the markewicz redman partnership
urban planners and designers

AIRPORT PRECINCT AND MANAGEMENT PLAN
FOR THE PIETERMARITZBURG AIRPORT AND SURROUNDS

DRAFT AIRPORT PRECINCT CONCEPT

CONTRACT NO: SCM 81 OF 14/15

7 March 2016

Prepared by:

The Markewicz Redman Partnership in association with
Royal HaskoningDHV (Pty) Ltd and Glen Robbins

Prepared for

CITY OF CHOICE
PIETERMARITZBURG : MSUNDUZI

CONTENTS

1 INTRODUCTION

1.1 CONTEXT OF DOCUMENT

This document is the second phase of the The Msunduzi Municipality project to prepare an Airport Precinct and Management Plan for the Pietermaritzburg Airport and Surrounds and has been prepared by a multidisciplinary team of professionals led by The Markewicz Redman Partnership: Urban Planners and Designers.

1.2 BACKGROUND

The Msunduzi Municipality recently upgraded its Airport and reviewed its Airport Master Plan with the intention of ensuring that this facility could contribute positively to economic growth, employment generation and municipal revenue in the future. This is in line with global trends where cities are exploring the opportunities that their airports' may present for increasing and or improving economic outputs.

Whilst larger cities around the world have made considerable progress in developing the "aerotropolis" concept, smaller cities are pursuing the concept through a smaller "Airport City" or "Airport Precinct" hybrid. In these instances these smaller airports are invariably linked to regional economies and nearby Central Business and / or Industrial Districts and in some instances are also linked to an established or emerging Aerotropolis. Furthermore, in their on-going quest to find ways to increase revenue, cities and or airport authorities have recognized that commercial real estate development through Airport City/Airport Precinct development is useful for maximizing non-aeronautical revenue and fuelling growth.

1.3 STUDY AREA

The study area is 435ha in extent and is located 5kms to the south-west of the Pietermaritzburg Central Business District area and some 2kms from the N3. The focus area includes the existing Pietermaritzburg Airport, the surrounding residential neighbourhoods of Oribi Heights, Oribi Village and Scottsville Extension and the Mkondeni and Shortts Retreat industrial areas. Access to the Precinct is via Market Road from the N3 to the north-east and Oribi/Kind Edward Road in the south/north-west.

The main Durban-Pietermaritzburg railway line forms the northern boundary, Gladys Manzi Road the southern, Shortts Retreat Industrial area the eastern boundary and Oribi Heights the western boundary.

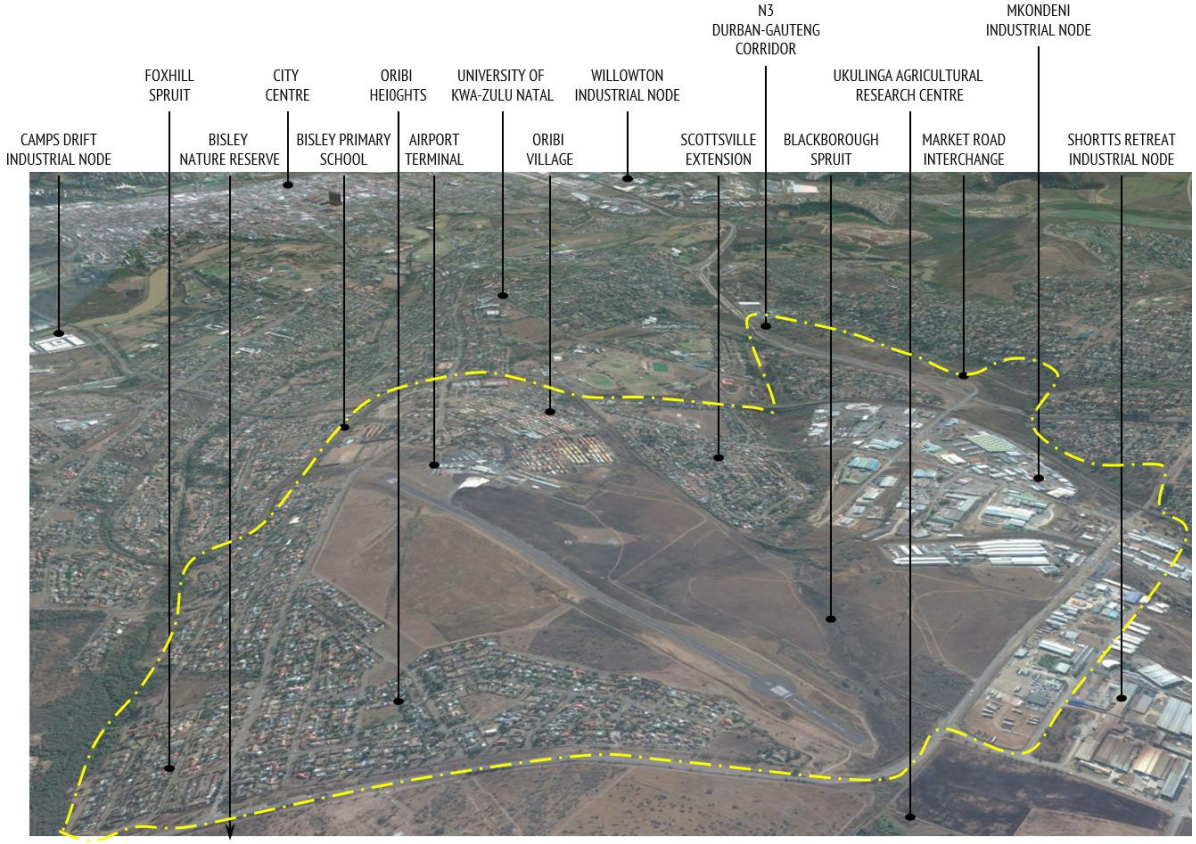

Figure 1-1: Study Area

1.4 PURPOSE OF THE DOCUMENT

This document represents Phase 2 A of the project and it uses the outcomes of the status quo and strategic assessment phase (Phase 1B) to generate a development concept for the precinct. It is intended as a discussion document for all interested and affected stakeholders.

