By 2030, eThekwini will be a socially equitable, environmentally sustainable, resilient and functionally efficient Municipality that bolsters its status as a gateway to Africa and the world."
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EXECUTIVE SUMMARY

The formulation and adoption of our Municipal Spatial Development Framework (SDF) is in line with the requirements of both the Municipal Systems Act (MSA), No. 32 of 2000 and the Spatial Planning and Land Use Management Act (SPLUMA, Act No.16 of 2013). The legislation requires the preparation of a Spatial Development Framework every 5 years to be reviewed annually. This report represents the Final SDF 2017/2018 and is the first SDF of the five year SDF cycle (2017/2018 – 2021/2022). This aligns with the Integrated Development Plan (IDP) process and 5 year IDP plan. Both the Final IDP and Final SDF are submitted to the Department of Co-operative Governance and Traditional Affairs (DCOGTA) for simultaneous assessment.

This SDF is an integral component of the Integrated Development Plan (IDP) and a key spatial transformation tool which guides how the implementation of the IDP should occur in space. The SDF therefore guides the desirable spatial distribution of land uses within a Municipality in order to give effect not only to the spatial vision, goals and objectives of the Municipality but by directing where the city should intervene in space to achieve its transformational objective. This is achieved through the identification of metro-wide spatial priorities and spatially targeting interventions in these key areas. The SDF is also aligned with provincial and municipal sector plans and strategies as a way of ensuring that the desired spatial form and outcomes of the Municipality are achieved both horizontally and vertically.

The first metropolitan Spatial Development Framework (SDF) was adopted in 1997. A review of the 1997 SDF was done in 2002. There have been tremendous changes in the Metro since the 2002 SDF was prepared, both institutionally and sectorally. Institutionally, the year 2000 saw the formation of a single unitary metropolitan local authority (eThekwini) responsible for the planning and development of the entire municipal area. Prior to this the metropolitan area comprised of numerous local authorities each responsible for planning and service delivery in their own area of jurisdiction. A new Package of Plans for eThekwini subsequently emerged, with the Long Term Development Framework (setting out the long term growth and development strategy and long term vision); the IDP (setting out the medium-term growth and development strategy, vision and goals) and SDF (providing medium to long term spatial guidance to the IDP)) as the corporate strategy plans; and the Spatial Development Plans (SDPs) (detailed sub-metropolitan plans providing strategic multi-sectoral planning guidance for each planning region; Local Area Plans (LAPs); Functional Area Plans (FAPs), Special Projects and Schemes as the policy and planning implementation tools that translates the spatial intentions of the SDF). The Built Environment Performance Plan (BEPP) a requirement of National Treasury and elaborated on in Chapter 8, is prepared and adopted by Council simultaneously with the IDP and SDF. The BEPP is a pre-requisite for the receipt of the nationally allocated performance based Integrated Cities Development Grant (ICDG) funding. The BEPP and ICDG funding, support and facilitate the integrated and spatially targeted implementation of the cities spatial priorities and
catalytic projects and close the gap between the strategic and spatial policy intent of the IDP and SDF and the budgeting and implementation of catalytic projects.

As a strategic document, the SDF does not provide definitive statements on all aspects of spatial development in the Municipal Area. To obtain the necessary detail, it is advisable that this SDF be read in conjunction with other sector and spatial plans. Most importantly the SDF must be read in conjunction with the Council approved Package of Plans (Spatial Development Plans (SDPs), Local Area Plans (LAPs), Functional Area Plans or Special Projects) as these translate the strategic and spatial intentions of the IDP and SDF into detailed and cadastrally based land use schemes and implementation plans. The Package of Plans is explained in detail in Chapter 1 Section 1.4 and Chapter 7 Section 7.2 and Annexure 2 of this report. Copies of the approved plans are attached at Annexure 7 and can also be viewed or downloaded from the Council’s website: http://www.durban.gov.za/City_Services/development_planning_management/Pages/Strategic-Spatial-Planning-(Framework-Planning)-2.aspx

The 2017/2018 SDF Preparation Process

The approach that has been used in preparing this SDF complies with the Municipal Planning and Performance Management Regulations of 2001. The Municipality continues to work towards full compliance with the Spatial Planning and Land Use Management Act (SPLUMA) No. 16 of 2013 as well as adherence to the Guidelines for the Development of Spatial Development Frameworks, introduced by the Department of Rural Development and Land Reform as well as the COGTA Spatial Planning Guidelines. The approach used in this review was as follows:

a) Development of a process plan

An SDF Process Plan was developed in conjunction with the IDP Process Plan. The process plan established a firm foundation for the alignment of the IDP, SDF and Budget. As such an all-encompassing process plan was prepared and adopted by the Council to ensure the proper and collective management of the IDP, SDF and Budget allocation process and ensure the submission of the Final IDP and SDF to COGTA by June 2017.

b) Desktop Review

The SDF attempts to align with global, national, provincial and municipal policy and strategic plans, as well as those of neighbouring municipalities and employs these to inform appropriate responses to our local spatial development challenges. Documents that were reviewed as part of this process could be categorised as follows:

- International Agreements eg Paris Agreement, Sustainable Development Goals etc
- Key national spatial development policies and programmes, e.g. National Development Plan, Strategic Infrastructure Plans, Integrated Urban Development Framework, National

- KZN strategic spatial plans including the Provincial Growth and Development Strategy (PGDS), development programmes as implemented by different government departments, State of the Province Address; etc.
- The IDP’s and SDF’s of neighbouring municipalities

c) Implementation of the Durban Climate Change Strategy (DCCS)

In acknowledgement of the need for Durban and all of its residents, from big industry to the poorest communities, to prepare for the impacts of climate change, the eThekwini Municipality engaged in an inclusive participatory process to develop a combined mitigation and adaptation climate change strategy for Durban. The strategy was approved by the Council during June 2015.

The DCCS covers 10 themes: water, sea level rise, biodiversity, food security, transport, energy, waste and pollution, and health. In addition it covers economic development as well as knowledge generation and understanding as cross-cutting fields.

In an effort to promote stronger integration between existing municipal climate change response mechanisms and spatial planning, the 10 themes of the Durban Climate Change Strategy (DCCS) were workshopped across the key sector departments in order to draft content on Climate Sensitive Spatial Planning that could be included in the SDF and lower order spatial plans. This SDF reflects the outcomes of those cross cutting discussions and also includes an itemized Climate Resilience Implementation Plan prepared as part of this SDF process and to be implemented through the SDF over the next five year period.

d) Spatial Planning and Sector Plan Updates

- This SDF is revised based on updated spatial planning and sector strategies. Addressing changes within these plans involves reviewing and updating the status quo as well as spatial proposals as a way of ensuring alignment between the sector plans and the current SDF.

e) The Use of GIS and mapping improvements

- The eThekwini Municipality is constantly striving to make mapping improvements and to this end the municipality has standardized the mapping topology in order to simplify and
improve mapping legibility. Municipal sector departments have been requested to align with the updated templates and improve the quality of the mapping they provide.

f) Addressing the MEC for COGTA’s Comments on the Final SDF Review 2016/17

Each year COGTA assess the SDF to determine compliance with the following criteria:

- Submission of the SDF: Seeks to establish whether a complete SDF was submitted as required in terms of the MSA
- Legal compliance: Seeks to establish the level of compliance with the 16 legal issues that should be addressed in a credible SDF.
- Vision and spatial restructuring components: Seeks to establish the strategic focus of the SDF and its alignment with the long term development strategy as outlined in the IDP.
- Budget alignment: Seeks to establish alignment of the SDF with the budget through the capital investment framework.
- Policy Alignment: Alignment with national and provincial spatial policy and guidelines.

The objective of the assessment is:

- To establish the credibility and completeness of each SDF;
- To assist municipalities to strengthen the legal compliance of the SDF’s across province;
- To assist the municipalities to improve the integration of budgeting and strategic planning processes through the SDF (Capital Investment Framework);
- To improve SDF’s in order to appropriately inform the introduction of wall-to-wall Schemes;
- To engage with District Municipalities and Local Municipalities in order to improve the strategic focus of the SDF’s; and
- To identify Municipalities that require direct support with the development of their SDF’s where appropriate.

The COGTA assessment of the SDF Review 2016/2017 is outlined in Annexure 10 of this report and has been summarised as follows:

<table>
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<th>MEC Recommendations for eThekwini Metropolitan Municipality</th>
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<tr>
<td>The eThekwini SDF’s focus on the built environment indicates an urban bias and is too technical in its approach. A shift to rural development is required in the next review with formalisation serving as a key priority that is to be guided by a strategic approach.</td>
</tr>
<tr>
<td>The amalgamation with Vulamehlo needs attention and the spatial implications of this merger need to be represented alongside the cross-border strategies that will come into effect to make this a smooth process with Vulamehlo Municipality.</td>
</tr>
<tr>
<td>Rural Schemes - The municipality has completed only one rural scheme and that is for UMNINI. The Umgababa Coastal Plan has not been accepted by the relevant Traditional Authority. The Rural Strategy has been finalised but approval has been delayed due to critical issues that still need to be resolved. COGTA is requested to assist in addressing the issues and challenges with planning and land use management in Traditional Areas.</td>
</tr>
<tr>
<td>Stand alone Agriculture Sector Plan is not finalised, however sections on the state of</td>
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agriculture in the city and province together with the municipality’s approach to agriculture is noted within the SDF.

- The SEA has been initiated (to be part of SDF 2017-2018)
- Bilateral meetings have been held with DARD and relevant municipal departments to clarify and discuss the need for an Agricultural Sector Plan. Steps are being taken to identify a “City Champion” to drive this process. DARD acknowledges that the SDF does make reference to the KZN DARD Land Categories Dataset and Draft Policy Guidelines but the IDP does not and this needs to be correctly reflected in the COGTA comments. On-going meetings with DARD to address their concerns regarding land use applications and protection of agricultural resources are being arranged with the appropriate departments.
- Conservation of built and natural environment component will be updated in line with outcomes of meeting with KZN Ezemvelo/Wildlife, as stated in the SDF
- The continued practise of inserting maps into document, continues to discount the info contained within said map
- The limitations of info in terms of: identification of a hierarchy of rural and urban nodes, identification of economic opportunities in close proximity to previously disadvantaged areas, mapping of land holdings of state owned land, is noted. Please advise on how COGTA can assist in attaining info
- It is noted that COGTA is requested to assist in addressing the issues and challenges with planning and land use management in Traditional Areas. Please specify the scope of assistance required
- The Cross Boundary Plan reflects District Municipalities levels of the SDF. It should include Local Municipalities SDFs which are far more detailed. The issues noted in the cross boundary municipal engagements are useful (pg 69-74) and should be integrated within Cross Boundary Plan, where possible. Cross - border planning - The city is commended for the efforts in cross border planning, however no spatial indication is prevalent with neighbouring municipalities.
- The city is commended for their BEPP (similar to CIF) this plan is in alignment to the SDF and IDP. The approach of the BEPP is both Urban and rural (rural development that was lacking in the SDF 2015-2016)
- The Capital Investment Framework will be further refined once final budget is adopted as stated in the SDF

| Issues emerging from the 2016 MEC Assessments which the Metro needs to address in the IDP and SDF |
| --- | --- |
| - Biodiversity data analysis, synthesis and application at a local level. |
| - The development of environmental tools, such as SEA. |
| - Application of Section 21 of SPLUMA. |
| - Development of Sector Plans (Housing Sector Plans, Disaster Management Plans, Agricultural Sector Plans, and Traditional area plans, amongst other Sector Plans and plans) for this generation of IDP / SDF and integrated into both the IDP and SDF, and it is necessary for these sector plans/ plans to be submitted with the IDP/SDF for the 2017 assessment. |
| - The development of Rural Development and Land Reform plans. |
| - Bulk and reticulation Infrastructure Plans addressing current and future capacity aligned to Human Settlement projects. |
In response to the MEC comments above it should be noted that:

- The rural development strategy has been approved and was included in the Final SDF 2016/2017 and now guides the implementation of key projects in the rural areas, including the formalisation of towns and will be taken into consideration in identifying the city’s spatial priorities. A map showing the Rural Projects completed or in progress is attached at Annexure 7 of this report.

- A Ward profiling project for the newly demarcated areas Ward 105 (formerly Vulamehlo) has been commissioned by the eThekwini Municipality and once complete will inform the next SDF review.

- The SEA is still underway.

- The revised and adopted D’MOSS 2016 has been incorporated into the SDF (refer Annexure 14).

- The Parks, Recreation and Cemeteries Department were identified as the City Champion to drive the preparation of a city wide Agricultural Sector Plan.

- Both new and settled land claims within the eThekwini Municipality have been mapped but there is no indication of the timeframe in which these new claims will be resolved.

- The City will achieve full SPLUMA compliance within the 5 year period starting from July 2015 when the legislation was promulgated and for which provision has been made in the said legislation. The status of SPLUMA readiness in the City is highlighted in the report in Chapter 1 and Annexure 5 along with the progress on the extension of schemes as outlined in Annexure 7.

- Cross border engagement and coordinated planning is ongoing. This is achieved through various fora namely meetings with neighbouring municipalities, the SIP process, Aerotropolis Planning process, re-demarcation readiness process and mapping by the Municipality of the proposed land uses and linkages of the neighbouring districts.

- The Housing Sector information has been expanded to comply with the SPLUMA requirements where possible. It should be noted that the Human Settlements Department has no involvement in the high to middle income housing sector and therefore has no data on demand / supply within this segment of the market nor is required to have any strategy to intervene in this segment of the market as it falls within the domain of the private sector. There is also no national policy on Inclusionary Housing to guide a municipal response as required in SPLUMA. Such gaps in the national policy, city mandate and available data will hinder the city's ability to provide a comprehensive response and achieve full SPLUMA compliance, however much progress has been achieved in this regard.
A detailed response to the MEC COGTA comments can be found under Annexure 10 of this report.

g) The Public Participation Process

Participation is an important component of the SDF process. The public process was undertaken from 24 February to 24 April 2017. During this time the SDF was placed in Municipal Libraries and Sizakhala Centres as well as being widely advertised in local newspapers for public comment. It was also circulated to all relevant municipal and provincial departments for input and comment followed by several sector and stakeholder engagements, including presentations to the Portfolio Committees of Council, departmental sector engagements and cross boundary meetings. The public participation process and summary of comments received and responses thereto are detailed in Annexure 4 of the final report.

The way forward:

The SDF presents a long term vision of the desired spatial form of a Municipality, and thus is a critical informant for bulk infrastructure planning which normally has a 5-20 year planning horizon. As such the SDF is indicative of a preferred development scenario against which there is still a need for more detailed investigations of the cost implications and capacity requirements for the provision of bulk infrastructure. To this end the IDP and SDF have informed the Built Environment Performance Plan 17/18 in an effort to further integrate spatial priorities and bulk infrastructure resource allocations.

Programmes and projects underway to facilitate the implementation of the SDF:

a) Implementation of the City Densification Strategy and Transit Oriented Development Strategies

The city is currently focusing on the implementation of the City Densification Strategy and Public Transport Corridor Plans (North Public Transport Corridor, South Public Transport Corridor and MR577 Corridor Plans through pilot projects and catalytic projects. The city is also undertaking further baseline studies to monitor densification trends across the city in order to facilitate a more spatially efficient, integrated and compact spatial form.

b) Municipal Adaptation Plans

In order to improve the effectiveness of climate change adaptation planning, sector specific municipal adaptation plans have been developed for three priority high risk sectors: Health, Water and Disaster Management. These plans have been accepted by sector representatives and by the Council. The Water sector, in particular, has engaged enthusiastically with the plans since 2010. The Municipal Adaptation Plans have undergone a Benefit-Cost Analysis by a team of resource economist experts, with the aim of prioritising the Municipality’s adaptation options on the basis of economic efficiency and the benefit to people, while being cognisant of governance and capacity issues that might
facilitate or hinder the implementation of the interventions. This Benefit-Costs Analysis has resulted in a consolidation of the original 47 Municipal Adaptation Clusters into a reduced set of 16 Municipal Adaptation Clusters, which is greatly easing the implementation and tracking of the interventions.

c) Urban Resilience Strategy

The eThekwini Municipality’s leadership role in the climate change adaptation arena at both a local and global level has also positioned the city well to advance its thinking and action around the increasingly important concept of ‘urban resilience’. ‘Resilience’ is the ability of a system, entity, community or person to withstand shocks while still maintaining its essential functions, and recovering effectively to a state better prepared to cope with both extreme and slow onset events. These shocks and stresses could be environmental (e.g. climate change) or socio-economic (e.g. local and global economic meltdowns, persistent poverty and unemployment etc). Building resilience is therefore about making people, communities, infrastructure and ecosystems better prepared to withstand catastrophic events – both natural and manmade – and about planning in new and innovative ways in order to bounce back more quickly and more strongly. In December 2013, Durban was selected as one of the first cohort of 33 cities to be inaugurated into the Rockefeller Foundation’s 100 Resilient Cities Centennial Challenge. This programme aims to build urban resilience in cities around the world by providing relevant technical and financial support for the development of a ‘Resilience Strategy’ in each of the selected cities. ETekwini’s involvement in the 100 Resilient Cities Programme will help to better coordinate resilience-building initiatives across the municipality and to contribute to the resilience agenda at both a local and global level.

The municipality’s spatial planning is critical to the city’s resilience and will contribute to, and be influenced by, the Resilience Strategy that is produced as part of this programme.

d) Climate Resilience Implementation Plan for the eThekwini SDF

The eThekwini Municipality has developed a robust planning framework in the form of the Spatial Development Framework (SDF). It also has a number of well-formed strategic responses to climate change, including the Durban Climate Change Strategy. While the SDF has spatially responded to climate change on many different levels, particularly through its densification strategy, it is important to continue to advance the integration between the City’s spatial planning and the City’s climate response mechanisms. The eThekwini Municipality is fortunate to be one of 3 international cities to be selected to participate in the launch of the GIZ funded Cities Fit For Climate Change (CFCC) programme, a programme that aims to strengthen cities as actors of sustainable development, and assist cities in the development of integrated, resilient and low carbon instruments for sustainable urban development.

Accordingly, in a GIZ funded project, the spatial implications of the 10 themes of the Durban Climate Change Strategy (DCCS) were workshopped across the key sector departments in order to draft content on Climate Sensitive Spatial Planning that could be included in the SDF and lower order
spatial plans and to develop an itemised implementation plan, of all the relevant climate related
development projects, to be implemented through the SDF. This SDF reflects the outcomes of those
cross cutting discussions and also includes an itemized Climate Resilience Implementation Plan
prepared as part of this process and to be implemented through the SDF and Built Environment
Performance Plan (BEPP) over a five year period. This project will help build on the resilience work
already being undertaken in the city and will also contribute towards the resilience agenda both locally
and globally. The Climate Resilience Implementation Plan for the eThekwini Spatial Development
Framework (SDF) was completed in April 2017 and has been incorporated into this SDF.

e) Built Environment Performance Plan 2016/17-18/19 and Integrated City Development Grant

The Integrated City Development Grant (ICDG) provides incentives for participating
municipalities to identify and establish integration zones within cities, including the establishment
of measureable performance objectives, indicators and targets. The objective of the ICDG is to
support the development of more inclusive, livable, productive and sustainable urban built
environments in metropolitan municipalities. The grant provides a financial incentive for
metropolitan municipalities to integrate and focus their use of available infrastructure investment
and regulatory instruments to achieve a more compact urban spatial form. The eThekwini
Municipality, as a recipient of the Integrated Cities Development Grant (ICDG) has identified a
number of integration zones across the municipal area within which to spatially target
investments. Through the preparation of the Built Environment Performance Plan, the
municipality must highlight the financial and other strategies for investment in the integration
zones and catalytic projects. Further details regarding the Built Environment Performance Plan
and Integration Zones can be found in Chapter 8 of this report.
### DEFINITION OF SPATIAL TOOLS AND CONCEPTS

<table>
<thead>
<tr>
<th>SPATIAL TERM</th>
<th>DEFINITION</th>
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<tbody>
<tr>
<td><strong>Nodes</strong></td>
<td>Nodes are areas where a higher intensity of land uses and activities are supported and promoted. Typically any given municipal area would accommodate a hierarchy of nodes that indicates the relative intensity of development anticipated for the various nodes, their varying sizes, and their dominant nature.</td>
</tr>
<tr>
<td><strong>Corridors</strong></td>
<td>Corridors are links between nodes, along which an increased intensity of development may be encouraged. Corridors provide efficient access to a higher level of economic and social opportunities than would generally be the case in less structured space or where activities are dispersed. They typically include public transport routes.</td>
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<tr>
<td><strong>Densification</strong></td>
<td>Densification refers to an increase in density. Density is defined as the number of units per hectare or number of people per hectare and is achieved through the increased use of space both horizontally and vertically within existing areas / properties and new developments. Densification is a measure of the compactness of cities and is the hallmark of a qualitative urban environment which supports efficient and cost effective service delivery with good access to public transport and social and economic opportunities</td>
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<tr>
<td><strong>Efficiency</strong></td>
<td>Development that maximises development goals such as sustainability, integration, accessibility, affordability, and quality of living, relative to financial, environmental, and social costs, including ongoing and future costs</td>
</tr>
<tr>
<td><strong>Infill development</strong></td>
<td>Development of vacant or under-utilised land within existing settlements in order to optimise the use of infrastructure, increase urban densities and promote integration</td>
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<tr>
<td><strong>Integrated development plan</strong></td>
<td>A 5 year strategic municipal development plan, reviewed on an annual basis, required by the MSA (Act 32 of 2000) which guides municipal decisions and budgets</td>
</tr>
<tr>
<td><strong>Mobility Routes</strong></td>
<td>These are routes of national significance that connect the Municipality at a national and provincial scale. Examples of these routes include the N2 and N3.</td>
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<tr>
<td><strong>Sector Plans</strong></td>
<td>Sector Plans are municipal plans for different functions such as bio-diversity conservation, housing, transport, local economic development and disaster management. They may also be geographically based, for example a sub-region, settlement within a local Municipality or a component of a settlement</td>
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<tr>
<td><strong>Urban Sprawl</strong></td>
<td>Urban Sprawl is the expansion of urban areas across the landscape and the conversion of forested, wetland and agricultural areas to urban areas. Urban sprawl includes the expansion of major roadways, not just housing and commercial areas, it is usually associated with increased private car usage, water and air pollution, under utilisation of infrastructure and land use segregation.</td>
</tr>
<tr>
<td><strong>Urban Core</strong></td>
<td>The urban core consists of the inner core areas of the Municipality including the traditional CBD area and surrounds. The planning within the urban core mainly focuses on redevelopment and regeneration where land uses are unlikely to change significantly but will increase densities and provide more residential opportunities</td>
</tr>
<tr>
<td><strong>Urban Development Line (UDL)</strong></td>
<td>The SDF uses the term Urban Development Line and not Urban Edge or Development Edge. The UDL is a line demarcating the extent to which urban development will be permitted to be established within an urban development corridor or urban node. It is a line that will promote efficient, equitable and sustainable settlement form. The line indicates the outer limit of urban development within a corridor or node. The UDL implies that there is a rural hinterland different in character and servicing needs, and which supports different lifestyles and densities.</td>
</tr>
<tr>
<td><strong>Development Services Line / Phasing Line</strong></td>
<td>The Development Services Line is a line located within the urban development corridor or node indicating the limit to infrastructure availability and capacity. This line may coincide with the UDL or may fall within the UDL boundary. The metropolitan area may have a number of development services phasing lines related to future servicing capacity and infrastructure indicating where and when future development can be serviced.</td>
</tr>
<tr>
<td><strong>Integration Zones / Urban Network</strong></td>
<td>Integration Zones are sub-metropolitan areas where opportunities exist for public intervention to promote more inclusive, efficient and sustainable forms of urban development. They the focus of the National Treasury’s spatial targeting initiative is the identification of the CDD, townships, other townships, and the connections between these three types of spaces or elements and an integration Zone. The entire system is termed the Urban Network.</td>
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<td>ACRTONYMS AND ABBREVIATIONS</td>
<td>MEANING</td>
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<tr>
<td>ABM</td>
<td>Area Based Management</td>
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<td>ASGISA</td>
<td>Accelerated and Shared Growth Initiative for South Africa</td>
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<td>BoP</td>
<td>Back of Port</td>
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<tr>
<td>CMPR</td>
<td>Central Municipal Planning Region</td>
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<td>CSIR</td>
<td>Council for Scientific and Industrial Research</td>
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<td>CIF</td>
<td>Capital Investment Framework</td>
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<td>DCOGTA</td>
<td>Department of Cooperative Governance and Traditional Affairs</td>
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<td>DFA</td>
<td>Development Facilitation Act</td>
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<td>D’MOSS</td>
<td>Durban Metropolitan Open Space System</td>
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<td>DSW</td>
<td>Durban Solid Waste</td>
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<td>DTP</td>
<td>Dunbe Trade Port</td>
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<td>DWA</td>
<td>Department of Water Affairs</td>
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<td>EDS</td>
<td>Economic Development Strategy</td>
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<td>EBA</td>
<td>Ecosystem-based adaptation</td>
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<td>EGS</td>
<td>Ecosystem Goods and Services</td>
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<td>EM</td>
<td>ETHekwini Municipality</td>
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<td>EMA</td>
<td>ETHekwini Municipal Area</td>
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<td>EMF</td>
<td>Environmental Management Framework</td>
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<td>ETA</td>
<td>ETHekwini Transport Authority</td>
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<td>ETHekwini Water Services</td>
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<td>FAP</td>
<td>Functional Area Plans</td>
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<td>FAR</td>
<td>Floor Area Ratio</td>
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<td>HDA</td>
<td>Housing Development Agency</td>
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<td>IRPTN</td>
<td>Integrated Rapid Public Transport Network</td>
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<td>HPPTN</td>
<td>High Priority Public Transport Network</td>
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<td>ICDG</td>
<td>Integrated Cities Development Grant</td>
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<td>ICT</td>
<td>Information and Communications Technology</td>
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<td>IDP</td>
<td>Integrated Development Plan</td>
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<td>INK</td>
<td>Inanda Ntuzuma KwaMashu</td>
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<td>IZ</td>
<td>Integration Zone</td>
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<td>KSIA</td>
<td>King Shaka International Airport</td>
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<td>KZN</td>
<td>KwaZulu-Natal</td>
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<td>KZNPGDS</td>
<td>KwaZulu-Natal Provincial Growth and Development Strategy</td>
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<td>LED</td>
<td>Local Economic Development</td>
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<td>Land Use Framework</td>
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<td>Municipal Climate Protection Programme</td>
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<td>MFMA</td>
<td>Municipal Financial Management Act</td>
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<td>NDP</td>
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<td>National Environmental Management Act</td>
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<td>NMMPR</td>
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<td>National Planning Commission</td>
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<td>NSDP</td>
<td>National Spatial Development Perspective</td>
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<td>SOE’s</td>
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<td>SDF</td>
<td>Spatial Development Framework</td>
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<td>SDP</td>
<td>Spatial Development Plan</td>
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<td>SMME’s</td>
<td>Small, micro and medium enterprises</td>
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<td>SMPPR</td>
<td>Southern Municipal Planning Region</td>
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<td>UDL</td>
<td>Urban Development Line</td>
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<td>UE</td>
<td>Urban Edge</td>
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<td>UNS</td>
<td>Urban Network System</td>
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<td>WMPPR</td>
<td>Western Municipal Planning Region</td>
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CHAPTER 1
INTRODUCTION TO THE SPATIAL DEVELOPMENT FRAMEWORK (SDF)

Synopsis: Chapter 1 of this document outlines the purpose and role of the SDF by linking it to the legal and policy directives that informs the SDF. This chapter also outlines the planning approach adopted by the eThekwini Municipality in the preparation of this SDF and its translation to a Land Use Scheme.
1. INTRODUCTION: THE SPATIAL DEVELOPMENT FRAMEWORK (SDF)

The Municipal Systems Act, Act No. 32 of 2000 (MSA) along with the Spatial Planning and Land Use Management Act (SPLUMA, Act No.16 of 2013), which came into effect in July 2015, requires that each Municipality prepare an Integrated Development Plan (IDP) and Municipal Spatial Development Framework (SDF) to serve as a tool for transforming local governments and its management of development within its area of jurisdiction.

The Municipal SDF serves as a strategic spatial framework that guides the desired spatial distribution of land uses, spatial priorities and strategic infrastructure provision within a Municipality in order to give effect to the vision, goals and objectives of the municipal IDP. The Municipal SDF represents a long term (20+ years) vision and plan and provides a long term spatial planning context for the IDP which is revised in 5 year cycles. Accordingly, the eThekwini Municipality has prepared and annually reviewed its IDP and SDF’s since 2002. This year heralds a new 5 year term for elected councilors and coincides with the new 5 year IDP and SDF cycle. This SDF represents the first year of the five year cycle (2017/2018 – 2021/2022) and aligns with the IDP process. It is anticipated that the new council will continue for the rest of their 5 year term to focus and build on the gains of the previous Council.

1.1 Role and Purpose of the SDF

The SDF is the primary spatial response to the development context, needs and development vision of the municipality. It is a key land use management tool which informs strategic choices and interventions especially regarding the future growth and development of the Municipality and has an important role to play in guiding and managing Municipal decisions relating to the use, development and planning of land. It is a legislative requirement and should resonate with the national and provincial spatial development plans and priorities.

The SDF is also a transformation tool. With its focus on spatial restructuring, it guides the location of future development in a manner that addresses the imbalances of the past. It enables the municipality to manage its land resources in a developmental and sustainable manner. It provides an analysis of the spatial needs and issues and provides strategies and programs to address these challenges. In summary, the SDF has the following benefits:

- It facilitates effective use of scarce land resources.
- It facilitates decision making with regard to the location of service delivery projects.
- It guides public and private sector investment.
- It strengthens democracy, inclusivity and spatial transformation
- It promotes intergovernmental coordination on spatial issues.
- It serves as a framework for the development of lower order plans and Scheme and is the basis for land development decisions
• It guides and informs the spatial location of municipal infrastructure investment and spatial priorities;
• Provides visual representation of the desired urban form of the municipality in the short, medium and long term.

Ultimately, the SDF and accompanying Package of Plans, defines and facilitates a progressive move towards the attainment of an agreed upon desired spatial form within the municipality’s area of jurisdiction.

1.2 Strategic Approach of the SDF

In addition to the need to be SPLUMA compliant, the SDF must inform the strategic spatial response of the IDP and is itself informed by key international, national, provincial and local influences. The following diagram provides an overarching view of the combined influences on the municipal IDP and SDF. Each of the strategies listed below should not be seen in isolation but as integrated components of an overall framework for sustainable development of the city.

The strategic and spatial approach to the development of the Municipality and its built environment is underpinned by strategic global, national and regional policy. The objectives of these policies have influenced the development of the strategic and spatial direction of the Municipality. The most recent and relevant developmental policies (as depicted in the diagram below) - Sustainable Development Goals National Development Plan, Service Delivery Agreement Outcome 9, Medium Term Strategic Framework 2015 – 2019, Provincial Growth and Development Strategy and the Provincial Government Priorities - are expanded on below.
### 1.2.1 The New Urban Agenda

The **New Urban Agenda** was officially adopted in Quito, Ecuador in November 2016. The agenda provides a *20-year ‘roadmap’* to guide sustainable urban development globally. The 2030 agenda is built around a series of Sustainable Development Goals (SDGs). Most relevant to the New Urban Agenda is **SDG 11**, which aims to “make cities and human settlements inclusive, safe, resilient and sustainable”. Unlike their predecessors, the **Millennium Development Goals**, the SDGs apply to all UN members states equally. Much of the New Urban Agenda focused on the application of new technologies and the harvesting of big data, particularly in established urban centers and cities. Under the umbrella of **Smart Cities**, using open data networks for better urban planning provides an optimistic, technology-based future for cities. Also included in the New Urban Agenda are renewed efforts to help developing countries urbanise. These build on earlier work under the **Millennium**
Development Goals and Habitat II. Related commitments focus on emerging concepts, such as urban resilience and inclusive public spaces. The role of partnerships between city authorities and universities in the Global South and their more developed neighbours was also strongly emphasised. The New Urban Agenda can be summarized into 9 levers of change which are listed below:

The above levers align with the long term strategy of the municipality and confirm the strategic spatial intent of the municipality to ensure that the development of the city is along a trajectory that promotes sustainability.

1.2.2 Sustainable Development Goals

The intention of the SDG’s is to be a universally shared common, globally accepted vision to progress to a just, safe and sustainable space for all inhabitants. It is based on the moral principle of the Millennium Development Goals that no one or one country should be left behind and that each country has a common responsibility in delivering on the global vision. It is further noted that each of the SDG targets and goals are applicable to both developed and developing countries alike. One of the departure points in developing the SDG’s was that countries would need to ensure that there is a balance between the economic, political, social and environmental effort required to ensure that these goals are achieved. The SDG’s allow for a whole holistic development of cities with a wider range of development programs. The municipality would continue to address these issues in a holistic and integrated manner. The 17 SDG’s are listed below.
The SDF strives to respond to all the goals and targets within its mandate but is largely influenced by SDG 11: ‘Making cities and human settlements inclusive, safe, resilient and sustainable’ as its primary goal. Of particular importance to cities are the targets that are defined for this goal. These targets are listed below.

- By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
- By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons
- By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries
- Strengthen efforts to protect and safeguard the world’s cultural and natural heritage
- By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations
- By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
- By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities
- Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning
- By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels
• Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials

This Municipal SDF needs to respond to all the SDG’s but in particular, the SDG 11 targets through various spatial tools and interventions, spatial priorities and catalytic projects

1.2.3 Sendai Framework for Disaster Risk Reduction 2015-2030

The Sendai Framework is a 15-year voluntary, non-binding agreement which recognizes that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders. It aims for the following outcome: “The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries”. The framework consists of seven targets and four priorities for action.

The Seven Global Targets

(a) Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality rates in the decade 2020-2030 compared to the period 2005-2015.
(b) Substantially reduce the number of affected people globally by 2030, aiming to lower average global figure per 100,000 in the decade 2020 -2030 compared to the period 2005-2015.
(c) Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030.
(d) Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030.
(e) Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020.
(f) Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030.
(g) Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.

The Four Priorities for Action

Priority 1: Understanding disaster risk
Disaster risk management should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the
environment. Such knowledge can be used for risk assessment, prevention, mitigation, preparedness and response.

**Priority 2: Strengthening disaster risk governance to manage disaster risk**

Disaster risk governance at the national, regional and global levels is very important for prevention, mitigation, preparedness, response, recovery, and rehabilitation. It fosters collaboration and partnership.

**Priority 3: Investing in disaster risk reduction for resilience**

Public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets, as well as the environment.

**Priority 4: Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction**

The growth of disaster risk means there is a need to strengthen disaster preparedness for response, take action in anticipation of events, and ensure capacities are in place for effective response and recovery at all levels. The recovery, rehabilitation and reconstruction phase is a critical opportunity to build back better, including through integrating disaster risk reduction into development measures.

### 1.2.4 The Addis Ababa Agreement

The *Addis Ababa Action Agenda* provides a foundation for implementing the New Urban Agenda. The agreement was reached by the 193 UN Member States attending the United Nations Third International Conference on Financing for Development. To achieve the SDG’s and New Urban Agenda goals, countries agreed to new initiatives, including on:

**Technology**—Countries agreed to establish a Technology Facilitation Mechanism at the Sustainable Development Summit in September to boost collaboration among governments, civil society, private sector, the scientific community, United Nations entities and other stakeholders to support the sustainable development goals.

**Infrastructure**—Countries agreed to establish a Global Infrastructure Forum to identify and address infrastructure gaps, highlight opportunities for investment and cooperation, and work to ensure that projects are environmentally, socially and economically sustainable.

**Social protection**—Countries adopted a new social compact in favour of the poor and vulnerable groups, through the provision of social protection systems and measures for all, including social protection floors.
Health—Countries agreed to consider taxing harmful substances to deter consumption and to increase domestic resources. They agreed that taxes on tobacco reduce consumption and could represent an untapped revenue stream for many countries.

Micro, small and medium-sized enterprises—Countries committed to promote affordable and stable access to credit for smaller enterprises. They also pledged to develop and operationalize a global strategy for youth employment and implement the International Labour Organization Global Jobs Pact by 2020.

Foreign aid—Countries recommitted to achieve the target of 0.7 per cent of gross national income for official development assistance, and 0.15 to 0.20 per cent for least developed countries.

A package of measures for the poorest countries—Developed countries commit to reverse the decline in aid to the poorest countries, with the European Union committing to increase its aid to least developed countries to 0.2 per cent of gross national income by 2030. They also agree to adopt or strengthen least developed countries investment promotion regimes, including with financial and technical support. Governments also aim to operationalize the technology bank for this group of countries by 2017.

Taxation—The Agenda calls for strengthening support for the work of the UN Committee of Experts on International Cooperation in Tax Matters to improve its effectiveness and operational capacity, and the engagement with the Economic and Social Council. It emphasizes the importance of inclusive cooperation and dialogue among national tax authorities.

Climate Change—The Action Agenda calls on developed countries to implement their commitment to a goal of jointly mobilizing USD100 billion per year by 2020 from a wide variety of sources to address the needs of developing countries. Countries also committed to phase out inefficient fossil fuel subsidies that lead to wasteful consumption.

1.2.5 Paris Agreement

The Paris Agreement is universally regarded as a seminal point in the development of the international climate change regime under the United Nations Framework Convention on Climate Change (UNFCCC).

The Paris Agreement was adopted on 12 December 2015 at the 21st session of the Conference of the Parties to the UNFCCC CoP21, held in Paris from 30 November to 13 December 2015. The Agreement was adopted after four years of intense negotiations mandated by the 17th UNFCCC CoP held in Durban in 2011.

The Agreement is a comprehensive framework which will guide international efforts to limit greenhouse gas emissions and to meet all the associated challenges posed by climate change. It signals the change in pace towards the low carbon development from 2020 onwards through commitments of countries in ambitious national plans called Nationally Determined Contributions.
This outcome recognises that climate change represents an urgent threat to human societies and the planet, requiring the widest possible cooperation by all countries and other stakeholders. The main objective of the Agreement is to limit the global temperature increase to well below 2 degrees Celsius, while pursuing efforts to limit the increase to 1.5 degrees.

South Africa is a signatory to the Paris Agreement and has an obligation to limit temperature increases to 1.5°C, above pre-industrial levels. C40 Cities Climate Leadership Group have developed ‘Deadline 2020’ that will provide more clarity and guidance to achieve their emission reduction targets, based on the classification of the City; this is in addition to and the next step from the Durban Climate Change Strategy (DCCS).

It is critical that the ‘Implementation Plan’ gap be addressed, and the next step for eThekwini Municipality will be to develop an Implementation Plan, which will include the following sectors identified by the DCCS and Deadline 2020: Urban Planning, Transportation, Energy, Buildings, and Waste. A Climate Resilience Implementation Plan looking at ways in which the SDF can respond to the DCCS is currently underway. It should be noted that while the Implementation Plan is being developed, there are over 50 mitigation projects currently being implemented by the eThekwini Municipality.

The Paris Agreement is also an important tool in mobilising finance, technological support and capacity building for developing countries, and will also help to scale up global efforts to address and minimise loss and damage from climate change and increase climate resilience.

1.2.6 National Development Plan

The National Planning Commission has developed a National Development Plan which focuses on enabling sustainable and inclusive development. The objectives include the need for a strong and efficient planning system integrated across the spheres of government. The plan seeks to eliminate poverty and reduce inequality by providing South Africans with a secure foundation from which they can expand their capabilities and improve their life opportunities. Some directives towards achieving this include:

- developing people’s capabilities to be able to improve their lives through education and skill development, health care, better access to public transport, jobs, social protection, rising incomes, housing and basic services and safe communities. One of the critical actions identified in this plan is the need for “New Spatial Norms and Standards – densifying cities, improving transport, locating jobs where people live, upgrading informal settlements and fixing housing market gaps (NDP Vision for 2030).
The National Development Plan (NDP) introduces the long-term vision for the future development of South Africa. It acknowledges the spatial inefficiencies that characterizes existing settlements and commits the national government to developing a National Spatial Framework. It also identifies the need to activate rural economies through the stimulation of small-scale agriculture, tourism and mining investments (NDP 2011: 117).

National policy on spatial planning currently focuses on the rationalization of a fragmented system of land use and related laws. The current fragmented spatial pattern of human settlement and the associated urban sprawl is a direct consequence of the skewed and inappropriate planning legislation of the past.

The national government has gazetted the Spatial Planning and Land Use Management Act, 2013 (SPLUMA, Act No. 16 of 2013), as a means of providing an enabling law on spatial planning, land use management and land development. The new law will prevail over provincially applicable planning laws. It will lay down national policy, norms and standards as well as frameworks on land use, and therefore fall within the ambit of Section 146 of the Constitution. At a local level, it provides a new framework for the preparation of area specific SDFs and Schemes.

The government has identified 10 priority areas in its programme of action, with an intention to turn around the global economic slowdown, whilst at the same time ensuring that the needs of all its citizens are met. The priority areas developed are intended to do the following:

1. Speed up economic growth and transform the economy to create decent work and sustainable livelihoods;
2. Introduce a massive programme to build economic and social infrastructure;
3. Develop and implement a comprehensive rural development strategy linked to land and agrarian reform and food security;
4. Strengthen the skills and human resource base;
5. Improve the health profile of all South Africans;
6. Intensify the fight against crime and corruption;
7. Build cohesive, caring and sustainable communities;
8. Pursue African advancement and enhanced international cooperation;
9. Ensure sustainable resource management and use;
10. Build a developmental state, improve public service and strengthen democratic institutions.

The National Government is now implementing a number of sector based development programmes with serious implications for spatial planning at a local level and this includes the introduction of a Comprehensive Rural Development Programme (CRDP) which seeks to create vibrant, equitable and sustainable rural communities through a three-pronged strategy based on:

- a coordinated and integrated broad-based agrarian transformation;
- strategically increasing rural development; and
• an improved land reform programme.

The eThekwini Municipality embraces the principles of the CRDP and strives towards the attainment of its vision as part of its spatial and development planning program. This includes the identification of target areas for rural development, ensuring that rural areas and peri-urban areas are clearly defined and ensuring developmental outcomes of the rural development programmes. An eThekwini Rural Development Strategy has been completed and will now inter alia help define spatially what is rural in the eThekwini context as well as formulating policies and strategies to protect rural and agricultural land.

1.2.7 Integrated Urban Development Framework (IUDF) 2016

The Integrated Urban Development Framework (IUDF) is a policy initiative of the Government of South Africa, coordinated by the Department Of Cooperative Governance and Traditional Affairs (COGTA).

The IUDF marks a New Deal for South African cities and towns. It sets a policy framework to guide the development of inclusive, resilient and liveable urban settlements, while addressing the unique conditions and challenges facing South Africa’s cities and towns. It advocates the effective management of urbanisation so that the increasing concentration of an economically active population translates into higher levels of economic activity, greater productivity and higher rates of growth, thereby transforming our South African cities into engines of growth.

The key outcome of the IUDF is spatial transformation. The identified policy levers and priorities are crucial for maximising the potential of urban areas, by integrating and aligning investments in a way that improves the urban form. The intention is to retrofit existing city footprints to produce compact, coordinated and connected cities, using transit-oriented and other urban planning strategies to yield desirable social, economic and environmental outcomes, as envisioned in the National Development Plan. This should be done in a way that strengthens rural-urban linkages and promotes urban resilience and urban safety. It is intended that the IUDF be used as a guide to achieve a unified and innovative response to the building of inclusive, resilient, safe and liveable urban settlements.

The IUDF responds to the post-2015 Sustainable Development Goals (SDGs), in particular to Goal 11: Making cities and human settlements inclusive, safe, resilient and sustainable. It also builds on various chapters of the National Development Plan (NDP) and extends Chapter 8 ‘Transforming human settlements and the national space economy’ and its vision for urban South Africa:

By 2030 South Africa should observe meaningful and measurable progress in reviving rural areas and in creating more functionally integrated, balanced and vibrant urban settlements. For this to happen the country must:

• Clarify and relentlessly pursue a national vision for spatial development;
• Sharpen the instruments for achieving this vision; and
• Build the required capabilities in the state and among citizens.

The IUDF consists of 5 strategic goals with 8 levers for change (as depicted below).

**Access:** To ensure people have access to social and economic services, opportunities and choices

**Growth:** To harness urban dynamism for inclusive, sustainable economic growth and development

**Governance:** To enhance the capacity of the state and its citizens to work together to achieve social integration.

**Spatial Transformation:** To forge new spatial forms in settlement, transport, social and economic areas.

These goals inform the eight priority levers of the strategy.

The eight levers are premised on the understanding that:

1. Spatial planning forms the basis for achieving integrated urban development, which follows a specific sequence of urban policy actions
2. Integrated transport that informs targeted investment into integrated human settlements, underpinned by integrated infrastructure network system
3. Efficient land governance which all together trigger economic diversification inclusion and empowered communities
4. Deep governance reform to enable and sustain all of the above.
The eThekwini Municipality embraces the principles outlined in the IUDF and now that it has been gazetted will be taking steps to collaborate with National and Provincial COGTA to facilitate its implementation.

1.2.8 Delivery Agreement: Outcome 9

The aim of Delivery Agreement: Outcome 9 is to ensure a responsive, accountable, effective and efficient local government system so as to restore the confidence of citizens in the local government sphere. As such municipalities need to ensure that the basic needs of communities are met; build clean, effective, efficient, responsive and accountable local government; improve performance and professionalism and strengthen partnerships between local government, communities and civil society. The Outcome consists of 7 critical issues in order to achieve the overarching goal or vision of a responsive, accountable, effective and efficient local government system:

1. Develop a more rigorous, data driven and detailed segmentation of municipalities that better reflect the varied and capacities and contexts within municipalities and lays the basis for a differentiated approach to municipal financing, planning and support
2. Ensure improved access to essential services
3. Initiate ward-based programmes to sustain livelihoods
4. Contribute to the achievement of sustainable human settlements and quality neighbourhoods
5. Strengthen participatory governance
6. Strengthen the administrative and financial capability of municipalities
7. Address coordination problems and strengthen cross-departmental initiatives

1.2.9 Strategic Integrated Projects (SIPS)

The SIPS provide an integrated framework for the delivery and implementation of social and economic infrastructure across the face of South Africa. Some of the SIPS’s include catalytic projects that can be used to fast track growth, address unemployment and reduce poverty and inequality. Due to the various nature and geographic spatial locations, the municipality is only involved in a few of the SIPS.

The SIPS comprise:

**Five geographically-focused SIPS**
- SIP 1: Unlocking the northern mineral belt with Waterberg as the catalyst
- SIP 2: Durban-Free State-Gauteng logistics and industrial corridor
- SIP 3: South-Eastern node & corridor development
- SIP 4: Unlocking the economic opportunities in North West
- SIP 5: Saldanha-Northern Cape development corridor

**Three energy SIPS**
- SIP 8: Green energy in support of the South African economy
SIP 9: Electricity generation to support socio-economic development  
SIP 10: Electricity transmission and distribution for all  

**Three spatial SIPS**  
SIP 6: Integrated municipal infrastructure project  
SIP 7: Integrated urban space and public transport programme  
SIP 11: Agri-logistics and rural infrastructure  

**Three social infrastructure SIPS**  
SIP 12: Revitalisation of public hospitals and other health facilities  
SIP 13: National school build programme  
SIP 14: Higher education infrastructure  

**Two knowledge SIPS**  
SIP 15: Expanding access to communication technology  
SIP 16: SKA & Meerkat  

**One regional integration SIP**  
SIP 17: Regional integration for African cooperation and development  

**One water and sanitation SIP**  
SIP 18: Water and sanitation infrastructure  

The municipality is directly involved in the following SIPS’s  

**SIP 2: Durban-Free State-Gauteng logistics and industrial corridor**  
- Strengthen the logistics and transport corridor between SA’s main industrial hubs  
- Improve access to Durban’s export and import facilities  
- Integrate Free State Industrial Strategy activities into the corridor  
- New port in Durban  
- Aerotropolis around OR Tambo International Airport.  

**SIP 7: Integrated urban space and public transport programme**  
Coordinate planning and implementation of public transport, human settlement, economic and social infrastructure and location decisions into sustainable urban settlements connected by densified transport corridors. This will focus on the 12 largest urban centres of the country, including all the metros in South Africa. Significant work is underway on urban transport integration.  

**SIP 8: Green energy in support of the South African economy**  
Support sustainable green energy initiatives on a national scale through a diverse range of clean energy options as envisaged in the Integrated Resource Plan (IRP2010) and support bio-fuel production facilities.  

1.2.10 State of the Nation Address – February 2017  

The State of the Nation Address 2017 highlighted the following issues:  
(a) 2017 was declared as the year of Oliver Regional Tambo, who would have turned 100 years old this year. It is the year of unity in action by all South Africans as we move South Africa forward together.
(b) Acknowledgement of the importance of addressing the triple challenges that still face the majority of South Africans i.e. poverty, inequality and unemployment

(c) Acknowledgement of the slow pace of economic growth which is currently unable to create the much-needed jobs

(d) Reaffirmation of government’s commitment to the implementation of the Nine Point Plan

The priorities for 2017, includes;

- 2017 marks the commencement of a new chapter of radical socio-economic transformation by moving beyond words, to practical programmes. The state will play a role in the economy to drive that transformation. In this regard, Government will utilise to the maximum, the strategic levers that are available to the state. This includes legislation, regulations, licensing, budget and procurement as well as Broad-based Black Economic Empowerment Charters to influence the behaviour of the private sector and drive transformation. The State spends five hundred billion rand a year buying goods and services. Added to this is the nine hundred billion rand infrastructure budget. Those budgets must be used to achieve economic transformation.

- The Mining Charter is currently being reviewed. The Charter seeks to recognise the internationally accepted right of the state to exercise sovereignty over all the mineral and petroleum resources within the Republic. It is also aimed at helping the country to de-racialise the ownership of the mining industry. This will help ensure the sustainability of this industry.

- It will be difficult if not impossible, to achieve true reconciliation until the land question is resolved. Most importantly, we appeal to land claimants to accept land instead of financial compensation. Over 90% of claims are currently settled through financial compensation which does not help the process at all. It perpetuates dispossession. It also undermines economic empowerment.

- Government will continue to mainstream the empowerment of women in all government programmes. Government will continue to prioritise women’s access to economic opportunities and, in particular, to business financing and credit.

- Government urges the public to work with the police to ensure safer communities.

1.2.11 Kwazulu-Natal Provincial Growth and Development Strategy (PGDS)

During the 2016 calendar year the Premiers Office in KwaZulu-Natal initiated the review of the Provincial Growth and Development Strategy (KZN PGDS). The PDGS review bolsters the Province’s commitment to achieving the vision of KwaZulu-Natal (KZN) as a “Prosperous Province with a healthy, secure and skilled population, acting as a gateway to Africa and the world”. The PGDS aims are as follows:

- to build this gateway by growing the economy for the continued development,
- the continued improvement of the quality of life of all people living in the Province,
• ensuring that those currently marginalized have broader socio-economic opportunities.

The reviewed PGDS provides a strategic framework for accelerating and sharing the benefits of an inclusive growth through deepened, meaningful, effective and sustainable catalytic and developmental interventions.

The Revised 2016 KZN PGDS continues to:

- Be the primary growth and development strategy for KwaZulu-Natal to 2035;
- Mobilise and synchronise strategic plans and investment priorities in all spheres of government, and development partners in order to achieve the desired growth and development goals;
- Spatially contextualise and prioritise interventions so as to achieve greater spatial equity;
- Guide clearly defined institutional arrangements that ensure decisive and effective leadership, robust management, thorough implementation and ongoing inclusive reviews of the growth and development plan.

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**KZN PGDS**

**Vision 2035**

KwaZulu-Natal will be a prosperous Province with a healthy, secure and skilled population, living in dignity and harmony, acting as a gateway to Africa and the World.

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1. Develop and promote the agricultural potential of KZN
2. Enhance sectoral development through trade, investment & business retention
3. Enhance spatial economic development
4. Improve the efficiency, innovation and variety of Government-led job creation programmes
5. Promote SMMEs, entrepreneurship and Youth Development
6. Enhance the Knowledge Economy
7. Early Childhood Development, Primary and Secondary Education
8. Skills alignment to Economic growth
9. Youth Skills Development & Life-Long Learning
10. Tackle poverty, improve social welfare services
11. Enhance the health of communities and citizens
12. Safeguard and enhance sustainable household food security
13. Protect the settlements of informal settlements
14. Enhance safety & security
15. Advance social cohesion and social capital
16. Promote youth, gender and disability advocacy and the advancement of women
17. Development of communication and transport networks
18. Develop road and rail networks
19. Develop ICT infrastructure
20. Ensure availability and sustainable management of water and sanitation for all
21. Ensure access to affordable, reliable, sustainable and modern energy for all
22. Enhance hydro-electricity capacity
23. Enhance ecosystem services
24. Adapting and responding to Climate Change
25. Strengthen policy and strategy co-ordination & ISR
26. Building government capacity
27. Tackling fraud & corruption
28. Promoting participative, facilitative & accountable governance
29. Enhance the resilience of new and existing cities, towns and rural nodes, ensuring equitable access to resources, social and economic opportunities
30. Ensure integrated land management use across the Province, ensuring equitable access to goods and services, attract social and financial investment.
1.2.11.1 State of Province Address, 2017 (SOPA)

The theme for the 2017 KwaZulu-Natal State of the Province Address delivered by Premier Willies Mchunu was “Through Unity in Action, we can move KZN to a prosperous future”.

The provincial address confirmed the priorities of the province as outlined in the recently reviewed and adopted, Provincial Growth and Development Strategy. Whilst the PDGS remains the strategic driver of development in the Province, the Premier raised a few intervention areas that would require specific attention. These are areas summarized as follows.

- Actively address attempts to destabilize and derail legitimate processes aimed at improving the quality of lives of our people and promoting the greater public good.
- Social cohesion and moral regeneration as imperatives for Nation Building.
- Reducing crime and corruption
- Addressing the issue of Land and Land Reform
- Building capacity and ability of the State.
- Radical Economic Transformation through Radical Agrarian Social Economic Transformation (RASET)

1.2.12 City Planning

1.2.12.1 Establishment of the City Planning Commission

The eThekwini Municipality recently established a City Planning Commission, the first in the country, which is an advisory body appointed by Council to propel the Municipality’s long term vision and strategic plan. The formation of the Commission is also part of the City’s institutional transformation, in an endeavour to strengthen and build an efficient administration and ensure good governance. The main objective of the Commission is to guide the Municipality on a range of issues pertaining to the development of its long term growth and development strategy. This strategy is aligned to the strategic objectives and targets of the National Development Plan and the KZN Provincial Growth and Development Strategy. The City Planning Commission currently comprises of 14 part-time external commissioners, including a chairperson and deputy chairperson, who were all selected on the basis of their experience and expertise. The Commissioners are individuals who are committed to contributing towards ensuring that Durban becomes “Africa’s Most Caring and Liveable City” as well as fundamentally changing the development profile of its people and consequently shedding all vestiges of apartheid and colonialism, especially from a spatial planning perspective.

The City Planning Commission is responsible for 3 deliverables, namely
- A City Diagnostic
- A Long term City Development Plan
- An Implementation Strategy that would influence the development of the City’s IDP

The approaches that the commission will be using to realize the 3 deliverables listed above are:
- Identify and recommend a methodology for the City Development Plan
- Identify and recommend an enduring vision, identity & outcomes for a City Development Plan
• Identify a set of Corporate scenarios that require response across the Municipality and the City
• Identify knowledge gaps & commission research including international best practice
• Craft a stakeholder engagement strategy relating to the deliverables to ground truth and galvanise support around a consensus plan
• Internalise and identify the role of the City in responding to the NDP, PGDS and other national and provincial priorities
• Identify key issues facing the municipality now and into the future and make recommendations relating to these.
• Review and make recommendations relating to appropriate institutional structures to underpin the implementation strategy.

The City Planning Commission are currently working with the municipal line departments to further develop 3 workstreams which would ultimately feed into the implementation strategy for the city and influence the municipalities IDP. The 3 workstreams and focus areas for the respective themes are as follows

<table>
<thead>
<tr>
<th>Planning Commission Thematic Area</th>
<th>Focal Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality Spaces and Spatial Integration</td>
<td>Strengthen existing economic nodes</td>
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<tr>
<td></td>
<td>Strengthen future economic investment areas</td>
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<tr>
<td></td>
<td>Densification of well-located areas</td>
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<tr>
<td></td>
<td>Reinforcing well located informal settlements</td>
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<td></td>
<td>Careful sequencing &amp; management of development elsewhere</td>
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<tr>
<td>Good Governance</td>
<td>Engagement and Contract With Citizens</td>
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<tr>
<td></td>
<td>Partnerships with Business, Civil Society and other parts of Government</td>
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<tr>
<td></td>
<td>Bold &amp; Visionary and ethical Leadership</td>
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<tr>
<td></td>
<td>Competence, Capacity and Decision Making</td>
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<tr>
<td></td>
<td>Transparent, engaged and cared for staff (increase staff morale)</td>
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<tr>
<td></td>
<td>Effective Institutional Arrangements</td>
</tr>
<tr>
<td>Economic Development</td>
<td>Enabling business environment</td>
</tr>
<tr>
<td></td>
<td>Building (/strengthening) on Key Assets</td>
</tr>
</tbody>
</table>
Once the Implementation Plan has been developed by the City Planning Commission, the programs and projects identified in the SDF will be amended.

1.2.12.2 Urban Resilience Strategy - Rockefeller Foundation’s 100 Resilient Cities Centennial Challenge

More than a decade into the 21st century, it is clear that the world is facing unprecedented change to systems and ways of life and that these are growing in frequency, impact and scale. These changes range from environmental (for example, climate change) to social and economic (for example, local and global economic meltdowns). To enable cities to better address the major challenges of the 21st century, the Rockefeller Foundation launched the 100 Resilient Cities Centennial Challenge (100RCCC) to assist cities around the world to build urban resilience. The Rockefeller Foundation has defined resilience as the ability to withstand chronic stress and acute shocks while still maintaining essential functions and recovering quickly and effectively to a state better prepared to cope with future changes. Resilience is also about planning in new and innovative ways.

Durban was one of 372 cities from across the world to apply for the 100 Resilient Cities Centennial Challenge and in December 2013 was announced as one of the first cohort of 33 successful cities to be inaugurated into the 100 Resilient Cities (100RC) Programme. As one of the first cities to be selected for the 100RC Programme, Durban has been given the opportunity and responsibility to work in a new and emerging field. The programme provides a significant global platform to share local innovation and thinking and to learn from others, something that is becoming increasingly important as the world moves into an uncertain and unpredictable future. Participation in the 100 RC Programme also provides a significant opportunity for eThekwini Municipality to bring together a range of initiatives currently underway within the municipal area and to work with a range of stakeholders to develop new initiatives that can be incorporated into a resilience strategy for Durban.

Part of the challenge for Durban is translating global ideas around resilience into our local context. Durban is particularly susceptible to changes to social, environmental and economic systems, with many communities already vulnerable to pressures such as limited, or lack of, access to sanitation and waste removal, adequate housing, safe drinking water, a healthy natural environment and adequate health care facilities. How the Municipality plans and prepares for these challenges is critical in order to avoid exacerbating an already fragile situation and to ensure that Durban is able to respond effectively to current and future change. For these reasons, Durban’s participation in the 100RC Programme presents a unique opportunity for the Municipality to begin to think and plan in a more innovative and coordinated way around issues of resilience, and to generate the support needed to implement action around key resilience priorities for the city.
The 100RC Programme in Durban is being coordinated by the Chief Resilience Officer. The 100RC Programme in Durban involves engaging with a cross-sectoral municipal technical team, a group of ‘critical thinkers’ from within and outside the municipality as well as a range of stakeholders such as tertiary institutions, NGOs, business and members of the public to ensure that the resilience strategy is representative of the challenges facing Durban.

The Resilience Focus Areas for Durban were identified through an 18-month process that involved stakeholder engagement, risk assessment and research. These focus areas are: Bold and Participatory Governance; Knowledge-centred City; Catalytic and Transformative Economy; Innovative Place-making; Sustainable and Ecological City; and Equitable and Inclusive Society. These focus areas will be taken into Phase 2 of 100RC during 2016 in order to understand where the systemic and strategic points for intervention might lie across these focus areas, and to explore what actions might be required to catalyse the changes that are needed to build a resilient Durban. A critical part of the work is to ensure that the outcomes align with or inform other strategic planning processes in the city such as the Integrated Development Plan and Spatial Development Framework and the work of the City Planning Commission.

1.3 ETekwini Municipal Area’s (EMA’s) Planning Context

In addition to global, national and provincial policies, our Municipal SDF is also informed by previous planning initiatives of the Municipality including initiatives that came about as a result of the local government restructuring process. In December, 2000 a new Council for the ETekwini Municipality (Unicity) was established as part of the Developmental Local Government Agenda that required that one local government body be responsible for the overall strategic planning and management of the EMA. The New Council involved the amalgamation of seven councils administered by the old Durban Metropolitan Area, the Umkomaas Traditional Local Council and portions of ILembe and Ndlovu Regional Councils.

Due to the multiplicity of local authorities, institutional fragmentation and poorly coordinated and uneven spatial and economic development pattern the restructured local government provided a window of opportunity to address the historical lack of strategic spatial guidance, as well as a more cooperative approach to manage shared resources and introduce an approach to land use management that is more flexible and responsive to development. This change enabled the ETekwini Municipality to move beyond just the delivery of services and goods administration to strategically turning the Municipality into a globally competitive and attractive Municipality.

Out of the restructuring process, ETekwini Municipality embarked on the following initiatives:
1.3.1 The Long Term Development Framework (LTDF)

In 2001 eThekwini Municipality embarked on a process to develop a LTDF and Integrated Development Plan for the eThekwini Municipal Area. The LTDF process was intended to assist the newly formed eThekwini Municipality to identify challenges that it faced as a result of the amalgamation that needed to be addressed in both the short and long term. The LTDF mapped out the developmental challenges and strategic vision for the eThekwini Municipality over a period of twenty years and strategic priorities over the first five years. The vision statement as identified in the LTDF was as follows:

"By 2020 Durban Unicity will enjoy the reputation of being Africa’s most caring and liveable city, where all citizens live in harmony. This vision will be achieved by growing its economy and meeting people’s needs so that all citizens enjoy a high quality of life with equal opportunities, in a city that they are truly proud of”.

The vision was informed by the developmental challenges that were identified and needed to be achieved, namely:

- Have ease of movement in the Municipality
- Enjoy a safe environment in all parts of the municipal area
- Afford what the Municipality offers
- Enjoy a clean and green Municipality
- Have access to economic opportunities
- Enjoy homely neighbourhoods
- Have access to services, in particular municipal, health and education services

With delivery of these, the people of eThekwini should be able to:

- Live in harmony
- Be proud of their Municipality
- Feel protected
- Feel their basic needs are being met

The following diagram represents the Municipality’s sustainable growth path as represented in the LTDF.
The IDP had a similar five year timescale with detailed management plans for the Municipality including programmes, projects, budgets and performance indicators.

1.3.2 Imagine Durban Long Term Development Plan (LTDP)

In 2010 the LTDF was revised through the Imagine Durban Long Development Term Plan project. The main purpose of this project was to develop a visionary plan that can inspire citizens, non-governmental organizations, businesses and government to work together to refine the vision statement and key strategies. The revised vision statement as outlined in the Imagine Durban process and as adopted by the 2010 and beyond IDP reads: “By 2020 eThekwini will *be Africa’s most caring and liveable city*”. 

This vision will be achieved by growing its economy and meeting people’s needs so that all citizens enjoy a high quality of life with equal opportunities, in a Municipality that they are truly proud of. The Imagine Durban Long Term Plan outlined the following key strategies through the development framework:

- Creating a Safe Municipality;
- Promoting an Accessible Municipality;
- Creating a Prosperous Municipality where all enjoy Sustainable Livelihoods;
- Celebrating our Cultural Diversity, Arts and Heritage;
- Ensuring a more Environmentally Sustainable Municipality; and
- Fostering a Caring and Empowering Municipality.

1.3.3 The IDP’s Eight Point Plan

The influence of the Global, National, Provincial and Municipal strategies in developing the 2017/18 IDP has been aligned to the municipalities 6 strategic priorities areas. These priority areas are:

- Creating Sustainable Livelihoods
- A Socially Cohesive City
- A Financially Sustainable City
- A Safer City
- An Accessible City
- An Environmentally Sustainable City

These priority areas were identified as key components in the municipality’s Long Term Development Framework to achieve sustainable development and are addressed in the Municipalities 8 Point Plan.
The eight point plans are the Municipality’s delivery plan, which despite being separate plans are supportive of each other to ensure effective delivery. The eight plans are:

1. Develop and Sustain our Spatial, Natural and Built Environment.
2. Developing a Prosperous, Diverse Economy and Employment Creation.
3. Creating a Quality Living Environment.
4. Fostering a Socially Equitable Environment.
5. Creating a Platform for Growth, Empowerment and Skills Development
6. A Vibrant and Creative City – The Foundation for Sustainability and Social Cohesion
7. Good Governance and Responsive Local Government.

Given the fact that the Spatial Development Framework is a spatial translation of the Municipality’s IDP, and hence the eight point plans, the spatial vision, strategies and outcomes are also linked to both the short and long term strategies as outlined within the IDP and the Long Term Development Plan.

1.4 Legislative Context

The Statutory and Strategic Planning Environment is directed and guided by a plethora of legislation. Planning legislation emanates from National, Provincial and Municipal structures, depending on each sphere of government’s specific mandate.

The current overarching legislative and policy requirements pertaining to planning and development include the following:

i. Spatial Planning and Land Use Management Act No. 16 of 2013 (SPLUMA)
ii. Municipal Systems Act No 32 of 2000 – Chapter 5 relating to: -
   a. Integrated Development Plan (IDP)
   b. Spatial Development Framework (SDF)
iii. KwaZulu Natal Planning and Development Act No. 6 of 2008 (PDA)
iv. Town Planning Ordinance No 27 of 1949 (Section 67 in particular)
v. Subdivision of Agricultural Land Act, Act 70 of 1970
vi. Land Use Schemes
vii. National Building Regulations

The most relevant piece of legislation in the context of municipal planning is SPLUMA. SPLUMA was gazetted and adopted nationally in 2013 and the regulations were gazetted and adopted on the 23 March 2015. The Act became effective as of the 1 July 2015. As of the 1 July 2015 all municipalities have to operate within the context of SPLUMA and its regulations.
Within the context of SPLUMA, the following outlines the functions and mandates of the three spheres of Government:

**Municipal planning**
Municipal planning, for the purposes of SPLUMA, consists of the following elements:

(a) the compilation, approval and review of integrated development plans;
(b) the compilation, approval and review of the components of an Integrated Development Plan prescribed by legislation and falling within the competence of a municipality, including a spatial development framework and a land use scheme; and
(c) the control and regulation of the use of land within the municipal area where the nature, scale and intensity of the land use do not affect the provincial planning mandate of provincial government or the national interest.

**Provincial planning**
Provincial planning, for the purposes of SPLUMA, consists of the following elements:

(a) the compilation, approval and review of a provincial spatial development framework, approval, review and implementation of land use management systems;
(b) the planning by a province for the efficient and sustainable execution of its legislative and executive powers insofar as they relate to the development of land and the change of land use; and
(c) the making and review of policies and laws necessary to implement provincial planning.

**National planning**
National planning, for the purposes of SPLUMA, consists of the following elements:

(a) the compilation, approval and review of spatial development plans and policies or similar instruments, including a national spatial development framework;
(b) the planning by the national sphere for the efficient and sustainable execution of its legislative and executive powers insofar as they relate to the development of land and the change of land use; and
(c) the making and review of policies and laws necessary to implement national planning, including the measures designed to monitor and support other spheres in the performance of their spatial planning, land use management and land development functions.

SPLUMA seeks to promote consistency and uniformity in decision-making and procedures as well as promoting policy and budgetary alignment between all spheres of government. Accordingly, SPLUMA requires national, provincial and municipal spheres of government to prepare their own and participate in the preparation of other Spatial Development Frameworks (SDF’s) in order to facilitate
greater convergence and alignment between the planning and budgeting processes across all spheres of government.

SPLUMA requires national, provincial and municipal spheres of government to prepare Spatial Development Frameworks that, *inter alia*, establish a clear long term vision, guide planning and development decisions across all sectors, provide clear and accessible information, address inclusion and integration of all areas into the social, economic and environmental objectives of the relevant sphere of government, identify risks of particular spatial patterns, indicate priority areas and provide direction for strategic development, infrastructure investment, undertake and consider substantial public engagement and ensure plans and programmes of all spheres of government are coordinated and aligned. In addition, Spatial Development Frameworks must outline specific arrangements for prioritising, mobilizing, sequencing and implementing public and private infrastructural and land development investment in the priority spatial structuring areas identified in the spatial development frameworks.

Chapter 2 Subsection 7(a)-(e) of SPLUMA requires that all SDF’s give effect to the following development principles including:

a) **Spatial Justice**: past spatial and other development imbalances must be redressed through improved access to and use of land

b) **Spatial Sustainability**: promote land development that is within the fiscal, institutional and administrative means of government, give special consideration to the protection of prime agricultural land, uphold land use measures in accordance with environmental management instruments, promote land development in sustainable locations and limit urban sprawl, consider all current and future costs to all parties in the provision of infrastructure and social services to ensure the creation of viable communities

c) **Efficiency**: optimise the use of existing resources and infrastructure

d) **Spatial Resilience**: flexibility in spatial plans and land use management systems are accommodated to ensure sustainable livelihoods in communities most likely to suffer the impacts of economic and environmental shocks, and

e) **Good Administration** – all spheres of government must ensure an integrated approach to land use and land development, all departments must provide their sector input and comply with the prescribed requirements and follow a transparent public process.

Part E Section 21 SPLUMA, Act 16 of 2013 makes reference to:

**The Content of a Municipal Spatial Development Framework** :

21. A Municipal spatial development framework must –

(a) give effect to the development principals and applicable norms and standards set out in Chapter 2;
(b) include a written and spatial representation of a five year spatial development plan for the spatial form of the municipality;
(c) include a longer term spatial development vision statement for the municipality area which indicates a desired spatial growth and development pattern for the next 10 to 20 years;
(d) identify current and future significant structuring and restructuring elements of the spatial form of the municipality, including development corridors, activity spines and economic nodes where public and private investment will be prioritised and facilitated;
(e) include population growth estimates for the next five years;
(f) include estimates of the demand for housing units across different socio-economic categories and the planned location and density of future housing developments;
(g) include estimates of economic activity and employment trends and locations in the municipal area for the next five years;
(h) identify, quantify and provide location requirements of engineering infrastructure and services provision for existing and future development needs for the five years;
(i) identify the designated areas where a national or provincial inclusionary housing policy may be applicable;
(j) include a strategic assessment of the environmental pressures and opportunities within the municipal area, including the spatial location of environmental sensitivities, high potential agricultural land and coastal access strips, where applicable;
(k) identify the designation of areas in the municipality where incremental upgrading approaches to development and regulation will be applicable;
(l) identify the designation of areas in which –
   a. more detailed local plans must be developed; and
   b. shortened land use development procedures may be applicable and land use schemes may be so amended;
(m) provide the spatial expression of the coordination, alignment and integration of sectoral policies of all municipal departments;
(n) determine a capital expenditure framework for the municipality’s development programmes, depicted spatially;
(o) determine the purpose, desired impact and structure of the land use management scheme to apply in that municipal area; and
(p) include an implementation plan comprising of –
   (i) sectoral requirements, including budgets and resources for implementation;
   (ii) necessary amendments to a land use scheme;
   (iii) specification of institutional arrangements necessary for implementation;
   (iv) specification of implementation targets, including dates and monitoring indicators; and
   (v) specification, where necessary, of any arrangements for partnerships in the implementation process.
It should be further noted that, in terms of section 22(1), a Municipal Planning Tribunal or any other authority required or mandated to make a land development decision in terms of this Act or any other law relating to land development, may not make a decision which is inconsistent with a municipal spatial development framework.

