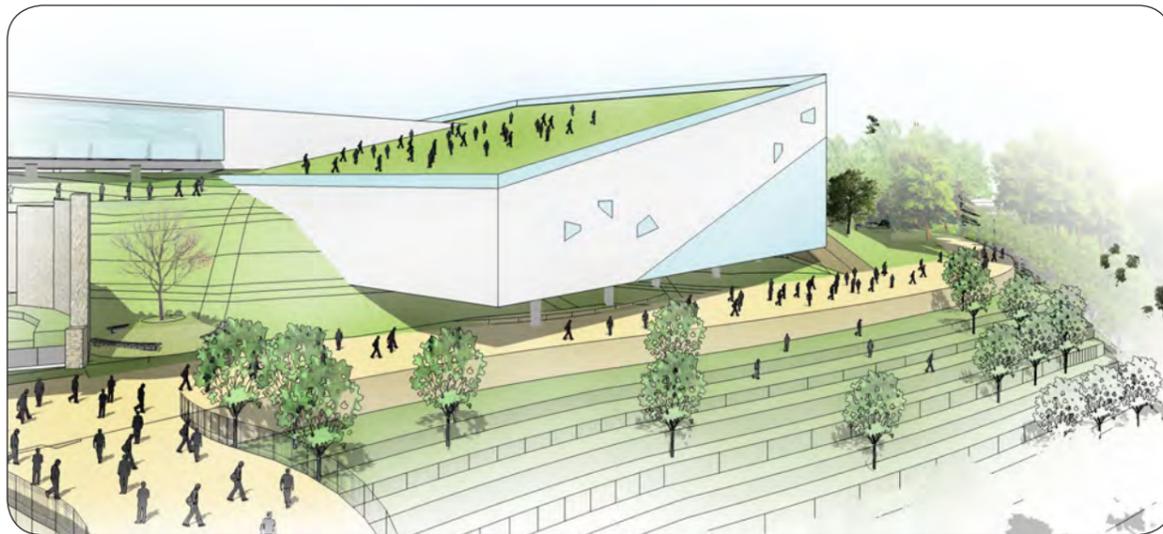
VIBRANT CULTURAL CENTRE AND PLAZAS

The Cultural Centre will be the key feature of the Cultural District. It is located at one of the high points in the area that provides a good panoramic view of Gateway Hub. The building consists of a performing arts centre, galleries, and a regional library. The building forms a key landmark in the Regional Centre. It is playfully integrated with the surrounding landscape and slopes. The public spaces are well framed by the

cultural building with activities spilling into them. The large public plazas and outdoor performance areas which will be creatively landscaped to tell the story of the Rwandan culture. These spaces look out into the greens and the wetland below and provides several spots to enjoy the panoramic views.

RWANDAN ARTS MUSEUM

The Rwandan Arts Museum is another key development with regional importance. It is located strategically on the edge of the steep slope so as to be visible from a distance. The iconic architecture is integrated with the contours and the landscape. The Museum is linked to the Cultural Centre by the pedestrian bridge and to the hotel precinct by the landscaped deck. The landscaped terrace provide an attractive place to visit and view the panoramic landscape.



The Iconic Museum has a publicly accessible landscaped roof



- 1. Mixed Use Development
- 2. College/ Institutions
- 3. Hotel Precinct
- 4. Hospital
- 5. Regional Library
- 6. BRT stop
- 7. Cultural Centre
- 8. Cultural Centre Outdoor Plaza
- 9. Water Court
- 10. Sculpture Court
- 11. Viewing Deck

- 12. Seasonal Terrace Gardens
- 13. Pedestrian Bridge
- 14. Rwandan Arts Museum
- 15. Linear Museum Deck
- 16. Linear Park
- 17. Public Car Parking
- 18. Art Gallery
- 19. Lily Pond
- 20. Gahanga Boulevard

Cultural District - Illustrative Plan

HOTEL PRECINCT AND LANDSCAPED DECK

A vibrant hotel precinct with boutique hotels, restaurants, galleries, small shops and cafes complements the cultural and museum district. A Landscaped Deck links the BRT, the Hotel Precinct, and the Museum. The hotels form a clear building edge along the landscaped deck with activities and cafes opening into it. The Deck forms a clear visual link leading the pedestrian to the landmark Museum.

CIVIC PRECINCT

The Civic Precinct consists of the large regional level civic facilities like the hospital and the college. These developments provide important regional level facilities needed in the area. These facilities are conveniently located close to the BRT station. The constant flow of people of all ages in the area due to these large regional facilities will help to make the area more vibrant and help sustain the public transit.

MIXED USE BY THE CULTURAL CENTRE

Some mixed use developments are also provided around the BRT station. The ground floor of the developments will have arcades and activity generating uses such as retail and food outlets to cater to the surrounding transient population.



The Hotel Precinct with retail on the ground floor faces the linear park connector that connects it to the museum precinct



The hospital is a key landmark development of the district



Vibrant street edge along the mixed use development





New venue for events in Rwanda

How does the urban design model with the existing steep slopes in some areas



E

M.I.C.E & Expo District

CONCEPT

The MICE (Media, Incentives, Conventions & Exhibitions) & Expo District is located at the edge of the Gateway Hub along the wetland. The development is strategically located due to its proximity to Bugesera Airport. It is positioned to be the destination in Rwanda for large events such as expositions, trade shows etc. A convention centre and hotel are also provided to complement the Expo. Mixed Use developments are used to wrap the big box developments .

KEY IDEA

The MICE & Expo District is envisioned to be a special district that will be a major attraction for businesses for hosting large events. However to make the place active at other times, when the larger activities are not taking place, smaller activity generating events have been provided. The key strategy for the MICE District are:

- **Landmark Development:** The large scale of the development close to the wetland is carefully planned and needs to be executed well so as to take advantage of the surrounding nature to be a iconic landmark development by the wetlands.
- **Transit Integrated:** An MRT station is provided to serve the development. This also connects the district to the CBD and the future Airport. Local feeder buses connects the district to the Business District.
- **Active Public Spine:** To accommodate the large volume of visitors expected during events, a central landscaped public plaza is provided. This public spine is also provided with smaller activity spaces and kiosks to host smaller activities at other times.