Once reviewed and commented on the document will be translated into firmer proposals though the preparation of an Airport Precinct Plan (Phase 2B) and an Implementation and Management Framework (Phase 2C) for the Municipality, other spheres of government and the private sector.

Figure 1-2: Photographic Overview of Study Area

2 CRITICAL SUCCESS FACTORS

The status quo assessment of the precinct identified a number of critical success factors that need to be leveraged and/or created and responded to in order to improve the competitiveness, functionality, efficiency and sustainability of the precinct.

These factors provide the basis for the generation of the Airport Precinct Concept and are summarised below for ease of reference.

2.1 POLICY INTERVENTIONS

- Confirmation of the boundary and the role of the Airport Precinct (this will be undertaken as part of this project)
- Adjust economic development policy and associated municipal planning to accommodate this new role (e.g. zoning, development incentives, budgeting)
- Balancing the demand for development of this node with other existing or emerging nodes in Msunduzi

2.2 STAKEHOLDER ALIGNMENT

- Alignment of key stakeholders around a common vision for the precinct and its sub precincts and neighbourhoods through the establishment of a suitable engagement forum and process
- Ability of all stakeholders equally to engage with the opportunities associated with the precinct and the implementation implications related thereto

2.3 FINANCIAL PLANNING

Get financial commitment from Municipality (commensurate with the Municipal budget capability) to implement proposals emanating from this precinct plan timeously and incrementally in order to instil confidence in private sector investors.

2.4 PHYSICAL INTERVENTIONS

2.4.1 Access and Circulation

- Improve the direct accessibility to the airport from the N3
- Provide for additional access points to the overall Precinct from surrounding and adjacent areas
- Strengthen linkages to the central city region and proposed new parliamentary precinct
- Strengthen linkages appropriately between sub precincts and other adjacent precincts
- Upgrade capacity of, and functionality of, road infrastructure and operations servicing industrial areas immediately south of the airport
- Clarify and confirm the role of, and future use of, unused rail infrastructure and servitudes in the area

2.4.2 Land Use and Activity

- Diversify and increase the intensity of land uses in the area (e.g. establish the first phases of the Technology Hub sub-precinct)
- Upgrade and or renew run down areas and infrastructure
- Provide for new land uses that may enhance the attractiveness of the precinct
- Make optimum use of vacant land to restructure the precinct and to accommodate the opportunities associated with an Airport City brand

2.4.3 Environmental Quality

- Upgrade the environment quality of the public realm throughout the precinct
- Upgrade the environmental quality and ecological functioning of the Blackborough catchment
- Introduce built form management strategies that promote more efficient use of land and that enhance the legibility and brand of the precinct

3 ROLE OF THE AIRPORT

The Airport's growth and role as a "City Airport" or regional airport, has been a key discussion point during recent times and this has continued during the first phases of this project as it is a crucial point informing the vision and planning of the precinct.

Accordingly, some articulation of the role, or roles, has been necessary as has been the formulation of an approach to dealing with the role of the Airport as the Municipality and its economy changes and grows.

The Status Quo phase highlighted particular trends and opportunities with regard to the airports role in the regional economy and in the aviation landscape of KZN and the country, and the potential influences of the Municipality's and region's economy on the airport's growth. These are summarised below.

The Pietermaritzburg Airport:

- Is a General Aviation (GA) airport (in terms of aircraft movement numbers).
- Has effective GA connection to a range of KZN and national airports.
- Has established, and incrementally growing, scheduled services to primarily domestic (national) destinations and services the following markets:
    - Scheduled:
        - Outbound and inbound government employees and business management with an employment base in Msunduzi/UDM (70% of passengers).
        - Outbound and inbound tourist, Visitors, Family, Friends (VFF) and business passengers from an area within a 2 hour road travel distance (20% of passengers).
    - G.A. (non-scheduled) (10% of passengers)
    - Aviation-based services (movement of people, assets, delivery of specialist services such as aerial survey, training, emergency and others).

Clearly there is scope to grow the airport business and to take advantage of potential demand for land uses around the site. However, the patterns of demand are likely to grow slowly and incrementally for some considerable time unless economic conditions change remarkably in the region including growing per capita incomes or a major successful attraction is developed in the region. This nonetheless requires careful planning and also clear and concrete attempts to build connections with potential new activities and existing activities that could be crafted towards generating an improved (mutually reinforcing) relationship between the airport and the local economy over time.

Furthermore, apart from the techno-hub project (not reviewed in this exercise) and which could introduce new uses and activities into the precinct, it is likely that demand in the greater airport precinct is likely to be informed by some of the following uses in the shorter and medium horizon.