However, Section 22(2), subject to Section 42, does make provision for a Municipal Planning Tribunal or any other authority required or mandated to make a land development decision, to depart from the provision of a municipal spatial development framework only if site-specific circumstances justify a departure from the provision of such municipal spatial development framework.

Furthermore, Section 22(3) provides that where a provincial spatial framework is inconsistent with a municipal spatial framework, the Premier must, in accordance with the Intergovernmental relations Framework Act, take the necessary steps, including the provision of technical assistance, to support the revisions of those spatial development frameworks in order to ensure consistency between the two.

It is critical therefore, that in the process of preparing a SPLUMA compliant municipal spatial development framework (MSDF), that there is both vertical and horizontal alignment between key sectors and all spheres of government.

The Municipality is currently working towards achieving full SPLUMA compliance.

The KwaZulu-Natal Planning and Development Act 2008 (PDA) remains in force only in so far as Chapters 2,3,4,5 and 6 are concerned, but Appeals now fall under SPLUMA which was effected as of 1st February 2016. Coupled with that, components of the Town Planning Ordinance, 27 of 1949 remain in effect for Section 67: Special Consent Applications which in itself is problematic, causing confusion to practitioners, users and of course ratepayers.

There are also policies and other pieces of legislation such as the National Environment Act and the National Coastal Management Act which also need to be considered where relevant. The legislative environment is a constantly changing one and decisions and interpretation arising from new legislation, draft Bills and court rulings and judgments steer the Municipality in new and different directions.

Section 156 (1)(a) of the Constitution provides the municipality with executive authority in respect of and the right to administer matters listed in Schedule 4 Part B. This includes the function of municipal planning. This important aspect has now been ratified in three important legal cases.

In the case of City of Johannesburg Metropolitan Municipality v Gauteng Development Tribunal and Others, municipal planning was considered to be ‘planning’ in the context of municipal affairs a term
which has assumed a particular, well-established meaning which includes the zoning of land and the establishment of townships.

In that context, the term is commonly used to define the control and regulation of the use of land.

In the Constitutional Court case of Minister of Local Government, Environmental Affairs and Development Planning Western Cape v The City of Cape Town & Others,2 it was stated that Municipalities are best suited to make zoning and subdivision decisions, and that certain matters are best left for municipal determination. Further, Municipalities were said to be the frontiers of service delivery.

The most recent judgement in the Constitutional Court the case of Tronox Sands (Pty) Ltd versus KwaZulu-Natal Planning and Development Tribunal and others, the Constitutional Court upheld an earlier judgement of the High Court declaring Section 45 of SPLUMA unconstitutional in that it interfered with municipalities’ exclusive constitutional power to make municipal planning decisions. This judgement was handed down on the 29 January 2016.

These judgements have effectively entrenched the role of planning and decisions around planning at a municipal level, with Provincial and National spheres to offer monitoring and support mandates. This has resulted in many Provinces across the country promulgating framework planning legislation in line with their mandate to monitor and support Municipalities, while most Municipalities have formulated By-laws to give greater effect to their constitutional mandate.

EThekweni Municipality as a Metropolitan Municipality has opted to give full effect to its Constitutional mandate. In that regard, the municipality has prepared a Daft Planning By-law. Section 156(2) of the Constitution provides that a Municipality may make and administer by-laws for the effective administration of the matter which it has the right to administer, which includes municipal planning.

Section 32(1) of SPLUMA provides that a municipality may pass By-laws to enforce its land use scheme. The By-law will allow the municipality to direct planning more efficiently in terms of its Strategic Plans, Schemes and workflows. The By-law is modelled on the Development Principles as contained in Chapter 2 of SPLUMA, which are the principles of Spatial Justice, Spatial Sustainability, Efficiency, Spatial Resilience and Good Administration.

The objectives of the eThekwini Municipal Planning By-Law are:

(a) to provide for a package of plans which shall inform the social, economic, environmental and infrastructural development in the Municipality;

(b) to provide a uniform, effective, comprehensive, and interrelated framework for spatial planning and land use management;

(c) to provide for the inclusive, developmental, equitable and efficient planning in the spirit of cooperative governance;
(d) to provide a framework for co-operative and cross-border relationships with all spheres of Government and to ensure the integration of planning between the Municipality and neighbouring Municipalities;

(e) to provide a framework for policies, principles, norms and standards for spatial development planning and land use management;

(f) to provide a framework for the monitoring, coordination and review of the spatial planning and land use management system;

(g) to regulate land development application and decision-making procedures;

(h) to provide for the establishment, functions and operations of the Municipal Planning Tribunal;

(i) to provide for facilitation and enforcement of land use and development measures;

(j) to provide for an appeal authority; and

(k) to provide penalties for breach of its provisions.

eThekwini Municipality is still awaiting the final adoption of its Planning By-Law by the Council.

However, in an effort to streamline the current planning procedures and processes the following procedures are also being used:

- The preparation of documentation relating to Standard Operating Procedures for all development applications to ensure consistency and to guide the preparation of reports and decisions more efficiently and faster.

- The identification of Catalytic projects of over a certain monetary value which will be allocated a project executive to facilitate the quick and smooth release of circulation comments and unblock areas of delay of required.

- The new Planning By-Law when adopted by Council intends to shorten timelines for the approval of development applications by simplifying certain processes and delegations for different categories of application.

- The parking standards and regulations are to be reassessed as part of the continuing review of schemes and promoting development.

The KwaZulu-Natal Provincial sphere of planning has also now prepared draft Standard By-law for the Province to ensure consistency within the municipalities within the Province.

Section 35 (1) of the Spatial Planning and Land Use Management Act, 2013 (Act No. 16 of 2013) requires a Municipality to establish a Municipal Planning Tribunal, to determine land use and development applications within its municipal area.
The eThekwini Municipal Planning Tribunal (MPT) commenced operations on the 2 September 2016. The constitution and mandate of the MPT is as per the SPLUMA Regulations which came into effect on the 23 March 2015.

**Land Use Schemes**

It is the Municipality’s responsibility to build the SPLUMA Development Principles into all its planning tools. The SDF, all lower order spatial plans and Land Use Schemes need to comply with the Development Principles and such alignment has already begun.

These Development Principles are applicable to all land parcels within the Municipality's area of jurisdiction and includes the land under Traditional Authority. In terms of SPLUMA, each Municipality is responsible for formulating and adopting wall-to-wall schemes within its area of jurisdiction. The eThekwini Municipality is committed to this but it must be mindful of the fact that these schemes will largely fall over traditional tribal areas and this is to be treated sensitively and makes meaningful progress slow in this regard.

The seven former R293 Townships have since been consolidated in terms of land use definitions and form part of the relevant Primary Schemes in operation, being the North, Outer West, Inner West and South Schemes. The four primary schemes are reviewed annually and the current 2017/2018 review will be finalised by June 2017.

The Durban Planning Scheme is the last of the schemes to be reviewed and adopted. This is an ongoing project this 2016/2017 financial year. The first phase of the project has been completed, with land use definitions being updated and made consistent with the other schemes. The Durban Scheme review is to be finalised during the course of 2017/2018.

All LEFTEA schemes in the City have been identified and a single Scheme within each land use management region is being proposed, but has not yet been finalised. All applications lodged in terms of the DFA, have now been received and a project to incorporate them into the Schemes has begun. This project has a 24 month time period due to the large number of applications.

The final stage of the Scheme Consolidation work that will be undertaken will include collapsing the Primary Scheme and the LEFTEA Scheme; then collapsing the DFA into the Scheme. Land Use Management commits itself to delivering a sustainable and efficient Planning System within its area of jurisdiction.

At a strategic level, this SDF review aims to provide evidence and information on SPLUMA compliance as well as complying with the currently applicable legislation notably, the Municipal Systems Act, Act No. 32 of 2000 and its regulations.
In addition to the planning policy and legislative context outlined above, the SDF guides and is also
guided by a wide range of other national and provincial policies and legislation and departmental
sector plans.
Figure 1: Various Scheme Areas
1.5 Alignment

1.5.1 Cross-Municipal Boundary Planning and Alignment

In terms of both the (MSA-S26 (d), MSA Regs S2 (4) (h), and SPLUMA, Municipalities are required to provide a clear indication of how the SDF is aligned with the planning of neighbouring areas. The eThekwini Municipality has been engaging with neighbouring municipalities on an ongoing basis for some years now, through a variety of fora – these include regular meetings held with representatives of each neighbouring municipality to discuss areas of alignment, shared services, demarcation, understanding the implications of development applications and developing coordinated responses as well as through the more formally established SIP, Aerotropolis and Port Expansion processes. Cross Boundary alignment is also achieved through engagement in the COGTA driven IDP Forum at which there are representatives of provincial government departments and parastatals responsible for developments in the Metro and surrounding areas. The Municipality has also recently mapped all the SDF’s of its neighbouring districts in an effort to visually depict the areas of alignment and non-alignment (Anenxure 15) and serve as a basis for further discussions. The municipality will continue to drive this initiative and work collectively with its neighbours in trying to address the developmental and service challenges in the region.

1.5.2 Municipal Horizontal and Vertical alignment (Transversal Alignment)

The eThekwini Municipality has used alignment as an instrument to synthesize and integrate the top-down and bottom-up planning process between different spheres of government and sectors. There are two types of alignment procedures that eThekwini Municipality has initiated in the planning process i.e. vertical and horizontal alignment.

Vertical alignment is between eThekwini Municipality and neighbouring municipalities as well as other spheres of government (Provincial, National Departments, Private Sector and other stakeholders such as Eskom, Telkom). The aim of this alignment is to ensure that the IDP/SDF is in line with National and Provincial policies and strategies so that it is considered for the allocation of departmental budgets and conditional grants. It also guides the private sector in terms of highlighting areas of strategic investment and critical spending. This vertical alignment of the planning process also includes the various planning schemes in operation, in particular for those planning regions on the periphery of the municipality such as the Outer West, North and South planning entities. These schemes need to implement the intentions of the SDF, and it is important that the proposed planned land uses zones are compactable or aligned with those of the adjoining municipality’s. The COGTA initiated Provincial IDP Forum brings together all the relevant provincial and municipal stakeholders in an effort to achieve this desired vertical alignment at a provincial level. At the same time, National Treasury and National COGTA are providing support at a national level by bringing together key national departments and parastatals involved in the municipal area. While this provides the municipality with the additional support needed to achieve more integrated and coordinated
development it has also led to the duplication of some processes that have been in place for some time and in this regard a more structured approach with clearly defined roles and responsibilities across the national and provincial spheres of government is recommended.

Horizontal alignment occurs across municipal sector departments and aims to ensure that the planning process is integrated and issues are co-ordinated and addressed jointly. Since 2009, regular and extensive sector engagement has been undertaken in the preparation of the SDF through on-going SDF Planning and Sector Meetings and sector input in all lower order spatial plans in an effort to align the spatial vision, strategies, priority projects and timing of implementation across the municipality. Further opportunities for multi-sectoral engagement and input from “critical thinkers” takes place in related processes such as the City Planning Commission’s work on the long term plan for the city, Implementation of the Climate Change Strategy, involvement in sector planning processes such as the Housing Sector Plan, Water and Sanitation Planning, Electricity / ESKOM Planning, the Municipal IDP forum and the “100 Resilient Cities” project processes and National Treasury initiated Integrated Cities Development Grant forum, to mention a few. Such on-going engagements help facilitate this horizontal sectoral alignment from the high level strategic plans (IDP and SDF) through to the identification and implementation of catalytic projects and programmes in the Built Environment Performance Plan (BEPP). These on-going engagements with key sector departments have helped foster a more consensus-based and synergistic approach to city development.

1.6 Current Planning Approach in the eThekwini Municipality

The eThekwini Municipality has developed a comprehensive land use management system for the entire Municipal area to give effect to the requirements of Section 26 of the Municipal Systems Act (2000) and SPLUMA (No. 13 of 2016). A key aspect of this system is the preparation of a “Planning and Development Management Toolbox” which will include a Package of Plans.

The establishment of the system includes a range of planning activities all running in parallel with each other with the common purpose of updating, refining and establishing appropriate mechanisms for managing land use and development in the Municipal area.

This Package of Plans is a **cyclic, integrated and iterative** process and shows the move from Municipality wide strategic level plans to detailed local level plans and land-use schemes. It is important therefore to consider the entire Package of Plans as part of the IDP / SDF as, together, this communicates the strategic intent through to the detailed land use guidelines as required in terms of the Municipal Systems Act. A list of the Council Approved Plans as well as the Plans in Progress are attached at Annexure 7 of this report and can be downloaded from the municipal website:


The diagram below indicates the package of plans concept while Table 1 identifies the purpose and scope of each level of plan:
Table 1: Purpose and Scope of Existing Municipal Plans

The table below illustrates the nature of the sector information required for each level of plan.

<table>
<thead>
<tr>
<th>PLAN TYPE</th>
<th>SCOPE</th>
<th>PURPOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Term Development Framework</td>
<td>Strategic: Economic Social and Environmental Objectives</td>
<td>Strategic Development Direction for the Municipality</td>
</tr>
<tr>
<td>IDP</td>
<td>Strategic: Operational Implementation</td>
<td>Strategic Implementation Direction and Imperatives for the Municipality</td>
</tr>
<tr>
<td>Spatial Development Framework</td>
<td>Strategic: Spatial Development</td>
<td>Strategic Spatial Development Intentions for the Municipality based on the LTDF, Imagine Durban and IDP</td>
</tr>
<tr>
<td>Spatial Development Plan</td>
<td>Strategic: Spatial Development</td>
<td>Translation of Spatial Development Intentions into Land Use, Transport, Environmental, Infrastructure implications. Broad based Land Use Directives to guide Local Area Planning and LUMS, Bulk Infrastructure and Transportation Planning Directives for the Municipality</td>
</tr>
<tr>
<td>Local Area Plan</td>
<td>Detailed Physical Plan</td>
<td>Detailed Physical Planning Directives for the Municipality - Refining Land Use, Transport, Environment and Infrastructure to a level that informs the preparation of a Land Use Scheme. Also includes Urban Design Directives for Public and Privately owned Land. May include implementation proposals</td>
</tr>
<tr>
<td>Functional Area Plan</td>
<td>Detailed Physical Plan for special areas</td>
<td>Detailed Physical Planning Directives for the Municipality for areas with special environmental, economic, heritage etc characteristics. Detailed Urban Design Directives and / or Proposals. May include implementation proposals</td>
</tr>
<tr>
<td>Land Use Scheme &amp; Precinct Plans</td>
<td>Legislative and statutory component focused on implementation.</td>
<td>Drive and direct development. The SDF gives effect to the intentions of the IDP and provides a framework for the formulation of an area and even site specific land used controls depending to the size of SDF area. Since eThekwini is a metro, its SDF could not be directly translated into a scheme level.</td>
</tr>
</tbody>
</table>
Below is an example of the spatial representation of the eThekwini Package of Plans showing how plans are translated from an SDF level to a level of detail.
CHAPTER 2
STATUS QUO AND SECTOR REPORTS

Synopsis: The role of this chapter is to introduce the reader to the local and provincial context, issues and challenges including the planning issues and challenges relating to cross border planning with surrounding municipalities. The spatial development team has initiated a working stream with neighbouring Municipalities to discuss proposals particularly those with cross border implications in order to foster greater cross border alignment and planning.

From a local context eThekwini’s planning background and current planning is explored with a particular focus on the four Municipal Planning Regions, namely, the North, Central, South and Outer West Planning Regions. The Municipal Land Use Management Framework (Land Use Schemes) has also been reviewed under the local context.
2. INTRODUCTION TO ETHEKWINI MUNICIPAL AREA (EMA)

2.1 ETHekwini Contextual Framework

The eThekwini Municipality is located on the east coast of South Africa in the Province of KwaZulu-Natal (KZN) and is bordered by three district municipalities, namely, iLembe in the north, UGu in the south and uMgungundlovu in the west as shown in Figure 1 below. As a result of the Demarcation process and the incorporation of Vulamehlo Wards, the eThekwini Municipal Area (EMA) has increased in extent and spans an area of approximately 2555km$^2$, extending from Tongaat in the North to Umkomaas in the South and from the coastline in the East to Cato Ridge in the West and is characterized by coastal plains and steep and dissected topography. Figure 1 below shows the spatial extent of the EMA as well as the administrative extent of the municipal planning regions.

Figure 3: Location of eThekwini Municipality Provincially and Spatial Regions

2.1.1. ETHekwini Demographic Profile

* All figures and graphs were created using Stats SA 2011 data

Population

In order to provide the Metropolitan population totals in the 10 years between the Censuses there are official 5 year short term demographic forecasts for eThekwini which are undertaken by Statistics South Africa (SSA). The forecasts use the following demographic assumptions: fertility rate, life expectancy, mortality rates, HIV/AIDS and migration. The forecast in the table below indicates that
the population of eThekwini will grow by 175 thousand between 2016 and 2020 when the population total will be 3.85 million.

Table 2: Population Forecast: eThekwini

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
</table>

Source: Statistics South Africa

In addition to the short term demographic forecasts SSA undertakes a Community Survey at the midpoint between Censuses and this survey estimated the 2016 eThekwini population at 3.7 million just over one third of the population of KwaZulu-Natal (Stats SA 2011).

In terms of population spread, the greatest population concentrations occur in the central and north planning regions. The Outer West Region which represents the largest extent of the Municipality (approximately 78 438ha) actually comprises of just 11% (approximately 338 000 people) of the total population of the Municipality. The northern region which represents approximately 26% of the total extent of the Municipality has approximately 1.15 million people which represent 33% of eThekwini’s total population. The majority of the population of approximately 1.18 million people (34% of the total population) is located in the Central region which is the second largest in extent in the municipality. The South makes up 23% (760 000 people) of the total Municipal population. The figures below depict the total population and race profile and the population breakdown per region in the Municipality.

![Total Population = 3442358](image)

**Figure 4: Total Population and Profile by Race**
Source: Stats SA 2011

![Demographic Breakdown per Region](image)

**Figure 5: Demographic Breakdown per Region**

The people who reside within the municipal area consist of individuals from different ethnic backgrounds. The majority of the population come from the African community (74%) followed by the
Indian community (17%), White community (7%), Coloured community (2%) and other nationals (0.4%).

**Population Projection**

The population number is projected to rise to approximately 3.8 million by 2021 (eThekwini Municipality IDP Review 2014/2015). According to Stats SA (2011) eThekwini has experienced an average annual growth in population of 1.13% from 2001 to 2011 as against 2.34% from 1996 to 2001. The growth of the population is likely to be driven by the general trend of migration and natural growth.

The eThekwini Demographic Projections for the period 2012 to 2021 are depicted Table 3 below.

<table>
<thead>
<tr>
<th>Year</th>
<th>Population estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>3 446 447</td>
</tr>
<tr>
<td>2013</td>
<td>3 480 726</td>
</tr>
<tr>
<td>2014</td>
<td>3 517 157</td>
</tr>
<tr>
<td>2015</td>
<td>3 555 868</td>
</tr>
<tr>
<td>2016</td>
<td>3 596 543</td>
</tr>
<tr>
<td>2017</td>
<td>3 638 918</td>
</tr>
<tr>
<td>2018</td>
<td>3 682 524</td>
</tr>
<tr>
<td>2019</td>
<td>3 727 032</td>
</tr>
<tr>
<td>2020</td>
<td>3 772 097</td>
</tr>
<tr>
<td>2021</td>
<td>3 818 499</td>
</tr>
</tbody>
</table>

Source: eThekwini Transport Authority Demographic Study

**Gender Profile**

The gender profile of the eThekwini Municipality is typical of the trend in most other municipal areas. There are a greater number of females totaling to 1759956 as opposed to males which are 1682408. The diagram below presents the gender profile.

![Gender Profile Diagram](image)

*Figure 6: Gender Profile*

Source: Stats SA 2011
**Age Profile**

According to SSA Forecast 2016 the eThekwini population is young with 63% of the population below the age of 35 years. Individuals within the 0-14 year’s old group comprise 29% and the 15-34 age group 33% of the population. The 35 to 59 age group comprises 28% and those 60 and over 9%. The economically active age group from 15 to 59 years includes 62% of the population. The population dependency ratio is 52 / 100 and this indicates that 52 persons either young or old depend on 100 persons of working age between 15 and 64 years. However, as discussed in Section 1.2 on the Economy, it must be noted that when employment rates are low the economic dependency of young, old and unemployed on each working person will be higher than the population dependency rate.

**Vulnerable Groups**

Within the eThekwini Municipality, reside groups of people with specific needs. These groups are referred to as Vulnerable Groups. The eThekwini Municipality recognised and acknowledged that these groups of people should be treated with the dignity that they deserve and as such has initiated the Vulnerable Groups Programme. The IDP has identified the following groups as vulnerable:

- People with disabilities
- Children
- Elderly
- Homeless
- Refugees
- People suffering from incurable diseases like HIV/AIDS
- Youth
- Women

As part of this programme and in line with Plan 4 of the IDP, a vulnerable groups policy has been developed. The Vulnerable Groups Policy aims to create a framework for social integration that serves to develop a society and workplace that addresses human diversity and participation for everyone.

**Education Profile**

29% of the eThekwini Municipal population has some secondary education, 19% of the population has some primary education, 4% has no schooling and 4% is unspecified meaning they are functionally illiterate in that they either do not have school-based education or have not received sufficient school-based education to acquire marketable skills and engage in serious business ventures. 26% of the population has secondary education (grade 12/standard 10) while only 8% of the population have tertiary level education.
An extremely high percentage of the population is not economically active. This also means high dependency ratios on household heads with low income levels. Despite the diversified nature of the local economy, unemployment in the municipal area is of concern as only 992560 of the total labour force are employed. The unemployment rate is currently estimated at 430319 of the population while 873583 of the total labour force are not economically active.
Migration and Urbanisation Trends

The eThekwini Municipality (EMA), like all developing world cities, is subject to high rates of immigration from rural areas and small towns in KZN, other parts of South Africa and other parts of Southern Africa. This has resulted in a rate of urbanisation and population increase that is difficult to project, and a large number of new residents requiring housing and services.

The eThekwini City Density Strategy (2013) estimated that “at a growth rate of 1.1% p.a, the population of the EMA will grow to 4.4 million by 2030, an additional 775,000 people. However, global trends indicate that a projection of 1.1% annual growth might be too low. “Cities across the world now accommodate 3.5 billion people or fifty percent of the worlds’ population. By 2050 they will accommodate 6.4 billion people or over 70% of the world’s population.” (City of Melbourne, 2010; quoted in the Built Environment Performance Plan, eThekwini 2015)

African Cities are generally dynamic and have fast-growing populations, and eThekwini is no exception with the majority of this growth happening on the urban periphery where it is easier to access land. With such rapid growth, city development will need to be significantly accelerated to adequately address this challenge.

Migration of population to eThekwini is an important contributing factor to population growth. The table below reflects the extent of in-migration and out-migration within Durban from 2001 to 2011.
Table 4: Extent of Migration 2011 (adapted from Posel, D. 2015: Micro-data analysis of patterns and trends in eThekwini Municipality (Durban)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IN-MIGRATION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of the City’s population who are in-migrants</td>
<td>8.1</td>
<td></td>
</tr>
<tr>
<td>Number of in-migrants</td>
<td>276 988</td>
<td></td>
</tr>
<tr>
<td><strong>OUT-MIGRATION</strong>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of all migrants who migrated from the City</td>
<td>3.4</td>
<td></td>
</tr>
<tr>
<td>Number of out-migrants</td>
<td>193 222</td>
<td></td>
</tr>
<tr>
<td><strong>NET MIGRATION</strong>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of net migrants into the City</td>
<td>83 766</td>
<td></td>
</tr>
</tbody>
</table>


Notes: The data have been weighted to represent the South African population. Migration is defined as changing the municipality of residence. *The extent of out-migration is considerably under-estimated in the table because 34 percent of individuals identified as migrants did not specify their previous municipality of residence. As a result, the extent of net migration is also only a very approximate estimate.

In-migrants are those individuals who were not living in the City in 2001 but are now residing there. Out-migrants are those individuals who were previously living in the City but have since moved out of the Municipality. According to Posel (2015), the extent of migration to Durban (8.1%) is relatively low in comparison to Johannesburg and Cape Town which has experienced in-migration of 19% and 12% respectively.

According to Census 2011 the province that provided most migrants to eThekwini was KwaZulu-Natal. Considering other sources besides KwaZulu-Natal, the largest source of migrants (39,500) was from outside the country. The next largest source was the Eastern Cape (38,500) followed by Gauteng (24,300). Many of the migrants are taking up residence in informal settlements and in the case of migrants from outside South Africa 15% reside in informal settlements and as many as 35% of the migrants from the Eastern Cape live in informal settlements. Migration has implications for the labour force, social services, infrastructure, housing and basic household services backlogs.

Growth in the north of the EMA reflects the trend of the physical divide between employment and population density: “Most jobs in the manufacturing, warehousing and transport industry are located in the centre, south and west of the municipality but a large number of workers live in the north. Vacant land for low-income settlements has predominantly been identified in the north. The long distances between residences and employment need to be addressed”.

Future economic and residential growth in the North of eThekwini has been planned for around the Dube Trade Port, however it is also critical that growth anticipates and aligns with the needs of the city’s immediate municipal neighbours to the north; Ndwedwe and KwaDukuza. A significant component of the northern labour pool exists in the form of migrant labour from these municipalities,
and the co-dependencies between Ndwenwe, KwaDukuza and eThekwini should be carefully and cooperatively managed. The same is true of many residents of the city’s southern and western neighbours, many of whom have secondary economic dependencies on the metro or are migrating between a rural home and the city of Durban on a weekly basis.

The Rural Development Strategy suggests that due to urbanisation and in migration, people commute to the city centre to access job opportunities. This is due to easy access to affordable land and free services. The influx of people in rural areas has led to urbanisation in areas that were deemed rural and were serviced as rural settlements. The assumption was that these areas use on site sanitation because of the large site sizes and were therefore only provided 300 litres of water in a standpipe per household. The current reality has changed for a number of areas that are still regarded as rural in eThekwini (by virtue of land ownership) with densities of up to 30 dwelling units per hectare. This phenomenon is increasing pressure on the existing infrastructure and impacting on quality of life.

All of these considerations must be built into the spatial, economic and social planning for the eThekwini Municipality to ensure a realistic approach to managing its migration and urbanisation challenges.

2.2 Spatial Context of eThekwini Municipality

2.2.1 Major Land Uses, Settlement Pattern and Urban Form

The eThekwini Municipality accommodates a wide range of land uses including formal and informal, urban and rural settlements and these are complemented by economic, transport, public and social infrastructure. Other prevalent land uses include agriculture and traditional settlement. A large part of the municipal area is also designated as part of the metropolitan open space system.

About 68% of the Municipal area is considered rural, with pockets of dense settlement. About 10% of the rural areas comprise commercial farms and metropolitan open space and about 90% of the rural area is defined by its geospatial features, such as hilly, rugged terrain, dispersed settlement patterns in traditional dwellings and communal land holdings under the Ingonyama Trust. This institutional arrangement is unique to the eThekwini Metropolitan Municipality and presents a number of challenges particularly with respect to land, planning and urban management. The remainder of the municipal area, approximately 32%, is urban and is dominated by residential, commercial/office and industrial land uses. The economic land uses, located in closer proximity to the N2 and N3 are unevenly distributed throughout the Municipality and separated from the higher density residential uses.

The concentration of dense residential uses in the Central (Umlazi) and North regions (INK) and the significant economic and residential uses in the Central Metropolitan Region has resulted in an urban form with a clear separation of residential uses from economic uses. This implies that there are few
employment opportunities where people live, and that economically active residents must commute long distances at great cost in terms of time and financial resources.

There is a concentration of more intense uses in the Central and North planning regions, and by comparison, relatively low-intensity of use in the Outer West and Southern Planning Regions. The Central Region represents the urban core of the EMA. It has significant economic, residential and servicing capacity and thus presents an opportunity for densification and because of its servicing capacity can support higher thresholds for a range of services, industry and public transport. While the Northern Region is seen as the growth path of the EMA, portions of the South and Outer West regions also offer, albeit limited, opportunities for expansion and growth.

In addition, large numbers of informal settlements are scattered across the city, many in peripheral locations or on steep land or flood plains, placing them at higher risk of erosion and flood damage. As indicated in the figure below. People living in informal settlements are the most vulnerable communities in the city and climate change is expected to impact these communities the most, especially with regards to increased flood risk. This requires that urgent attention be given to addressing the housing backlog and a key spatial challenge is to identify residential opportunities on land that is well located, serviced and with good access to public transport as well as social and economic opportunities.
2.2.2 Vacant Land and Land Claims

A map indicating the location of Public Owned Vacant Land and its distribution across the city as shown in Figure 9 below, shows that small pockets of vacant land are scattered across the city and that there are few opportunities to use state land to address the housing backlog or provide significant investment opportunities. Although all potentially environmentally sensitive / undevelopable land has been excluded from this map, it should not be assumed that this land is available or appropriate for
development without first determining its status, intended development and/or following due planning process.

Figure 11: Public Owned Vacant Land in eThekwini
Status of Land Claims Land Restitution Act

The Land Restitution Act of 1994 introduced a three tier land reform policy to redress the historical injustice of land dispossession, denial of access to land and forced removals by:

- Land Restitution to restore land or provide financial compensation for people
- Land Redistribution
- Land Tenure reform

Land Restitution

The Land Restitution Act of 1994 was for people or communities who lost their property as a result of apartheid laws or practices after 1913. They were invited to submit claims for restitution for the return of land or by financial compensation. At the end of March 1999, 67 531 claims by individuals or communities were lodged. 72% of the claims were urban and the remainder rural.

There were mostly financial claims for urban claims from victims of forced removal. A total compensation R1.2 billion was paid by December 2002. The restitution for rural claimants was processed by the return of land. Approximately 571 232 hectares were restored at a cost of about R442 million by December 2002. The intention of the government was to complete all the land claims by 2005. The figure below represents all land claims settled in the eThekwini Municipal area as of March 2016. A total of 34 urban land claims with financial compensation were settled in the eThekwini Municipality.

The Restitution of Land Rights Amendment Act was passed by the National Assembly and National Council of Provinces on 30, June 2014 to extend the claims lodgment period.

Land claims also featured in the 2016 State of the Nation Address with 120 000 additional applications having been lodged by those that missed the 1998 deadline. Figure 11 below indicates the location of these land claims within the eThekwini Municipality as of February 2016 as provided by the Department of Rural Development and Land Reform.
Figure 12: Land Claims in eThekwini

2.2.3 Current Density Distribution/Settlement Patterns & Trends

International trends show that the level of population density tends to decline from the City Centre. The pattern in South African cities and eThekwini is no exception and, runs counter to this trend, with population densities rising with distance from the city centre (as the figure below demonstrates) resulting in the poor and marginalised being located at some distance from the city centre. The current distribution of density in eThekwini reflects the Apartheid spatial planning legacy and the distribution pattern is similar to other South African cities:

- a fragmented city;
- limited variations in density levels across the metropolitan area;
- large areas of low density in central, well-serviced locations;
- large areas of high density on the urban periphery
The overall metropolitan density of the eThekwini Municipality is 4du/ha. Densities in excess of 40du/ha are located in scattered pockets across the city and these are limited to the Durban CBD/Beachfront; Cato Manor, Umlazi and KwaMashu/Inanda. Density is concentrated within the former townships of KwaMashu, Ntuzuma, Inanda and Phoenix in the north, Umlazi, Lamontville and Chatsworth to the South, Clermont/KwaDabeka and Marianridge in the West and the Durban CBD/Beach, Glenwood, Berea, Cato Manor in the Central areas. The remainder of the metropolitan area is settled at densities less than 15du/ha. This includes areas such as Durban North, Westville, Pinetown, Mpumalanga, Tongaat and Verulam. The settlement pattern also reflects the rural/traditional periphery of eThekwini where residential densities are with some exceptions below 5du/ha. The following map represents the key characteristics of residential densities within eThekwini Municipality:
These density characteristics have important implications for where people may wish to settle, (whether formally or informally); commuting patterns; public transport and the provision of basic services and social facilities. The existing fragmented urban form of the Municipality coupled with low density dramatically affects the access which residents can enjoy to places of residence, employment and social facilities. Fragmentation of the metropolitan area can threaten its potential as an economic engine, and social and environmental problems in any one part of the urban area can stunt overall metropolitan growth. Because of the self-reinforcing nature of this kind of spatial pattern, fragmentation and low density settlements can both be attributed to and result in the following:

- Long commuting times (average for the majority of eThekwini commuters is 2 hours return). This in turn impacts negatively on labour productivity and results in high transport costs.
- High infrastructure costs associated with extending infrastructure to new locations resulting in high costs per dwelling for pipe runs, road lengths; high costs per dwelling for maintenance and operations. Developing outside existing areas results in unused infrastructure capacity in existing areas.
- Impacts on higher order social and economic facilities require large geographic catchments, the consequence with developing in fragmented locations results in new facilities being located far away from much of the population.
• Underused public space in existing areas, which contributes to security and urban quality issues.
• Environmental degradation through high energy requirements of transport.
• Challenge to quality of life and to long-term sustainability.

Overcoming fragmentation and low density would work towards diminishing or reversing these negativities, and assist in achieving spatial integration, social inclusion and increased diversity of class and urban form.

2.2.2.1 Density Trends

It is evident in comparing the EMA density pattern of 2001 to that of 2011 that there has been a change in the distribution of density. As the following map which shows the percentage change in gross density for metropolitan area illustrates:

• Density within the traditional suburbs of Berea, Montclair, Pinetown, Phoenix, Westville (inner core) etc has remained stable.
• Density in the rural periphery has doubled
• Density has increased threefold in greenfield development areas such as Hillcrest, Mt Edgecombe, Umhlanga and Welbadacht.
• Density along the backbone of the IRPTN has either decreased, or is stable.

![Density Trends (2001-2011)](image)
An interrogation of the reasons for this pattern provides invaluable insight for the preparation of a strategy to manage density.

- The rural areas in particular offer a “soft” landing for migrants into the municipal system. Here the barriers to acquiring land to settle on, and the regulations regarding the development of land, are far less onerous than within the formal urban system where available land is not readily available. There is also anecdotal evidence of residents choosing to invest in rural areas where property taxation and servicing costs are minimal compared to land under formal land legal administration. Also developing in these areas is a cultural choice.

- Municipal investment in servicing backlogs has been directed into these areas on the past decade.

- Corporate decisions by major land owners e.g. Tongaat Hullet Developments and Luke Bailes etc to transform former sugar cane land to urban development have resulted in a plethora of new housing opportunities, with a particular emphasis on high quality managed and secure neighbourhoods that are under threat in existing neighbourhoods. This has resulted in a push of residents to emerging edge cities.

- The municipality’s housing programme has been unable to secure well-located land at reasonable prices and has been forced to deliver large-scale greenfield housing projects on the periphery of existing settlements.

A number of density patterns, both current and in terms of trends, are evident in eThekwini, each of which is a product of a number of constraints and/or incentives. These constraints and incentives are either implicit (hidden) or explicit (clear).

The population growth estimates and migration trends in the city translates to approximately 193,000 new residential units, with the northern region anticipated to grow at a faster rate, and if left unchecked, will continue to contribute towards sprawl and urban inefficiency. It is important therefore that the city influences the “distribution of growth and density within the municipal boundary away from the urban periphery to ensure sustainable resource use and the creation of sustainable human settlements. The scenarios listed below demonstrate how higher densities on well located land can contribute towards more sustainable use of land resources across the municipal regions.
New and emerging planning and development requirements, as determined through various pieces of national and provincial legislation, require that planning systems within local municipalities are regularized and are updated in a manner that will result in an improved spatial re-organisation of the municipal area. Specifically, the systems and approaches adopted should begin to redress the adverse effects of apartheid and separate areas planning, as well as social, economic and environmental sustainability.

As such it has been necessary for the eThekwini Municipality to develop a spatial planning approach that is consistent with legislation but also which is appropriate to the management requirements of a metropolitan Municipality. As part of the Municipal planning process and system, the Municipal area has been divided into four functional areas, namely, the Central Municipal Planning Region (CMPR), South Municipal Planning Region (SMPR), West Municipal Planning Region (WMPR) and North Municipal Planning Region (NMPR). The functional boundaries of these regions are defined by the Umgeni River, the Umlazi River and the Kloof Ridge and are catchment based. The following map represents the abovementioned spatial planning regions.

### GROWTH

<table>
<thead>
<tr>
<th>EM AREA</th>
<th>2030</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Units</td>
<td></td>
<td>1-15 du/ha</td>
<td>15-40 du/ha</td>
<td>80-150 du/ha</td>
</tr>
<tr>
<td>Central</td>
<td>38 600</td>
<td>2 573ha</td>
<td>965ha</td>
<td>257ha</td>
</tr>
<tr>
<td>South</td>
<td>38 600</td>
<td>2 573ha</td>
<td>965ha</td>
<td>257ha</td>
</tr>
<tr>
<td>North</td>
<td>77 200</td>
<td>5 147ha</td>
<td>1 930ha</td>
<td>515ha</td>
</tr>
<tr>
<td>Outer West</td>
<td>38 600</td>
<td>2 573ha</td>
<td>965ha</td>
<td>257ha</td>
</tr>
<tr>
<td>Ethekwini</td>
<td>193,000</td>
<td>12 867ha</td>
<td>4 825ha</td>
<td>1 287ha</td>
</tr>
</tbody>
</table>

#### 2.2.4 EThekwini Spatial Regions
The regions and their respective roles are summarised below:

2.2.4.1 Northern Spatial Planning Region

The Northern Municipal Planning Region (NMPR) stretches from the northern banks of the Umgeni River in the South up to and including Tongaat in the North, from the coast line in the east to UMzinyathi, Inanda and border with the IsiLembe District Municipality in the West and North. This is a total area of 59,764 ha which represents approximately 26% of the EMA. The role of this region within the broader municipal area is as follows:

- it provides a logistics support
- it has significant residential, commercial & services function
- specializes in coastal tourism & recreation
- it is a trade and industrial investment centre
- has significant agricultural support function

The spatial challenges which can be identified from the North SDP include the following:

- Protection of Environmental Asset
  The limited extent and fragility of the natural assets base require that they are vigorously protected, integrated into a sustainable environmental system and appropriately managed in order to adequately support the levels of anticipated development in the NMPR. In particular the coastal assets will need to be prioritised for protection and management as a vital element of the tourism and recreation base of the Municipality.

- Protection of Coastal Assets : Sea Level Rise
The Coastal Risk Zone (CRZ) is defined as the combination of the most inland edge of the 1m sea level rise line and the slope failure line associated with 1m of sea level rise. This demarcated the Coastal Risk Zone from natural and climate change impacts and provides a broad identification of the risk area. The coastal risk zone will be refined through the process of more detailed work through the Shoreline Management Plans (SMP's) which are a legal requirement for our coastline.

- Prevent Uncoordinated Urban Sprawl
  The extent and type of growth and development anticipated in the north requires that clear directives to urban expansion are set so that sustainable urban development footprints can be established and or consolidated and that viable well located agricultural development can be promoted. It is acknowledged that the development of a Northern Urban Corridor will be key to containing urban sprawl in the North.

- Protect Lifestyle Options
  Given the levels of growth in residential development there is a need to encourage and accommodate a range of lifestyles and landscape character that will provide a choice for future residents.

- Provide New Major Transport Infrastructure
  Levels of accessibility and mobility at both the metropolitan and local level will need to be improved through expanded capacity of infrastructure and services for both public transportation and private vehicular modes of transport. The North is acknowledged as a priority area for public transportation and this is reflected in the IRPTN phasing.

- Provide Employment Opportunities in the North
  Land use patterns and location of employment zones that promote a more balanced flow of trips between home and work across the NMPR and across the metropolitan area as a whole need to be encouraged. Appropriate economic responses to the growth area around the King Shaka International Airport and the Dube Trade Port need to be prioritized.

- Protect Agricultural Assets
  Under performing agricultural areas that result in pressure for land use change need to be supported and promoted as important and viable economic and employment generators.

- Provide New Bulk Infrastructure
  Expanded capacity for waste water treatment, and for the provision of bulk water is critical.

2.2.4.2 Central Spatial Planning Region
The boundaries of the Central Municipal Planning Region (CMPR) extend from the Umgeni River, in the North, along the coast through to the Umlaas Canal in the South and extend to the escarpment in the west. The region extends over an area of 677km² (67772.33 ha). The role of the Central region is as follows:

- It is the urban core of Metro (commercial, retail, financial & administrative hub),
- Centered on transport activities and logistics port,
- Contributes 56% of the EMA’s total GDP,
- Key Industrial hub,
• Events, Tourism and Logistics hub,
• Largest employment generator,
• Major economic sectors: Industrial, logistics, warehousing, business, commercial, retail and financial services and tourism,
• Has significant coastal resources and service nodes, and
• Offers a range of lifestyle options.

Opportunities
The major physical assets of the Central Spatial Region include its highly accessible CBD’s, its well established transport infrastructure (road, rail, and port) that provide strategic national and regional linkages, an extensive industrial and commercial infrastructure, and a range of attractive physical attributes including an attractive cityscape, a favourable climate, several rivers, the sea and beachfront (golden mile), the harbour and the bay.

This region forms the cornerstone of three regional axes which lead northward to Richards Bay, southward to Port Shepstone and westward to Pietermaritzburg. As host to a key trade hub and due to the regions coastal location this arguably provides the region with a comparative advantage for the location of export-orientated activities.

Regional development corridors linking Durban northwards to Richards bay and onwards to Maputo, and westward to Pietermaritzburg and onwards to Johannesburg are key regional spatial planning tools that build up the competitive advantage of the CSR by exploiting the manufacturing, trade and tourism resources found within this region.

Infrastructurally this region has the most capacity to extend services and promote further development in regard to densification and redevelopment initiatives within the context of sustainability. Being the largest employment generator within the EMA, this region’s also contributes to the largest percentage (56%) of the EMA’s GDP. The region also has a large reservoir of manpower in terms of its current labour force and could potentially provide opportunities for further job creation.

Challenges
The constraint on land in the central area, particularly for residential development, has resulted in a significant thrust for development in the north (and to a certain extent in the west). This growth has manifested in a push for the location of commercial and key community facilities in the adjacent regions where access to or availability of commercial and major community facilities is limited.

Residential densities in the Central Spatial Region have largely been characterised by low density settlements which have been informed by apartheid planning which created a spatial form that was racially structured, highly fragmented and poorly integrated. Urban sprawl as manifest in this region only exacerbates an inefficient public transport system largely due to low thresholds resulting from low
densities around the core areas (CSR) and outward sprawl that makes it difficult to provide affordable and effective commuter transport systems. Furthermore due to the excess infrastructure capacity available in this region, opportunities for densification present a challenge due to limited space actually available for development.

Many of the natural resources within the Central Spatial Region are under threat from the continuous development growth and pressures. A disregard for environmental systems reduces opportunities for creating a system of open space which supplies important ecosystem goods and services to the citizens of Durban.

In areas such as the South Durban Basin the ability of such an ecosystem to assimilate pollution is being exceeded. The lack of basic services (water, sanitation and electricity) in informal areas has also put strain on the natural resources. (Durban South Basin SEA: Fully Integrated Report: August 1999 (CSIR ENVIRONMENTTEK))

The limited extent and extreme fragility of the natural assets base require that they are vigorously protected, integrated into a sustainable environmental system and appropriately managed in order to adequately support the levels of anticipated development in the CSR. In particular the coastal assets will need to be prioritised for protection and management as a vital element of the tourism and recreation base of the Municipality.

Infrastructure limitations in the Central Spatial Region as it relates to the Port capacity may arrest economic expansion which translates spatially into pressure between the interface of the port and the city.

**2.2.4.3 Southern Spatial Planning Region**

The Southern Municipal Planning Region (SMPR) extends from the northern boundary consisting of the Umlazi River and the Umlaas Canal to the UFudu Escarpment and the Ezilmbokodweni River in the north-West to the Western and Southern boundaries of the eThekwini Municipality. The southern region is in extent of 510km². It abuts in the north onto both the central and western metropolitan planning regions. In the west the South MPR shares a common border with UMgungundlovu and UGu District Municipalities. The South MPR is made up of the previous South Local Council area, containing a series of earlier local municipalities, and significant areas added to EThekwini during the recent re-demarcation. The latter areas formed previously part of the KwaZulu homeland structure.

The role of this region is as follows:

- it has a large residential population,
- it has some of the Provinces leading economic sectors,
- has existing Coastal Tourism and has potential for expansion,
- has potential to diversify/intensify existing agricultural uses,
- has the largest tribal areas within the Councils area of jurisdiction.
Landscapes and developments consist of a continuum of components and therefore separating lines, such as the identification of a South Metropolitan Planning Region, represents an artificial separation acceptable only as a convenience in terms of manageability.

While therefore the South MPR forms an integral part of the Metro and while it contains significant components of metropolitan significance, it also accommodates unique developments, and even more so, unique opportunities for future development.

**Opportunities**
The initial strategic assessment suggests in broad terms inter alia major development opportunities in terms of:
- Major tourism and recreation opportunities both in coastal as well as unique inland areas
- Significant agricultural development opportunities in the rural western parts of the South,
- Providing a progressive “ladder” of accommodation, activities and opportunities for the entire income range of the population,
- Providing opportunities for the expansion of a range of economic development necessary to support the growing population.

**Challenges**
There are however also significant challenges for the development of the South MPR including issues such as:
- Finding ways of better integrating the rural communities of the area occupying over 50% of the South,
- Creating a better balance between the built and the natural environment,
- Protecting, rehabilitating and appropriately managing the natural resources of the South,
- Improving significant portions of the existing built environment, in particular conditions in lower income communities,
- Improving pre-conditions for the better integration of large population groups into the economic development opportunities of the area,
- Facilitating the creation of significantly more employment opportunities for the population of the South,
- Providing better physical linkages between the South and the remainder of the Metro

In addition, the southern region has received four wards from the now disestablished Vulamehlo Local Municipality. Wards one, two, three and four have now been incorporated, extending the boundary and extent of the Municipality. The southern region will inherit an area of social investment need. This will mean planning for and streamlining the current disparities of levels of basic services in areas previously under Vulamehlo Municipality. Ward 105 is characterised by a predominantly rural settlement pattern and is under traditional authority. The landscape of Ward 105 is characterised by valleys and river systems; rugged; steep and hilly terrain. This fragmented topography has influenced
the extent of development expansion and has also dictated the scattered pattern of settlements found in the area.

![Figure 16: Areas of Incorporation](image)

### 2.2.4.4 Outer West Spatial Planning Region

The Outer West planning region is approximately 78 438ha in extent, representing 34% of the municipal region. A large part (50%) of the Outer West region comprises traditional areas. A major portion of the metropolitan open space system (50%) which requires protection is found within this region.

The role of this region is as follows:

- it is an Environmental Management Priority Area
- provides opportunity for strategic Industrial Expansion and hence employment opportunities
- has potential for tourism related opportunities.

The existing spatial structure of the Outer West can be summarised as follows:

- Extent and quality of natural assets make the area a high priority environmental management area
- Fragmented and un-articulated open space system will reduce ecological viability
- Poor inter linkages between different settlements and communities resulting in inefficient and inconvenient travel patterns
- Under provision of community and commercial facilities in rural areas resulting in inconvenience and lack of productivity
- Dominant land owners are drivers for new developments that are not always consistent with municipal priorities.
- Large under serviced informal settlements and developments on traditional land resulting in poor living conditions and pressure on the natural environment and social and health challenges.
- High risk generated by informal settlements being in vulnerable locations, could result in the municipality refusing to provide services that will consolidate a settlement, but leads to prolonged situations of poor environmental standards if alternative land is not immediately available.
- Low densities and fragmented settlement pattern with low thresholds for efficient service delivery
- Low densities, fragmented settlement pattern and low incomes with resultant low thresholds for viable commercial nodes and service points
- Poor linkages from rural and informal settlements to metropolitan transport links and to metropolitan facilities and services resulting in inefficient costly travel patterns, inconvenience, lack of productivity, social/family impacts.
- Diminishing capacity of major road transportation corridors to serve the metropolitan area from an economic point of view.
- Under-performing agricultural areas resulting in pressure for land use change and impacts on food security.
- Property Rates Policy encourages uniform development of the City.
- Imbalance between availability of and location of employment opportunities in relation to economically active population.
- Short term market pressures and rapid development may prejudice long term sustainable planning objectives.
- Inadequate and outdated policies and zoning will encourage the illegal use of land which will further negatively affect infrastructure capacity

2.2.5 Neighbouring Municipalities

The eThekwini Municipal Area (EMA) is bordered by three district municipalities, namely, iLembe in the north, UGu in the south and uMgungundlovu in the west. These are shown in Figure 15 below:

Source: PGDS presentation by COGTA
The eThekwini Municipality is a key growth point that serves the region. It therefore needs to be aligned with the spatial development frameworks of neighboring municipalities. The alignment with neighbouring municipalities is necessary in order to:

- prevent conflicting initiatives and land uses being implemented on opposite sides of a boundary
- ensure an aligned regional vision with regards to the region’s infrastructural development to allow governments to take advantage of comparative advantages offered within an area. This also refers to cross border provision of services such as education facilities which can be utilized by communities residing in two municipalities. This allows for cost effective provision of services and is applicable to the provision of civil services, social services and economic opportunities.

**2.2.5.1 Cross-Municipal Boundary Planning Engagements**

The municipal SDF directs and guides strategic investments that are developmental and beneficial both within eThekwini and across neighbouring municipalities. Given the importance of eThekwini to the economic growth of the region and the need for coordinated and integrated cross boundary planning, the eThekwini Municipality, through its planning department, has spearheaded the establishment of three cross boundary fora. One in the west, with Mkhambathi Local Municipality, one in the north addressing the development concerns and alignment with ILembe District Municipality and one in the south to deal with development alignment with the Ugu District Municipality and the recent incorporation of the former Vulamehlo LM into Ward 105 of the eThekwini Municipality in 2016. To this end, a number of cross border planning and alignment meetings have been held on an on-going basis. The Municipality has also engaged other key government departments and parastatals on cross boundary issues. These include the Department of Water and Environment Affairs (DWEA), Umgeni Water, Transnet, ESKOM, Department of Transport (DOT) and Public Rail Association of South Africa (PRASA).

The municipalities have agreed that the areas that need joint planning and alignment include the IDP, SDF, GIS, environmental frameworks and joint consideration of Development Applications and Proposals in addition to the need for sub-regional planning and entering into agreements for the sharing of infrastructure services and resources.

The eThekwini Municipality are the first to map all the SDF’s of the neighbouring municipalities and evaluate the implications of each of the SDF’s on the other (refer Annexure 8). Clearly there are areas of spatial alignment as well as non-alignment for example, corridors in ILembe end on the boundary of eThekwini Municipality with no corresponding corridor planned in the eThekwini Municipality. The spatial mapping exercise, although challenging in terms of data available, does highlight the need for the planning of municipalities to be more outwardly focussed and to recognise and understand the functional linkages and interdependencies between different neighbouring municipalities. It will certainly provide a good basis for further discussion and possibly collaborative planning.
A summary is given below of municipalities bordering eThekwini with their key planning issues as they relate to the eThekwini Municipality:

Table 5: Summary of planning issues with municipalities Bordering eThekwini

<table>
<thead>
<tr>
<th>DISTRICT MUNICIPALITY</th>
<th>LOCAL MUNICIPALITIES THAT SHARE A BORDER WITH EMA</th>
<th>CROSS BORDER ISSUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ilembe Municipality</td>
<td>Ilembe Municipality</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The Regional Spatial Development Plan (RSDP, 2013) is a thirty year plan that will influence the Ilembe SDF</td>
<td>• Lack of infrastructure identified. IM is engaging with EM for possible solutions</td>
</tr>
<tr>
<td></td>
<td>• 2015 focus is on the rural towns of Ndwedwe, Maphumulo and Bamshela</td>
<td>• The Western Bypass will open up the area to development and concentrates on the P253 and P100 as linkages into the interior.</td>
</tr>
<tr>
<td></td>
<td>• 2016 focus is on Compensation Flats Industrial and addressing bulk water availability</td>
<td>• Proposes 2km development on both sides of the R102</td>
</tr>
<tr>
<td></td>
<td>• The EM immediate neighbours are KwaDukuza and Ndwedwe Local Municipalities.</td>
<td>• The RSDP identifies fertile land for food security</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• D'Moss will be taken into account in planning</td>
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<td></td>
<td></td>
<td>• Need to look at costs of development i.e. rates, infrastructure etc. within a 5km strip abutting the municipal boundaries.</td>
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<tr>
<td></td>
<td></td>
<td>• Due to high unemployment there is difficulty in building a tax base.</td>
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<tr>
<td></td>
<td></td>
<td>• Employment opportunities available in KwaDukuza but not Ndwedwe.</td>
</tr>
<tr>
<td>KwaDukuza</td>
<td>Iseconomically the strongest local municipality in Ilembe</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Houses the towns of Ballito and KwaDukuza (Stanger),</td>
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<tr>
<td></td>
<td>• Within the development parameters of the Aerotropolis</td>
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<tr>
<td></td>
<td>• Has a mix of coastal tourism, commercial, light industrial and agricultural activities.</td>
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<td></td>
<td>• Shares northern border with EM.</td>
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</table>
Ndwedwe
- One of the rural/traditional/agricultural Local Municipalities
- Has poor level of services and infrastructure,
- Has high unemployment,
- Tongaat Hulett Developments is buying tracks of land in Ilembe
- shares north western border with EM

Ndwedwe
- Large proportion of residents in Ndwedwe employed in EM and cross boundary issues almost inseparable.
- The raising of the Hazelmere Dam wall will have positive impacts for Ndwedwe
- P100 offers potential for development as it can connect directly with Dube Trade Port
- Poverty, unemployment, unregulated development all threatens the UDL and the environmental sensitivity of EM’s northwestern border.
- The lack of infrastructure has initiated discussions with EM for possible solutions.

General planning issues to emerge:
- The need to establish a common communication and co-ordination platform. Whilst there is participation in project steering committee meetings it was agreed that bi-laterals should be held at least 3 or 4 times a year.
- Establish a cross border urban-rural management committee to address a wide range of issues include climate change with the private sector involved where applicable
- Enter into MoU regarding servicing, socio-economic and any other pertinent issues that may arise resulting from Cross Border Spatial Planning
- Factor in political leadership and buy-in for cross border planning issues
- Factor in geo-political aspects inclusive of socio-economic aspects which can and may influence development realized
- To hold special meetings to discuss development applications and proposals with specific reference to:-
  a) Conservation Areas: KDM Biodiversity and Open Space Plan and eThekwini DMOSS; Future developments in eThekwini to consider KDM and iLembe environmental layers as development proposals in eThekwini may have adverse effect on KDM and iLembe natural environment and vice versa.
  b) New Planned Projects: The provision of bulks could influence influx of PDA submissions to the south of KDM where Tongaat Hullet is a major land owner
  c) Infrastructure Development: Alignment of land use planning to iLembe services provision. Possible scenarios where for example major WTW or WWTW plants are located on either municipality but service the other. This could also have an effect as such infrastructure could be susceptible to development pressures in either municipality.
  d) Role of settlements: Housing plans vs housing subsidies
  e) Key Development Proposals: Wewe Driefontein Mixed Use Development and Tongaat Hullet Compensation Area
  f) Influence of Catalytic Projects: Dube Trade Port at its current state of development, DTP at 2035 and 2060
| Corridors and Linkages-PSEDS and PGDS: Role of the North South corridor in the context of the eThekwni-Umhlathuze corridor. Influence on space economy with regard to release of industrial. Need to ensure the sustainable management of industrial and residential land development between eThekwni and KwaDukuza Municipalities as well as R102. Need to strengthen East West Corridors. |
| R102: Cross boundary engagement between the municipalities with the involvment of eThekwni Transport Authority to discuss the role and land uses along the R102. |
| Western Bypass: Input is needed from the Provincial Department of Transport and eThekwni Transport Authority on the timing of the Western Bypass as KwaDukuza intends developing the R614 as a corridor linking to Wewe Driefontein. |
| Durban Aerotropolis Master Plan: Involvement of neighbouring municipalities in the development of the Durban Aerotropolis Master Plan is important to ensure seamless alignment with the Provincial Growth and Development Strategy as well as the Provincial Growth and Development Plan. |
| M28 and M36: iLembe has identified the M28 and M36 for Priority Infrastructure Routing. The M28 aligns with the draft Rural Develop Strategy currently underway which has identified the route as a rural corridor. The EM acknowledges the proposal for the M36 but no provision has been made in our planning to extend the corridor. The EM will investigate the links further. |
| Regional Plan: plan to consolidate development between IM and EM is needed. A terms of reference to be drawn up. |
| Comprehensive Integrated Transport Plan: the eThekwni Municipality is undertaking a comprehensive transport plan for the entire city and requested information sharing that Ilembe Municipality sit on the steering committee. |
| Climate Change Initiatives: Ilembe Municipality has set up a climate change office and there may be possible collaboration between the two municipalities. |
| Estuarine Management Plans: eThekwni Municipality will be undertaking in-house estuary management plans and requested shapefiles from IM. |
| Shared Services: EM Water and Sanitation expressed a willingness to accommodate capacity shortfalls experienced by Ilembe Municipality and requested proposals to be included in planning. |
| Agricultural land: future engagements within government spheres to be held as a result of the proposed Act which will have an impact to spatial planning. |

<table>
<thead>
<tr>
<th>Umgungundlovu Municipality Local</th>
<th>Mkambathini Local Municipality abuts Cato Ridge and Mpumalanga local</th>
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<tbody>
<tr>
<td>Mkhambathini</td>
<td>The methodology for this alignment has been the collection of data through meetings held with the neighbouring municipalities.</td>
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</table>
Municipalities within uMgungundlovu include the following:
- uMshwathi
- uMngeni
- MooiMpofana
- Impendle
- UMsunduzi
- Mkhambathi
- Richmond

Areas of the Outer West region of eThekwini Municipality.

Between the years 1996 and 2007 this Municipality has experienced an increase in population mainly because of its proximity to Pietermaritzburg and Durban which are the main centres of the economy.

The spatial character of the Mkhambathini municipality can be defined as follows:
- It has always been considered as a rural and traditional Municipality.
- It mainly focuses on agriculture and tourism development, however there are some industrial activities which are emerging along Umlaas road.
- Mkhambathini Municipality has two nodes namely, Camperdown and Umlaas Road. Camperdown mainly focuses on residential and commercial whereas Umlaas Road comprises of industrial, logistics and mixed use.
- Agricultural production in the municipality comprises of vegetable growth for local and hinterland fresh produce markets, maize and sugarcane production. The area features the second

Meetings were held with Mkhambathini Local Municipality 15 February 2017.
- It was agreed that joint planning and alignment is needed on the following areas: the IDP, SDF, GIS, development proposals and land use enforcement.
- It was noted that there is a broad alignment in terms of both strategic planning and land use intentions (zoning), however there are elements of misalignments that are emerging at the land use level. These areas of misalignment can be attributed to new applications for zoning/rezoning, general contraventions and illegal developments. This is mainly due to the unavailability of lower spatial plans as most of the areas of eThekwini that are close to Mkhambathini (i.e Georgedale, Sankontshe and Mophela) fall outside of the TP Scheme.
- With regard to the current N3 Corridor project (SIP 2), both municipalities hold the same view in terms how it will impact on our current spatial plans and what should be done in order to minimize adverse impact.
- An agreement was reached that regular engagements between the two municipalities will be held to address local planning and alignment issues.
- There is a possibility of sharing of services with regards to a treatment works and fire station, this will require further engagement.
- Mkhambathini municipality confirmed that a portion of it will be incorporated to eThekwini municipality as part of the new Ward 105.

Planning alignment issues
- eThekwini Municipality SDF identifies Cato Ridge as a major focus for industrial expansion of Local, Provincial and National significance. Mkhambathini Municipality which shares the boundary with eThekwini in the western side of Cato Ridge and Mpumalanga area, mainly focuses on agriculture, tourism and Biodiversity. The Plan is currently under review.
- Mkhambathini Municipality plays an important role to ensure food security and conservation of natural resources. This implies that land use distribution and development for Cato Ridge and Mpumalanga (specifically in areas abutting the boundary of Mkhambathini) will need to be sensitive to the activities across the boundary in Mkhambathini in order to minimize potential negative impacts.
- Improving linkages between the two Municipalities will facilitate better access to the economic and social services between the communities of the two Municipalities.
- Cognisance needs to be given to the Mayibuye Game Reserve when approving applications on the eThekwini side in order to ensure that we do not approve buildings that have negative visual impact and proposed development on the north western boundary of Cato Ridge should be monitored.
- Greater emphasis need to be placed on the uMbumbulu region with its rapid urbanisation and impact on the R603 which serves as an alternative major route through the region.
highest concentration of poultry producers in the world, supported by a network of service suppliers, as well as pig and beef farming.

- A number of sites with tourism potential are scattered throughout the municipal area. These include the game reserves, being Nagel Dam Nature Reserve, GwaHumbe Game Reserve and Spa as well as heritage sites namely Gwahumbe and Hope Valley.
- Also included are other private game ranches such as iTala Game Reserve, Mayibuye Game Reserve and wild life sanctuaries including the African Bird of Prey Centre, Lion Park and the Natal Zoological Gardens.
- The Umlaas Road development has adequate water supplies from the Umgeni Water pump station and reservoirs in that area,
- Although a minor sewage works is available to accommodate immediate development pressures in Umlaas Road, a new works of approximately R60 million is proposed. This proposed facility has been funded, and the designs and reticulation plans have been finalised. The land for the treatment works has been

<table>
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<tr>
<th>Planning interventions</th>
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<td>In addition to the agreements reached between the two municipalities in terms of dealing with cross boundary planning alignment issues, the recent planning interventions taken by eThekwini Municipality are as follows:</td>
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<td>- The Cato Ridge Review (currently underway) will look at the area adjacent to the game reserve to ensure that land use proposals are compatible to the game reserve.</td>
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<td>- The recently approved Mpumalanga Local Area Plan (LAP) (2014), discourages industrial developments close to the boundary and recommends for the formalization of the existing informal settlements in Sankontshe and Geogedale.</td>
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The methodology for this alignment has been the collection of data through a meeting held with the neighbouring Umdoni Municipality. A Cross-border meeting took place on the 17th February 2017 at Umdoni Local Municipality, Renishaw Depot. Both municipalities have agreed that joint planning and alignment is needed on the following issues: the IDP, SDF, GIS, and project proposals.

**General planning issues**

- The Minister of Cooperative Governance and Traditional Affairs (CoGTA) declared Vulamehlo Municipality to be dissolved by 2016. A greater portion has been amalgamated with the Umdoni Municipality) and the north eastern portion is now part of the eThekwini Municipality (Municipal Demarcation Board, 2013). Four wards of the former Vulamehlo Local Municipality have been incorporated into the eThekwini Municipality. Vulamehlo Local Municipality wards 1, 2, 3 and half of ward 4, post Local Government Elections 2016, have been incorporated within the new eThekwini Municipality boundary and has been renamed, Ward 105.
- Ward 105 is predominantly rural in nature.
- Has limited services and infrastructure.
- Has high levels of unemployment.
- In terms of the SDF, Umdoni Local Municipality has indicated that they are currently busy with a newly consolidated SDF which would include areas now demarcated from the former Vulamehlo Municipality.
- Planning for Ward 105 (Former Vulamehlo now part of Ethekwini Municipality) is currently underway and representatives from the Umdoni Municipality will be part of the Project Steering Committee.
- GIS Mapping: Umdoni Local Municipality indicated that currently they don’t have GIS capacity and are using UGU District GIS Shared service. In this regard Ethekwini Municipality is unable to access the shape files of Umdoni SDF.
- In terms of Cross Boundary Planning: both the Umdoni Scheme and eThekwini South Scheme has revealed that there are few conflicting uses.
- Umdoni has a Wall-to-Wall Scheme which was adopted in 2015.
- At the boundary of EM where the two municipalities border each other; there are disparities in densities. The EM proposes low densities with a level of services to match low density areas in order to maintain and promote rural and agricultural activities. On the other hand Umdoni is proposing high income housing coupled with mixed use developments. This creates non alignment in term of densities and service requirements.
- It has emerged that development in the northern portion of Umdoni may be dependent on a services level agreement with eThekwini.
There are potential synergies from tourism and agricultural development that will be explored.

**Planning interventions**

- Umdoni Municipality is currently undertaking Development Projects in Amandawe, Amalangeni & Scottburgh where Precinct Plans are being prepared for these areas.
- In regard to the Renishaw Township Establishment, which is closer to the eThekwini boundary, no discussions with regards to service level agreements have been confirmed.
- Ethekwini Municipality has committed to invite Umdoni Municipality to be part of the Steering Committee for the Ward 105 (formerly part of Vulamehlo Municipality), Local Area Plan, Functional Area Plan and Scheme Amendment project process. This engagement will lend itself to enhanced coordination and alignment between the two Municipalities specifically in relation to shared boundaries and common objectives.
- Both Umdoni and EM agreed to have ongoing engagements to discuss development applications and proposals with specific reference to:
  - Agricultural areas in decline-
  - Land reform issues
  - Use of rail for commuting and tourism purposes
2.2.6 ETekwini Rural and Traditional Authority Areas

The National Development Plan (NDP: Chapter 6) requires all municipalities in South Africa to prioritise development in rural areas. The NDP 2030 vision for rural areas is to have access to economic opportunities, through agriculture, mining, tourism, fisheries and agro-processing where applicable and high quality basic services. The NDP also requires all municipalities to include a Chapter in the IDP/SDF to demonstrate the approach to rural development within their areas of jurisdiction. The ETekwini Spatial Development Framework is also expected to incorporate a Rural Development Strategy to reflect how the municipality is responding to the National Development Plan’s (Chapter 6) call for prioritising rural development.

The KwaZulu Natal Provincial Growth and Development Strategy (PGDS) has identified the KZN Province as a having high percentage of rural areas in comparison with the other provinces. The PGDS also highlights the KZN Province as the highest contributor to the agriculture sector (58%) in the past 5 years. Therefore the PGDS emphasises the need for municipalities in KZN to prioritise rural development in their areas of jurisdiction. The Minister of Cooperative Governance and Traditional Affairs (COGTA) in the 2015/2016 and 2016/2017 SDF Review comments also raised concerns that the ETekwini SDF does not adequately reflect its intentions to develop rural areas.

The ETekwini Municipality has also realised the need to pay more attention to planning for the rural areas due to a number of spatial challenges. The “rural” areas in ETekwini Municipality comprise approximately 68% of the municipality which largely falls beyond the ‘urban development line with communal land tenure under the ownership of the Ingonyama Trust Board and Traditional Authorities. There are a number of Traditional Authorities represented in the ETekwini Municipality and these areas are reflected in Figure 16 below. These areas are characterised by hilly, rugged terrain, varied settlement patterns, commercial farms and small holdings. These areas support different lifestyles and densities as they encompass a number of areas that can be categorised as peri-urban. There is a lack of land use management in these areas which has resulted in some of the households in rural areas being located on environmentally sensitive land and within road reserves.
Figure 17: Traditional Authorities
A rural development strategy approved by Council in 2016 illustrates how the rural areas in the eThekwini Municipality are undergoing rapid change as the existing rural settlements are sprawling and transforming to peri-urban settlements. This can be attributed to the absence of land management and haphazard land allocation, which is flexible, context specific and not documented. In some areas these settlements have reached densities of up to 30 dwelling units per hectare which is similar to those of urban areas (eThekwini Rural Development Strategy: 2016). The current level of services provided in rural areas is the urine diversion toilet, and water supply is limited to a household standpipe which provides a maximum supply of 300 litres per day. This policy is in line with the conventional rural densities that allowed for large site sizes at a minimum of 1800 m².

The municipality has a mandate to undertake planning in “rural” areas but has no control over land management. Housing provision is a challenge in that the nature of the subsidy dictates the delivery
of a rural type and density of housing to be provided. This is problematic in areas that are already densifying outside of the urban development line as these are categorised as rural but have higher densities and a different character to the typical rural area.

Rural settlements within the study area are sprawling and becoming peri-urban in character and others have densified to the same levels as fully fledged urban areas. The servicing standards have remained unchanged for a long time resulting in uninhabitable environments, especially in high density “rural” settlements. Some settlements locate next to high mobility roads and illegally gain direct access from these roads; often resulting in road accidents and fatalities. There is therefore a need to redefine rural densities, boundaries and the role and structure of the rural areas of the eThekwini Municipality to improve the social, spatial and economic contribution of rural areas in the eThekwini Municipality. To deal with the multi-dimensional issues of planning for these dynamic areas, the eThekwini Municipality prepared a Rural Development Strategy adopted in July 2016.

### 2.2.6.1 Objectives of the Rural Development Strategy

- To define “rural” and “rural boundaries” within the eThekwini Municipality taking into account the relationship between rural, peri-urban and urban areas and the eThekwini City Densification strategy (and other relevant spatial strategies such as the recently identified Integration Zone)
- To prepare a rural framework that aligns with the City’s vision and develop rural strategies that promote sustainable economic development, protection of the environment, food security and sustainable settlement patterns with associated community facilities,
- To examine the provision of appropriate services for the rural areas,
- To understand the legal and land issues that affect land use management,
- To develop institutional arrangements to ensure effective land management and service delivery,
- To develop land use guidelines and identify priority areas to be further investigated for detailed planning,
- To review the Hierarchy of Rural Nodes and identify an appropriate land use mix and densities to support rural nodal development.

### 2.2.6.2 Defining Rural areas

Many definitions of rural and urban have been developed over the years. Whilst there is no one agreed-upon definition for what constitutes "rural," most methods of classifying territory along an urban-rural continuum make reference to population size and density, level of urbanization, and/or the relationship to urbanized areas in terms of economic activity, commuting patterns, lifestyle, and so on. From the explored definitions of “rural” we could develop a study specific characterization of rural which looks at areas outside of city limits, sparse population using population formula per square kilometre, population densities less than 150 people / km², dwelling densities less than 1dw/ hectares, primary economic activity being agriculture and generally located in the countryside.
Apart from commercial farming areas, which are very limited within the eThekwini municipal area of jurisdiction, there are very few rural areas that align strictly to the definition and concepts considered for a “rural” setting. However, caution must be exercised in saying this, knowing that there have been some adjustments to the municipal boundaries with the incorporation of new areas in the south (portion of Vulamehlo now Ward 105) that may meet the definition parameters of “rural”. The “limited rural” areas noted above are observed on the peripheries like Cele, Nkomokazi, etc and these are largely the outskirts that form the boundaries with the adjoining municipalities. However the rate of densification and urbanisation of these remaining rural areas is such that they are likely to lose the rural character within the next 5 to 10 years, based on the rate of comparable transformation of areas observed within the municipality. This is exacerbated by the fact that eThekwini is a Metropolitan area, a Provincial node and gateway to Africa.