MICE District



MICE and Expo District- A venue for events

Place Making Strategies

Venue for Events

Integrated with Transit

Active Public Spaces

Convention Centre

The Convention Centre is located along the wetland edge and is well integrated with the Expo's MRT station. It comprises of hotels, banquet halls and small commercial activities. The large landscaped plaza in front of the convention centre caters to the large volume of human traffic from the MRT station.

Expo halls

The expo halls comprise of conference rooms, meeting rooms, exhibition space, auditoriums and cafes. The carpark for the visitors is provided separately in a multi storey car park structure. The Halls face the active landscaped plaza.

Mixed Used Precinct

The mixed use developments wraps around the the Expo making the areas more vibrant with variety of functions. Proximity and scenic views of the Quarry park will make the mixed use development a popular choice for living.

Expo Park

The linear Expo Plaza begins at the Expo Park. The park is developed on steep areas and is heavily planted with local trees. The park also forms the local neighborhood park for the surrounding residential developments.

Expo Plaza

The Central Market Street running at the middle of the Expo Plaza creates local flavour with human scaled spaces. It is also doubles as the outdoor spillover space during large events. It is the main pedestrian connection linking the Expo and Hotel area and forms a clear vista with extensive views to the wetlands

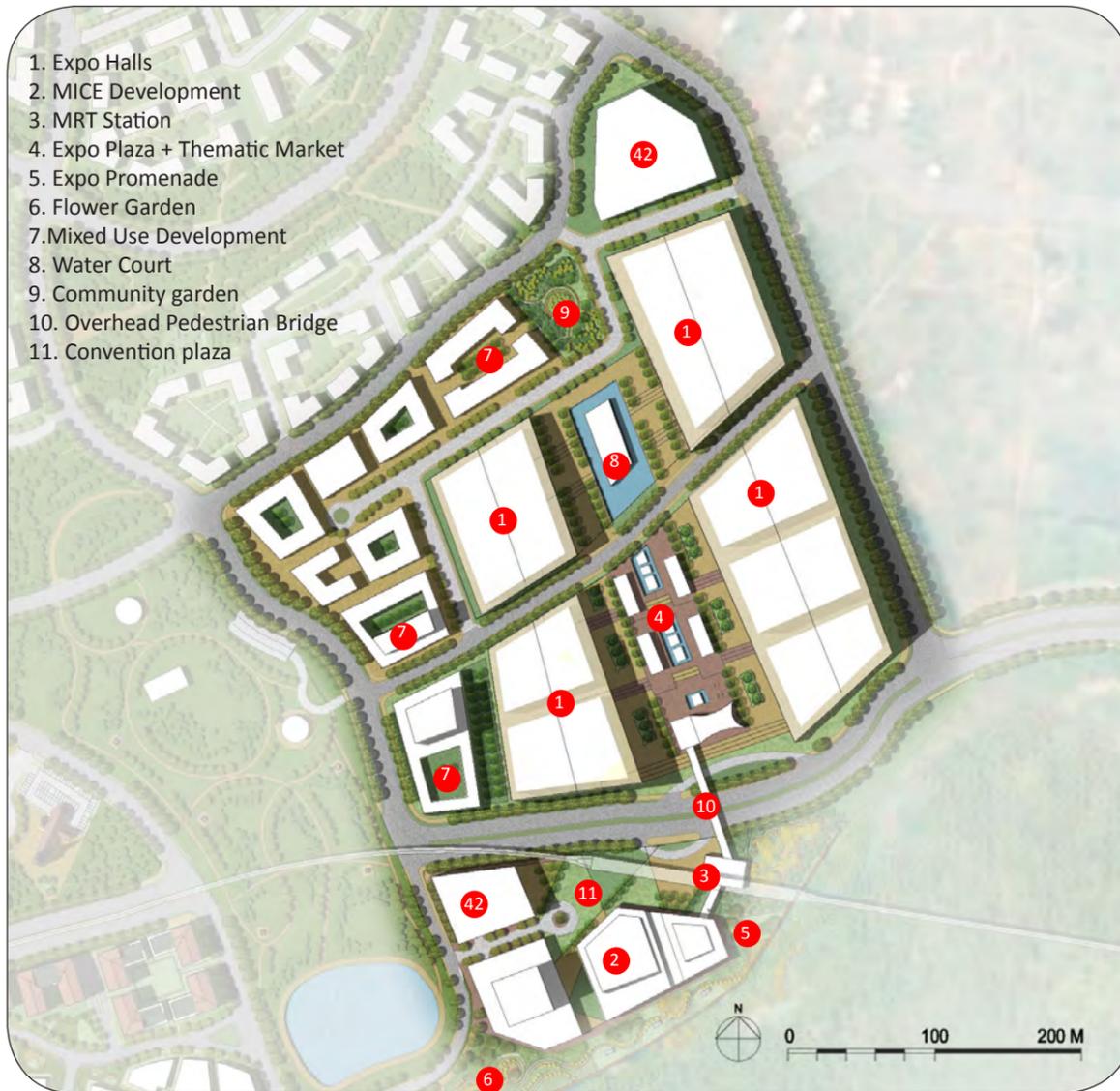
Convention Promenade

The Convention Centre Plaza extends towards the wetland edge as a flower garden. It is part of the wetland linear park. The flower gardens will showcase the flower of Rwanda and promote the local horticulture industry. Restaurants edge the promenade where activities like jogging and cycling, and even small events take place. Boardwalks, kiosks, hard and soft landscaped areas and public art makes the Promenade an attractive & engaging edge along the wetlands.

MRT station & Pedestrian Bridge

The MRT station is linked to the Expo Plaza through an overhead Pedestrian Bridge. The bridge takes the visitor to the Central Landscaped Plaza that acts as the main public outdoor spine. The Stations opens out to a large landscaped Convention Plaza edging the Hotel and Convention buildings.

Creating people friendly spaces



MICE & Expo District - Illustrative Plan

A NEW VENUE FOR EVENTS IN RWANDA

The MICE & Expo District in Gahanga is an international destination for event. With over 16.7 ha of land and 238,000 m² of space, the MICE and Expo together can provide space for a variety of events. Some of its key features are:

A WORLD CLASS EXPO

Large column free halls provided with the latest digital technology will make the state of the art Expo in Gahanga the preferred venue for international events in the region. The Expo itself will have 138,000 m² of event space. The Expo will also have sustainable strategies such as orientation, natural daylight, energy and water saving strategies, low impact design strategies and green carparks.