- Short to medium term (5-10 years) based on incremental growth requiring re-organisation of core site and some limited physical expansion:
    - Scheduled passenger parking
    - Hangars
    - Service sheds
    - Fuel storage
    - Car hire
    - Other goods storage
    - Public transport/taxi connections
    - Expanded aviation services (core and non-core) – including possible public service hubs (e.g. traffic control, health, emergency services for N3 corridor etc.)
    - Retail, fast food, fuel retail
    - Training
    - Entertainment
    - Supporting infrastructure enhancement
- Medium to longer term (5-20 years)
    - Runway enhancement
    - Relocation/expansion/specialisation of core aviation services facilities around the site
    - Supporting infrastructure upgrade/realignment
    - Co-location of demand associated uses (training, hotel, conference, production …)

The strongest private sector demand for available land parcels around the site is likely to come from developers responding to retail demand growth and

logistics services growth in the economy. Both would require attention to road networks, land use planning, bulk infrastructure provision and matters around municipal services being attended to.

The following are highlighted as important interventions or activities:

- Ongoing maintenance and investment/modernisation (core and surrounds).
- High quality core and non-core asset management.
- Active services connection negotiation/attraction (passenger and non-passenger) – aviation industry and local/regional user base.
- Investment in visibility of area and coherent identity of core site and surrounding areas.
- Provision of expansion sites for core and non-core activities.
- Consistency in resourcing and effectiveness of regulation/management/governance.
- Partnerships with other actors.

In summary, irrespective of the economic climate at any point in time, the growth of the Airport will be driven by the growth of the local, regional and national economies and the associated demand for connectivity between Pietermaritzburg (and the region it serves) and other national (domestic) business centres. Furthermore, since its primary connections are to locations also served by King Shaka International Airport or by road, its growth and competitiveness in both the passenger and cargo movement markets will also depend on its regional and local accessibility and its operational efficiency.

Given the above pointers in the context of the generally depressed economic state of country and the impact that this is likely to have for the short to medium term on investment and growth of the economy, it is prudent to formulate an approach to the planning of the Airport and Precinct that responds to short and longer term requirements.

Firstly, "fix" current infrastructure and maintenance deficits relating directly to the Airport and to the wider precinct so that optimum performance and economic outputs can be achieved under current economic conditions.

Secondly, it is imperative that a more positive and expansive vision for the precinct is formulated which prepares the precinct for longer term investment into both local economic development imperatives (i.e. education, training and knowledge development) and national growth strategies (i.e. land assembly and development, infrastructure expansion and logistics support (e.g. respond to the N3 corridor initiative).

4 AIRPORT PRECINCT CONCEPTUAL FRAMEWORK

4.1 VISION

The creation of a knowledge, logistics and manufacturing precinct which is linked into the national aviation network, the logistics platform of the N3 development corridor, the surrounding region and which provides a "smart" and sustainable learning, training, and production hub for the City centred around aviation services, logistics, production and research.

As such the Precinct will feature an accessible and efficient regional airport, a mixed use technology park, mixed use manufacturing districts and a mixed use business precinct supported by efficient infrastructure and transportation services, retail, offices, and conferencing facilities, and a variety of permanent and temporary residential accommodation options.

4.2 GOALS AND OBJECTIVES

4.2.1 Goal

There is opportunity through building collective synergy between the existing economic and social stakeholders/drivers in the Airport Precinct and surrounding area so that increased business, knowledge sharing and sustainable use of costly resources and infrastructure can be achieved.

The Airport Precinct itself is a collection of smaller precincts or sub-precincts which surround the Airport each with their own stakeholder groupings, function, identity and environmental character. The precinct in turn is surrounded by other sub precincts which may have useful and productive synergies with the airport and / or the other Airport sub precincts.

The overall development goal should therefore be firstly, to integrate these sub precincts, functionally and spatially, and secondly, to consolidate and / or enhance those sub precincts that are functioning well and are relevant to the vision, and to redevelop and or support those that are underperforming and / or not in sync with the vision.

A fundamental part of this goal will be to focus on upgrading the infrastructure and management deficits of the precinct so that improved accessibility and operational performance of its various components is improved as quickly as is possible within the funding capability of the Municipality.

4.2.2 Objectives

- Identify key interventions that will enhance connectivity between the precinct, the regional and national aviation network, SIP2 Corridor and other key precincts in the City
- Clearly define role(s) of the precinct and its sub precincts in terms of type and intensity of land use and activity and the linkages and interconnections between them
- Upgrade, where necessary, roads, water, sanitation, storm water, electricity and ITC infrastructure to improve linkage between and operations of existing activities, but to be commensurate with "smart" and sustainable principles of the proposed new development vision in the medium to long term
- Reconfigure the spatial layout of the Airport sub precinct to accommodate its expansion, enhance its accessibility and operational performance
- Enhance access, circulation and parking infrastructure to support existing and future expansion of activity through construction of new, upgrades to capacity of existing, or repair of malfunctioning transportation infrastructure
- Make more efficient and effective use of land and buildings to increase business and commercial and community facility thresholds, improve infrastructure viability and improve integration of built up areas with natural environmental systems
- Implement environmental quality upgrades to improve liveability and sustainability and the attractiveness of the precinct and or sub precincts

4.3 LINKAGE, CONNECTIVITY & INTEGRATION INTERVENTION

The building of a "platform" between the Airport Precinct and other precincts and key zones within the City, as well as , between the sub precincts within the precinct that will improve connectivity, linkages and integration and thereby sharing of ideas, knowledge and resources needs to be supported at a functional or institutional level and at a spatial or physical level.