**Figure 19: Rural Development Plan**
In the eThekwini Municipality, it is noted that some areas have been viewed as rural because they fall within Ingonyama Trust and Traditional Authority jurisdiction. It must be noted that within eThekwini, these areas are no longer sparsely populated and have very limited vacant spaces. The large part of this land is practically peri-urban. Having said this about the rural character there are also practical linkages and service issues that will need to be reviewed.

- Large sections of outlying areas of eThekwini are still located further than 15 kilometres from a Rural Investment Node;
- Some outlying areas, specifically in the western parts, are still located more than 30 kilometres (at least 1-hour travel time) from a Rural Investment Node or an urban retail node; and
- The majority of the Rural Investment Nodes are still underdeveloped, with only Umbumbulu offering a limited range of retail and social services. This is due to the unavailability of bulk infrastructure to attract commercial activities.

### 2.2.6.3. Approach towards a Rural Development Strategy

Rural areas are sparsely settled and generally make good use of subsistence agricultural activities to sustain their livelihood. Owing to the sparse settlement, these areas usually lack formal infrastructure and services. Smallholdings—these are to a large extent privately owned farms used for commercial productive purposes. Some of these private farms accommodate isolated pockets of settlements, accommodating farm tenants and labourers. Peri urban areas are characterized by relatively high densities of settlements with a lot of retail activities accommodated within the centres of these areas. Most of these are under the traditional land ownership which adds to the ambiguity of servicing these areas, an issue that this strategy intends to address. Current infrastructure in the peri urban areas is generally not at par with the existing densities.

Based on the settlement typologies observed within the study area there are four bands of densities that guide the strategy.

- High density areas above 20 dwelling units per hectare,
- Medium density areas of 7 – 20 dwelling units per hectare,
- Rural areas of 4-7 dwelling units per hectare and,
- Commercial agriculture land of less than 4 dwelling units

Peri urban areas are shown as yellow and pink in the figure below:
The table below represents refined densities in relation to infrastructure provision:

<table>
<thead>
<tr>
<th>AREA</th>
<th>DENSITIES</th>
<th>DESCRIPTIONS</th>
<th>EXAMPLE: LEVEL OF SERVICE</th>
<th>EXAMPLE: ECONOMIC CONSIDERATIONS</th>
</tr>
</thead>
</table>
| A      | High density informal settlements (above 20 du/ha) | - These are typically high density areas within the study area where development has already taken place at a rapid rate.  
   - To a large degree the location of these areas is strongly influenced by a good road network system linking such areas with neighbouring amenities. | The development and provision of services in these areas needs to follow fully serviced high density sites. These should provide the following services:  
   - Water borne sanitation  
   - Water to each site  
   - Storm water measures | Business activities at nodal points and other designated areas |
| B      | Medium density homesteads (7-20 du/ha) | These areas are typically medium density that could still use some form of on-site sanitation  
   They are also influenced by a good road network system linking with adjoining | The following services are to be provided:  
   - On site sanitation  
   - Individual to communal water | Business activity at nodal points  
   Subsistence agriculture around homesteads as well as communal urban |
There are typically high density areas above 20 du/ha within the study area where development has already taken place at a rapid rate. To a large degree the location of these areas is strongly influenced by a good road network system linking such areas with neighbouring amenities. The development and provision of services in these areas needs to follow fully serviced high density sites. These should provide the following services, water borne sanitation, water to each site; storm water measures, business activities at nodal points and other designated areas.

There are typically medium density areas of 7-20 du/ha that could still use some form of on-site sanitation. These are also influenced by good road network system linking with adjoining communities. The following services are to be provided: on site sanitation, individual to communal water, business activity at nodal points, subsistence agriculture around homesteads as well as communal urban agriculture. There are also low density areas of rural setting with densities of 1-7 du/ha. The low density rural areas can be serviced by on site / homestead based sanitation, individual to communal water, subsistence to commercial agriculture involving livestock farming, plantations and gardens. Commercial /farming areas are characterised by less than 4 du/ha and the primary economic activity is agriculture. Commercial farms are privately owned.

### 2.2.6.4. An institutional framework

A number of stakeholders need to be involved in order to realise the intentions of the strategy. These include Amakhosi, eThekwini leadership, Ingonyama Trust Board and COGTA. In terms of the strategy it is argued that there are three institutional scenarios (detailed in the report) that can be formulated to prioritise key elements as starting points to the strategy to regulate rural development in eThekwini. It must be made clear that the history of alienated relations between formal government structures and institutional arrangements in rural areas require a specific focus. Therefore amongst these starting points is the primary issue of creating an institutional framework as a basis for forging
working relationships between stakeholders associated with rural governance and government. This is why the institutional framework features in all scenarios.

2.2.6.5 Developing strategies

STRATEGY 1: Detailed plans that can be surveyed
This is perhaps the most obvious starting point in addressing the challenges associated with densities. This intervention will ensure that all the land spaces vacant and settled are properly accounted for through planning and meeting requirements of SPLUMA for wall to wall schemes. This process should take into account institutional strategies as the engagement of all stakeholders is crucial. The composition of teams should be such that the team undertaking the planning tasks includes social and GIS or surveyor skills who will account for all existing structures and the communities’ perceived boundaries. The settlement layout plan should clearly indicate the proposed densities from design point of view.

STRATEGY 2: Servicing the areas based on the area character rather than tenure character
The municipality should ensure that services in denser areas are at appropriate levels so that such areas are sustainable. Prevalent tenure arrangement should not be a consideration in the servicing of areas. Discussions and investigations are underway by servicing Departments to look for sustainable solutions to realise this.

STRATEGY 3 – Capacitating local stakeholders to manage land effectively
This strategy seeks to address the anomalies created by the different roles and responsibilities within land management. It is suggested that training programmes be developed in conjunction with COGTA to ensure that the traditional authorities are kept abreast of land management techniques. The training should include land restrictions e.g. servitudes, road reserves, environmental zones etc. Possible programmes will include training of ward committees, amakhosi, izinduna on environmental issues and road safety amongst other things.

2.2.6.6. Existing Hierarchy of nodes
Development nodes are largely centres of activity (albeit at different scales) which are linked to development corridors in terms of people and physical thresholds. Nodes are important points providing concentration of different activities. Again nodal points have a potential to expand in size based on different uses.

Nodal areas can be used to concentrate specific activities which could have a multiplier effect to a broader municipal area. Apart from this it can yield economic benefits to promote certain land uses clustered for both the supplier and the user in that other associated services could be found within a short radius. There are four identifiable tiers of Nodes; Rural Investment Nodes, Rural Service Nodes, Rural Tourism and Recreational Nodes and Agriculture Nodes but key to the SDF are Rural Investment Nodes. Rural Investment Nodes have potential for Support Services such as Business,
Agriculture, Tourism and Environmental opportunities for local economic development. The Rural Investment Nodes include uMgababa/uMnini, Umbumbulu, Inchanga, uMzinyathi and KwaXimba.

The most significant finding and recommendation from the strategy is that the so-called “rural areas” can no longer be classified and developed as such. From an economic perspective, these areas should be viewed as transitional in nature, transitioning from rural to urban. From a servicing point of view, these areas need to be serviced based on their character and there is a strong need for a strengthened institutional arrangement.

2.2.6.7 Current Rural Projects

The Strategic Spatial Planning Branch is currently working on three rural projects namely Ward 105 Local Area Plan, Functional Area Plan and Draft Scheme, Nsimbini-Golokodo Draft Scheme and R603 Settlement Plan and Draft Scheme (refer to Annexure 7).
2.2.6.7.1 The Draft Local Area Plan, Functional Area Plan and Rural Scheme for Ward 105

As per the declaration of the Minister of Cooperative Governance and Traditional Affairs (CoGTA), eThekwini Municipality incorporated portions of the Mkhambathini Municipality as well as the former Vulamehlo Municipality within its borders post Local Government Elections 2016. Renamed Ward 105, the eThekwini Municipality realized that it would need to ensure that the new ward is fully incorporated into the infrastructure and service planning and operations within the various departments. To this end the eThekwini Municipality intends to formulate a Local Area Plan, Functional Area Plan and Draft Rural Scheme for Ward 105.

2.2.6.7.1.1 Study Area

Ward 105 is a newly formed ward incorporated from portions of the Mkhambathini and Vulamehlo Municipalities and is approximately 25 106 hectares in extent and it consists of approximately 4 799 households which make up a total population of 30 311. The illustration below provides a basic overview of of the various areas from both the Mkhambathini and Vulamehlo Municipalities which have been combined to form eThekwini Municipality Ward 105.

The generalised community areas which make up this ward are: Imfume; Odidini; Madudubala; Egudwini; Nkwali; Emangeni; Ewudwini; Mashiwase; Kwafakazi; Ungendwa; Itshehlophe; Ntukwini; Mbongolwane; Ndaya; Echobeni; Kwaqumbu; Mbongolwane; Mdumezulu; Kwasunduzwayo; Kwa-Rwayi; Kampuco; Embothimuni; ntweka; Ogagwini and Ezimwini.
2.2.6.7.1.2 Objectives

The primary objectives of the Local Area Plan, Functional Area Plans and Draft Rural Scheme for Ward 105, are as follows:

- Provide a planning framework and planning guidelines to improve the quality of the built environment in conjunction with maintaining the natural environment and to also provide a vibrant unique public space and appropriate infrastructure amenities.
- Develop intervention strategies to integrate existing land allocation and land use in order to assess its applicability in terms of the current context and
- Identify interventions/management solutions to address infrastructure/transportation constraints
- Identify sites that are strategically suitable for rural densification as well as developing a suitable strategy to guide relocation, if required.
- To develop indicative layouts and subdivisions for settlements that are redeveloping in rural areas and provide appropriate densities, site sizes and housing typologies that allows appropriate services to be provided.
- Undertake a land use audit to determine land ownership, lease agreements and current land use practices.
- Prepare a land use guideline to allow and manage appropriate land allocation and respond to number of issues i.e. moving people away from the road reserves and servitudes, moving people from steep or environmental sensitive areas and set aside land for environmental and social facilities.
- Identify key interventions in order to enhance the manner in which the study area operates. The role and potential linkages with the P728 and the R102 as well as other key routes within the study area must be interrogated with reference to other planning initiatives in order to facilitate local connection and regional integration. Identify key interventions at a local level that will facilitate access, movement and circulation (pedestrian and vehicular, private and public - taxi).

2.2.6.7.1.3 Current Status

The Draft Local Area Plan, Functional Area Plans and Draft Rural Scheme for Ward 105 is currently being undertaken by the Strategic Spatial Planning Branch, Development Planning, Environment and Management Unit. It is anticipated that the Local Area Plan, Functional Area Plans and Draft Rural Scheme for Ward 105 will be concluded in 2017.
2.2.6.7.2 Nsimbini–Golokodo Draft Scheme

2.2.6.7.2.1 Study Area

The study area is located within the eThekwini south region in Wards 94 and 67. The area is approximately 7031 hectares in extent and accommodates 80 047 people. The Ezimbokodweni River forms the Northern boundary to the study area, with the MR 197 to the East and the Gologodo River to the South. The major roads within the study area include the MR80 / M35, the Sibusiso Magwanyana and Sibusiso Mkhize Drive.

The Nsimbini–Golokodo area has been identified as an important rural investment node within the eastern parts of the Adams/Folweni Local Area Plan. The study area is currently unplanned and is characterised by dense growing settlements that have not been formalised. The Ingonyama Trust owns the majority of the land. The ongoing growth and densification of the area leads to challenges, such as pressure on the provision of infrastructure and services, environmental pressures and poor linkages to commercial and economic opportunities. As such, the eThekwini Municipality identified the need to prepare a Scheme that will guide land use and the management of land use within the area.

Figure 22: Locality of Nsimbini-Golokodo
2.2.6.7.2 Purpose of the Project
The main purpose of the project is to create a Draft Scheme for the Nsimbini-Golokodo area. This is a continuation for the municipality in satisfying the legal requirement emanating from SPLUUMA which requires the municipality to adopt and implement a Land Use Scheme for its area of jurisdiction.

2.2.6.7.2.3 Current Status
The Nsimbini-Golokodo Draft Scheme is currently being undertaken and in the initial phases of the project. It is anticipated to be completed in the 2017/2018 financial year.

2.2.6.7.3 Adams R603 Settlement Plan and Draft Rural Scheme Project

2.2.7.3.1 Study Area
The study area is located within the eThekwini South Region in the Northern Adams area along the Provincial R603 Road.

Figure 23: Study Area of Adams R603

2.2.6.7.3.2 Purpose of the Project
The main purpose of this project is to formulate a Settlement Plan and Draft Rural Scheme for the Adams area focusing on areas along the R603 road. The aim is to provide a strategic land use
response to development pressures experienced in this area as well as the current and future needs of the area as part of the Adams R603 Settlement Plan and Draft Scheme.

The objectives of this study are to; describe and analyse property trends, typologies and human settlements; develop an indicative layouts for the existing settlements and provide appropriate densities, site sizes and housing typologies; assess the social facilities within the area; identify most frequently used services and appropriate future services for the area; conduct an assessment of the impact of the R603 Corridor for future developments; describe and analyse the environmental assets of the study area.

2.2.6.7.3.3 Current Status
The project is currently in the initial stages where Terms of Reference are being drafted.

2.2.7 Coastal Planning and Coastal Management

The eThekwini Municipality has 35 km of coastline that extends from Clansthal in the south to Westbrook in the north. Large sections of the coast are developed with some pockets of agricultural use. The coast offers prime residential and recreational opportunity.

Some of the challenges that the coastal areas face are; pollution from industry, development pressures, informal settlement areas, and risk to shoreline developments from raised sea levels and increased storm surges, a high energy coastline resulting in erosion and loss of land, loss of coastal habitats and ecosystems and a limited capacity of coastal environment to sustain the high demand for recreational access and use.

In an effort to protect, enhance and expand the coastal amenity, character, environmental service and resource base and maximise the economic and social development potential of our coastal asset, the Municipality has undertaken extensive planning to guide development and recreation along our high value coastline. As far back as November 1999, the Coastal Tourism Development Plan was adopted by the then Durban Metro and Sub-Structure Councils. This plan, established the role and functionality of the coastline in a metropolitan context and informed the earlier Metropolitan Spatial Development Framework prepared in 1998/1999.

Increasing pressure for additional coastal recreational facilities in the North Region in particular and increasing damage to municipal facilities along the coast from storm-water flooding and sea damage necessitated that the Municipality investigate innovative ways of managing land use and storm water disposal along the coastline to further protect the sensitive coastal environments and costly municipal infrastructure. To this end an Innovative Coastal Tourism Research Project (North Local Council, September 2000) was undertaken. This study identified the role and functionality of micro-catchments as a basis for informing appropriate land use and storm water management. Further detailed planning initiated in 2007, culminated with the adoption of the Ohlanga – Tongati Local Area Plan and Coastal Management Plan in February 2010, an innovative study combining land uses and coastal
management and which extensively influenced the land uses included in subsequent reviews of the North Spatial Development Plan and Spatial Development Frameworks. Further work was then undertaken in the Umhlanga Node in order to promote a well integrated, pedestrian-friendly, safe and attractive environment for residents, visitors, and tourists. The plan was adopted by Council in June 2008.

The work done in the North region was mirrored in the South Region. In considering the impact of coastal land use and storm damage on coastal tourism opportunities and coastal assets, in particular the internationally acclaimed Aliwal Shoal, the Umkhomazi Local Area Plan, 2010 recommends land uses and strategies that minimise the risk to effective coastal management. Similar intentions to protect coastal assets in areas under extreme pressure for development have been addressed through the DRAFT Umgababa Coastal Management Plan, Isipingo Local Area Plan and the Estuary Management Plan for Isipingo. Work is recently completed on the Inner City Local Area Plan, which will also seek to protect and enhance our coastal assets and promote Durban as a seaside and tourism destination.

Understanding the unique value that the coast offers to Durban and considering the pressures currently on that resource, the eThekwini Municipality is required to take urgent and focused action to reverse the current trends and secure the coastal asset and it has done so through the adoption of the Coastal Management Strategy in 2012 and introducing a number of coastal management tools and guidelines.

It is important to note that the detailed proposals contained in all of the aforementioned plans have informed all relevant higher order plans (Spatial Development Plans and Spatial Development Frameworks) as part of the iterative process in which the package of plans is undertaken. A summary of the coastal planning and management plans are attached at Annexure 11 and the detailed lower order spatial plans are attached at Annexure 14.

2.2.8 EThekwini Land Use Management Framework

Land Use Management Systems, more commonly known as Schemes, are statutory planning tools used to manage and promote development. A land use scheme is a critical component of the integrated spatial planning system and deals with zoning and built form controls. The intent embodied within the package of spatial plans must be translated into the most appropriate zones and land uses within the schemes. Schemes are the tangible tools in the package of plans as it is this level that development rights become important proponents for development. Schemes enable statutory decisions to be made and this in turn allows building plans to be considered. Schemes are required by law to be reviewed on an annual basis in line with the IDP and SDF reviews.
Land Use Schemes are planning tools used to deliver quality environments. This results in integrated responses which allows for the establishment and creation of robust and vibrant environments; while at the same time contributing to sustainable environments. Planners over the years have grown to realise that Planning is far more than a planning response to applications; rather the emphasis is now on environmental issues, infrastructural capacities and equally on the impact of development. Schemes also provide a mechanism for effective protection of ecosystem services through the creation of specialized environmental land use zones.

Schemes are the mechanisms that drive the Municipality’s income as it relates to development and informs building plans, a variety of land uses such as mixed use developments such as Umhlanga Ridge and KwaMashu Town Centres; it creates quality work environments such as the La Lucia Office Park; and robust Industrial parks such as River Horse Valley and the emerging Cornubia Industrial Area; not to mention quality recreational spaces such as the Umhlanga Promenade.

Within the Council’s area of jurisdiction, there are land parcels that are contained within Schemes areas; land contained outside Scheme areas; land parcels that are under the jurisdiction of the Ingonyama Trust Board. (See Map below):

While Council in 2003 resolved to include all areas under its jurisdiction, the Department of Agriculture has yet to consent to numerous applications; identifying sustainability of agricultural land into the future as their primary concern. This is a critical issue as strategic land parcels cannot be released for development.

Schemes within eThekwini Municipality are currently being reviewed to include and address climate change issues, energy efficiency and sustainable environments. Past planning has left huge gaps in managing and directing development. Old order legislation has to some extent allowed some ‘peripheral townships’ to develop in exactly the same way as formal areas. Townships such as uMnini have had huge capital infrastructure injection making them different from other areas. However, in the absence of a Scheme, development has not been managed in a sustainable way.
To date all previous R293 townships now have a formal scheme implemented. This allows for managing development in these areas. It also allows infrastructure departments to plan for these areas thus enhancing service delivery and broadening the rates base of the council. It encourages investment and reduces poverty, but most of all it improves people’s lives.

Approximately 68% of the Municipality falls outside of scheme areas and these include areas under Traditional Authority, private ownership and commercial farms. The land use management in these areas is a challenge as the municipality does not have authority in these areas and land allocation can occur haphazardly. There is no proper planning for the allocation of bulk services and social facilities as a result some areas are densely populated and the level of services provided in rural areas is no longer sufficient.

The eThekwini Municipality has undertaken a rural development strategy in order to address these challenges as outlined above. The Umnini Rural Scheme pilot project is being investigated to finalise the way forward and bring it to a conclusion.

2.2.8.1 Wall To Wall Schemes / Purpose, Impact And Structure Of The Land Use Management Scheme To Apply In The Municipal Area

Approximately one third of the eThekwini Municipality has land use management schemes prepared and adopted. These approved and adopted schemes have been captured spatially as can be seen in Figure 22 in the document. In terms of Chapter 5 section 24 of SPLUMA, a municipality must, after public consultation approve and adopt a single land use scheme for its entire area within 5 years after the commencement of SPLUMA.

In preparation for the adoption of a single land use scheme the following actions have been proposed to be undertaken:

- Mapping existing Schemes; approved Local Area Plans (LAP’s); Functional Area Plans (FAP’s); Land Use Frameworks and Draft Schemes as overlays. Spatially, we can then determine which areas can be transformed from a Draft Scheme to an adopted Scheme in order of priority and based on the amount of work already done.
- Prepare a list of Draft Schemes ready to be taken to scheme levels. These will form projects in 2017/2018 and Terms of Reference must include exemption from Act 70 of 1970 and approval/interaction with Traditional Councils where relevant.
- The balance of the municipal area which has no scheme, LAP, FAP or Draft Scheme then becomes the focus area once all the existing adopted LAP’s have been taken down to adopted scheme level.

This work needs to be completed by 2018/2019, which may be optimistic, as one of the largest stumbling blocks to a single land use scheme over the eThekwini Municipality relates to the acceptance and buy in from the Traditional Areas and Councils.
The preparation of a single land use scheme is seen as an incremental process and it is anticipated that there will be different levels of details in these various schemes depending on what they seek to achieve.

2.3 Environmental Planning Issues and Trends

2.3.1 Ecosystem Services Proved by Durban’s Natural Environment

The eThekwini Municipality (EM) is situated at the centre of the Maputaland-Pondoland-Albany Region, an area described by Conservation International as a “Biodiversity Hotspot”, one of only 34 in the world. Hotspots are areas that contain high levels of endemism (species specific to an area and not occurring naturally anywhere else) and threats. Over 50% of the world’s plant species and 42% of all terrestrial vertebrate species are endemic to the 34 global biodiversity hotspots, despite these areas covering only 2.3% of Earth’s land surface (Conservation International, 2013).

![Figure 25: The Global Biodiversity Hotspots](Source: Conservation International 2013)

The Maputaland-Pondoland-Albany biodiversity hotspot region is home to more than 7,000 species of vascular plants, 25% of which are restricted (endemic) to this area (van Wyk & Smith, 2001). Durban is situated at the centre of this region in a transitional zone of the warm tropical and cooler temperate elements. Varied topography, climatic conditions and Durban’s unique biogeographical position have resulted in a wide range of terrestrial and aquatic ecosystems that play host to a rich diversity of organisms.
The open spaces in Durban can be categorised into four distinct entities: terrestrial, freshwater, estuarine and marine. Durban also contains three of South Africa’s eight terrestrial biomes, namely Savanna, Forest and Indian Ocean Coastal Belt (which contains a mosaic of grassland and forest), and eight nationally recognised vegetation types. These are: Eastern Valley Bushveld, KwaZulu-Natal Coastal Belt, KwaZulu-Natal Hinterland-Thornveld, KwaZulu-Natal Sandstone Sourveld, Ngongoni Veld, Scarp Forest, Northern Coastal Forest and Mangrove Forest. Freshwater ecosystems are numerous and varied, ranging from small inland seeps to major perennial rivers, all of which terminate at estuaries where the marine and terrestrial environments converge. Marine ecosystems in Durban exist seaward of the high-water mark and include sandy beaches, rocky shores and the in-shore marine environment.

2.3.2. The Durban Metropolitan Open Space System (D’MOSS)

2.3.2.1. What is D’MOSS?
D’MOSS is a system of open spaces incorporating areas of high biodiversity value (private and public owned) linked together in an ecologically viable network of open spaces and is composed of a variety of habitat types. The first municipal version of the Durban Metropolitan Open Space System (D’MOSS) plan was prepared and approved in 1989 by the then Durban City Council. For many years D’MOSS existed purely as a policy directive of Council and was implemented in terms of this directive. Due to uncertainty on its status with respect to the existing zoning under the land use schemes and often the undertaking of work unaware of the existence D’MOSS, it was decided to integrate D’MOSS into the land use schemes as a control area or overlay. D’MOSS was finally integrated into all eThekwini Municipality schemes following its formal adoption by Council in December 2010. Due to changes resulting from land transformation, environmental authorisations, and the assessment of the Layer using the Systematic Conservation Planning approach, an amended D’MOSS Layer was approved by the Municipal Planning Tribunal (in the case of the land use schemes) and by the eThekwini City Council (in the case of land falling outside the land use schemes) in September 2016 and December 2016 respectively.
The following map represents the key environmental assets as represented by D'MOSS that should be conserved and protected. D'MOSS is mapped using an expert-based approach to identify areas for inclusion into the layer. The 2016 approved D'MOSS layer covers an area of ~ 78,000 ha, representing approximately 30% of the total municipal area.
2.3.2.2. How is D’MOSS used in municipal planning?

DMOSS is a municipal planning tool that seeks to highlight important natural environments and the ecosystem services they provide. Should a landowner wish to develop their property, and if the property falls within the D’MOSS layer, a more detailed investigation of the site to be developed will be conducted to assess potential environmental impact of the development. This assessment will be primarily in terms of the town planning schemes but possibly also in terms of the National Environmental Management Act 1998, (NEMA, Act No. 107 of 1998). The outcome of this investigation will be either:

i. No impacts are expected and the activity may proceed,

ii. Significant impacts are expected and an environmental assessment prepared by a suitably qualified practitioner will be required in order to fully assess the application. Approval may be subsequently granted with or without conditions or,

iii. The activity is not supported because the impacts are significant and cannot be mitigated.
2.3.2.3. **D’MOSS: Provisions of the schemes of eThekwini**

*D’MOSS Controlled Area* means any area demarcated upon the map by the overprinting of a green hatched pattern (or by a green layer on the GIS), where, by reasons of the natural biodiversity, the existence of flora and fauna, topography, or the environmental goods and services provided or other like reasons, development or building may be prohibited, restricted or permitted upon such conditions as may be specified having regard to the nature of the said area;

(a) No person shall within a D’MOSS controlled area develop any land, or excavate or level any site, or remove any natural vegetation from, or erect any structure of any nature whatsoever, dump on or in or carry out any work upon such site without having first obtained the prior approval in terms of this sub-clause.

(b) No such approval shall be given unless the Head: Development Planning Environment and Management, after due examination, and subject to such conditions as he/she may specify, is satisfied that any such development, erection or other work referred to in paragraph (a) hereof can be carried out without materially and/or temporarily degrading, destroying or negatively impacting on the integrity of the biodiversity and/or environmental goods and services found or generated within the said area.

(c) For the purpose of any examination referred to in paragraph (b), the applicant shall, where required by the Head: Development Planning Environment and Management submit such plans or other supporting documentation as the Head: Development Planning Environment and Management may require. Without affecting the generality of the foregoing, such plans and supporting documentation may be required by the Head: Development Planning Environment and Management to be certified as being correct by an appropriately recognised/registered Environmental Consultant.

(d) The conditions referred to in paragraph (b) hereof may be such as to :-

(i) restrict the form or nature of the building or structure;
(ii) limit the size and/or shape of the building or structure;
(iii) prescribe or restrict the materials of which the building or structure is to be constructed;
(iv) determine the siting of any building or structure and of any soak pits or other drainage works;
(v) prohibit or control any excavation on the site, the construction of any roadways, paths and other garden features;
(vi) prohibit or control the removal of any natural vegetation;
(vii) control any other aspects which the Head: Development Planning Environment and Management considers to be desirable.

(e) In any approval or any conditions as may be specified by the Head: Development Planning Environment and Management above, the applicant shall enjoy a right of appeal to the
KwaZulu-Natal Planning and Development Appeal Tribunal as established in terms of section 100(1) of the KwaZulu-Natal Planning and Development Act No. 6 of 2008.

2.3.2.4. Ecosystem services provided by D’MOSS

Ecosystem services are the benefits provided by healthy biodiversity to all living things. There is a growing recognition of the value of ecosystem services to human wellbeing in terms of health, social, cultural and economic needs. In 2010, the international initiative called ‘The Economics of Ecosystems and Biodiversity (TEEB)’ indicated that investment into ecosystem conservation and restoration must be made to support key development goals such as food and water security, wastewater treatment as well as climate change mitigation and adaptation. Ecosystem services, and their associated biodiversity, provide probably the most significant buffering effect against the negative impacts of climate change for local communities and infrastructure. Ecosystem services provided by D’MOSS were valued at ~R3.1 billion per annum in 2003, excluding the contribution made to the tourism sector.

These ecosystem services include soil formation, erosion control, water supply and regulation, climate regulation, cultural and recreational opportunities, raw materials for craft and building, food production, pollination, nutrient cycling and waste treatment. Importantly the protection of our natural environments will make a significant contribution to our ability to adapt to climate change impacts (known as ecosystem-based adaptation or EBA), which are predicted to include higher temperatures, sea level rise and more intense rainfall. In order for the D’MOSS to continue to deliver these services it needs to be sensitively integrated and effectively managed within the metropolitan area.
2.3.3. Key environmental challenges facing the EMA

Notwithstanding their value, the EMA’s natural environments have been severely impacted by landscape change, habitat fragmentation, invasive alien species, over exploitation and pollution. Climate change is a significant and increasing threat. Many people have benefited over the last century from the conversion of natural ecosystems to human-dominated ecosystems and from the exploitation of biodiversity. This has occurred because of the lack of regard for the value of these systems, which makes greenfields development an attractive option. At the same time, however, these gains have been achieved at growing cost in the form of losses in biodiversity, degradation of many ecosystem services, and the exacerbation of poverty for other groups of people (Millennium Ecosystem Assessment, 2005). The situation in eThekwini Municipality is no different to the global assessment and suggests that current policy, law, governance and environmental management efforts have been inadequate to prevent this degradation.
High levels of transformation and fragmentation of Durban’s landscape mean that the ability of species and ecosystems to retreat and adapt to climate change is severely compromised. This has implications for the ecosystem services that D’MOSS can provide. For example, high levels of development on Durban’s beaches prevent the natural migration of dunes resulting in severe damage to the coastline during storm surges, increased wave intensity and sea-level rise (Govender, 2009). These are all factors that are predicted to increase in frequency due to climate change. Beach biodiversity is lost when beaches lose sand through erosion from the increased energy of the coastline during storm events, reducing the ability of beach ecosystems to provide essential services. Similarly, fragmentation of natural areas due to degraded landscapes isolates one habitat patch from others, thereby dividing previously large, continuous areas into separate, smaller fragments. This reduced connectivity could have adverse effects on the ability of species to retreat and re-establish in other areas when climatic conditions become unsuitable at existing locations.

Invasive alien plants in South Africa now infest over 20 million hectares, as reported by the Agricultural Research Council (ARC). The report, released in July 2010, was commissioned by the Department of Water Affairs. A recent survey by the EM found that as much as 48% of selected conservation areas were infested with invasive alien plants. Many alien plant species are predicted to expand their density and distribution under climate change scenarios, thereby impacting further on local biodiversity. The implication of an increased distribution of invasive alien species implies transformation of indigenous vegetation, a possible decrease in ecosystem function with reduced diversity and thus a decrease in the provision of ecosystem services.

At present a mere ~10% of the D’MOSS area is protected (e.g. through proclamation as a protected area, appropriate conservation zoning, conservation servitudes and land acquisition) whilst only ~7% of D’MOSS is managed for conservation. Increasing the total area of D’MOSS that is protected and managed for conservation is critical if the biodiversity of the EMA, and its associated ecosystem services, are to be protected. This is a huge challenge considering the rapid urbanisation and transformation that is taking place within the city in order to meet development and service delivery goals, as well as growing threats such as invasive alien species and climate change.

2.3.3.1. Why crossing environmental boundaries matters

The research on planetary boundaries and a “safe operating space for humanity” initially published in 2009 (Rockström et al., 2009) and recently revised (Steffen et al., 2015) has brought to the fore serious concerns around thresholds beyond which the world becomes an increasingly unsafe place for the human species. Four of nine planetary boundaries have now been crossed at a global level as a result of human activity. These four are: climate change, loss of biosphere integrity (loss of biodiversity), land-system change (transformation of natural areas resulting is loss of forests, wetlands etc.), and altered biogeochemical cycles (phosphorus and nitrogen loading to the environment as a result of agricultural and industrial pollution). Two of these, climate change and biosphere integrity, are what scientists call "core boundaries." Significantly altering either of these decreases the ability of
humans to develop and thrive. In such a high-risk world, everyone is negatively impacted, but it is the poor and the vulnerable that are most likely to be worst affected because they have the least ability to adapt to and protect themselves from extreme events and slow onset disasters, and because they are the most reliant upon natural systems for their survival. This is particularly relevant to African cities, like Durban, where a large percentage of the population live below the poverty line.

In Durban, performance against scientifically derived targets for 14 vegetation types that occur in the eThekweni Municipal Area show alarming statistics (Table 6). These targets set by Ezemvelo KZN Wildlife for the protection of different vegetation types (given as a percentage of the original extent) have already been exceeded for three vegetation types in the EMA: KZN Sandstone Sourveld, and North and South Coast Grasslands i.e., they are in all likelihood beyond the natural threshold required for long-term survival (Table 1). This has and will continue to lead to abrupt and irreversible environmental changes all of which will be detrimental to the citizens of Durban. However, this research (both globally and locally), can provide an opportunity to change the dangerous trajectory that we are heading in. Opportunities exist to fundamentally change the framework for action to reduce risk, while developing sustainably and promoting resilience.

Table 5: Targets and deficits for 13 vegetation types in Durban

<table>
<thead>
<tr>
<th>Vegetation types (Boon, in prep)</th>
<th>Original distribution (ha) – circa 1850</th>
<th>Target(^{1}) (% of original)</th>
<th>Area required to meet target (ha)</th>
<th>Area remaining (ha)</th>
<th>Percentage remaining</th>
<th>Shortfall/surplus (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal Forest and Grassland mosaic⁶</td>
<td>20690</td>
<td>71.69</td>
<td>14833</td>
<td>1691</td>
<td>8</td>
<td>-13141</td>
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<tr>
<td>Dune Forest</td>
<td>2041</td>
<td>69.2</td>
<td>1412</td>
<td>585</td>
<td>29</td>
<td>-827</td>
</tr>
<tr>
<td>Eastern Scarp Forest_above450 m</td>
<td>1432</td>
<td>61.61</td>
<td>882</td>
<td>2736</td>
<td>191</td>
<td>1854</td>
</tr>
<tr>
<td>Eastern Scarp Forest_below450 m</td>
<td>2978</td>
<td>61.61</td>
<td>1835</td>
<td>8262</td>
<td>277</td>
<td>6427</td>
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<td>Eastern Valley Bushveld</td>
<td>59870</td>
<td>25</td>
<td>14968</td>
<td>26924</td>
<td>45</td>
<td>11957</td>
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<tr>
<td>Grassland_thergeology_above450 m³</td>
<td>6568</td>
<td>25</td>
<td>1642</td>
<td>1661</td>
<td>25</td>
<td>19</td>
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<td>Grassland_thergeology_below450 m³</td>
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<td>KZNSS_above450 m</td>
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<td>25</td>
<td>8518</td>
<td>2933</td>
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<td>-5585</td>
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<tr>
<td>Mangroves</td>
<td>492</td>
<td>100</td>
<td>492</td>
<td>73</td>
<td>15</td>
<td>-419</td>
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<tr>
<td>Sub-tropical Dune Thicket</td>
<td>192.3</td>
<td>100</td>
<td>192</td>
<td>192</td>
<td>100</td>
<td>0</td>
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<td>Sub-tropical Seashore Vegetation</td>
<td>16</td>
<td>100</td>
<td>16</td>
<td>16</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Swamp Forest</td>
<td>55</td>
<td>100</td>
<td>33</td>
<td>55</td>
<td>100</td>
<td>22</td>
</tr>
</tbody>
</table>
a. Coastal Forest and Grassland mosaic (Boon, in prep) = Northern Coastal Forest (Scott-Shaw & Escott 2011)
b. Grassland_othergeology_below450 m (Boon, in prep) = Indian Ocean Coastal Belt Grassland in part (the other part is KZNSS below 450 m) (Scott-Shaw & Escott 2011)
c. Grassland_othergeology_above450 m (Boon, in prep) = Ngongoni Veld and KZN Hinterland Thornveld (Scott-Shaw & Escott 2011).
d. Some point to take note of regarding conservation targets:
   - An increasingly fragmented landscape and alteration of historical fire regimes has resulted in the encroachment of scarp forest into areas previously dominated by grasslands. This accounts for the increase in the current extent of scarp forest relative to the historical extent.
   - When setting targets for forest vegetation types, Berliner (2005) adjusted the tradition species-area curve targets to account for factors such as rarity of forest types, fragmentation, and historical reduction in extent (since 1890).
   - Vegetation types that were split based on the 450 m altitudinal break were assigned the same target, with the intention of accounting for the floristic differences across the altitudinal divide.

Table 5 presents statistics and associated targets for the vegetation types of the EMA. Vegetation types are used as coarse surrogates for many species which do not have explicit species targets in conservation planning. In other words, it is assumed that species, whose ranges are restricted to a vegetation type like Dune Forest, will be covered by selecting Dune Forest areas for protection. Conservation targets refer to the minimum area required to be conserved of a habitat type in order to ensure the persistence of that habitat and the species represented therein. The targets as per the table below were aligned, as far as possible, with the provincial targets extracted from Scott-Shaw & Escott (2011). Targets for forest types were extracted from Berliner (2005). Certain vegetation types were split for the municipal plan based on the 450 m altitudinal break, above and below which the climate differs significantly. These vegetation types were assigned the same target, above and below the altitudinal break, with the intention of accounting for the floristic differences across the altitudinal divide. It was not possible to accurately model the historic extents of Swamp Forest, Sub-tropical Dune Thicket and Sub-tropical Seashore Vegetation. Given the significant level of transformation along the coast (evident from the Dune Forest and Coastal Forest and Grassland mosaic statistics) and within Wetland systems (Swamp Forest is typically associated with these systems) a conservative approach of setting a 100 % target for remaining patches of the three vegetation types was taken. This means that in order to achieve conservation targets for these three vegetation types, all remaining patches will need to be conserved.

Based on the vegetation descriptions by Boon (2014) a number of vegetation types are different to those described in Scott-Shaw & Escott (2011). In this situation the targets used for the vegetation types described by Boon (2014) where inherited from the most similar vegetation type in Scott-Shaw & Escott (2011). Vegetation types highlighted in red (negative hectares in the final column) indicate that biodiversity targets have been exceeded (i.e. area remaining is less than is required to meet targets).

For aquatic systems, results from bio-monitoring programmes focusing on the rivers and estuaries of Durban have revealed that these ecosystems are in a particularly poor state. Using aquatic bio-monitoring methodologies, the EM found in 2010 that 71 of 175 (or 40%) of its monitoring sites on its
rivers were considered to be in a poor condition and only six (or just over 3%) were classified as near natural. Rivers were found to be experiencing multiple impacts including spills and illegal discharges, solid waste dumping, wastewater treatment works not operating to specification or license conditions, sand mining, realignment of watercourses, flow reduction through dams, removal of riparian flora, and infestation by alien flora and fauna.

In a survey of the 16 estuaries in the EMA published in 2010, only three, together making up 10% of the total municipal estuarine area, were classified as in good condition (none were classified as excellent). Because of the condition of the larger systems such as the uMngeni and Durban Bay, a total of 50% of the municipal estuarine area must be considered highly degraded. The lack of national and provincial data prevents a direct comparison being made. Expert opinion, however, would suggest that based on the current ecological condition of Durban’s aquatic ecosystems, they are amongst the lowest ranked systems in the country. This has major implications for communities depending directly on water from these systems, and also undermines tourism opportunities on municipal beaches.

Water quality covers a broad spectrum of parameters, which are largely influenced by the activities of the EM. Eutrophication as a result of nutrient enrichment is having a detrimental impact on rivers and estuaries in the EM. Reducing nutrient loading, particularly at treatment works across the Municipality, will go a long way towards addressing this threat.

Sand mining, both legal and illegal, is also having a major impact on aquatic ecosystems and the delivery of sediment to the coast. Controlling the damage caused by sand mining represents a serious challenge for the EM. The CSIR was commissioned in 2008 to undertake a study of the sand supply from rivers and the implications for coastal sand budgets. The 18 rivers within the EM’s jurisdiction supply sediment (an ecosystem service) to the coastal zone, which is important in replenishing sand lost from beaches and coastal dunes through coastal erosion processes. Therefore the sand is important for inter alia buffering the impacts of high seas and making beaches attractive to tourists – further ecosystem services. Sediment yields have been increased through poor land management practices, but overall supply to the coastline has decreased by two-thirds of “natural” yields due to sand mining and the 12 large dams that have been constructed on Durban’s rivers which act as sediment traps. Given that discharge of sediment from rivers dominates sand supply, it is predicted that the reduction in sand supply could result in mean coastal erosion of > 1 m/yr. The report found that the combined impacts of sea level rise and increased sea storminess are likely to have severe consequences in terms of coastal erosion, initially similar to and eventually exceeding the erosion suffered in KZN during 2007.

Quantitative targets set by Ezemvelo KZN Wildlife for the protection of different vegetation types (given as a percentage of the original extent) have already been exceeded for three vegetation types in the EMA: KZN Sandstone Sourveld, and North and South Coast Grasslands.
2.3.4. Opportunities for innovation

The EM has made some progress in reversing the loss of natural areas by using various instruments such as controlled development areas, environmental servitudes, environmental special rating areas, environmental rates certificates, environmental land acquisition and including environmental considerations in preparing the municipal valuation roll. Furthermore, several steps toward improved natural asset management have been initiated, including active reforestation of certain open spaces (e.g. the Buffer Zone surrounding the Buffelsdraai Landfill Site), and improved management and restoration of other areas (e.g. through the Working on Fire and Working for Ecosystems programmes).

It is acknowledged that current indigenous biodiversity will be a critical lifeline to humans should the various predicted climate change scenarios unfold. As such, the EPCPD has engaged in various research programmes, including a research partnership with the University of KwaZulu-Natal, in order to gauge if an adequate natural resource base will be secured over time. These works includes a variety of ecosystems-based research, as well as monitoring and reporting on the state of key biodiversity indicators. For example, see the annual publication of a State of Biodiversity report. Research on novel ecosystems, restoration ecology, reforestation, as well as human ecological systems are also ongoing. Below is an example of how ecosystem-based adaptation is being implemented in Durban.

2.3.4.1 Ecosystem-based adaptation (EBA) and the Green Economy

Given the current threats to biodiversity, and the pending impacts anticipated as a result of climate change, the EM must urgently invest in protecting, restoring and managing ecosystems to enhance adaptive capacity in a cost-effective and sustainable manner. Ideally, this will be achieved by transitioning to a “green” economy, primarily through the building of a new economy based on bio-infrastructure, which increases the supply of ecosystem services. The use of bio-infrastructure represents a strategic opportunity as it can be expanded without straining already limited natural resources. In fact, the use of bio-infrastructure can actually increase the supply of these resources.

In this regard, the Restoration Ecology Branch of the Environmental Planning and Climate Protection Department (EPCPD) was established in 2011. This was in response to the realisation that restoration of urban open space ecosystems was fast becoming a priority in cities across the globe and Durban was no different. Of particular concern were the observed negative impacts of climate change, habitat fragmentation, nutrient enrichment and invasive species. It became clear that cities would need to learn to recognise, understand and then develop management plans for a suite of novel ecosystems, while at the same time conserving existing biodiversity present within the relevant established vegetation types. It was recognised that novel approaches would be required, to ensure that natural
corridors and open spaces remain optimally functional and are able to deliver important environmental services to local communities, in the face of ongoing densification and human population growth. Clearly, the only reasonable means to achieve such objectives was to engage local communities’ assistance.

An approach was adopted that allowed for training and development of local people and small businesses, to implement the required management interventions. This included the control of invasive alien plant species, planting of indigenous vegetation, as well as fire control in grassland areas. The approach has allowed eThekwini Municipality to deliver on job-creation and skills development imperatives, while simultaneously ensuring maintenance of healthy ecosystems. This is also in line the Sustainable Development Goals (SDGs) adopted in October 2015. Three large-scale programmes, namely the Working for Ecosystems, Working on Fire, and Community Reforestation Programmes were established (Figures 28 and 29 below). These are now integral to the work undertaken by the Restoration Ecology Branch.

The ground-breaking and transformative innovations adopted have already demonstrated how the Municipality can protect biodiversity, adapt to climate change, and optimise sustainable green job creation. As a means to test and reflect on the approaches adopted, ongoing research associated with the range of projects underway is also undertaken. It is anticipated that this research will allow the Restoration Ecology branch to achieve a foresighting function that ensures optimal ecosystem management regardless of future challenges. This will be achieved through i.) developing and implementing policies, plans and projects, for biodiversity and climate protection, ii.) ensuring optimal and appropriate environmental asset management, iii.) undertaking research to improve ecosystem restoration and sustainability, and iv.) optimising co-benefits relating to skills development and job creation.

![Working for Ecosystems – initiated 2006](image)

**Stats for 2010/11, 2011/12, 2012/13 & 2014/15**

<table>
<thead>
<tr>
<th></th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
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<tr>
<td>Total Area of IAP</td>
<td>1088</td>
<td>1852.3</td>
<td>1777.7</td>
<td>2952.8</td>
</tr>
<tr>
<td>(Invasive Alien Plant)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>control (Ha):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Training Courses:</td>
<td>11</td>
<td>34</td>
<td>39</td>
<td>68</td>
</tr>
<tr>
<td>Total Training Person Days:</td>
<td>335</td>
<td>525</td>
<td>1230</td>
<td>1064</td>
</tr>
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</tr>
<tr>
<td>Female employment:</td>
<td>80%</td>
<td>70%</td>
<td>61%</td>
<td>30%</td>
</tr>
<tr>
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<td>R3.6mil</td>
<td>R4.7mil</td>
<td>R7.8mil</td>
<td>R7.75mil</td>
</tr>
</tbody>
</table>

*Wards worked in: (7): 24; 7; 10; 103; 3; 18; 4 & 11.*

*Figure 29: Working for Ecosystems Programme*
The key objective of the Working for Ecosystems programme is control of invasive alien plants (IAPs) in key catchment areas, through the involvement and employment of local community members. The WFE programme has a strong focus on SMME development.

**Figure 30: Working on Fire Programme**

The Working on Fire programme operations includes the control of invasive alien plants on high priority biodiversity sites. This is done through various means including manual, chemical to mechanical. Furthermore, the WoF programme applies fire, during the dry season, as a tool to manage grasslands and to control invasive alien plants (IAPs) infestations.

**Figure 31: Community Reforestation Programme**

The Community Reforestation Programme has resulted in the planting of a large number of trees in the Buffelsdraai and Illanda Mountain areas. The following chart shows the combined results for Buffelsdraai and Illanda Mountain for the years 2010/11 to 2014/15.
The EPCPD has partnered with the Wildlands Conservation Trust in order to restore selected indigenous forest areas in the EMA. The reforestation programme has adopted the Community Ecosystem Based Adaption (CEBA) model, which demonstrates the strong and vital link between socio-economic upliftment and biodiversity conservation, enhanced ecosystem functioning and carbon sequestration. ‘Treepreneurs’ propagate trees at their homesteads, through the Indigenous Trees for Life Programme developed by Wildlands Conservation Trust. Treepreneurs then trade their trees for basic food items, clothes, building materials and even school fees. Ninety percent of people who benefit from this project were earning wages below the poverty line, and are therefore some of the most vulnerable communities in the country. Many of these Treepreneurs are women and children, unemployed adults, and pensioners.

2.3.5 Strategic Environmental Assessment

The intention of this summary is to outline eThekwini Municipality's approach to its Strategic Environmental Assessment and other elements of related work that were mentioned in the COGTA assessment of the SDF.

2.3.5.1 Background to the SEA process in eThekwini Municipality

In 2009, eThekwini Municipality initiated its first effort to undertake a Strategic Environmental Assessment (SEA) and appointed a team of local and international experts to work with officials from the municipality to develop a framework and methodology that would allow the sustainability of the municipality's spatial plans to be assessed according to their impacts on the provision of ecosystem services. Although this work provided a useful starting point for the SEA process, global thinking in the field of global environmental change has advanced significantly since then and existing SEA methodologies are not adequately responsive to the new thinking in the field. This includes the concept of thresholds and planetary boundaries (e.g. Rockström et al., 2009; Steffen et al, 2015) and the growing focus on natural ecosystems as foundational to human wellbeing and development, for example through programmes such as The Economics of Ecosystems and Biodiversity (TEEB) and the ‘Natural Capital’ Project. As a result, eThekwini Municipality has been intent from the outset to develop an SEA methodology that incorporates such global thinking. The challenge however is that very few of these global ideas have been translated into the local context and therefore eThekwini Municipality’s approach is a highly exploratory and evolving one.

2.3.5.2 Related work elements

Safe Operating Space study (July 2013-Jan 2014)

As part of trying to grapple with concepts such as thresholds and planetary boundaries, eThekwini Municipality initiated the ‘Safe Operating Space study’ in July 2013 to see whether it was possible to inform decision-making and long term city planning by defining a ‘safe operating space’ within which
the capacity of natural ecosystems to provide life-supporting services is protected, optimised and sustained as the city and economy develops. The Council for Scientific and Industrial Research (CSIR) was contracted for this work. A number of challenges were experienced in defining ‘linear’ thresholds and it was acknowledged that an integration of social, economic and environmental factors was instead needed to assess sustainability in the Municipality. Through this thinking, the Safe Operating Space study evolved into the ‘Sustainable Horizons Project’.

**Sustainable Horizons project** (Feb 2014-June 2015)

The aim of this project is to develop and implement an integrated indicator system for the eThekwini Municipal Area that will help to show progress towards a viable and improved future. Given the challenges and limitations of monitoring progress in a sectoral way, the model that has been created offers a more ‘concrete’ way to measure sustainability performance (across social, economic and environmental indicators) in an integrated way. Under an existing contract with CSIR, the model has been developed but is still undergoing further exploration to determine whether its outputs are useful in guiding more strategic decision-making. EThekwini Municipality is currently in the process of securing additional support from CSIR to continue this work. A key component of the next phase of the Sustainable Horizons project will be to explore the extent to which the concept of ‘thresholds’ can be included in relation to key indicators. Apart from providing a high level sustainability assessment for the Municipality, the exploration regarding thresholds will be useful in terms of the proposed SEA methodology.

**Note:** Although the above projects may serve to inform elements of the SEA, they do not replace the SEA process itself and a separate methodology has been developed for this purpose.

**2.3.5.3 The Strategic Environmental Assessment for eThekwini Municipality**

EThekwini Municipality is in the process of working with a local and global team to prepare a methodological approach for the SEA. The methodology will draw strongly on global thinking around thresholds and will attempt to articulate and understand some of the key linkages between the strategic vision for the Municipality (and its socio-economic priorities) with the ecosystems that provide services that are key to supporting this vision. This will provide the foundation for assessing the current opportunities and threats related to important ecosystems. The procurement process is currently underway for this work and funding has been committed from the Integrated Cities Development Grant (ICDG). The local and global partners for this work will leverage co-funding and additional resources to add value to the work. Although the ICDG funding extends to June 2018, the team will aim to have some preliminary results by March 2017 so as to provide early input into the revised Spatial Development Framework for eThekwini Municipality.

**2.3.5.4 The role of an Environmental Management Framework (EMF)**

At a meeting held on 12th May 2015 between eThekwini Municipality (represented by the Environmental Planning and Climate Protection Department and the Strategic Spatial Planning
Branch) and the Department of Economic Development, Tourism and Environmental Affairs, it was agreed that there is potential value in an EMF if it is used as a decision-informing tool and if it is used to incorporate and formally gazette elements of environmental policy and information. However, it was also acknowledged that the current SEA process needs to provide the framework/context for the EMF, especially since the SEA is likely to shift thinking around the relationship between environment, social and economic spheres. On this basis it was agreed that work on the EMF should begin once the SEA process has produced initial outcomes and also once there is additional human resource capacity in the EPCPD to oversee the work required by an EMF. To this end, the EMF is seen as an ‘end tool’ in this process and work will not begin on this until the timing is appropriate.

2.3.6 Resource Management Plans for the Protection of Dams

The Department of Water and Sanitation (DWS) has identified that Resource Management Plans should be developed for all dams to fulfil the purpose of the National Water Act i.e. the protection of water resources. A Resource Management Plan (RMP) is the legal management tool that should balance the primary function of a dam with the economic opportunities that may be harnessed from that dam. An RMP is restricted to the dam and the property over which it is located i.e. an RMP is undertaken for the dam and the dam’s “purchase line” (Umgeni Water 2013). There are four key dams located in eThekwini Municipality:

- Hazelmere Dam which supplies water to the North Coast;
- Inanda Dam which supplies water to the Central Area;
- Nungwane Dam which supplies water to the South Coast; and
- Shongweni Dam which is a recreational dam.

All four dams are operated by Umgeni Water. eThekwini Municipality, in partnership with DWS developed RMPs for Hazelmere Dam and Inanda Dam in 2008 but these RMPs were never gazetted as required by DWS. A process to review and gazette these two RMPs was initiated by DWS in 2013 and is due for completion sometime soon. Umgeni Water is planning to commence with the development of the RMP for Nungwane Dam in the 2016/2017 financial year. A RMP for Shongweni Dam has not been identified as this dam is a recreational dam.

2.4 Climate Change

Climate change is recognized as the major global environmental challenge of the 21st century. It is a significant and increasing threat to Durban’s communities, biodiversity, infrastructure and systems. Climate change will exacerbate other existing challenges, like biodiversity loss and ecosystem degradation, and in turn be impacted by the loss.

Climate change is likely to cause a number of challenges for eThekwini Municipality, linked to global
impacts such as increased temperatures, extreme weather events (e.g. flooding and drought), sea level rise and climate variability. As such, climate change runs the risk of undoing all of the development gains made since the advent of democracy, and for a Municipality such as eThekwini climate change adaptation in all sectors will have to become one of the Municipality's top development priorities.

Temperatures in Durban are likely to increase by 1.5°C and 2.5°C by 2065 and by 3.0°C and 5.0°C by 2100. Projected annual rainfall changes are likely to include an increase in aggregated rainfall by 2065 with an increase of up to 500 mm by 2100. This increase is likely to be manifested as an increase in extreme rainfall events and stream flow intensity across the municipal area with prolonged dry spells between rainfall events. Sea level rise along Municipality’s coastline is already occurring at 2.7 cm per decade and may accelerate into the future.

Climate change impacts for the EM may include:

- An increase in the frequency and intensity of floods and droughts;
- A decrease in water availability due to changed rainfall patterns and increased evaporation; this will affect subsistence dry land farmers the most.
- An increase in erosional capacity of river courses, resulting in the loss of more top soil, thus decreasing the agricultural value of land and increasing siltation in dams.
- Infrastructural damage as a result of extreme weather events causing flooding, affecting human well-being and safety as well as insurance costs;
- An increase in erosion of coastal areas due to sea-level rise;
- Higher energy consumption due to increased cooling load for air-conditioning and cold storage;
- An increase in economic losses due to property damage and decreased tourism revenue;
- An increase in heat-related vector-borne (e.g. malaria) and water-borne (e.g. cholera) illnesses;
- An increase in heat stress, leading to dehydration, particularly for those that reside in the city, as well as children and the elderly;
- Higher temperatures increase the formation of polluting chemicals such as (ground level ozone which results from the interaction of NOX and VOC’s in the presence of sunlight ) this with the increased temperatures may increase morbidity and mortality from respiratory diseases
- Changes in the geographical distribution of plants and animals with extinction of species that are unable to move and an increase in the prevalence of alien invasive species. This will negatively affect the biodiversity of the eThekwini Municipal Area and the associated goods and services;
- Further loss of critically endangered grassland habitats as they are outcompeted by woody species able to utilize the higher concentrations of CO2 in the atmosphere.
- A reduction in yield of staple food crops, such as maize;
- Changes in the optimal planting and harvesting dates for crops as well as land suitable for crop production;
- Heat stress increasing livestock and poultry mortality rates;
- Deterioration of foods leading to increased incidents of food-borne diseases;
Some initial research has been done in association with Transnet to understand the implications of climate change on shipping routes. Due to the melting of the Arctic Circle, ships may be able to travel from the East to Europe through the Arctic, making it unnecessary to ship goods moving between these areas past Durban. This could have some economic impacts on Durban’s port, as some of these vessels previously stopped in Durban for refuelling, repairs etc. However, since the primary focus of Durban’s port is shipping goods to and from Durban, the impact is expected to not be that significant.

The areas particularly vulnerable to sea-level rise are developed beach front properties, estuaries and coastal dune ecosystems. The majority of coastal land is developed in Durban, and sea level rise puts this infrastructure, including the Durban Harbour, at risk. Modelling sea level rise has indicated that shoreline developments could be at risk from raised sea levels and increased storm surge. In response to this risk Shoreline and Estuary Management Plans are being prepared to determine what adaptation interventions if any are required or will be required into the future.

Greenhouse gas emissions (GHGs), such as carbon dioxide from burning of fossil fuels and methane e.g. from organic waste contribute towards climate change. The 2014 GHG inventory for the municipality found that total emissions for the entire eThekwini Municipal Area was 29,092,003tCO₂e. A pie chart showing the total emissions of the 2014 GHG inventory by sector is shown here. The largest contributing sector in 2014 was the transportation sector accounting for 39% of the total emissions. The next pie chart shows GHG emissions by source. The two main sources of emissions are electricity and transport fuels.

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1Greenhouse emissions are measured in tonnes of carbon dioxide equivalent (tCO₂e). As there are many different types of greenhouse gases, with different global warming potentials (GWP), greenhouse gases are converted to carbon dioxide equivalents so that a common unit of measurement is used.

2CERs stand for Certified Emission Reductions. These are carbon credits that are sold by the eThekwini Municipality from their landfill gas to energy projects which reduce greenhouse gas emissions. To avoid double counting, these emissions are recorded on the eThekwini Municipality’s inventory as these credits have been traded with another organisation.
To respond to these changes EM initiated the Municipal Climate Protection Programme (MCPP) in 2004. This is a phased programme, which has focused on climate change adaptation and enhancing the city’s ability to cope with climate change impacts. The likely climate change impacts have been assessed and plans, programmes and projects have been developed to assist the Municipality in dealing with these impacts.

The mitigation and adaptation work streams of the MCPP are located in the Energy Office and the Environmental Planning and Climate Protection Department respectively. This latter office has advanced the adaptation agenda with the development and approval of the Durban Adaptation Charter during United Nations Framework Convention on Climate Change COP 17/CMP 7 in December 2011. The Charter which is currently has over 1000 signatory cities from 45 countries globally, promotes ten key local government adaptation interventions, and marks a milestone in the advancement of the adaptation agenda in the international climate change debate. This milestone was vindicated with the approval of a standalone goal for adaptation and a mandate for cities within the Paris Agreement of United Nations Framework Convention on Climate Change’s Twenty-First Conference of the Parties (COP21). The terms of this agreement, to which South Africa is a signatory, effectively become the framework for implementing the City’s climate change work.

The EPCPD and the Energy Office have jointly developed the Durban Climate Change Strategy (DCCS) as an integrated mitigation and adaptation strategy in a participatory process. The DCCS was approved by Council in 2015. The vision of the Durban Climate Change Strategy is:

“To transform Durban’s governance, social, development and economic systems in order to effectively respond to climate change.”

The following mission statement has been developed to support the Vision:

"By 2020 there must be a fundamental change in Durban’s governance, social, development and economic systems in order to contribute to the goal of limiting global average temperature..."
increase to less than 2°C\textsuperscript{4}, minimising dangerous climate change and adapting to climate change impacts. This will be achieved by increasing the adaptive capacity of the city, enhancing the integrity of the city's environment and building a low carbon economy that provides sustainable livelihood opportunities and ensures well-being for all. All organisations and residents of Durban should be empowered to respond to climate change causes and its impacts."

The DCCS was developed around ten interrelated themes: Biodiversity, Sea Level Rise, Water, Health, Food Security, Energy, Transport, Economic Development, Waste & Pollution as well as Knowledge Generation and Understanding. For these themes, objectives as well as responses have been developed. Many of these responses have spatial implications.

Currently, Implementation Plans are being developed for the different components of the DCCS. The Implementation Plan will indicate spatial implications that will inform the SDF.

Other climate change initiatives include a focus on developing a robust Community and Ecosystem Based Adaption (CEBA) programme, developing and implementing the densification strategy land use management and developing a Sustainable Energy Plan for eThekwini Municipality.

A Wind Resource Map was developed for the eThekwini Municipality in 2011 (See Figure 30 below). The areas in orange and red are the areas with mean annual wind speeds over 6m/s and 6.5m/s respectively. These are the areas with the highest wind energy potential. Any wind projects may require approval via different statutory requirements such as Environmental Authorisations.

\textsuperscript{4} Current target set by the United Nations Framework Convention on Climate Change (UNFCCC).
Figure 32: Wind Resource across eThekwini Region at 100m AGL (Wind Site Identification Report, 2011)

2.5 The Movement Network System

eThekwini Municipality has a comprehensive transportation network comprising private, public and freight transport which traverse along municipal, provincial and national roads as well as an expansive rail network. The road and rail network are well developed, despite the significant topographical challenges. These networks have a well-articulated hierarchy, the challenge however, is to ensure maximum accessibility of goods, services and destination points to all residents of the Municipality largely by linking land use and transport. This is to enable people and goods to be moved more efficiently and promote greater integration and accessibility. The elements of the transport system are described below:
The primary mode of travel by residents of eThekwini is public transport namely, rail, bus and taxi. The taxi and bus route system provides extensive coverage throughout the metro area. The goal for public transport, inter alia, is the use of appropriate modes of transport for different levels of demand, elimination of inefficient competition between modes, promotion of public transport over private transport, catering for the needs of travellers, including the special needs of some and the management and regulation of all modes of transport.

There are approximately 1400 bus service routes which are serviced by approximately 200 operators in a mix of subsidised contracts and unsubsidized services. There are approximately 120 taxi associations serving the municipal area. The current public transport system is economically inefficient with many services in direct competition with each other, resulting in unprofitable rail and bus trips and in taxis competing fiercely on some routes for passengers. There has, however, been
good progress over the last 5 years in the recapitalisation of rolling stock with the new taxis, municipal buses and particularly, with the commuter rail fleet. Against this background, proposals have been developed to rationalise and restructure the public transport system and services in order to address some of the fundamental issues.

The eThekwini Transport Authority is re-structuring its Public Transport in eThekwini Municipality in line with the vision of the National Department of Transport. The National Department of Transport has set out a process to assist in translating the public transport vision articulated in the National Public Transport Strategy (2007).

**2.5.2 Freight Transport System**

Durban is the trade gateway for the Southern African region, as the busiest port in terms of cargo value and shipping activity. One of the goals for transport in eThekwini is to develop an efficient and integrated freight transport system that will ensure regional economic stability. The region’s transportation system requires the optimum integration of the different modes of transport that includes road, rail, aviation, maritime and pipeline with the appropriate modal balances. However, with regards to freight a key strategy involves promoting rail use over road use to reduce demand on road infrastructure and to reduce GHG emissions associated with freight travel.

To this end and in line with legislative provisions, the eThekwini Transport Authority (ETA) has developed an Integrated Freight and Logistics Strategic Framework and Action Plan for the entire eThekwini Municipal area.

This plan focuses on: creating an optimal modal split of freight; the enhancement of efficient freight systems; a suitable freight land use structure; and the development of supporting institutions and programmes. The plan aims to improve the port-city interface, industry requirements and how each of these connect with the broader economy of Southern Africa and the world, while still ensuring efficiency and ease of doing business within the municipal area.

The Integrated Freight and Logistics Strategic Framework and Action Plan addresses the following seven implementation elements:

- **Infrastructure** – road infrastructure, port and rail infrastructure, truck stops, intermodal facilities, truck staging areas, weighbridges and weigh-in-motions, intelligent traffic systems and traffic signage;
- **Operations** – incident management systems, and freight management systems;
- **Policy and Regulation** – policy and bylaw revision and the development of truck route hierarchies;
- **Land Use** – freight land use plan and port land use interface zones;
• Institutional Development – road rail liaison development, incident management, incentives and penalties application, and additional dedicated freight resources to key departments;
• Funding – funding sources, and incentives and penalties; and
• Communications – developing a freight communications strategy.

The implementation of this plan will involve a number of stakeholders from government, parastatals and the private sector. It is anticipated that much of the work will be on the successful implementation of the various elements of the plan from eThekwini Municipality and other relevant agencies.

2.5.3 Air Transport

The King Shaka International Airport (KSIA), is located approximately 30 kilometers north of Durban. Adjacent to the King Shaka International Airport is the Dube Tradeport. The primary objective of the Dube Tradeport is to provide long haul international flights to and from Durban (KSIA) to cater for the increasing air freight demands.

The Trade Zone is linked to the airport’s freight component that provides dedicated space for the imports and exports of high value goods. It is envisaged that the Trade Zone will capture local freight currently utilising the OR Tambo Airport. In addition, it is forecasted that the freight handling capabilities of the development will attract industries such as motor components, electronics, clothing, textiles and perishables, all of which are dependent on time sensitive travel. The Dube Tradeport is a strategic investment which intends to serve as a major stimulus for regional economic growth. The following map represents the key transport routes within the Municipality.

2.5.4 Maritime Transport

The Port of Durban is Southern Africa’s busiest seaport in terms of vessels calling and value of cargo moved. It hosts the continent’s largest container terminals, liquid bulk terminals and automotive terminals and these are strategically crucial for both the Southern African region and the Municipality. The Port of Durban is crucial trade gateway for both Southern Africa’s and the eThekwini Municipality, and essential in the National Governments medium and long term aims of achieving growth in manufactured exports. The Port of Durban is centrally located in the Municipality and is surrounded by the City of Durban, along with a number of key industrial areas in the South Durban Basin. The functions and services provided at the Port of Durban are among the most important contributors to regional economic growth, economic sustainability and employment creation. The development of a reliable and sustainable road network and supporting land use structure is critical going forward.
2.5.5 Passenger Rail System

The Municipality is fairly well serviced with commuter rail services which comprise of the following:

- North-south line following the coastal plain;
- Mainline into the hinterland;
- Circuitous line between Pinetown Central Business District (CBD) and Rossburgh Station;

Figure 34: The Rail Network
- Four spur lines into Umlazi, Chatsworth, KwaMashu and Bridge City;
- Spur line to the lower Bluff;
- Section of single line adjacent to North Coast Road.

Currently there are 52 train sets operating on the current rail network serving passenger rail with on-going projects to improve the rail service and customer experience. PRASA has already invested a significant amount of money on station upgrades in Rossburgh, Isipingo, Durban, KwaMashu, KwaMyandu and Moses Mabhida.

Going forward, PRASA has now embarked on a modernization strategy, with specific focus on renewal and replacement of rail infrastructure rather than refurbishment. Key components of this modernisation drive include the procurement of new rolling stock over the next 20 years, new rolling stock depots resignalling programmes, station modernisation and infrastructure such as track and electrical substation upgrades. In the KZN region, the KwaMashu-Durban-Umlazi (including extension to Bridge City) has been identified as the priority corridor where the modernisation programme and projects are being implemented. This rail corridor forms part of the city’s C2 IRPTN network. Some key stations forming part of the station modernisation programme include Duffs Road, Umlazi, Berea Road, Merebank, Rossburgh and Reunion stations. Work at Duffs Road Station is currently underway.

Some other projects in the region include station improvement programmes (minor and major upgrades at a number of stations located throughout in the municipal area) and operational maintenance of the rail corridors.

A number of commercialisation projects have also been identified to enhance PRASA’s ability to generate revenues from key strategic property assets. In this regard, the implementation of the Durban Station Masterplan has commenced which entails development at Durban Station for more retail, office, educational and other investment opportunities.

PRASA through its subsidiary Intersite Asset Investments (SOC) Ltd, has also embarked on other property development initiatives that focus on partnerships with private developers to develop PRASA properties for commercial purposes. These developments are planned to harness transit orientated developments and will not only generate substantial revenue and capital growth for PRASA but also contribute to city economic regeneration. The recently completed KwaMnyandu Mall at KwaMnyandu station is a case in point of this initiative. Other ongoing projects include the proposed Umgeni Business Park, Umlazi Mall and Berea Mall developments.

**Bridge City Rail Link**

The Bridge City Rail link, originally proposed in 2001, has been completed and train services officially commenced in February 2014. This R1.3billion project included the construction of a new station building, which is located under the Bridge City Shopping Mall and a 3.5km rail line which ties in at
Duffs Road station. The Bridge City project is part of PRASA’s overall integrated approach to passenger rail service, in bringing communities closer to integrated public transport solutions, investing in the modernisation of passenger rail services and positioning rail as the backbone for public transport.

The rail link also forms part of the Integrated Rapid Public Transport Network (IRPTN) and Bridge City intermodal hub which will include the various taxi ranks and the Bus Rapid Transit System.

Proposed commuter rail stations along the South Coast Rail corridor

PRASA has recently completed the South Coast Rail Corridor stations feasibility study. This study holistically investigated the feasibility of providing three new rail stations along the south coast rail corridor between Isipingo and Kelso. Specific focus was in the areas of Galleria, Mnini and Rocky Bay. The position for each of the three proposed stations is shown in Figure 33. The proposed implementation for each station varies, and is based on a variety of factors, including the projected passenger demand estimates. Galleria station has been deemed to be the most viable and for implementation in the shorter term.
Figure 35: South Coast Rail Corridor Study: Proposed Station Position

KZN Northern Rail Linkages study
PRASA has also concluded a conceptual planning /prefeasibility study for a possible new rail link to the King Shaka International Airport, including connectivity between various northern rail links, Cornubia, Umhlanga and the CBD. Various route alignment and technology options were investigated. The route alignment scenarios are illustrated in Figure 34. The study has recommended that the Proposed Higher Speed Durban-Umhlanga- KSIA option be considered for detailed feasibility as part of the Durban-Gauteng high speed corridor.
2.5.6 Non-Motorized Transport (NMT)

NMT is the highest priority form of transport in the city, followed by Public Transport and lastly Private Transport. Residents of the City already make considerable use of NMT. The Household Travel Survey conducted in 2008 found that 32% of all households made at least one walking trip per day. This increases to 41% for low income households. Promotion of NMT is important as it reduces the travel costs of already financially stressed residents, promotes health and well-being and helps reduce the GHG emissions of the municipal areas. A NMT plan has been developed to encapsulate the City’s commitment towards NMT, by giving prominence to NMT as an integral part of the City’s overall transport system. The plan defines NMT policies, strategies and NMT guideline standards, together with the network development process for implementation for over the next five years.

These key elements have been consolidated into four themes or “Pillars of Ideology” which are:

**CONNECTING:** talks to meeting the basic needs of people, i.e. providing access to goods, services, people and work opportunities, either directly or via other forms of transport.

**ENHANCING:** is about improving the quality of life, reducing transportation costs by creating viable alternatives, creating safe environments that support and enhance human interactions as well as promoting healthy lifestyles by proving access to social and recreational activities.
**GROWING:** is about stimulating regeneration of our ailing Cities and economic growth via inter alia tourism and other opportunities that ultimately result in the general increase in prosperity of the population.

**SUSTAINING:** is about ensuring long term viability and sustainability of our City and the environment and includes issues of land-use development, emissions reduction, alignment to other sustainable practices and programmes as well as influencing behavioural changes.

The NMT strategies are a set of programs, aligned to the ideology, defining how the objectives are to be met and seeks to address the gap between where we are and where we want to be. The development of a NMT network plan is based on meeting the demands of all existing NMT users as well as promoting the use of all forms of NMT by new users. However, NMT utilisation, whilst overall quite significant, is predominantly focused around pedestrian activity, with other forms like cycling, skateboards and push-scooters, animal powered transport, and human powered goods transport occurring on a very small scale.