CENTRAL LANDSCAPED PLAZA

The Central Landscape Plaza is the central spine of the Expo and forms the iconic landscaped plaza. It is primarily the open spill out space to hold large number of people during events. However this linear spaces also works as linear pedestrian street which connects the residential areas along the Gahanga woods to the MRT station. The space is to be specially landscaped and will have water courts, fountains, landscaped open spaces, and Art courts. The Central Landscaped Plaza is also provided with a linear market kiosk which houses the themed Market Street. One of the key features of this Market Street is the Tourist Market which will have handicraft market. It will also have spaces for temporary markets and smaller events.



The vibrant thematic market in the central plaza

HOTELS AND CONVENTION CENTRE

The hotel and convention centre is located along the wetland edge next to the large Expo halls. These developments are also well integrated with the MRT station. These are provided to support the visitor and can host smaller events such as gala dinners, corporate events etc. The 5 star hotel along the wetland will be a key landmark in the Gateway Hub. Along the wetland edge, the ground floor of the hotel will have activity generating uses such as restaurants cafes which will help activate the Convention promenade.

CONVENTION PROMENADE

The wetland buffer between the Hotel Convention Centre and the wetland is developed as an outdoor public space for the visitors to enjoy. The landscaped convention promenade is part of the linear park

along the wetland. The ground level activities of the hotel and convention centre will activate the edge of the promenade. It will also have landscaped areas integrated with jogging and cycling paths.

MIXED USE PRECINCT

The large-scale development of the Expo is surrounded by smaller scaled mixed use developments. This helps buffer the surrounding developments from the Expo activities. It will have residential and other developments which can complement the Expo and MICE district. The mixed use precincts also can take advantage of the close proximity to the Quarry Park.



Expo Promenade and Flower Garden merges the wetland edge with quality public promenade



The Mixed Use development next to the M.I.C.E adds buzz with its commercial activities and residential population



The MRT Plaza in front of the Convention centre offers active urban space for localites and tourist population

Gahanga needs to maintain its naturalistic green quality that differentiates from other parts of Kigali.

-OSC



F Variety of Lifestyles

CONCEPT

A variety of living areas are provided for residents in Gahanga Gateway Hub, which will create *choice in lifestyles* for the residents. The key types of living areas in Gahanga Gateway Hub are:

HIGH DENSITY LIVING BY THE TRANSIT & BUSINESS DISTRICT

These high density living areas are located close to the public transit corridor and around the Business District. The areas marked for high density developments should have a density greater than 200 DUs/ha. The high density residential developments promote multi family apartment living. The developments are to be provided with ample open spaces and facilities like multi storey car parks, common greens, play grounds etc. The car parks are to be integrated with the apartments.

MEDIUM DENSITY LIVING BY THE PARKS & WETLANDS

Majority of the developments in Gahanga are medium density residential areas. There are multifamily residential developments having a minimum density of 160 DUs/ha. These development are located close to public amenities, neighborhood centres and open spaces.

MIXED USE LIVING BESIDES KEY DISTRICTS

Key districts such as the Business District, MICE and Cultural District are surrounded by Mixed Use residential developments which allow some commercial uses at the street level. This will help to create a vibrant streets and help make the surrounding areas active at all times.

LOW DENSITY LIVING ON SLOPES

Areas on slopes are chosen for Low density living. These include single family, terrace houses and compact low rise apartments. having a minimum density of 40-90 DUs/ha. surrounded by public amenities



- 1. High Density Housing
- 2. Medium Density Housing
- 3. Low Density Housing
- 4. Mixed use Development
- 5. Single Family Housing

Types of Residential Areas



High Density Living by the transit



Medium Density Living by the Parks



Mixed Use Developments

Image Source: Google Images

G Community Anchors

CONCEPT

LOCAL IDENTITY THROUGH COMMUNITY FACILITIES
 Quality community facilities at walkable distances from residential areas is one of the key features for developing a strong local identity of the focus area. Well programmed, quality designed spaces that are seamlessly connected attract more people and will be better used. This will eventually help create a local character and sense of place, which will be appreciated by the local population.

DISTINCT WALKABLE NEIGHBORHOOD COMMUNITY SPACES
 Ample facilities at walkable distances from the residential areas create convenient neighborhoods where residents can walk for their daily needs. The clustering of public facilities at walkable distance creates more active usage of the facilities. Neighborhood Centres are located within the residential areas at close walking distances. These neighborhood centres will be the heart of the community. They will have local markets, small businesses, health centres, public facilities, playgrounds, small parks, schools, religious facilities etc. All of these facilities are located at close

proximity creating a distinct identity for the center. The character of the centre also takes into account the local context and surrounding. This will help create a unique neighborhood centre that is appreciated by the community and helps give a distinct local identity for the area.

WEAVING ART AND NATURE IN THE COMMUNITY SPACES
 Art in the community spaces helps to foster a sense of community. Public Art projects inspire civic pride and allows for public celebration and the exploration of the meaning of community. Arts are a superb means of building social capital.¹ Public Art is promoted for all public spaces in the Gahanga Gateway Hub. Community driven public arts projects is a key tool to developing local identity for a place and the community.

¹ www.bettertogether.org/pdfs/Arts.pdf



Neighborhood Centre - Illustrative Plan



Distinct neighborhood community spaces



Creating Local Identity



Art and nature in the community



Pedestrian friendly spaces

6 THE ROAD MAP FOR FUTURE GROWTH



Image Source: Google Images

PHASING STRATEGY

The development of the Urban Design area needs to be carried out in strategic phases so as to bring benefit in term of the speed and value of the development. Care in the development planning has been taken to ensure the overall vision of the master plan and financial viability. The suggested phasing strategy is intended as a broad framework to help guide the future development of Gahanga Gateway Hub. Phasing Strategy done at master planning stage should be followed by a detailed phasing plan after the initial site investigations are completed. It should be based on land ownership, site conditions, and other constraints. Phasing is a dynamic process and should be done so that it is flexible to future market conditions.

OBJECTIVES OF THE PHASING STRATEGY

- To minimize infrastructure costs by prioritizing release and development of land parcels which can tap on existing infrastructure, amenities and natural assets.
- Ensure critical infrastructure and direction to guide the land amalgamation strategies to be carried out.
- Releasing development parcels and early delivery of amenities to offset infrastructure investments.
- To ensure availability of large and contiguous land reserves for future comprehensive development.
- Delivery of facilities and amenities at appropriate threshold and ensuring development on several fronts simultaneously.
- Planned release of later sites to benefit from higher land value in later phases when value of place is established.