4.3.1 Functional and Institutional (Stakeholder Alignment)

Improving functional connectivity will require a robust form of institutional cooperation between key role players and decision makers that will enable the stakeholders to "own" the Airport Precinct vision, integrate it into their respective business strategies and coordinate their individual planning, priorities, action and investment into infrastructure, business processes and delivery programmes.

This element of the plan will need to be workshopped with respective stakeholders to articulate levels of engagement, buy in and institutional form.

4.3.2 Spatial and Physical Level

The support at this level can be conceptualised in terms of the following types of spatial and physical linkage and or connectivity i.e. strategic, inter-precinct, intra-precinct.

- Strategic Connectivity
  - Between City and Country (e.g. air links, via the N3 Corridor and rail (where appropriate))
  - Between City and Region within 2 hour travelling time (e.g. via the N3 Corridor and other key road links (e.g. R56 Richmond Road)
- Inter- Precinct Linkages
  - Mobility links between CBD and other economic and employment zones /precinct of the City including new zones such as the proposed new Government Precinct (i.e. road links and potentially rail links)
  - Mobility links between key precincts adjacent to the Airport Precinct such as the UKZN, Ukulinga research farm, etc. (i.e. road, PT and NMT)
  - Ecological or "Green" linkages via the Blackborough system
  - Mobility links between potential new economic zones e.g. Hayfields sub precinct east of N3 (i.e. road, PT and NMT)
- Intra- Precinct Integration (i.e. road, PT and NMT)
  - Airport to Techno Hub
  - Airport to Mkondeni
  - Airport to potential new Hayfields Business Park
  - Mkondeni to Techno Hub
  - Oribi to Mkondeni,
  - Oribi to Techno Hub
  - Mkondeni to potential new Business Park

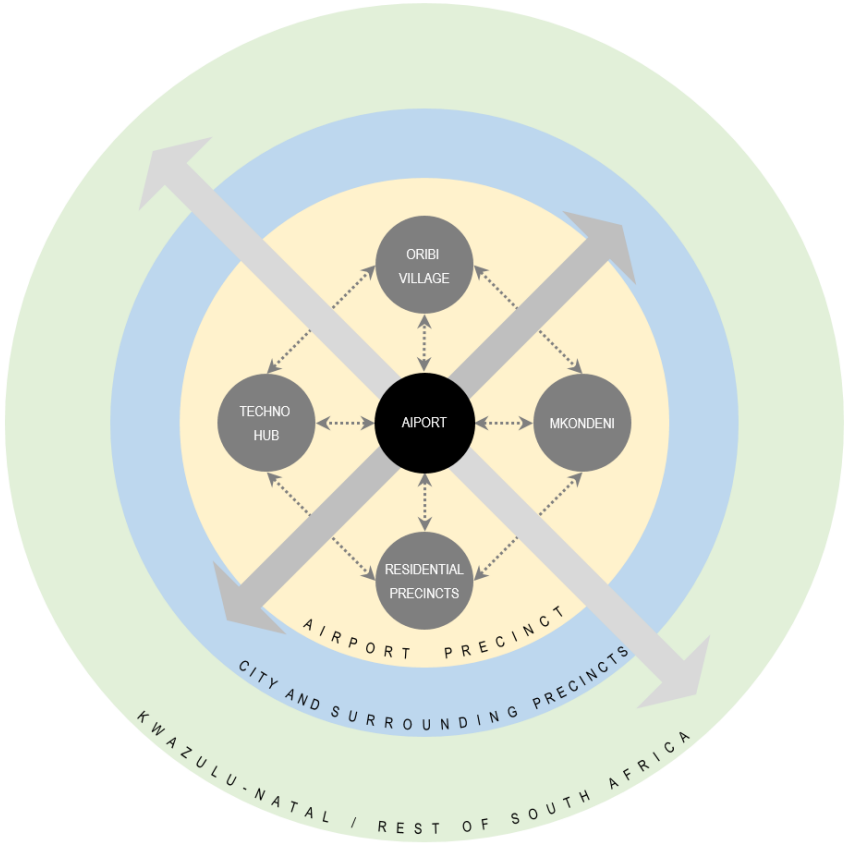

Figure 4-1: Spatial and Functional Linkages

4.3.3 Spatial and Physical Linkage Interventions

DESCRIPTION OF INTERVENTIONS	OBJECIVE OF INTERVENTION		
	STRATEGIC CONNECTIVITY	INTER- PRECINCT LINKAGES	INTRA-PRECINCT INTEGRATION *(ROAD, PT, NMT)*
1. AIRPORT INFRASTRUCTURE UPGRADES	National and Regional air connectivity	-	-
2. MARKET ROAD (N3) INTERCHANGE EXPANSION	National and Regional Road connectivity	Road Linkage and Integration between other City Precincts	-
3. MARKET ROAD EXT.	National and regional connectivity	Road and NMT Linkage and Integration with other City Precincts	Linkage and Integration between Mkondeni and Airport
4. AIRPORT ACCESS LOOP ROAD	-	Road and NMT Linkage and Integration with other City Precincts	Linkage and Integration between Airport, Oribi, Mkondeni
5. IRPTN PHASE TWO	-	PT Linkage and Integration with other City Precincts	-
6. SCHOOL AND PHARAZYN ROAD EXTENSIONS	-	Road and / or NMT Linkage and Integration with other City Precincts and to IRPTN	-
7. NMT UPGRADES	-	NMT Linkage and Integration with other City Precincts	Linkage and Integration between all sub precincts in the Airport Precinct
8. RAIL SERVITUDE CONVERSION	-	Road and / or NMT Linkage and Integration with other City Precincts	Linkage and Integration between Airport, Oribi, Mkondeni and Residential sub precincts