Thus, in developing a network plan, the focus has been in the short term to identify key nodes within the Municipality and to provide mixed-used NMT facilities that link these key nodes into the surrounding area. The development of mixed-use facilities (as opposed to dedicated facilities) allows the Municipality to develop a more comprehensive network plan in the short term within its limited funding pool. As demand for other forms of NMT grows, it is anticipated that these networks would be expanded into the wider area surrounding these key nodes, with segregated facilities as demand rises. Once NMT activity across all forms has reached a significant level, the intention is to then create a network that has connectivity across the entire Municipality, with dedicated facilities for the different types of NMT users.

The City has already established a series of cycling routes in and around the Inner City and is currently expanding its network to accommodate both professional and recreational cyclist. The routes have also taken into account those residents that wish to commute using bicycles. The Municipality will also roll-out a staff bicycle programme that will encourage staff to use bicycles as a mode of transport between municipal buildings and facilities. In terms of the five year implementation plan a total of 88 corridors have been identified, of which 31 have been prioritized to have a high rate of usage benefitting large numbers of existing and potential NMT users distributed across the municipal area. The corridors provide connections between schools, public transport interchanges, commercial centres and residential areas.
2.5.7 Summary of Transport Issues and Trends

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<th>ISSUES</th>
<th>UNDERLYING CAUSE</th>
<th>SPATIAL IMPLICATIONS</th>
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| 1. The current Municipal structure results in high social and economic costs especially in terms of Residential Pattern/Housing | • High degree of segregation of places of work and home due to past planning practices that promoted land use and racial zoning. | • Gives rise to long commuting times (between home to work) and imposes travel costs upon commuters  
• Has largely precluded the development of mixed use environments  
• Poor or no planning with respect to optimizing efficiency for the majority of the population. | • Unsustainable use of resources: Urban sprawl raises the unit cost of servicing and infrastructure  
• Reinforces the need/urgency to commute |

2.6 Overview of eThekwin Economy

Poor economic performance in the global arena during the past few years has led to reduced output growth, rising unemployment and increased public debt locally, and in order to recover from these, the eThekwin Economy is striving to reach its share of the job targets and economic growth as set out in the New Growth Path, 2010 and the National Development Plan (NDP) 2011. The New Growth Path intends to reduce unemployment from 25% to 15% through the creation of 5 million jobs by 2020 while the National Development Plan 2011, is aiming to do the same from 2021 to 2030, by providing an additional 6 million jobs.

Nationally, there are many challenges that impact on the local economy, especially following the two recent downgrades by the rating agencies Standard & Poor’s and Fitch, since investors are wary about investing when countries are rated this way. This may have a negative impact on the eThekwin region as it is the second most significant manufacturing location in the country. Other challenges and opportunities relate to resolving the energy crisis; revitalizing agriculture and the agro-processing value chain; advancing beneficiation or adding value to our mineral wealth; more effective implementation of a higher impact Industrial Policy Action Plan; encouraging private sector investment; unlocking potential SMMEs, cooperatives, townships and rural enterprises and state reform and boosting the role of state owned companies, ICT infrastructure or broadband roll-out, water, sanitation and transport infrastructure as well as Operation Phakisa aimed at growing the ocean economy and other sectors.

The city leadership also launched its Radical Economic Transformation Framework recently where opportunities for public and private investments to develop black-owned small enterprises were announced. The capital invested is expected to accelerate a number of projects to benefit local businesses and communities.
The African National Congress January 8th Statement in 2017 reaffirmed a commitment to the goals and objectives of the NDP as an overarching plan and a vision to realize the ideals of the Freedom Charter to put in place a society that belongs to all who live in it. Some of the key initiatives of the NDP are already being implemented such as the major infrastructure development programme, as well as the state-led industrial policy.

The State of the Nation Address in February 2017 also highlighted several challenges and opportunities to support the objectives of Plan 2 of the Municipality’s Integrated Development Plan (IDP) – this chapter focuses on economic growth and job creation. These include radical economic transformation as a priority for 2017 as the economy is not growing fast enough to create the jobs needed and at present, the annual average household incomes of African households was five times less than their white counterparts. It was also stated that the state will increase its power to use the Expropriation Act to pursue land reform and land redistribution, in line with the constitution. Only 8 million hectares of arable land have been transferred to black people, which is only 9.8% of the 82 million hectares of arable land in South Africa.

The speech also outlined a number of initiatives to boost employment. These include the establishment of the Invest SA One-Stop Shop; promoting tourism as a job driver; beefing up the Expanded Public Works Programme and using public infrastructure as a way to create work opportunities. Government will also use the 9-point plan announced in the previous State of the Nation Address to help fast-track growth and employment. The key pillars from this plan include resolving the energy challenge, promoting agriculture and agro-processing, advancing beneficiation and encouraging private sector investment.

Plan 2 describes an economic framework that builds on past successes such as stimulating key sectors of the economy and providing business support. This plan outlines the need to include a strategic focus on economic leadership and intelligence, facilitating partnerships, maximizing the benefits of infrastructure development, nodal and corridor development, investment promotion and facilitation, enterprise and sector development such as the film industry, automotive, chemicals, creating a competitive tourism sector and ensuring sustainable livelihoods.

The various economic development objectives for the eThekwini region as set out in Plan 2 are reinforced by a focus from National Treasury towards significant investment areas singled out for growth and job creation. This Plan is geared towards positioning the municipal economy as Africa’s Southern Gateway to Trade and Travel. The further development of the Port of Durban, Dube Trade Port and King Shaka International Airport, as well as infrastructure improvements such as provision of water, energy, road, freight rail and fibre optics networks highlight the critical linkages of the municipality to key value chains located throughout Southern Africa. These relate to tourism, agriculture, manufacturing, BPOs, housing construction, amongst others. National Treasury have
also contracted in World Bank experts to help redefine a step-change in Durban Investment Promotion, which will require significantly more financial and human resources, and optimal organizational restructure if we are to urgently deliver upon the new investment strategy. Climate change research is also boosted by the allocation of R296-million over the next 3 years for the oceans economy. There is also a focus on the recapitalization and development of farms. For the manufacturing sector a significant budget has been set aside for manufacturing development incentives and support for growing service industries such as business outsourcing and in addition the Manufacturing Competitiveness Enhancement Programme will assist companies with financial support to upgrade facilities and skills development.

Following the adoption of the eThekwini’s Economic Development and Job Creation Strategy in 2013, some aspects from the Strategy are being implemented; however, there are still many resource constraints that are hampering the realization of more initiatives described in the Strategy. This strategy was critical in identifying key areas of concern that the City needed to address. Most notably, the Strategy seeks to place the city on a new growth path driven by strong and well informed economic leadership and will also be updated during the 2017-22 period to reflect the new challenges and focus areas. A key feature of this strategy was a strong emphasis on improving the productive sectors of the local economy. Manufacturing is a very significant sector of the eThekwini economy and employs over 186,000 people, contributing about 18% of our total formal employment in 2016. In terms of GDP output the region’s manufacturing region is second to Johannesburg – last year the City's manufacturing GDP was approximately R75 billion compared with Johannesburg’s R91 billion.

2.6.1 Future Economic Growth and Development

One of the major highlights in the global economy during most of 2016 has been the unpredictable commodity prices which have influenced key decision-making processes – mostly due to the supply and demand for raw materials. One of the key factors is the slowdown of China’s economic growth as well as anticipation of tightening monetary policy in the US. Global growth for 2016 is projected at 3.4% by the International Monetary Front (IMF). The recovery in advanced economies is expected to improve slightly, while activity in emerging market and developing economies is projected to slow for the 5th year in a row.

The International Monetary Fund (IMF) has again lowered its growth outlook for South Africa for 2017, projecting in its latest World Economic Outlook (WEO) that the economy would expand by only 1.1% in 2017. This is close to the downward revision by National Treasury of 1.1% in the Medium Term Budget Policy Statement. This does not bode well for the country’s goal reaching the job target set in the National Development Plan as the unemployment rate increased to 26.5% in the 4th quarter of 2016 from 27.1% in the previous period. The number of unemployed, according to Global Insight was 5,540,900 in 2016 and increased by 4.8% over the previous year.
The dismal growth outlook also means that business confidence is likely to remain suppressed over the next 2 years due to weak domestic demand and pressure on costs. In addition to this there’s also the uncertainty over private sector property rights which is undermining confidence and private sector fixed investment, leading to slow employment. Along with other commodity exporters, South Africa has faced slower economic growth and a weaker currency as the commodity slump (particularly metals and energy) follows on from a decade of price rises and investment into extraction. However, the fall in the oil price has had a positive impact on SA’s current account deficit.

The eThekwini municipal region recently recorded the 2nd lowest unemployment rate of 22.0% in the Quarterly Labor Force Survey by Statistics South Africa during the 4th quarter of 2016. The region employs approximately 9% (approximately 1.3-million) of the national total of 14.4-million people and is currently growing at a rate of 2.2%. Although the unemployment rate is low for eThekwini, the challenge remains to grow employment by more than 4% in order to meet its share of the NDP target.

The Municipality’s Industrial Revitalization Plan for 2015/16 and the update of the industry database will play a useful role in identifying where the manufacturing sectors are growing. This will also enhance the City’s efforts in encouraging those sectors experiencing both growth and job creation. The Economic Development and Investment Promotion Unit has also launched some unique innovation initiatives and these include the Youth Innovative Challenge, a partnership with IBM, the Sustainable Enterprise Development Facility and the Government of Flanders with the purpose of supporting youth-driven technology businesses.

The Economic Development and Job-Creation Strategy 2013-2018 which was adopted by the eThekwini Municipality’s Executive Council in 2013 provides a growth scenario over the next 20 years with an overall framework for the first 5. The purpose is to put in place a suite of fundamentals to drive the growth in the future phases. The growth opportunities over the next 20 years will focus on capitalizing on the role of the port, international airport and modern rail, road, infrastructure, information and communication technologies. It also includes promoting the city as a centre for trade between Africa and the world. From a tourism perspective it will entail marketing the city as an events and tourism destination. In addition, it seeks to promote the city as the best location for manufacturing activities.

The municipality is poised for steady economic growth from several major catalytic projects over the next 20 years creating in excess of a million construction jobs and over 600,000 permanent jobs. Major construction projects such as the Cornubia mixed-use commercial-residential development, the port expansion plans, Kings Estate, Inyaninga Industrial Estate, on-going economic opportunities at Dube TradePort and the development of the dedicated freight route are all expected to contribute towards this growth.
The Strategy also seeks alignment and ensures it is homologous with the relevant Strategies amongst the three spheres of government – most notably the New Growth Path, National Development Plan and the Industrial Policy Action Plan from National government, all of which have identified specific sections of the economy with job-creation potential. The KwaZulu-Natal Provincial Industrial Development Framework and the Growth and Development Strategy also guide the local government initiatives. In compiling the Integrated Development Plan, the Spatial Development Framework and others, the eThekwini Municipality has ensured that the essential principles and focus areas resonate with these reports.

These objectives, however, may be delayed by various socio-economic and other threats such as the lack of appropriate job skills, poor political will, unspectacular economic and employment growth, inadequate foreign direct investment, high cost of doing business, poor infrastructure and a lack of serviced industrial land. In addition to the high-level goals set forth in the Strategy it is also the Municipality’s objective to go ‘back to basics’ in terms of cleaning up the central business district (CBD), rejuvenate the South Durban Basin by offering an attractive industrial and logistics location for investors and also enhance our tourism products in the city center and surrounds with new branding initiatives.

The Strategy examines trends in the detailed sub sectors in manufacturing noting the comparative and competitive attributes for each after which a choice of industries are selected. These priority sectors include automotive, chemicals, clothing and textiles, food and beverage, furniture, metals, electronics and electrical machinery and green industries. In the services sector tourism, ICT, creative industries (Film and Media; Crafts; Fashion), finance and professional services and transport and logistics were identified.

The eThekwini economy (Gross Domestic Product) grew by 0.9% in 2016 (R292.1-billion). There was positive growth recorded in most of the sectors. Community services (1.9%), finances (1.7%), manufacturing (1.2%) were the best-performing sectors. The lowest growth was recorded in the agriculture sector at -7.4%. The pie chart shows the percentage contribution of the broad sectors for 2016.
The above graph shows the percentage contribution to GDP by broad sectors during 2014. The eThekwini economy was dominated by tertiary industries that included (1) finance (20%), (2) manufacturing (19%), (3) community services (20%), trade (18%), transport (14%) and construction (5%

The eThekwini population was recorded as 3,820,174 by Global Insight in 2016 and comprises 34.7% of KZN and 6.9% of South Africa’s total population. The eThekwini population grew by 1.5% during 2015 and 2016.
The above map from the City's Planning Department, shows a deprivation index per ward, where most deprived wards are in such areas like Cato Ridge, Umkomazi Inanda, Tongathi, and the less deprived are found in such areas as the City Centre, Pinetown, Westville, Umhlanga, and Phoenix and Verulam areas.

The number of unemployed people during 2016 was approximately 241,000 with the latest quarterly unemployment rate from Statistics South Africa recorded as 22.0% for eThekwini in the 4th Quarterly Labour Force Survey for 2016. The graph below shows that eThekwini had the 2nd lowest unemployment recorded but was the also the 2nd highest in terms of unemployment growth (approx. 3.2% increase) while Cape Town showed the biggest decrease of 0.01%. Johannesburg had the biggest increase in unemployment over this period (4.0%).
Real disposable income grew by 4.8% between 2014 and 2015. The graph below shows the trends in the 16 income categories for number of households during these two years. There was a decrease in the number of households earning in 4 of the 16 income categories, mostly in the lower end.

In 2014 the per capita income for eThekwini was R55,727 per annum (increased by 8.6% from 2013). EThekwini has the 6th highest per capita income when compared with other major metros; the highest
of which is Tshwane with R71,710. The overall gini-coefficient in eThekwini was 0.64 in 2014 – a change of 0.01 percentage points from 2013.

Total household expenditure in eThekwini in 2015 amounted to R227.2 billion, up from R208.8 billion in 2014, increasing by 8.8%. The majority of household expenditure was on accommodation (13.4%), taxes (13.7%), finance (7.3%), transport (6.8%) and medical schemes (4.1%).

Total retail sales amounted to R60.7 billion in 2015, up from R59.3 billion in 2014. The most retail sales were in perishables and processed products (37.1%), ladies/girls and infants clothing (9.6%), inedible groceries (5.9%) and pharmaceuticals (8.4%).

The above graph compares the change in the human development index (HDI) for the eThekwini between 2006 and 2015. The change was roughly similar for most of cities; however eThekwini has the 5th lowest HDI in 2015 (0.66) when compared with the other major cities (Cape Town 0.74, Johannesburg 0.71 and Tshwane 0.72).

The percentage of people living below the food poverty line has reduced by 1.1% between 2014 and 2014, however, eThekwini has the highest number compared to the other 4 major cities in the country.\footnote{Food Poverty Line defined as the inability to purchase sufficient food for one’s diet}
Of eThekwini’s approximately 742,372 people living below the poverty line in 2015, 98.7% are African, while 0.53% are Asian, 0.75% are colored and 0.01% white. This means that 25.2% of the African, 6.1% of the colored, 0.7% of the Asian and 0.04% of the white population are living below the food poverty line.

This graph compares the literacy levels - defined as the proportion of persons aged 20 and above that have completed Grade 7. Johannesburg leads with the highest number at approx. 3.3 million with Cape Town 2nd, followed by eThekwini. The biggest increase was Johannesburg (2.3%) followed by Tshwane (2.1%), Cape Town (1.7%) and then eThekwini (1.6%).
When ranking the Gini Coefficient amongst the major metros, eThekwini was joint 2nd with Nelson Mandela Bay and Tshwane, while Johannesburg was the highest (65) and Cape Town the lowest at 0.62 during 2014. The Gini coefficient is a summary statistic of income inequality, which varies from 0 (in the case of perfect equality where all households earn equal income) to 1 (in the case where one household earns all the income and other households earn nothing). In practice the coefficient is likely to vary from approximately 0, 25 to 0, 70.

The graph below compares the disposal income with the 4 race groups and it is evident that the distribution of same is still very far apart, especially the coloured population with the rest. The Asian and African disposal income appears to be on the rise since 2003, however the white and coloured disposable income appear to be static.
The graph below shows the international trade trends during 2010 to 2016 for eThekwini. During this period, imports exceeded exports. eThekwini’s contribution to South Africa’s exports was 6.5% in 2016, while eThekwini’s contribution to national imports was 9.6%. In eThekwini, imports have grown at a faster rate than exports during 2010-2016 (9.9% and 8.2% respectively). The slowdown in demand for commodity prices and the general economic decline during the past year contributed to the low export figure.

Over 60% of all exports during 2016 were motor vehicles, parts and accessories and basic iron and steel. Almost 50% of imports are motor vehicles, parts and accessories, and basic chemicals. The majority of exports are destined for African countries and the majority of imports are from Asia. The number one export partner is Japan, while the top import partners are Germany and China.
The graph below shows the movement of goods in the major trade blocks during 2016 for eThekwini. Movement within the major trade blocs show that, the majority of exports are to the European Union (EU) while the most imports was in the Asia-Pacific Economic Cooperation (APEC) countries. There was also significant exports in the SADC region with minimal imports. The main export partner remains the United Kingdom, while the top import partner was APEC in 2015. Over 51% of eThekwini’s imports come from China and Japan. Other trading partners include Germany, the United States, China, and Spain. Chief exports include corn, diamonds, fruits, gold, metals and minerals, sugar, and wool.
Below shows the number of trips by purpose of trip in eThekwini from 2009 to 2015. Tourism continues to contribute significantly to eThekwini’s GDP. The graph shows that the main source of tourists – leisure/holiday and family/relatives declined during 2013-2015.

The graph above reveals there was a 91% to 9% split between domestic and international total bed nights in 2015. Over the past 10 years, the number of domestic visitors averaged 3 million while international averaged approximately 2, 9 million. Domestic visitors to eThekwini have been decreasing since 2009, while international visitors had a steady increase during 2009-2013 but has decreased since 2014.
**PROJECTS UPDATE**

**Dube TradePort**

The Dube TradePort Corporation has been successful in attracting over R 1, 4 billion in private sector investment to date. The first phase of the Dube TradeZone development has attracted a considerable sum of the total investment value that Dube TradePort has been able to secure in the last 36 months. A number of investments including Samsung Electronics, which is involved in the manufacturing of televisions and monitors; Amsted Reelin, who are active in the refurbishment of train bearings and seals and Rossi SA who are involved in the assembly, repair and distribution of gearboxes that are destined for the mining industry. Ukuphanta and DB Schenker - another large logistics and warehousing companies which are also located within Dube TradeZone. Other investors include: Laser junction metal fabrication and laser cutting, Air Chefs, provide meals to airlines, Retractable manufacture laundry care solutions, Gift of the Givers is a disaster relief organization, and Tuff bag are the manufacturers of woven polypropylene sacks and bulk bags. iDube Cold Storage is a multipurpose cold storage facility, with the capacity to handle chilled as well as frozen cargo.

All of these organizations are currently fully operational within Dube TradeZone and bring a mix of services and facilities to the business platform, which, in the long term is hoping to add value to other industries down the value chain within surrounding developments. Eureka Capital SA is another large investor within Dube City, a mixed-use commercial property development that has invested in a 21, 500m² six-story building. The building will house offices, retail, and an innovation center, which will add value to a number of knowledge-intensive technology industries.

More recent announcements regarding planned investments into the Dube TradeZone include: China’s YOAC (Yangtze Optics Africa Cable) R150 million investment in a new optical fiber manufacturing facility, Cipla Bio-Tec will be investing R1, 3bn in a pharmaceutical manufacturing facility. A new state of the art condom manufacturing facility also has been constructed by HBM-SA Health Protection Services.

Planning is currently underway for subsequent phases within the Dube TradePort precinct, including Dube Trade Zone 2, Support Zone 2, as well as Dube AgriZone Phase 2. uShukela Highway Development has been successfully completed and named International Trade Avenue. Planning is also underway for the upgrade, and provision of new bulk infrastructure to support the anticipated growth and take-up in the area. ([www.dubetradeport.co.za](http://www.dubetradeport.co.za))

**Cornubia**

Construction of the first 486 units in Phase 1a Housing is complete and the units occupied, as well as 995 of the 2,180 units being constructed as part of Phase 1b. Cornubia Industrial and Business Estate
(part of Phase 1) is 100% sold and 13 businesses already operational in the area, providing much-needed job opportunities for the new residents of the housing development. Environmental authorization has been received for Phase 2 which includes the Cornubia Business Hub, where an 85,000m² shopping Centre as well as a call centre operation are currently under construction, to be completed in September 2017. Approximately 78,000m² commercial bulk in the Cornubia Town Centre has been sold to an empowerment group (Workers Health) to further unlock the town centre component. The N2 Business Estate comprising 24ha of industrial platform will also be launched in 2017. Early phases of mixed-use precinct Umhlanga Hills will see the release of approximately 1,000 affordable units as well as a retirement scheme. (Tongaat Hulett, eThekwini Development Planning, Economic Development & Investment Promotion Unit)

- **Automotive Supply Park**

EThekwini Municipality’s recent approval of the South Illovo Local Area Plan, will include the development of 3, 792 residential homes, 1,316, 207m² of industrial space and 51, 810m² of commercial space, and will cater predominantly for the development an Automotive Supplier Park (ASP). It is expected that the ASP will accommodate at least 100 hectares of ‘developable’ industrial land. The advantage of the location of the ASP is that it allows for access to the N2 route and will improve access to distribution channels for manufacturers and is ideally placed to utilize the dig-out port when it comes on stream.

The wetland study is now complete and has been submitted to the eThekwini’s Environmental Department for comment. There is also a reserve determination study underway to ascertain the amount of affluent the UMsimbazi River could absorb and for possible alternative solutions. (EThekwini Development & Planning Department)

- **Isipingo**

The Isipingo Local Area Plan (LAP), Functional Area Plan (FAB) and Land Use Management Scheme (LUMS) is now complete. Implementation is currently being planned. (Projects Department, Economic Development & Investment Promotion Unit)

- **Clairwood Logistics Park**

The Clairwood Logistics Park is located at the old Clairwood Race Course and is set to meet the growing demand for A-grade logistics space and distribution facilities in the South of Durban. It will create an estimated 18,000 jobs during the 4-year construction period and more than 4,000 jobs after completion in December 2020. The Capital Property Fund purchased the site and will invest approximately R3, 5-billion to develop it. This includes an R110-million roads and infrastructure update surrounding the facility. (EThekwini Development & Planning Department)
Finningley Development

This is a multibillion-rand project proposed along the south of Durban on the Sapphire Coast. It is a mixed-use and integrated development with a focus on cutting-edge innovation and sustainable green technology that will include resorts, schools, research facilities, an airport, as well as residential, agricultural and industrial developments. (EThekwini Development & Planning Department)

Point Waterfront Project

The Point Waterfront is being developed per the Development Framework Plan by the eThekwini Municipality. The Durban Point Waterfront Development Company is the primary developer and is presently working to revitalize development according to this new Plan. The company has applied for an amendment to the Scheme Clauses and the Environmental Authorization to allow for a number of changes, which will enhance the development opportunities and benefits for Durban.

The Small Craft Harbour is no longer proposed allowing the promenade to be extended which will eventually accommodate water sports clubs facilities, the seine netters and parking for the public beneath the walkway. Vetch’s Pier will not be impacted on by new development proposals as all construction will be located behind the building setback line to eliminate developments in the seashore zone and improve beach access to the public. The land use will include proposals for a mix of residential, office, hotels, and retail and entertainment facilities. (Strategic Projects Department, Economic Development & Planning Cluster)

DurbanFilm City

This is one of the largest private investments in the city to be located on the Natal Command site on the Durban beachfront. This R7-billion project will comprise a number of components that work together to ensure economic viability. The development will be anchored by eThekwini Film Studios which will consist of sound stages and production workshops, the Walk of Fame, a television studio, editing suites, a back lot set area Midway Centre and a museum of South African cinema. This development will become the hub for the film industry and is expected to create 17,000 jobs during the construction phase and more than 8,000 jobs during operations. The project is currently in the land transfer phase, with the property needing to be transferred from Department of Public Works to eThekwini Municipality in the first instance, after which it can be transferred to the developers. (Durban Film Office, Economic Development & Investment Promotion Unit)

Keystone Park

Keystone Park is a 152-hectare logistics and light industrial precinct on the N3 near the Hammarsdale interchange. This R6-billion economic catalyst project for the Hammarsdale/Mpumulanga region
received regulatory approval to commence development during 2014 and is now being constructed as a fully serviced precinct to accommodate logistics facilities. The construction phase is expected to create 3,500 jobs and over 6,000 direct jobs during operations.

Presently, Mr. Price Group’s new 56,000m² National Distribution Centre (DC) was completed during June 2016. Ackermans’ (a part of the Steinhoff-owned Pepkor Group) new 86,000m² National DC commenced construction in early October 2016 and is set to be completed by December 2017. Other national logistics and light industrial corporate entities have engaged in meaningful negotiations towards investing in the region. In terms of infrastructure, the first 700m of road has been constructed, following completion of all electrical, water, storm water, sewer and telecoms installations designed for that portion of the new road network. Work was also due to commence during March 2017 on the portion of the eThekwini Western Aqueduct Link that runs through Keystone Park. (Project Department, Economic Development & Investment Promotion Unit)

- **Western Aqueduct**

The second phase of the western Aqueduct is on target to be completed by mid-2017. The first phase (20km from Umlaaas Road Reservoir to Intshanga) was commissioned at the end of 2012. The Western Aqueduct is intended to replace existing infrastructure that brings water into Durban from Midmar and Spring Grove Dams. (Project Department, Economic Development & Investment Promotion Unit)

**2.6.2 The Spatial Economy**

The spatial distribution of economic activity in the EMA is heavily skewed towards the Durban City Centre, the Durban South Basin, the Port of Durban and the Pinetown and New Germany areas. The EMA has uneven distribution of economic opportunities with most employment and consumption opportunities concentrated in the central core areas.
There is also a separation of residential uses from economic ones. Higher densities are found in townships and informal settlements on the periphery but these are not supported by the provision of amenities. These poor resource areas have high unemployment rates, low household incomes, poor levels of education and low levels of access to areas of economic opportunity. This implies that there are few employment opportunities where people live, and that economically active residents must commute between work and home.

The spatial economy of EMA is analyzed below under the following categories:

- Industrial development
- Freight and Transportation Logistics
- Commercial / Retails and business development
- Informal economy
- Agricultural development
- Tourism and recreation

2.6.3 Industrial Development

The EMA has five main industrial areas as shown in the figure below. These are Durban Central, South Durban Basin, Inner West, Outer West and North. Manufacturing is the most dominant sector of industrial activities and as can be expected it occupies the most amount of land in the Municipality. Patterns of clustering have occurred usually in mature industrial areas. The following significant clusters appear in the Municipality:

- Logistics and Transport – highly concentrated around the Port and in Pinetown
- Chemical sector – Pinetown and South Durban Basin
- Furniture and Bedding – Pinetown, Hammarsdale and Umbilo Road
- Textiles, Clothing, Footwear and Leather – Hammarsdale, UMngeni Road and Pinetown
- Other Industrial areas within the EMA include uMbongitwini, Phoenix, River Horse Valley, Tongaat, Canelands and Ottawa.

2.6.4 Freight and Transportation Logistics

The freight and transport logistics is the type of infrastructure that is needed to support, maintain and grow economic activity. This service infrastructure includes rail linkages, port efficiency, back of port operations (to enhance capacity and range of business), intermodal transport hub in ports and inland and the newly planned dug out port are projects which will give life to KZN, positioning the province as a gateway to Africa.

At the center of the transport industry is the Port of Durban. The Port of Durban is the busiest on the African continent as it handles the largest number of vessels per annum in comparison to all other African ports. The port offers a combination of port facilities and services. Transnet Ports Authority, formerly known as the National Ports Authority (NPA), is the custodian of all the national ports, managing the most vital conduits of the country's imports and exports.

2.6.5 The 18 Strategic Integrated Projects (SIPs)

Having recently celebrated 20 years into our democracy, South Africa still faces major challenges of poverty, unemployment and inequality at all spheres of Government. The National Development Plan
(2012) was developed in response to the abovementioned challenges and aims to eliminate poverty and reduce inequality by 2030. It identified infrastructure as a critical element to facilitate economic growth and job creation. In line with this and to support and stimulate service delivery, job creation and economic transformation the National Infrastructure Plan (NIP) was adopted in 2012 and the Presidential Infrastructure and Coordinating Commission (PICC) was established to integrate and oversee its implementation. The PICC announced 18 Strategic Integrated Projects (SIPs) which represent corridors of proposed infrastructural development, as support to achieving the goals of the NIP.

The SIPs cover social and economic infrastructure across all nine provinces

Table 6: The 18 Strategic Integrated Projects (SIP)

<table>
<thead>
<tr>
<th>STRATEGIC INTEGRATED PROJECT (SIP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIP 1 Unlocking the Northern Mineral Belt with Waterberg as the Catalyst</td>
</tr>
<tr>
<td>SIP 2 Durban- Free State– Gauteng Logistics and Industrial Corridor</td>
</tr>
<tr>
<td>SIP 3 South Eastern Node &amp; Corridor Development</td>
</tr>
<tr>
<td>SIP 4 Unlocking the economic opportunities in North West Province</td>
</tr>
<tr>
<td>SIP 5 Saldanha-Northern Cape Development Corridor</td>
</tr>
<tr>
<td>SIP 6 Integrated Municipal Infrastructure Project</td>
</tr>
<tr>
<td>SIP 7 Integrated Urban Space and Public Transport Programme Plan</td>
</tr>
<tr>
<td>SIP 8 Green Energy in support of the South African economy</td>
</tr>
<tr>
<td>SIP 9 Electricity Generation to support socio-economic development</td>
</tr>
<tr>
<td>SIP 10 Electricity Transmission and Distribution for all</td>
</tr>
<tr>
<td>SIP 11 Agri-Logistics and Rural Infrastructure</td>
</tr>
<tr>
<td>SIP 12 Revitalisation of public hospitals and other health facilities</td>
</tr>
<tr>
<td>SIP 13 National school build programme</td>
</tr>
<tr>
<td>SIP 14 Higher Education Infrastructure</td>
</tr>
<tr>
<td>SIP 15 Expanding access to communication technology</td>
</tr>
<tr>
<td>SIP 16 SKA &amp; MeerKat</td>
</tr>
<tr>
<td>SIP 17 Regional Integration for African cooperation and development</td>
</tr>
<tr>
<td>SIP 18 Water and Sanitation Infrastructure Master</td>
</tr>
</tbody>
</table>
The nationally driven Strategic Integrated Projects have a significant impact on the eThekwini Municipality, in particular, the SIP2 Logistics and Industrial Corridor as it forms the backbone of South Africa’s freight network.

The main components of the freight corridor are the Port of Durban, well established road, rail and pipeline links to Gauteng, and inland freight terminals to service the broader Gauteng area and countries to the north of our border. The Bay of Natal is a regionally significant estuary and home to Africa’s busiest port, handling a wide range of high value cargoes. It plays a critical role in servicing the import and export needs not only of Durban and its extensive KZN hinterland, but also of Gauteng and the Southern African region. Two thirds of South Africa’s containers move through Durban, as well as a majority of liquid fuel and automotive cargoes. In addition, Durban handles significant break bulk, dry bulk and chemical cargoes, and provides facilities for cruise liners, the SA Navy, and for fishing, service vessels and recreational craft.

Durban is the premier gateway port in the South African ports system, with the lowest logistics costs. Durban handles high-value cargoes in a complementary relationship with the Port of Richards Bay, which focuses on bulk exports of minerals. Together the ports service the maritime needs of South Africa’s eastern seaboard. As the South African economy grows, the capacity of the port needs to be increased. Over the past ten years, the growth in container traffic through Durban has been three times the national GDP growth rate. There is already pressure on the port, the roads, and in back of port areas, despite recent expansion projects. At an 8% annual container growth forecast the existing transportation infrastructure will reach its limits in 2019. Unless significant expansion takes place, South African economic growth will be constrained, and freight will be forced to relocate to more distant ports, increasing already high transport logistics costs, and compromise South Africa’s global competitiveness. The development of the freight corridor and related projects will reduce the cost of
doing business and improve productivity, which will create employment and generate wealth locally, regionally and nationally.

The vision covers port, rail, road and land-use plans, and focuses on national and local economic growth, social upliftment for affected communities, and environmental sustainability. Investment in infrastructure capacity will exceed a quarter of a trillion Rand, making this one of the most significant projects in the history of South African freight transportation. The contributions to the local, region and national economies are expected to be significant during construction and operations. The anticipated number of jobs are 62 000 construction jobs and 54 000 permanent jobs locally, and another 22 000 permanent jobs in port related industries elsewhere in KZN. The project will stimulate local and regional economic growth. A growth of R4 billion per year in KZN GDP is projected during the construction phase. During the operational phase the growth is significantly larger and estimated GDP at local level is R12.5 billion per year. Cognisance has been taken of other freight expansion projects to accommodate growth in break bulk, dry and liquid bulk, and automotive volumes, and on other non-freight projects. Provision has been made for port and non-port related growth on the transportation corridors, as well as for expansion of passenger numbers on road and rail.

The Port of Durban currently experiences congestion, especially around port operations. In order to alleviate the situation, Transnet proposes to improve throughput capacity by reconfiguring and rationalising the existing precincts of Durban Container Terminal (DCT), Point, Maydon Wharf and Islandview. Major expansion projects in the short term include deepening and lengthening of the North Quay and infill at Pier 1 of Durban Container Terminal (DCT), berth reconstruction and deepening at Island View and Maydon Wharf, as well as development of a new dedicated passenger terminal. Transnet also proposes to utilise the Bayhead rail precinct for Back of Port commercial logistics development, in the medium to long term. Transnet plans to supplement the medium to long term capacity by developing the old Durban International Airport site to the proposed Durban Dig Out Port.

2.6.6 Commercial / Retails and Business Development

The constraint on land in the Central Spatial Region has led to a significant thrust of development outward toward the adjacent regions particularly toward the North and Western regions within the EMA. The decentralization of commercial development (including office and retail activities), particularly higher order activities, from the Durban and Pinetown CBD’s to more affluent suburbs such as Umhlanga in the Northern Region has resulted in spatial restructuring (including the changing commercial role of these CBD’s with the relative establishment of new nodes).

As a consequence of commercial and retail decentralization, these CBD’s have experienced high vacancy rates as well as declining property values. (EThekwini Property Market Review 2006/2007,
Viruly Consulting (Pty) Ltd) The loss of critical mass of economic activities within the core Durban and Pinetown CBD’s in the form of decentralization to shopping malls as suburban models of development is being perpetuated. There is also a tendency towards expanding suburban office nodes and new office park developments which are attracting offices out of these CBDs.

2.6.7 Informal Economy

The management of the informal economy, especially street trading and retail markets, is a demanding task involving demarcation of trading areas, the issuing of permits, organising traders into area committees that feed into a citywide forum, and the ongoing collection of rentals. Coupled with this is the necessary enforcement of regulations and by-laws in conjunction with the Metro Police, as well as negotiations and dispute resolution where the interests of residents, traders and the formal economy come into conflict.

In order to provide a first step up for budding entrepreneurs and traders, a number of local incubator factories and storage facilities have been set up where workshop space or storage is available at a minimal rental. For entrepreneurs showing promise, there is a selection process whereby enterprises can advance to the entrepreneurial support centre, and where additional facilities are available, including training and support.

2.6.8 Tourism and Recreation

Tourism remains one of the most significant components of the metropolitan economy. Recreation opportunity is considered to be the main tourist resource within EMA and is based largely on the natural qualities of the coast. The coastline and beaches are significant tourist anchors for accommodation, commercial and entertainment development. Durban’s central beachfront is arguably the most important tourism and recreation resource in the EMA.

According to SA Tourism, research conducted in 2005, the value of foreign tourist to KZN was R6.9 billion with the eThekwini Municipality attracting 1, 1 million foreign tourists (equivalent to 78% of foreign tourist to KwaZulu-Natal or 16% of foreign tourists to South Africa). The Durban Beachfront was found to be the most popular attraction among foreign tourists, and was visited by approximately 875 000 foreign tourists (64% of tourism to KZN). Accordingly, the KwaZulu-Natal Tourism Authority analysis of the value of KZN’s regional tourism markets concluded that Durban captures around 33% of foreign consumer spending in the province.

2.6.9 Summary of Economic Trends and Issues

<table>
<thead>
<tr>
<th>ISSUES</th>
<th>UNDERLYING CAUSE</th>
<th>SPATIAL IMPACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobless growth in the formal economy</td>
<td>Decline in labor intensive industrial sector, associated with closure of business in industrial areas</td>
<td>Decline and blight associated with</td>
</tr>
</tbody>
</table>
| Infrastructure limitations to economic expansion | Capacity limitations for port to expand  
Aging and obsolete industrial infrastructure  
Growth in road-based traffic, notably for container transport  
Poor transport linkage between certain economic zones and installations  
Infrastructure is inadequate to cater for growth | Pressure upon interface between port and city  
Relocation of business from aging industrial areas to newly established areas  
Congested transportation routes, mixing of industrial and residential traffic  
Certain forms of development are precluded from economic zones where water, waste disposal, waste water treatment and energy supplies are inadequate to meet requirements of the Municipality  
Development is focused along North, South and west growth path with limited development in adjacent hinterland |
| --- | --- |
| Changing locational patterns | Outward expansion of industry  
Growth in suburban retail markets  
Emergence of specialist, bulk retailing activities  
Growth in suburban high grade office space | Relocation of service industry and light manufacturing to decentralized business parks along north, south and west growth path  
Relocation of higher income retailing functions to suburban locations  
Emergence of specialist/value retail parks outside CBD’s  
Decentralization of office (especially A-Grade) to suburban office parks |
| Changing nature of economic markets | Emergence of informal/small scale economy  
Transformation of mass tourism and leisure markets  
Emergence of niche tourism and hospitality industry | Growth of economic activity around commuter hubs, public nodes and activity corridors  
Growth of street trading  
Growth of economic activity around commuter hubs, public nodes and activity corridors  
Growth in mass tourism and leisure focusing on seasonal utilization of the beachfront by day trippers  
Deepening of the niche tourism and leisure industry via growth of elite/coastal tourism, business and convention |

In the coming years the City has a number of priorities that it will pursue, most of which align with national government’s focus on infrastructure development and job creation. These include:
1. The development of the Northern Urban Development Corridor. This includes the development of Cornubia and support for development around Dube Trade Port/Aerotropolis (Annexure 12).

2. In the Outer-West, development is to support the national Durban-Gauteng Corridor. This corridor is more than just a logistics route and there are significant development opportunities that these routes will make possible, including developments in Pinetown, Shongweni and Cato Ridge. The City will work with the Province and other Municipalities in proactively planning and opening up opportunities in this corridor.

3. In the Central area of the city (from the Durban Inner City to Pinetown), there will be further investments to support the inner city and entrench its role as a services center incorporating offices, sport and tourism uses, the civic heart and a residential community. It is also an area that supports the micro enterprises and all of these aspects will be strengthened. The planning in the back of port area will also be finalized. Pinetown is a key manufacturing node as well as an important CBD that needs to be revitalized.

4. In the Southern part of the city, the new dig-out port will be prioritized as well as the development of a logistics park in Illovo to support the automotive sector. The development of a dedicated freight route is also being investigated.

5. The City has a rural development programme and energy programme that focuses on key rural nodes, energy projects as well as agricultural projects to stimulate the economies of the rural areas.

6. The City accessed about R700 million from National Treasury in terms of the Neighbourhood Development Partnership Grant (NDPG) to facilitate investments in the township areas. The programme has been progressing well and investments have been made at Bridge City, the Mpumalanga New Town Centre, Umlazi, Clermont-KwaDabeka and KwaMashu. The City will continue to support these initiatives.

7. There are programmes aimed at revitalizing the secondary CBDs, as well as projects aimed at developing tourism nodes and corridors. These include uMhlanga; iNanda Heritage Route, Hazelmere Dam, uMgababa, Kingsway Tourism Corridor as well as many others.

8. The planning and implementation of public transport programmes in conjunction with Province and National Government will receive significant attention.

9. The investment climate will improve with improved procedures announced by National Government and the City should support this by ensuring simplified and expedient local processes to support investment. The Municipality is reviewing the first Best Practice City
Commission (BPCC) and in addition – assess the current institutional mechanisms promoting and facilitating investment, with particular emphasis on the roles of the eThekwini Municipality. A BPCC Project manager has been appointed. The study is expected to inform the City leadership and officials about the current and new obstacles to investment in the municipal area, and provide a suite of recommendations and an implementation plan as a response. The City has experienced an increased level of interest in investments, however, a key challenge for many of the developments are around sanitation infrastructure and transport.

10. The Premier recently announced the establishment of the Provincial Human Resource Development Council aimed at guiding skills development. The City plans to become involved in this to ensure the interests of our young people seeking employment are supported through various programmes anticipated from this initiative.

However, there are numerous local challenges which if addressed and implemented may ensure a steady growth path towards the magic 5-7% with many additional benefits such as increased employment, investment and a more inclusive economy where all citizens of eThekwini enjoy equal access to the opportunities to come. The City intends to undertake initiatives in the various priority sectors that directly create jobs or support those that do. The Industrial Strategy currently under review in the City will spell out which sectors we should be focusing on and where to locate same.

The City will also attempt to play a meaningful role in the major projects recently announced by national government for example the Dig-Out Port, Corridor development and expansions in the existing port need to be fast-tracked to ensure that we are able to reach GDP growth that exceeds 3%.

2.7 ETHekwini Housing Sector (eHSP)

The eHSP aims to:

- Set residential infrastructure as a city-building tool.
- Describe strategies and programmes for residential infrastructure.
- Prioritises programmes and investment locations.
- Informs and aligns with corporate spatial targeting.
- Be well aligned to the corporate planning tools of the IDP, SDF, and the BEPP.

The scope of the eHSP is currently limited to the housing topstructure and related engineering infrastructure for fully and partly subsidised residential infrastructure projects. It is recognised that there is a need for a more comprehensive human settlements plan that:

- Encompasses economic infrastructure and other social infrastructure.
- Encompasses the entire housing market, including private sub-markets.
- Is developed and implemented by the Municipality as a collective.

2.7.1 Strategy Emphases and Benefits

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Spatial and Social Transformation Benefits</th>
</tr>
</thead>
</table>
| Universal Access to Basic Services and freedom from fear of eviction for the poor | - Provision of core and social infrastructure
- Eradication of core infrastructure backlogs
- Informal tenure
- Inclusion of the poor |
| Densification in Urban and Suburban Integration Zones | - Greater choice of where to live, improved thresholds for economic development and public transport, more efficient use of core infrastructure and social infrastructure, livelier property market |
| Increased focus on Rental | - Inclusion of the poor
- Inclusion of Lower-Middle income groups
- Stimulation of the Gap market segment
- Livelier property market |
| Increased focus on main streaming subsidised housing into the Property Market | - Encourages investment into the built environment by entities big and small, and by households |
| Mix of medium term big bangs and long-term steady programs | - |

2.7.2 Programme Emphasis and Timeframe

Flowing from the Strategy Emphases, five Key Housing Programmes are emphasised, namely:
- Housing Mega-Projects
- Incremental Services
- Retrofit of Engineering Services
- Institutional, Social, Affordable and Gap Housing
- In Situ Upgrades and Greenfields

The eHSP uses a time-frame of the next four MTEFs, from 2016-17 to 2028-29. A multiple MTEF period has been specifically selected because the Housing Programme and Project Cycle, in Ethekwini’s experience, is typically long-term. The purpose of setting a long-term timeframe is to create increased certainty around capital budgeting for and procurements by the Municipality, and also for other spheres that have a human settlement function (most notably education and health).

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*Basic Services is also commonly referred to within the Municipality as Incremental Services or Interim Services*
2.7.3 Existing Housing Typologies, Backlogs, and Construction Pace

In 2011, eThekwini had approximately 3.75 million persons living in some 950,000 dwellings [7]. This is expected to increase to four million citizens by 2020, and by 2035, to 4.4 million citizens. The majority (86%) of eThekwini’s citizens are urban and suburban - i.e. 3.240 million. Non-urban citizens numbered 0.511 million. While there are no projections on how the distribution might change, but it seems likely that the urban periphery will continue to be a major destination for newly urbanising citizens, unless active steps are taken to promote a different pattern of urban growth.

Table 7: Housing Backlog Scenarios

<table>
<thead>
<tr>
<th>Type &amp; Sub Total</th>
<th>Sub Type</th>
<th>Total No. Households</th>
<th>Backlogs Totalstructure</th>
<th>Backlogs Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban &amp; Suburban Informal</td>
<td>Houses</td>
<td>414,357</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Flats</td>
<td>110,225</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Sub Total</td>
<td>524,582</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Single Dwelling (‘Shack’)</td>
<td>265,542</td>
<td>265,542</td>
<td>265,542</td>
</tr>
<tr>
<td></td>
<td>Backyard</td>
<td>48,975</td>
<td>48,975</td>
<td>48,975</td>
</tr>
<tr>
<td></td>
<td>Unserviced Formal</td>
<td>3,096</td>
<td>0</td>
<td>3,096</td>
</tr>
<tr>
<td></td>
<td>Sub Total</td>
<td>317,613</td>
<td>314,517</td>
<td>317,613</td>
</tr>
<tr>
<td>Non-Urban</td>
<td>Cluster (“Umuzi”)</td>
<td>70,317</td>
<td>70,317</td>
<td>70,317</td>
</tr>
<tr>
<td></td>
<td>Single Dwelling</td>
<td>26,949</td>
<td>26,949</td>
<td>26,949</td>
</tr>
<tr>
<td></td>
<td>Unserviced Formal</td>
<td>6,449</td>
<td>0</td>
<td>6,449</td>
</tr>
<tr>
<td></td>
<td>Sub Total</td>
<td>103,715</td>
<td>97,266</td>
<td>103,715</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>945,910</td>
<td>411,783</td>
<td>421,328</td>
</tr>
</tbody>
</table>

| Construction Years Required | 45 to 63 | 84 to 140 |

Figure 52: Low Residential Incomes

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7 The eThekwini Dwelling Count 2011 counted every dwelling within municipal extents, and the total household size was estimated by applying assumptions on household size according to housing typology and housing location. Data sources used include Metro billing data, aerial photography, and sample ground verification.

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The backlog of topstructures is about 412,000, and the backlog for engineering infrastructure is about 420,000 connections. Most of the backlog is experienced by low-income households who earn less than R 3,500 p.m. An exception is where freestanding houses have been built for the middle-income markets on traditional land, and this is a growing trend. Compared to other Metro’s, eThekwini has a very high ratio of housing and infrastructure backlogs relative to the total population.

Since 1994, a little over 183,000 dwellings have been built and serviced. The pace trend for top-structure construction is 5,000 to 7,000 dwellings per annum, and the pace trend for road access and services connections to full standard is 3,000 to 5,000 per annum.

At the current construction pace, it will require about half a century to deal with tops-structure backlogs, and about century to deal with infrastructure backlogs.

As these timeframes are unacceptably long, the Municipality about a decade ago introduced the Incremental Services programme to provide universal services to all, and will now supplement that with the Key Programmes that have been emphasised for the next four MTEFs.
### 2.7.4 Housing Backlog

<table>
<thead>
<tr>
<th>TYPE</th>
<th>BACKLOG</th>
<th>NEED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban &amp; suburban shacks in informal settlements</td>
<td>238 000</td>
<td>tenure, services, top structures</td>
</tr>
<tr>
<td>Transit facilities</td>
<td>7 300</td>
<td>tenure, services, top structures</td>
</tr>
<tr>
<td>Urban &amp; suburban backyard shacks in formal areas</td>
<td>49 000</td>
<td>Top structures, some services</td>
</tr>
<tr>
<td>Urban &amp; suburban formal structures without services</td>
<td>3 000</td>
<td>services</td>
</tr>
<tr>
<td>Non-urban structures</td>
<td>96 000</td>
<td>services, some top structures</td>
</tr>
<tr>
<td>Total demand for topstructures</td>
<td>294 300</td>
<td></td>
</tr>
<tr>
<td>Total demand for infrastructure &amp; tenure</td>
<td>390 300</td>
<td></td>
</tr>
</tbody>
</table>

### 2.7.5 Demand Projections

The table below indicates the decrease in the housing backlog based on three scenarios, viz:

- Informal settlements dwellings only
- Informal settlements and backyard informal dwellings
- Informal settlements, backyard informal and traditional dwellings.

It is further based on an average delivery of 6,000 BNG houses per annum. Accordingly if only the first scenario is utilized, then by 2036/7 there will still be a backlog in informal settlements of 186,000. Likewise for scenario 2 it will be 260,000 and for scenario 3 it will be 397,000. This raises significant strategic decisions that need to be made with regard to alternative solutions for informal backyard and traditional households. The alternative for backyard dwellers is to provide additional services specifically for them, which is a proposal still being debated by NDHS.
Should we consider all traditional dwellings as being inadequate shelters, in contrast to the common perception that traditional homesteads are often a better shelter solution than newly built subsidised housing, although clearly incidences of inadequate shelters do exist? Households in traditional dwellings need to, in conjunction with the relevant authorities arrive at solutions that meet their requirements, which may include better access both physical and to markets, agricultural extension services, fencing of property, access to water and sanitation, etc.

Based on 2011 eThekwini Dwelling Count.

Figure 53: Housing Backlog Scenarios

The table below uses Centre for Affordable Housing Finance (CAHF) data from 2012 to 2015, thereafter it is projected to 2025 based on the 2012-2015 sample. This indicates higher predicted demand for houses in the R600K to R1.2m range from approximately 1,600 pa to 5200 pa in 2025. Likewise there are predicted increases in demand in the R300K to R600K range as well as the above R1.2 m category. The under R300K demand is predicted at far lower than the higher cost categories, and remains almost static. This is likely to be due to the fact that the CAHF data was based on sales registered in the deeds office, and does not apply where informal sales are entered into in the lower income markets.
2.7.6 Generalized Forecast and Trends

The non-urban low-income and middle-income housing demand is expected to grow. The backlog estimates generally treats all traditional dwellings as being inadequate shelters, in contrast to the common perception that traditional homesteads are often a better shelter solution than newly built subsidised housing, although clear incidences of inadequate shelters exist. There is not sufficient information on non-urban shelter to clarify the situation. For KZN as a whole the de-densification of some rural areas is likely. But this is unlikely to apply in eThekwini. Two other scenarios are more likely: continued densification of non-urban areas and their gradual transformation into suburban areas, and-or: the retention of rural settlements at low densities, especially where the municipality actively promotes agricultural use of the surrounding land.

The rental market is significant.

It is estimated that 33% of households in eThekwini rent their accommodation. [8] There is significant rental stock in the denser parts of the city. In suburban areas and townships, small-scale rental is prevalent, particularly in low- and middle-income areas.

Backyard rental and sub-rental in existing houses are significant housing providers and have potential for expansion. Although no conclusive figures are available it is commonly held that the unmet
demand is also significant in the affordable housing sub-market. The advantages of promoting rental in the suburbs are increased densities and social mix, and increased utilization of existing services and facilities. There is currently no enabling framework for this to occur.

**The market is spontaneously providing dwellings in sufficient number, of adequate quality and in the optimal locations for the upper-middle and upper income markets.**

**Housing supply is constrained in the lower and lower-middle segments.**
The formal private market is not spontaneously providing dwellings in sufficient number or of adequate quality or in the optimal locations for the poor or affordable markets. The degree to which the formal market does not penetrate the low-income sub-market is near-total.

The focus of publicly funded housing has been on supply to the low-income sub-market. The main outcomes have been free standing houses coupled with individual freehold title, transfer of state owned rental stock to tenants, and some hostel upgrades coupled with rental tenure.

**There are obstacles to densification**
Construction costs are higher per top-structure than provided for in the subsidy schemes. If units are not subsidised, then they are unaffordable for the poor and lower-middle income. The sub-markets that can afford higher density unsubsidised or partly subsidised rental or ownership stock are very small and already stable in terms of current demand and supply.

**Formal property markets are not working efficiently for the low income and affordable housing income groups.**
One reason is that formal transfer processes are expensive and protracted. Poor households often rely on the informal property market. The informal property market is insufficiently recognised and regulated. This leaves the poor exposed to exploitation.

Low-income housing tends to distort the housing market. The typical BNG house is provided free, and consequently perceived as having a low market value. Secondly, the prevalence of subsidised housing can make it difficult for developers to differentiate a lower-market product from subsidised housing. In addition, though the housing policy seeks to support households in the affordable market segment, affordability is significantly over-estimated, whilst the cost of delivering such housing is typically under-estimated.
As in most SA cities, jobs are not where the people live, and vacant land for housing is not where the jobs are.

Most jobs in the manufacturing, warehousing and transport industry are located in the centre, south and west of the municipality but a large number of workers live in the north. The economic and residential growth axis is now towards the North. It has been occurring for the last decade and this momentum is increasing with the development of the Greater DTP and Greater Cornubia.

2.7.7 Densities & Locations

The average residential densities are too low to sustain public transportation and other infrastructure, or to promote the municipal economy. The gross municipal residential density is 4.2 dwellings per Ha, and 55% of the municipal surface has an average residential density of 3 dwellings or less. Where residential densities are significantly higher – Inanda-Ntuzuma-KwaMashu (INK) and, Umlazi and Chatsworth, Cato Manor and Berea, Durban CBD Pinetown, Clermont and KwaDabeke – public transport is more viable. Public transport requires gross densities of 60-90 dwellings per Ha to be self-sustaining without subsidisation. There is a nucleus and spines of reasonably well-developed medium and higher density uses along the ‘T’ formed by major routes. eThekwini has a massive challenge to overcome since there are only a small minority of areas that come anywhere close to these densities. Densities tend to change slowly over time and therefore urgent and consistent attention needs to be given to enhancing densities in all areas and in particular within walking distance of the IRPTN.

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9 ETA Estimate
2.7.8 Spatial Strategy

The item of spatial alignment and integration of SDF cascading into the BEPP and Sector Plans enjoys ongoing corporate attention.

2.7.9 Integration Zones

The Integration Zones are a concept to spatially deal with the objectives of city-building, especially inclusiveness, efficiency, and connectivity.

The eThekwini Integration Zones set out comprehensive spatial targets for all of the metropolitan extents. The departure point is that integration should not be limited to only selected spaces making up the core of the urban fabric, but that integration can and must occur within the whole city – within urban areas, suburbs and non-urban areas. These have been mapped as three distinct Integration Zones.

Each Integration Zone has an appropriate integration intervention and investment programme, that seeks to strike an appropriate balance between stimulating growth, meeting social pressures, and meeting constitutional and legal obligations.

<table>
<thead>
<tr>
<th>Urban Zone</th>
<th>Suburban Zone</th>
<th>Non-Urban Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Urban Zone is a two to four km wide belt around the metropolitan, provincial, and national movement system. It includes all of the significant urban centres, economic zones with</td>
<td>The Suburban IZ is a one to two km wide low-density residential belt beyond the Urban Zone. It is home to 1.6 million people (about 43% of the population), on a third of the municipal</td>
<td>The Non-Urban Zone comprises low-density traditional areas, as well as densifying traditional areas, commercial farming and other open space and which in the past used to be isolated</td>
</tr>
</tbody>
</table>
high concentrations of infrastructure, jobs, and economic activities, and the adjoining residential areas. In addition to existing high-intensity uses, The Urban Zone contains numerous opportunities for intense brownfields or greenfields urban development, including almost all of the Catalytic Projects. This Zone also contains 90% of jobs (i.e. almost all), and 48% of the residences (i.e. roughly half). It occupies about a quarter of the municipal extents.

The broad development strategy is to:

- Maximise residential densities, and promote higher levels of LED to support the new densities
- Fully upgrade informal settlements
- Find opportunities to expand, intensify or redevelop properties for high density residential, and for economic uses
- Install core infrastructure and establish institutional arrangements and funding models to drive the City’s own Catalytic Projects and to enable the Catalytic Projects led by others
- Commission the first phase of the IRPTN and improve regional routes

extents. Commuting to work and higher order social facilities is the norm. There tends to be a reasonable level of local engineering services. This IZ comprises townships and informal settlements which came about through apartheid planning which rely on public transport, and which tend to suffer from backlogs or inefficiencies in local social facilities. This IZ also comprises former Indian and white suburbs that rely on private transport.

The broad development strategy is to:

- Improve the connectivity of the suburbs to the Urban Zone.
- Improve the quality and effectiveness of existing social facilities serving residential areas and in some cases to build new ones.
- Promote higher residential densities through typologies that are appropriate for residential suburbs
- Quickly provide informal settlements with universal access to basic services in parallel to the slower full upgrading program.
- Promote LED

from the other parts of the city. Typically there are very basic services only, and poor or expensive connectivity to the city is typical. The Non-Urban IZ supports traditional lifestyles, agriculture and nature conservation, and is home to 8% of the population (one in every twelve persons), and about 43% (or nearly half) of the municipal extents.

The broad development strategy is to:

- Improve connectivity (roads and internet)
- Improve local social facilities and access to basic engineering services
- Provide higher order social facilities and economic opportunities in selected nodes
- Encourage sustainable livelihoods and access to agri-processing and distribution.

Prime Investment Corridor

A narrower spatial target for strategic investment has been identified. It is known as the Prime Investment Corridor. It lies entirely within the Urban Zone, and so has the same features and investment intentions, only more intensely so. The Prime Investment Corridor aims at more intensive uses, and greater density of jobs, trips, residents, and investment than anywhere else in the metro. It includes the South Durban Basin / Back of Port, the Port, Durban CBD and Inner City Neighbourhoods, Pinetown CBD, Cornubia & DTP, IPTN Phase 1 (C3 and C1). It also includes some standalone pockets that are connected to the CBD by limited access routes. The pockets include Mpumalanga, Cato Ridge, and Shongweni, all in the West, and Lovu in the South

The Prime Investment Corridor includes already developed brownfields for maintenance, infill, intensification and redevelopment, as well as greenfields opportunities for intensive investment. The
intended intensity of housing responses for future housing development in the Prime Investment Corridor are:

- High density multi-storey buildings on vacant or grossly under-developed sites
- Redevelopment, where appropriate, and especially in proximity of key transport interchanges of existing low density developments
- Extensions sideways / upwards or infills on well-developed but not fully-developed sites.
Figure 56: Urban and Rural Human Settlements Projects
2.7.10 Informal Settlements

Over a quarter of eThekwini’s total population of approximately 3.4 million reside in urban and peri-urban informal settlements, most of which are located on land which is both difficult and costly to develop due to such constraints as steep slopes, unstable soils and high land costs.

Informal densification and extension of existing informal settlements is ongoing. This is largely as a result of urban migration and natural growth of households. The latter, resulting in the formation of smaller household sizes which invariably contributes to the overall housing backlog.

- Over 550 urban informal settlements comprising 238,000 households still to be addressed.
- Many of the settlements are micro-settlements of 100 households or less.
- Comprising over a quarter of the City’s population.
- Continued urbanization and a dwindling supply of well located land.
- Over 30 years to overcome just the informal settlement backlog.
- Prioritise identification of a programme to address a range of basic health and safety issues and deliver rapidly to as many settlements as possible instead of providing high level of services including top structures to only a select few.
2.7.11 A New Approach to Informal Settlements Incorporating Greater Resilience

There has been an acceptance that conventional approaches to upgrading, premised on BNG-type housing delivery and formalisation, are inadequate in addressing the informal settlement challenge in South Africa. There is general acceptance that the new approach to upgrading needs to be inclusive of all informal settlements, incremental, participative and partnership-orientated. This is consistent with both National Policy as well as international practice.

The new approach to upgrading needs to foster a different and more functional relationship between the state and the urban poor which is not premised solely on state service delivery but which also leverages the partnerships necessary for more effective social capital formation, collaboration and ‘self-help’. State investments (e.g. in basic services) need to ‘leverage’ this kind of shift. There also needs to be a focus on more than just basic services, functional tenure and incremental housing improvements. Key social services (e.g. ECD, schools, clinics etc.) are also important as is more effective access to public transport and economic opportunities. Upgrading needs to be seen as a sustained process of urban change over time rather than a once-off project-type intervention. It needs to be programmatic and area-based in orientation rather than just focused on delivering single/separate ‘projects’. In general, the state needs to focus its efforts and finite resources mainly on enabling public realm investments (rather than the provision of free housing).

Shifting to the new approach has significant implications for the institutional arrangements, partnerships and funding instruments of upgrading. The current statutory and regulatory environment (e.g. with respect to building plans, town planning processes and zoning) are also typically not ‘fit-for-purpose’ in the context of informal settlements and greater flexibility is needed.

In addition to this, there are compelling reasons for the all Municipal departments to work in an integrated way. Addressing the myriad of challenges within informal settlements is a complex and difficult exercise, and it cannot be done in isolation by each Unit. What is required is a coordinated,
aligned and integrated approach, an approach that all strategic plans from National down to Local continuously preach.

In this regard an internal forum to deliberate this challenge has been proposed by the Municipality. Heads of Infrastructure have already identified champions within their Units who will be dedicated to ensuring that this program becomes a key focus area of incremental service delivery within informal settlements. Good progress has been made with the establishment of the Incremental Services Technical Forum which brings together key internal stakeholders to discuss the projects and initiatives they are implementing and planning for in informal settlements, budgetary considerations, propose innovative solutions, overcome obstacles, as well as to create opportunities for aligning initiatives so as so have a more holistic affect and avoid duplication of efforts.

2.7.12 Citizen-lead planning for informal settlement upgrading

While the state has a mandate to deliver services and housing opportunities, communities and individual families also have a role in improving their own living conditions. Involving citizens in informal settlement upgrading contributes to the development of social cohesion, empowers communities and individuals, makes space for creative solutions, utilizes local knowledge and makes upgrading initiatives more sustainable through building ownership of the environment and amenities.

Participatory planning and implementation in informal settlements might include some or all of the following activities:

- Community capacity building: providing information and advice (perhaps via a housing support centre); helping communities build support networks; providing small resources to kick-start community-lead initiatives;
- Mapping of all stakeholders in a particular location;
- Development of social compacts and joint action plans outlining the sources of funding, deliverables, prioritization, and the roles and responsibilities of each stakeholder;
- Asset Based Community Development in support of sustainable livelihoods;
- Enumeration, entailing collection of detailed demographic information as well as mapping of existing structures and features of the community;
- Re-blocking, during which a layout is created to allow for improved access for emergency and infrastructure services and equitable distribution of stands and certain structures are moved to conform with this plan;
- Support for household and community savings schemes;
- Tenure interventions, to enable personal investment in residential structures;
- Utilization of local labour and local construction teams;
- Development of allocation guidelines and relocation plans in the housing consolidation phase;
- Participatory monitoring and evaluation of service delivery and impact.
2.7.13 Current Thinking on Informal Settlements

- Meaningful and effective community mobilisation, involvement and upliftment. Building ‘social capital’, ‘self help’ and resilience, sustainable livelihoods processes etc - Decreasing dependency and vulnerability
- Capacity for innovative and effective Participatory Planning and Development.
- Effective demand management - understanding that not all informal households require a similar product and tenure option.
- Promoting and facilitating innovative and incremental infrastructure and top structure designs and development.
- Providing building support and home owner education.
- Achieving transversal institutional coordination and management within and outside of the Metro.
- Investigating and designing models for incremental and self-build development – pay attention to high density housing.
- Facilitating co-production in the development process – explore alignment of government investment, community savings and sweat equity, private sector social responsibility. (e.g. Blackburn Village JV with Tongaat Hulett Developments)
- Exploring LED initiatives.

2.7.14 Current Initiatives on Informal Settlements

- **NUSP**: Participatory Planning, Sustainable Livelihoods and Facilitation Support To Informal Settlement Upgrading Projects.

The Human Settlements Unit has been engaged with the National Department of Human Settlement's (NDHS) National Upgrading Support Programme (NUSP) for the provision of Participatory Based Planning and Facilitation support in the eThekwini Municipality. This programme is part of a national initiative to provide local municipalities with technical support. As part of this initiative 42 informal settlements (23 earmarked for Incremental Services and 19 for Upgrading) and comprising of a total of 34,571 households, were identified and selected.

The NDHS appointed a consulting team to undertake various activities as part of the technical support provided to the Municipality. In summary, the project deliverables for both the Incremental Projects and Full Upgrading projects for the selected 42 informal settlements were as follows:

- Administer Socio-economic Surveys and finalise Analysis Reports for 42 informal settlements comprising a standard sample of 3,578 households;
- Develop and undertake a Participatory Planning Skills Programme;
- Compile and Facilitate City-community partnerships for the 42 informal settlements;
- Undertake Sustainable Livelihoods Programme for the 42 informal settlements;
- Develop a Community Capacity Development Programme;
- Project Close-out Report.
The ultimate purpose of the NUSP funded initiative is to learn from the outcomes of the above deliverables and better capacitate councilors, officials, and the community in order to replicate the learnings and experiences in other informal settlements in eThekwini.

- **100 Resilient Cities**: Resilience Building Option 1: Collaborative Informal Settlement Action
eThekwini is part of the 100 Resilient Cities initiative, funded by the Rockefeller Foundation. The initiative aims to create resilience-building plans in 100 cities across the globe. The 100RC initiative has identified participatory, differentiated and incremental informal settlement upgrading as a core focus for increasing resilience. 8 inter-related outcomes have been developed to achieve this objective:

1. eThekwini has a committed team of champions that are supported by co-ordinating institutional structures.
2. Consolidated quantitative and qualitative community and municipal-collected data on all informal settlements is accessible to all and updated regularly.
3. eThekwini municipality facilitates the establishment of proactive, innovative and municipal-wide partnerships to develop and execute collaborative, climate-smart and sustainable informal settlement upgrading.
4. Human and financial resources are secured.
5. Enabling and integrated administrative systems and simplified regulatory procedures that facilitate the accelerated implementation of municipal-wide, collaborative informal settlement upgrading and partnerships.
6. Collaborative monitoring and evaluation is institutionalised.
7. Pro-active management of use of land.
8. Improved social, economic and environmental well-being in all informal settlements in eThekwini.

- **National Treasury’s City Support Programme (CSP)**: Technical Support for the Innovative Upscaling and Upgrading of Informal Settlements

The CSP in partnership the NUSP and through technical support by the World Bank seeks to support and strengthen the service delivery and management capacity and systems of South African cities. Incremental upgrading of informal settlements forms a significant element of the human settlements components of this initiative. The CSP aims to assist Cities to develop and scale-up efforts to upgrade informal settlements in close consultation and partnership with local communities. A framework was developed by the CSP which identified four work streams which included the development of enhanced Programme Management Toolkits and related Programme Support to selected Metros for scaling up incremental upgrading. This work stream is commencing in 2017 on the back of a Scoping Study prepared in June 2016. Engagements with eThekwini have already been initiated.
• **ESRC/NRF Urban Transformation in South Africa Project**: Community-led upgrading for self-reliance in informal settlements in South Africa.

This is in a multidisciplinary partnership with the University of KwaZulu Natal in Durban, the University College London, uTshani Fund (SDI Alliance) and eThekwini municipality. This project focuses on communities in informal settlements that could be involved in improving their homes and neighbourhoods. The tools and processes needed to ensure a successful upgrade of environmental and construction management are poorly understood, and top-down policies used by central and local government in SA have not been successful to date. If communities can improve their neighbourhoods through “development from within”, improving construction skills and using available materials, then there could be local, regional and national environmental, social and economic benefits. This research project seeks to explore the underpinning barriers and enabling drivers for communities to upgrade their informal settlements in SA. The central question for this research is: how can participatory approaches be utilised in an environmental and construction management strategy to achieve self-reliance in informal settlements in Durban, SA?

• **Infrastructure Improvements for Early Childhood Development (ECD) Centres in Informal Settlements**

This proposed initiative in partnership with an NGO seeks to improving access to adequate ECD services for large numbers of vulnerable children within informal settlements in eThekwini. ECD is a national priority, forming part of both National and Provincial strategies aimed at ‘massification’ of ECD services. These strategies include more effectively supporting large numbers of de-facto, under-resourced ECD centres within low-income communities such as informal settlements.

The initiative directly supports the City’s IDP objectives aimed at social upliftment including those of the Informal Settlements Upgrade Programme (ISUP) and Incremental Services Programme (ISP) such as the improvement of social facilities and essential services. It forms part of broader Human Settlement responses such as those embedded in the Outcome 8 Delivery Agreements which aim to rapidly provide informal settlements with incremental services and thus eradicate backlogs of essential services through interim services provision as well as full upgrading and low income housing. 14 selected ECD centres at pilot sites at Amaoti and Umlazi have been identified for ECD infrastructure improvements and survey.

• **Informal Settlement Incremental Upgrading and Integration Partnership Programme (via Area Based Management (ABM))**

The Human Settlements and Area-Based Management Units have also partnered with a local NGO to submit a funding application to the European Union, which (if successful) will provide funding for increased central and area based capacity over three years. A number of pilot initiatives will test and refine a model of working in partnership with communities and
organisations, and improving alignment between stakeholders (including municipal and provincial departments) by utilising and expanding precinct-based communication, planning and implementation of initiatives in informal settlements.

- **DCM and Heads of Infrastructure Forum (ISIF)** – To align the prioritisation and inform individual implementation/performance plans
- **HS Project task team** - To drive the ISIF and facilitate processes for implementation.
- **ISI Technical Workstream** - To implement prioritised plans and manage outputs
- **Proposed MOA with NGOs** - to lobby external funding, facilitate ECD’s and some re-blocking strategies.

### 2.7.16 Key Risks

- Unabated growth of informal settlements attracted by the provision of services. Will become a major problem when relocations are required.
- Weak legislation to curb land invasions or growth of existing settlements.
- Difficult to provide secure interim tenure if land is in private ownership and where densities are too high.
- Protracted EIA and planning approvals delaying speedy implementation.
- Lack of funding for densification if the objective is to avoid relocating people from well located areas, in line with City’s SDF and BEEP.

### 2.7.17 High Risk Informal Settlements

The Table and Map below provides an indication of the informal settlements that are either fully or partly affected by the 1 in 100 year floodplain as well as those within high frequency flooding areas. In relation to the total informal settlement backlog, only 4% of households are either fully or partially affected by this risk. Nevertheless high risk settlements will be considered for priority relocations to suitable greenfield projects. In addition as part of the Municipality's new approach to informal settlements which has a strong focus on resilience building, the aim is to work in collaboration with communities on the ground in order to identify short, medium and long term solutions to challenges.
2.7.18 Significant Non-Technical or Non-Spatial Challenges to Housing Delivery

The funding portion for top-structures is insufficient for medium and high-density developments such as double-storey row-houses, especially if they are located on steep sites. Medium-density developments are required to implement the spatial and housing strategies of eThekwini. Top-ups per unit are required to enable the construction of double-storey duplexes. Going two storeys and more results in significantly higher costs. There is no dedicated funding for this especially for BNG units. As a result the very poor cannot own units in high density developments. Even if funding was made available, a focussed home ownership program will need to be initiated, educating beneficiaries on their responsibilities in living within sectional title developments. This also begs the question of whether such beneficiaries will be in a position to afford the levies.

