CHAPTER 4: HUMAN SETTLEMENTS

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4.1 AMENDMENTS AND UPDATES

With the possible implementation of Inclusionary Housing being on the City’s doorstep, the revised MSDF delves deeper into the concept, while also addressing issues around climate responsiveness from a spatial planning and land use management perspective. The MSDF also touches briefly on the concept of Land Baking in order to address the issue of mostly privately-owned strategic land that is too costly for government to acquire; and also how restricted access in certain communities and neighbourhoods is impacting on efficient movement and connectivity. This, inevitably, impacts the have-nots more than the haves, with the expected compounding negative effects on those that come from already marginalised areas in the City.
### 4.2 INFORMANTS OF KEY DATA AND INDICTORS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>VARIABLE</th>
<th>ASSESSMENT</th>
<th>SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Settlements</td>
<td>Human Settlement trends</td>
<td>Between 2001 and 2016 the growth of backyard structures on formal stands outnumbered that of informal housing structures within informal settlements. This growth was particularly strong in Tshwane, which experienced a 393% increase in backyard structures.</td>
<td>Geoterra Image Data: Change in Residential Buildings in Gauteng 2001-2016</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provincial public housing continues to be provided in undesirable peripheral areas, against spatial planning principles of integration and compaction.</td>
<td>Gauteng Human Settlements Department Mega Human Settlements proposed project identification, 2015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tshwane public housing is beginning to shift more towards strategic areas of integration and compaction.</td>
<td>Tshwane Human Settlements Policy Position, 2019 (internal working document)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provincial increase of estate and security village housing increased by 248.8% between 2001 and 2016. Most security estates in Gauteng are located in the north of Johannesburg, southeast of Tshwane and west of Ekurhuleni, predominantly on the periphery of the existing urban footprint.</td>
<td></td>
</tr>
</tbody>
</table>

### 4.3. REFLECTING ON THE IDP
The MSDF needs to be a spatial translation of the IDP’s intended outcomes. Part of achieving this is through an understanding of how the IDP addresses matters around human settlements.

The *IDP Needs* are a section of the IDP document where a record of the submissions made by citizens with regards to community-identified needs for the foreseeable financial year/s. This information is collected during the annual public participation process of the review of the IDP.

The following is a reflection of the submissions that were made for the 2017-2021 IDP. Within the broader context of sustainable human settlements, funding towards community and social development services, housing, utility services, roads and transport are all relevant.

These departments and functions traditionally command the bulk of both the City’s own and grant funding. Prioritisation of ‘human settlements’ within the budget is not a challenge. What is pertinent is that the manner in which the budget is utilised yields the best possible and effective outcomes.

As much as human settlements are allocated a generous portion of the City’s budget, the need still outweigh the funds. It is therefore important that any opportunity to access international funding for various components of human settlements, though the inclusion and implementation of international goals and objectives for human settlements, are also sought.
4.4 BACKGROUND AND POLICY CONTEXT

4.4.1 Global, National and Provincial Policy Context

In 2015 and 2016, two defining global initiatives emerged that are set to impact on the delivery and outcomes of efforts around sustainable human settlements. These were:

**The Sustainable Development Goals (SDGs) of 2015**

The 17 SDGs are at the heart of the 2030 Agenda for Sustainable Development, adopted by all United Nation member States in 2015. They are a set of goals to end poverty (both economic and education), protect the planet and ensure prosperity for all. Each goal has specific targets to be achieved over the next 15 years. Goals range from quality education to responsible consumption and production, all tied to an equitable and resilient future for all.

_SOURCE: The Meta Picture, 2013_

Goal 11, in particular, pertains to human settlements. Goal 11 is to make cities and human settlements inclusive, safe, resilient and sustainable.

_(UN, 2019)_

**The New Urban Agenda of 2016**

The New Urban Agenda was adopted at the United Nations Conference on Housing and Sustainable Urban Development (Habitat III). The New Urban Agenda represents a shared vision for a better and more sustainable future. In particular, Habitat III elaborates on Goal #11 of the Sustainable Development Goals: “Make cities and human settlements inclusive, safe, resilient and sustainable”.

Amongst the commitments made, leaders have pledged to:

- Promote national, subnational and local housing policies that support the progressive realization of the right to adequate housing for all as a component of the right to an adequate standard of living, that address all forms of discrimination and violence and prevent arbitrary forced evictions and that focus on the needs of the homeless, persons in vulnerable situations, low-income groups and persons with disabilities, while enabling the participation and engagement of communities and relevant stakeholders in the planning and implementation of these policies, including supporting the social production of habitat, according to national legislation and standards.