AIRPORT INFRASTRUCTURE UPGRADES	Re-configure layout of airside and land side components of the airport to provide for long term expansion of both components, including possibility of accommodation of higher capacity passenger aircraft, additional domestic linkages, higher capacity general aviation and more efficient operation of airport in general. More detail on the conceptual proposals for the reconfiguration of the Airport are contained within the appendices.
MARKET ROAD (N3) INTERCHANGE EXPANSION	This intervention is already being planned by SANRAL and will lead to upgrading of the interchange to provide access to the eastern side of the N3, increase capacity and operational efficiency interchange to areas on both sides of the N3 and to improve accessibility into the City Centre off the N3.
MARKET ROAD EXTENSION	Extend access into and through the precinct off Market Road join Gladys Manzi Road. This road could have a few configurations depending on future of the rail servitude but they will achieve the same objective. This intervention would also play a role in improving overall capacity and functionality of the Airport Precinct network in relation to Market Road Interchange upgrade.
AIRPORT ACCESS LOOP ROAD	Provide a new Airport access loop road and precinct circulation route off Washington Road and Market Road Extension to improve accessibility to the Airport from the Region and the City via the new Market Road Interchange. The road will also connect sub precincts within the Airport Precinct (road and NMT) and provide a more visible and direct access to the Airport.
IRPTN PHASE TWO	Oribi Road is identified in the City IRPTN network as Phase One A of the new PT system and it will link the precinct into the CBD and other key areas in the south west quadrant of the City. The infrastructure upgrading of Oribi Road to accommodate the PT function should be integrated with the upgrading proposal for the Oribi Village Node and the Airport sub precinct reconfiguration (see section on Sub Precincts). IRPTN Phase3 facilities routes along Gladys Mansi and Washington should also be integrated with respective sub precinct developments and with the Oribi Node and Airport sub precinct.
SCHOOL/PHARAZYN ROAD EXTENSIONS	The proposed new links would improve links with the precincts west of the Airport Precinct and would require the extension of NMT links from School Road into Andries Pretorius and the extension of NMT and / or a new road link opposite Pharazyn Road. These proposed new links should be integrated with the proposed IRPTN Phase One A routes and the Oribi Village Node.
NMT UPGRADES	NMT Upgrades will include new infrastructure to establish new links and upgrading of existing links to provide pedestrian and cycle opportunities throughout the Precinct and to other precincts and the IRPTN system (See Figure 4-4)
RAIL SERVITUDE CONVERSION	The obsolete rail line and associated servitude represents an opportunity for creating additional innovative road and or NMT links within the precinct and to adjacent precincts. The corridor is also wide enough in certain places to accommodate development which could be associated with the movement aspects of the corridor i.e. housing, social facilities or perhaps limited commercial activity.