The housing subsidy provisions for difficult geotechnical conditions are insufficient for building on steep land and for geotechnically difficult land. The geotechnical variation allowed for in the subsidy scheme does not adequately respond to eThekwini soil and slope conditions. Top ups by the municipality are frequently required to enable additional earthworks, embankments, soil retaining, slope stabilisation, and stormwater control.
2.7.19 Housing Mega-Projects

Programme features

Housing Mega-Projects:

- Are a type of Catalytic Project
- Create complete human settlements
- Cater for people in various income bands
- Aim at increased densities
- Are very well connected to public transport
- Are large, each over 5,000 housing opportunities
- Require major infrastructure investment
- Require a mix of public funds
- Aim to also leverage private investments including household investments
- Require highly developed and multiple skills to conceptualise
- Have multiple stakeholders [10]

eThekwini has a number of Catalytic Projects. The Human Settlements Unit have identified significant residential opportunities and have subsequently championed the following:

- Greater Cornubia (comprising Cornubia Phases 1 and 2 and Cornubia North)
- Greater KwaMashu-Bridge City Urban Hub
- Inner City
- Greater Amaoti Informal Settlement Cluster
- Greater Mpumalanga
- Umlazi Urban Regeneration
- Avoca North

Locational Criteria

Housing Mega-Projects are strategically located in integration zones. All of them are in the Urban Zone, except for Amaoti, which is in the Suburban Zone, and which therefore will be slightly less intensively developed than the others.

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Programme Scale
The programme intends to deliver from 170,000 to 270,000 housing opportunities. It is also intended to deliver numerous (though yet to be quantified) permanent jobs for maintenance of core infrastructure, operations of social facilities, staffing in local businesses.

Programme Origin and Duration
Cornubia pre-dates the programme start, and serves as a process template for the other Mega-Projects. The programme began to be conceptualised about two years ago, and elements of it appeared in the BEPP 2014-15. It was expressed as a deliberate programme in the form of a submission to National Department of Human Settlements (NDHS). The programme is likely to run for about two decades.

Only very recently the NDHS had taken a decision to approve Inner City, Cornubia, Umlazi KwaMashu Bridge City Hub and Amaoti as Mega Projects.

Budget Requirements and Funding Sources
The Mega-Projects programme needs about R 120 Bn in capital investments at current prices. R2.9 Bn appears in the Capital Budget for the current MTEF. Potential funding sources include:

- Urban Settlement Development Grant
- Housing Settlement Development Grant
- Municipal Housing Capacity Support Grant
- Council Funds
- Other spheres for some of the social infrastructure, particularly schools and clinics
- Other spheres for some of the core infrastructure, particularly provincial or national routes, bridges and interchanges
- Private Investments, particularly for the development of commercial sites, and for developer contributions to core infrastructure.

Capacity or Systemic Requirements
A full-time multi-disciplinary project team of four to six people plus a pool of internal or external consultants would be the optimum arrangement needed for every Mega-Project. This level of resourcing is not currently in place, and attention will be given by the Human Settlements Unit and the Municipality during the current MTEF to resource the Mega-Projects adequately. In the meantime, the Human Settlements Unit has tentatively received medium-term funding support for staff and consultants.
2.7.20 Incremental Services

Programme Features
The Programme aims to promote social equity and social inclusion by providing every household in Informal Settlements with access to basic engineering services, basic social facilities, and local economic opportunities, as soon as possible. The project selection criterion is Informal Settlements that are earmarked for upgrade in the longer term. There are five sub-programmes, namely:

- Community Ablution Blocks
- Community Access - Access Roads, Pedestrian Paths, Emergency Infrastructure
- Electricity - Ablution Blocks, Streetlights, Individual Connections
- Access to social facilities, particularly fire and police stations, clinics, schools, and sports-fields.
- Sustainable livelihoods.

**Locational Criteria**
Most of the planned projects are in the Suburban Zone.

**Programme Scale**
The current phase of the programme will benefit 70,000 households in approximately twenty clusters of informal settlements.

**Programme Origin and Duration**
This programme has its beginnings in the provision of water stand-pipes to informal settlements in the early 1990's. This was superceded by the provision of communal ablution blocks and refuse collection programmes in the mid and late 1990's. It was first expressed as a deliberate programme in the previous edition of the eHSP. The programme is intended to be complete in two MTEFs, if funds permit.

**Budget Requirements and Funding Sources**
Assuming a current-price benchmark of R 25,000 investment for each household, then the programme will require approximately R1.75 Bn. R270 Mill appears in the Capital Budget for the current MTEF. At this rate it will take six MTEFs (eighteen years) to deliver the current phase of the programme, which is contrary to its intention to complete the programme in two MTEFs, and a resolution of this contradiction will have to be sought. Current funding sources include:
- Urban Settlement Development Grant
- Other spheres for some of the social infrastructure, particularly schools and clinics

The Communal Ablution Blocks sub-Programme is reasonably well-resourced. About R1.Bn has been invested over the past three years. The other sub-Programmes all require to be significantly up-scaled to meet targets.

**Capacity or Systemic Requirements**
Each of the sub-programmes are separately managed and staffed.

**Table 8: Sub-programmes, responsibility and Authority**

<table>
<thead>
<tr>
<th>Department</th>
<th>Responsibility &amp; Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective</td>
<td>Project Selection &amp; Prioritisation, Funding, Monitoring</td>
</tr>
<tr>
<td>Water Services</td>
<td>Community Ablution Blocks</td>
</tr>
<tr>
<td>Development Engineering</td>
<td>Community Access</td>
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<tr>
<td>Durban Electricity</td>
<td>Communal and Individual Electricity</td>
</tr>
<tr>
<td>Social Cluster</td>
<td>Social Facilities</td>
</tr>
<tr>
<td>Economic Development</td>
<td>Sustainable Livelihoods</td>
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</tbody>
</table>
The Collective needs to be put in place, and project preparation and implementation capacities need to be up-scaled for several of the sub-Programmes.

Figure 57: Incremental Services to Informal Settlements Map 2016/2017

2.7.21 Institutional and Social Housing

Programme Features
Institutional Housing aims to support vulnerable and special needs groups. It subsidises the capital costs of creating rental stock for income groups earning under R3,500 per month. The programme is typically implemented by Non-Profit Organisations (NPO’s).

Social Housing aims to develop rental stock for income groups up to R7,500 p.m. Social Housing may result in refurbishments or new-builds. The programme is implemented exclusively by Social Housing
Institutions (SHIs). Questions have been raised whether the income targets are sustainable under the available subsidy scheme quantum and given the operating costs required to meet the set standards. The Social Housing Programme needs to be viewed alongside a Private Rental sub-market, which targets a similar income band, and does so without subsidy, and without the building and operating standards.

**Locational Criteria**
Institutional Housing may be applied anywhere. Social Housing Programme must be in Restructuring Zones, which are identified by municipalities and approved by the NDHS and Province.

**Programme Scale**
These programmes have been small scale. The 2015-16 national review of the housing policies and subsidies however recognises that Social Housing plays an important city-building role, and is intended to be significantly up-scaled. Available statistics and plans suggest, there is scope for a programme of 100,000 units in either the Social or Private Rental sub-markets in the Durban CBD alone. Added to that the intention that Catalytic Projects should aim at a quarter to a third of residential units to be rentals, then there is scope for another 60,000 rental units.

**Programme Origin and Duration**
Housing for Special Needs and Vulnerable Groups has been traditionally supplied by faith-based and secular NPO’s for over a century. Social Housing is however a relatively modern variation on public rental housing stock. The programme is a long-term one.

**Budget Requirements and Funding Sources**
Assuming a first phase of 10,000 units, then the capital requirements excluding land acquisition will be in the order of R3 Bn. Current capital funding sources include
- Social Housing Restructuring Grants
- Institutional Housing Subsidies
- Private Equity
- Development Finance

**Capacity or Systemic Requirements**
The Municipality’s role is to facilitate investments by SHI’s and NPO’s. Social Housing is intended as a component for most of the Catalytic Projects. The capacity that is required to be developed by the Municipality is improved market intelligence on the sub-market size and profile, and on customer and supplier interest in the targeted locations. Where Council avails its own properties for Social Housing at a discount (as has been the case in the past) or via a lease agreement, or where it wishes to acquire land for social housing, then the capability to compile technical plans and strategic business plans needs to be developed. Given the small scale of the programme delivery to date, there will be a need for the number and supply capacity of SHI’s to be developed.
According to the Social Housing Act, No. 16 of 2008, the Social Housing programme seeks to provide “a rental or co-operative housing options for low income persons [...] provided by accredited social housing institutions (SHIs) and in designated restructuring zones (RZs)”. RZs are defined as: “geographic areas identified for targeted investment based on the need for social, spatial and economic restructuring of the areas” (Social Housing Act, 2008).

Restructuring via social housing seeks to achieve three main dimensions of restructuring. These include the following:

- Spatial restructuring by bringing lower income (and often Black) people into areas where there are major economic opportunities.
- Social restructuring by promoting a mix of race and classes.
Economic restructuring by promoting spatial access to economic opportunity and promoting job creation via the multiplier effect associated with building medium density housing stock.

The identification of RZs is led by the Municipalities in accordance with their housing and spatial development strategies. The RZs are then submitted to the Province and the final approval is made by the National Government. According to the Restructuring Zones guideline, “nodes and corridors are likely to be suitable as restructuring zones because of proximity to both job opportunities and consumption opportunities”. A significant advantage of RZs is the allocation of additional funding towards social housing projects viz. Restructuring Capital Grant (RCG).

The Municipality subsequently approved the identification of the following RZs:

- iTrump
- South Durban Basin (SDB)
- Springfield – River Horse Valley
- Pinetown CBD
- Greater Cato Manor Area Based Management
- KwaMashu Town Centre
- Cornubia
- Bridge City
- Phoenix
- Newlands
- Chatsworth
- KwaMashu Surrounds

The Map below outlines the identified RZs:
2.7.22 Affordable Housing

Programme Features
To assist households in the affordable housing market the National Government avails financial assistance to individual households with monthly incomes of R3,500 to R15,000, and who are often excluded from the bond market. The government assistance takes the form of assistance to down payment for mortgage via the Finance Linked Individual Subsidy Programme (FLISP) and Mortgage Insurance. “This Programme [FLISP] provides access to state assistance where qualifying households wish to acquire an existing house or a vacant serviced residential stand, linked to a house construction contract through an approved mortgage loan. These properties are available in the normal secondary housing market or have been developed as part of projects not financed through one of the other National Housing Programmes. The Programme encourages the growth of the
secondary residential property market....” [11] Affordable housing is developed privately. The city facilitates:

Sales of well-located land in infill locations to developers at cost, and
Identification of potential customer households in the affordable income bracket

**Locational Criteria**
This programme will promote projects in the Suburban and Urban Zones. This programme is intended to play a role in establishing socially integrated suburbs. In eThekwini the most prominent project in this regard is Cornubia where a mix of housing types for different income groups is planned.

**Programme Origin and Duration**
The programme is likely to run over the long term.

**Programme Scale**
The intended scale for this programme is in the process of being determined.

**Budget Requirements and Funding Sources**
Once the intended scale of the programme has been determined, the budget requirements will be determined afresh. Funding sources include:
- Finance Linked Individual Subsidy Programme
- Mortgage Insurance
- Land sales at cost (indirect Municipal funding support)

**Capacity or Systemic Requirements**
The capacity and systemic requirements will be described once a Programme Scale has been determined.

---
2.7.23 In Situ Upgrades and Greenfields

Programme Features
The city has two significant inter-linked Incremental Programmes, In Situ Upgrades, and Greenfields Projects. The long-term aim is to upgrade all of the Informal Settlements that are technically viable for upgrade, and that aren't earmarked for Relocation. The Greenfields Programme is necessary, to absorb relocations from Upgrades projects. Typical deliverables of an Upgrade or Greenfields project include cadastral subdivisions, surfaced roads, water, sewer and electricity connections, and a minimum 40m$^2$ dwelling structure. Sites are typically created for social facilities, especially parks, schools and clinics for uptake by the respective public entities.

Locational Criteria
Most of the planned projects are in the Suburban Zone. The spatial targets for each of the Incremental programmes have been derived from the Housing Spatial Prioritisation Model.

Programme Scale
This programme will ultimately benefit approximately 300,000 households.

**Programme Origin and Duration**

The contemporary programmes originated from deliberations by the National Housing Forum in the early 1990’s. The programme is multi-generational, because planning and delivery are slow (typically taking a dozen years from project inception to house construction), and on the other hand, the available capital funds cap potential delivery. At the current pace of delivery, and factoring in the current rate of growth in households in eThekwini, the programme will run for several generations.

**Budget Requirements and Funding Sources**

Assuming a current-price benchmark of R180,000 investment for each unit in infrastructure and topstructure costs, and a delivery target of 30,000 over the next two MTEF’s, then the programme will require approximately R5.4 Bn. Of this R 3.36 Bn appears in the Capital Budget for the current MTEF. Current funding sources include:

- Urban Settlement Development Grant
- Human Settlements Development Grant
- Other spheres for some of the social infrastructure, particularly schools and clinics

**Capacity or Systemic Requirements**

In order to execute the directive to no longer plan freestanding houses but instead, in the Suburban Zone to plan pedestrianised duplexes, and in the Urban Zone, multi-storey walk-ups, the Human Settlements Unit requires to increase or reorganise its internal capacity to conceptualise and design. The Human Settlements Unit needs to increase capacity to administer top structure construction contracts, and to oversee the infrastructure contracts that the service department, Development Engineering delivers. The Human Settlements Unit also needs to supplement its capacity to finalise Infrastructure Handover to Line Department and Township Establishment. Additional capacity requirements that need to be put in place is a liaison structure with especially Departments of Education and Health to encourage their investments into those facilities. It has not however been resolved whether this liaison function resides with the Human Settlements Unit or with the Municipality’s Social Cluster, and resolution on this point is intended.
Figure 62: Greenfield Projects Map

Figure 61: In Situ Upgrade Projects
2.7.24 Programme Impacts: Spatial and Social Transformation

Of keen interest are the impacts of the programme on spatial and social transformation.

### Key Programme | Spatial and Social Transformation Benefits
--- | ---
Mega-Projects | • Creation of new rental and ownership residential stock  
• Provision of core, social, and economic infrastructure  
• Improved connectivity to the urban network  
• Improved PT thresholds

Incremental Services | • Tenure security  
• Inclusion of the poor and Provision of core and social infrastructure  
• Eradication of core infrastructure backlogs  
• Improved connectivity to the urban network

Institutional and Social Housing | • Creation of new rental and ownership residential stock
Affordable Housing | • More efficient use of core and social infrastructure

In-Situ Upgrades and Greenfields | • As for Incremental Services  
• Creation of residential ownership stock

2.7.25 Program Implementation: Capital Budgets

The Table below reflects the Approved Capital Budgets for Housing Programs. All figures are in Rand millions.

<table>
<thead>
<tr>
<th>Program</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
<th>MTEF Tot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universal Access to Basic Services - Roads</td>
<td>52.986</td>
<td>53.927</td>
<td><strong>46.365</strong></td>
<td>152.278</td>
</tr>
<tr>
<td>Universal Access to Basic Services - Ablutions</td>
<td>301.0</td>
<td>253.751</td>
<td>220.0</td>
<td>774.751</td>
</tr>
<tr>
<td>Universal Access to Basic Services – Electricity</td>
<td>9.5</td>
<td>4.5</td>
<td>0</td>
<td>14.</td>
</tr>
<tr>
<td>Full in-situ upgrading topstructures</td>
<td>771.489</td>
<td>676.430</td>
<td>706.816</td>
<td>2154.735</td>
</tr>
<tr>
<td>Full in-situ upgrading infrastructure</td>
<td>395.9</td>
<td>457.3</td>
<td>480</td>
<td>1333.2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>4428.964</strong></td>
</tr>
</tbody>
</table>
2.7.26 Challenges in financing the Key Programmes include:

- Lack of year-by-year certainty for Mega-Projects, mainly due to many of them being in the early phases of the Programme and Project Lifecycle.
- A need for greater quantum for the Incremental Services programme, particularly for Community Access and Electricity Sub-Programmes.
- Absences of budget for Social Facilities and Sustainable Livelihoods under the Incremental Services Programme, mainly attributable to the absence and-or non-integration of Sub-programme Descriptions.
- Absences of budget for Institutional and Social, and Affordable Housing, mainly due to a need to re-conceptualise the Programme Descriptions.
- Better matching of budget to ensure that construction of Core Infrastructure keeps up with Topstructure construction.

2.7.27 Spatial Reference

The Human Settlements Unit utilises a prioritisation model in developing its project pipeline. The model principally prioritises housing projects according to location. It is applied to all types of housing projects namely Greenfields and Upgrading Projects, but not to Rural projects. The following criteria have been developed to assess the locations of future projects:

- Bulk Infrastructure Costs
- Personal Travel Costs
- Integrated Rapid Public Transport Network (IRPTN)
- Employment and Economic Opportunities
- Basic Social Facilities (Primary/Secondary Education and Health Care)
- The Urban Development Line (UDL)

Improved locations of housing and improved accessibility, especially of low-income housing, is a major goal of the Housing Sector Plan. High scoring projects are generally located within the Prime Corridor and Dense Urban ICDG Zones.

Having incorporated the criteria into a Geographic Information System (GIS) and utilising a scoring matrix, a priority list of informal settlements earmarked for upgrade projects was generated for instance. The rationale was for the housing delivery programme to work its way from the top of the list viz. selecting those settlements that were least costly to implement from a bulk infrastructure perspective and those that were fairly well located. On the other hand, settlements that did not score so well on the matrix viz. those at the bottom of the list (where the affected households would have had to wait longer for a housing intervention) were identified for the Incremental Services programme. The idea being that as both the housing delivery programme and the Incremental Services
programme work their way from the top and bottom of the list respectively, they will eventually meet somewhere in the middle having covered all settlements with some form of intervention.

2.7.28 Broad Challenges to Housing Delivery

- Available funding versus the demand for housing within the City.
- The current housing subsidy quantum does not take into account or cover the escalating costs for certain key aspects such as steep terrain, retaining walls and densification.
- Unavailability of Bulk infrastructure (sewer, water, electricity and roads) and/or aging infrastructure especially in historical projects.

2.7.29 Contribution to Land Reform

Breaking New Ground (BNG) projects which make up the bulk of the projects in the Municipality (viz. greenfields and in situ upgrades of informal settlements) entail the issuing of title deeds to the qualifying beneficiaries. Via its housing programme, the Municipality has delivered over 180,000 units to date with well over 250,000 units still to deliver. The latter target catering just for households residing in informal settlements leave alone the opportunities which the gap and affordable housing can yield. This is a significant contribution by the Housing Program towards providing secure tenure.

With regards to informal settlements which are not as yet upgraded, the Municipality recognises the existence of those that are established, located on land deemed developable and where viable to implement an upgrade project. In this recognition, there is no fear of eviction of households residing in these affected informal settlements which will be included in Housing Program for upgrade. Households located on land that is not deemed developable or located in unsafe conditions, will subject to the availability of resources, be relocated over time to suitable greenfield projects.

2.7.30 Inclusionary Housing

While there is currently no established Inclusionary Housing policy by the NDHS to guide the Municipality, this principle is in fact implemented in various ways through the Housing Program. For instance informal settlements that are located within middle and high income suburbs and have been earmarked for upgrade, do in fact enjoy inclusionary status. Similarly the housing infill program in the established suburbs targeting the gap and affordable markets result in opportunities for inclusion. So does social housing with subsidised rentals making it affordable for lower income earners to access locations that they could never access previously. Housing Mega Projects such as Cornubia comprise a strong focus of inclusionary housing by ensuring a mix of residential incomes in the overall allocation of land uses. All housing projects going forward will be selected on the basis of the Housing Spatial Prioritisation Model as well as congnisance of the Integration Zones (especially the Prime and Urban) to ensure that previously disadvantaged beneficiaries enjoy the all the benefits afforded by their superior locations.
2.8 Social Facilities at eThekwini Municipality

Social facilities are publicly and privately owned and operated properties and/or services which are publicly accessible, which deal with social development and socio-economic development, and which are necessary components of sustainable human settlements. Social facilities include:

- Health
- Fire Protection and Emergency Services
- Police
- Education
- Sports and Recreation
- Social Grants
- Cemeteries
- Government Offices

Improved quality of life for eThekwini citizens means that they are able to enjoy equitable opportunities to participate in culture, leisure and education, such as those that are available through community facilities. Ensuring full service provision of community facilities needs to be closely guided by service standards, and requires the necessary operating funds to sustain these facilities on a day to day basis.

The provision of community facilities and services is guided by the standards developed by municipal line departments and are based on a combination of national norms and the ability to sustain these standards given municipal budget constraints.

An Access Model has been developed to match the demand for facilities, based on population numbers and income and age profiles, with the supply and capacity of facilities geographically. The social services currently included in the Access Model are Primary Health Clinics, Community Health Centres, Primary Schools, Secondary Schools, Libraries, Fire Services, Community Halls, Sports Fields, Indoor Sports Halls, Sports Stadia, Swimming Pools, Cemeteries, Parks, and Police.

This assessment shows the nature and extent of facility backlogs across the Municipality and all requests for the construction of new facilities are currently being assessed within this context.
2.8.1 Service Levels and Backlogs

According to the Access Model, the current levels of service for social facilities are as shown alongside. A capital development program is in the design phase to respond to the most critical under-provisions of service. Overcoming under-provision in security, fire protection, health care, education (including libraries), cemeteries and basic recreation are likely to be prioritised.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Current service coverage as % of the 2006 population.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police</td>
<td>No figures at present</td>
</tr>
<tr>
<td>Clinics</td>
<td>56%</td>
</tr>
<tr>
<td>Cemeteries</td>
<td>Not measured as %</td>
</tr>
<tr>
<td>Primary schools</td>
<td>83%</td>
</tr>
<tr>
<td>Secondary schools</td>
<td>77%</td>
</tr>
<tr>
<td>Libraries</td>
<td>70%</td>
</tr>
<tr>
<td>Fire Stations</td>
<td>72%</td>
</tr>
<tr>
<td>Sports fields</td>
<td>91%</td>
</tr>
<tr>
<td>Parks - local</td>
<td>Under Review</td>
</tr>
<tr>
<td>Indoor Sports Halls</td>
<td>71%</td>
</tr>
<tr>
<td>Sports Stadia</td>
<td>80%</td>
</tr>
<tr>
<td>Swimming Pools</td>
<td>70%</td>
</tr>
<tr>
<td>Parks - regional</td>
<td>Under Review</td>
</tr>
<tr>
<td>Community Halls</td>
<td>79%</td>
</tr>
</tbody>
</table>

2.8.2 Reconsidering the Basic Approach to meeting Community Facilities Backlogs

About R 4.5 billion would be required for the construction costs of all facilities proposed by the Access Model. Additional funds would be required for land acquisition, equipment, staffing, and other operating costs. For the MTEF period ending 2011/12, eThekwini Municipality committed R 83 million for a pilot program for essential social facilities.

Social facilities are either funded by the Municipality or Provincial Line Departments. For some types of facilities such as libraries and clinics there are overlapping funding responsibilities. The pricing of the Optimal Locations compared to the Capital Environment prompted the need to reconsider the basic approach.

Some of the new thinking to emerge was to:

- Distinguish Essential Services from Desirable Services, and by applying different accessibility levels for Essential Services and Desirable Services, reduce the capital requirements
- Through the cataloguing process, discover “hidden” facilities – hidden either because they had not been recorded at all or their sizes had been under-estimated (both of which seems to be the case for local and regional parks), or hidden because they have not until now been regarded as social facilities (which is the case for school sports fields, though with many notable exceptions where school fields also already serve as community fields). The discovery of hidden facilities ought to lead to a revision of the current accessibility, and consequently a smaller backlog than originally thought.
- Reduce the space standards and-or planning thresholds for some facilities, particularly basic recreation.
• Rather than build new facilities or expand existing ones, increase the operating capacity at existing facilities, through increased opening hours, increased opening days, equipment improvements, and process improvements
• Expand existing facilities rather than build new ones
• Only consider building new facilities after the possibilities of increasing operating hours and-or building extensions at existing facilities would not be enough or nearly enough to meet local backlogs.
• If a new facility was indeed required, then consider building adjoining an existing facility
• If a new facility was required and it could not be adjoined to another facility, then find a site adjacent to the existing facility, and if this was not possible, then find a site within close proximity (less than 400m))
• Only consider building stand-alone facilities on their own sites and isolated from other social facilities as a last resort.

Based on the distinction of Essential Facilities and Desirable Facilities, the funding requirements of social facilities are as shown below.

**Table 11: Funding Requirements of Essential Social Facilities**

<table>
<thead>
<tr>
<th>ESSENTIAL FACILITIES</th>
<th>Current accessibility</th>
<th>Accessibility after new ‘big impact’ facilities</th>
<th>No. of proposed new ‘big impact’ facilities</th>
<th>Average Total Costs 2011 Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinics</td>
<td>56%</td>
<td>93%</td>
<td>19 No.</td>
<td>108</td>
</tr>
<tr>
<td>CHCs</td>
<td>56%</td>
<td>93%</td>
<td>7 No.</td>
<td>79</td>
</tr>
<tr>
<td>Fire Stations</td>
<td>72%</td>
<td>85%</td>
<td>8 No.</td>
<td>151</td>
</tr>
<tr>
<td>Primary schools</td>
<td>83%</td>
<td>100%</td>
<td>20 No.</td>
<td>403</td>
</tr>
<tr>
<td>Secondary schools</td>
<td>77%</td>
<td>99%</td>
<td>21 No.</td>
<td>582</td>
</tr>
<tr>
<td>Libraries</td>
<td>70%</td>
<td>92%</td>
<td>11 No.</td>
<td>166</td>
</tr>
<tr>
<td>Sports Fields</td>
<td>91%</td>
<td>91%</td>
<td>0 No.</td>
<td>0</td>
</tr>
<tr>
<td>Cemeteries</td>
<td>-</td>
<td>-</td>
<td>- Ha</td>
<td>157</td>
</tr>
<tr>
<td>Police Stations</td>
<td>?</td>
<td>?</td>
<td>? No.</td>
<td>?</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td></td>
<td>1,648</td>
</tr>
</tbody>
</table>

**Table 12: Funding Requirements of Desirable Social Facilities**

<table>
<thead>
<tr>
<th>DESIRABLE FACILITIES</th>
<th>Current accessibility</th>
<th>Accessibility after new ‘big impact’ facilities</th>
<th>No. of proposed new ‘big impact’ facilities</th>
<th>Average Total Costs 2011 Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor Sports Halls</td>
<td>71%</td>
<td>71%</td>
<td>3 No.</td>
<td>66</td>
</tr>
<tr>
<td>Sports Stadia</td>
<td>80%</td>
<td>80%</td>
<td>4 No.</td>
<td>202</td>
</tr>
<tr>
<td>Swimming Pools</td>
<td>70%</td>
<td>70%</td>
<td>8 No.</td>
<td>227</td>
</tr>
<tr>
<td>Local Parks</td>
<td>Under Review</td>
<td>100%</td>
<td>687 Ha</td>
<td>1,731</td>
</tr>
<tr>
<td>Regional Parks</td>
<td>Under Review</td>
<td>100%</td>
<td>188 Ha</td>
<td>710</td>
</tr>
<tr>
<td>Halls (A, B, C)</td>
<td>79%</td>
<td>79%</td>
<td>8 No.</td>
<td>60</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td></td>
<td>2,996</td>
</tr>
</tbody>
</table>

**TOTAL** | 984                                           | 4,644                                      |
### 2.8.3 Spatial Distribution of Proposed Additional Capacity of Selected Essential Social Services

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary School Capacity</td>
<td><img src="image1" alt="Primary School Map" /></td>
</tr>
<tr>
<td>Secondary School Capacity</td>
<td><img src="image2" alt="Secondary School Map" /></td>
</tr>
<tr>
<td>Fire-fighting Capacity</td>
<td><img src="image3" alt="Fire-fighting Map" /></td>
</tr>
<tr>
<td>Health-care Capacity</td>
<td><img src="image4" alt="Health-care Map" /></td>
</tr>
</tbody>
</table>

*Figure 57: Proposed Additional Social Facilities*
2.9 Infrastructure Services

The Municipality has substantial excess capacities in central areas for certain engineering services and most social services. However, developments have tended to happen in the outskirts of the Municipality where there is limited bulk infrastructure and services. The property boom of the last few years has placed significant pressure on road and sewer infrastructure particularly in the northern and western regions and the inability to expand these systems ‘ahead of the growth’ has to some extend retarded this growth. The slowdown is now providing the city with an opportunity, within its resource capacity, to address bottlenecks over the next few years to resume more efficient and more equitable growth through the timeous supply of infrastructure in key growth areas.

The challenges with regards to bulk infrastructure cost and availability has a direct relationship to the provision of housing especially low income housing. Over the years the trend with housing development and location in the Municipality has mainly been based on the availability and cost of land rather than infrastructure costs. This has led to infrastructure backlogs which are associated with high infrastructure cost as these developments are built in inaccessible peripheral locations outside the urban /services edge. Development beyond the ‘infrastructure/services edge’ is also outstripping current infrastructure capacity budgets. This causes delays in development and also results in development occurring in inappropriate areas.

For financial sustainability more housing projects should be encouraged inside the infrastructure services edge. Developing inside the infrastructure services edge and within the urban core will promote densification in accessible areas while creating thresholds for Public Transport. The following map shows the comparison costs of developing within and outside the infrastructure services edge:
ESTIMATED INFRASTRUCTURE DEVELOPMENT COSTS

Most projects outside urban edge cost > R10-20 000/ site for bulks

Most projects inside urban edge cost < R5000/ site for bulks

Waste water treatment excess capacity of 47 Ml in Urban Core = 235 000 EDUs

Source: eThekwini Municipality: Engineering Unit
Figure 63: Infrastructure Development Cost
2.9.1 Water

In the 2015-2016 EThekwini Municipality financial year, EWS supplied 875 ML of water per day from 10 potable water treatment works through 268 water reservoirs, 13 000km of water mains and 504 000 water connections. In the region of 500 ML per day of wastewater is treated in 27 wastewater treatment works connected to 8 105km of sewer lines. Figure 1 below shows the existing water network within the municipality.
EThekwni Municipality (EM) acquires majority of its water from Umgeni Water (UW) with a small portion being supplied from water treatment works owned & operated by EThekwini Water and Sanitation (EWS). UW water system that supplies EM consists of three systems, which are shown in Figure 1 below, namely:

- **Mgeni Supply System**
  The Mgeni Supply System comprises of Spring Grove, Midmar, Albert Falls, Nagle and Inanda dams along with Mearns Weir.

- **North Coast Supply System**
  The North Coast System comprises of Hazelmere Dam and the Northern Aqueduct. The storage level of Hazelmere Dam, at the beginning of February 2017, is at 65% compared to 34% at the same time last year.

- **South Coast Supply System**
  The South Coast System comprises the Nungwane Dam, South Coast Pipeline (SCP) and the South Coast Augmentation Pipeline (SCA). The storage levels of the Nungwane Dam, as observed at the beginning of February 2017, is 2.0Mcm which means it's 93.5% full.

![Figure 65: EThekwni Water Supply Systems](image)

Table 13 below outlines the operating capacities for the water treatment works (WTW) that are owned and operated by Umgeni Water that are within and supply EThekwini Municipality. Currently the areas that are supplied by the Durban Heights and Wiggins WTW are at 15% restrictions.
Table 13: The status of the South Coast System dams on 08 August 2016

<table>
<thead>
<tr>
<th>EWS WTW</th>
<th>Full Supply Capacity (Ml/day)</th>
<th>Operational Capacity (Ml/day)</th>
<th>Spare Capacity (Ml/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durban Heights WTW</td>
<td>614</td>
<td>520</td>
<td>94</td>
</tr>
<tr>
<td>Wiggins WTW</td>
<td>350</td>
<td>280</td>
<td>70</td>
</tr>
<tr>
<td>Maphephethwa WTW</td>
<td>5</td>
<td>2.8</td>
<td>2.2</td>
</tr>
<tr>
<td>Hazelmere WTW</td>
<td>90</td>
<td>75</td>
<td>15</td>
</tr>
<tr>
<td>Amanzimtoti WTW</td>
<td>22</td>
<td>16.3</td>
<td>5.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1081</strong></td>
<td><strong>894.1</strong></td>
<td><strong>186.7</strong></td>
</tr>
</tbody>
</table>

It is expected that upon completion of Phase 1 of the Lower Thukela Bulk Water Supply Scheme which is in Stanger north of EM, 55 Ml/day of water will be available for use by Ilembe. This will cater for the demand in the areas north of the municipality and relieve Hazelmere WTW. This in turn will make more water available for EM.

The table below outlines the operating capacities for the water treatment works (WTW) that are owned and operated by EThekwini Municipality and complement the systems outlined above owned by Umgeni Water.

Table 14: The status of the South Coast System dams on 08 August 2016

<table>
<thead>
<tr>
<th>EWS WTW</th>
<th>Full Supply Capacity (Ml/day)</th>
<th>Operational Capacity (Ml/day)</th>
<th>Spare Capacity (Ml/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kloof WTW</td>
<td>5</td>
<td>2.25</td>
<td>2.75</td>
</tr>
<tr>
<td>Mkhizwana WTW</td>
<td>1.3</td>
<td>1.445</td>
<td>0</td>
</tr>
<tr>
<td>Ogujini WTW</td>
<td>1.2</td>
<td>0.95</td>
<td>0.25</td>
</tr>
<tr>
<td>Tongaat WTW</td>
<td>21</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Umdloti WTW</td>
<td>1</td>
<td>0.48</td>
<td>0.52</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>29.5</strong></td>
<td><strong>17.125</strong></td>
<td><strong>12.52</strong></td>
</tr>
</tbody>
</table>

Upgrades are planned for the Ogujini and Mkhizwana water treatment works. Both these plants will be upgraded by an additional 1Ml/day. There are currently no planned upgrades for the remaining plants.
In the area of current water delivery, 94% of households have water available within 200m of their dwelling. The Water backlog stands at 56 388 as at end November 2016. To cater for the indigent, the Municipality as part of its welfare package provides a basket of free basic services which include water, sanitation, and electricity and refuse removal for informal and rural settlements in accordance with a defined level of service. In addition, free basic water and sanitation services (up to 9 Kl/month) are supplied to households valued at less than R 250 000. Households with Ventilated Improved Pit (VIP) latrines are provided with an emptying service once every 5 years at no cost, while Urine Diversion Toilets (UDTs) are emptied once every 2 years at no cost.

In respect of the provision of water, sanitation and electricity to schools and clinics, the role of the Municipality is to ensure that either bulk infrastructure is available to allow connections, or that acceptable levels of service are defined to enable appropriate action to be taken by the provincial Education and Health authorities.
INITIATIVES ADDRESSING SECURITY OF SUPPLY

South Africa is a semi-arid, water-stressed country (the 20th most water scarce country in the world) which adds to the challenge of providing water and sanitation services. The country’s average rainfall is about 450mm, well below the world average of about 860mm per year. In eThekwini, despite many interventions to increase water supply, reduce losses and encourage water conservation, the demand for water is expected to outstrip the supply within the next 10 years. The continual increase in population and industrial growth places more stress on water quality and the ecosystems.

In addition to the above, the continued threat to water supply due to drought, illegal connections and water wastage need to be addressed. A number of water resource development and sanitation projects have been proposed and are currently being implemented by the Water and Sanitation Unit in order to mitigate these issues. The projects can be broadly divided into the following categories:

- Drought mitigation measures
- Optimisation and augmentation of current water supply
- Alternative water supply options
- Sanitation projects
- Management and financial aspects
- Education and training
• Energy and carbon projects

UMGENI WATER PROJECTS

The status of some of the major projects Umgeni Water is implementing to ensure assurance of water supply for eThekwini Municipality is summarised below:

Umkhomazi Water Project – Phase 1 (Smithfield Dam)
The uMWP-1 consists of the development of a dam, referred to as Smithfield Dam, on the uMkhomazi River, in the vicinity of Impendle which is about 50km west of Pietermaritzburg. A raw water tunnel will covey the water to the Baynesfield region just outside Pietermaritzburg. A water treatment works at Baynesfield and pipelines, will supply potable water into eThekwini Metros western and northern aqueducts. This is shown in Figure 69.

Implementation Plan
Department of Water and Sanitation (DWS) will implement the raw water component of the uMWP-1 and the potable water component will be developed by Umgeni Water. The project will take about five years to complete. The first supply is planned for 2025. This is, however, dependent on the onerous activities of institutional buy in by municipalities, procurement processes and funding sources. The capital costs for the uMWP-1 are estimated at R 17 Billion at 2014 prices for the 600 Mℓ/d capacity. This includes a 25% contingency. This project is expected to be commissioned in year 2028.

Lower Thukela Bulk Water Supply Scheme
Phase 1 of the scheme is complete. It comprises the following main infrastructure components: An abstraction works and low lift pump station and Water Treatment Plant, located on the banks of the Lower Thukela River close to the town of Mandini; A high-lift pump station at the water treatment works linked to bulk supply pipelines up to KwaDukuza (Stanger)
Implementation Plan

Phase 1 of LTBWSS is complete and Phase 2, which will likely supply areas north of the UTukela River will be implemented as and when required. The pipeline supplying KwaDukuza can supply the full LTBWSS capacity (110 Ml/day) and this can be commissioned quickly should the need arise. The implementation of Phase will relieve Hazelmere WTW from supplying ILembe areas and the treatment works can solely supply the northern areas of EThekwini Municipality. Phase 1 of LTBWSS cost R 1.5 Billion. Phase 2 is estimated to be about R 500 million.

Lower Umkhomazi Bulk Water Supply Scheme

The proposed LUBWSS lies within both the Ugu DM and eThekwini Municipality, adjacent to the southern banks of the uMkhomazi River between the populated places known as Ngwadini and Craigieburn. The Ngwadini Valley lies within the Vulamehlo Municipality approximately 30km upstream from the uMkhomazi River estuary mouth, near the town of Umkomaas. Craigieburn is within eThekwini Municipality, approximately 6km upstream of the uMkhomazi River estuary mouth.

Implementation Plan

Power supply to site has been flagged as a risk that could cause unnecessary project delays and to mitigate this Umgeni Water will have to facilitate the upgrades of regional networks. The associated contributions towards the electrical conveyance infrastructure have been included in the scheme cost. The implementation programme critical path is the construction of Ngwadini Dam. However, the nature of the LUBWSS offers flexibility and can deliver water, albeit with a 10% risk of non-supply, once the Goodenough abstraction weir and works, conveyance infrastructure, and the WTP are constructed. To enable this earlier delivery of water, related components of infrastructure have been grouped into practical implementation packages.

Budget

The capital costs for the Lower uMkhomazi Bulk Water Supply System is estimated at R2.9 Billion at end 2015 prices for a full 100 Ml/d scheme and with a 15% contingency included. First delivery of water at 10% risk is anticipated from December 2019.

Raising of Hazelmere Dam Wall

Hazelmere Dam is located on the Mdloti River, 6km north west of King Shaka Airport. The yield of Hazelmere Dam is 55 Ml/day which is inadequate to meet future demands. The Hazelmere Water Works has been upgraded and is now capable of supplying 75 Ml/day. Raising of the Hazelmere Dam wall will improve the assured yield to 75 Ml/day. Its purpose is to supplement water supply to the rapidly increasing urban and industrial users within the supply zone.

Hazelmere Dam in its raised state will be of great importance to the province as it forms the major water supply to the airport development precinct. Hazelmere Dam will be increased by seven metres to raise capacity from 23.9 million cubic metres to 43.7 million cubic metres.
Implementation Plan

This project is being implemented by the Department of Water and Sanitation. The raising is currently under construction and scheduled for completion by 2018. The construction cost is R360 million.

ALTERNATIVE WATER RESOURCES

In addition to optimizing and augment current water supply, EWS is committed to investigating alternative sources of water for treatment to potable standard. Various options being investigated including:

- **Remix plant**
  - The installing of a Demonstration Remix Plant providing approximately 6.25 Mℓ/day with a possible ultimate scenario of 100 Mℓ/day where 50% seawater is mixed with 50% sewage. Commissioning will take place in 2019. Based on the outcome of this demonstration plant, a public-private partnership (PPP) will be formed to upgrade it to a 100 Mℓ/day Remix plant. It is envisioned that plant will cater the anticipated growth within the Durban CBD due to the Inner City Densification.

- **Indirect Reuse**
  - Pumping effluent from Phoenix WWTW to Hazelmere Dam for indirect use, including releases to the environment
  - Indirect re-use from Tongaat WWTW through pumping to a furrow, from where water is abstracted and treated at Tongaat Water Treatment Plant (WTP)
  - Indirect re-use through pumping of the Amanzimtoti & Kingsburgh WWTW effluent to blend with the incoming raw water at the Toti WTP.
  - It is envisioned that these projects, together with the Western Aqueduct and Northern Aqueduct Augmentation Projects, will cater for the growing demand in the northern areas of the municipality including Tongaat, Dube Tradeport and Cornubia.

- **Direct Reuse**
  - Re-use of treated effluent from the KwaMashu and Northern WWTWs works
  - Durban Water Recycling Plant where 47.5 Mℓ/d of municipal wastewater is treated to near potable standard for direct reuse in industrial processes.

- **Borehole Water**
  - Treating borehole water to potable standards

2.9.2 Sanitation

EThekweni Municipality Water and Sanitation (EWS) owns and operates 27 wastewater treatment works (WWTW’s) that treat approximately 500Mℓ/day of wastewater, collected and conveyed through a network of 8105km of sewer pipelines. This infrastructure is spread over the 4 eThekweni regions namely South, North, Central and Outer West, with most of the infrastructure concentrated in the
Central Region, the southern portion of the North Region and northerly boundary of the South Region. The following map represents the existing sewerage network for the Municipality:

Figure 70: Existing Sewerage Network

The Municipality took a decision to regionalise its WWTW’s by decommissioning smaller plants and regionalising the treatment at uMkhomazi, Amanzimtoti, Southern, Central, Northern, KwaMashu, Phoenix, Umdloti, Tongaat, Umbilo, Umhlatuzana and Hammarsdale. A study has been undertaken to assess the engineering and economic feasibility of the regionalisation, by decommissioning and transferring wastewater from Kingsburgh, Isipingo, Umhlanga, KwaNdengezi, Dassenhoek, New Germany, Hillcrest, Mpumalanga and Fredville to the regional WWTW’s. The output of the study will make recommendations based on a 20-year life cycle assessment on which WWTW’s can be decommissioned and which cannot. The study is due for completion by end of May 2017.
Parallel to and based on the some of the findings of this ongoing study, EWS plans to decommission all the small plants in the North and South and replace them with new WWTW’s, namely uMkhomazi in the South, uMdloti and Tongaat in the North. The implementation of the new WWTW’s will be conducted using a Private Public Partnership (PPP) contract. EWS have started the process to source a Transaction Advisor to provide technical, financial and legal advice in order to successfully implement the project. It is estimated that EWS and the PPP partner will be engaged in a 20 to 25-year contract, thereafter the rights to the assets will be handed over to the Municipality. New WWTW’s will be built in uMdloti with an intial capacity of 40Ml/day and the anticipated ultimate capacity will be 125Ml/day, and uMkhomazi with a capacity of 20Ml/day, while the Tongaat WWTW will be upgraded to a capacity of 25Ml/day and the anticipated ultimate capacity will be 140Ml/day. These WWTW will have the latest innovation and technology while making use of nutrient recovery and energy reclaim from its processes while also being energy efficient. Furthermore, the two WWTW’s in the North will make allowance for direct and/or indirect re-use of treated sewage effluent for potable water supply. EWS is currently undertaking a study to assess the feasibility of water reuse and the associated infrastructure requirements.

EWS has also planned capacity upgrades to some of its existing WWTWs, namely the Hammarsdale and Phoenix WWTWs. The Hammarsdale WWTW which is located in the Hammarsdale Industrial Area has a design (hydraulic) capacity of 27 Ml/day. However, the very high strength industrial effluent received has resulted in the process capacity of the plant being de-rated to approximately 10 Ml/day. The plan is to build new reactors to allow the plant to have a process capacity of 27 Ml/day, based on the current high strength influent characteristics. The Phoenix WWTW is located in Ottawa and has a current treatment capacity of 25Ml/day. Due to growing developments such as Cornubia, which falls in the Phoenix WWTW catchment area has necessitated the increase of the treatment capacity by a 25 Ml/day. The construction is currently underway and is scheduled for completion in 2017.

Inline with the planned upgrades in the Amanzimtoti WWTW as part of the regionalisation, EWS also has plans to install an outfall sewer to service the township developments around the Amanzimtoti River that will convey the generated wastewater to the Amanzimtoti WWTW, as shown on Figure 62 below. The installation of this outfall sewer will eliminate six (Wastewater Pump Stations) WWPSs currently situated in the Amanzimtoti River area. The outfall will drain to one new WWPS that will pump the wastewater directly to the Amanzimtoti WWTW. Additionally, this will alleviate the high demands on the existing Umdoni Road WWPS. The Amanzimtoti trunk sewer, with diameters ranging from 600mm to 825mm will cater for wastewater flows up to the year 2050, based on the current development trends in the area.
Figure 71: Proposed Amanzimtoti Sewer Outfall

The greater Cato Ridge Local Area includes large tracts of undeveloped industrial zoned land that has been mooted as part of a major metropolitan industrial growth node. The area is 14 256 ha in extent, comprising 6% of the eThekwini Municipality area and is located on the western edge of the Municipality boundary. It is ideally located on the SIP2 corridor and straddles the N3 national route between Durban and Johannesburg, the provincial R103 alternative route between Durban and Pietermaritzburg and the Natal Corridor (Natcor) railway line to the South. In order to unlock the development potential in this node and plan accordingly, the City will need to provide full waterborne sanitation system to the area. In response to this, EWS has plans to construct a new Cato Ridge Sterkspruit River Sewer Outfall with diameters ranging from 300mm to 1050mm that will collect and convey the wastewater generated from the Cato Ridge and Harrison Flats areas to the proposed upgraded Hammarsdale WWTW as described above. The proposed location for the Cato Ridge Sewer Outfall is as shown in Figure 63 below. Due to the environmental, WULAand wayleave constraints, a longer than normal lead time is anticipated in order to adequately address them.
The Dube Trade Port Corporation (DTPC) has undertaken to provide a bulk sewer gravity main that will connect the wastewater generated at the King Shaka International Airport (KSIA) and Dube Trade Port (DTP) to the Tongaat WWTW. The construction of the bulk sewer (named the Hlawe Trunk Sewer Project) is expected to commence in 2017. In line with the planned DTP/KSIA developments as well as developments around the Watson highway, the Municipality has schedule upgrades to the Tongaat WWTW as described above. The 200mm to 600mm diameter, 6km long Hlawe trunk sewer will gravitate to and be treated at the Tongaat WWTW.

The outer peri-urban and rural areas, are provided with on-site sewage disposal. The urine diversion (UD) toilets is the Municipality’s preferred method of sanitation in rural areas. The supply of basic sanitation (UD) to the poor households is funded by national government. Sanitation for residents in informal settlements is by mean of a communal ablution block (CAB) which provides toilets, showers and clothes washing facilities and is connected to the municipal sewerage system or an alternative system. Where no such connection is available or can be provided, sanitation is provided by means of a toilet block consisting of toilets and urinals only with no water supply provided to the toilet, and each toilet is connected to its own VIP pit.

2.9.3 Solid waste

The dominant method of disposal at the EMA is done through landfills. Over 1 million tons of waste per annum is accepted by the four main landfills in the municipal area. EThekweni Municipality’s waste
management unit, Cleansing & Solid Waste (DSW), has been responsible for ensuring that the waste sector is one of the most active in initiating actions that contribute towards a reduction in carbon emissions with the first landfill gas to electricity projects in Africa at two of its sites.

DSW has also promoted a number of options for recovering materials that would otherwise end up on a landfill.

These include:

* Separation at source with curbside collection (also known as the Orange bag system) and are in the process of extending this with the introduction of the clear bag for glass & metals.
* Material recovery facilities where recyclables uncontaminated by other wastes are recovered, which include drop off centers, buy back centers and mixed waste materials recovery facilities.

The Lovu Landfill was commissioned on 1 July 2014 to cater for refuse disposal in the southern region of the City. Bisasar Road Landfill closes on 18 January 2016 after serving the City for some 35,7 years. The Municipality runs 3 landfills namely: Buffelsdraai, Mariannhill & Lovu.

The landfill at Bul Bul, owned by Wasteman, is closed at this time but they are attempting to get the site reopened, for a short period, as part of the rehabilitation process. The only other private landfill is that owned by Enviroserv at Shongweni.

Technically Durban only has 4 operational landfills taking in some 1,4m tons of waste. In the medium term Mariannhill will close and be replaced by a new site also at Shongweni (probably around 2018/2019). DSW is looking to introduce waste to energy projects (i.e. converting waste directly to energy). DSW have also investigated if building rubble can be used more effectively, but neither of these projects are a reality yet.

2.9.4 Electricity

EThekwini Electricity (EE) purchases from Eskom, the national generator and transmitter of electricity, with six infeed points viz. Klaarwater, Ottawa, Durban North, Durban South, Lotus Park and Kingsburgh. Electricity is purchased at 275 kV and 132 kV at these points and are transformed and transmitted to end customers at voltages of 132 kV, 33 kV, 11 kV, 6.6 kV, 400/230 V.

The bulk of electricity in South Africa is produced from coal, with generating stations situated in Mpumalanga, Limpopo and Gauteng. Electricity is generated at the City’s landfill sites at Bisassar Road (6 MW) and Mariannhill (1 MW). 500 kW of electricity will be generated through photovoltaic cells on the roofs of several municipal buildings towards the end of the year. EE’s electricity demand is presently 1.706 GW. Eskom has commissioned new generation plant and no load-shedding is expected in the near future.
At present new electricity generating capacity is being built through the REIPPPP programme and two large coal fired power stations. Through the former, several windfarms and large solar projects have been completed and are planned or under construction. These renewable energy projects are contributing to the national grid. The first of 12 blocks of the 2 new coal fired power stations were completed in 2015 and are supplying the national grids. Customers are advised to incorporate energy efficiency within their development.

EE’s electrical networks have sufficient bulk capacity, with localized constraints in the Westmead, Springfield and Assagay/Shongweni areas. Plans are in place to rectify these. However, the process is quite elaborate and this constraint will remain a challenge until 2019 for Westmead and 2023 for the Shongweni and Assagay areas.

The electrical master plan for eThekwini was completed in 2011. This study included the long-term demand and energy forecast and the associated financial cash flow requirements to support the infrastructure strengthening and renewal. This study focuses on the eThekwini area of supply within the eThekwini municipal boundary with the objective of the study being to provide eThekwini Municipality a clear view and plan to develop the electrical infrastructure to support the envisaged future demand. The 20 year load forecasts are currently being revised and will then be used to update the current masterplan, an exercise that will be completed by 2017.

**Load Forecast**

![Graph: EThekwini Electricity's 5 year demand forecast](image)

*Figure 73: The Five Year Demand Forecast*
Existing electrical networks are indicated in the map below:

Figure 74: Existing Electrical Networks
Proposed Network (Y2029). The map below indicates the future expansion plans:

Figure 75: Proposed Electricity Network
2.9.5 Combined Infrastructure Backlogs

The provision of acceptable basic services is a critical element in the national developmental agenda. Water, electricity, sanitation, waste removal and social amenities are key critical services which have been identified by communities that are required to meet their basic needs. Limited funding and exponential growth in the Municipality has increased the levels of backlogs. The current existing backlogs within the Municipality and as contained in the IDP are shown are summarised in table 12 below:

**Table 13: Utilities and Services**

<table>
<thead>
<tr>
<th>Basic Service</th>
<th>Existing Backlog (consumer units) as at 31 December 2016</th>
<th>Delivery ranges per annum</th>
<th>Timeframe to address based on current funding levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>54721</td>
<td>2000-2500</td>
<td>22-27 years</td>
</tr>
<tr>
<td>Sanitation</td>
<td>153275</td>
<td>8000-10000</td>
<td>15-19 years</td>
</tr>
<tr>
<td>Electricity</td>
<td>241976</td>
<td>8000-13000</td>
<td>19-30 years</td>
</tr>
<tr>
<td>Refuse removal</td>
<td>0</td>
<td>1500-2000</td>
<td>0 years</td>
</tr>
<tr>
<td>Roads</td>
<td>1081.03 Km</td>
<td>10-15</td>
<td>72-108 years</td>
</tr>
</tbody>
</table>

The following map highlights the various service backlogs within the Municipality:

*Figure 76: Infrastructure (combined) Services Backlogs*
Vast strides have been made by the Municipality to address the service delivery backlogs and specific strategies have also been put in place to deal with the existing backlogs. The achievements to date include:

- 15 000 new customers having access to electricity each year;
- 852 000 customers having access to water;
- Desludging of 30 000 VIP pit latrines;
- 100% refuse removal coverage;
- 33 pedestrian bridges and 320kms of sidewalks constructed

The eThekwini Municipality is committed to ensuring that all backlogs in the provision of infrastructure are removed and as such has embarked on a Municipal Infrastructure Investment Framework for the Municipality. In line with the Investment Framework, the EMA can make best use of existing resources and infrastructure can be achieved by building upon existing concentrations of activities and existing infrastructure.

A number of water plans have been produced by the eThekwini Water Service (EWS) to address the backlogs in water supply and to meet future demand. These include:

- A pre-feasibility study to determine potential of hydro-turbine projects in Hillcrest, Wyebank Road and Inanda. The estimated potential is 9mW and is anticipated that they will be commissioned in 2013.

There are plans in place for EWS to generate power, investigation and feasibility has been done on mini-hydro power stations on the Western Aqueduct that will initially produce 2MegWattHr and increase to 6MegWattHr when the full capacity of the pipeline is realized. There is also a pilot project looking at mini-hydro and pico power stations located at the inlets of our reservoirs.

- Mini-turbines at a water reservoir. Total generation capacity is 600-700kW and they have a potential to be replicated at other Reservoirs.
  There is a pilot project where we will be installing 2 pico-power stations producing 100kiloWattHr. There is also a feasibility study being conducted looking at potential hydropower stations throughout the city.

Investigation of the potential of pico-turbines on the water reticulation system down-stream of water reservoirs:

- Pre-feasibility study of a large scale desalination plant with a projected capacity of 450ML/day. This would result in the availability of a new water source but it is recognized to be energy-intensive.
  UW has carried out a feasibility on two desalination plants; one in the north at La Mercy Beach and one in the south at Illovo. Both these plants will have a capacity of 150ML. A 1ML trial plant
will be installed at Scottsburg to understand and test the water for its characteristics and to look at different methods of processing desalinated water.

- Feasibility of recycling domestic waste-water to potable drinking standard.
  EWS has carried out a feasibility study for reuse of water and has started the Environmental Impact Assessment process but this was brought to a halt due to an objection of 5000 signatories from the community. We are still await approval from city council to proceed with the project.

- Water recycling for industrial use.
  EWS has a 45ML plant in the southern basin servicing different industries. This plant is operated and maintained by a private public partnership.

The status of the projects Umgeni Water is implementing to ensure assurance of water supply for eThekwini Municipality is summarised in Table 13 below.

**Table 14: Status of Umgeni Water Projects**

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Location</th>
<th>Budget</th>
<th>Implementation Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maphephethwa WTP Upgrade</td>
<td>Ward 2 of eThekwini Municipality.</td>
<td>Total Project Cost: R11,563,000 (subject to review).</td>
<td>2009 - 2016</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project completed.</td>
<td></td>
</tr>
<tr>
<td>The uMkhomazi Water Supply Project</td>
<td>Ingwe, Richmond, Mkhambathini and Impendle Municipalities. The beneficiary is eThekwini Municipality.</td>
<td>Total Project Cost for Infrastructure Component: R4,728,196,000 (subject to review).</td>
<td>2012 - 2032</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Budget (subject to review): 2016/2017 - 2017/2018 - R25,000,000 2018/2019 - R25,000,000 2019/2020 - R45,000,000 2020/2021 - R45,000,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cashflows Beyond 5 Years 2021/2022 - 2031/2032 - R4,565,552,000</td>
<td></td>
</tr>
<tr>
<td>Project Name</td>
<td>Location</td>
<td>Budget</td>
<td>Implementation Timeframe</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------</td>
</tr>
</tbody>
</table>
| ’251 Raw Water Pipeline: Midmar Dam to Midmar WTP                         | Ward 12, uMngeni Local Municipality but regional WTP therefore entire PMB-Durban region benefits. | Total Project Cost: R116,026,000 (subject to review).  
Budget (subject to review):  
2016/2017 – R35,694,000  
2017/2018 – R12,375,000 | 2012 - 2017                                                               |
| Midmar Water Treatment Plant Upgrade                                        | Ward 12, uMngeni Local Municipality but regional WTP therefore entire PMB-Durban region benefits. | Total Project Cost: R223,795,000 (subject to review).  
Budget (subject to review):  
2016/2017 – R94,368,000  
2017/2018 – R19,610,000  
| Nungwane Raw Water Aqueduct                                                 | Wards 67, 96 and 98 in eThekwini Municipality. Ward 1 of Vulamehlo Municipality. | Total Project Cost: R100,258,000 (subject to review)  
Budget (subject to review):  
2016/2017 – R50,569,000  
<table>
<thead>
<tr>
<th>Project Name</th>
<th>Location</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Mkomazi Bulk Water Supply Scheme</td>
<td>Wards 4 and 6 in Vulamehlo Municipality. Ward 99 in eThekwini Municipality.</td>
<td>Total Project Cost: R2,481,333,000 (subject to review). Budget (subject to review): 2016/2017 - R15,000,000 2017/2018 - R50,000,000 2021/2022 - R125,000,000 2022/2023 - R315,000,000 2023/2024 - R305,000,000 2024/2025 - R405,000,000 2025/2026 - R461,310,000 2026/2027 - R250,000,000 2027/2028 - R150,000,000 2028/2029 - R250,000,000 2029/2030 - R150,000,000</td>
</tr>
<tr>
<td>East Coast Desalination Plants</td>
<td>The pilot plant is near the Lovu River, in eThekwini Municipality.</td>
<td>Total Project Cost: R16,642,000 (feasibility study, subject to review). Budget (subject to review): 2016/2017 - R4,740,000</td>
</tr>
<tr>
<td>Project Name</td>
<td>Location</td>
<td>Budget</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Umbumbulu Pump Station</td>
<td>Ward 4 in Mkhambathini Municipality. Beneficiaries are Ward 100 in eThekwini Municipality and Wards 4, 5, and 6 in Mkhambathini Municipality.</td>
<td>Total Project Cost: R125,000,000 (subject to review).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Budget (subject to review): 2016/2017 - R200,000, 2021/2022 - R7,500,000, 2022/2023 - R2,500,000, 2023/2024 - R40,000,000, 2024/2025 - R54,800,000, 2025/2026 - R20,000,000</td>
</tr>
<tr>
<td>Upgrade of Hazelmere Reservoir No. 2</td>
<td>Ward 61 in eThekwini Municipality.</td>
<td>Total Project Cost: R28,222,000 (subject to review).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Budget (subject to review): 2016/2017 - R1,500,000, 2021/2022 - R26,222,000</td>
</tr>
</tbody>
</table>

### 2.10 Agriculture

The National Department of Agriculture, Forestry and Fisheries (DAFF) together with the Provincial Department of Agriculture and Environmental Affairs (KZN DAEA) are critically concerned about the food security challenge threatening South Africa as well as the drastic decrease of available land for agriculture. This is as a result of climate change, poor management of agricultural land, urbanisation and pressure for development of non-agricultural land uses amongst others. Only 12.2 million hectares of South African land is currently under cultivation to support population growth estimated to be 52 million people in the country. This translates to only 0.23ha of agricultural land per person, which is not adequate to provide for a healthy livelihood and sustain the nation. The development pressures on agricultural land are intensifying the problem. Strategic Integrated Project (SIP) 11 is one of the eighteen flagship infrastructure projects, managed by the Presidential Infrastructure Coordinating Commission (PICC). It is a response to the national development goal of an Integrated and Inclusive rural economy. The main objective of the SIP 11 is to improve investment in agricultural and rural infrastructure that will support expansion of production and employment creation, small-scale farming and rural development, including facilities for storage; transport linkages to main networks; fencing of farms, irrigation schemes, improved Research and Development on rural issues (including expansion of agricultural colleges), processing facilities,
aquaculture incubation schemes and rural tourism infrastructure. Focus is on the eight different value areas, namely Crops, Irrigation, Livestock, Horticulture, Fisheries, Forestry, Biosecurity and Research and Development. SIP 11 focuses on maximising the use of communal land and productivity of land reform projects; Expanding irrigated agriculture and support for agricultural sectors and regions with high productive potential.

The map below shows SIP 11 projects throughout the country.

SIP 11: Anchor Projects Locations: per value chain element

Figure 77: SIP11 - Anchor Projects Locations: per value chain element

2.10.1 State of Agriculture in KwaZulu-Natal

Agriculture is one of the major economic sectors in the KZN province. The KwaZulu-Natal province has exported 58% of agricultural products outside the KZN province via the Durban port, of which citrus fruit was the largest export. The KZN DAEA has acknowledged that agriculture is providing job opportunities, a source of income and sustains a number of households in KZN especially in rural municipalities. About 2.694 million tons of grain was imported in 2014; about 812% of these went through KZN; and all KZN exports and imports are taking place in the eThekwini Municipality.

The KZN DAEA has now prioritised systems to closely manage and preserve agriculture land in the province through policy frameworks. KZN DAEA introduced different strategies and interventions to effectively manage the high agricultural potential land. Both KZN DAEA and National DAFF resolved that this cannot be viable if it is done in isolation, hence there is a need to work through other
government departments particularly the Department of Cooperative Governance and Traditional Affairs (COGTA) as well as local governments. In the MEC COGTA comments on the SDF, KZN COGTA has now put the need for the development of an Agricultural Sector Plan as a requirement to all municipalities. This plan is required to be submitted as part of the IDP and SDF. Both DAEA and DAFF further requires all municipal SDF’s to capture ‘agriculture’ as a land use, identify land with agriculture potential as per the Agricultural Land Categories data set as well as prepare a municipal agricultural plan to manage and develop the agricultural sector. This approach has directly put agriculture under the municipal planning domain and there is an expectation that the strategy will cascade to all level of plans prepared by the municipal planning departments from spatial plans to land use schemes.

The KZN DAEA has developed a number of tools and strategies in alignment with policies (Act 70 of 1970 and PGDS) to ensure compliance of municipalities and developers to retain and protect high agriculture potential areas within their areas of jurisdiction, these include:

a) **KwaZulu-Natal Agricultural Land Potential Categories Demarcation**, designed to analyse and define agricultural potential of each area in KZN to guide the local government or developers in areas where act 70 of 70 could be uplifted for non-agricultural use and the areas that need to be retained (no go areas). It also defines the agricultural potential of a specific area, from an arable as well as a grazing perspective.

![KZN Subsistence Agriculture on Category A & B Agricultural Land](image)

*Figure 78: KZN Subsistence Agriculture on Category A and B Agricultural Land*
b) **Agro-Ecological Zone (AEZ)**, defined in terms of grouping similar characteristics in relation to land suitability, production potential as well as environmental impact, climate, landform and soils and/or land cover, specific range of potential and constraints for land use.

c) **Agricultural Protected Area (APA)**, defines the potential agricultural categories across varying and diverse natural resources rather than for individual land parcels in isolation. This is aimed at protecting and managing a larger unit or an area across both provincial and national levels. APA recognises the value of agricultural land as an economic and natural asset, and thus should be supported through necessary infrastructure and development plans and relevant legislation.

### 2.10.2 State of Agriculture in the eThekwini Municipality

EThekwini like any municipality within the KZN province has a number of areas with high agricultural potential. However there are few agricultural activities that are occurring in eThekwini Municipality. This agricultural land categories is illustrated in the following maps received from KZN DAEA:
Figure 79: ETekwini Agricultural land categories 2015
The eThekwini Municipality has a significant amount of land that falls within the high potential agricultural land categories identified by KZN DAEA and these areas are under pressure for development. Figure 57 above shows the areas to be retained for commercial agricultural land use, in addition to the existing rural or Ingonyama Trust Land Areas, which is minimal in comparison to the
areas identified as suitable for agriculture by KZN DAEA. Figure 58 below shows the proposed Agricultural Land Use against the KZN DAEA Agricultural Land Categories.

It is evident that about 68% of the municipality is already transformed and that large areas of existing and high potential agricultural land are also proposed to be developed for non-agricultural uses. One of the largest areas to be affected by development is the Dube Trade Port and surrounding areas

Figure 81: ETHekwini Agricultural Land Categories and Land Use
identified by all spheres of government as the new “Aerotropolis” (which extends into neighbouring municipalities and links up with Richards Bay). As a major investment opportunity for the country, a significant amount of resources have already been directed towards the establishment and viable functioning of this economic initiative. The potential conflict between the policies of different government departments and its implications for development / food security in the metropolitan area needs to be urgently resolved. Currently it is a challenge for both municipality and DAEA because the municipality wants to release this area amongst others from Act 70 of 1970, while the DAEA does not want to give approval for the development of areas falling within the areas designated as having prime agricultural potential. To date some approvals have been granted in terms of Act 70 of 70 for the redevelopment of a number of Tongaat Hulett Land Holdings as shown in Figure 71 below but these are occurring on an application by application basis.

![Figure 82: Tongaat Hulett Development Land Holdings](image)

It is clear that there is no alignment between eThekwini Municipality SDF with the DAEA agriculture land categories and the municipality has committed resources for development in areas identified as high agriculture potential. The eThekwini Municipality and DAEA are engaging on an on-going basis in trying to resolve and obtain alignment of the SDF Intentions with DAEA intentions. To this end the IDP, Planning, Economic, Parks, Leisure and Cemeteries Departments of the eThekwini Municipality met with KZN DAEA officials in January 2016 to clarify DAEA requirements. Subsequent meetings
have been held with the relevant municipal sector departments and senior management in the municipality to clarify the city’s role and to determine the appropriate institutional arrangements to address these concerns, it being noted that there are already a number of municipal departments currently dealing with different aspects of agriculture (from food gardens to commercial agriculture initiatives) and there is a need to consolidate and integrate these initiatives. The Municipality acknowledges the need to coordinate these initiatives and develop an Agricultural Sector Plan in conjunction with the KZN DAEA and steps are being taken to move forward in this regard.

Furthermore, the protection of high value agricultural land must support the municipality in realising the SDF intentions, namely:

- a) To realize its full potential as an economic and industrial hub of KZN and South Africa
- b) To provide job opportunities to alleviate poverty in KZN as well as accommodate the increasing demand for housing and higher order social facilities’ arising from in-migration and population growth
- c) To demonstrably address food security, grow the economy and increase our contribution to the GDP. For DAEA / DAFF to provide the necessary resources and support to protect agricultural areas. For example the DAEA indicates that grazing land and agricultural land in general needs to be protected by the municipalities but does not provide the resources to undertake land banking for agriculture protected areas (APA).

Although a large percentage of agricultural land has already been lost to non-agricultural land uses, the eThekwini municipality does provide for agricultural activities such as grazing land through commercial agriculture and has introduced different means/strategies and systems to deal with climate change, urbanisation and food security challenges. It is noted that an internationally recognised food security programme (UMbumbulu Agricultural Hub) resides within the Municipality as a viable strategy for urban agriculture. Further food security programmes and urban agriculture should be explored.

2.10.3 EThekwini Municipality’s approach to Agriculture

The greatest challenge facing communities in the municipal area is poverty and food insecurity. Agriculture and food security is considered a national and provincial priority. The Municipality is becoming more urbanised and the reliance on this primary sector is decreasing. EThekwini’s agricultural potential is being reduced by the rate of urbanization, which restricts expansion. It is anticipated that climate change will have a significant impact on the weather variability and agricultural production, which will in turn impact on the most vulnerable rural communities.

In the eThekwini Municipality, the greatest and available high potential agricultural land exists in the Outer West mainly within the rural stretch from Assagay to Hammarsdale which includes areas such as parts of Shongweni, Summerveld, Alverstone, Clifffdale, Pinetown Rural and Monteseel. Currently
36% of the Northern area is under agriculture, of which 31% is sugar cane. Sugar cane occurs predominately within the coastal plain and in Buffelsdraai and mixed agriculture around Hazelmere Dam. High value agricultural land is located at Cornubia, west of the R102, between Tongaat and Verulam and within the Buffelsdraai area. Other good agricultural opportunities exist in the Southern Municipal Planning Region within parts of Inwabi, Magabheni/ Umnini and Amahlongwa Rural area.

The protection of agricultural and scenic land abutting the urban areas adjacent to the rural landscape is particularly important. This is often the most valuable land from an agricultural or tourism point of view because of its close proximity to an urban area. It should not be disturbed by piece-meal or leap-frog urban development. Where possible, sufficient arable land within the municipality should be reserved for agriculture in the event of an energy or transport crisis, as well as to promote local economic development and land reform.

Through initiatives such as shifting to new crops which are more resilient to climatic conditions and can meet the demands of an ever growing population, maintaining agricultural land so as to keep it arable, introducing mitigation methods to fight climate change, promotion of sustainable agricultural production, ensuring reasonable food costing as well as introducing and managing community gardens, the Municipality could play a major role in ensuring food security.

A multi-pronged approach is necessary to improve the lives of the people. The key challenges faced include land shortages and ability to identify appropriate opportunities for local production of food. The Municipality has initiated a number of programmes to assist in the alleviation of food insecurity. These include the creation of dedicated structures to drive agriculture, aqua and poultry farming; soya bean projects, 20 community support farms; 423 community gardens, mushroom vs hydroponics project, One Home One Garden project, etc. Support in the form of seedlings and compost together with expertise is provided to communities to assist them in ensuring their food security.

In terms of urban and peri-urban agriculture, the Municipality has an Agro-ecology Programme in place which complements other municipal policies which focus on poverty and unemployment. The peri-urban agro-ecology strategy and programmes put in place by the eThekwini Municipality aims at promoting appropriate and sustainable approaches to the way in which agriculture is planned and implemented. Six agricultural support hubs have been established or under development which contain demonstration sites of agro-ecology techniques, a research and development centre on agro-ecology, training sites, a packing and marketing hub and a future seed bank. The hubs are as follows Northdene Agro-ecology research & development Centre, Newlands-Mashu Permaculture Centre, Inchanga, Scorpio Place in Mariannridge, Mariannhill Monastery and Umbumbulu. The programmes primary targets are those with greatest need and where the most impact can be made with limited resources.
There are a number of agri-processing facilities in eThekwini which includes the abattoir at Cato Ridge, the Maidstone Sugar Mill, and the Sappi-Saiccor plant in Umkomaas. The Municipal Fresh Produce Market is located in Clairwood with Farmers Markets located in Tongaat, Verulam and Isipingo. There are three Agri-Hubs in eThekwini Municipality and these are:

- Umbumbulu AgriHUB (South)
- Sterkspruit AgriHUB (Hammersdale/Shongweni)- Outer-west
- Tongaat AgriHUB (Hambanathi/Greylands) - North

The following map reflects the eThekwini Agriculture Zonal Budget Gardens:
Figure 83: eThekwini Agriculture Zonal Budget Gardens
2.11 Disaster Management

The eThekwini Municipality is a coastal municipality that accommodates millions of people, includes a port, airport and a major petro-chemical industry that has influence over the rest of the country and southern Africa. The municipality should thus be prepared for any disaster that may arise. In terms of national legislation, the municipality has started planning for the event of disaster by preparing a Disaster Management Plan and is currently undertaking a High Level Disaster Risk Assessment. Also operational is the Emergency Mobilising and Communication Centre (EMACC) and a Closed Circuit Television (CCTV) Control Room.

The Disaster Management Plan (August 2013), draft High Level Risk Assessment, EMACC and CCTV Control Room is discussed hereunder.