PROPOSED PHASING STRATEGY

The proposed phasing strategy looks at development at three key stages to ensure a balanced and sustainable growth, and selection of only the most profitable components of the master plan and deferring the more costly and difficult parts.

PHASE 1- CATALYZE THE DEVELOPMENT

The initial stage of development focuses on initiating the development with some catalytic projects and infrastructure. It focuses on:

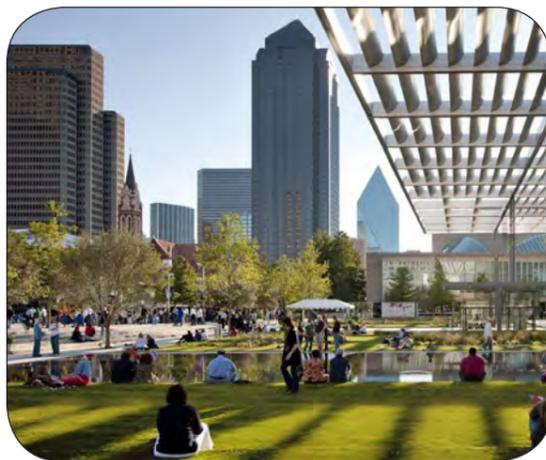
- Building from the existing infrastructure and providing critical infrastructure for new developments to exist e.g. roads, sewerage, power supply, drainage.
- Extend the transit corridor with BRT to connect to the key areas at the initial stage.
- Provide regional facilities along the development corridor to become catalyst projects.
- Create key public realm and critical quantity of

core development to establish the gateway hub identity at the entry to Kigali.

- Provide high density housing along the development corridor.

The key projects identified for this stage are:

- **BRT Line:** Widening of existing road to integrate BRT. Extend BRT up to to Business District with two stops, one at the cultural district and the other at the Business District.
- **Regional level Facilities:** Develop hospital, college around the cultural district and mixed use developments along the transit corridor.
- **Business District:** Develop the commercial core of the Business District with critical mass of offices, the Gahanga Square and integrated bus terminal.
- **Residential:** Develop high density residential developments along the transit corridor between the business and the cultural district.



Phase 1- A Unique Gateway Hub



Phase 1- Regional Hospital



Phase 1- Catalyze the development

PHASE 2- CAPITALIZE ON THE GROWTH

In the medium term the development for Gahanga capitalizes and grow the new developments. It aims to make Gahanga the preferred choice for people to live and work. It focuses on:

- Choice of lifestyles by providing variety of living areas.
- Quality public facilities at walking distances from the living areas.
- New Parks and Open Spaces as regional attractions
- New commercial spaces in the Business District

The key projects identified for this stage are:

- **Business Park:** The 4.6 ha new high tech business park is proposed to be developed to complement the Business District. It will be the incubator for the businesses related to the 'knowledge economy'.
- **More Offices and Mixed Use:** New office are proposed to complete Business District. The retail streets and urban steps will be realized. Mixed use



Phase 2- High Tech Business Park



Phase 2- Mixed use development

- developments will provide vibrancy to the area.
- **Neighborhood Centres:** Integrated neighborhood centres at strategic locations will be developed as part of the residential developments. These will provide quality schools, sports facilities, local parks, health centres and community centres for the residents are walking distances.
- **Residential:** Variety of new medium density developments are proposed to provide choices of living to the people. More mixed use developments are also provided closer to working places. Living by nature is promoted by providing houses next to nature parks and forested areas.
- **Parks and Open Spaces:** The Quarry Park is developed as a regional attraction. Similarly the protected green corridors are developed as linear parks with jogging and cycling tracks. The wetland edge parks system is also developed.



Phase 2- Capitalize on the growth

Image Source: Google Images

PHASE 3- A UNIQUE GATEWAY HUB

With the achievement of quality living and working, the final phase will focus on creating unique features to reemphasize the distinct Gateway identity of Gahanga Regional Centre. It focus on:

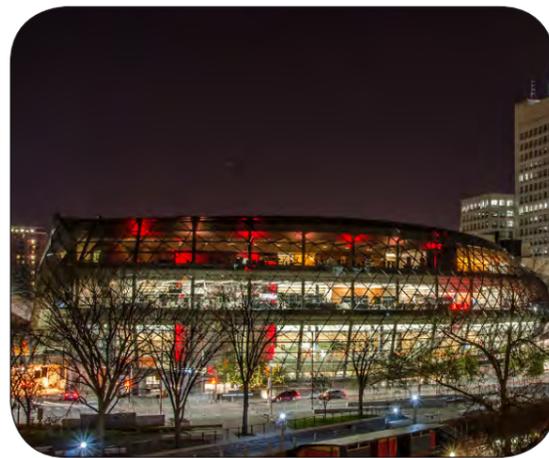
- New public transit to re-strengthen the connectivity.
- New feature developments to take advantage of proximity to the Airports and create specialized precincts to complement the existing Business District.
- Develop Gahanga as a culture and tourism destination.
- New mixed use developments and feature parks

The key projects identified for this stage are:

- **MRT Line:** The MRT line linking the CBD the Airport is proposed to pass via the Gahanga Regional Centre. Two MRT stations are proposed within the site.
- **MICE and Expo District:** The MICE and Expo district



Phase 3- Quarry park



Phase 3- M.I.C.E

is proposed to be developed around the first MRT station at the edge of the Regional Centre. Strategically located close the future airport at Bugesera, this development will complement the Business District.

- **Entertainment Precinct:** This precinct is proposed next to the Business District and is integrated to the new MRT station. It will be a venue for entertain next to the wetland edge and will activate it.
- **Cultural Precinct:** A new Cultural Centre and museums supported by boutique hotels are proposed to establish Gahanga as a regional cultural centre.
- **Mixed Use:** New mixed use is proposed around the expo to active the area and make it more vibrant.
- **Feature Parks:** New feature open spaces are proposed like the Flower Gardens, Wetland Appreciation Park, Gateway Bridge and the activated Wetland Promenade.