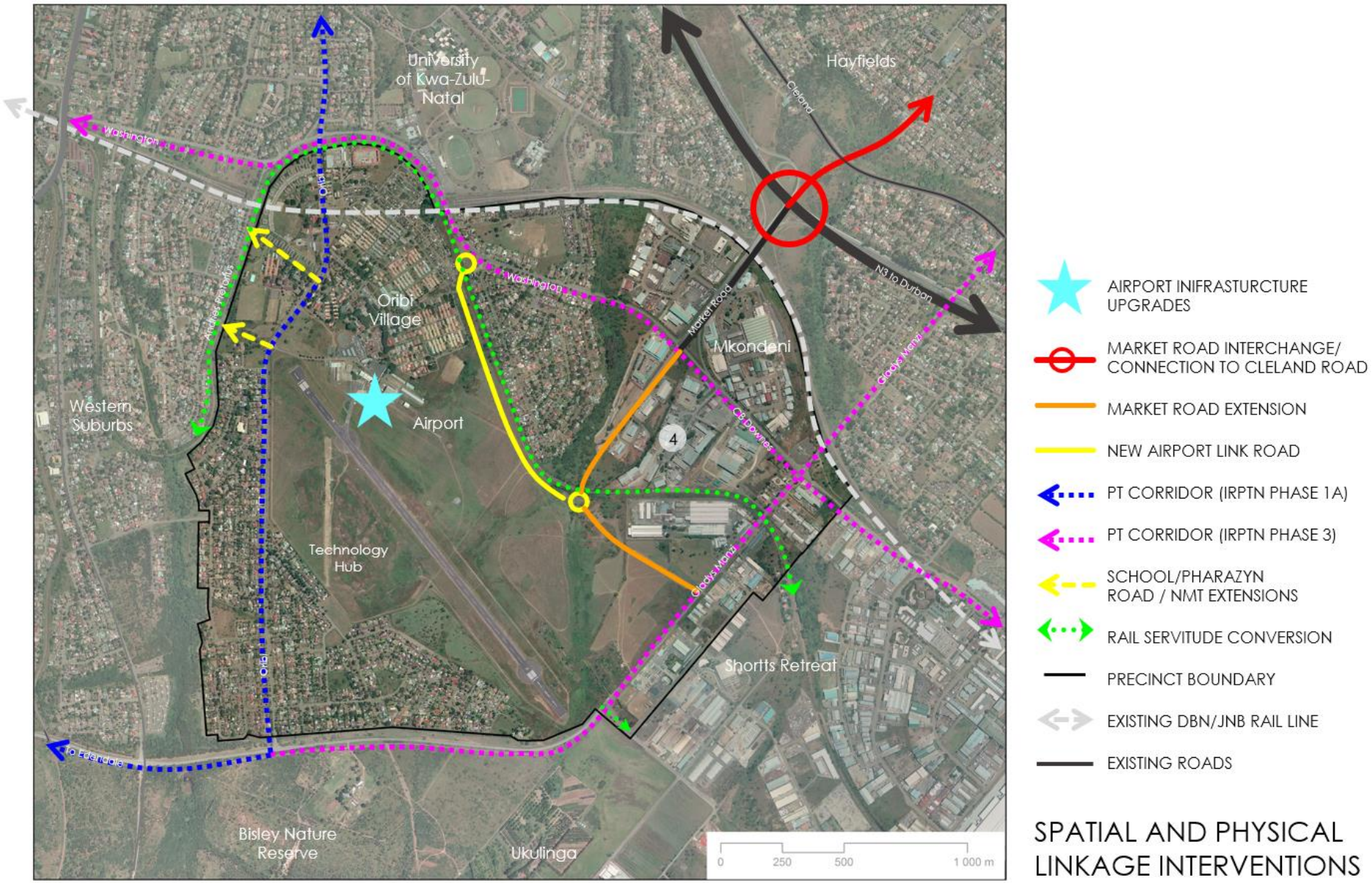

Figure 4-2: Spatial and Physical Linkage Interventions

4.4 SUB PRECINCTS

The linkage interventions presented above need to be supported by additional interventions in each of the sub precincts within the Airport Precinct and in those sub precinct immediately adjacent to the Airport Precinct. The various sub precincts are identified below and their respective roles articulated. Specific interventions that will be necessary to improve their performance are also articulated.

4.4.1 Sub Precinct Roles

Sub-Precinct Names	Aviation Services	Logistics	Research Learning	Production	Commerce	Accommodation	Social Services
SUB PRECINCTS WITHIN AIRPORT PRECINCT							
1 Airport							
2 Techno Hub							
3 Oribi Village Node							
4 Mkondeni Production Precinct							
5 Residential Neighbourhoods							
6 Blackborough Open Space Corridor							
SUB PRECINCTS ADJACENT TO AIRPORT PRECINCT							
7 Hayfields Business Park							
8 Shortts Retreat Production Precinct							
9 Ukulinga Agricultural Research Farm							
10 Bisley Research Cluster							
11 UKZN Campus							

4.4.2 Sub Precinct Interventions

SUB PRECINCTS WITHIN THE AIRPORT PRECINCT	
1. AIRPORT	The Airport is a key installation in the Precinct providing national and regional connectivity as well as aviation and logistics services, limited commercial and business accommodation and social support services provision e.g. fire services. Its accessibility, ease of expansion and ability to operate efficiently will be critical to its own success and growth, and for the longer term success of the precinct as a whole. Accordingly, its improved access to and from the N3 and other key regional routes and zones within the City will be a priority, as will be, the land and airside infrastructure layout configurations and associated opportunities for the expansion of both commercial and general aviation. This precinct must also be integrated with the proposed new IRPTN (Phase One A) which links into the CBD and other precincts in the City. More detail on the conceptual proposals for the reconfiguration of the Airport are contained within the appendices.
2. TECHNOLOGY HUB	A greenfield development that will provide a variety of new activities related to aviation research and associated light manufacturing, business parks, sport and recreation and temporary accommodation (hotel and or residences) related to learning and or research institutions. Key interventions are provision of efficient access, "smart" infrastructure and provision of a high environmental quality and linkage into surrounding sub precincts and the PT systems.
3. ORIBI VILLAGE NODE	Reconfigure the Oribi Village and Oribi Road/ Washington Road intersection into an urban mixed use node to upgrade the intersection, integrate proposed IRPTN route (Phase One A) along Oribi Road with existing and new social and public facilities, integrate existing, new and upgraded residential accommodation, introduce new commercial facilities for residents of the precinct and integrate these with the new airport entrance configuration. Upgrade Oribi Village into mixed use node featuring mixed low intensity commercial and service industrial uses, mixed income housing and new social and public facilities.
4. MKONDENI PRODUCTION PRECINCT	Consolidate and enhance functionality of the existing Industrial neighbourhood as a support precincts to the N3 corridor – increase flexibility of use and infill of vacant / underutilised subdivisions, develop vacant land and upgrade public environment to support functionality for users and visitors. Improve gateway entrance into the sub precinct off Market Road Interchange and transportation links to the surrounding precincts particularly the proposed new Business Park, the Airport and proposed new Techno Hub and upgrade support infrastructure in a manner that embraces "smart" principles.
5. RESIDENTIAL PRECINCTS/ NEIGHBOURHOODS	Consolidate and protect environmental quality of existing suburban neighbourhoods, but consider limited and sensitive densification and change of use along City connector roads that carry external traffic and future IRPTN routes.