2.11.1 Municipal Disaster Management Plan

Disaster Management is a continuous and integrated multi-sectoral and multi-disciplinary process of planning and implementation of measures aimed at disaster prevention namely; mitigation, preparedness, response, recovery and rehabilitation as defined in Section 1 of the Disaster Management Act 57 of 2002.

The Disaster Management Act requires the municipality to take the following actions:

- Prepare a disaster management plan for the area within its boundary taking into account the existing circumstances;
- Co-ordinate and align the implementation of its plan with those of other organs of state and institutional role players; and
- Regularly review and update its plan. (Section 48 of the Disaster Management Act)

The eThekwini Metropolitan Council Disaster Management Plan has been prepared by the Disaster Management Centre in terms of the Disaster Management Act, 57 of 2002. The Plan was approved by Council in August 2013.

A Risk Assessment Tender which will produce a High Level Risk Assessment, A Level 2 Disaster Management Plan, and five Contingency Plans of identified priority risks has not been completed, as expected, in 2016. The contract period has in effect expired. The revised completion date of the project is now June 2017. The plan will be approved by the Disaster Management Forum and ratified by Council.

Disaster Management Plan (August 2013)

The primary focus of the eThekwini Municipal Disaster Management Plan is to confirm the organizational and institutional arrangements to effectively prevent disasters from occurring and to
lessen [mitigate] the impact of those hazards that cannot be avoided. It establishes the operational procedures for risk reduction planning as well as emergency procedures to be implemented in the event of a disaster occurring or threatening to occur. The plan is an internal municipal document and essentially serves as the coordination and cooperation mechanism between all the relevant Departments, Units and Clusters of Council.

The purpose of the plan is to outline policy and procedures for both the pro-active disaster prevention and the reactive disaster response and mitigation phases of disaster management. The preventative elements of this plan must be implemented and maintained on a continuous basis. The emergency or re-active elements of the plan will be implemented whenever a major incident or disaster occurs or is threatening to occur.

The plan should:
- Form an integral part of the City IDP enabling risk reduction activities to be incorporated into developmental initiatives
- Anticipate the likely types of disaster that might occur in the City's area and their possible effects
- Identify the communities at risk e.g. informal settlements
- Provide for appropriate prevention risk reduction and mitigation strategies
- Identify and address weaknesses in capacity to deal with possible disasters
- Facilitate maximum emergency preparedness
- Establish the operational concepts & procedures associated with day-to-day operational response to emergency incidents.
- Contain contingency plans and emergency procedures in the event of a disaster, providing for
  - The allocation of responsibilities to the various role players and coordination in the carrying out of those responsibilities;  
  - Prompt disaster response and relief;  
  - Disaster recovery and rehabilitation focused on risk elimination or mitigation;  
  - The procurement of essential goods and services;  
  - The establishment of strategic communication links;  
  - The dissemination of information.

The plan is reviewed annually. The following institutional arrangements will inform and provide guidance for the updating and review of the Plan.
- Disaster Management Framework
- Disaster Management Advisory Forum and associated Technical Task Teams
- A city wide Risk Assessment (currently underway)

_Disaster Management Framework_
In compliance with the Act, the eThekwini Municipality has compiled a Disaster Management Framework, as set out below which is consistent with that of National Government. The Framework is
based on the nationally accepted four key performance areas (KPA) each of which is underpinned by three “enablers” that facilitate a consistent approach to the function.

Key Performance Indicators
- Integrated institutional capacity for disaster risk management.
- Disaster risk assessment.
- Disaster risk reduction.
- Response and recovery.

Enablers
- Information management and communication.
- Education, training, public awareness and research.
- Funding arrangements for disaster risk management.

In order to reach and maintain appropriate performance levels, various criteria have been identified against which functionality can be measured as indicated in the tables reflected hereunder.

Disaster Management Advisory Forum and Associated Technical Task Teams
The establishment of a Disaster Management Advisory Forum [DMAF] for eThekwini is one of the essential action steps in establishing the foundational institutional arrangements required. The primary purpose of DMAF is to provide a mechanism for relevant internal, external and technical specialist role players to consult one another and co-ordinate their activities with regard to disaster management issues. The DMAF team meets a minimum of four times a year.

Objectives
- Developing the information management and communication systems
- Ensure that all disaster management planning and practice is based on scientifically robust disaster risk assessments;
- Approve the compilation and maintenance of a eThekwini Municipal Corporate Disaster Management Plan, and the review of the plan on an annual basis
- serve as the vehicle through which all role players coordinate their actions
- To ensure that all aspects of disaster management, namely prevention, mitigation, response and recovery are undertaken
- To oversee and review on an annual basis, the Disaster Management Municipal Framework and ensure that it is integrated with the Integrated Development Plan [IDP]
- To co-ordinate the development of disaster management plans by all line function departments
- Establishing task- driven multidisciplinary technical teams composed of representatives from the various disciplines
- Advising and making recommendations on training and public awareness Participating in the review of programmes and policy
Technical Task Teams
There are three technical tasks teams that have been established by DMAF to deal with projects requiring specialists inputs. These teams are;

- City-Wide Risk Assessment Technical Task Team – oversees the risk assessment study
- Municipal Adaptation Planning Technical Task Team – determines how climate change projections would affect communities and individuals within the municipal area.
- South Durban Basin “Off-Site” Technical Task Team – in the event that a major hazard installation suddenly has major impacts on the surrounding communities, it is imperative that appropriate plans are in place to manage an off-site response to ensure the protection of the public and to restore normality as soon as possible.

2.11.2 High Level Disaster Risk Assessment

The Disaster Management Act (Act 57 of 2002) as well as the National Disaster Management Framework (2005), requires that Municipalities conduct disaster risk assessments for their area of jurisdiction.

2.11.2.1 High Level Disaster Risk Assessment

The eThekwini Municipality has appointed consultants to perform a High level Disaster Risk Assessment for the eThekwini Metropolitan Municipality which is currently underway. The content herein, that relates to the High Level Disaster Risk Assessment must therefore be considered as a draft document still to be finalised and ratified by Council.

The main objective of the Disaster Risk Assessment is to provide the eThekwini Municipality with relevant information to enable and support the required disaster risk reduction planning and activities undertaken by the eThekwini Municipality. The required information includes information related to the levels of disaster risks, hazards, vulnerabilities, manageability, and capacities within the area of jurisdiction of the eThekwini Municipality. The deliverables also included suitable ratings, mapping and prioritization of the risks, hazards, vulnerabilities, manageability, and capacities levels for the eThekwini Municipality.

2.11.2.2 Creation of Hazard, Vulnerability, Manageability, Capacity & Risk (HVMCR) Maps and Disaster Risk Profiles

The results from the Disaster Risk Model were used to compile the various Hazard, Vulnerability, Resilience and Risk maps, while information collected from workshop consultations as well as information abstracted from base data sources were used to compile disaster risk profiles for the eThekwini Municipality.
The Disaster Risk Formula:

The Disaster Risk Model is based on a mathematical formula taking into account the various factors that constitute the level of risk, based on specific hazards, in a specific area. The mathematical formula can be illustrated as follows:

\[ \text{Risk} = \frac{\text{Hazard} \times \text{Vulnerability}}{\text{Manageability} + \text{Capacity}} \]

where:

- **Risk**: The probability of harmful consequences or expected losses resulting from the interactions of hazards and vulnerable conditions. Conventionally risk is expressed as follows: Risk (R) = Hazard x Vulnerability. However, the concepts of Manageability and Capacity (combined as Resilience) are also included in the formula.

- **Hazard**: A potentially damaging physical event, phenomenon and/or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

- **Vulnerability**: The degree to which an individual, a household, a community, an area or a development may be adversely affected by the impact of a hazard. Conditions of vulnerability and susceptibility to the impact of hazards are determined by political, physical, social, economic and environmental factors or processes. *The political aspect of vulnerability is not included in this assessment since it entails a long process of investigating the political climate and culture of different areas within the study area, which is a complete long-term study on its own.*

- **Manageability**: For the purpose of this assessment Manageability will be defined as the combination of all the strengths and resources available within the government departments and line-functions (such as Fire Services, South African Police Service, Department of Health, etc.) that can reduce the level of risk or mitigate the effects of a disaster. Capacity may include physical, institutional, social or economic means as well as skilled personnel or collective attributes such as leadership and management.

- **Capacity**: For the purpose of this assessment Capacity will be defined as the combination of all the strengths and resources available within the community or society (including NGOs, CBOs, Faith Based Organizations, etc.) that can reduce the level of risk or the effects of a disaster. Capacity may include physical, institutional, social or economic means as well as skilled personnel or collective attributes such as leadership and management.

- **Resilience**: The combined value between the Manageability and Capacity values are referred to as the Resilience value.
In order to present the various Hazard, Vulnerability and Resilience levels spatially, various individual GIS data layers were created. These data layers were used to calculate and spatially represent the risk levels in this study area. This process is represented below:

\[
\text{Risk Layer} = \frac{(\text{Hazard} \times \text{Vulnerability})}{(\text{Manageability} + \text{Capacity})}
\]

*Figure 84: Data Layers to be used in the Disaster Risk Modelling*

**Hazards Description and Categories:**

The National Disaster Management Framework provides a list of hazards to be considered during a disaster risk assessment. The hazard categorization is shown in Table 0-1:

<table>
<thead>
<tr>
<th>Natural hazards</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geological</td>
<td>Landslides, rockslides, liquefaction, subsidence</td>
</tr>
<tr>
<td>Biological</td>
<td>Epidemic diseases affecting people or livestock, veld fires, plant infestations</td>
</tr>
<tr>
<td>Hydro meteorological</td>
<td>Floods, debris flows, tropical cyclones, storm surges, severe storms, drought, desertification</td>
</tr>
<tr>
<td>Technological hazards</td>
<td>Industrial pollution, nuclear activities, toxic waste, dam failure, transport accidents</td>
</tr>
<tr>
<td>Environmental hazards and degradation</td>
<td>Land degradation, deforestation, loss of biodiversity</td>
</tr>
</tbody>
</table>

*Table 0-1: Classification of Hazards according to the National Disaster Management Framework*

**Approach to Hazard Profiling:**

For this assessment and related hazard profiling, three approaches were used to compile the hazard profile of the eThekwini Municipality. These approaches were:

- Hazard profiling through individual and workshop consultations and group discussions to collect specialist and indigenous knowledge with regards to hazards in the eThekwini Municipality;
- Desk-top hazard profiling through the use of statistics, reports and base data (where available); and
- GIS Based hazard profiling through the use of GIS base data to identify hazards based on local conditions in the eThekwini Municipality (where available).

The results of these three approaches were compared and are presented in the relevant sections of this report. A ward level indigenous knowledge survey was conducted to be used to verify the findings of the hazard profiling.
Finalizing the Hazard Profile:

Figure 85 is a summary of the process followed during the hazards assessment as part of disaster risk assessments.

The study has identified a number of hazard profiles which are mapped and discussed in the assessment. The hazards discussed broadly falls under the categories of transport, civil unrest, environmental degradation, disease / health : animal, disease / health : human, fire hazards, floods, geological hazards, hydro-meteorological hazards, hazardous materials, infestations, infrastructure failure, service delivery failure, major event hazards, pollution, structural failure climate change and oceanographic hazards. The Draft hazard profile maps are attached as Annexure 9.

Finalizing the Vulnerability Profile

In the context of this study, vulnerability can be described as the degree to which an individual, a household, a community, an area or a development may be adversely affected by the impact of a hazard. Conditions of vulnerability and susceptibility to the impact of hazards are determined by physical, social, economic and environmental factors or processes.

Vulnerability is dynamic, not static, as the vulnerability of communities change due to improvements or degradation of social, environmental and economic conditions, as well as interventions specifically aimed at reducing vulnerability.

Vulnerability Considerations:

In a developing country such as South Africa, poor people tend to be the most vulnerable to environmental disturbance, because they have fewer resources to help them to cope with disasters. They have low incomes, restricted choices regarding location and employment, are less able to afford
food or to save and accumulate assets, and are often powerless. Both global and local consequences of environmental damage impact upon poor people.

Physical vulnerability of communities can relate to the type of housing, available infrastructure and the quality of infrastructure. Informal dwellings, or buildings constructed from low quality material can be considered more susceptible to the effects of some hazards. The percentage of formal and informal dwellings within an area can therefore be used as one indicator of the level of vulnerability of an area. The inadequate quantity or quality of drinking water can increase the vulnerability of communities to the effects of certain hazards.

Adequate sanitation is critical to ensure that the appropriate public health conditions are maintained in a community. Inadequate or unsuitable sanitation or disposal of waste can increase the risk of disease. The access of community members to proper sanitation, including toilets, can therefore be used as an indicator of relative vulnerability.

The type of energy available for cooking and lighting can also serve as an indicator of the relative vulnerability of communities. In areas without electricity, community members need to make use of alternative energy sources, such as paraffin, gas or wood. This can have a detrimental effect on the health of community members, and also pose an increase in the fire hazard.

The social characteristics of a community can also have an impact on the vulnerability of the community. These characteristics includes, amongst others:

- Limited access to power, structures and resources;
- Lack of local institutions, training and skills; and
- Lack of ethical standards in public life.

Economic characteristics influencing the vulnerability of communities can include aspects such as the levels of unemployment, levels of income and the percentage of economically active individuals. Additional environmental characteristics that can influence the vulnerability of an area are deforestation, rapid urbanization and a decline in soil productivity.

The report lists the following steps that can be taken to decrease vulnerability and reduce disaster risk by increasing resilience:

- Increase the access of vulnerable groups to power structures and resources;
- Challenge any ideology, political system or economic system where it causes or increases vulnerability;
- Development of local institutions, education, training and appropriate skill development opportunities;
- Develop and secure local investment and local markets;
- Improve ethical standards in public life (including crime prevention, safety and security);
- Manage urbanisation;
- Protect natural and forest environments;
- Diversify rural income opportunities; and
- Strengthen livelihoods and increase low income levels.

Figure 75 represents an overview of the process generally followed to conduct the vulnerability assessment as part of a disaster risk assessment.

**VULNERABILITY ASSESSMENT & REPORTING**

1. GIS Base Data
2. Desktop Vulnerability Assessment (Spatial - GIS)
3. GIS Vulnerability Data Layer
4. Vulnerability Maps
5. Reports / Data
6. Vulnerability Description
7. Vulnerability Rating Tables
8. Report and Statistics

*Figure 86: Vulnerability Assessment and Reporting Approach*

**Vulnerability Mapping**

The Vulnerability modelling for the municipality was conducted based on relative vulnerability levels associated with social, structural, economic and environmental vulnerability levels in the eThekwini Municipality.

The different types of vulnerability were then combined using the spatial analyses tool in ArcGIS to produce a combined or total vulnerability map. The results from the resilience mapping indicate that areas of high vulnerability can be found throughout the municipality. Rural and informal areas as well as the major commercial and industrial areas seem to have the highest combined vulnerability ratings.
The resilience profile (consisting of Capacity & Manageability data) for the eThekwini Municipality consisted of two deliverables:

- The first deliverable is the description of the various resilience role players as contained in Sections; and
- The second deliverable is the Resilience map

These components should not be considered as stand-alone resilience profiles of the eThekwini Municipality, but should be considered together in order to analyse and understand the resilience profile of the eThekwini Municipality. An overview of the process followed to compile the resilience profile is shown in Figure 77.
Resilience Profile of the eThekwini Municipality

The resilience characteristics relate to the capacity within the eThekwini Municipality area to counter the effects of hazards and vulnerabilities. Resilience levels consist of Manageability and Capacity values, and are defined as follows:

Manageability – defined as the combination of all the strengths and resources available within the government departments and line-functions that can be used to reduce the level of risk or the effects of a disaster. This includes the level of staff or human resources, available expertise, suitable experience, available vehicles, equipment, funding or budget allocations, facilities and risk reduction and response plans.

Capacity – defined as the combination of all the strengths and resources available within the community or society that can be used to reduce the level of risk or the effects of a disaster. Capacity was rated by making use of the same classification as Manageability.

Resilience – The Resilience value defines the total ‘resilience’ level in a specific area or community based on the Capacity levels of the community, as well as the Manageability levels of the authorities, government department and line-functions to deal with disaster risk or the effects of disasters. The Resilience value is calculated by combining the Manageability and Capacity values.

Description of Resilience Role Players

The resilience role players play an important role in prevention, preparedness, rescue, management and in the aftermath of a disaster. The role players are; Business, Industry and the Chamber of Commerce. The private sector plays an important role with regard to disaster management. The role of such players has been in the field of relief and recovery. While the value of such contributions is great, the commercial sector should play a greater role in the mitigation of disasters through training, education and capacity building. Involvement by this sector can also be expanded from that of relief to proactive mitigation.
Cooperation and coordination between the private sector and the eThekwini Municipality, including disaster management, is encouraged. The private sector should also ensure that internal risk management activities, especially related to enterprise risk and business continuity management are in place. This will lead to a more resilient economy in the eThekwini Municipality.

Community Representatives

Community groups have played and continue to play a major role in disaster management. They are quick in response, have local knowledge and expertise to their advantage and can also act as important channels for awareness raising and education. Disaster management therefore needs to be a coordinated effort between government, various institutions, non-governmental organisations, community-based organisations and the commercial sector.

Education

Role-players in the education sector play an important role in terms of capacity building, raising awareness and can also assist with risk reduction and response initiatives. Schools often also have infrastructure that can be used during the response to disasters.

Department of Social Development / Social Security

The Department of Social Development has the following primary core functions:

- Management and oversight over social security, encompassing social assistance and social insurance policies that aim to prevent and alleviate poverty in the event of life cycle risks such as loss of income due to unemployment, disability, old age or death occurring.
- Developmental social welfare services that provide support to reduce poverty, vulnerability and the impact of HIV and AIDS through sustainable development programmes in partnership with implementing agents such as State-funded institutions, Non-Governmental Organisations (NGOs), Community-Based Organisations (CBOs) and Faith-Based Organisations (FBOs).

Department of Home Affairs

The mandates of the Department of Home Affairs are embedded in legislation, as well as other policy documents. In order to fulfil its mission the Department executes or participates in the execution of Civic (national population register, records, citizenship, travel documents and passports and identity documents), Immigration (admissions, refugee affairs, policy directives, counter-xenophobia) and other mandates.

Department of Water and Sanitation

This department is primarily responsible for the formulation and implementation of policy governing this sector and has override responsibility for water services provided by local government. While striving to ensure that all South Africans gain access to clean water and safe sanitation, the water
sector also promotes effective and efficient water resources management to ensure sustainable economic and social development.

**Disaster Management Unit**

The role of the Disaster Management centre is described in the Act and related framework documents. The Disaster Management functions are overall disaster risk management and co-ordination, as per Section 44 of the Disaster Management Act.

In order to effectively implement Disaster Management within a municipality such as the eThekwini Municipality, an appropriate investment should be made in human resources, disaster management systems, plans and procedures.

**Electricity Department**

Electricity provision plays an important role with regard to disaster management. Not only can the failure of electricity supply cause wide spread disruption to communities, but extended periods of disruption can reduce the resilience of communities and municipal role players especially in disaster situations.

**Fire Service Department**

The Fire Service plays a critical role in disaster management. This is not only related to emergency response for incidents such as fires and accidents, but also relates to fire risk reduction with inspections and training throughout the municipality.

**Metropolitan Police**

The traffic department can play an important role in both pre- as well as post-disaster situations. Not only does the traffic department assist with managing aspects related to transportation during emergencies and disasters, but the traffic department has an important responsibility with regards to risk reduction and law enforcement which can reduce the risk of transportation related disasters.

**Non-Governmental Organizations**

Non-governmental organisations can often provide relief more quickly, and in the case of small disasters, more appropriately, it is important that the government ensure that non-governmental organisations receive information promptly. At the same time, non-governmental organisations have useful information to offer to the local early-warning system. Non-governmental organisations should therefore be a formal part of the local early-warning system. In larger disasters they can offer complementary assistance to government.

**South African National Defence Force**
Besides defence, the South African National Defence Force (SANDF) may be employed for service in the preservation of life, health, or property and for service in the provision or maintenance of essential services. The SANDF can also be requested to provide support by other government departments. In the past, the SANDF has provided valuable support and services to national departments and local government where capacity has been lacking. The SANDF’s role therefore is cross-cutting and can be used to enhance existing attempts by other government departments to deal with disaster situations more effectively.

**South African Police Service**

The primary role of the South African Police Service (SAPS) is crime prevention, crime investigation, and the security of citizens. The SAPS may be employed for service in the preservation of life, health, or property and for service in the provision or maintenance of essential services and can be requested to provide support by other government departments.

**Weather Services**

The South African Weather Service provides two distinct services, namely public good services which are funded by government, and commercial services, where the user-pays principle applies. The service provides weather and climate forecasting, provides weather services to the aviation industry and also provides maritime weather forecasting for the oceans around South African extending to Antarctica. They can play an important role in early warning and risk reduction in disaster management.

*GIS based resilience mapping for the eThekwini Municipality*

The risk assessment approach also required the spatial mapping of resilience levels in the eThekwini Municipality. The results show strong resilience centrally in eThekwini Municipality that decreases in the outlying areas. This analysis is only based on the location of key facilities.

The result of the resilience mapping based on the location of key facilities is shown below:
Figure 89: Ethekwni High Level Disaster Risk Assessment Resilience: Combined

Risk Assessment and Modelling Results

The Risk modelling process was completed by using the hazard, vulnerability and capacity data, and calculating the risk levels. The risk assessment results for the eThekwini Municipality, based on the different risk assessment approaches undertaken, are presented below.

Prioritised Risk Profile

The prioritised risk profile for the eThekwini Municipality is based on the data received from the workshop consultations, as well as the base data collected during the study. The stakeholder
perception data and local resilience data were also compared with the desktop hazard assessment results, and the prioritised risk profile was developed. The Risk Prioritization for the eThekwini Municipality is shown in the Table below.

<table>
<thead>
<tr>
<th>No</th>
<th>Risk</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Civil Unrest - Crime</td>
<td>1.87</td>
</tr>
<tr>
<td>2</td>
<td>Hydro-meteorological Hazards - Severe Storms (Wind, Hail, Snow, Lightning, Fog)</td>
<td>1.80</td>
</tr>
<tr>
<td>3</td>
<td>Hydro-meteorological Hazards - Floods (River, Urban &amp; Dam Failure)</td>
<td>1.80</td>
</tr>
<tr>
<td>4</td>
<td>Disease / Health - Disease: Human</td>
<td>1.67</td>
</tr>
<tr>
<td>5</td>
<td>Fire Hazards - Formal &amp; Informal Settlements / Urban Area</td>
<td>1.67</td>
</tr>
<tr>
<td>6</td>
<td>Infrastructure Failure / Service Delivery Failure - Electrical</td>
<td>1.66</td>
</tr>
<tr>
<td>7</td>
<td>Hazardous Material - Fire/Explosion (Storage &amp; Transportation)</td>
<td>1.63</td>
</tr>
<tr>
<td>8</td>
<td>Oceanographic - Storm Surge</td>
<td>1.61</td>
</tr>
<tr>
<td>9</td>
<td>Hazardous Material - Spill/Release (Storage &amp; Transportation)</td>
<td>1.59</td>
</tr>
<tr>
<td>10</td>
<td>Infrastructure Failure / Service Delivery Failure - Water</td>
<td>1.56</td>
</tr>
<tr>
<td>11</td>
<td>Infrastructure Failure / Service Delivery Failure - Sanitation</td>
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</tr>
<tr>
<td>12</td>
<td>Oceanographic - Sea Level Rise (Climate Change)</td>
<td>1.53</td>
</tr>
<tr>
<td>13</td>
<td>Pollution - Water Pollution (Fresh and Sea)</td>
<td>1.52</td>
</tr>
<tr>
<td>14</td>
<td>Environmental Degradation - Loss of Biodiversity</td>
<td>1.52</td>
</tr>
<tr>
<td>15</td>
<td>Transport Hazards - Road Transportation</td>
<td>1.52</td>
</tr>
<tr>
<td>16</td>
<td>Pollution - Land Pollution</td>
<td>1.46</td>
</tr>
<tr>
<td>17</td>
<td>Pollution - Air Pollution</td>
<td>1.45</td>
</tr>
<tr>
<td>18</td>
<td>Hydro-meteorological Hazards - Extreme Temperatures</td>
<td>1.44</td>
</tr>
<tr>
<td>19</td>
<td>Civil Unrest - Demonstrations / Riots</td>
<td>1.42</td>
</tr>
<tr>
<td>20</td>
<td>Civil Unrest - Armed Conflict (Civil/Political War)</td>
<td>1.37</td>
</tr>
<tr>
<td>21</td>
<td>Environmental Degradation - Deforestation</td>
<td>1.36</td>
</tr>
<tr>
<td>22</td>
<td>Infestations - Plant Infestations (Intruder Plants)</td>
<td>1.35</td>
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<tr>
<td>23</td>
<td>Transport Hazards - Air Transportation</td>
<td>1.27</td>
</tr>
<tr>
<td>24</td>
<td>Infestations - Insect Infestation</td>
<td>1.26</td>
</tr>
<tr>
<td>25</td>
<td>Environmental Degradation - Land Degradation</td>
<td>1.25</td>
</tr>
<tr>
<td>26</td>
<td>Transport Hazards - Rail Transportation</td>
<td>1.19</td>
</tr>
<tr>
<td>27</td>
<td>Transport Hazards - Water Transportation (Incl Marine Accident)</td>
<td>1.19</td>
</tr>
<tr>
<td>28</td>
<td>Civil Unrest - Refugees / Displaced People</td>
<td>1.18</td>
</tr>
<tr>
<td>29</td>
<td>Geological Hazards - Landslides/Mud flows</td>
<td>1.15</td>
</tr>
<tr>
<td>30</td>
<td>Structural Failure - Dam failure</td>
<td>1.15</td>
</tr>
</tbody>
</table>
### Conclusions and Recommendations

The top 10 disaster risks for eThekwini Municipality were identified as:

1. Civil Unrest - Crime
2. Hydro-meteorological Hazards - Severe Storms (Wind, Hail, Snow, Lightning, Fog)
3. Hydro-meteorological Hazards - Floods (River, Urban & Dam Failure)
4. Disease / Health - Disease: Human
5. Fire Hazards - Formal & Informal Settlements / Urban Area
6. Infrastructure Failure / Service Delivery Failure - Electrical
7. Hazardous Material - Fire/Explosion (Storage & Transportation)
8. Oceanographic - Storm Surge
9. Hazardous Material - Spill/Release (Storage & Transportation)
10. Infrastructure Failure / Service Delivery Failure – Water
• Crime was rated as the highest risk. Durban Central is amongst the highest crime precincts in the country.
• A high rating Hydro-meteorological Hazards is consistent with the coastal locality of Durban and the probable impact of climate change.
• Disease / Health - Disease: Human rated high. According to the Antenatal survey, 38% of the people in the eThekwini Municipality are HIV positive.
• The eThekwini Municipality has very high levels of development in comparison with other municipalities in KwaZulu-Natal. This in itself is a strength but also a weakness due to the consequential vulnerability to essential services failures.
• The vulnerability and risk associated with the harbour and South Durban Basin also extend into a large part of the country. The two petro chemical refineries situated in eThekwini Municipality supplies fuel to a large portion of the country, a disaster event in this area can therefore cause a large scale problem and can adversely affect other parts of the country.
• It was evident from the results of the community survey that there is a strong correlation between the desktop identified hazard, vulnerability and resilience factors and what the perceived causes of potential disasters could be in the community's opinions.
• The priority and high impact risks should also be reflected in future budgets and in the IDP of eThekwini Municipality. There should be specific focused actions to reduce vulnerability, minimise hazards and to increase resilience with relation to priority and high impact risks.

2.11.3 Emergency Mobilising and Communication Centre (EMACC)

EMACC branch falls within the Disaster Management and Emergency Control Unit. The branch is situated within the Municipal Disaster Management Centre and is the emergency call centre for the City of Durban. The centre services the city by receiving telephone calls from citizens that experience potential life and property threatening emergencies. The calls for assistance are acted upon by the alerting and dispatching of municipal ground forces i.e. Metro Police, Fire Department and Disaster Management, who respond and deal with property and life threatening emergencies.

The strategy of the branch is to ensure that all citizens within the city are able to access emergency services timeously, when the need arises, as every second during a life and property threatening emergency is vital.

2.11.4 CCTV Control Room

Closed circuit television is a mechanism used to monitor through cameras positioned at various areas within eThekwini where there are high crime incidents and urban improvement precinct traffic congestions and to ensure that CCTV coverage is used to assist in policing crime. The system is designed to offer reassurance to the public and create a sense of security and awareness. CCTV is aimed at deterring crime and anti-social behaviour within the City. CCTV provides evidence
supporting police and other statutory authorities in prosecution of criminal activities. We monitor traffic for the purpose of advising and informing response agencies responsible for traffic management and enforcement. It is used widely to monitor all major events in the City and provide a live feed to Disaster Operations Centre to display on the video wall. This has proven to be a critical support function to the multi-agency joint operations command teams that have operated at Disaster Operations Centre during such major operations.

2.11.5 Planning for Disaster Prevention

The eThekwini Municipality is being pro-active in planning for the prevention of disasters such as climate change. The Engineering Unit has modelled sea level rise projections in the event of sudden storm surges and expected sea level rise. The Engineering Unit is also currently developing flood risk forecasting known as the Flood Early Warning System study that will protect life, property and investment in the event of flooding. Sea level rise is discussed below whilst progress made on the Flood Early Warning System is provided.

Sea Level Rise Projections

The eThekwini coastline is highly vulnerable to erosion which leads to a higher and continued risk to human life, the natural and built environments. Erosion is due to both natural forces (sometimes exacerbated by human activity) as well as man-made causes. The natural causes are global warming that will cause an increase in sea-level-rise and an increase in intensity and frequency of coastal storms. It is expected that our beaches will lose more sand as a result of natural processes. The severity of such loss are also dependent on occurrence of storm events, equinoxes and spring high tides. Human activities include construction that interferes with natural sand movement which may stifle beach recovery after a major storm event. The removal of sand from the beach also increases the severity of erosion. Badly planned, inadequate and inappropriate sea defense infrastructure may cause further loss of land which results in local beach degradation and an impact on adjacent and properties further along the coast. The removal of vegetation from the dunes destabilises these protective sand barriers and reduces its function as the primary sea defense system.

The best international practice in the face of sea level rise and the changing coastal dynamic is a managed retreat away from the shoreline.

In order to protect people, property and economic activities from dynamic coastal processes the eThekwini Municipality Engineering Department has undertaken studies to project the possible sea level rise scenarios in the next 100 years. The rise in sea levels during 1980-1999 has been used as the base data for the study.

The sea level rise modelling considers the following low, medium and high scenarios:

- a 300mm rise in sea level modelled on current sea level rise patterns
- a 600mm rise in sea level is modelled on an accelerated sea level rise prediction
The sea level rise modelling is used as a tool to inform municipal comment on development applications along the coastline and planning decision. The map below is an example that indicates sea level rise and slip failure projections for the Umdloti dune.

These projections are used as a possible preventative measure to protect life and investments such as to provide beach erosion and inundation scenarios along the Durban coastline that will inform decisions on existing and new infrastructure and development as well as to inform the Environmental Authorisations on development within 100m of the high water mark.

The sea level rise analysis will need to be updated at regular intervals to ensure that any significant changes which may occur are incorporated as early as possible.

*Development of a Flood Early Warning System (FEWS)*
Changes in rainfall patterns, rising sea-levels, population growth and economic activity are driving an increase in demand for flood risk forecasting and possible mitigation engineering. The Coastal, Stormwater and Catchment Management Department of the Engineering Unit is in the process of developing and rolling out a flood early warning system (FEWS) for the eThekwini Municipality.

A solid operational flood management system will allow for the effective and efficient response to flooding, avoiding damage and saving lives. Currently the disaster management centre is reacting to real time, often turning to the engineers to provide advice on where to respond, who to evacuate and how bad things may become.

The eThekwini Municipality are implementing a FEWS approach, which is based on open source software and can be tailored for each specific city or region by engineers. The system has been implemented in over 35 countries and in many cases (such as the USA, England & Wales and the Netherlands) it is the official national flood forecasting system. The eThekwini Municipality has updated the hydraulic models using the latest light detection and ranging (LIDAR) technique that covers the entire EMA. These models are being calibrated and validated using filed data acquired from new river gauge installations. Authority has been granted for the acquisition of a Rainfall Scanner Radar which will provide real time rainfall measurements and improve the forecasting capabilities of the system.

The River Flood Module will be completed by June 2017. This will be followed by the Urban Drainage & 2D Flood Module and Coastal Erosion and Water Quality Module.
CHAPTER 3
SYNTHESIS OF KEY ISSUES, CHALLENGES AND
DEVELOPMENT TRENDS WITHIN ETHEKWINI MUNICIPALITY

Synopsis: This chapter represents a synthesis of the key issues coming out of this analysis as a basis for informing the Municipal Vision, Principles, Strategies and Conceptual Framework proposals in Chapter 4 and 5. The synthesis also provides an overview of the spatial issues and opportunities within the Municipality and gives direction to the spatial proposals as outlined in Chapter 6.
3. SYNTHESIS OF KEY ISSUES, CHALLENGES & DEVELOPMENT TRENDS

The future development pattern of the EMA is informed by the current realities of the Municipality as has been analysed in the previous chapters. Developing spatial guidance for the Municipality requires an understanding of the current situation in terms of challenges and key issues being faced by the Municipality and the opportunities available to address these. Together with an assessment of underlying causes and impacts, this understanding has provided a basis on which to utilize opportunities and to direct future development towards common goals. This chapter presents a summary of these issues to help develop spatial guidance for the Municipality. A summary of key issues as identified in the plan include the following:

a) The current urban form
The spatial structuring elements analyzed in the plan not only determine the structure of the Municipality but also contribute to the sustainability, efficiency and legibility of the Municipality. It is proposed in the plan that for the Municipality to perform optimally the overlapping systems of movement and activity need to be accessible to all communities, they need to operate efficiently and be sustainable. However, the current reality of the EMA (as influenced by previous planning ideologies) has resulted in some areas performing better than others due to their interconnectedness with other areas and due to their ability to support human activity adequately at the local neighbourhood level. The current reality is also that of segregation of people and activities which has resulted in a mismatch between workers and jobs reflected in the high levels of commuting between home and work especially for the poor.

The current spatial form of the EMA is also fragmented with low densities. The spatial fragmentation and low density dramatically affect the access which residents can enjoy to places of residence, to employment, and to social facilities. The fragmentation of the metropolitan area can threaten its potential as an economic engine, contribute to higher GHG emissions and in addition social and environmental problems in any one part of the urban area can stunt overall metropolitan growth. It has been established that the current national housing policy subsidy has a major contribution to the low density sprawling city. The housing subsidy offered through the housing policy allows for a single house on one plot and an increasing search for cheap, large new land parcels beyond the urban edge and far from centres of economic opportunities. The housing sector is recognized in the spatial development framework (SDF) as a major investor into the built environment. Based on this, the housing plan has a major role to play in facilitating sustainable urban growth provided housing is built in more appropriate locations and at appropriate densities whilst ensuring that basic needs/services provision is prioritized in areas with backlogs.
Poverty, Inequality and Unemployment

Poverty, inequality and unemployment are the crucial challenges facing the entire country and are issues that need to be addressed within our Municipal area and beyond our borders. A sustainable increase in employment will require a faster-growing labour intensive economy and the removal of structural impediments, such as poor-quality education or spatial settlement patterns that exclude the majority. These are essential to achieving higher rates of investment and competitiveness, and expanding production and exports. Business, labour, communities and government will need to work together to achieve faster economic growth.

b) Environmental Management and Climate Change

It has been identified in this plan that climate change and the pressure of development on natural resources are key environmental factors affecting the EMA. Climate change will have a significant effect on the land and its people in the form of extreme weather conditions, storms, drought, floods and rising sea levels. These changes will also have a negative impact on the biodiversity in the municipality, which is located in one of 34 biodiversity hotspots in the world. This biodiversity underpins the provision of ecosystem services (such as flood attenuation, water provision, clean air) to the citizens of Durban. Furthermore, water resources in the municipal area will be under threat and it is essential that areas upstream of water resources such as rivers and dams, are protected. Open spaces in the municipal area play a crucial role in providing ecosystem services including protection from flooding, storm attenuation, and filtration of water. In the face of climate change, these open spaces need to be preserved for these services that they provide. For new growth and development, the SDF suggests that a comprehensive response to the challenge of climate change is needed in the EMA. The SDF further proposes compact city form to curb low density settlements and urban sprawl. This can be achieved through appropriate densification of existing urban centres and well located settlements to maximize the use of existing services and infrastructural capacity, and ensuring that development concentrates along specific public transport / mixed use corridors and within existing nodes, that densification is promoted at strategic locations, that environmental conservation areas and areas of high ecosystem services delivery are demarcated and protected and areas of agricultural importance are identified and protected. In terms of flood related risk, it is projected that the EMA will experience increased flooding and it is essential that new developments are not placed in areas at risk from flooding. Areas that fall with in the 1:100 flood line have been mapped by Coastal and Stormwater Department and work is currently underway to understand the impacts of climate change on the extent of areas at risk from flooding. No development should be permitted in these areas.

Areas of high density such as the Durban CBD and Phoenix/KwaMashu are strongly affected by the Urban Heat Island Effect. This effect will become more severe through climate change but it can be reduced e.g. through measures such as vegetated and reflective surfaces. The EM is in the process of researching the heat island effect in Durban through the Cool Durban Project.
Sea level rise under three scenarios has also been mapped and development that falls within the most high risk scenario is discouraged. Restrictions on additions to existing land uses should also be applied that will limit potentially hazardous outcomes resulting from sea level rise.

c) The Movement System
The movement system is a key structuring element within the Municipality. Cities are to a large extent ‘movement economies’ and the efficiency of the urban system is directly related to the efficiency of the movement system. The eThekwini municipal area has a comprehensive transportation network comprising of road, rail, air and maritime linkages. The network has a well-articulated hierarchy the challenge however, is to ensure maximum accessibility of goods, services and destination points to all residents of the Municipality largely by linking land use and transport planning. This is to enable people and goods to be moved more efficiently and promote greater integration and accessibility. It is also crucial for eThekwini to develop an efficient, viable and integrated public transport and freight system that will ensure local and regional economic sustainability.

d) Rural Planning
The rural areas of eThekwini have limited access to physical and social services and contain limited economic development opportunities and as such are highly dependent on the urban centres/areas for resources and income. The SDF recognizes there is a need to provide appropriate guidance to Council policy and establish relevant development programmes and projects for rural areas. This will involve the facilitation of social, economic, institutional, and physical integration and promote integrated development in rural and urban areas. Future plans need to address the uneven access to land and economic and social opportunities, between urban and rural areas and to ensure these are addressed in a more holistic manner. For such integrated development to take place, it is critical that the institutional challenges with land management in rural areas are urgently addressed through the appropriate political processes.

Presenting the way forward
The IDP 2012/13 introduced a number of key strategic priority areas targeted at achieving the vision and addressing the development challenges outlined above. The IDP strategy recognized that the Municipality had to make hard choices, not in a vacuum, but within a spatial framework. This will be done by connecting actions, resources and expenditure across the metropolitan area to unlock sustainable growth, whilst ensuring that inequitable, inefficient and unsustainable consequences of past development patterns are addressed over a period of time. The key strategic priority areas identified in the IDP for achieving the Municipality’s vision are summarized below and provide the basis for the Spatial Vision and conceptual framework SDF proposals in Chapter 5 and 6 respectively.
The Strategic Priority Areas as identified within the IDP are as follows:

**STRATEGIC PRIORITY AREAS**

- **STRATEGIC PRIORITY ONE: Creating Sustainable Livelihoods**
  
  **Goal:** All citizens in a prosperous eThekwini earn a decent living and support a sustainable lifestyle.

  **Value Statement:**
  
  Ensure that initiatives undertaken by the Municipality contributes to strong economic growth, sustainable job creation, poverty alleviation, improved skills and promotes a Green Economy.

- **STRATEGIC PRIORITY TWO: Socially Cohesive City**
  
  **Goal:** eThekwini has well rounded and caring citizens who act to support the common well-being of eThekwini and embrace mutual respect, tolerance and compassion for those in need.

- **STRATEGIC PRIORITY THREE: A Financially Sustainable City**
  
  **Goal:** To maximize the Municipality’s financial resources to ensure long-term financial viability and sustainability, thus improving service delivery.

- **STRATEGIC PRIORITY FOUR: Creating a Safer City**
  
  **Goal:** All those who live, work, play and invest in eThekwini feel and are safe in private and public spaces.

- **STRATEGIC PRIORITY FIVE: Promoting an Accessible City**
  
  **Goal:** All citizens of eThekwini can easily and affordably access the facilities and services that they require for a sustainable lifestyle.

- **STRATEGIC PRIORITY SIX: Environmentally Sustainable City**
  
  **Goal:** The environment of eThekwini protects and promotes the health of its citizens and its biodiversity.
CHAPTER 4

THE SPATIAL VISION

is to have

“by 2030 a socially equitable, environmentally sustainable, resilient and functionally efficient Municipality that bolsters its status as a gateway to Africa and the world”.

This vision is expanded upon in the development principles (Mainstreaming and Coordinating Environmental Planning, Promoting Spatial Concentration / Efficiency, Enhancing Economic Potential, Coordinated Planning and Implementation, Promoting Balanced and Sustainable Urban and Rural Development) as discussed in this Chapter. The principles in turn lay the foundation for the SDF proposals and strategies that give direction to a range of spatial outcomes relating to growth and development of the EMA.
4. THE SPATIAL VISION

The SDF translates the current municipal vision, namely, “By 2030 eThekwini will be Africa’s most caring and livable city”, to have a spatial focus. The envisaged SDF spatial vision is to have “by 2030 a socially equitable, environmentally sustainable, resilient and functionally efficient Municipality that bolsters its status as a gateway to Africa and the world”.

4.1 Spatial Vision and Principles informing eThekwini Municipal SDF

The above vision is expanded upon in the development principles discussed below. The SDF spatial vision and principles have been informed by the Sustainable Development Goals, National Development Plan, Vision for 2030 (National Planning Commission, 2011), National Integrated Urban Development Framework, 2016, the Provincial Growth and Development Strategy (PGDS, 2011) and the IDP. The principles in turn lay the foundation for the SDF proposals and strategies that give direction to a range of spatial outcomes relating to the growth and development of the EMA. The underpinning spatial principles are as follows:

4.1.1 Sustainability & Resilience: Mainstreaming and Coordinating Environmental Planning & Climate Change

A key focus of this principle is on Mainstreaming and Coordinating Environmental Planning and Climate Change as a means of protecting and conserving to environmentally sensitive areas and prime agricultural land within the Municipality and encompassing the integration of social, economic and ecological factors into all planning, decision making and implementation in order to:

- build resilience to extreme weather events, and enable long term adaption to climate change;
- reduce greenhouse gas emissions to mitigate climate change;
- promote positive environmental quality and introduce environmentally sensitive management of development;
• promote a spatial form that supports the EMA as a world class/globally competitive and financially efficient region;
• promote an inherent value of the natural and built environment and an understanding of the environment's role in providing natural resources to underpin sustainable socio-economic development;
• alleviate environmental and pollution related health hazards;
• retain and enhance natural qualities and assets of the EMA.
• Empower citizens and build urban resilience in response to a future that is increasingly uncertain

4.1.2 Promoting Spatial Efficiency

The principle of Spatial Efficiency is aimed at ensuring the optimal use of existing resources and infrastructure, compacting development and discouraging urban sprawl, encouraging mixed residential & employment opportunities in close proximity and streamlining development application procedures and decision-making procedures. Based on this principle the EMA must strive to:
• promote more compact development by encouraging higher densities within existing centres and along public transport routes to increase accessibility and reduce the need to travel long distances;
• reduce the separation between places where people work and live;
• optimize development in areas of greatest opportunities; encourage efficient use of infrastructure and facilities;
• promote optimal use of remaining land opportunities by encouraging urban infill;
• foster a socially equitable environment where the resources, opportunities and amenities offered by the Municipality are easily accessible to all
• promote effective public transport and non-motorised transport in support of a more efficient spatial form
4.1.3 Principles of Spatial Justice and Sustainability, Enhancing Economic Potential, Coordinated Planning and Implementation to support economic growth

This principle is aimed at improving productivity and closing economic performance gaps, promoting sustainable economic growth and ensuring the alignment of projects. This principle not only aims to improve productivity but also recognizes that infrastructure planning and delivery has a direct impact on the quality of household and community life as well as impact on how efficiently the economy functions and on the utilization of a region’s potential.

In order for eThekwini to maintain its status as a gateway to Southern Africa and the world, particular attention to its infrastructure planning and delivery is needed. The Municipality must invest in building modern infrastructure, particularly freight and logistics, that reduces business costs, enhances competitiveness and creates employment firms. In line with this principle the Municipality needs to:
• promote Dube Trade Port as a key transport, logistics and communication hub
• promote development of Information and Communications Technology (ICT)
• invest and maintain tourist nodes
• ensure energy generation capacity from renewable sources is built and energy more efficiently used to reduce greenhouse gas emissions without impacting on economic performance
• invest in public infrastructure to support people in social and work life
• regenerate key economic nodes and corridors especially in townships
• support greater industrial land
• promote investment in key sectors and create a diverse economy and
• reduce the cost of doing business and simplifying development procedures

4.1.4 Principle of Spatial Justice: Promoting Balanced and Sustainable Urban and Rural Development

In the South African context, the concept of equity is an extremely important component of society as it emphasizes the need to re-dress unequal planning of the past. As with other South African cities, eThekwini has been shaped by the political ideologies of apartheid and post-apartheid class divisions, in which racial groups are separated and buffered from each other with the poorer groups located on the periphery of the Municipality.

Few formal job opportunities exist within these dormitory suburbs and accessing employment means long daily commuting to larger centres. Commuting distances range from 12–25 km to more than 40 km. In this context, balanced development promotes the linking of areas of economic opportunity with areas of greatest needs and promoting a mixture of land uses in support of each other at various spatial urban and rural scales.
This principle brings to attention the need for the development of former townships and rural areas which have largely been neglected in planning historically. This plan advocates for the integration of rural and urban areas so there is equality in decision making associated with general planning and land use management across the entire Municipal area. To this end, this principle of an equitable city is adopted and translated as an informant to:

- create quality and safe living environments for all residents of the Municipality (urban and rural).
- address spatial imbalances ensuring that basic needs/services provision is prioritized in areas with social and servicing backlogs
- reduce infrastructure and service disparities
- redressing imbalances in the location and access to social and employment opportunities
- promote integration and inclusivity by linking and reducing distances between people, places and activities
- make rural areas productive
- build greater resilience to social and economic climatic shocks particularly in areas of need or high risk areas

4.1.5 Good Administration

This principle draws attention to the need for

- sector engagement across all spheres of government
- an integrated and consistent approach to urban / rural and land use management across all spheres of government
- and the need for an inclusive, transparent and public process in the preparation of these plans to ensure all citizens the right to engage on matters that directly affect them
CHAPTER 5
THE SDF CONCEPTUAL FRAMEWORK

**Synopsis**: This Chapter presents the SDF Spatial Conceptual Framework. The Spatial Conceptual Framework indicates how the municipal vision along with the key issues, challenges and trends outlined above can be translated spatially to direct, guide and inform municipal decisions relating to the use, development and planning of land.
5. THE SPATIAL CONCEPTUAL FRAMEWORK

The SDF is intended to guide and inform municipal decisions relating to the use, development and planning of land and bulk infrastructure. The Spatial Development Concept outlines the key spatial tools used to protect both the built and natural environment and guide the direction of growth and the delivery of social services by outlining areas in which particular types of land uses should be encouraged or discouraged and areas in which the intensity of land development could either be increased or reduced.

The Key Spatial Concept Tools include:

- **An Urban Core**, being the urban centre, which generally has servicing capacity and thus opportunity for densification and can support thresholds for a range of services, industry and public transport;

- **An Urban Development Corridor bounded by an Urban Development Line (UDL).** The Cost-Surface Model, prepared by the Council for Scientific and Industrial Research for the eThekwini Municipality (Figure 67), indicates where it is cost effective to extend municipal services for the provision of low cost housing. This study was one of the key informants of the Urban Development Line (UDL). The UDL is used to demarcate the outer extent to which urban development should be permitted to establish within the metropolitan area in the long term in order to promote a more accessible, compact, efficient, equitable and financially sustainable settlement form. The UDL therefore implies that there is a rural or non-urban periphery or hinterland that is different in character and which has different servicing needs and servicing constraints and which supports different lifestyles. The UDL is therefore an important spatial tool for enforcing density targets and managing the growth patterns of the municipality over time but also for protecting agricultural and environmental resources beyond the UDL, ensuring food security and ensuring the municipality’s resilience to climate change. As not all areas within the proposed Urban Development Corridor/UDL are currently serviced, it is recommended that development is directed to those areas that have existing/excess infrastructure capacity and support mixed use and compact city development, for example, Nodes and Corridors or where incremental expansion is planned. The location of the Urban Development Line is shown in Figure 68.

- **A Rural Hinterland** with a different character, lifestyle and development intensity and where access is poor and servicing costs are high. Such areas are seen as important for protecting agricultural and environmental resources, ensuring food security, addressing social needs and building the resilience of communities.
Figure 91: Urban Development Line
Figure 92: Urban Development Line Locality Plan
The Spatial Development Concept highlights specific areas that require targeted intervention to assist in guiding sustainable growth throughout the Municipality by:

- Identifying areas that need to be protected. These include natural, heritage and environmental key assets as well as agricultural and rural assets;
- Identifying areas of need where integration and restructuring is needed;
- Identifying areas where economic growth and investment will be pursued, and those where social investment will take preference;
- Identifying areas where infill, densification and urban renewal should be pursued;
- Identifying new growth areas and areas for future development;
- Identifying hierarchy of roads, transport corridors and nodes; and
- Identifying areas with existing infrastructure capacity to support integration, densification, as a way of ensuring sustainable development.
The spatial conceptual framework informs the SDF’s spatial proposals. The spatial proposals are discussed in detail in the next chapter.
CHAPTER 6
THE SDF KEY SPATIAL PROPOSALS

Synopsis: This chapter applies the Conceptual Framework into a detailed Spatial Development Framework. The proposals outlined in this Chapter will inform a variety of stakeholders of the future growth and nature of development that is envisaged for the municipality.
6. KEY SPATIAL PROPOSALS

The SDF proposals, centered on the key spatial structuring elements, essentially indicate the following:

- shows areas to be protected, including natural, coastal, agricultural and heritage resources and urban open spaces.
- Identifies a hierarchy of roads, transport corridors and nodes to promote accessibility and efficient movement of people and goods.
- Restructures the Municipality into a compact city to ensure that access to opportunity and amenity at the local and metro scale is equally available to all communities.
- Identifies future growth areas and where to direct growth in a sustainable manner and ensure that people are well located with respect to employment and social and recreational services.
- Identifies well located land, close to urban opportunities, areas where infill densification and urban renewal should be pursued.
- Identifies areas where economic growth and investment will be pursued, and those where social investment will take preference.

Critical to achieving these objectives is a single integrated Land Use Management System (LUMS) that provides a clear direction and fosters a sense of security and confidence in the Municipality to its citizens, landowners, developers and businesses.
The spatial proposals are discussed around the following broad topics:

**ANALYSIS LAYER (see chapter 3)**

**GUIDING PRINCIPLES (informing proposals)**

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<thead>
<tr>
<th>1. ENVIRONMENT, COASTAL, AGRICULTURE AND DISASTER MANAGEMENT</th>
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The envisaged SDF spatial vision is to have “by 2030 a socially equitable, environmentally sustainable, resilient and functionally efficient municipality that bolsters its status as a gateway to Africa and the world”.

**SPATIAL VISION**

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**SPATIAL DEVELOPMENT FRAMEWORK**

**SPATIAL VISION**

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- Facilitate utilisation of municipal resources in an efficient and cost effective manner
- Ensure adequate provision of services & infrastructure to support densification and infill.
- Promoting balanced development
- Ensure strong viable economic nodes
- Clustering of various activities at appropriate locations
- Reduce poverty, unemployment and spatial inequality
- Creating sustainable economic growth and development
- Becoming a global metropolis over the next 20 years
6.1 Sustaining our Natural and Built Environment

In line with national legislation and international agreements, the Municipality is committed to a sustainable development path that strives to balance social, ecological and economic priorities.

Our natural systems provide ecosystem services that are often impossible, or extremely costly, to substitute. These include clean air, climate stabilization, rainfall, flood attenuation, marine resources, leisure and recreation areas, fertile and stable soils, food, building materials, amenity and heritage. These ecosystem services are critical in meeting the growth and development needs of the Municipality and all its residents and visitors. In both urban and rural areas, low income people are dependent on these critical and free services provided by natural resources.

It is recognised that natural resources provide the platform for sustainable growth and development for all of eThekwini’s residents, poverty alleviation opportunities for the Municipality’s most vulnerable households, and help to buffer the negative impacts associated with climate change. For example, open spaces provide protection from climate change amplified impacts such as flooding. The eThekwini Municipality is therefore committed to ensuring the long term sustainability of the natural resource base through concerted efforts in a number of key areas.

By protecting the Municipality’s natural environment we ensure that costly replacement interventions, such as storm water protection measures and beach sand replenishment schemes are minimized as much as possible. The economic value of services supplied by eThekwini’s ecosystems was estimated at R3.1 billion per annum (2003 estimate), excluding the contribution to the leisure industry. The economic value of the eThekwini coastline (estuaries and beaches) has recently been valued at over R5 billion per annum (2008 estimate).

The eThekwini Municipality seeks to protect specific natural environments, terrestrial and aquatic, within the eThekwini Municipal Area (EMA), in order to secure a sustained supply of ecosystem services (ES) for its residents and visitors. This contributes to sustainable development in the EM’s jurisdiction and to give effect to its Constitutional obligations and the requirements of other legislation e.g., the National Environmental Management Act (NEMA) (1998) and the Municipal Systems Act (2000).

The Durban Metropolitan Open Space (D’MOSS) plan identifies those environmental service assets that require protection and management. These assets include rivers, wetlands, estuaries, grasslands, forests and coastal zone resources. To ensure the sustained functioning of ecosystems that provide services, it is essential that we conserve and manage the biodiversity (simply defined as plants, animals and micro-organisms) that live in and shape these ecosystems. The D’MOSS implementation strategy that has been prepared, therefore, has a specific biodiversity focus. In addition, areas have been included that provide ecosystem services, such as protection from flooding.
A research project is proposed to specifically map open areas that provide flood mitigation services and to compare this with the D’MOSS layer. Since all open space is likely to provide some flood mitigation service it will be necessary for the research to rate the importance of these areas relative to each other. The protection and management of Durban’s Metropolitan Open Space System will need the sustained and co-ordinated efforts of a range of role-players in order to secure the sustained supply of high quality ecosystem services for our residents and visitors. The following environmental planning proposals are highlighted as way of ensuring sustainable growth and development:

6.1.1 Managing the Drainage Catchments

The terrestrial and aquatic elements within drainage catchments are linked through complex processes. The condition of these systems is felt downstream and where degraded will impact on the quality of water resources and on the coastal plain. It is vital therefore that the adverse impacts of urban land are minimised and managed. Since most of eThekwini Municipality’s water is supplied from outside of the municipal area, key areas of importance are most likely be located above catchments of dams. These areas are important for protecting the quality of water entering dams and reducing sedimentation. This may require the prevention of certain land uses/activities around dams so that water quality is not compromised. It is recommended that research is done to identify key water management areas and the protections that should be put in place for these areas to protect water resources.

6.1.2 Conserving the Riverine Systems

A vital component of drainage catchments are the main rivers and their tributaries. These need to be conserved in order to protect the ecological viability of the open space system. The main rivers run in a general west/east direction and their tributaries run in a general north/south or south/north direction. There are various Acts in place that provide guidance for the protection the riverine systems such as NEMA, the Water Act and the integrated Coastal Management Act.

6.1.3 Conserving Functional Ecosystems

There are a number of major open space areas that contain functional ecosystems and which act as key conservation areas “feeding” the open spaces elsewhere in the EMA. Examples of these are as follows:

- Krantz Kloof Nature Reserve (associated with the Molweni River)
- Giba Gorge (associated with the Giba Stream)
- Alverstone Conservancy (associated with the watershed between the Sterkfontein and uMhlathuzana Rivers)
- Hammarsdale, Nungwane and uMzinyathi Falls (associated with the Sterkfontein, Nungwane and uMzinyathi Rivers)
- Shongweni Dam and Resources Reserve (at the confluence of the uMlaas, and Sterkfontein inland of this on the uMlaas River.
- Inanda Dam and Resources Reserve (on the Inanda Dam)
- Kloof escarpment above Pinetown and including municipal land, the Nkonka Trust and Tanglewood Nature Reserve Matabetule Plateau adjacent to the Shembe settlement at Ebuhleni.
- Matata or Inanda Mountain,
- KwaZini on the upper parts of the UMdloti River,
- UFudu and Inwabi Plateaus on the Umlaas River, and
- The upper parts of the Ezimkodweni River.

6.1.4 Maintaining Smaller Open Space Fragments

Fragments of open space that may not be directly connected to the broader open space network should be conserved and linked, where possible, to provide critical “stepping stones” for the dispersal of flora and fauna between larger open spaces. These fragments include:

- local parks, sports fields and public gardens,
- private gardens, and
- undeveloped land with ecological significance.

6.1.5 Incorporating High Priority Undeveloped Land

Land with high conservation value should be afforded legal protection and managed to enhance its contribution to the ecological viability of the broader system.

6.1.6 Conserving Visual Features

The visual amenity and character of the within the municipality closely associated with highly visible natural features. These should be conserved for residents and tourists and include components such as:

- Cliffs and escarpments,
- Hilltops and ridgelines,
- Large water bodies,
- Rivers and waterfalls,
- Marine (beaches and rocky shores) and estuarine environments, and
- Coastal dune forests and mangroves.

6.1.7 Eco-tourism and the Green Economy

The D’MOSS and in particular the 18 river valleys in the EMA present an opportunity to achieve greater community awareness of environmental protection, local environmental management
partnerships and associated job creation and economic opportunities. Development of eco-tourism within these spaces offers a Green Economy synergy. The Durban Green Corridor Project is an example being developed within the uMngeni Catchment. Initiatives of this sort should be investigated as to means of spatially dispersing economic opportunities throughout the EMA.

6.1.8 Managing Development Impacts

Land uses adjacent to, or upstream from, open spaces can have major impacts on sensitive ecological systems. Activities therefore need to be carefully assessed and controlled to ensure that they do not undermine the ecological viability of the open space system. Developments proposed around dams and in upper catchment areas should be assessed carefully as they could have an impact on the city's drinking water. It is recommended that research is done to identify key water management areas, including dams, and the protections that should be put in place to protect water resources in the face of new developments.

6.1.9 Incorporating Climate Change Considerations

At this point it is extremely difficult to incorporate climate change considerations into planning because of the difficulty in representing climate change impacts accurately at a spatial level. In this regard the city wide risk assessment that has just been commissioned provides a possible mechanism of beginning this process through the proxy of risk identification. The recently completed densification strategy and the development of sustainability criteria for spatial planning are current initiatives that will significantly assist with taking climate change considerations into spatial and land use planning. Further input is expected from the Urban Heat Island research and recommendation project. The DCCS Implementation Plans will provide further input into spatial planning guidance. Furthermore, the areas at risk of flooding in the municipal area have been mapped and are currently being updated to incorporate the impacts of climate change. The results from this work will assist planners when assessing development applications.

6.1.10 Threats to D'MOSS and Mitigation

The key environmental assets represented by D'MOSS layer need to be conserved and protected. DMOSS needs to be sensitively integrated with other municipal planning and effectively managed as a way of ensuring environmental sustainability. The SDF review process has allowed for an assessment of threats and impacts to DMOSS to be undertaken and where possible develop mitigation measures as well as literature and research to establish the impacts of development e.g. development guidelines to address these impacts. Consideration will also need to be given to determine how D'MOSS can contribute towards a more socially inclusive lifestyle.
6.1.11 Biodiversity Protection and Socio-Economic Development

Investigate and implement opportunities to link biodiversity protection and socio-economic development. Develop projects where biodiversity protection and socio-economic development take place simultaneously.

6.1.12 Towards a Strategic Environmental Assessment (SEA) for the eThekwini Municipality

The Local Government: Municipal Planning and Performance Management Regulations (2001) require that a Spatial Development Framework (SDF) must contain a strategic assessment of the environmental impact of the spatial development framework. In 2009, eThekwini Municipality initiated its first effort to undertake this Strategic Environmental Assessment (SEA) and appointed a team of local and international experts to work with officials from the municipality to develop a framework and methodology that would allow the sustainability of the municipality’s spatial plans to be assessed according to their impacts on the provision of ecosystem services. Since the preparation of the methodology, thinking in the field of global environmental change has advanced significantly and it is felt that the approach suggested needs to be modified to accommodate this.

Recent international work in the environmental sciences (Rockström et al, 2009) highlights the scale of global human impact on the natural environment and points to the fact that in many cases, environmental thresholds are being exceeded. These natural thresholds (also referred to as ‘planetary boundaries’) define the ‘safe operating spaces’ within which global planning and development can take place sustainably.

The ‘planetary boundaries’ work described above also provides a useful conceptual starting point to guide the work that needs to be done by eThekwini Municipality in articulating environmental baseline information and environmental thresholds so that the sustainability of the city’s spatial plans can be assessed. For this reason, eThekwini Municipality has initiated a ‘Safe Operating Space’ study for the city in order to better understand these issues. It is anticipated that the output of the study will be a combination of spatial data and a decision-making framework which together will provide the structure needed to assess the environmental sustainability of the city’s spatial plans. The proposed ‘Safe Operating Space’ study will provide a critical starting point for the municipality to undertake a SEA.

6.2 Spatial Development Strategy

The inability to access well-located land for low-cost housing perpetuates continued outward expansion and sprawl and the inability to escape poverty. Densification of established, well-located areas (including areas around nodes and along corridors) will promote more efficient use of existing
infrastructure and help create a threshold for public transport. The densification strategy to be adopted by the municipality is dependent on the spatial context of development, the site specific characteristics, the capacity of existing infrastructure and what impact that development will have on the environment. Within the densification strategy it is acknowledged that there has to be a balance between compactness and the retention of significant open space to satisfy other social and environmental needs.

The Municipality is striving to ensure that people are brought closer to where they live, work, study and relax. While the Council is committed to bringing people closer to areas of economic activity, the principle of sustainability will be the driver to ensure that people are living in harmony with the environment. Using the Municipal Spatial Development Framework (SDF) and supporting Package of Plans, the Municipality is committed to the zoning of land in appropriate areas in order to increase densities and reduce urban sprawl. The Municipality will also limit urban sprawl and associated development costs through the prioritization of infrastructure provision to support new growth areas.

The spatial strategy to achieve the above is to:

- Limit and contain the urban development footprint within the Urban Development Line.
- Promote higher “net” residential densities in targeted areas (both greenfields and brownfields) especially within core areas, new growth areas, areas prioritised for infrastructure development and promote densification where feasible along public transport routes.
- Create new residential development opportunities that connect fragmented areas and consolidate urban form around high accessibility routes and spines.
- The “Urban Development Line” concept is used as a tool to curb urban sprawl, promote compaction and achieve associated efficiencies, secure agriculture and upper catchment environmental assets.

### 6.2.1 The Desired Spatial Form and Growth Path

The economic growth of the eThekwini is mostly based on the port and related activities. The Port Expansion and Back of Port redevelopment are key investment priorities not only to the municipality but to the country as a whole. The expansion of the port is one of the ways the eThekwini can maximise future investment and strengthen its comparative and competitive advantage over other port cities both locally and internationally.

Other key municipal priority projects are proposed in this SDF to include: the implementation of the IRPTN and supporting land uses, the development of Dube Trade Port and surrounding areas including Cornubia, Cato Ridge industrial area and Mpumalanga/ Hammersdale. The development activities within these priority investment areas are linked to support for the port development through a number of economic actions, which includes logistic, tourism and trade.
The plans below illustrate the Current and Short Term Layouts of the Port of Durban as per Transnet’s Proposed National Ports Plan. The current National Ports Plan was approved in 2015 and is currently under review. **Note:** Transnet’s Short Term proposals are not deemed approved and will still need to be submitted for consideration via the required statutory and environmental processes.

*Source: National Ports Plan, 2015*
6.2.2 Infill, Urban Renewal and Densification

The key elements of densification are the promotion of compact, integrated and efficient city form. This can be achieved by limiting urban sprawl, by promoting higher densities, infill and re-developement in and around the urban core and other activity nodes and by the promotion of mixed use activity corridors linking otherwise isolated and non-functional areas with a focus of public transport.

Infill refers to development of vacant or under-utilized land within the existing urban areas. In order to promote a more compact urban development, attention should be given to those areas that are not densely developed but are well serviced and centrally located. These gaps within the urban fabric should be identified for priority projects. Vacant land within the central area provides infill opportunities to make use of existing services and to strengthen internal development. Vacant land beyond the central area provides opportunities for linking and integrating peripheral areas.

The different methods for achieving densification can occur through:

- Infill development on vacant or underutilized parcels of land at higher densities. A range of infill processes may include transfer of development rights, land swops, land consolidation, public housing projects and so forth.
- New development on vacant or under-utilized land at higher densities
- Cluster development on large parcels of land through a consolidation process
- Conversion of existing building (sometimes vacant/derelict) to other uses
- Subdivision of large pieces of land to encourage higher densities
- Allowing additional units to be developed on a single piece of land
- Redevelopment of poorly functional areas to encourage and facilitate infill

Infill and densification as proposed above are key strategies contributing to the restructuring of urban environment.

Other key interventions include the following:

- Promote efficiency by curbing low-density sprawl
- Spatial restructuring and promotion of the generation of income-earning opportunities in appropriate places.
- Improving basic infrastructure, provision of supporting infrastructure and services including housing opportunities and adequate facilities.
- Upgrading of existing informal settlements
- Creating of social services, with a clustering of activities in accessible places
- Redressing spatial marginalization through improved transport linkages, creation of public transport hubs and enhanced accessibility to centers of employment
- Maximizing job opportunities/creation through the promotion of local economic development,
- Create appropriate trading areas that are conducive to promoting marketing opportunities for emerging as well as established businesses.
- Attract new investment by creating robust and crime controlled environments
- Promote urban agriculture as part of land use policy

6.2.2.1 Development Intensity

An in-depth analysis of the eThekwini Municipality’s current optimal densities and location of development required for sustainable city growth was undertaken as part of the City Densification Strategy in 2013. This work has been a key informant of the Spatial Development Framework, and a summary of the manner in which areas were identified, the locations for the promotion of infill, urban renewal and densification, and an explanation of how and why areas were identified follows below:

Current Density Distribution/Settlement Patterns & Trends

The current distribution of density in the eThekwini Municipality reflects the Apartheid spatial planning legacy and the distribution pattern is similar to other South African cities, namely characterised by:
- a fragmented city;
- limited variations in density levels across the metropolitan area;
- large areas of low density in central, well-serviced locations;
- large areas of high density on the urban periphery;

The overall metropolitan density of the eThekwini Municipality is 4du/ha. Gross residential densities in excess of 40du/ha are located in scattered pockets across the city and these are limited to the Durban CBD/Beachfront; Cato Manor, Umlazi and KwaMashu/Inanda.

Density is concentrated within the former townships of KwaMashu, Ntuzuma, Inanda and Phoenix in the north, Umlazi, Lamontville and Chatsworth to the South, Clermont/KwaDabeka and Marianridge in the West and the Durban CBD/Beach, Glenwood, Berea, Cato Manor in the Central areas.

The remainder of the metropolitan area is settled at gross residential densities of less than 15du/ha. This includes areas such as Durban North, Westville, Pinetown, Mpumalanga, Tongaat and Verulam.

A band of rural/traditional residential settlement is located on the periphery of the eThekwini Municipality where gross residential densities are below 5du/ha.

Density Analysis: what characterises an optimal density?

The benefits of managing density (and development intensity) are essentially related to two key dimensions; the creation of sustainable human settlements and sustainable resource use (identified at a City Workshop, 29/08/13). These two dimensions are essentially driving the demand for density imperatives in SA cities, and especially within the eThekwini Municipality.
The linkage between a range of densities (measured in dwelling units per hectare) and different features of residential environments was identified in the City Densification Strategy (2013), and from this assessment an optimum net density range for the eThekwini Municipality of between 35 and 112 dwelling units per hectare (approximately 150 to 450 persons per hectare) was identified.

At these densities, the benefits for the city identified in the City Densification Strategy include:

- the provision of public transportation would be more viable;
- capital outlay on roads would be low;
- capital outlay in utilities would be low;
- modes of mobility support both private vehicles and public transportation;
- the choice of housing would be high for densities up to 50 units per hectare, but would decrease for higher densities;

The costs identified in the City Densification Strategy include:

- the lack of privacy and noise become problematic at densities as low as 25 units per hectare; at higher densities, serious consideration should be given to design of units and defensible space to optimise privacy and ensure ownership;
- the cost of internal access such as passages and stairs would be high, especially for densities higher than 80 units per hectare;
- there would be a significant need for open space and amenities in this environment;

A number of other design attributes occurring at high densities described in the City Densification Strategy include:

- entrances to dwelling units would probably front onto common ‘indefensible’ passages;
- access to ground level is ‘indirect’
- housing would be provided in a highly urban or inner-city environment;
- parking would be detached from units.

All of the above factors need careful planning and management, and this would need to occur at a precinct or site level.

Why Managing Density is Important in the eThekwini Municipality

Development scenarios prepared for the eThekwini Municipality in 2010 indicate that the population of the metropolitan area will grow from 3.5 million people in 2007 to 4.4 million by 2030. The eThekwini Metropolitan region would therefore have to accommodate an additional 775,000 people. This represents an average growth rate of 1.1%p.a. (SSI, 2010).

The scenarios further indicate that the distribution of this new growth would be 40% to the north and 20% each to the central, outer west and southern regions of the eThekwini Municipality.

This information is particularly valuable in informing where development needs to be accommodated within the metropolitan area and begins to allude to how the application of appropriate density
controls could impact on the spatial form of the city and assist in accommodating population growth.

The development scenarios are intended to provide an indication of the order of magnitude of, and spatial distribution, of population growth that the eThekwini Municipality would have to accommodate by 2030.

Based on an average household size of 4 persons per dwelling unit, it was determined in the development scenarios that an additional 193,000 housing units would need to be provided. Assuming all these units were accommodated in new growth areas (greenfields) and dependent on the density of each new settlement, between 1,287 and 12,867 hectares of land would be required. It is evident in comparing the eThekwini Municipality's density pattern of 2001 to that of 2011 that there has been a change in the distribution of density.

The following map shows the percentage change in gross residential density for the metropolitan area:

- densities within the traditional suburbs of Berea, Montclair, Pinetown, Phoenix, Westville (urban core) etc have remained stable.
- density in the rural and traditional periphery has doubled
- densities have increased threefold in newer development areas such as Hillcrest, Mt Edgecombe, Umhlanga and Welbedacht.
- density along the backbone of the IRPTN has in some areas decreased, or has remained stable.
The reasons for this pattern provide invaluable insights for the preparation of a strategy to manage density and encourage spatial transformation:

- The rural areas in particular offer a ‘soft’ landing for migrants into the municipal system. Here the barriers to acquiring land to settle on, and the regulations regarding the development of land, are far less onerous than within the formal urban system. There is also anecdotal evidence of residents choosing to invest in rural areas where property taxation and servicing costs are minimal compared to land under formal land legal administration.