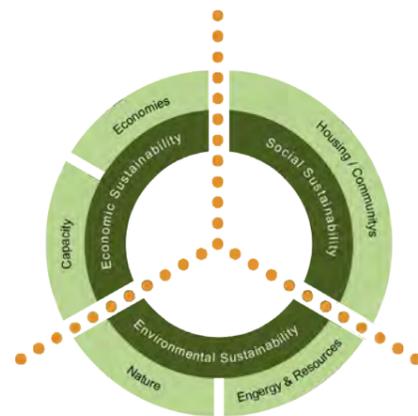


Phase 3- A Unique Gateway Hub

7 A SUSTAINABLE GAHANGA GATEWAY HUB

The Urban Sustainability Framework at the planning level translates to the urban design of Gahanga Regional Centre. It looks at sustainability in terms of social, economic and the environment. Sustainable strategies are integrated in many aspects of the urban design. Ideas of creating a 'resilient city' is an inherent part of the urban design strategy. The plan **is be flexible and dynamic to address future shocks** and stresses associated with climate change, environmental degradation, resource shortages, in **the context of global population growth.**

1 www.resilientcity.org



Urban Sustainability Framework for Kigali

Image Source: Google Images

Tangible Measures

Density, Diversity and Mix

Density, diversity and mix of uses, users, building types, and public spaces form essential components of resilient cities and neighborhoods

In order to achieve the resilience and to reduce the ecological footprint, the community needs to optimize the use of land and space. Uses such as single family homes and other low density suburban developments tend to be under utilized the limited resources. By contrast, a thriving and dense mixed use development is effectively uses the resources and creates more dynamic society. The synergy created by proximity is a result of density and diversity. The design strives to achieve this by proposing mixed use and high density development along the transit corridor. The key districts in the Gateway Hub have mixed use development located around them to provide a more vibrant and diverse use of the spaces.



Pedestrians First

Resilient cities and neighborhoods will prioritize walking as the preferred mode of travel, and as a defining component of a healthy quality of life.

The design gives utmost importance to the pedestrian movement by creating a continuous pedestrian network including unhindered seamless access from the public transit nodes. The linear green connectors are pedestrian corridors which further strengthens this idea by integrating with the entire development. Non motorized transit is the most sustainable mode of transportation. It includes both walking and cycling. This supported by public transit makes a locality truly connected. Car oriented urban patterns need to give way to safe & convenient transit & NMT oriented travelling which will help create resilient cities. This has two advantages – It will improve the quality of life, and, it will reduce dependency on fossil fuels.



Transit Supportive

Resilient cities and neighborhoods will develop in a way that is transit supportive.

The proposal follows the same idea by making the BRT and future MRT as the primary mode of transport. High density development around the transit nodes also helps in achieving the desired density to support the public transit nodes and reduce car travel. Development promote walking by providing seamless pedestrian connections to local destinations. Transit is conveniently located within five minutes walking distance from all developments. All the key districts in the proposal are connected by public transit. Unlike sprawl, these urban downtowns will have many street level activities, quality public spaces and human scaled streetscapes to make the journey a pleasant experience.



Tangible Measures

Intangible Measures

Place-Making

Resilient cities and neighborhoods will focus energy and resources on conserving, enhancing, and creating strong, vibrant places. These significant component of the neighborhood's structure and of the community's identity.

Quality neighborhoods are popular and safe places with a strong identity and character. They are well connected to the amenities and facilities and work with their natural setting. They exist in harmony with the landscape to create memorable places and make living in them a pleasurable experience. They are human in scale and are connected by quality public spaces that allow healthy interactions between residents. The communities are created by geographical affinity and bonded by experience of the quality public realm. Like traditional village courtyards, resilient places are those that have a strong community identity and sense of ownership. Several such places are distributed in the Gahanga Hub in the form of neighborhood centres.



Complete Communities

Resilient neighborhoods will provide the needs of daily living, within walking distance.

Clustering of local amenities like schools, markets etc. in neighborhood centres at walkable distance is an essential strategy to reduce the vehicle miles travelled using private vehicles. Kigali today has a walking culture. Hence, people are encouraged to walk or bike to these destinations. Strategically located at walkable distances these places will have access to public transit. A well established safe and legible connectivity network has been established to achieve the pedestrian friendly local journeys to these centres. The Centres themselves have strong link to the surrounding nature. They also have quality urban spaces for activities and host a variety of uses at close proximity.



Integrated Natural Systems

Resilient cities and neighborhoods will conserve and enhance the health of natural systems (including climate) and areas of environmental significance, and manage the impacts of climate change.

Urbanization and development needs to strike a balance with nature and the environment. Clear conservation directions and mitigation strategies guide the development and help keep the balance. The natural assets such as wetlands forests and water channels are all interlinked. The Green Infrastructure looks at all these natural assets as a holistic integrated system. These are the natural softscapes that complement the urban areas and are as important as the transit network in building a sustainable community. The careful programming of these natural assets will not only protect them but also contribute to the increase in value of the developments around them.



Integrated Technical Systems

Resilient Cities and neighborhoods will enhance the effectiveness, efficiency and safety of their technical and industrial systems and processes to increase their energy efficiency, and reduce their environmental footprint.

A cities ability to keep its important life safety and key infrastructure systems in good operational condition, even during natural disasters such as storms and floods, directly affect the city's physical, social and economic health. Redundancy and durability of the systems is an important factor to be considered during their planning and design stage. The utilization of natural systems in the new infrastructure such as storm water management promotes low impact developments. Similarly, utilization of the wetland as natural runoff water filters is also a key strategy. The ETZ proposed close to the wetlands also use the natural terrain and ecosystem to solve the infrastructure requirements of tomorrow in a sustainable manner.



Intangible Measures



Local Sources

Resilient regions, cities, and neighborhoods will grow and produce the resources they need, in close proximity (200 kilometer radius).

Movement of materials sourced from long distances increases the associated cost every day, especially in today's scenario with increasing fuel prices. Events such as the '100 mile diet' and the 'local food movement' have increased the awareness of these issues among people with respect to the importance of consuming local products and its relation to environmental health. Rwanda with its strong agricultural heritage will sustain its urban centres and reduce dependency for many products. A large part of Kigali is maintained as agricultural areas which will supply local produce to the urban communities.



Engaged Communities

The development of resilient cities and neighborhoods will require the active participation of community members, at all scales.