- Stimulate the supply of a variety of adequate housing options that are safe, affordable and accessible for members of different income groups of society, taking into consideration the socioeconomic and cultural integration of marginalized communities, homeless persons and those in vulnerable situations and preventing segregation. We will take positive measures to improve the living conditions of homeless people, with a view to facilitating their full participation in society, and to prevent and eliminate homelessness, as well as to combat and eliminate its criminalisation.
Promote equitable and affordable access to sustainable basic physical and social infrastructure for all, without discrimination, including affordable serviced land, housing, modern and renewable energy, safe drinking water and sanitation, safe, nutritious and adequate food, waste disposal, sustainable mobility, health care and family planning, education, culture and information and communications technologies.

(UN, 2018a)

The National regulatory framework that informs human settlements consists of the following legislation, strategies and policies:

- a) National Housing Act 107 of 1997
- b) National Housing Code, 2009
- c) Breaking New Ground Strategy, 2009
- d) National Outcome 8: Sustainable human settlement and improved quality of life
- e) National Development Plan
- f) Urban Settlement Development Grant
- g) National Housing Subsidy Policy
- h) Integrated Urban Development Framework
- i) Spatial Land Use Management Act 16 of 2013

These, in addition to others, provide a framework and policy directives at both the national and provincial level insofar as they relate to human settlements. These policy directives are:

- Promote high density and mixed-use development around priority and public transport nodes and corridors
- Integrate housing with public transport systems and economic and social infrastructure
- Future settlements and affordable housing should be channeled into activity nodes and corridors
  - National Development Plan
  - Urban Network Strategy
  - Gauteng Spatial Perspective 2030
  - Gauteng 25-yr Integrated Transport Master Plan
  - Gauteng Growth and Development Strategy
  - Gauteng Climate Change Response Strategy and Action Plan

- Improved rural access and mobility to and integration with urban areas and markets through public transport
  - Integrated Urban Development Framework
  - Gauteng Spatial Perspective 2030

- Adequate, affordable and variety of housing opportunities
  - National Development Plan

- Mixed-use economic development in townships
  - National Development Plan
  - Urban Network Strategy
• Gauteng Spatial Perspective 2030  
  o Gauteng 25-yr Integrated Transport Master Plan

• Eliminate gated communities and improve social cohesion  
  o Integrated Urban Development Framework

• State funding must not support the further provision of non-strategic housing investments in poorly located areas  
  o National Development Plan

• Promote use of green energy, buildings and infrastructure  
  o National Development Plan  
  o Gauteng Spatial Perspective 2030  
  o Gauteng Climate Change Response Strategy and Action Plan

• Contain urban sprawl  
  o National Development Plan

• Focus on strategically targeted nodes and corridors
• Focus on urban renewal, clustering, densification and infill development  
  o National Development Plan  
  o Integrated Urban Development Framework  
  o Urban Network Strategy  
  o Gauteng Growth and Development Strategy  
  o Gauteng Spatial Perspective 2030

• Improved support for and renewal of secondary cities and smaller towns as local areas in rural development  
  o Integrated Urban Development Framework

• Provide quality basic services in rural areas  
  o National Development Plan  
  o Gauteng Agricultural Development Strategy  
  o Gauteng Rural Development Strategy

• Disaster Risk Management preparedness  
  o Draft National Spatial Development Framework  
  o Tshwane Disaster Management Plan  
  o Disaster Management Act: Policy framework for disaster risk management in South Africa

4.4.2 Tshwane Policy Context

The overarching strategy informing Human Settlement development in Tshwane is the Sustainable Human Settlements Plan (SHSP) of 2014. The purpose of the plan is to initiate, plan, coordinate, facilitate, promote and enable appropriate housing development within the City. The SHSP comprises the following:

• A municipal housing needs assessment
• The identification, surveying and prioritisation of informal settlements
• The identification of well-located land for housing
• The identification of areas for densification; and
The linkages between housing and urban renewal and the integration of housing planning and transportation frameworks. (CoT, 2014)

The work that was done in the SHSP included an identification of both council and privately-owned land that would potentially provide the land needs for various housing interventions. These were then also compared to the IRPTN at the time, to determine how best to align public housing projects to the movement and connectivity network. There is already a clear understanding in the City that in order to ensure sustainability, human settlements should be weaved into an efficient connectivity system.