- Developing in rural/tribal areas is a cultural/lifestyle choice.

- Municipal investment in servicing backlogs has been directed into areas on the urban periphery and rural/tribal areas over the past decade.

- Corporate decisions by major land owners e.g. Tongaat Hulett Developments etc. to transform former sugar cane land to urban development have resulted in a plethora of new housing opportunities, with a particular emphasis on high quality managed and secure neighbourhoods that are under threat in existing neighbourhoods. This has resulted in a push of residents to the edge.

- The municipality’s housing programme has been unable to secure well-located land at reasonable prices within the urban core and has been forced to deliver large-scale greenfield housing projects on the periphery of existing settlements.

Whilst the overall gross residential density of the eThekwini Municipality has increased, the predominant nature of residential development has been low to medium density despite a policy
environment that promotes higher density development. In this regard, a number of development patterns are evident in the eThekwini Municipality, each of which is a product of an attraction (driver) for the pattern, or a constraint.

The relevant principles guiding the residential densities with the above integrated approach are:

- There should be a **hierarchy of residential densities** to meet market needs for a diversity of housing types;
- Residential densities should be **commensurate with what the existing and planned infrastructural and environmental capacities can cope with**;
- Developments should be placed in such a way to **encourage public transport and reduce the travel demand**; and as such, higher density residential developments should be located near rail stations and major public transport interchanges wherever possible to capitalize development opportunities and to reduce reliance on road based vehicular travel.

There could be a decreasing **gradation of residential development densities** away from rail stations and public transport interchanges;

- Higher density residential developments outside major transport corridors or the catchment areas of a rail station could be considered where there will be **adequate feeder services** from the rail stations and public transport interchanges;
- It would be more compatible to adopt a low density for residential developments which may be located close to environmentally sensitive areas e.g. wetland, conservation areas etc.

**Density Target Areas**

The following **density targets areas are provided as a guideline to direct and manage density in and across the municipal area**. The density targets have been derived from international and national best practice with respect to transit-orientated development, development that supports transportation and social facilities thresholds and that also respond to the natural environment. Conceptually, the density target areas indicate:

- where higher residential density development should be **actively promoted** i.e. town centres; in proximity to major transport facilities.
- where residential density should be **managed** i.e. residential suburbs.
- where residential density should be **actively discouraged** i.e. rural and traditional areas.
Figure 94: City Densification Strategy Concept
### DENSITY TARGET AREAS

<table>
<thead>
<tr>
<th>WITHIN AND IN PROXIMITY TO METROPOLITAN AND SUB-METROPOLITAN NODES</th>
<th>TARGET CONDITIONS</th>
<th>DENSITY GUIDELINE (MIN)</th>
</tr>
</thead>
</table>
| At the intersection/convergence of city-scale development, connector and activity routes including public transport interchanges — good access on the broader scale. May form an expanded part of an activity route but requires the inclusion of a public transport interchange. Characterised by major concentrations of commercial/business development, higher-order services, facilities and institutions, mixed-land uses and higher densities (including higher density zones). Pedestrian-orientated within the identified centre area with interrupted and slow movement flows. Examples: Durban, Pinetown, Umlazi, Bridge City | Generally within and abutting the defined node or central business district area. Particularly in the vicinity of public transport routes, interchanges and stations, near social facilities and public open space precincts and where there is a diverse concentrated mix of land uses, activities and services. Level 1* Node: Within 5km  
Level 2* Node: Within 2km | Net Density of 80-250 du/ha  
(160-1,000 P/ha) |

* Level of Nodes determined by eThekwini Accessibility Mapping (2011)

<table>
<thead>
<tr>
<th>WITHIN AND IN PROXIMITY TO LOCAL AREA AND NEIGHBOURHOOD NODES</th>
<th>TARGET CONDITIONS</th>
<th>DENSITY GUIDELINE (MIN)</th>
</tr>
</thead>
</table>
| Clustering of activities in a local area/neighbourhood, or as part of an activity street, with good access (including public transport). Comprises of a range of land uses and services such as shops, restaurants, offices, banks, post office, community centre, municipal offices, hospitals, clinics, institutions, station, bus/taxi stops, garages, parking areas and/or public spaces/facilities. Includes higher-density zones. Largely focussed on a range of linked buildings, land uses and spaces. Examples: Tongaat, Hillcrest, Verulam, Umhlanga Ridge Musgrave, Westville, Broadway, Clermont, Chatsworth, Mpumalanga, Bridge City, Kwa-Mashu | Generally within and abutting the defined node, especially the multifunctional part of the node. Particularly in the vicinity of public transport routes, interchanges and stations, next to social facilities and public open space precincts and where there is a diverse and concentrated mix of land uses, activities and services. Level 3 & 4 Nodes: Within 800m  
Level 5 Node: Within 400m | Net Density of 40-80 du/ha  
(160-320 P/ha) |

* Level of Nodes determined by eThekwini Accessibility Mapping (2011)
<table>
<thead>
<tr>
<th>WITHIN AND IN PROXIMITY TO RAIL OR MASS TRANSIT STATIONS</th>
<th>TARGET CONDITIONS</th>
<th>DENSITY GUIDELINE (MIN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At the intersection/convergence of city-scale development, connector and activity routes including public transport interchanges – good access on the broader scale. May form an expanded part of an activity route but requires the inclusion of a public transport interchange.</td>
<td>In the residential areas that are within 2km proximity to major public transport facilities and within 400-800m, of all existing and proposed rail stations and sub-metropolitan bus or taxi ranks</td>
<td>Net Density of 80-150du/ha (320-600p/ha)</td>
</tr>
<tr>
<td>Examples: Berea Station, Bridge City, Umlazi</td>
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</table>

<table>
<thead>
<tr>
<th>WITHIN AND IN PROXIMITY TO DEVELOPMENT SPINES</th>
<th>TARGET CONDITIONS</th>
<th>DENSITY GUIDELINE (MIN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major city-wide or district movement routes (class 2 or 3 roads) including line-haul public transport or IRPTN along which there may be interrupted flows at traffic lights and intersections. Express ways (at grade) with fast-moving traffic sections may form part of the development route. Generally, very limited direct access but with development and commercial/business complexes linked to parallel and connecting side roads (feeder systems). Could include short stretches of activity route type development, mixed land uses and higher-density areas. Examples: MR577, Umhlanga Rocks Drive, R102 (North Coast Road), M13</td>
<td>Within 800m of points of direct access, transport intersections and interchanges, places of intense mixed-use and nodal activity (activity route character) and next to or part of commercial complexes.</td>
<td>Net Density of 80-150du/ha</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WITHIN AND IN PROXIMITY TO ACTIVITY SPINES</th>
<th>TARGET CONDITIONS</th>
<th>DENSITY GUIDELINE (MIN)</th>
</tr>
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<tbody>
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</table>
Significant and/or metro-wide to district activity route directly linked to development including centres/nodes, mixed land uses, commercial/business developments and light industry, institutions, social facilities (including recreation) transport interchanges and higher-density development (including higher density areas).

Intermittent movement patterns incorporating public transport (including commuter rail). Direct access en route with interrupted movement flows, especially at bus/taxi stops and at traffic lights and intersections. Pedestrian-orientated in sections.

Examples: Brickfield Road, Sparks Road

Generally near the activity route but particularly near public transport interchanges and stations, mixed-use areas and concentrated activity – business/commercial nodes and at public institutions and facilities including open space.

In the residential areas that are within 2km proximity to major public transport facilities and within 400-800m, of all existing and proposed rail stations and sub-metropolitan bus or taxi ranks

### METROPOLITAN

Broad guidelines applicable to the metropolitan area. These must be interpreted in terms of appropriate levels of planning and should not be considered a blanket density control.

### TARGET CONDITIONS

All locations where permitted in terms of existing rights or an application for rezoning/consent/departure/sub-division.

Second dwellings and other forms of development acceptable if no negative impact on the character of the area and existing rights.

### DENSITY GUIDELINE (MIN)

**Urban:**
- Net Density of 40-80 du/ha

**Suburban:**
- Net Density of 15-40 du/ha

**Rural:**
- Net Density of 1-15 du/ha

### INTERFACE WITH UDL AND ENVIRONMENTALLY SENSITIVE AREAS

Within 400m proximity to the Urban Development Line – must take cognisance of local context.

### DENSITY GUIDELINE (MIN)

- Net Density of 5-15du/ha
In parallel to the City Densification Strategy, the eThekwini Human Settlements Housing Sector Plan produced a Spatial Housing Plan that identified opportunities to prioritise higher density subsidised housing and rental housing solutions in appropriate areas (Housing Sector Plan, 2011). As part of the criteria used in this prioritisation model, key were the proximity of areas in need to public transport trunk routes and access to services determined by the cost surfaces model. See maps below:

Approximately 86 projects were identified within 400m of public transport routes, and 48 between 400m and 1km of public transport routes. These, therefore, were identified as the priority projects for densification and intensification initiatives.

**Integrated City Development Grant**
Following on from the City Densification Strategy, and in response to the Integrated City Development Grant (ICDG), the Spatial Development Framework was required to establish integration zones across the municipal area within which to spatially target investments.

The objective of the ICDG is to support the development of more inclusive, liveable, productive and sustainable urban built environments in metropolitan municipalities. The grant provides a financial incentive for metropolitan municipalities to integrate and focus their use of available infrastructure investment and regulatory instruments to achieve a more compact urban spatial form.
6.3 Improving Accessibility

Improving Accessibility does not necessarily mean the provision of new roads but rather improving the availability and accessibility to transport. This will enhance the accessibility to various areas within the municipality and beyond. Therefore the city is embarking on a world class public transport system initiative known as GO!Durban that will be at the forefront of the City's transport planning. It is also imperative that the basic function of roads as classified within the Municipality be enforced to the benefit of all road users. This will allow for acceptable mobility and accessibility between origin and
destinations on mobility routes and safe access on activity roads. It is also imperative that the basic function of roads as classified within the Municipality be enforced to the benefit of all road users. This will allow for acceptable mobility and accessibility between origin and destinations on mobility routes and safe access on activity roads.

The hierarchy of roads identified, is to facilitate movement within the Municipality and to ensure that people have access to jobs and other opportunities within the municipal area. In order for the Municipality to perform optimally the overlapping systems of movement and activity need to be accessible to all communities, they need to operate efficiently and be sustainable. To achieve this, the municipality is implementing a fully integrated and efficient public transport system. To ensure mobility and accessibility is achieved on the road network, the city has created a road classification hierarchy. The road classification as shown below has been developed and is indicative of the appropriate functions different the roads play.

### 6.3.1 Road Classification

<table>
<thead>
<tr>
<th>Basic Function</th>
<th>Description</th>
<th>REQUIREMENTS</th>
<th>TYPICAL FEATURES (use appropriate context sensitive standards for design)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class No. (R)</td>
<td>Class name</td>
<td>Design typology</td>
<td>Route no.</td>
</tr>
<tr>
<td>Mobility</td>
<td>1 Principial artery</td>
<td>Expressway</td>
<td>R (N)</td>
</tr>
<tr>
<td>2 Major arterial</td>
<td>Highway</td>
<td>R (R. 2 or 3- digit or N)</td>
<td>Not allowed</td>
</tr>
<tr>
<td>3 Minor arterial</td>
<td>Main road</td>
<td>R (R. 1 or 2- digit)</td>
<td>Not allowed</td>
</tr>
<tr>
<td>Access / Activity</td>
<td>4 Collector road</td>
<td>Collector</td>
<td>Allowed, T (tourist) or O (business)</td>
</tr>
<tr>
<td>5 Local road</td>
<td>Farm road</td>
<td>Allowed, T (tourist) or L (local)</td>
<td>Yes</td>
</tr>
<tr>
<td>6 Walkway</td>
<td>Track / path</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* Access to properties sufficiently large to warrant a private interaction / interchange can be considered if access spacing requirement met and there is no future need for a public road.

** Low volume farm gate and tourist access (less than 19 vehicles per day) can be considered if no alternative exists.
6.3.2 Proposed Transport Linkages

The spatial focus in relation to the movement system is to improve transport linkages at a metropolitan and local level by identifying future network linkage opportunities. Improving transport linkages includes upgrading existing links, constructing new links and integrating different modes of transport (rail, bus, taxi, and non-motorised transport). Some of the proposed linkages (as identified below) help to integrate areas of need to wider metropolitan opportunities. Proposed linkages for the EMA for that are within the next five years are as follows:

- N2 - Mt Edgecombe IC
- MR577 from Duffs Road to KwaDabeka providing a much-needed crosslink from the north to the Pinetown area
- Network linkages to Cornubia and internal roads.
- Sibaya Roads
- M7 - Bluff Rd to N2
- N2 - M7 IC
- M1 - Chatsworth to Pinetown
- M34 - Chatsworth to Pinetown
- M10 - Bellaire M7 Link
6.3.3. Major Road Infrastructure Proposals for Port of Durban and Dig Out Port

The following map reflects the proposed major road proposals for Port of Durban:

![Map of proposed major road infrastructure proposals](image)

Legend:
- 2012-2017: Implementation
- : Interchange
- : Freight Routes

Phase 1a: 2012-2017 from Port to N2 with new Interchange

Phase 2: 2015-2035+
East West freight route from Port to Mariannhill

Phase 3: 2019-2035+
East West freight route from Port to Mariannhill

Phase 1b: 2014-2025
North South freight route to Dig-Out Port

Phase 4: 2025+
East West freight route to Mariannhill

Figure 96: Conceptual Proposals Major Road Infrastructure Proposals for the Port of Durban

6.3.4 Integrated Public Transport Network (IRPTN)

The overall goal for transport in eThekwini is to implement an effective, efficient, sustainable and safe public transport system. To this end and in line with legislative provisions, the eThekwini Transport Authority (ETA) has developed an Integrated Rapid Public Transport Network (IRPTN) plan for the entire eThekwini Municipal area. The IRPTN “wall to wall” plan defines the ultimate (2025) public transport network for the Municipality to ensure that the incremental implementation of the IRPTN achieves the following established objectives:

- **Equity of Access to Opportunity:**
All inhabitants of the Municipality regardless of income levels, disabilities, etc. should have and enjoy quality access to various opportunities (live, work, play) within eThekwini;

- **Reduce the overall impact of transport on the environment:**
  The IRPTN should aim to have a net reduction in carbon emissions related to motorised travel;

- **Promotion of a liveable city:**
  Apart from providing a transport solution that aims to offer all commuters an escape from congested roadways, the infrastructure of the IRPTN as well as the precincts the network servers are to be designed in a manner that accommodates non motorised transport modes and achieves urbanity;

- **Spatial Structure:**
  The IRPTN is intended to be a major structuring element of the eThekwini Municipality. Integrated land use-transportation planning ensures that the IRPTN would help rectify the imbalances created by historic apartheid type planning practices;

- **Quality of Service that is Acceptable to Car Users:**
  Apart from catering for the needs of captive public transport users, the IRPTN should be of a quality that private vehicle users would find acceptable;

- **Have a Positive Impact on the City’s Economy**
  Apart from being operationally efficient to ensure sensible operational expenditure, the various secondary economic opportunities created by the system should contribute to the city’s economy.

**Systems Concept:** The integrated network comprises a system of trunk, feeder and complementary routes that have been designed to respond to the resultant demand of the existing and forecasted activity patterns in accordance with the Municipality’s Spatial Development Plan. This network will be complemented by connecting bus/minibus services and local services to key nodes on the trunk alignments.

This system will include, in terms of a defined programme, various forms of priority infrastructure for bus trunk services including: transfer stations; park and ride facilities; information, communication technologies; fleet; non-motorised transport facilities; and depots and control centres.

The ultimate IRPTN plan for the Municipality comprises some 250km of trunk public transport corridors of which some 60km are rail based. The full IRPTN network will be within 800m (10-15min walk) of more than 85 percent of the Municipality’s population.

The trunk corridors are described below and are shown in Figure below:

- **Corridor C1: Bridge City to CBD via KwaMashu:**
  C1 provides capacity between two major centres of employment and other activity. This high frequency BRT service provides connections into the CBD to widen access to employment. C1 forms part of the Phase 1 network in view of its strategic importance.

- **Corridor C2: Bridge City and KwaMashu via Berea Road to Umlazi and Isipingo:**
The main rail route will be upgraded to enable a more intensive, reliable and higher capacity service to be operated. Infrastructure improvements will allow headways of up to three minutes to be operated with new trains being capable of carrying 2,000 people. A number of stations are in place, many of these stations will also be served by other IRPTN services, enabling interchange and a wide range of journey opportunities. Rail services continue further south to Isipingo and beyond.

The branch serving Zwelethu, KwaMnyandu, Lindokuhle and Umlazi is well used and would form part of C2. In contrast, the branch to Havenside, Bayview, Westcliff, Chatsglen and Crossmoor is lightly used, it is planned to provide new services in C5 to address demand in this corridor. To the north of C2, the line continues to Phoenix, Mount Edgecombe, Tongaat and beyond but is relatively lightly used. The loop serving Avoca, Red Hill, Greenwood Park and Briardene is a single track line which supplements the main line from KwaMashu.

- **Corridor C3: Bridge City to Pinetown**
  C3 provides new connections between two major centres in a corridor that is not easily traversed at present. Interchange opportunities will be important both in the Pinetown area (with C6 and C7 or east-west movements) and at Bridge City (C1, C2, C4 and C9). C3 forms part of the Phase 1 network.

- **Corridor C4: Bridge City to Mobeni and Rossburgh**
  C4 offers new services from Bridge City via the N2 avoiding the need to transfer at Warwick Interchange with the route splitting to serve both Rossburgh and Mobeni.

- **Corridor C5: Chatsworth to CBD**
  C5 provides direct services from the CBD and Warwick to Chatsworth town centre. This will be a high frequency BRT service although there is an option to provide light rail services using former heavy rail alignments and platforms and on-street Sections to access Chatsworth town centre. This would serve the area more effectively than the current heavy rail alignment.

- **Corridor C6: Hammarsdale and Pinetown to Warwick**
  C6 provides east-west services linking Pinetown to Warwick Interchange with possible variants to serve more than one route within the corridor. Some services will be extended to Hammarsdale in the west as an improved means of accessing Mpumalanga and the rural area with appropriate feeder services.

- **Corridor C7: Hillcrest to Chatsworth**
  C7 was originally conceived as part of C5 but separating this part of the network reduces the operating distance and links Hillcrest with Pinetown (connecting with C6 to Warwick) and Chatsworth town centre as.
• **Corridor C8: Tongaat and Airport to Umhlanga and Warwick**
  Rail services are available to Tongaat but an alternative route would be provided by C8. This would divert to serve the airport and Umhlanga town centre and provide direct access into Durban. This corridor is expected to experience considerable growth as development takes place and also presents a strong public transport presence for airport users and workers.

• **Corridor C9: Bridge City to Umhlanga**
  C9 links the growth areas of Umhlanga and Bridge City. C9 forms part of the Phase 1 network in that it links key employment and expanding development areas.

Source: eThekwini Municipality, Procurement and Infrastructure Cluster
*Figure 97: IRPTN Trunk Corridors*
6.3.5 IRPTN Phasing Plan

The intended trunk route phasing plan is shown diagrammatically in the Figure below:

Phase 1: Of the 190km of road based trunk corridors, 60km are planned for the Phase 1 implementation of the network by the first quarter of the 2015 financial year. Phase 1 will comprise of 3 Bus Rapid Transit (BRT) routes and 1 rail corridor. The 3 BRT routes are: C1 Bridge City to Warwick, C3 Bridge City to Pinetown, C9 Bridge City to Umhlanga Corridor and the rail corridor: C2: Bridge City and KwaMashu via Berea Road to Umlazi and Isipingo.

The Phase 1 network will accommodate approximately 25% of the Municipality’s total trunk public transport demand on road based IRPTN services with a further 40% being accommodated by the trunk rail network as part of Passenger Rail Association of South Africa (PRASA) implementation plans. This approach ensures recognisable benefit to the maximum number of users in the shortest period of time for the given level of investment required.

The following steps will take the public transport initiatives on a sustainable trajectory;

- Firstly, building on restructuring proposals to date, by developing a programme for the phased implementation of an Integrated Rapid Transit Network (IRTN) with public transport service and support system plans across the whole of the eThekwini Municipality;
• Secondly, to develop a comprehensive business plan and corporate structure plan with documentation for pro forma public transport service contracts and related support systems, service contracts;
• Thirdly, to take the corridors adopted as part of the first phase of the implementation programme and develop the proposals in adequate detail to provide firm cost estimates for infrastructure and support systems;
• Funding for both the infrastructure and operating the system has been motivated for via National, Provincial and Municipal budgeting provisions. The Public Transport Infrastructure System Grant (PTIS) will no doubt be the key source of the majority of the funding;
• Preliminary work suggests that Phase 1 IRPTN projects can be operational by 2015 if the requisite funding is secured.

Land use strategies that support the development and performance of an effective and sustainable transport system are focused around the major IRPTN corridors and include the following:
• Protecting existing employment opportunities within these corridor areas;
• Maintaining the quality of high value investment, office, retail, residential and tourist areas within the corridors;
• Discouraging the development of major employment opportunities outside the corridor areas - at least in the short term until the corridor investment has gained momentum;
• Stimulating higher employment and residential densities within these corridors in particular, as well as the promotion of residential densification within the core urban area in general;
• Renewing areas around major stations and modal interchanges as high density residential, office and retail uses.

6.3.6 Public Transport Activity Nodes and Corridors

Nodes are places of high accessibility usually located at important transport interchanges and characterized by a concentration of mixed uses. Sometimes, transport interchanges generate a node, and other times a node may encounter transport development.

The main transport /interchange nodes include the following:

a) Warwick ,
• Major public transport node
b) Pinetown CBD
• Major public transport node
• Hub of transport activity
c) Bridge city
• major transport node
Accessibility corridors are linear mixed-use areas containing a concentration of facilities such as retail, office, work, residential, entertainment and community facilities. Mobility corridors are primarily high speed routes to access different areas.

Existing activity corridors include:
- The north-south rail corridor extends from Isipingo in the south to the northern residential areas of KwaMashu, Ntuzuma, Inanda and Phoenix in the north.
- The east-west corridor extends from the Port of Durban to the Old Main Road in Westville-Pinetown Kloof and Hillcrest areas right through to Cato Ridge and Mpumalanga areas.
- Umbilo & Sydney Roads, Umgeni Road, Stamford Hill, Florida Road, Spine Road and North and South Coast Roads, Essenwood Road and Musgrave Road

The extension of these corridors provides opportunities around which to attract investment.

6.3.7 Development Corridors

Corridors of development are viewed as growth or development axes that spatially structure development. Development corridors comprise of a mix of activity making them intense robust and diverse environments that service the Municipality. Corridors of development also lead to the establishment of links between districts and neighbourhoods that ensure cohesiveness and integration of activity and communities. Development corridors within the Municipality include:
- Urban Service Nodes and Corridors supporting mixed use urban activities;
- Rural Service Nodes and Corridors supporting local level services;
- Coastal Corridor consist of high quality natural coastal assets and consist of mixed uses including mixed density residential, recreation, entertainment and tourist oriented activities;
- Tourism Corridors supporting tourism activities;
- Industrial Corridor supporting primarily industrial activities;
- Agriculture Corridor; and
- Airport Noise Zone.

6.4 Economic Development Nodes and Corridors

The identification of economic nodes and corridors is to help provide an effective distribution network for a range of economic opportunities and to identify areas which may serve varied catchments of people for different purposes. The hierarchy of investment nodes as identified below has a range and variety of functions to achieve the accommodation of community needs and services. The following type of nodes is identified;
6.4.1 Metropolitan Node

The Metropolitan node is the key economic centre where all of the varieties of economic sectors are prevalent and perceived to have good potential to be further expanded on. The nodal area is visibly linked to high accessibility areas with existing bulk infrastructure and relatively high population densities which would both contribute to the economic expansion and benefit from interventions in these areas.

Description: Metropolitan Node

<table>
<thead>
<tr>
<th>Scale of node</th>
<th>Durban CBD/Inner City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides services at a National, Provincial and Local area</td>
<td></td>
</tr>
<tr>
<td>Accessible at a metro-wide scale</td>
<td></td>
</tr>
</tbody>
</table>

Characteristic of node

- Offers a wide variety of mixed uses including recreation, formal and informal residential, businesses, tourism and its CBD role
- Also characterized by port operations and associated transport activities which service the region and beyond as a multi-modal transport hub

6.4.2 Sub-Metropolitan Node

Sub-metropolitan nodes provide accessible day to day business, transport and social services for existing and future local communities. These nodes serve sub-metropolitan areas of large districts and are well connected to metropolitan public transport systems and to their adjacent residential areas. They are generally situated on mobility spines supported by mobility roads and have access to urban freeways offering a full variety of higher order uses with a sufficient mix that may be in tight competition with other such nodes.

Description: Sub-Metropolitan Node

<table>
<thead>
<tr>
<th>Scale of node</th>
<th>Existing Sub-metropolitan Nodes</th>
</tr>
</thead>
<tbody>
<tr>
<td>These are nodes of a sub-metropolitan significance</td>
<td></td>
</tr>
<tr>
<td>Accessible at a metro-wide and local scale</td>
<td></td>
</tr>
</tbody>
</table>

Characteristic of node

- Provide economic support at a metro wide and local scale
- Nature of these nodes can vary from having a variety of mixed uses (residential, retail, commercial, business public transport interchange, specialize logistics services and have potential for densification opportunities)

Existing Sub-Metropolitan Nodes
- Umhlanga town centre
- Pinetown town centre

Emerging Sub-Metropolitan Nodes
- Dube Trade Port

Potential Sub-Metropolitan Nodes
- Shongweni
- Cornubia

6.4.3 Urban Node

Urban nodes are existing and new and are well located lower order nodes serving the needs of local areas. These nodes are located at transport interchanges and or at the intersections of development spines. Their role is to provide essential ‘day to day’ commercial needs and social and commercial services to immediately adjacent communities.

Description of Urban Node

<table>
<thead>
<tr>
<th>Scale of node</th>
<th>Existing Urban Nodes</th>
</tr>
</thead>
<tbody>
<tr>
<td>These are lower order nodes serving the needs of local communities</td>
<td></td>
</tr>
</tbody>
</table>

Accessibility

- Are easily accessible by high order transit, a good road network
- New urban nodes ideally to be located at transport interchanges and / or at easy access or intersections of major public transport

Existing Urban Nodes
- Verulam
- Tongaat
- KwaMashu Town Centre
- Phoenix Town Centre
- Newlands Town Centre
- Inanda Town Centres
- **Characteristic of node**
  - The nodes provide essential ‘day to day’ commercial needs, social and commercial services to immediately adjacent communities.
  - These local nodes are varied in activity mix and are determined by the thresholds which they serve.
  - Contain a mix of low, medium and high residential densities
  - Characterized mainly by pedestrian activity
  - Non-Motorised Transport should be prioritized in this nodes

<table>
<thead>
<tr>
<th>Potential Urban Nodes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridge City</td>
</tr>
<tr>
<td>Umlazi</td>
</tr>
<tr>
<td>Isipingo/Prospecton</td>
</tr>
<tr>
<td>Amanzimtoti</td>
</tr>
<tr>
<td>Craigieburn</td>
</tr>
<tr>
<td>Chatsworth, Malvern, Westville, Musgrave and Glenwood/Berea</td>
</tr>
<tr>
<td>Cato Ridge Village</td>
</tr>
<tr>
<td>Hillcrest</td>
</tr>
<tr>
<td>Botha’s Hill, Kloof and Waterfall</td>
</tr>
<tr>
<td>Cato Ridge (Town Centre)</td>
</tr>
<tr>
<td>Kloof (neighbourhood Node)</td>
</tr>
<tr>
<td>Waterfall (Neighbourhood Node)</td>
</tr>
<tr>
<td>Illovo</td>
</tr>
<tr>
<td>Clermont/ KwaDabeka</td>
</tr>
<tr>
<td>Molweni Node</td>
</tr>
<tr>
<td>Mpumalanga Town Centre</td>
</tr>
</tbody>
</table>

### 6.4.4 Investment Opportunity Areas

<table>
<thead>
<tr>
<th>Description Investment Opportunity Areas</th>
<th>Investment Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>These areas provide opportunities for new investment</td>
<td>Cornubia</td>
</tr>
<tr>
<td>These areas need to be supported by public investment</td>
<td>Inyaninga</td>
</tr>
<tr>
<td>Must be targeted for the encouragement of private sector involvement.</td>
<td>Canelands</td>
</tr>
<tr>
<td>Must have or be easily accessible to major public transport routes</td>
<td>River Horse Valley</td>
</tr>
<tr>
<td>Available infrastructure capacity needs to be investigated in these areas</td>
<td>Phoenix Industrial Park</td>
</tr>
<tr>
<td></td>
<td>Tongaat North</td>
</tr>
<tr>
<td></td>
<td>Springfield Park</td>
</tr>
<tr>
<td></td>
<td>Umlazi</td>
</tr>
<tr>
<td></td>
<td>Isipingo/ Prospecton, Umbongintwini industrial area</td>
</tr>
<tr>
<td></td>
<td>Hammersdale</td>
</tr>
<tr>
<td></td>
<td>Mpumalanga</td>
</tr>
<tr>
<td></td>
<td>Cato Ridge</td>
</tr>
<tr>
<td></td>
<td>Shongweni</td>
</tr>
<tr>
<td></td>
<td>Bartletts</td>
</tr>
</tbody>
</table>
### 6.4.5 Rural Service Nodes

**Description:** Rural Service Node  
- These nodes provide local level services (social and economic activities, traditional structures, facilities etc) for surrounding communities  
- Must be centrally located for easy access to surrounding rural communities  
- Must have easy access for pedestrians

**Nodal Areas:**  
- Zwelibomvu  
- KwaNgcolosi  
- Ntshongweni  
- KwaSondela  
- Buffelsdrai  
- Cottonlands  
- Adams/Folweni  
- Matabetule (new)  
- Senzokuhle (new)

### 6.4.6 Rural Investment Node

**Description:** Rural Investment Node  
- Rural Investment Node have potential to provide support Services (Business, Agriculture, Tourism and Environmental issues and opportunities for local economic development)  
- Must ideally be located within easy access to major transport routes  
- Ideally must be located where there is already an existing accumulation of activities

**Nodal Areas:**  
- uMgababa/ uMnini  
- Umbumbulu  
- Inchanga  
- uMZinyathi  
- KwaXimba

### 6.4.7 Industrial Node

**Description:** Industrial Node  
- These nodes provide specialized focused services  
- These areas have a metro-wide significance

**Nodal Areas:**  
- Cato Ridge (Industrial)  
- Hammarsdale (Industrial Node)  
- Tongaat Inyaninga  
- Cornubia  
- Port  
- Umbogintwini  
- Illovo  
- Pinetown

### 6.4.8 Tourism and Recreational Node

**Description:** Tourism and Recreational Node  
- These nodes can provide a range (or some) form of cultural, recreational and tourism opportunities  
- May have inherent natural qualities such as dams, scenic views or cultural heritage  
- Provide a range of Cultural, Recreational and Tourism Opportunities for Local Economic Development.

**Nodal Areas:**  
- Durban Beach Front  
- Umhlanga Rocks  
- Umdloti  
- Amanzimtoti  
- Kingsway Tourism Corridor  
- Valley of Thousand Hills  
- Inanda Dam  
- Shogweni Recreational Node  
- Inanda Dam  
- Hazelmere Dam  
- Ntshongweni Dam  
- Dudley Pringle Dam (New local recreational node)  
- Shembe Village

### 6.4.9 Rural Tourism and Recreational Nodes

- **Description:** Rural Tourism and Recreational Node  
- Range of Cultural, Recreational and Tourism Opportunities for Local Economic Development

**Nodal Areas:**  
- Inanda Dam  
- Hazelmere Dam  
- Ntshongweni Dam  
- Dudley Pringle Dam (New local recreational node)  
- Shembe Village
<table>
<thead>
<tr>
<th>6.4.10 Tourism Routes</th>
<th>Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description: Tourism Route</td>
<td>Durban Beach Front</td>
</tr>
<tr>
<td>• Scenic cultural and environmental routes.</td>
<td>Umhlanga Rocks</td>
</tr>
<tr>
<td></td>
<td>Umdloti</td>
</tr>
<tr>
<td></td>
<td>Amanzimtoti</td>
</tr>
<tr>
<td></td>
<td>Kingsway Tourism Corridor</td>
</tr>
<tr>
<td></td>
<td>Valley of Thousand Hills</td>
</tr>
<tr>
<td></td>
<td>Inanda Heritage</td>
</tr>
<tr>
<td></td>
<td>Township Tourism</td>
</tr>
<tr>
<td></td>
<td>Warwick</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6.4.11 Sports and MICE (Meetings, Incentives, Conferences/conventions and Exhibitions) Nodes</th>
<th>Nodal Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description: Sports events and MICE (Meetings, Incentives, Conferences/convention and Exhibition) Node</td>
<td>International Convention Centre (ICC),</td>
</tr>
<tr>
<td>• Offer a range of sports events, recreation, entertainment and tourist oriented precincts</td>
<td>Point Waterfront Development,</td>
</tr>
<tr>
<td></td>
<td>Ushaka Marine World,</td>
</tr>
<tr>
<td></td>
<td>Sibaya Kingdom,</td>
</tr>
<tr>
<td></td>
<td>Golden Mile</td>
</tr>
<tr>
<td></td>
<td>Green Hub Corridor</td>
</tr>
<tr>
<td></td>
<td>Sun Coast Entertainment Complex</td>
</tr>
<tr>
<td></td>
<td>Moses Mabhida and King’s Park Sport Precinct</td>
</tr>
</tbody>
</table>
Figure 99: Nodes in eThekwini
6.4.12 Strategic Investment Areas

In addition to these nodes the SDF identifies Strategic Investment Areas (Figures above) to help prioritise and guide development initiatives to be located in areas where the greatest impact and positive spin-off can be achieved. The Strategic Investment areas are identified as follows:

- **Port of Durban**
  The Port of Durban is the primary contributor to eThekwini’s economy which is of provincial and national significance and has seen a steady increase in container traffic in recent times. One of the serious constraints to development is the inefficiencies and congestion in the Durban port operations. Improving the Municipality’s logistics infrastructure will ensure the maximization of port economic opportunities. In this sphere, rail linkages, port efficiency, back-of-port operations to enhance capacity and range of business, inter-modal transport hubs in-port and inland and the newly-planned dug-out port are projects which will give life to KwaZulu-Natal’s positioning as the Gateway to Africa.

- **Illovo**
  The Illovo Local Area Plan (LAP) is underway to develop a shared vision for understanding the role of Illovo in the sub region, metropolitan and regional context. The Illovo South Boundary is within close proximity to the South of Durban Port and forms part of the Strategic Investment Project (SIP 2) corridor from the South of Durban inclusive of the Port to Gauteng. The Port expansion plans, the Back of Port Plan, the Dedicated Freight Route and the Automotive Supply Park (ASP) are all integral elements of SIP2 and will be crucial to the economy of eThekwini and the Province.

- **Back of Port**
  The development of the Port as an economic, manufacturing and trading hub is essential for its promotion as a gateway especially to the east. This needs to be located within an integrated development plan for the port that includes linking its planning with that of the CBD and with the adjacent industrial areas to the south. The Department of Trade and Industry’s National Spatial Development Initiative (SDI) provides the opportunity for focusing on the co-ordination of different levels of government and different stakeholders.

- **Dube Trade Port**
  The Dube Trade Port (DTP) has been established between the two sea-ports of Durban and Richards Bay to harness the value of having an air logistics platform. DTP is developed to promote access to global trade and open up new opportunities for production and export of high-value perishable products and manufactured goods. It is expected to act as a catalyst for economic development and labour intense growth throughout KZN province. The massive infrastructure investments in the Dube Trade Port aerotropolis will need to be optimised to fulfil its logistics promise and the Richards Bay port and industrial complex will work on the development of its growth path.
• **Cato Ridge**
Cato Ridge has been identified as one of the industrial expansion and potential dry port areas in the Municipality that can respond to the increasing demand for industrial land in eThekwini Municipality and provide logistics support for the port. However, the area faces enormous challenges especially with regards to traffic issues (limited accessibility) and as a result the area has not been unlocked and used to its full potential. By improving the infrastructure, upgrading the N3 and addressing the sewer issue these challenges can be addressed and the area can be unlocked for industrial and logistic development. The development of Cato Ridge will also serve as a stimulus to unlocking the potential of the surrounding areas of Mpumalanga and Hammersdale

• **South Durban Basin**
This area contains South Africa’s largest manufacturing enterprises in the midst of relatively poor residents. The aim in this area is to regenerate the industrial base, creating cleaner, greener industries, whilst improving the residential conditions of people in the area. The aim of the SDB ABM is to improve resident's access to social, recreational, economic and environmental facilities in the area. As a strategic focus area the objective in the SDB is to restore business confidence, consolidate existing enterprises and stimulate new development, facilitate renewed socio-economic investment and improve quality of life by tackling environmental problems, addressing operational deficiencies and improving the built environment in a sustainable manner.

• **iTRUMP Inner City Regeneration**
The Inner eThekwini Regeneration and Urban Management Programme (iTRUMP) programme drives regeneration and urban management in the Durban inner city. A complex range of issues from the flight of offices to the suburbs to the problems of the urban poor, informal trading etc all require innovative responses and is thus a strategic focus area. The iTRUMP ABM was established as a response to the need to prioritise regeneration of the inner city and places strategic value at the core of its business which seeks to maximize its multiple opportunities. The promotion of the inner city as a commercial and tourist gateway requires building on the current strengths of the inner city as well as utilising opportunities for residential densification and economic growth. The work of the current inner city ABM (iTRUMP) must give guidance to realising this potential.

6.5 **Provision of Social Facility Nodes**

A hierarchy of social facilities is supported and reinforced in this SDF to ensure the allocation of social facilities is done in appropriate locations. The hierarchy of nodes is proposed to guide an effective distribution network for a range of social services and to maintain service provision efficiency. This is to ensure that facilities have the potential to be utilised to an acceptable level rather than planning for high levels of excess / unused capacity.
6.5.1 Proposed hierarchy of social facility nodes

The criteria that has been used in the study of social nodes has taken the following factors into consideration:

- **The Catchment area extent** which shows the node locations and catchment extent. The model assigns all population in the hexagons to the closest node (each having unlimited capacity), thereby creating a spatial extent / boundary;
- **The User-side classification** which takes into consideration travel time to the closest node within each catchment (indicated by shading on the map) and
- **The service-side node classification** based on the modeled allocation to each node of all people (who are closer to this node than to any other).

The clustering of social facilities is ranked and translated into different social facility nodes levels (level 1-5) as follows:

**Level 1 Node**: Durban CBD

This level is linked to the foreseeable future of a single social facility node of a metropolitan status where all the highest order social facilities are to be located. This includes facilities such as the High Court, City Hall, Reference Library, ICC and International Sport Precinct, main City Council offices, etc. This decision was based on the pragmatic approach that irrespective of the emergence of decentralised nodes over the years, the historic Durban CBD remains the established location for these services with limited likelihood of any change. Duplication of these metropolitan facilities is unlikely in the foreseeable future given resource constraints. Durban CBD is supported by the *de facto* investment in higher order local, provincial and national facilities.

**Level 2 Node**: The second level nodes have threshold requirements of sub-regional / higher order facilities. Second order nodes should have a population catchments of 400 000 people within 20 minutes travel time. It is considered appropriate that there should be at least one Level 2 Node in each sub-region to act as the focus for higher order facilities. The outcome indicated too many competing nodes in the North and no Level 2 Nodes in the South or West due to inadequate population within any of the catchments. An initial action was to test the ability of Isipingo Rail (key transport node) in the South, and Mpumalanga in the West, to attract 400 000 residents within its catchment before testing the remaining nodes in competition with one another.

Bridge City will serve as the Level 2 Node in the North and Umlazi (mega city area) will be the Level 2 Node in the South. Pinetown will serve the West and part of Central whilst the CBD will provide for all Level 1 and 2 needs for those closest to this area. In the next five to eight years it is expected that a second Level 2 Node is likely to emerge in both the north and south.
No node in the Outer West can be designated as a Level 2 Node as neither Hillcrest nor Mpumalanga (the two most established nodes) attract 400 000 people. Shongweni node has the greatest regional accessibility but at the moment there is insufficient development at this node.

**Level 3**
The primary criterion for ranking of Level 3 and lower nodes was based on a minimum threshold of 90 000 people, but not exceeding 390 000, living within a 20 minute travel time (in competition with other nodes of Level 3 status or higher)

**Level 4**
The population threshold of level 4 ranges between 30 000 and 90 000 people. The nodes of this level are in competition with other nodes of Level 4 or higher, in 15 minutes travel time.

**Level 5**
The population threshold of this level is less than 30 000 people but more than 3 000 people in 10 minutes of travel time.
The catchment areas around the nodes are shown in various shades on the map to distinguish each separate catchment area
6.6 Strategic Infrastructure Planning and Implementation

6.6.1 Infrastructure Asset Management

The Municipality is on a drive to introduce good asset management practices in all municipal departments. For example, ensuring that there is a greater emphasis on proactive rather than reactive maintenance of infrastructure thus ensures that we are not over-committing funds to building new infrastructure which leads to insufficient funding for the maintenance, renewal, rehabilitation/reinforcement and replacement of existing assets. Managing the demand for new infrastructure is also being promoted. One example of this is the effort being put into reducing the loss of municipal water (and thereby reducing the need for new water infrastructure to be built) through replacing water pipes and repairing leaks, reducing water theft and managing water...
pressures in the pipe network. Consideration is also being given to, where possible, reducing the dependence on river water as the only potable supply through the re-use of water from treatment works as well as research into sea water de-salination. These initiatives are referred to as ‘alternative supply’ projects. Another example of this type of project is the generation of electricity from methane gas at municipal landfill sites.

6.6.2 Addressing Infrastructure Backlogs

The Municipality has as part of its Infrastructure Planning, documented the nature and extent of the urban and rural backlogs in service delivery across the entire metropolitan area, using digital records held by the Municipality together with input from communities and councillors. Services that are being targeted include water, electricity, solid waste, sanitation, storm water, roads and sidewalks, pedestrian bridges, public transport infrastructure, all community facilities and the provision of street addresses to all houses within eThekweni. In order to address these backlogs, specific strategies will be developed for urban and rural areas.

The Comprehensive Infrastructure Plan (CIP) Phase One identifies the backlog for bulk and reticulation infrastructure, and the backlog in asset management for water, sanitation, electricity and roads. The asset management Section of the plan indicates the long-term operational costs. Phase 1 of the CIP deals with the provision of services for the current Housing Plan and to rural areas. It acknowledges that later editions of the plan will need to deal with private developments as well. Phase One reflects all projects in the eThekwini Housing Plan, the Interim Service Program, rural backlogs and New Initiatives for social facilities.

Emphasis is given to the eradication of rural basic service backlogs especially water and sanitation. In urban areas the primary intervention is the eradication of informal settlements through the provision of housing and a package of household services as well as the provision of interim services to improve living conditions in these settlements.

The CIP distinguishes between three standards of services:

<table>
<thead>
<tr>
<th>Area</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rural service standards</strong></td>
<td>One ground tank per household supplied with 300l per day; Urine diversion toilet; Electrification only of densely clustered pockets; All weather surface to all public transport routes and roads within communities having a density greater than 15 person per Ha</td>
</tr>
<tr>
<td><strong>Interim Service standards</strong></td>
<td>Communal ablution blocks (toilets and showers) within 200m of served households; Electricity to every dwelling; High mast lighting for security; Emergency access roads for waste removal, fire and emergency vehicles.</td>
</tr>
<tr>
<td><strong>Urban service standards</strong></td>
<td>Full pressure house connections; Waterborne sanitation; Electricity connection; All weather surface roads</td>
</tr>
</tbody>
</table>
6.6.3 Cost Surfaces Model

Land identified for both in-situ upgrade and greenfields projects are evaluated using the Cost Surface Model. This Model indicates spatially the presence as well as the capacity of bulk infrastructure across the Municipality. It provides cost estimates for bulk infrastructure provision for any location in the city.

The objective of applying the model is to locate housing projects where services with available capacity are present rather than locating projects in areas where new services must be provided at higher cost to the Municipality. Where services are not available in areas identified for projects (given land constraints) a phased servicing approach integrating various (engineering) line budgets is undertaken. It is noted that the Cost Surfaces Model needs to be regularly updated to reflect new developments. The Cost Surfaces Model is a key informant of the Urban Development Line, a spatial intervention aimed at promoting a compact city and combating urban sprawl.
CHAPTER 7
THE REVISED SPATIAL DEVELOPMENT FRAMEWORK

Synopsis: This chapter seeks to guide the overall spatial distribution of current and desirable land uses within the municipality in order to give effect to the vision, goals and objectives of the municipal IDP.
7. THE REVISED SPATIAL DEVELOPMENT FRAMEWORK (SDF)

The revised spatial development framework is represented by a composite map that shows key spatial proposals and development concepts and depicts pictorially the thrust of the IDP showing the Municipality’s investment intentions and development management approach as discussed previously. The components of the SDF and the consolidated map can be found at Annexures 14 and 15 respectively.

7.1 Composite/Spatial Development Framework Map

The strategic focus areas for our municipal SDF are:

- Identification of future landuses including areas for industrial expansion, mixed use development and residential infill contained within an urban development line.

- Future residential development outside the UDL that supports different lifestyles, densities and has different servicing needs and constraints as opposed to those within the UDL which are higher density and urban in nature;

- Regeneration of existing developed areas such as Warwick Junction, the Inner City, Cato Manor and South Durban Basin, Secondary CBD’s such as Pinetown, and former Township Nodes and Corridors e.g. INK, Clermont/KwaDabeka and Umlazi

- The Port of Durban, Dube Trade Port and surrounds and Cato Ridge / Hammarsdale as key economic investment areas which require major investment;

- The provision of investment opportunity areas within Hammarsdale, Bartletts (Keystone), Shongweni, Cornubia and Illovo as a way of encouraging private investment and partnerships within the Municipality subject to servicing and financial limitations;

- Smaller urban investment nodes which provide convenient and efficient access to commercial, community and social facilities thereby reducing the need to travel long distances. These nodes have a number of characteristics and may include higher residential densities, mixed use, public transport and non-motorised transport, public amenities and good infrastructure with the level of services defined by the respective role of the node within the hierarchy of nodes;

- Densification and intensification of land uses along the Integrated Rapid Public Transport Network (IRPTN) and within existing nodes and corridors to reduce sprawl and the need to travel long distances to access services.
• Emphasis on integration, accessibility and convenience in more densely populated urban areas including the provision of priority public transport routes, road and rail linkages;

• The promotion and preservation of key environmental assets e.g. upper catchment areas that provide free ecosystem services, including the buffering of negative climate change impacts, and supports the health of the entire metropolitan area;

• The promotion and preservation of key agricultural assets to secure long term food security

• The promotion of Coastal, Mixed Use and Tourism corridors that provide diverse opportunities for development and lifestyle whilst protecting against the risks of sea level rise;

• The identification of high risk areas and protection against disasters.

• Any development in areas in or adjacent to the Municipality's important environmental assets will require careful scrutiny and appropriate action to ensure no negative impacts, notwithstanding the current zoning that may apply.

7.2 Detailed Spatial Planning

The SDF does not provide definitive statements on all aspects of spatial development in the EMA. Sector plans and detailed spatial plans also reflect this understanding at a more local scale. In order to achieve more detailed spatial proposals the SDF is translated into more geographically specific physical development and land use management guidelines through the preparation of Spatial Development Plans (SDPs), Local Area Plans, Functional Area Plans and Land Use Schemes.

Spatial Development Plans are undertaken annually for each spatial planning region identified in the municipal area, namely the Central, North, South and Outer West Spatial Planning Regions. These are informed by the SDF and provide greater detail about future spatial planning and land use, environment, transport and infrastructure interventions required at a regional level and might be considered equivalent in nature to a Regional Spatial Development Framework. This SDF should be read in conjunction with all lower order plans (SDP’s, LAP’s, FAP’s and Schemes) as they reflect and carry through the spatial and non-spatial planning intentions of the IDP and SDF to increasing levels of detail culminating in detailed Land Use Guidelines and Draft Schemes. All of the above plans form part of the Package of Plans and should be read in conjunction with the SDF Review 2016/2017. Annexure 2 of this report provides a summary of the SDPs. All Council Approved lower order are listed under Annexure 7 and can be accessed via the Council’s web site on: http://www.durban.gov.za/City_Services/development_planning_management/Pages/Strategic-Spatial-Planning-(Framework-Planning)-2.aspx


CHAPTER 8
SDF IMPLEMENTATION AND CAPITAL INVESTMENT FRAMEWORK

*Synopsis:* The capital investment framework is part of the implementation which indicates capital projects and priorities which the Municipality will undertake within its five years budget cycle.
8. SDF IMPLEMENTATION AND CAPITAL INVESTMENT FRAMEWORK

8.1 Linking Town Planning Schemes to the SDF

The Municipality’s delivery plan (IDP) is organized into eight separate but related plans. The first of these plans is ‘Develop and Sustain our Spatial, Natural and Built Environment’.

Goal:
The goal of this plan is to lead, direct and manage the spatial, built and natural environment to ensure the sustainable and integrated growth and development of our Municipality for the benefit of all its citizens.

Desired Outcome:
The desired outcome of this plan is that “citizens will be able to access and use resources to meet their needs without compromising the amenity for others and the resource base of the Municipality in the present and in the future”.

The programmes to achieve the outcome of this plan include:
  • Develop and Implement a sustainable and integrated spatial planning system.
  • Ensure the long term sustainability of the natural resource base
  • Manage and regulate the built environment
  • Develop and implement a Municipal Climate Protection Programme
  • Integrated Coastal Management

The Spatial Development Framework (SDF) is the point of integration of strategic municipal spatial strategies in the arena of economics, transport, environment and society. The Spatial Development Plans (SDPs) cover the municipal area at a greater level of detail than the SDF. The relationship between broader strategic planning and Schemes is central to ensuring consistent and thorough decision-making around land use management and change.

The Scheme is used to enforce the broader policies contained in the Municipality's Integrated Development Plan (IDP) and Spatial Development Framework (SDF) at a property level. Our municipal IDP and SDF guides development, and thus inform the preparation and management of land use in terms of the Scheme. The Land Use Management Framework (LUMF) provides the link between the Scheme and SDF proposals.

The LUMF translates the strategic objectives to a level that will provide spatial representation and quantification of SDF proposals to guide the preparation of the Scheme and decision-making on applications for land use change. It does this by translating the SDF into a more detailed set of broad land use areas that direct the future development of areas and provides the basis for the formulation of the detailed zones for the Scheme.
This link between the Scheme and SDF through the LUMF ensures that operational guidance is provided for planners responsible for implementing the SDF and Scheme and ensures that institutional guidance is provided and takes account of existing governance structures such as Traditional Authorities and the Ingonyama Trust Board in some areas of land use decision-making. The following diagram illustrates the relationship between the SDF, LUMF (linking elements) and the Scheme.

The eThekwini Spatial Planning and Land Use Management System (LUMS) will provide a customer-focused tool that will implement spatial policy, stimulate growth, which will give citizens, landowners and developers a sense of security and confidence, and will allow Council to make decisions that are in the public interest. The eThekwini Land Use Management Systems ‘toolbox’ is made up of an Integrated Suite of Plans. The Suite of Plans includes corporate policies and strategies for the Municipality (LTDF, IDP and SDF) and implementation tools (SDPs, LAPs, FAPs, SAPs and LUSs).

The corporate policies and strategies outline the long term vision for the development of the Municipality which is applied and achieved through the implementation tool. The implementation tools consist of a range of planning activities all running in parallel with each other with the common purpose of updating, refining and establishing appropriate mechanisms for managing land use and development in the Municipal area.

The SDF provides a spatial translation of the corporate policies and strategies. It is implemented through a set of detailed plans starting from the Spatial Development Plans (SDP’s) which are developed to bridge the gap between the strategic/conceptual SDF and the detailed land-use
schemes referred to in the municipal plan hierarchy. The SDPs identify a number of priority projects which are detailed in Local Area Plans (LAPs) and Functional Area Plans. The following diagram reflects the integrated suite of plans and the relationship between the Implementation tools:

The implementation tools provide detailed planning and land development guidelines. These guidelines often include urban design guidelines and directives as a way of detailing the principles as suggested within the SDF. This in turn guides the preparation of the Scheme. The update of Schemes is informed by the phasing of development as illustrated in the detailed planning. The Municipality will only support development that aligns with the policy proposals and guidelines as contained within the Integrated Suite of Plans.
8.2 Development Strategies, Policy Statements and Land Use Guidelines

Development strategies have been formulated to help achieve the desired spatial outcomes of the EMA. The strategies outlined below have been developed from an understanding of the development context and are guided by the policy framework pertaining to the SDF as outlined in chapter 1.

The strategies are also guided by the SDF vision, to have by 2030 a socially equitable, resilient, environmentally sustainable and functionally efficient Municipality that bolsters its status as a gateway to Africa. This vision is underlined by a set of principles as discussed in chapter 4.

The strategies discussed below are intricately linked and do not exist in isolation of each other. Integration of the strategies occurs in the following way:

- At a broad strategic level through the Integrated Development Plans, and
- At an operational level through the application of spatial planning tools (such as nodes and corridors density variation, catchment based planning and encouraging compact development through the application of the Urban Development Line (UDL) and various spatial targeting instruments.

Underlying the strategies are two institutional pre-conditions. Firstly there needs to be a supportive land use management system to provide the strategic and operational framework for development. Secondly linkages should be established with IDP strategies.
8.2.1 STRATEGY 1: Manage urban growth, construct and maintain viable built environment and sustain natural environments and resources

This strategy is informed by the principle of sustainable environmental planning. The spatial focus of this strategy is protecting and enhancing rural, agricultural and urban built and natural environments. The strategy aims to maximize opportunities for sustainable urban form and promoting sustainable use of resources and protection of the natural environment and agricultural resources. Some examples of Municipality projects that align with this strategy include the Coastal Management Plan, Catchment Planning, the Umgeni Green Corridor Project and the Ohlanga-Tongati Local Area Plan.

The key elements of the strategy include environmental protection and enhancement, climate change, place-making and optimal use of existing infrastructure. Good design, creativity and innovation, are essential to improve the built environment and make better use of land to support sustainable patterns, for example:

- taking into account the economic, environmental, social and cultural implications of development and spatial investment decisions on communities;
- improving the built and natural environment, and conserving the region’s heritage;
- promoting community safety and security, including flood risk;
- ensuring that services are conveniently located, close to the people they serve, and genuinely accessible by public transport;
- promoting good quality design in new development
- promoting policies relating to green infrastructure and the greening of towns and cities;
- maintaining and enhancing the quantity and quality of biodiversity and habitat;
- assessment and amelioration of the potential impacts of development (and associated traffic) on air quality, water quality and water levels.

Strategy 1 is elaborated further in the table below:
<table>
<thead>
<tr>
<th>Policy Statements</th>
<th>Requirements to achieve policy statements</th>
<th>Land use management guideline</th>
<th>Alignment with policies</th>
</tr>
</thead>
</table>
| 1. **Construct and maintain a viable built environment** | - Promote the optimal use of existing and future infrastructure and resources  
- Promote densification in strategically located and well-serviced areas  
- Encourage mixed land use particularly along transport corridors  
- Identify well located, accessible land for Greenfield development  
- Upgrade informal settlements (where it is appropriate to do so) and under-invested areas and ensure that these vulnerable communities are protected from the impacts of climate change.  
- Maintain public investment in existing residential and public environments.  
- Previously disadvantaged areas should be specifically targeted for the identification of open space projects | - Promote a variety of housing typologies to maximize efficiency while at the same time promoting culture and heritage.  
- In promoting housing, ensure that there are safe spaces and recreational places for people.  
- Ensure preservation of the natural environment.  
- Rural development should be guided by the Rural Strategy  
- Ensure mitigation measures are implemented for new developments in areas susceptible to the heat island effect. | - EThekwini densification study  
- DMOSS  
- IRPTN  
- SDP’s  
- Housing Sector plan  
- EThekwini Urban Design  
- Adaptation Plan  
- Strategic Environmental Plan  
- Catchment Management Plan  
- NDP  
- IUDF  
- SDG’s  
- Sea level rise tool that shows three different sea level rise scenarios  
- Heat Island Effect report |
| 2. **Reduce urban sprawl and promote a compact city development** | - Minimise the conversion of agricultural land for new urban development  
- Prioritise infill development in areas that provide opportunities for linking and integrating areas  
- Ensure clustering of various activities (work, live, play) at appropriate locations.  
- Densification and Infill should be promoted in well serviced and strategically located areas and should contribute to the restructuring and efficiency of the urban environment  
- Densification and Infill should help to create thresholds for public transport and contribute towards more effective utilization of various modes of public transport.  
- Higher residential densities should be promoted around nodes and within corridors | - In areas where there is sufficient infrastructural capacity, densify the area by the introduction of a mix of land uses.  
- Support rezoning of land to allow for increased densities only in areas identified for densification  
- Prioritise infill areas for development that provide opportunities for linking and integrating communities, neighbourhoods and economic areas  
- Ensure the pre-conditions to densification such as suitable development controls and building regulations, namely, FAR, coverage, setbacks, minimum lot sizes, zoning, parking regulations, height, restrictive title conditions are addressed and discussed with the applicant.  
- Prioritise higher residential densities / housing projects within existing nodes and within public transport corridors | - EThekwini densification study  
- DMOSS  
- IRPTN  
- SDP’s  
- Housing Sector plan  
- EThekwini Urban Design  
- Adaptation Plan  
- Strategic Environmental Plan  
- Catchment Management Plan  
- NDP  
- IUDF  
- SDG’s  
- Sea level rise tool that shows three different sea level rise scenarios  
- Heat Island Effect report |
<p>| 3. <strong>Sustain natural environments and</strong> | - Optimise the economic, social, aesthetic and functional value of open space services through the implementation of DMOSS | - Ensure proposed development does not encroach onto environmentally sensitive land, land within flood plains, and |</p>
<table>
<thead>
<tr>
<th>resources</th>
<th>on land at risk from sea level rise.</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Existing natural environmental resources should be protected and enhanced to ensure that the ecosystem within the open space are able to effectively deliver services such as flood protection, especially in the face of climate change.</td>
<td></td>
</tr>
<tr>
<td>● Development must be directed away from sensitive areas such as floodplains, coastal areas at risk from sea level rise and coastal storms, unstable soils and steep slopes</td>
<td></td>
</tr>
<tr>
<td>● Protect environmentally sensitive areas, agricultural land and open space</td>
<td></td>
</tr>
<tr>
<td>● Protect river catchments and develop catchment management plans for river systems where rapid development will occur</td>
<td></td>
</tr>
<tr>
<td>● Develop coastal management plans</td>
<td></td>
</tr>
<tr>
<td>● Create a network of green open spaces and protect important environmental areas</td>
<td></td>
</tr>
<tr>
<td>● Support sustainable catchment management and stormwater practices.</td>
<td></td>
</tr>
<tr>
<td>● Promote the prevention and reduction of pollution.</td>
<td></td>
</tr>
<tr>
<td>● Protect key water management areas, including dams, to ensure that water quality is not compromised.</td>
<td></td>
</tr>
</tbody>
</table>
8.2.2 STRATEGY 2: Improve access and movement of people and goods between areas of need and areas of opportunity

This strategy is informed by the principle of spatial concentration and promotes efficient movement of people and goods, urban infill and densification. The spatial focus of this strategy is to address challenges relating to spatial fragmentation and distorted settlement patterns within the EMA.

In relation to movement of people the strategy proposes that development should be located so as to reduce the need to travel, especially by car, and to enable people as far as possible to meet their needs locally. Safe and sustainable access for all, particularly by public transport, between homes and employment and a range of services and facilities (such as retail, health, education, and leisure) should be promoted.

In terms of movement of goods a shift towards a more sustainable mode of transport for freight should be secured, an integrated approach to managing travel demand should be encouraged, and road safety improved.

An example of a project that aligns with this strategy is Bridge City, a fairly new mixed use sub-metropolitan node which is located on a major development corridor and transport networks, MR93 and North Coast Road and includes an underground railway station. The locality of the Bridge City site suggests that, from a development perspective, the site is accessible to a local and regional commuter and consumer markets. Bridge City will serve as the social and commercial centre to an area housing a population of over 800,000 people, who at present, have generally poor access to facilities and social services.

Other examples of projects that align with this strategy include the City’s Densification Strategy; the MR 577 (constructed) links Pinetown and Inanda-Ntuzuma-KwaMashu (INK) areas and the MR 579 (proposed) aimed at improving linkages between uMlazi with Pinetown.

Strategy 2 is elaborated further in the table below:
### Table 15: Strategy 2 Policy Statements, Requirements And Land Use Management Guidelines

<table>
<thead>
<tr>
<th>Policy Statements</th>
<th>Requirements to achieve policy statements</th>
<th>Land use management guidelines</th>
<th>Alignment with policies</th>
</tr>
</thead>
</table>
| **4. Improve connectivity within the Municipal area and**      | • Strengthen and integrate public transport networks, services and modes to ensure that passengers move optimally from origin to destination in an efficient manner and in the shortest time possible.  
• Promote public transport links between disadvantaged areas and main economic nodes of the Municipality  
• Reduce the need to travel by vehicular transport which will contribute to the reduction of greenhouse gas emissions.  
• Facilitate movement between areas of need and wider metropolitan opportunities  
• Create a safe, efficient and integrated city wide public transport system and use it as a tool to restructure the Municipality and integrate marginalized areas.  
• Include Non Motorized Transport as essential components of land use and transport planning  
• Investigate new road and rail based network links.  
• Continue ongoing engagement with PRASA to explore potential of improving passenger rail service. | • Around brown field developments: the strategy to create and introduce a vibrant mix of land uses and higher densities must be considered without impacting on the existing amenity of the area while at the same time supporting a more efficient public transport system.  
• In green field developments: the opportunity to density along public transport corridors remains prime with densities of varying intensity toward pure residential development.  
• Promote mixed use, working from home e.g. in the form of online work in zoning and land use management.  
• Identify and maintain non-motorized transport routes  
• Identify public transport feeder routes | • Integrated Transport Plan (2010/15)  
• eThekwini Housing Sector Plan (2011)  
• eThekwini Energy Strategy  
• eThekwini Environmental Services Management Plan  
• National Development Plan  
• Integrated Urban Development Framework (2016)  
• Built Environment Performance Plan (BEPP) |
| **5. Implement Housing within the context of a sustainable and integrated development planning framework** | • Encourage the implementation of housing as part of a broader strategy to re-structure and transform the present sprawling and inequitable urban form into a more compact, integrated and accessible environment.  
• Promote the development of well located areas and optimize the use of existing infrastructure  
• Ensure that movement system directly links with and is supported by strong high intensity nodes and higher density residential development.  
• Integrate land use with economic and transport planning  
• Encourage mixed use environments and non-residential uses in appropriate areas, namely, particularly in identified nodes and along transport腰带 | When assessing new proposed housing developments the following issues must be considered:  
• Is the proposed development inside the Urban Development Line?  
• Is the proposed development in close proximity or within a walking distance to main public transport routes Is the proposed development within walking distance to main nodes and corridors?  
• Does the proposal benefit from good access to economic and social opportunities?  
• Does the layout encourage a grid road structure that provides logical and accessible public transport routes?  
• Identify mechanisms and |
8.2.3 STRATEGY 3: Build and protect vibrant economic areas and lay a foundation for future economic development

This strategy is informed by the principle of enhancing (or harnessing) economic potential, co-ordinated planning and implementation. The strategy aims to promote and enhance the economic role of the EMA within the KZN province. This could be achieved in several ways including:

- Revitalisation of existing economic areas. Examples include Greater Durban and Pinetown CBD.
- Developing new economies (e.g. Cornubia, Umhlanga, Bridge City and Shongweni) and former townships (e.g. Umlazi Megacity and Clermont/ KwaDabeka Regeneration Project and Mpumalanga Town Centre).
- Facilitating emerging and informal economic activity for example Warwick Junction.
- Identifying industrial and business expansion opportunities in areas such as Cato Ridge, Inyaninga / Tongaat and Dube Trade Port.
- Improving freight and passenger linkages (as per the Integrated Rapid Public Transportation Network study recommendations)

Strategy 3 is elaborated further in the table below:

<table>
<thead>
<tr>
<th>Policy Statements</th>
<th>Requirements to achieve policy statements</th>
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<th>Alignment with policies</th>
</tr>
</thead>
</table>
| Revitalize economic areas of major significance | - Encourage economic restructuring and development in existing and prioritized economic nodal areas and corridors.  
- Establish incentive for businesses to locate in established areas to avoid decentralization of businesses and increasing vacancy rates and declining amenity at the centre. | - Translation of the Municipality’s economic Plan into the Schemes as it relates to market trends.  
- Updating and Review of the Schemes to promote emerging land uses.  
- Ensure quality environments as it relates to built form. | - eThekwini Economic Development and Job Creation Strategy (2013)  
- eThekwini Industrial |
|   | Develop new economic areas to augment and diversify the economic base of EMA | Enable and encourage the promotion of a wide range of economic sectors to complement each other | All new zoned land to continuously promote a variety of vibrant land uses that will promote the Municipality’s vision and quality environments.  
  - Consider energy generation from renewable sources in town planning scheme and related policies. | Spatial Strategy  
  - Economic Review and the Industrial Strategy  
  - eThekwini Energy Strategy |
|---|---|---|---|---|
| 8 | • Promote the Green Economy including the generation of energy from renewable sources in the eThekwini municipal area.  
• Promote and manage investment into energy generation from renewable sources  
• Focus economic growth and job creation through investment nodes and tourism corridors | | |
|   | Develop spaces to facilitate economic activity which should encompass informal trading economy and SMME’s | Focus employment interventions to include the marginalized sectors of the population to support emerging and informal enterprises | Introduce land use policies and mechanisms that will support the development of small business and allow for location of trading facilities in established market areas  
• Where appropriate ensure that the informal sector and small business opportunities are not excluded from formal economic development  
• Facilitate, support and extend agricultural production and distribution networks | |
| 9 | | | |
|   | Identify appropriate industrial and business infill and expansion paths to accommodate demand | Protect existing industrial land and identify new opportunities for Industrial development | The Industrial development strategy must be used as a guide in assessing industrial development applications  
• Carefully consider the compatibility of proposed land use when assessing rezoning application especially in predominantly residential areas  
• Do not support growth of ad hoc industrial areas, use nodal areas, transport routes and service availability as guidelines | |
| 10 | Address spatial economic imbalance | Ensuring there is spatial integration of investment for local economic development.  
• Development of LED strategies for key nodal and under-invested areas  
• Unlock employment generating opportunities in areas that lack economic opportunities  
• Bring economic opportunities closer to where people live  
• Improve /establish access to facilitate that are of major importance  
• The development of nodes should take into consideration rural-urban linkages | Support development initiatives in locations that are easily accessible especially to areas of need | |
8.2.4 STRATEGY 4: Ensure eThekwini strategies and policies are proactive in responding to and promoting rural development, food security and agriculture

This strategy is informed by the principle of Balanced and Sustainable urban and rural development. This strategy provides the basis for integration of the rural areas into the mainstream growth and development of the municipal area. This includes understanding the nature of the space economy and how urban and rural activities support each other (e.g. agriculture and agricultural processing) and adopting policies that could strengthen this relationship (e.g. protect agricultural land from development and diversifying agricultural opportunities and rural economies). There is also the need to understand the roles of rural settlements in the space economy and promote future development that is supportive of this role. For this strategy, reference is made to the eThekwini Rural Development Strategy (2016) and the proposed development of priority rural nodes i.e. Inchanga, Umbumbulu, KwaXimba, uMzinyathi and Umnini nodes.

The strategies formulated for the rural areas are aligned with the sector plans as contained in the IDP summarized here as follows:

- **Economic development**, facilitation of community based economic development with emphasis on skills development, agriculture support, cultural and eco-tourism and sustainable livelihood opportunities, renewable energy generation potential, public investment focused on rural service centres,
- **Transportation**, provided by the Integrated Public Transportation Network,
- **Housing and services**, providing appropriate rural servicing packages in line with affordability, sustainable use of natural resources and minimisation of environmental impact, public investment to be focused on rural service centres, provision of waterborne services in areas no longer classified as “rural”,
- **Environment**, securing threatened environmental areas on which the health of the urban periphery and core depend, promoting good land management via appropriate land use management and catchment management mechanisms, maximising open space opportunities for eco and cultural tourism, sustainable livelihood opportunities and agriculture.

- **Land Use Management and Institutional Arrangements**: preparing detailed plans that can be surveyed is the most obvious starting point in addressing the challenges associated with densities. This intervention will ensure that all the land spaces vacant and settled are properly accounted for through planning and meeting requirements of SPLUMA for wall to wall schemes. This process should take into account institutional strategies as the engagement of all stakeholders is crucial. The composition of teams should be such that the team undertaking the planning tasks includes social and GIS or surveyor skills who will account for all existing structures and the communities’ perceived boundaries. The settlement layout plan should clearly indicate the proposed densities from design point of view.

- **Servicing**: Servicing the areas based on the area character rather than tenure character.
- The municipality should ensure that services in denser areas are at appropriate levels so that such areas are sustainable. Prevalent tenure arrangement should not be a consideration in the servicing of areas. Discussions and investigations are underway by servicing Departments to look for sustainable solutions to realise this.