The citizens of a community bear a huge responsibility in contributing to the efforts of planning and in maintaining the health of the community and the environment. The current Umuganda is a uniquely Rwandan experience of community participation. Activities such as non-use of plastic bags is an example of how Kigali is already progressive in-relation to its environment. Similarly, the wetlands, forests and open spaces are the natural assets for the future generations, and need protection and conservation. These natural assets are tools to shape the future. Gahanga Hub by design has the potential to redefine eco-living. Being part of this natural system, our actions defines who we are as a community.



Redundancy and Durability

Resilient Cities and neighborhoods will plan and design for redundancy and durability of their life safety and critical infrastructure systems.

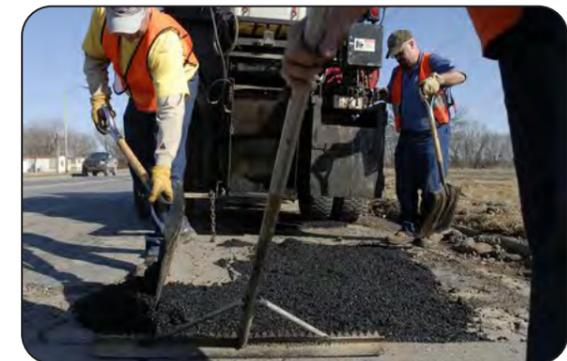
Planning and design of infrastructure systems should aim for levels of redundancy and durability that are interlinked with the increasing environmental, social, and economic stresses of urbanization. A cities ability to keep its important life safety and key infrastructure systems in good operational condition, even during natural disasters such as storms and floods, directly affect the city's physical, social and economic health. Redundancy and durability of the systems is an important factor to be considered during their planning and design of the Gahanga Hub. Low impact development strategies are incorporated in development of key infrastructure to enhance the durability and sustainability of these systems.



Resilient Operations

Resilient cities and neighborhoods will develop building types and urban forms with reduced servicing costs, and reduced environmental footprints.

The amount of land and infrastructure required for a sprawling development makes it very expensive to service and maintain. In comparison to this, a compact and mixed-use development is much more efficient in the demand of services and infrastructure. The design promotes such development patterns that will reduce the carbon footprint and also will reduce the load on public services. Dense and compact development proposed throughout the site serves this purpose effectively.



Source: www.resilientcity.org
Image Source: Google Images

	Green Park System	Business District	Cultural District	MICE District	Residential Areas
A Density, Diversity and Mix		●	●	●	●
B Pedestrians First	●	●	●	●	●
C Transit Supportive		●	●	●	●
D Place-Making	●	●	●	●	●
E Complete Communities	●	●	●	●	●

APPENDIX

REGIONAL CENTRE DEVELOPMENT

TAMPINES REGIONAL CENTRE, SINGAPORE

Location: New town of Tampines, Singapore
Area: 53 Ha

Approach

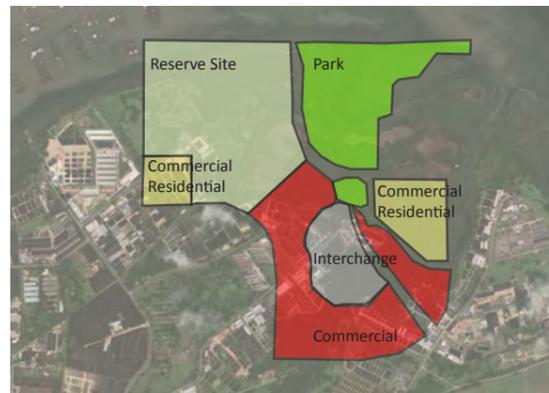
- Creation of a compact and walkable centre.
- Active & vibrant ground floor around the station.
- High rise - high density urban form.
- Walkable neighborhoods with network of open spaces.
- Distinct skyline & streetscape through arrangement of buildings, height controls and corner articulation.

Programs: Offices, banks, retails, cinema, restaurants., MRT and Bus interchange, Commercial Residential, Parks and recreational center, Reserved sites, Supportive programs : Light industry, business park and Singapore Expo

Inference: Showcases highly accessible compact business and financial center integrated with transit.



Context of Tampines Regional Center



Tampines Regional Center



Regional Centre in context of CBD

tampinesmall.com



regus.com



Images of Tampines Regional Centre

TRANSIT INTEGRATED DEVELOPMENT

SOUTH STATION, BOSTON, USA

Location : Downtown Boston, USA
Area : 4.5 Ha

Approach:

- Multi-modal Hub - Interchange between Rail (Red Line), Commuter rail (MBCR), BRT (Silver Line) & City services .
- Compact multilevel design with Bus terminal over the train terminal and underground BRT station.
- Areas connected: Boston's Financial District, Leather District, Fort Point Channel, Chinatown, upcoming Seaport district and linked to International Airport.

Programs: Multipurpose enclosed public space 'Great Room' serves as a concert hall, entertainment area and an exhibition place, a place for annual celebration of National Train Day.

Open space: Plazas fronting the south station serve as entry to underground BRT station.

Inference: Showcase of a compact tiered transport hub with multipurpose public space.



Context of South station.



South Station Terminal surrounded by open space



Interchange between Red line & BRT (Silver Line)



Historic facade character & Underground BRT station

Google Earth & boston-tourism-made-easy.com



Great Room & Preliminary rendering of the place.

pps.com & bostonglobe.com

Image Source: Google Images

MICE & EXPO DEVELOPMENT

FIERA MILANO

Location: Milan (border between the towns of Rho and Pero, near the A4 motorway, west of Milan)
 Area: 40.5 Ha & GFA: 34.5 Ha

Connectivity: Well connected by expressway, Metro (red line) and suburban railway.

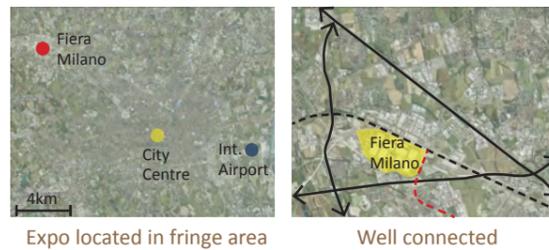
Approach :

- 8 exhibition halls overlooking the central spine.
- Peripheral parking spaces, thus segregating pedestrian and car movement
- Activities like cafe & offices along the central spine.