6. BLACKBOROUGH OPEN SPACE CORRIDOR	Protect, upgrade and enhance the functioning of the corridor as an ecosystem services generator and link between other Municipality Open Space System elements and connect it to more directly both Bisley and Agricultural Hubs. Redevelop portions along its edges to provide additional useable open space for workers, visitors and residents.

SUB PRECINCTS ADJACENT TO THE AIRPORT PRECINCT

7. HAYFIELDS 8. BUSINESS PARK	Establish a new mixed use Business Park on the vacant land north and adjacent to the N3 to link into the Airport and N3 corridor. Uses to include logistics related business, offices, local level retail and to provide some higher density housing options.
9. SHORTTS RETREAT PRODUCTION PRECINCT	Consolidate and enhance functionality of the existing Industrial neighbourhood as a support precinct to the N3 corridor and increase flexibility of use and infill of vacant / underutilised subdivisions, develop vacant land and upgrade public environment to support functionality for users and visitors. Improve transportation links to the surrounding precincts particularly the proposed new Business Park, Airport and Techno Hub and upgrade support infrastructure in a manner that embraces "smart" principles.
10. UKULINGA AGRICULTURE RESEARCH FARM	Support the role of the agricultural research station as a research and learning centre around agricultural economics and food security for communities and possibly for research into agricultural produce that could be linked into the aviation logistics network (e.g. high value fruit, flowers)
11. BISLEY ECO-RESEARCH CENTRE	Build on existing role of the Reserve to enhance it as an environmental learning centre for the City and surrounding region. Develop infrastructure to attract study tours for schools and communities, provide low level conference facilities and trails for visitors to the City and / or groups associated with learning and environmental research.
12. UNIVERSITY OF KWAZULU-NATAL CAMPUS	Improve functional and spatial linkages between the University and other precincts in relation to research, learning and training related to the other research, learning and production activities in the other sub precincts and to general accommodation and social support facilities.