- **Capacity Building**: Capacitating local stakeholders to manage land and densities effectively

- This strategy seeks to address the anomalies created by the different roles and responsibilities within land management. It is suggested that training programmes be developed in conjunction with COGTA to ensure that the traditional authorities are kept abreast of land management techniques. The training should include land restrictions e.g. servitudes, road reserves, environmental zones etc. Possible programmes will include training of ward committees, amakhosi, izinduna on environmental issues and road safety amongst other things

### Table 17: Strategy 4 Policy Statements, Requirements And Land Use Management Guidelines

<table>
<thead>
<tr>
<th>Policy Statements</th>
<th>Requirements to achieve policy statements</th>
<th>Land use management guideline</th>
<th>Alignment with policies</th>
</tr>
</thead>
</table>
| 1. Protect and enhance the city’s rural environment | Conserve critical environmental assets  
Conserve good agricultural potential land for future food security and job creation  
Prevent unconventional urban development from intruding into the rural environment | Defend rural landscape  
Support appropriate development and activities in rural areas | eThekwini Municipality rural development framework (currently being updated)  
eThekwini Energy Strategy  
National Development Plan (2011) |
| 2. Promote integrated and appropriate development in the rural periphery | Facilitate sustainable and integrated service delivery,  
Development of Human Settlements in line with National and Provincial Policies  
Development of rural service nodes and rural corridors | Develop a clear hierarchy of rural service nodes and corridors  
Promote and support integrated housing development in rural areas | |
| 3. Establish appropriate land use planning and management guidelines for rural development | Clear understanding of the nature and role of rural areas within the wider eThekwini Municipal area  
Extension of appropriate land use management tools or schemes | See details below of land use guidelines for the Umnini Rural Scheme Pilot Project. The rural scheme project will be rolled out in other rural areas across the Municipality. | |
| 4. Promote the opportunities of generating renewable energy in rural areas | Investigate the potential of resources for renewable energy generation and appropriate technologies  
Facilitate investment into renewable energies in rural areas  
Existing renewable energy | Include and manage generation of renewable energy as an additional land use. | |
The Umnini Rural Scheme pilot project takes into account the existing institutional arrangements and processes i.e. Ingonyama Trust Board (ITB) and Traditional Authorities. The introduction of the scheme in Traditional Authorities will not replace the existing land administration system but rather enhance it. The Umnini Scheme has developed the following set of guidelines:

Table 18: Umnini Rural Scheme Land Use Guidelines

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Land Use Guidelines</th>
</tr>
</thead>
</table>
| Placement of buildings in relation to roads | For safety reasons all buildings should be set back from roads:  
  - National Roads: 60m from edge of the fence line of the road  
  - Provincial Main Roads: 30m reserve and 15m building line  
  - District roads: 20m road reserve and 10m measured from the edge of the road reserve boundary.  
  - Local Roads: 10m road reserve and 5m building line  
  - Un-surveyed Main Roads: 30m measured from the approximate centre line of the road or 16m from approximate edge of the road  
  - Un-surveyed District Roads: 20m measured from the approximate centre line of the road or 11m from approximate edge of the road  
  - Un-surveyed Local Roads: 10m measured from the approximate centre line of the road or 6m from approximate edge of the road |
| Imizi                           | Adequate space about buildings for future installation of services.  
  - Cluster residential development together to retain land for agricultural development, minimize impact on sensitive environmental areas, and facilitate efficient provision of basic services.  
  - Cluster houses near interSections and places with good access to road network so that people can access public transport.  
  - Access to individual houses off busy main roads should be limited.  
  - Access should be gained off side roads where the interSection of the road with the main road has been approved by the Municipal Civil Engineer.  
  - Access off Provincial Roads requires the permission of the Provincial Department of Transport in terms of the KwaZulu-Natal Provincial Roads Act, Act No. 4 of 2001.  
  - Demarcate adequate space for grazing land, cattle vaccine, dipping and dosing |
| Crèches                         | Baby care – less than 6 infants.  
  - Crèche – 6 or more children.  
  - Need access to clean water for cooking and cleaning, as well as access to toilet facilities. |
| Pension pay points              | These may be associated with community halls, shops, post offices, or an open space.  
  - A waiting/queuing area should be provided away from the road so that queues do not encroach into the road.  
  - A place should be provided for parking of vehicles off the road.  
  - A space should be provided for the traders that set up stalls on pension day. This should be located away from the road to ensure safety of traders and shoppers. |
| Tuck Shops/ Farm stalls / spazas | If separate from the homestead, the building must be set back from the road as recommended above.  
  - Any facility larger than 25m$^2$ is classified as a shop and requires the permission of the municipality as well as the Traditional Leader structures.  
  - If loading is part of the operation adequate off road space must be provided to accommodate the delivery vehicle. |
| Taverns                         | May not be located near schools, churches or crèches.  
  - All applications must be referred to the Municipality who will only consider applications by the Special Consent, with full advertisement; which Special Consent may be withdrawn on sufficient complaints by neighbours or the surrounding community. |
| Home                            | Should generally be facilitated as long as the predominant use of the building/s
<table>
<thead>
<tr>
<th>Land Use</th>
<th>Land Use Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Businesses</td>
<td>Businesses remain residential and the impact on neighbours is not onerous.</td>
</tr>
<tr>
<td>Cell masts</td>
<td>- No approval without an EIA and the granting of environmental authority from the relevant Department.</td>
</tr>
<tr>
<td></td>
<td>- Consideration must be given to potential impacts on views and health of children.</td>
</tr>
<tr>
<td>Steep slopes</td>
<td>- No development on slopes steeper than 1:3 without a full geotechnical study and a certificate from a suitably qualified professional.</td>
</tr>
<tr>
<td>Stream valley protection</td>
<td>- No development within an appropriate buffer from the boundary of wetlands and riparian areas as determined by Environmental Planning and Climate Protection Department, Development Planning, Environment and Management Unit, eThekwini Municipality</td>
</tr>
<tr>
<td>Sand winning</td>
<td>- No sand-winning without an EIA and the granting of environmental authority from the relevant Department that takes into account the impact on the river as well as the impact of access by trucks to and from the site.</td>
</tr>
<tr>
<td></td>
<td>- Special consent of the Municipality is also required.</td>
</tr>
<tr>
<td>Storm water management</td>
<td>- Any development, particularly hardened surfaces increases storm water run-off that must be accommodated to prevent erosion and potential flooding hazards.</td>
</tr>
<tr>
<td></td>
<td>- Any development on a site must include some natural ground or vegetation to absorb run-off. A rough guide is that 25% of the site should be set aside as natural ground, planting or landscaping.</td>
</tr>
<tr>
<td></td>
<td>- Wetlands and reed beds to be protected to assist in storm water management.</td>
</tr>
</tbody>
</table>

8.3 Spatial Monitoring and Evaluation

The White Paper on Local Government (1998), states that “integrated development planning, budgeting, and performance management are powerful tools which can assist municipalities to develop an integrated perspective on the development in their area. It will enable them to focus on priorities within an increasingly complex and diverse set of demands. It will enable them to direct resource allocation and institutional systems to a new set of development objectives.”

Furthermore, the Municipal Finance Management Act of 2003 (MFMA) obligates a municipality to complete and adopt the Service Delivery and Budget Implementation Plan (SDBIP). The SDBIP links the IDP with the municipal budget and is based on specific targets and performance indicators derived from the IDP/BEPP. Section 67 of the MSA also highlights the monitoring, measuring and evaluation of performance by the municipalities. Similarly, for eThekwini Municipality, the monitoring and evaluation of the impact of the SDF is an on-going process that is inclusive, interactive and involves consultation with various stakeholders (internal and external). This process is viewed by the municipality as being critical in that it identifies areas that need improvement, identifies priorities and interventions.

The monitoring and evaluation process also involves the identification and allocation of roles and responsibilities for different role players while at the same time documenting all the activities that are taking place as part of the SDF review process. The SDF reporting is done through the SDBIP annual reporting and municipal Annual Balanced Score Card system Spatial Monitoring, Evaluation and Spatial Targeting are highlighted in the Capital Investment Framework section outlined below.
8.4 Capital Investment Framework

8.4.1 The Municipal Infrastructure Investment Framework

The municipality has embarked on a Municipal Infrastructure Investment Framework for the city. The municipality is committed to ensuring that all backlogs in the provision of infrastructure are removed. However, this must be done in such a way so as to ensure that the municipality, which is at the forefront of infrastructure delivery, remains financially viable and have the capacity to operate and maintain this infrastructure.

The Municipal Infrastructure Investment Framework (MIIF) thus aims to establish:

- The extent of infrastructure to be provided;
- The capital expenditure required to provide this infrastructure;
- The extent to which financing is available for this capital expenditure;
- The operating expenditure required to ensure that the infrastructure provided is properly operated and maintained;
- The extent to which revenue can be raised to cover this operating expenditure, within the provisions of the Municipal Fiscal Framework.

The framework also considers the monitoring systems required to assess progress with respect to infrastructure delivery as well as processes to ensure that systems and management capacity are in place in municipalities to manage the infrastructure, with the emphasis on a municipal infrastructure asset management strategy. The Capital Investment Framework (CIF) outlines the capital projects and priorities which the Municipality will undertake within the next five years. The capital projects and priorities are as a consequence of strategies and goals set by the Municipality in order to achieve the desired outcomes and vision.

The Capital budget is directly informed by the needs submitted by the community through the IDP process. The capital budget continues to reflect consistent efforts to address backlogs in basic services and the renewal of the infrastructure of existing network services.

8.4.2 Overview of past capital budget allocation and expenditure

The table below indicates the Capital spend on ‘Basic Service Delivery’ items over the past three years. One will observe that the bulk of the Capital is spent on ‘Basic Service Delivery’ infrastructure. This pattern of expenditure is expected to be maintained for the foreseeable future.
Capital utilised for Infrastructure

<table>
<thead>
<tr>
<th>Human Settlement and infrastructure</th>
<th>2012</th>
<th>%</th>
<th>2013</th>
<th>%</th>
<th>2014</th>
<th>%</th>
<th>2015</th>
<th>%</th>
<th>2016</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing and Hostels</td>
<td>61,657</td>
<td>50,066</td>
<td>64,029</td>
<td>361,592</td>
<td>320,712</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roads and Storm Water (Engineering)</td>
<td>1,056,450</td>
<td>928,350</td>
<td>971,865</td>
<td>862,687</td>
<td>645,586</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport (ETA)</td>
<td>120,772</td>
<td>198,586</td>
<td>296,182</td>
<td>875,203</td>
<td>1,437,839</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procurement</td>
<td>252</td>
<td>208</td>
<td>233</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanitation</td>
<td>426,008</td>
<td>576,599</td>
<td>822,062</td>
<td>583,041</td>
<td>502,715</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solid Waste</td>
<td>159,435</td>
<td>139,732</td>
<td>140,061</td>
<td>58,984</td>
<td>72,787</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>292,975</td>
<td>282,492</td>
<td>838,044</td>
<td>824,636</td>
<td>563,890</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity Services</td>
<td>567,382</td>
<td>606,097</td>
<td>526,070</td>
<td>541,797</td>
<td>601,678</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td>2,623,931</td>
<td>75</td>
<td>2,782,130</td>
<td>80</td>
<td>3,658,546</td>
<td>87</td>
<td>4,107,940</td>
<td>87</td>
<td>4,145,207</td>
<td>84</td>
</tr>
<tr>
<td><strong>Total Capital</strong></td>
<td>3,484,739</td>
<td>3,468,713</td>
<td>4,201,622</td>
<td>4,716,504</td>
<td>4,902,924</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table below indicates the actual borrowings and the future loans to be taken to continue the service delivery programme.

<table>
<thead>
<tr>
<th></th>
<th>Forecast</th>
<th>2017/18 MTREF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2017 R'm</td>
<td>2018 R'm</td>
</tr>
<tr>
<td><strong>Total debt</strong></td>
<td>9,063</td>
<td>9,359</td>
</tr>
<tr>
<td><strong>Loans Raised</strong></td>
<td>700</td>
<td>1,000</td>
</tr>
</tbody>
</table>

Over the MTREF period gearing reduces to 32%.

**Approach to Longer Term Borrowing**

Long term borrowings in eThekwini have been mainly in the form of annuity loans, with a significant proportion borrowed from the Development Bank of South Africa and financial institutions. The dominance of annuity loans within eThekwini’s borrowing portfolio is largely due to the ability of the City to source competitive interest rates from financial institutions. While a bond issuance is a viable option for eThekwini, in part due to an excellent credit rating of -AA annuity loans are preferred.

This is because they are a cheaper source of finance and are less risky for the City, as the principal is paid over the duration of the loan instead of a bullet payment at the end of the term. The City has in the past preferred fixed interest rate annuity loans as they eliminate interest risk associated with variable rate loans.
The eThekwini Municipality’s loan requirement for 2017/18 is R 1.0 billion, and it is anticipated that this loan will be drawn down by the 30 June 2017.

8.4.2.1 Capital Allocations
The Capital Budget from 2017/18 to 2019/20 increased by R392m cumulatively to fund increased expenditure on major infrastructure (Roads, Electricity, Water & Sanitation) and ETA.

The capital budget totaled R7.5 billion in 2017/18. This was funded by National and Provincial grants in the amount of R3.8 billion and R1.0 billion being funded from Council’s internal sources, with the balance of R2.7 billion from external sources.

8.4.2.2 Capital Sources
In order to contribute funds for future capital expenditure and to reduce dependence on borrowed funds, a Capital Replacement Reserve has been established, and funded from the following sources:-

- Any betterment achieved from budgeted Water and Electricity operating results, including savings achieved through reductions in losses in distribution
- Any betterment in Rate and General operating results
- Dependentent on the impact of tariffs, an additional contribution will be considered

To maximize additional revenue sources, the following will be pursued:-

- Maximize investment rates, especially on call account
- Development charge
- Grant income to be maximized

Borrowing indicators

<table>
<thead>
<tr>
<th>R million</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
<th>10/11</th>
<th>11/12</th>
<th>12/13</th>
<th>13/14</th>
<th>14/15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrowings</td>
<td>5,322.8</td>
<td>6,070.3</td>
<td>8,674.6</td>
<td>10,110.4</td>
<td>10,679.0</td>
<td>10,642.0</td>
<td>10,248.0</td>
<td>10,241.0</td>
</tr>
<tr>
<td>Gearing Ratio (%)</td>
<td>34.9</td>
<td>35.6</td>
<td>46.3</td>
<td>50.9</td>
<td>45.5</td>
<td>39.9</td>
<td>46.0</td>
<td>41.0</td>
</tr>
<tr>
<td>Finance Charges</td>
<td>513.8</td>
<td>598.5</td>
<td>690.8</td>
<td>687.3</td>
<td>855.0</td>
<td>1,152.0</td>
<td>819.0</td>
<td>897.0</td>
</tr>
<tr>
<td>Capex</td>
<td>4,724.6</td>
<td>5,987.7</td>
<td>6,493.6</td>
<td>4,614.8</td>
<td>4,088.6</td>
<td>5,285.2</td>
<td>4,202.0</td>
<td>4,687.0</td>
</tr>
<tr>
<td>Internal Capex Funding</td>
<td>1,739.8</td>
<td>2,830.0</td>
<td>1,828.6</td>
<td>979.1</td>
<td>583.1</td>
<td>482.6</td>
<td>661.0</td>
<td>907.6</td>
</tr>
</tbody>
</table>

8.4.2.3 Capital Expenditure
Investment in urban infrastructure is important for the development of the local economy, combating poverty and the provision of universal access to municipal services. Rapid inward population migration, declining household sizes and greater economic activity places pressure on existing municipal infrastructure and require larger investments in the periods ahead. In addition to the rollout
of service delivery infrastructure, the municipality's capital expenditure is also directed towards economic stimulus and job creation.

The capital budget is directly informed by the needs submitted by the community through the IDP process. In view of borrowings being maximised and the present economic climate, the high levels of capital expenditure cannot be sustained.

### 8.5 Capital Budget Summary

**CAPITAL BUDGET - HIGH LEVEL SUMMARY PER UNITS**

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>BUDGET 2017/18 Rm</th>
<th>BUDGET 2018/19 Rm</th>
<th>BUDGET 2019/20 Rm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Settlements and Infrastructure</td>
<td>3,218.175</td>
<td>3,081.954</td>
<td>3,341.824</td>
</tr>
<tr>
<td>Housing</td>
<td>1,289.375</td>
<td>1,272.657</td>
<td>1,318.179</td>
</tr>
<tr>
<td>Engineering</td>
<td>689.152</td>
<td>717.451</td>
<td>753.323</td>
</tr>
<tr>
<td>eThekwini Transport Authority</td>
<td>1,209.121</td>
<td>1,089.846</td>
<td>1,258.322</td>
</tr>
<tr>
<td>Gas to Electricity</td>
<td>30.527</td>
<td>2.000</td>
<td>12.000</td>
</tr>
<tr>
<td>Trading Services</td>
<td>2,414.055</td>
<td>2,509.434</td>
<td>2,692.954</td>
</tr>
<tr>
<td>Electricity</td>
<td>890.000</td>
<td>891.000</td>
<td>1,001.000</td>
</tr>
<tr>
<td>Water</td>
<td>791.134</td>
<td>820.698</td>
<td>861.733</td>
</tr>
<tr>
<td>Sanitation</td>
<td>617.921</td>
<td>654.209</td>
<td>689.418</td>
</tr>
<tr>
<td>Cleansing and Solid Waste</td>
<td>115.000</td>
<td>143.527</td>
<td>140.803</td>
</tr>
<tr>
<td>Community and Emergency Services</td>
<td>612.442</td>
<td>608.879</td>
<td>629.228</td>
</tr>
<tr>
<td>Emergency Services</td>
<td>68.600</td>
<td>73.400</td>
<td>69.200</td>
</tr>
<tr>
<td>Disaster Management and Emergency Control</td>
<td>13.340</td>
<td>8.900</td>
<td>17.515</td>
</tr>
<tr>
<td>Health</td>
<td>15.196</td>
<td>27.214</td>
<td>37.942</td>
</tr>
<tr>
<td>Parks, Recreation, Cemeteries and Culture</td>
<td>515.306</td>
<td>499.465</td>
<td>504.571</td>
</tr>
<tr>
<td>Economic Development and Planning</td>
<td><strong>398.788</strong></td>
<td><strong>517.284</strong></td>
<td><strong>519.063</strong></td>
</tr>
<tr>
<td>Economic Development and Facilitation</td>
<td>251.200</td>
<td>173.800</td>
<td>232.408</td>
</tr>
<tr>
<td>Business Support</td>
<td>33.690</td>
<td>71.000</td>
<td>33.000</td>
</tr>
<tr>
<td>Retail Markets</td>
<td>32.080</td>
<td>24.500</td>
<td>24.090</td>
</tr>
<tr>
<td>Development and Planning</td>
<td>3.780</td>
<td>4.860</td>
<td>-</td>
</tr>
<tr>
<td>Urban Renewal Project</td>
<td>71.878</td>
<td>240.624</td>
<td>229.565</td>
</tr>
<tr>
<td>Durban Tourism</td>
<td>4.160</td>
<td>500</td>
<td>-</td>
</tr>
</tbody>
</table>
The 2017/2018 Medium Term budget is a total consolidated budget of R 45.0 billion which has been developed with an overall planning framework and includes programmes and projects to achieve the city’s strategic objectives. This budget was set against the context of a constrained fiscal environment where tough choices had to be made to achieve the development outcomes for the city. Economic challenges will continue to pressurise municipal revenue generation and collections in 2017/18, hence a conservative approach has been adopted when projecting expected revenues and receipts. Despite increasingly challenging circumstances, service delivery will continue to be sustained through this budget by reprioritising expenditure to ensure key objectives are achieved. Provisions in this medium term budget continue to support government’s commitment to broadening service delivery and expanding investment in infrastructure. This budget has been developed to contribute to the municipality achieving the strategic objectives of the IDP. The 2017/2018 MTREF is informed by the municipality’s long-term financial strategy with emphasis on affordability and long-term sustainability. National Treasury’s MFMA Circular No. 85 was used to guide the compilation of the 2017/18 MTREF. In addition, this budget format and content incorporates the requirements of the Municipal Budget and Reporting Regulations.

This budget has been developed to contribute to the municipality achieving the strategic objectives of the IDP and SDF.

The following budgeting PRINCIPLES were applied in formulating the medium term budget:

- Sustainable, affordable, realistic and balanced budget
- Realistic and achievable collection rates
- Major tariffs to be cost reflective, realistic and affordable
- Budget to contribute to achieving strategic objectives of the IDP
- Loans to be sustainable and affordable and utilised for capital projects only
- Balancing capital expenditure for social, economic, rehabilitation and support
- Need to ensure rates based growth to ensure sustainability of free basic services
- Income/Revenue driven budget: affordability i.e. if funds do not materialise review expenditure
- Holistic: account for basket of goods & services provided, they are needs driven into the IDP
- Income/Revenue driven budget: affordability i.e. if funds do not materialise review expenditure

![2017/18 Total Budget](image)

*Figure 103: 2017/2018 Total Budget R45.0 billion*

This budget seeks to continue addressing the backlog in infrastructure and service delivery in order to deliver for all. The municipality is committed towards ensuring that the limited financial resources are maximized for service delivery. This infrastructure roll-out will allow the municipality to focus on creating the economic environment in which investment thrives and jobs can be created. This budget has also been developed within an overall planning framework and includes programmes and projects to achieve the municipality’s strategic objectives.

### 8.6.1 Strategic Priorities for the 2017/2018 Year

The municipality has identified the following priority areas to be addressed during the 2017/18 financial year.

- Water challenges
- Human settlements;
- Economic development
- Financial sustainability;
- Climate change mitigation
• Service delivery backlogs
• Access to public transport;
• Human capital development;
• Energy challenges;
• Health of society;
• Safer city
• Food security;
• Sustainable spatial form;
• Rural development;
• Infrastructure degradation;
• Undermining natural capital;
• Safer city

8.6.2 2017/18 Capital Budget [Medium Term Revenue and Expenditure Framework (MTREF)]

Capital expenditure is budgeted to rise to R 7.5 billion in 2017/18 and thereafter to R 7.4 billion in 2018/19 and R 7.9 billion in 2019/20. R 9.6 billion (approximately 41 %) is allocated to meeting Human settlements and infrastructure over the medium term. R 7.6 billion is allocated to trading services over the medium term (Water, Electricity, Sanitation and Solid Waste. The capital budget continues to reflect consistent efforts to address backlogs in basic services and the renewal of the infrastructure of existing network services.

![Capital Budget 2017/18](image)

*Figure 104: Budget Year Capital Expenditure programme per vote*

The following are some of the Major Capital programmes, which have been included in the Medium Term Capital budget:
<table>
<thead>
<tr>
<th>PROJECT / ITEM</th>
<th>R' m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low cost Housing and Infrastructure</td>
<td>3 691.8</td>
</tr>
<tr>
<td>EThekwini Transport Authority (Including PTIS)</td>
<td>3 557.3</td>
</tr>
<tr>
<td>Electricity Infrastructure</td>
<td>2 757.0</td>
</tr>
<tr>
<td>Addressing Community Service Backlogs</td>
<td>1 311.2</td>
</tr>
<tr>
<td>Water Loss Intervention Programme</td>
<td>80.5</td>
</tr>
<tr>
<td>Roads Rehabilitation and Reconstruction, and New Access roads</td>
<td>1 574.8</td>
</tr>
<tr>
<td>Wastewater Treatment Works: Upgrades/Expansion</td>
<td>301.6</td>
</tr>
<tr>
<td>Northern Aqueduct – Water</td>
<td>533.6</td>
</tr>
<tr>
<td>Western Aqueduct – Water</td>
<td>138.7</td>
</tr>
<tr>
<td>Solid Waste Fleet Replacement</td>
<td>90.0</td>
</tr>
<tr>
<td>Ablution Blocks-Upgrade: Informal Settlements</td>
<td>709.3</td>
</tr>
<tr>
<td>Inner City Regeneration and Warwick Development</td>
<td>211.5</td>
</tr>
<tr>
<td>Town Centre Renewals – Nodal developments</td>
<td>212.5</td>
</tr>
</tbody>
</table>

8.6.3 Economic / Social Development

The city’s Economic Development strategy has set the city on a development path that prioritises investment in infrastructure and promotes private sector partnerships and investments. The recently adopted Economic Development Incentive policy seeks to attract development to the city by offering incentives with a long term view in growing city revenue. Accordingly, the key focus of capital expenditure activities (in addition to service delivery capex) is on catalytic projects which boost rates and services income for the municipality while also creating employment and improved accessibility. To this end major investments are planned for the Inner City and a total of R 26 billion is being invested in the Cornubia mixed use development. As part of the Urban Regeneration Plan, the municipality has embarked on a R460 million plan to revitalise the Isipingo Town Centre and unlock the areas full economic potential. The city is considering a proposal received for the redevelopment of the Virginia Airport site into a mixed-use development with hotels, offices and upmarket houses. This site has been assessed as a catalytic project which the city aims to redevelop and reintegrate with its surrounding nodes. Another exciting project in the pipeline is the Centrum site development within the Inner City which aims to develop a new mixed-use precinct. The objective includes developing new public service buildings such as the central library and natural science museum municipal complex and Government Boulevard.

Being the busiest port in Africa and the chain driver of local economies, the municipality is looking into ways to unlock the regions ocean economy potential and to position Durban as a “smart port city” in order to accelerate growth in the local, provincial and national economy. This includes exploring the area around the port for manufacturing that would increase exports and create job opportunities as well. In this regard there are expansion plans to increase the volume of container trade. The city is currently focusing on the biggest infrastructural project it has ever undertaken, the integrated rapid transport plan (GO! Durban) to ensure a world class transport system. The R 20 billion transformation of Durban public transport system is expected to connect 600 000 commuters across the city to nine
public transport corridors by 2027. The plan will ensure a safe and easily accessible transport network and integrate motorised and non-motorised transportation. The municipality has recently announced a R 280 million interchange to link the Cornubia development and the Umhlanga precinct. The interchange was integral to the city’s proposed rapid public transport system (Go! Durban) and is expected to alleviate traffic congestion on the M41. The second phase of the Western Aqueduct, the city’s biggest ever bulk water pipeline is more than half way complete and is progressing well, being on target for completion in 2017. This project will significantly increase the capacity of the bulk water supply and meet the needs of the greater eThekwini region for the next 30 years.

In order to support economic growth in the city, council has recently adopted the Integrated Freight and Logistics strategic framework and action plan for eThekwini. In this regard, the Clairwood Logistics Park is to be developed to meet the growing demand for A-grade logistics and distribution facilities in the south of the city. It is expected to create an estimated 19 000 jobs during the four-year construction period and more than 4 500 jobs after completion. Further, a R 6 billion economic catalyst project, Keystone Park is being developed as a logistics and light industrial precinct at the Hammarsdale interchange. The construction phase is expected to create 3,500 jobs and over 6,000 direct jobs during operations. In order to address the challenge of road congestion by trucks collecting cargo from the port, plans for a dry port to handle container and bulk cargo in Cato Ridge are slowly taking shape. Cargo will be transferred from the port via rail line to trucks that will pick up at Cato Ridge. There are also plans to develop the Cato Ridge logistics Hub which will include mega truck stop facilities, containers and car terminals, tank farm, and industrial and commercial development. The project is considered to be a catalyst and is expected to create employment opportunities.

8.6.4 Capital Funding and Projected Expenditure

In terms of funding the capital budget, the municipality is in a fortunate position to undertake much needed service delivery programmes from both internally generated reserves and long term external funding. In the latter case, the municipality with its sound financial credentials has financing options available that are in line with the MFMA and the Municipal Borrowing Framework. Section 45 of the MFMA guides short term borrowing in the city.

In line with the anticipated budget performance, and taking into account the National and Provincial grant allocations, the municipality will continue to fund each financial year’s operating budget from current revenues.

Investments for the municipality are done in accordance and adherence with the Municipal Investment Regulation of the MFMA, Councils Investment Policy and other relevant legislation. Cash flow forecasts and cash needs by the city provide guidance for the type of investments employed.
The investments are made with primary regard to the risk profile, liquidity needs of the city and the return on investments. In so far as the investment and borrowing activities are concerned, all the requirements of the MFMA have been complied with.

The ability of the eThekwini Municipality to deliver on progress depends a lot on its funding sources which are summarised as follows:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Capital Budget</td>
<td>7,524,833</td>
<td>7,424,032</td>
<td>7,917,514</td>
</tr>
<tr>
<td><strong>Funded as Follows</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grant Funding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017/2018</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018/2019</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019/2020</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal Funding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017/2018</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018/2019</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019/2020</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Funding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017/2018</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018/2019</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019/2020</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Capital Budget</td>
<td>7,524,833</td>
<td>7,424,032</td>
<td>7,917,514</td>
</tr>
</tbody>
</table>

R7.5 billion in 2017/18, R7.4 billion in 2018/19 and to R79 billion in 2017/18. The following diagram reflects the proposed capital expenditure program over the next three years by vote:

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>BUDGET 2017/18 Rm</th>
<th>BUDGET 2018/19 Rm</th>
<th>BUDGET 2019/20 Rm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Settlement and Infrastructure</td>
<td>3,218.175</td>
<td>3,084.954</td>
<td>3,341.824</td>
</tr>
<tr>
<td>Housing</td>
<td>1,289.375</td>
<td>1,272.657</td>
<td>1,318.179</td>
</tr>
<tr>
<td>Engineering</td>
<td>689.152</td>
<td>717.451</td>
<td>753.323</td>
</tr>
<tr>
<td>eThekwini Transport Authority</td>
<td>1,209.121</td>
<td>1,089.846</td>
<td>1,258.322</td>
</tr>
<tr>
<td>Gas to Electricity</td>
<td>30.527</td>
<td>2.000</td>
<td>12.000</td>
</tr>
<tr>
<td>Trading Services</td>
<td>2,414.055</td>
<td>2,509.434</td>
<td>2,692.954</td>
</tr>
<tr>
<td>Electricity</td>
<td>890.000</td>
<td>891.000</td>
<td>1,001.000</td>
</tr>
<tr>
<td>Water</td>
<td>791.134</td>
<td>820.698</td>
<td>861.733</td>
</tr>
<tr>
<td>Sanitation</td>
<td>617.921</td>
<td>654.209</td>
<td>689.418</td>
</tr>
<tr>
<td>Cleansing and Solid Waste</td>
<td>115.000</td>
<td>143.527</td>
<td>140.803</td>
</tr>
<tr>
<td>Community and Emergency Services</td>
<td>612.442</td>
<td>608.879</td>
<td>629.228</td>
</tr>
<tr>
<td>Emergency Services</td>
<td>68.600</td>
<td>73.400</td>
<td>69.200</td>
</tr>
<tr>
<td>Disaster Management and Emergency Control</td>
<td>13.340</td>
<td>8.900</td>
<td>17.515</td>
</tr>
<tr>
<td>Health</td>
<td>15.196</td>
<td>27.214</td>
<td>37.942</td>
</tr>
</tbody>
</table>
The Municipal Integrated Development Plan (IDP) Review 2017/18; Medium Term Revenue and Expenditure Framework (MTREF) 2016/17 and the Service Delivery and Budget Implementation Plan 2017/18 will provide extensive details on all current projects.

### 8.7 Spatial Planning Priorities and Budget Alignment Processes

#### 8.7.1 Strategic Level Assessment

A significant amount of work has been undertaken by the eThekwini Municipality in attempting to align spatial planning priorities and inform the city’s budget.

In 2007, based on initial work done on the SDF/SDP’s, a strategic level assessment was made of the bulk infrastructure required to support the future growth of the municipality. The assessment revealed that the North region (north of the Umgeni River to the Tongati river boundary) within a city-wide context, offered the greatest potential for new development and hence the largest opportunity for expanding the municipal rates base. The reasons for this, was that in the metropolitan context, the North region was anticipated to yield the greatest proportion of new low income housing construction. It was also projected that 73% of the metropolitan residential growth, 88% of mixed use (a mix of commercial, office and residential land use) and 34% of industrial expansion would occur in the North region. Economic development was focussed in the North region and it was considered that this trend
would be likely to continue for the foreseeable future with the construction of flag ship economic projects such as the Dube Trade Port.

The North comprises a number of waste water treatment catchment areas. Of these catchments it made financial, engineering and planning sense to focus development in the Ohlange catchment. Furthermore, from an infrastructure network perspective it was considered preferable to incrementally grow the network outwards rather than to provide infrastructure to ‘islands’ of development beyond the current urban area. The Ohlange catchment exhibited an excellent mix of private development (which provided for the expansion of the municipal rates base) and public housing development (which is not rateable but which addresses social and equity priorities.) In the North region, the Ohlange is the only catchment where development was not being severely constrained by the uncertainty around how much treated sewage effluent can legally be discharged into the municipal river systems. The non-completion, by the Department of Water Affairs & Forestry at the time, of these river reserve determinations was effectively holding back bulk infrastructure planning for the Umdloti and Tongati catchments which lie north of Ohlange. This combination of factors made the Ohlange the prime catchment in which to focus development to 2010/11. Through the provision of the necessary infrastructure, the following development would be facilitated in the Ohlange catchment:

- 44 500 Low Income Housing Units
- 31 200 Private Residential Units
- 1.045 million square metres Commercial / Office (Mixed Use)
- 175 ha Industrial

It was noted that much of the bulk infrastructure required to serve this new development had lead times of 3-4 years. Even though 2011 was the likely year for this new infrastructure capacity to come on stream, there were approximately 2000 sewer connection approvals already granted to cover developments that would be completed prior to 2010/11. It was also considered unlikely that public sector housing in the Verulam and Tongaat areas would be stalled since there was spare capacity in the Verulam and Tongaat sewerage treatment works at the time.

The package of infrastructure required to service the above development was then split into ‘essential’ and ‘supporting’ infrastructure for the purpose of minimising the immediate investment required. Considering the ‘essential’ infrastructure items, the additional capital monies required were estimated noting the commitment required by Council and other external bodies. A number of funding options were then identified and it was recommended that, *inter alia*, municipal officials assess all infrastructure within the Ohlange catchment in more detail to determine which developments would trigger the need for each infrastructure project and that the detailed analysis undertaken for the Ohlange catchment be undertaken for other catchment.

Aligning the budget with the development needs of the city has subsequently been undertaken at

- a community level
• nodal level and,
• Spatial Analysis of the budget
• implementation using a variety of spatial targeting instruments

**8.7.2 Community Level- Development and Budgeting**

Zone Plans have been prepared for the entire municipal area. Zones Plans indicate 17 zones (or clusters of wards) across the municipal area. Profiles of ‘Need’ have been developed for each Ward /Zone together with the Capital Budget Spend in each Ward/Zone which details ‘Delivery’. ‘Need’ has been determined from the socio-economic information for each ward / zone and from expressed community priorities. Using the ward / zone profiles, the municipality has been able to map spatially the areas of “Need” and compare this with the “Delivery of Services” as a means of aligning the municipal budget to the developmental needs of communities. The analysis of the “Need” that exists within these geographic units (Ward & Zone Profiles), allows the municipality to assess how well it is “Delivering” in relation to the “Need”, to identify the “Gaps” and determine the local area priorities. The analysis has revealed that some Developmental Needs are not adequately funded and the big gaps are largely around economic development/job creation/skills, health & welfare, safety & security and services to informal settlement.

The greatest Developmental Need exists in Zones 2, 3 & 10. Accordingly, these Zones should receive high priority in the Capital Budget based on the geography of “Need” - an indicator combining indices of unemployment, income, infrastructure backlogs and social facility backlogs.

As of February 2013 a new process was proposed. This entails an analysis of ‘Need’ versus ‘Delivery’ in the 17 Zones for 2013/14-2015/16 budgets for ‘Community-facing’ projects (such as roads and sidewalks etc), obtain candidate projects and engage at a zone level with a view to finalising the Zone Plans and obtaining Council approval of the Zone Plan and Community Block Sum.
8.7.3 Nodal Level – Unblocking Development Process

With the completion of the SDF/ regional SDP’s in 2009, a number of Phase 1 Spatial Investment Priority Areas were identified for development in the next 5 years. The following map is the spatial representation of the priority areas for each region and the estimated cost as at 2009 estimates, required to unlock their development:

Figure 108: Spatial Priority Areas
(Subject to phasing and service limitations)

8.7.4 Current Projects as per the Spatial Priorities

Numerous processes have been undertaken to refine these strategic priorities and better inform the budget requirements each year. Accordingly, of the 26 phase 1 priorities identified in the SDF/SDP’s, the following were subsequently identified as key priority investment areas in both rural and urban areas across the city and are shown in Figure 109 below:
Key Priority Investment Areas (Urban)

- Inner City Regeneration (1)
- Tongaat / DubeTradePort and Surrounds / Cornubia (Aerotropolis) (2)
- Cato Ridge / Keystone / Hammarsdale (SIP2) (3)
- South Illovo (4)
- Port and Back of Port (5)
- Land Uses to support IRPTN/ densification

Key Priority Investment Areas (Rural)

- Mpumulanga
- KwaXimba
- Inchanga
- Mzinyathi
- Umbumbulu
- Umnini

Figure 109: Key Urban and Rural Priority Investment Areas
The following steps were undertaken as part of the process towards informing these key priorities areas:

**Step 1: Strategic Level Bulk Infrastructure Assessment:** A strategic level bulk infrastructure assessment of the 26 phase 1 priorities revealed that these areas require various degrees of infrastructure provision to support the development that is envisaged and in some cases, based on resources and budgets and the cycle of planning, designing and implementing infrastructure, may even go beyond the envisaged short term priorities (5 years). Since 2009, the infrastructure assessment of the Phase 1 priorities has focused on refining the data base information and priorities across sectors, with particular focus on the following:

- Establishing current development pressures and realistic take up rates in the various regions to “ground truth” and further refine the anticipated phasing of development within each region in order to inform the likely demand for infrastructure.
- Refining the criteria for prioritization by establishing which sectors of the economy will make the greatest impact on job creation and regional wealth and determining which geographic areas require infrastructure in order to meet the city’s imperatives of reducing unemployment. This process was trying to reach alignment across sectors in terms of the priorities identified.
- Establishing upfront the availability of excess infrastructure capacity and the areas in which development opportunities could be provided in the short term while new infrastructure was being built;
- As a further criterion for prioritization investigating the opportunities for spatial restructuring including how the municipality might support public transport corridors and housing densification around these corridors;
- Understanding and responding to the public housing and basic services programmes since these are reliant on bulk infrastructure and establishing how to spatially align the demands for infrastructure provision for housing and the 26 priorities originally identified;
- Further investigating opportunities to grow the municipal rates base which in 2009/10 grew by a mere 1%. If the rates base does not expand it begins to limit the ability of the municipality to maintain and expand its social programme.
- Several meetings have been held with the key municipal sectors to inform more realistic development phasing based on likely demand and in particular growing the rates base and prioritisation public housing initiatives with impact and scale.
- In addition, consideration has also been given to private sector plans and the likely take up rates in the Phase 1 priority areas with a view to seeking greater alignment in unlocking the development potential of these areas.

**Step 2: Identification of Catalytic Projects:** Of the 26 phase 1 priorities identified in the SDF/SDP, the following Catalytic Projects were identified:

- *Cato Ridge*
- *Port and Back of Port*
- **Tongaat/ DubeTradePort and Surrounds**
- **Cornubia**

Of the priority projects listed above, attention initially focused on two catalytic projects where there were projects identified and there was certainty with respect to development, namely Cornubia and Tongaat/Dube Trade Port and surrounds. Both these priority areas incorporate housing opportunities, a mix of commercial and industrial land uses addressing economic requirements, help to maximize infrastructure efficiencies and address the developmental aspect associated with development in close proximity to the R102 (a mixed use and public transport corridor close to existing and future residential areas and an important road link to neighbouring municipal areas). Work to date has focused on unlocking these developments and understanding the infrastructure costs, timing and financing options giving greater certainty on the budgetary requirements. As further detailed studies have progressed, so too have the detailed infrastructure investigations, leading to further refinements to the anticipated cost and phasing of development as illustrated below. These have been factored into each budget cycle.

The eThekwini Municipality has since updated its Prioritisation Decision Matrix by adding more filters in order to get better alignment across sector strategies, budgets and National (SIP2) and Provincial initiatives. Refinements to the catalytic project identification process are outlined in the City’s 15/16 Built Environment Performance Plan to which reference is made below.

### 8.7.5 Spatial Analysis of the Budget

**Step1: Spatial Analysis of the Budget and Identification of Strategic Outcomes:** In addition to the work done above, the eThekwini Municipality has also embarked on a spatial analysis of the budget spend and the identification of mechanisms for achieving greater internal alignment. This process is often referred to as the “Blue Skies Process”. Translating the Blue Skies process into projects was an attempt to use spatial budgeting to identify key investment locations in order to drive spatial
transformation, address social, economic and environmental imperatives, and address inefficiencies in service provision. Taking its cue from the Blue Skies Process the following strategic outcomes or criteria were identified:

- Intensify, Densify and Regenerate the Existing Urban Centres and Key Corridors
- A strategic approach around the development of greenfields projects
- Mitigate Apartheid Spatial Planning and Mitigate the Urban-Rural Divide
- Promote Social Inclusion
- Connect the City
- Retain Existing Jobs and Grow New Ones
- Grow the Rates Base

These strategic outcomes were then turned into overarching criteria and used to identify Key Urban and Rural Investment Locations in alignment with the SDF key investment areas. Projects were then identified inside the Key Investment Locations. The key urban and rural investment areas that measured up closely to these criteria are illustrated below. In addition, there are projects and programs that affect or support Multiple Investment Locations such as the IRPTN, D’MOSS, freight routes and agricultural areas.

![Urban and Rural Investment Locations](image)

*Figure 110: Urban and Rural Investment Locations*

The projects listed already enjoy attention and were sourced from a number of municipal plans (SDF, SDP, Local Area Plans, sector plans etc) and then assessed in terms of the 2011/12 and 2012/13, MTEF up to 2013/2014. This assessment demonstrated a mismatch between the spending on key spatial locations and public sector investment in other areas of the city – a total of R2.94 billion being spent outside of the key investment locations. It was further noted that project life-cycles tend to be much longer than MTEF or even IDP periods, and it was not clear if the current mechanisms are effective for keeping long-term projects in view and in funds.
The process then explored possibilities for redirecting the budget to key investment locations and city wide projects through project savings in non-key investment locations and / or reviewing, coordinating and consolidating projects and their budgets to achieve maximum impact. This process further highlighted the need to examine the projects and budgets outside of the key investment locations with a view to identifying cost savings and/ or, if slower capital expenditure is possible etc.


Building on the previous work undertaken, in 2013/14 the eThekwini Municipality embarked on an exercise to spatially capture and represent the capital budget in order to assist with the SDF review and assist the municipality advance on its work in trying to spatially align investment and achieve the desired urban form.

The ultimate objective of this project was to assist with the monitoring and evaluation of the Municipality's long term spatial development goals and with reviews and refinements of both the SDF and the MTEF Capital budget. The assessment has also taken account of the Built Environment Performance Plan and the principle of Integrated City Development and Expenditure as required by National Government. A key aspect of the analysis was an assessment of whether the MTEF Capital budget is promoting the SDF objectives and other spatial targeting instruments such as, the National Treasury's Integration Zones, or inhibiting them.

At the time, the project captured the actual expenditure for 2013/14 and the Budgeted Expenditure for 2014/15, 15/16 and 16/17 in a GIS database (ie current and future budgets at the time it was captured). The project focused on elements within the MTEF that grow and drive development with less emphasis on elements that either follow development, or are standard Municipal maintenance elements. Accordingly filters were applied when determining projects to be captured. City building projects were mapped while maintenance projects were not, housing projects under R1 million over 3 years were not mapped, engineering projects under R3 million over 3 years were not mapped and
social facilities under R2million over 3 years was used as a cut off. Approximately 50% of the budget was ultimately mapped because projects fell below the filters, they were not spatially referenced or captured as block sums, and they were maintenance projects.

Notwithstanding the limitations of the budget captured, it was still possible to analyse the trend in capital expenditure and evaluate the general alignment/non-alignment with the SDF and spatial targeting instruments. In terms of the SDF 14/15 prepared by the eThekwini Municipality, the following conclusions are of relevance to the analysis that was undertaken in this project:

- **Densification and Residential Elements**
  The SDF reflects future densification along the primary transport corridors with infill areas located in the central region. It is within these areas that the future growth is envisioned to happen. Future residential use is generally located within the UDL. The IRPTN is a major component as this is the structuring element that forms the densification corridors.

- **Direction of Growth**
  This is primarily related to the corridors, as the direction of growth by in large extends from the CBD northwards to Dube TradePort and also from the CBD westwards out to Shongweni, Hammarsdale & Cato Ridge. Growth is also anticipated to extend southwards to the Port, Umlazi and Illovo South. There is also major emphasis on the CBD as the primary investment node.

- **Major Economic Activities**
  Activities related to economic growth (shown as future industry, future business park, future mixed use on the SDF etc.) are primarily located:
  - Durban CBD
  - Pinetown CBD
  - Around Dube TradePort
  - Around Cornubia
  - Around the South Durban Basin
  - South of Durban
  - West of Durban around Cato Ridge and Hammarsdale / Mpumalanga

The assessment was based on the following:
- Does the capital expenditure and budget address the key SDF principles
- Does the capital expenditure and budget address the key areas of growth
- Does the capital expenditure and budget accord with the Integration Zones identified in the Built Environment Performance Plan (BEPP)

In conclusion, the analysis of the SDF principles indicated broad alignment with budgeted expenditure. The catalyst projects listed in the SDF appeared to be supported by budgeted expenditure. The expenditure also appeared to tie quite strongly with the Integration zones. The only real anomaly applied to historically initiated and in the pipeline housing projects influenced largely by the national subsidy regime and availability of greenfields land. The recent nationally driven process of identifying Human Settlement Mega Projects located within the Urban Development Line /
Integration Zones (elaborated on below) has gone a long way to remedy this disjuncture and has ensured better located and integrated housing opportunities.

On the whole, the project provided useful information for the SDF and Budget Review and could be extended and improved. Accordingly, it was recommended that the information be updated on an annual basis (after the budget has been approved) and that future projects should endeavour to also capture block sums, maintenance projects, the spatial impact of projects, the phasing of projects, and provincial, national and major private sector projects to provide a more rigorous analysis. In addition, data quality could be improved in future iterations of the budget by ensuring that names of projects or areas are standardised, the nature of projects are captured and projects are assigned a unique ID in an effort to capture and cross reference data more easily. It was also strongly recommended that the city introduce a 10-20 year budget cycle to ensure longer term commitment to the city's investment priorities. It was recommended that these will need to be addressed in future budget cycles and could be addressed in the City’s Built Environment Performance Plan Review.

A further spatial analysis of the budget 2016/17-2018/19 reveals good alignment with the SDF and BEPP integration zones as indicated below. Details of the actual project and budget can be found in the Service Delivery Budget Implementation Plan submitted with the IDP documents. These maps provide a general indication of the spatial spending of the municipality.
Source: Mapping of MTEF Capital Budget Project 13/14 – 16/17

Figure 111: Revised Budget 2016/17 All Projects Captured
Figure 112: Approved Budget 2017/2018 All Projects

Source: Mapping of MTEF Capital Budget Project 13/14 – 16/17

Source: Mapping of MTEF Capital Budget Project 13/14 – 16/17
Figure 112: Approved Budget 2017/2018 All Projects
Inchanga
Mpumalanga
Tongaat
Verulam
Mzinyathi
Bridge City
Umhlanga
CBD
Pinetown
Hillcrest
Kloof
Chatsworth
Umlazi
Isipingo
Umbumbulu
Umnini
Umkomaas
Bridge City
Umhlanga
CBD
Pinetown
Hillcrest
Kloof
Chatsworth
Umlazi
Isipingo
Umbumbulu
Umnini
Umkomaas

Source: Mapping of MTEF Capital Budget Project 13/14 – 16/17

Figure 113: Proposed Budget 2018/19 All Projects
Figure 114: Sum of 2016/17, 2017/18 & 2018/19 Theme: Transport

Source: Mapping of MTEF Capital Budget Project 13/14 – 16/17
Inchanga
Mpumalanga
Tongaat
Verulam
Mzinyathi
Bridge City
Umhlanga
Chatsworth
CBD
Hillcrest
Kloof
Pinetown
Umlazi
Isipingo
Amanzimtoti
Umnini
Umkomaas
Umnini
Umhlanga
Bridge City
Pinetown
CBD
Chatsworth
Hillcrest
Kloof
Mzinyathi
Verulam
Tongaat
Mpumalanga
Inchanga

Budget over 3 Years (Rm)

Figure 115: Sum of 2016/17, 2017/18 & 2018/19 Theme: Housing

Source: Mapping of MTEF Capital Budget Project 13/14 – 16/17
Figure 116: Sum of 2016/17, 2017/18 & 2018/19 Theme: Transport, Housing & Economic

Source: Mapping of MTEF Capital Budget Project 13/14 – 16/17
8.8 Integrated and Spatially Targeted Implementation and Budgeting

8.8.1 Built Environment Performance Plans

Built Environment Performance Plans (BEPPs) were first introduced in the 2011/12 financial year as an eligibility requirement for the Urban Settlements Development Grant (USDG) and then later as an eligibility requirement for the Integrated City Development Grant (ICDG) in the 2014/15 financial year.

The preparation of Built Environment Performance Plans is premised on the notion that “a fundamental spatial transformation is required to enable South African cities to contribute effectively to economic and social development objectives and that large urban municipalities have a critical role to play in supporting more inclusive economic growth in South Africa. Metropolitan municipalities, in particular, are seen as having the responsibility to guide spatial development through urban planning instruments, infrastructure investments and service delivery programmes that shape the built environment of South African cities” (BEPP Guidenote for 15/16).

Section 14 of the Division of Revenue Act (DoRA) (2014) requires that, by 30 May 2015, the Municipality submit to the National Treasury, a built environment performance plan that includes all projects partially or fully funded by grants from a national or provincial department and must cover the Integrated City Development Grant, Urban Settlements Development Grant, Public Transport Infrastructure Grant, Neighbourhood Development Partnership Grant, Integrated Electrification Programme Grant, and the Human Settlements Development Grant. The BEPP has to be approved by the Municipal Council.

The 2014 DoRA Framework on the Integrated City Development Grant provides that the grant will only be released to a municipality that has submitted (i) a BEPP which includes the Council’s approval of integration zones, urban networks and the ICDG with a signed Cities Support Programme.
(CSP) participation agreement. All participating municipalities are required through the DoRA to submit the BEPP as part of the batch of documents when the IDP, Budget and SDF are submitted to Council at the end of the municipal financial year.

In 2014, participating metropolitan municipalities outlined plans for restructuring their built environments, based on the concepts of integrated, transit oriented development as articulated in the National Treasury’s Urban Networks Strategy. The plans identified key elements of their urban networks, focusing on specific integration zones that would be the focus of future investment programmes across sectors, and within which specific, catalytic intervention projects were identified. These plans responded to agreed indicators and targets so that measurable progress could be achieved in building more productive, liveable, inclusive and sustainable cities.

The principles in the BEPP are no different to those in our own municipal plans (LTDF, IDP, SDF etc.) - the key value that the BEPP adds is integrated implementation and the ability to drive capital budgets spatially rather than sectorally. The BEPP complements existing municipal plans; it does not intend to replace any such plans. The BEPP process and approach being prescribed by national treasury is based on the integration of the plans of key sectors (economic, transport and housing), and the co-ordination of budgets (municipal, provincial and national) and the co-ordinated timing of implementation that should result in triggering long-term spatial transformation and inclusivity, facilitating economic growth and improved service delivery. THE BEPP is updated annually with a long term planning horizon to 2030, with intermediate milestones in 2020 and 2025. The performance of the built environment and its transformation outcomes will be assessed against predetermined indicators.

BEPP is therefore a critical instrument for identifying catalytic projects and investment priorities and an important tool to shift the investment focus to spatial targeting and integration. The BEPP therefore bridges the gap between the IDP & Budget giving effect to the strategic and spatial intent of the SDF and fulfilling the requirements of the Capital Investment Framework as required in terms of the MSA (32 of 2000).

While the focus of the 2014 BEPP processes was on planning for spatial transformation, the 2015 BEPP will now focus on accelerating the implementation of catalytic interventions. To this end the 2015/16 – 2017/18 BEPP seeks to refine, enhance and consolidate the content of the baseline BEPP established in 2014/15.

8.8.2 Urban Networks and Integrations Zones

National Treasury’s spatial targeting approach uses the concept of an Integration Zone as the foundation for making medium and long-term capital commitments for the purpose of creating efficient, sustainable and inclusive development in the country’s metropolitan municipalities. The
focus of the National Treasury’s spatial targeting initiative is the identification of a CBD, major Townships, other Townships, and the connections between these three types of spaces or elements, and an Integration Zone. This system is termed the Urban Network.

Urban Networks and Integration Zones were the key focus of the 2014/15 BEPP. In particular the focus for 2014/15 BEPP was on the identification refinement, prioritisation and phasing of the Hubs /Node and Integration Zone(s) in the municipality, including its geographic boundaries as informed by the Urban Networks Strategy (with its associated spatial, economic and developmental objectives).

2015 offers the opportunity to refine and consolidate the planning of the urban network and Integration Zones done in the 2014/15 BEPP.

The eThekwini’ Municipality’s response to the Urban Network has been to incorporate and develop the intellectual and institutional capital which was created in the preceding Blue Skies initiative and to use the opportunity to develop a corporate spatial prioritisation and 20-year implementation program which is rooted in the SDF and the other documents in the eThekwini Municipality’s Package of Plans.

The model used by the eThekwini Municipality is to phase development within the urban development line by defining a Dense Urban Zone, Medium & Low-Density Suburbs, and a Non-Urban Zone. These major elements are connected by a Metropolitan Movement Network, comprising the IRPTN, Feeder and Complementary Public Transport (PT) Routes.

**Dense Urban Zone**

The Dense Urban Zone is made up of major economic uses and adjoining residential uses.

The city is structured around urban centres and economic zones with high concentrations of infrastructure, jobs, and economic activities, and which are well served with public transport.
Neighbouring uses are residential areas, including some townships, informal settlements, and former group area suburbs and which are already dense or have good potential to become dense.

The major economic uses comprise significant urban centres, the external and internal connections (particularly the IRPTN), and the intense uses along these connections. The Dense Urban Zone contains both existing high-intensity uses, as well as numerous opportunities for intense brownfields or greenfields urban development. 90% of jobs (i.e. almost all jobs) are located here. 11% of the population (i.e. one in every nine persons) lives here, 429 000 people in total. These areas occupy about 10% of the municipal extents. The challenge is to maintain the infrastructure and buildings, and because they are so well located, to find opportunities to expand, intensify or redevelop properties for economic uses and high density residential.

The adjoining residential uses are well connected by public transport and other movement systems, have good access to social facilities. Typically they form a belt of approximately 2km wide around IRPTN and other major movement routes. Existing densities are typically in the low and medium range. A big chunk of the population lives here – 1.4 million people, about 37% of the population (i.e. almost four out of every ten persons). These well-located dormitory areas take up only 15% of the municipal extents (i.e. one-seventh), and so they have the highest relative population densities (though still too low for efficient and self-sustaining urban environments). The intention is to maximise densities, which will require vigorous intervention, to upgrade informal settlements into high-density schemes, and to promote higher levels of LED to support the new densities.

A key program for the Dense Urban Zone will be to identify and stimulate take-up of development opportunities, particularly in Cornubia and around the Aerotropolis, and to accelerate the construction and commissioning of the IRPTN. Infrastructure investment, particularly in sewer works and reticulation, as well as the improvement of regional routes northwards will also be required.

Medium- & Low-Density Suburbs

In other parts of the city there are low-density dormitory suburbs that have infrastructure but are poorly connected to urban centres and jobs. These are former townships and informal settlements which came about through apartheid planning, as well as low density former white suburbs which rely on private motor vehicles.

The Medium- & Low-Density Suburbs form another belt beyond the Dense Urban Zone. About 1.6 million people (about 43% of the population) live here. They live on a third of the municipal extent, at low densities in absolute terms (usually less than 10 dwellings per hectare). The big challenge here is to improve the connectivity of these dormitory suburbs to where the jobs are, by reducing travelling times, lowering transport costs and improving the roads network. The former townships and informal settlements in these areas tend also not to be as well served with social facilities, so a challenge is to improve the quality and effectiveness of existing facilities and in some cases to build new ones. The development intentions are to rectify backlogs in social facilities, to promote LED, to increase densities to a degree and in accordance with approved plans, to quickly provide informal settlements.
with universal access to basic services alongside the slower upgrading program, and to significantly improve the connectivity of these suburbs to the Dense Urban Zone

Non-Urban Zone

Beyond the Suburban Zone there are Non-Urban areas, which are low density traditional areas, as well as densifying traditional areas, protected areas and commercial farming and which in the past used to be isolated from the other parts of the city. Non-Urban areas typically have none or very basic services only, and poor or expensive connectivity to the city is a constant feature.

The Non-Urban Zone supports traditional lifestyles, agriculture, tourism and nature conservation. Non-urban areas are home to 8% of the population (one in every twelve persons) 313 000 people in total, and about 68% (more than half) of the municipal extent. The key challenges are to improve social facilities and basic infrastructure (water, electricity, sanitation), connectivity (roads and internet), and to encourage sustainable livelihoods and access to agri-processing and distribution.
Figure 117: Composite – IRPTN and Integration Zones
Investment Intentions

It is intended to steer capital budgets to delivering on the diverse development intentions for each of the three Zones. Already there is an emerging spatial and temporal prioritisation within this framework. The development initiatives in the North Urban Development Corridor (including the Aerotropolis), the Port, and the current phase of the IRPTN have been accepted and confirmed as initial priorities within the Dense Urban Zone.

Summary of Interventions

<table>
<thead>
<tr>
<th>INTERVENTION</th>
<th>DENSE URBAN</th>
<th>MEDIUM- &amp; LOW-DENSITY SUBURBS</th>
<th>NON-URBAN AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>INVESTMENT STRATEGY</td>
<td>Deliberate investments, intensive detailed planning, mobilisation of private sector investment, deliberate rezoning for high densities, deliberate crowd in of budgets/ infrastructure upgrades and expansion etc.</td>
<td>Stabilisation of settlements with services to ensure universal access on affordable standards, maintenance of infrastructure and services, provision of social facilities to the norms and standards agreed etc.</td>
<td>Provision of infrastructure and services, improved linkages, and agri processing, and monitoring of growth</td>
</tr>
<tr>
<td>PROPERTY DEVELOPMENT INTENTIONS</td>
<td>High Floor Area Ratios Extensively Developed No Vacant or Underdeveloped Properties Property Improvements Property Extensions Redevelopments</td>
<td>Moderate Floor Area Ratios Improvements <strong>Formalisation</strong> Regularisation</td>
<td><strong>Formalisation of Towns</strong> Regularisation</td>
</tr>
<tr>
<td>INTENDED CONTRIBUTIONS TO ECONOMIC HEALTH</td>
<td>Improved City GDP Improved Rates Revenues High Sales of Water and Electricity Job Retention Job Creations</td>
<td>Improved Rates Revenues High Sales of Water and Electricity</td>
<td>High Sales of Water and Electricity</td>
</tr>
</tbody>
</table>

In essence, the Integration Zone concept is about prioritised and co-ordinated implementation in each of the zones. If this can be achieved, the impact of capital and operating spend will be greatly enhanced with significant benefits emerging for residents and for the economy as well as for the municipality.
8.8.3 Spatial Plans, Urban Development Line and Integrations Zones

There is already significant alignment between the SDF’s Urban Development Line (long term outer boundary for urban development) and the long term Integration Zone (Medium to low density Suburban Residential Integration Zones). In addition, the SDF’s spatial focus on densifying and intensifying development along the mixed use priority public transport routes aligns fully with the proposed Dense Urban Integration Zone. The Dense Urban Integration Zone represents the Phase 1 priority area for mixed use, high dense and transport oriented investment within the Urban Development Line of the SDF. Council approved spatial plans (details of which are outlined in Annexure 6) are well aligned with the Dense Urban Integration Zones and the Urban Network Strategy which requires a focus on Integrating townships into the movement & economic system, revitalising township nodes & stimulating economic development and supporting transit-oriented development within key nodes and public transport corridors. Examples of the North and South Public Transport Corridor Studies are illustrated below. Implementation projects within these corridors are currently in progress. Rezoning approvals also show alignment between denser urban integration zones and private sector initiatives. A recent analysis of the rezoning applications approved between 2011 and 2015 (Figures 68 & 69) show that majority of applications are located within the Dense Urban Integration Zone and that out of a total of 227 rezoning applications, 22% support residential intensification, 36.5% represent rezoning from residential use to other (eg commercial, worship etc) and 17.2% are for mixed use (ie some residential retained as part of the proposal), suggesting that some of the residential component is being lost in places where it is critical to be retained and mixed uses are growing away from the preferred mixed use corridors. The analysis of the special consent approvals show that out of 341 Special Consent applications, 18% contribute to residential intensification, 13% to partial conversion (home business) and 9.4% from residential to another single non-residential use. While smaller in number, the special consent applications from residential to other uses are concentrated around the public transport corridors. Careful monitoring needs to be undertaken to ensure that the balance between residential and non-residential uses is maintained to ensure the viability of the public transport system along these corridors.

Figure 118: UDL and Integration Zones
Figure 119: Rezoning Approvals

Figure 120: Special Consent Approvals
Example of Transit Oriented Development within Transport Nodes and Corridors
8.8.4 Spatial Targeting Instruments

8.5.4.1 Mega / Catalytic Projects
Several mega-projects are in motion, and other candidates have been identified. Their aim is to bring about high-impact and large-scale urban transformation. “Catalytic projects can range from mega scale inclusionary neighbourhoods to seemingly small but high impact interventions. The underlying principle of all of these is that they are all spatially targeted interventions whose main objective is to intervene to deliberately restructure settlement patterns. This implies that catalytic projects do not necessarily occur in the same place if the supply is lacking, but are located in places of best opportunity for access to work, live, play. These mega projects are all well located and show the direction in which Human Settlement projects are moving. Typologies and funding models become critical along with good partnerships with private sector (eThekwini Draft BEPP report 15/16)

8.8.4.2 Economic Investment and Dashboard
Although predominantly private sector development, most of these initiatives are located within the priority economic investment nodes, within close proximity to the N2 and N3 mobility corridors and along mixed use corridors. They are therefore supportive of the need to grow the economy in more accessible locations.
8.8.4.3 Economic, Housing Catalytic Projects & Public Transport (in progress / to be implemented shortly)

Combined the projects demonstrate spatial proximity between housing and economic projects and public transport trunk routes. They also display a good mix of development types which supports revenue-absorbing and revenue-generating elements in the same project and therefore supports greater financial viability.

The eThekwini Integration Zones incorporate the public transport routes identified in the Integrated Rapid Public Transport Network and the intention is to intensify development around these corridors. This will assist in improving the ridership of public transport as well as creating vibrant spaces with a mix of higher density public and private housing, economic investment, social facilities and a quality public realm. The servicing of informal settlements is also a high priority in the BEPP. Emphasis is also given to the alignment with national initiatives such as the Strategic Infrastructure Projects (SIP2 and SIP7) for improved economic development.

The following spatial instruments are currently under review

a) SHRZ - Social Housing Restructuring Zone

The eThekwini Municipality has numerous SHRZs as shown below. The SHRZs were designated in two Phases several years apart. All fall within Urban Development Line and within the Integration Zone (both Dense Urban and Suburban Zones), with the exception of Chatsworth which does not fall within the Dense Urban Integration Zone, but does fall within the Long term Integration Zone / Urban Development Line.
A review of the SHRZ is required to extend it to encompass a greater space within the Dense Urban Zone.

b) UDZ - Urban Development Zone
The greater part of the Durban CBD has been designated as a UDZ. Because the Durban CBD is a key priority investment area and wholly contained within the Phase 1 Dense Urban Zone within the Integration Zone, no adjustment to the spatial definition of the UDZ is presently suggested.

c) SEZ - Special Economic Zone
The Dube TradePort (DTP) was designated as an Industrial Development Zone (IDZ) by the Minister of Trade and Investment as gazetted on 23 December 2016. Furthermore, section 39 (2) of the Special Economic Zone Act No. 16 of 2014, provides that any designation of an industrial development zone under the IDZ Regulations must be regarded as a designation of the Special Economic Zone under this act. By virtue of the automatic legal effect of section 39 (2) of the SEZ Act, the Dube TradePort must as from the date of commencement of the SEZ Act, be regarded as a Special Economic Zone under the SEZ Act.

A total land area of 302.9607 hectares (ha) is already designated as the Dube TradePort Special Economic Zone. The area consists of Dube AgriZone 1 and Dube TradeZone. The SEZ land area is bounded by the R102 to the west, M65 to the south, N2 to the east and M43 to the north.

d) IDZ - Industrial Development Zone
The Dube TradePort (DTP) was designated as an Industrial Development Zone (IDZ) (Notice No. 525 of 2014) by virtue of Regulation 3 of the Regulations (Government Gazette No. 21803 of 1 December 2000) made in terms of the Manufacturing Development Act No. 187 of 1993. The Dube TradePort Industrial Development Zone (DTP IDZ) consists of two sectors within the Dube TradePort, which are: Dube AgriZone, focusing on high-value, niche agricultural and horticultural products, and Dube TradeZone focusing on manufacturing and value-addition primarily for automotive, electronics and fashion garments. By virtue of acquisition of both the SEZ and IDZ status the DTP Corporation will be able to attract sufficient investment that will boost airfreight to the levels that will allow the King Shaka International Airport to achieve the envisaged Durban Aerotropolis development and to promote the ease of doing business.

e) Urban Development Line (UDL)
The UDL is not a servicing line but a spatial tool for achieving compact and efficient urban growth over time. It prioritises areas with existing services and high accessibility (ie the integration zone) but also identifies the outer limits of urban growth as subsequent phases of development. The major review of the SDF will introduce spatial instruments that manage urban, peri-urban and
rural development based on typology, density, access etc. in an effort to restructure the urban form and prevent outward sprawl and encroachment into agricultural and rural areas.

Sector plans will determine how these areas are to be serviced.

f) Alignment of the Spatial Development Frameworks and the Integration Zone

As indicated above a significant amount of detailed planning has already been undertaken within the Dense Urban Integration Zones / Transit Oriented Development (TOD) Corridors (Annexure 6). The SDF process needs to monitor and review if the desired outcomes are being achieved (ie performance targets are being met) and shift the planning focus to implementing the programmes and projects identified in the council approved plans. Some of the exercises identified thus far include: identifying land redevelopment opportunities in the Dense Urban Integration Zone/Transit Oriented Development Nodes and Corridors, undertaking a detailed Land Use Survey to assist with the monitoring and review of development targets, align zoning and land use controls to facilitate the desired development intensity and mix and, where necessary, introduce a package of spatially aligned development incentives.

8.8.5 Catalytic Projects

One of the main expectations of the 2015/16 – 2017/18 BEPP is the identification, packaging and implementation of catalytic urban development projects within the Integration Zones. In addition there is a specific focus on the upgrading and development of informal settlements and other marginalised areas.

In terms of the BEPP Guidance Note, Oct 2014, “The definition of catalytic urban development projects are land development initiatives that:-

- Are integrated, that is mixed and intensified land uses where the residential land use caters for people across various income bands and at increased densities that better support the viability of public transport systems;
- Are strategically located within integration zones in cities; and re game changers in that the nature and scope of the projects are likely to have significant impact on spatial form.
- Require major infrastructure investment;
- Require a blend of finance where a mix of public funds is able to leverage private sector investment as well as unlock household investment;
- Require specific skills across a number of professions and have multiple stakeholders.”

There are numerous catalytic projects, several of which are in planning or construction phases:

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PROJECTS IN/NEAR IMPLEMENTATION:

1. Cornubia South
2. Dube Trade Port
3. Point
4. Centrum Site
5. Warwick Precinct
6. Keystone Logistics Hub
7. C3 IPTN Corridor Bridge City to Pinetown
8. C2 Southern Rail Corridor City to Umlazi

Figure 121: Catalytic Projects near Implementation
PROJECTS IN PREPARATION:
1. Virginia Airport Redevelopment
2. Illovo South Auto Supply Park
3. Ntshongweni
4. Cato Ridge Multi Modal Development
5. Clairwood Logistics Park
6. Durban Film City
7. Durban Iconic Tower
8. Finningley Eco Estate
9. Inyaninga Integrated Development
10. Kings Estate
11. Rivertown Precinct
12. The Brickworks

Extensions, Malls and Other
1. Beverley Hills Hotel Expansion
2. Westridge/Midway Mall
3. Durban Marina
4. Oceans Umhlanga
5. Pavillion Node Extension
6. Suncoast Towers Expansion
7. Westwood Mall Extension
Figure 122: Catalytic Projects in Preparation
IRPTN Phase 1-4 comprises:

**Phase 1**
- C3 - Road - Bridge City to Pinetown 2016
- C1 - Road - Bridge City to CBD via KwaMashu 2017
- C9 - Road - Bridge City to Umhlanga 2018
- C2 - Rail - Bridge City and KwaMashu via Berea
  - Road to Umlazi and Isipingo 2016
  - Mynah and People Mover (Inner city) 2015

**Phase 2**
- C5, C7 2022

**Phase 3**
- C4, C8 2025

**Phase 4**
- C6 2027

The table below indicates the proposed MTERF Budget Allocation in support of the BEPP Catalytic Projects ‘In or Near Implementation” and “In Preparation”.

**Table 19: The budget allocations per Integration Zone for the 2016/17-18/19 MTEF**

<table>
<thead>
<tr>
<th>Integration Zone</th>
<th>Budgeted Amount per Theme (Rm from 2016/17 to 2018/19)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Transport</td>
</tr>
<tr>
<td>Prime Corridor</td>
<td>361</td>
</tr>
<tr>
<td>Dense Urban</td>
<td>580</td>
</tr>
<tr>
<td>Medium &amp; Low-Density Suburban</td>
<td>2 396</td>
</tr>
<tr>
<td>Non-Urban</td>
<td>0</td>
</tr>
<tr>
<td>Spatially Unassigned</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>3 340</td>
</tr>
</tbody>
</table>
The table that follows shows the number of projects, the rand value and the percentage that this rand value represents of the annual budget.

**Table 20: No. of projects, rand value and percentage of the budget**

<table>
<thead>
<tr>
<th>Integration Zone</th>
<th>Projects</th>
<th>Revised 2016/17</th>
<th>Approved 2017/18</th>
<th>Proposed 2018/19</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>% of Total</td>
<td>Rm</td>
<td>% of Total</td>
</tr>
<tr>
<td>Prime Corridor</td>
<td>500</td>
<td>32</td>
<td>2 220</td>
<td>35</td>
</tr>
<tr>
<td>Dense Urban</td>
<td>370</td>
<td>24</td>
<td>1 007</td>
<td>16</td>
</tr>
<tr>
<td>Medium &amp; Low-Density Suburban</td>
<td>519</td>
<td>33</td>
<td>1 694</td>
<td>27</td>
</tr>
<tr>
<td>Non-Urban</td>
<td>96</td>
<td>6</td>
<td>363</td>
<td>6</td>
</tr>
<tr>
<td>Spatially Unassigned</td>
<td>66</td>
<td>4</td>
<td>1 084</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>1 551</td>
<td>100</td>
<td>6 366</td>
<td>100</td>
</tr>
</tbody>
</table>

**Response to Non-Urban Areas**

Five Non-Urban Investment Nodes have been identified, namely Inchanga, KwaXimba, Umzinyathi, Umbumbulu and Umnini. These can be seen on the map below. The Municipality's Integrated Investment Intentions are to:

- Cluster higher order Social and Economic facilities in the Nodes, including Sizakala Centres, Libraries, Clinics, Police etc
- Locate higher order public transport facilities in the Nodes
- Connect the Nodes more strongly to the city's major routes
- Locate Rental Housing for Key Social Sector State Employees (teachers, medical staff, and police)
- Locate Community Gardens and Agri-Hubs in or near the Nodes
- Locate Tourism Nodes in the Investment Nodes, and-or with a clear connection between the Tourism Nodes and Investment Nodes.

There is good potential for upscaling the social facility provision at these nodes working in conjunction with national and provincial departments to align physical planning and budgeting for existing and new facilities.
For the improved connections of the Nodes to the city, work still needs to be done into identifying the road and stormwater programmes to ensure that the routes fulfil their purpose of linking people to social facilities, public transport, and economic activities.

NON-URBAN INVESTMENT NODES

8.8.6 Alignment with Provincial Projects

The Municipality is moving towards aligning Provincial Project priorities with the Spatial Priorities contained in the eThekwini IDP, SDF and BEPP. To this end the eThekwini Municipality has received a list of all planned provincial projects (attached at Annexure 3).

Provincial, National and municipal sectors come together through the regular IDP/SDF forum meetings and more recently through National Treasury's Built Environment Performance Planning Process. It is our intention to use these two fora to achieve greater intergovernmental coordination, integration and collaboration on projects that will foster social and economic growth and ultimately not only benefit the eThekwini Municipality but ultimately the Province and the Country as a whole. Provincial Departments are urged to spatially capture and map their Current and Future Expenditure on an ongoing basis to facilitate the spatial transformation and alignment of projects.
8.8.7 Way forward

Guided by the IDP and SDF, the BEPP has identified a pipeline of catalytic projects that will provide the necessary support for spatially aligned Capital and Operating Budgets and improved vertical and horizontal integration of budgets.