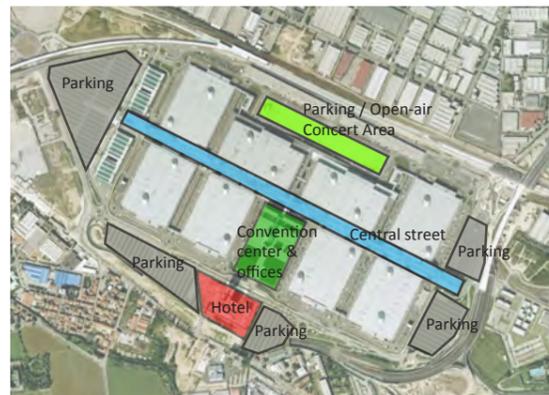
Programs: Exhibition halls, auditoriums, conference rooms, restaurants and cafes, meeting halls, and office space for the Fiera administration.

Inference:

- Showcases an active central publicly accessible corridor.
- Development needs to be well connected



Expo located in fringe area Well connected



Segregation of pedestrian and vehicular movement



Entrance Plaza Small office spaces and cafes



The central activity spine as the feature of the building.

CULTURAL CENTRE

GEORGE POMPIDOU CENTER, PARIS

Location : Paris, France
 Area: 2 ha

Approach:

- Museum itself as monument
- A plaza in front as neighborhood public place and as area to appreciate the structure.
- A place of social and cultural exchange for the City

Programs: Museum of modern art, public library, center for music and acoustic research.

Inference: Creating cultural center as a place for social and cultural exchange.

- Iconic structure creating an 'Image' for the city making it an tourist attraction.

PLASSEN CULTURAL CENTER, NORWAY

Location : Molde, Norway
 Area: 0.5 ha

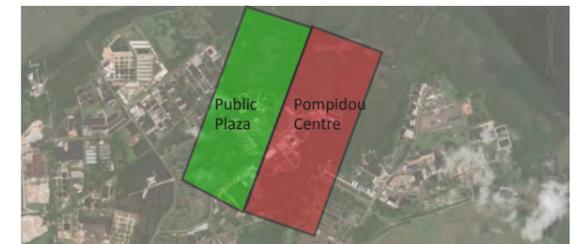
Approach:

- Cultural Center: A room for celebration- inside, on top and around it.
 - Active roof tops to capture great views around
- Programs: Exhibition area, concert hall, jazz museum, library, gallery, rehearsal studios, cafes.

Inference: An active roof tops that enjoy the panoramic views.



Roof as the feature. Vertical staggering of activities



Green- commercial activities surrounding the Wetland



Museum as an Icon as well a social gathering space.



Cultural center



Active roof terraces, a new ground.

PARK REJUVENATION

PALMISANO PARK

Location: Chicago, Illinois
Area: 11 ha

Approach:

- Old limestone quarry site in the central of the city - turned into park as an Urban Oasis.
- Beautiful view of the downtown skyline and surrounding neighborhoods
- A place for various community activities
- Natural retention pond is the main attraction
- School campus adjoining.

Program: Fishing pond, boardwalks, running track, sculptures, natural amphitheater, viewing deck, soccer field, sledging during winter.

Inference: Creating a place for the community. The storm water corridor and the ponds could be made into main attraction areas. Sports activities could be planned along the corridor.



Quarry park as an Urban Oasis, well connected



The natural retention pond used for fishing
chicagoparkdistrict.com



Boardwalk

landscapeurbanism.com



landscapeurbanism.com



Quarry park as community space
foursquare.com



View of the City
cassisaari.com

WETLAND EDGE

SUNGEI BULOH WETLAND RESERVE

Location: Northwest Singapore.
Area: 130 ha.

Approach:

- Global importance-stopover point for migratory birds
- Singapore's first ASEAN Heritage Park
- Awareness of fauna & flora of the place
- Involvement of secondary schools for education
- Planning: Three zones - Zone 1: highly active area for children playgrounds & workshops, Zone 2: along the coast area, Zone 3: highly sensitive area for researchers only.

Programs: Nature Gallery, Bird observation deck, Theaterrette, cafeteria, Butterfly trails, Information center, Boardwalks.

Inference: Distribution of active and passive activities Places designed for interpretation center that accommodate children workshops.



Green- commercial activities surrounding the Wetland



Various activities within the Park.

sbwr.org.sg



Activities in the Park



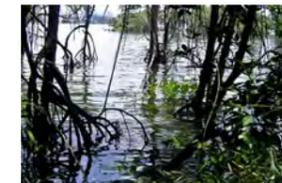
sbwr.org.sg



Boardwalks over the wetland.
sgwalkingroutes.blogspot.com



Information Centre
commons.wikimedia.org



asiahotel.com



wikipedia.org



Wikipedia.org

Undisturbed wetland landscape.

Image Source: Google Images

NEIGHBORHOOD CENTRE

Elias Community Center & Mall
 Location: Pasir Ris New Town, Singapore

Approach:

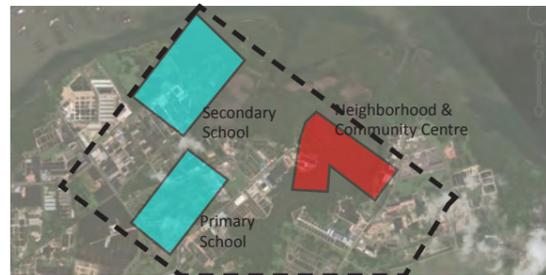
- Located serving high density within the 300m walkable radius.
- Walkable neighborhood with network of open spaces.
- The Center gives a distinctive character to the neighborhood through its activities & landscaping.
- Incorporates daily need shopping and facilities.
- School distributed within the neighborhood block.

Program:

Grocery shopping shops, Polyclinic, Community club, Indoor sports activities, restaurants and a open space.

Inference:

- Creating partially self-sufficient neighborhood center based on walkability
- Creating compact township around the center.



Facilities within one residential block



Hierarchy of commercial activities.



Mall



Community Centre



A place for community activities



A place for community activities



School



Flea or daily market



A place for community activities



A place for community activities

A Positive Public Realm

ELEMENTS FOR A THRIVING PUBLIC REALM

People attract People. To create thriving public realm which vibrancy and active usage the open spaces need to be user friendly and convenient as well as attractive. Providing activity generating uses is a key strategy, location of public spaces along key routes is another. Creating spaces that stimulate our sense in a positive manner attract people to the space. Some of the elements which are required for an attractive and quality public realm are:

LANDMARKS AND MARKERS

Landmarks are important features for orientation and way finding in the urban areas. Having landmarks or markers such as distinctive buildings and features, statues etc show the way as well as become attractions in themselves. They can also be strong anchors for public spaces. Several landmarks are identified in the urban design area like the gateway landscaped bridge at the entry to the Business District.