At the time of the development this MSDF, the SHSP was being reviewed and updated. As part of the work, feasibility studies are being conducted on the abovementioned land parcels to confirm the development potential. Further to the SHSP, a plan that addresses rural housing is being developed. As much as the urban areas of the City are attracting many people in search of improved work opportunities and living conditions, trends have shown that rural and marginalised settlements have experienced continuous population growth in areas where access to land is possible and transport services are good. Population densities in these places are approaching those of urban areas, but the economic base and the infrastructure to manage the said areas are still undesirable. The City is in the process of developing the Rural Settlement Strategy aimed at retaining the existing rural/agricultural areas. Research will also be conducted to investigate implementation of different subsidies when settlements located in these areas are implemented.

Agri-Village establishment is a relatively new Human Settlements concept in the policy environment which has a focus on self-sustaining living. The focus on the establishment of specialised centres in the form of Agri-Villages in appropriate locations will specifically help to facilitate agrarian transformation and land reform as envisioned by the Comprehensive Rural Development Programme (CRDP). The key to the success of Agri-Village development is rooted in the principle of focused and deliberate government investment spending to ensure that these centres develop to provide an extensive range of community facilities and becoming the spatial focal points of agriculturally driven LED interventions and land reform initiatives. By doing so, an Agri-Village possess the inherent potential to act as a potential secondary around which the critical mass required to initiate formal and informal local economic development can develop over time. (CoT, 2018c)

Initial work that has already been completed for the updated SHSP has allowed for spatial targeting for future public housing and human settlements to be done. This is addressed in the ‘Spatial Targeting, Movement and Connectivity’ section of this chapter.
4.5 BRIEF OVERVIEW

Housing is the basic building block of a sustainable human settlement. The sustainable human settlements concept is akin to the concept of nodal development. Both aim to provide a range of services, amenities and residential options in an integrated approach giving citizens the choice to work, live and play in communities with reduced need for travel (and thus travel cost), with low density sprawl (thus responding positively to climate change by reducing the carbon footprint) and consolidating the area in which services and infrastructure are provided. The sustainable human settlement concept also requires that densification, compaction and infill serve as a foundation for the mixed income, mixed land-use, mixed housing option, also known as transit-oriented development. Housing is the origin of most trips that originate within the city and often determines the destination points of each trip. Furthermore, as the City is committed to transitioning to a lower carbon economy, densification provides a concrete opportunity for the City to lower its infrastructure development costs, energy and resource consumption.

The housing process- which up until now has lead infrastructure development which, in turn, is dictated through provincial government arrangements and the availability of cheap land- has continued to drive urban sprawl. Waiting in the future for these settlements to become better located until mass public transit lines reach the periphery of the city is not the answer. Infrastructure investment decisions can no longer be led by a low cost housing ownership model that destroys economic mobility and places further pressure on new bulk infrastructure development. Mobility, integration and access are important drivers to effect change.

The most significant challenges facing government housing provision are finances for infrastructure and (expensive) strategically, often privately-owned land, and, in urban areas, and the rate at which informal settlements are mushrooming around the city. Going forward, the city’s housing initiatives should make land banking and the retention of state land for human settlement development a key focus in order to ‘capture’ strategic land at more affordable rates.

This will need to be coupled with meaningfully engaging and incentivising the private sector to support public strategic goals and objectives.

Intergovernmental Relations (IGR) and state funding mechanisms will also have to be strengthened and better aligned in order to ensure that the various actions of the state support and compound the intended strategic human settlements objectives rather than undermine them.
4.6 TRENDS IN THE HOUSING SECTOR

According to Statistics South Africa’s (Stats SA) General Household Survey 2017, between 2002 and 2017, the percentage of households that lived in formal dwellings and whose dwellings were fully owned showed similar percentage, while the percentage of partially owned dwellings declined from 15.3% to 8.8%. About 13.1% of households had ‘other’ forms of tenure arrangements in 2017.

Slightly over eight-tenths (80.1%) of South African households lived in formal dwellings in 2017, followed by 13.6% in informal dwellings, and 5.5% in traditional dwellings. The highest percentage of households that lived in formal dwellings were observed in Limpopo (91.7%), Mpumalanga (86.9%), and Northern Cape (86.0%). Approximately one-fifth of household lived in informal dwellings in North West (19.9%), and Gauteng (19.8%).