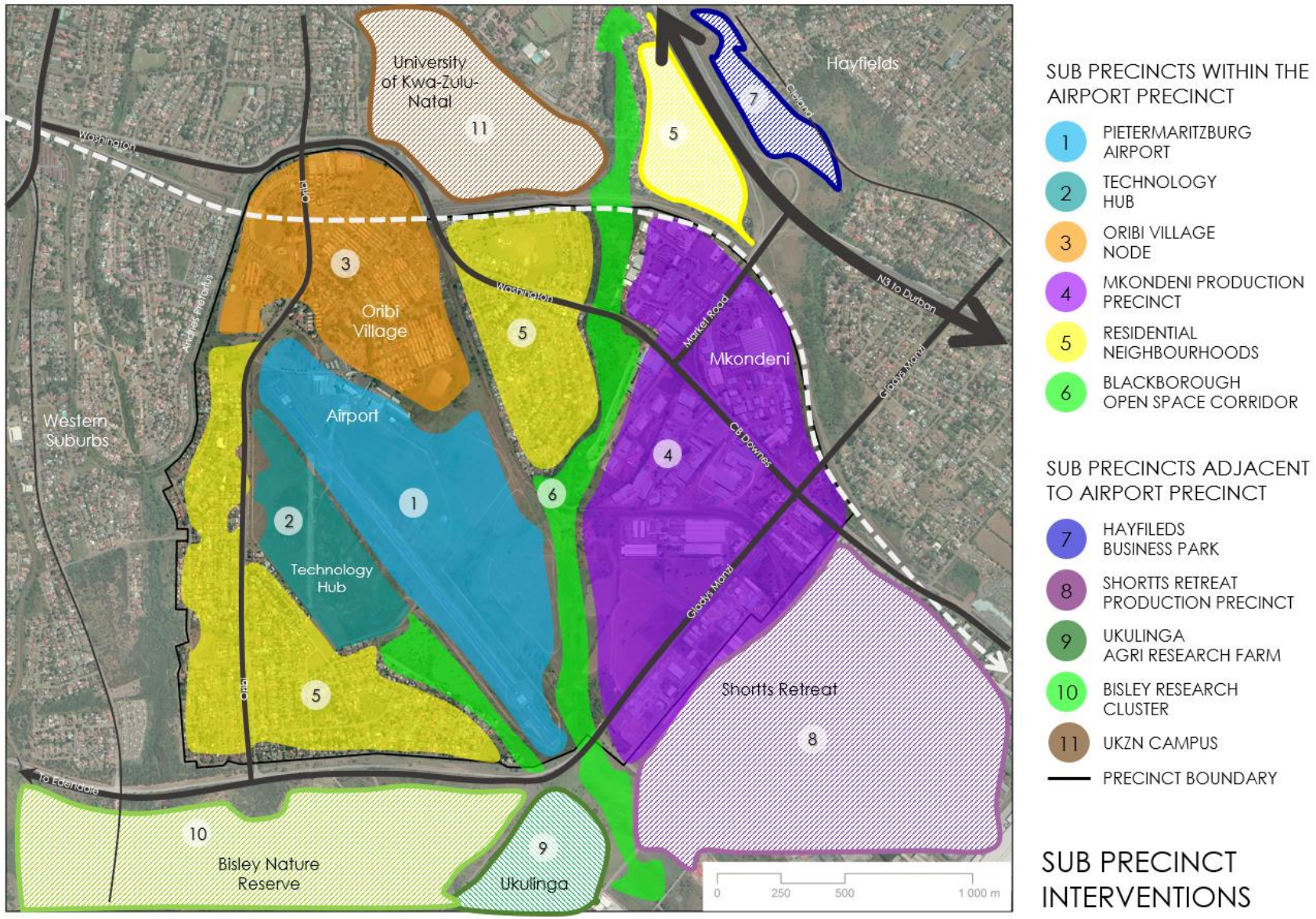

Figure 4-3: Sub-Precinct Interventions

4.5 ENVIRONMENTAL UPGRADES AND ENHANCEMENTS

Along with the interventions mentioned above there are some strategic environmental upgrades that would be necessary to establish higher levels of functionality and a discernible brand for the Precinct which portrays a progressive stance toward providing a high quality, high performance precinct based on sound principles of sustainability.

These are summarised below.

- Rehabilitate and enhance the Blackborough catchment as an ecological spine to the precinct and which links the precinct to the open space system of the City.
- Introduce "Green" infrastructure systems for public and private infrastructure
- Introduce building typologies that add value to Public Environment and that are "Green"
- Promote increased Public Transport use and enhance NMT facilities
- Establish/Celebrate gateways to the precinct and enhance its overall imageability and legibility through upgrading and provision of new public places, street scape upgrades and a distinctive signage programme

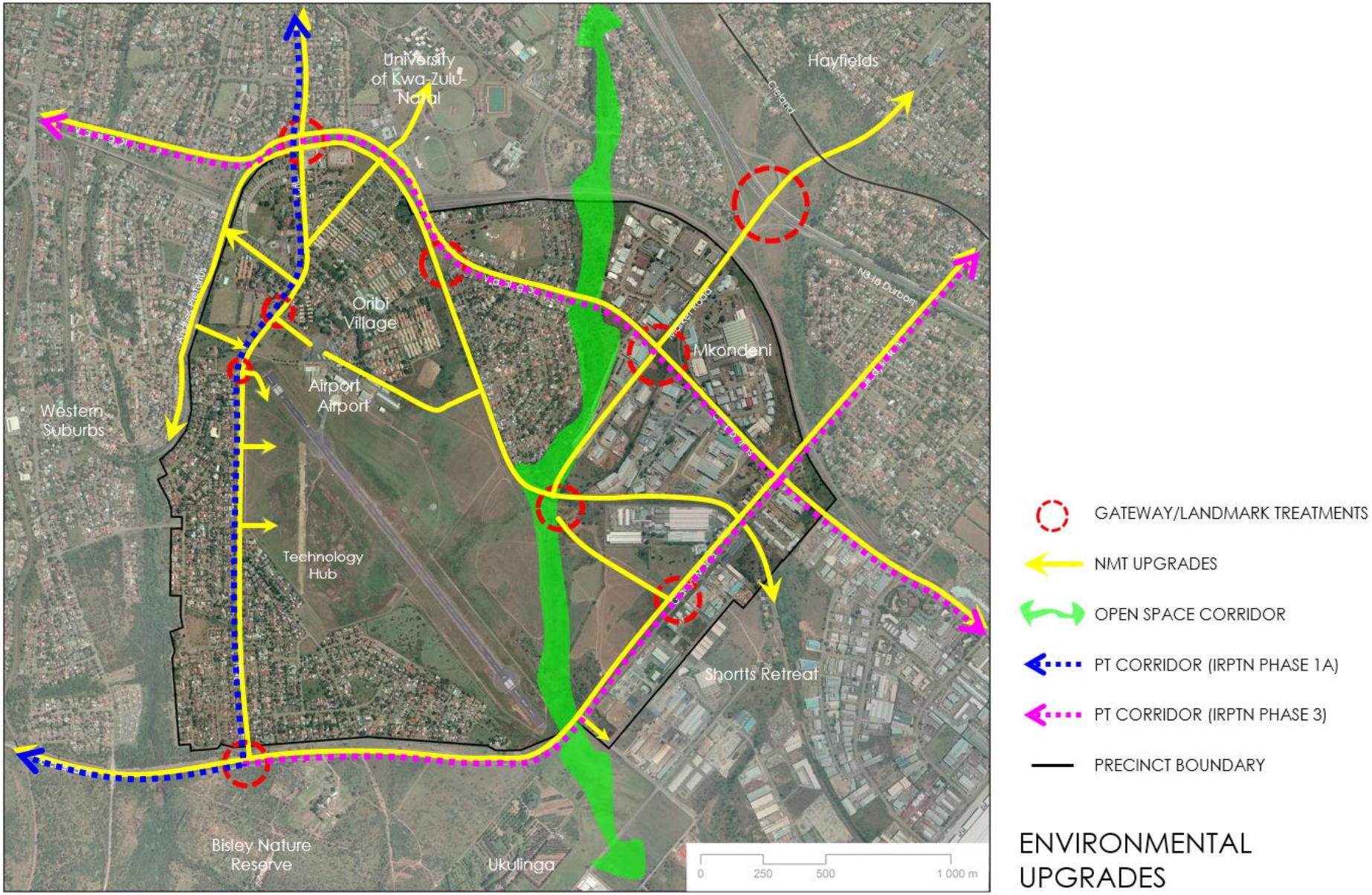

Figure 4-4: Environmental Upgrades