PUBLIC ART

Public Art can be a key contributor in creating character and identity for a place. It can be a magnet to attract people. A public art strategy for the area can help create a unique local identity with the help of developers. Promoting public artist and street performers can also can be softer strategies to create fun and attractive public spaces. Public Art is provided in key open spaces like the promenade, cultural plaza, Gahanga plaza etc. to be features within the urban spaces.

STREET FURNITURE

Seatings, bollards, litter boxes, poles, flags, kiosks, stalls CCTV etc. all form important part of the urban realm. Carefully designed and though of street furniture can integrate these varied elements and provide a well designed set of street furniture which are well utilized and durable. Public Art can also be integrated with the street furniture. Street furniture done in context can help to create a distinct character for the place. A clear strategy for street furniture need to be developed.



SIGNAGES AND DIGITAL INFORMATION

Signage for both vehicles and pedestrians are equally important. Signages help in making the place more legible to the user. Creative but simple Signages can make the place fun as well as informative. Public Advertisements and billboards should require careful design and placement so as not to hamper the quality of the public space. With the new technologies Signages and advertisements in the public realm can also be strategically utilized to provide valuable and important information.

LIGHTING

Lighting of public spaces can make them safer and can encourage night time activities. Lighting of public spaces should be designed properly and can be integrated with street furniture, Signages, public art etc. It can create attract public spaces at night. However care must be taken so as not to create light pollution and disturb the neighborhood. A holistic lighting strategy for the urban area should be done to emphasise key areas. This will create night lighting of the skyline to be view while arriving to Kigali at night.



SAFETY & SENSE OF SECURITY

Good visibility and effective lighting create a sense of comfort in urban areas. Some of the key principles for developing safe and secure public area are¹:

- Design pathways & spaces for night time movement
- Parking lots to be visible
- Placement and protection of lighting
- Ensuring natural surveillance and human visibility or formal surveillance.
- Minimizing conflict of vehicular, cyclists and pedestrians
- Provide clear sight lines and avoid concealed and isolated routes.
- Close off areas of entrapment during off hours
- Community Involvement in security

¹ Urban Design Compendium, English Partnership, Housing Authority; Crime Prevention through Environment Design Guidebook, National Crime Prevention Council (Singapore)



Sensitive Building Interface

The 'good urban spaces' consists of the public realm i.e. the streets, lighting, furniture, public art etc. The private buildings that frame spaces and form the interfaces between the public realm are equally important for identity and quality of places. Interfaces such as elevations, roof lines, corners, plinth levels, frontage etc. are important elements for a good place.

BUILDING INTERFACES

In creating distinctive places it is also essential to give attention to the details of the building interface with the public realm. These interface elements done sensitively can provide charming results and add value to the place or could degrade the quality of the space. The application of the interface and the approach can vary with the place and area and needs to be managed in context to the place. Of the many elements some of the key elements which need to be managed are:

- The Edges
- Active Frontage
- Scale and Height



THE EDGES

The building edge is defined by the setback as per the zoning regulations. Sensitively used in context to the surrounding, the building edge also defines the public realm

KEY URBAN AREAS:

In the Business District of the Regional Centre, buildings are required to come to the street line so as to create a clear and continuous edge. *Arcades* are also provided at the edge to create better interaction with the public realm. Small setbacks without fences can allow for spill out areas for cafes and shops. The *roof line* and the plinth level can also help to accentuate the edge and continuity. In corners, the edges can be accentuated by special design to create markers which help in way finding.

RESIDENTIAL & NEIGHBORHOOD AREAS:

In areas that don't require an active street edge the buildings can be setback and fences are allowed. However to make the streets more friendly and safer, the resultant spaces must be used as landscape and provide facades that are attractive and not blank walls.



FRONTING PUBLIC OPEN SPACES:

Building edging public open spaces need to interact and front the open spaces. Such buildings normally have higher value due to the frontage of open spaces.

ACTIVE FRONTAGE

In areas demarcated for active frontage the buildings can interact with the public realm both its elevation as well as its usage.

Some of the steps to creating an active frontage are:

- Interact with the street by providing pedestrian entrances and fenestrations along the frontage
- Enlivening the frontage by providing canopies and balconies.
- Matching the plinth levels and heights for continuous arcades
- Providing retail and other activity generating uses in the ground floor.
- Spill out of activities into the designated areas of the public realm.



SCALE AND HEIGHT

Respecting the built context means enriching the built fabric. This could be understood as the following but is not exhaustive:

- Stepping down of tall building's mass to meet its neighboring building's mass.
- Maintaining the building line
- Designing with the slope
- Making human scale at street level
- Maintaining the street's scale and rhythm etc.

These however should not be a limitation to the creativity and diversity in buildings. Architectural variety can help to create a rich urban realm. A sensitive approach to developing the built environment can generate places with character and local identity.





Gahanga Gateway Hub - Land Use Plan

Proposed Land Use for Urban Design Area

Land Use	Area (Ha)	Percentage
Afforestation	4.4	1.5 %
Civic Facilities	4.5	1.6 %
Commercial General	28.7	10 %
Education Institution	12.2	4.3 %
Health Facilities	2.6	0.9 %
Heavy Industrial	-	-
High Rise Residential	18.6	6.5 %
Hotel	2.9	0.8 %
Light Industrial	8.8	3.1 %
Low Rise Residential	29.8	10.4 %
Medium Rise Residential	47.1	16.5 %
Mixed Use	17.9	6.1 %
Open Space and Park	29.3	10.6 %
Roads	50.6	17.9 %
Religious Facilities	2.0	0.7 %
Reserve Site	2.4	0.9 %
Single Family Residential	8.4	2.9 %
Sports and Recreation	0.6	0.2 %
Sports and Recreation Facilities	0.7	0.3 %
Transportation (Open Space)	0.6	0.2 %
Utilities	6.8	2.3 %
Wetland	8.3	2.9 %
TOTAL	286	100 %



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