At the time of the survey, 13.6% of South African households were living in ‘RDP’ or state subsidised dwellings.

(Statistics South Africa, 2017)

Population growth through in-migration and natural growth, and household growth with accompanying smaller average household sizes, are both significant drivers of spatial change in the Gauteng City-Region (GCR). An increase in people and households requires more service and transport infrastructure, more social facilities and public places, and more commercial and industrial space, but in particular population and household growth drive demand for more housing and, crucially, the physical space to accommodate residential buildings.
Change in Residential Buildings in Gauteng 2001-2016

Source: GCRO, 2018

<table>
<thead>
<tr>
<th>Building type</th>
<th>2001</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free hold formal houses</td>
<td>1 190 167</td>
<td>1 647 686</td>
<td>38,4</td>
</tr>
<tr>
<td>Informal housing structures</td>
<td>395 449</td>
<td>598 406</td>
<td>51,3</td>
</tr>
<tr>
<td>Backyard structures</td>
<td>266 929</td>
<td>813 324</td>
<td>204,7</td>
</tr>
<tr>
<td>Difficult to classify as formal or informal</td>
<td>161 963</td>
<td>148 753</td>
<td>-8,2</td>
</tr>
<tr>
<td>Estate and security village housing</td>
<td>26 573</td>
<td>92 696</td>
<td>248,8</td>
</tr>
<tr>
<td>Flats, hostels, townhouses, semi-detached</td>
<td>19 848</td>
<td>27 245</td>
<td>37,3</td>
</tr>
<tr>
<td>Smallholdings / agriculture</td>
<td>42 872</td>
<td>47 223</td>
<td>10,1</td>
</tr>
<tr>
<td>Rural workers housing</td>
<td>13 920</td>
<td>16 945</td>
<td>21,7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2 117 721</td>
<td>3 392 178</td>
<td>60,2</td>
</tr>
</tbody>
</table>

Table 1: Gauteng Change in Residential Building types, 2001-2016

Source: GCRO, 2018a

Data extracted from GeoTerralmage Building Land Use layer (2001 and 2016)
Settlements in the Gauteng City-Region (GCR) are transforming rapidly, in part due to ongoing urbanisation, generating as yet unmet demand for housing. This transformation manifests spatially both as expansion and the internal restructuring of settlements. The February 2018 GCRO Map of the Month contributes to our understanding of the unique ways in which settlements are transforming by analysing growth and decline in the number of backyard and informal dwellings in Gauteng between 2001 and 2016. The analysis uses point data from GeoTerraImage’s (GTI) Building Based Land Use dataset, in which each structure in Gauteng is identified from satellite imagery.

This Map of the Month picks up the theme with an analysis of change in the number of backyard and informal dwellings over time.

In 2001 there were far fewer backyard structures than dwellings in informal settlements. However backyard dwellings grew at a much faster rate (205%) than informal settlement dwellings (51%) over the period, and by 2016 there were over 800 000 backyard dwellings in Gauteng compared to some 600 000 informal settlement dwellings. The growth of backyard dwellings was particularly strong in Tshwane, which experienced a remarkable 393% increase. (GCRO, 2018b)

<table>
<thead>
<tr>
<th>Dwelling type</th>
<th>Definition</th>
<th>Count 2001</th>
<th>Count 2016</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal</td>
<td>Free hold formal houses</td>
<td>1 190 167</td>
<td>1 647 686</td>
<td>38%</td>
</tr>
<tr>
<td>Informal</td>
<td>Any informal housing structure</td>
<td>395 449</td>
<td>598 406</td>
<td>51%</td>
</tr>
<tr>
<td>Backyard</td>
<td>All backyard structures associated with formal housing that may be used for housing purposes (formal or informal).</td>
<td>266 929</td>
<td>813 224</td>
<td>205%</td>
</tr>
<tr>
<td>Transitional</td>
<td>Housing structures that are difficult to classify as either informal or formal</td>
<td>161 963</td>
<td>148 753</td>
<td>-8%</td>
</tr>
</tbody>
</table>

Source: GCRO, 2018a

Data extracted from GeoTerraImage Building Based Land Use layer (2001 and 2016)
The overall numbers of backyard and informal dwellings, and the growth or decline of each over time, are unevenly distributed across the province.

According to the GTI dataset, many built-up urban areas had no recorded backyard or informal dwellings, either in 2001 or 2016.

These areas are shown in white on the map. The wealthier core of the province stands out here. Many suburban homes do of course have backyard cottages but these are not classed as backyard dwellings in the dataset.

Other areas, marked in grey shades on the map, saw increases in the number of backyard and informal dwellings in the period 2001 to 2016. The darker the grey the higher the growth. The average increase in the grey areas was 626 dwellings per km2 but a few places saw growth as high as 10 000 dwellings per km2. Large changes in the number of dwellings per km2 can be seen concentrated within areas such as Mamelodi, Diepsloot and Tembisa. In some parts of the province these increases in backyard and informal dwellings have densified already existing neighbourhoods; in others, such as Soshanguve, they have been associated with an expanding footprint of settlements.

While there might be a popular impression of unstoppable growth in less formal housing, some parts of the province – marked in shades of pink on the map – saw a reduction in the number of backyard and informal dwellings between 2001 and 2016. Informal dwellings in particular disappear, resulting from processes such as informal settlement upgrading or removal. The average decline in the pink areas was 297 dwellings per km2, and up to 7 620 dwellings per km2 less in one place. Interestingly, the City of Johannesburg saw an absolute decrease of 1.4% in the number of informal dwellings between 2001 and 2016.

The figures below show the changes in Tshwane of backyard and informal dwellings separately. The figure on the left, the light pink dots represent informal dwellings in 2001 whilst the red dots represent informal dwellings in 2016. The expansion of informal settlement dwellings is evident in areas such as Soshanguve. The maps show that The relative location of informal dwellings has not changed over time. Informal dwellings remain on the fringes of the urban area, straddling the line between affordability and proximity to economic opportunities, and are often bounded by formal developments and natural barriers.
Source: GCRO, 2018b

Data extracted from GeoTerralmage Building Based Land Use layer (2001 and 2016)
In the figure below, the light blue dots represent backyard dwellings in 2001 whereas the dark blue dots mark backyard dwellings in 2016. It is particularly striking how the footprint of backyard dwellings ‘mushroomed’ between 2001 and 2016, especially in areas such as Soshanguve and Mamelodi, Diepsloot and Evaton. The figure below isolates the Tshwane area. The footprint of backyard dwellings is invariably linked to the location of older townships and new public housing settlements. The phenomenon of backyard structures has confounded attempts to ‘formalise’ South African settlements. Many occupants of formal dwellings have, without planning permission, constructed other dwellings on their properties in order to derive income from rental. Most are made from informal materials but many are also built with brick and mortar. There may be many of these backyard dwellings on each stand. Therefore, while the replacement of an informal settlement with a formal settlement might initially reduce the number of informal settlement dwellings in an area, the appearance of backyard structures over time may bring the number of informal dwellings back up.

Source: GCRO, 2018b

Data extracted from GeoTerraImage Building Based Land Use layer (2001 and 2016)
Another area to consider is how Tshwane’s demographics may influence the planning of human settlements for the future. For the last decade, roughly 60% of Tshwane’s population has been aged below the age of 35. Tshwane has a young population. This is likely to create a set of unique challenges to the City of Tshwane. It is expected that by 2040, Africa’s labour force (ages 15-64) would be the fastest growing in the world. The generation of young people in Africa can be an asset to fuel growth in the continent and with proper education and skills that are demanded by the market. This rapid growth of working age people will increase the number of people living in cities. The City will have to make concerted efforts to address the needs of youth. The fact that Tshwane has a relatively higher number of young people/youth in institutions of learning means that the needs of these have to be addressed. This might include the provision of affordable housing and integrated mixed-use developments in student precincts as well as provision of appropriate housing rental stock.

(McKinsey Global Institute, 2010)

As far back as 2005, the City of Tshwane developed its first Inner City Revitalisation Strategy. Various projects and programmes emanated from this. In 2012, as part of the revitalisation of the Inner City, the ‘West Capital’ precinct was conceptualised for focused intervention. The West Capital is part of the Central Business District (CBD) and thus near employment opportunities. It is located on the western side of the CBD. The Steenhoven Spruit flows through this area. The area has a dilapidated character and is in urgent need of regeneration.

One of the driving forces for identification of West Capital was the estimated 60 000 short-fall of student accommodation at the time. This number has likely increased since then.
Figure 2: West Capital Precinct

Source: CoT, 2015
West Capital within the context of surrounding tertiary institutions
The West Capital Precinct was formalised in the updated Tshwane Inner City Revitalisation Strategy of 2015. West Capital was identified for mixed-use development, with residential (including student accommodation) to be an important component. The student accommodation should be supported an environment that supports student lifestyle.

If we are to learn from other ‘university cities’, and intend on developing or supporting sustainable settlements that cater to our student and youth population, the following needs to be realised in our City:

- Affordability
- Smarty City accessibility
- Movement and Accessibility
- Recreation, arts and culture

### 4.7 INFORMAL SETTLEMENTS

An informal settlement, also known as a squatter camp, is a slum settlement (usually illegal or unauthorized) of impoverished people who live in improvised dwellings often made from scrap materials. In South Africa, informal settlements are primarily the product of biased spatial planning, which fueled unequal distribution of wealth and opportunity. Informal settlements develop when the influx and growth of a population of job seekers outstrips the corresponding work opportunities available. After food, shelter is one of the most basic human needs. Without the finances to provide for a formal housing structure, an individual will likely set up an informal shelter as close as possible to targeted work and/or social opportunities.

While informal settlements used to be found on the periphery of towns and cities, they are now to be found within urban areas themselves, as urban areas are where most economic opportunities exist. Because informal settlements are not guided by spatial planning and related processes, they often do not have proper sanitation, electricity or water services.

A strategy around means of absorbing the homeless before they resort to the establishment of informal settlements will need to be investigated. This will need to be a co-operative intervention between the housing and social services of the city. This strategy will need to incorporate a campaign around the education of current or potential informal dwellers as to the possible dangers of establishing informal settlements in certain areas that are at risk for certain disasters, e.g. flooding. This particular intervention will require the
support of the community safety teams of the city, in offering the monitoring of land invasions.

Communities will also be encouraged to build or make a contribution towards building their own houses where means to do so are available, moving away from the dependency syndrome that largely afflicts our nation at present.

Since 1994, the South African Government has been chasing an ever-growing housing backlog through various public housing initiatives. As it is unlikely that the supply will ever meet the demand, alternative interventions are required. These include informal settlement upgrade, relocation and formalisation of existing informal settlements.

Rental housing and the in-situ upgrading of informal settlements, should progressively be developed in order to diversify the public housing supply and therefore integrate the poorest into the conventional market economy by mobilizing their “social capital” to serve local development.

Location of Informal Settlements in Tshwane

During 2017, the National Human Settlements Department, through the National Upgrading Support Programme (NUSP) completed a study on the identification, location and verification of Informal Settlements in Gauteng Province (NDoHS, 2017).

In line with the National Code the National Department of Human Settlements defines informal settlements on the basis of the following characteristics:

- Illegality and informality
- Inappropriate locations
- Restricted public sector investment
- Poverty and vulnerability
- Social stress

Although it is recognised that the definition of informal settlements is widely contested, the project team employed the above definition in an effort at standardisation and to align the approach taken in this project with national directives.

Following from the definition, the final list of informal settlements was as follows:

- Settlement comprising informal structures, where there is no General Plan or where settlement has not taken place according to the approved layout, were included.
- Backyard shacks and occupied/ hi-jacked buildings were explicitly excluded (even where shacks had been built inside of structures).
- Areas with an approved General Plan and formal houses but lacking services were excluded.
- Settlements with fewer than four (4) shacks were excluded.

In other words, the basis for inclusion was a combination of housing typology, settlement size (minimum) and legal status of the land.

Using the above criteria, the following informal settlement numbers and locations were found in Tshwane at the time:
<table>
<thead>
<tr>
<th>Region (if applicable)</th>
<th>Number of Informal Settlements</th>
<th>Number if Structures*(high level est.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>158</td>
<td>121,619</td>
</tr>
<tr>
<td>Region 1</td>
<td>37</td>
<td>27,997</td>
</tr>
<tr>
<td>Region 2</td>
<td>27</td>
<td>29,577</td>
</tr>
<tr>
<td>Region 3</td>
<td>25</td>
<td>21,709</td>
</tr>
<tr>
<td>Region 4</td>
<td>8</td>
<td>11,684</td>
</tr>
<tr>
<td>Region 5</td>
<td>16</td>
<td>6,577</td>
</tr>
<tr>
<td>Region 6</td>
<td>27</td>
<td>23,470</td>
</tr>
<tr>
<td>Region 7</td>
<td>18</td>
<td>4,882</td>
</tr>
</tbody>
</table>

*Figure 2: Informal Settlements in Tshwane 2017*  
*Source: NDoHS, 2017*
Figure 3: Region 1 Informal Settlements, 2017
Source: NDoHS, 2017

Source: NDoHS, 2017
Figure 4: Region 2 Informal Settlements, 2017
Source: NDoHS, 2017
Figure 5: Region 3 Informal Settlements, 2017
Source: NDoHS, 2017
Figure 6: Region 4 Informal Settlements, 2017
Source: NDoHS, 2017
Figure 7: Region 5 Informal Settlements, 2017
Source: NDoHS, 2017
Figure 8: Region 6 Informal Settlements, 2017
Source: NDoHS, 2017
Figure 9: Region 7 Informal Settlements, 2017
Source: NDoHS, 2017
Informal Settlement Upgrade

Also known as in-situ upgrading, the basic intent of this intervention is to improve the quality of living environment for informal settlement dwellers without relocating them. If possible, relocation is avoided in order to avoid disruption of established community life and moving people far away from where they may have already managed to find work.

Informal settlement upgrade involves provision of roads and bulk infrastructure. Where possible, the existing layout is re-configured to ensure ease of access and efficiency.

Through the National Upgrading Support Programme (NUSP), the DHS aims, amongst others, to promote incremental upgrading and strengthen capacity of government and professional practitioners to implement community-based upgrading. (Gov.Za, 2019)

Formalisation of Informal Settlements

Formalisation of an informal settlement is ideal when the informal settlement is appropriately located in terms of sound spatial planning principles (access to public transport, work opportunities, infill and compaction compliant, etc.) and are thus capable of becoming viable human settlements.

The formalisation process is as follows:

- Registration of the township and its inhabitants on a township register;
- Town Planning processes, which include environmental and geotechnical surveys, township establishment (design, layout plan, demarcation of stands, allocation of stand numbers and street names, registration of the township in the Deeds Office, proclamation of the township; allocation of title deeds to residents)

Once a township is proclaimed, services can be provided.

Relocation of Informal Settlement Dwellers

In some instances, an informal settlement may be located on dolomitic land that may collapse into sinkholes, on toxic mining dumps, alongside much polluted watercourses, or below the floodline in locations prone to flash floods. In these cases, relocation is unavoidable. In other instances an in situ upgrade of densely packed settlements may require more appropriate demarcation of plots and therefore de-densification. This may mean that only a portion of the residents currently living there can continue to be accommodated when the settlement is formalised (CoJ, 2006).

4.8 AFFORDABLE HOUSING

Traditionally affordable housing refers to housing with prices or values below the overall open market value which targets below average incomes. In this MSDF affordable housing is inclusive of social, gap, and inclusionary housing.

Social housing

A key model for the delivery of affordable housing is social housing, which provides medium density, affordable, rental housing to low and middle income households. Social housing contributes to transforming urban spatial patterns as it promotes integration and densification in close proximity to economic and social amenities.
The DHS’s social housing programme is largely funded through the restructuring capital grant, which is transferred from the Housing Development Finance programme to be administered by the Social Housing Regulatory Authority (SHRA).

The grant was expected to reach R1 billion by 2018/19 to fund the delivery of 17 333 social housing units, contributing to achieving the target of an additional 27 000 social housing units by 2019.

One form of social housing that is currently being implemented are the Mega Human Settlements. Launched by the Gauteng Provincial Government in 2015, the ‘Mega Projects: Clusters and New Cities’ policy represents a shift in housing policy away from the RDP housing model (which is considered inefficient) towards large-scale integrated human settlements. The projects will comprise no fewer than 15 000 units and be either an existing development cluster or a new nodal development project.

The planned developments are mostly located near existing townships or informal settlements, around concentrations of existing unemployment and generally far away from current concentrations of businesses. Some of the planned developments are well located, near to existing opportunities and public transport and so may well contribute to urban consolidation and economic development. However, other settlements are spatially isolated and will not be sustainable for residents in the long term. Indeed, while mega projects emphasise the need for economic sustainability and economic self-sufficiency, if they are unable to generate economic activity internally, the risk is that this approach will exacerbate sprawl, overstretch infrastructure networks, consume resources unsustainably, and result in spatial fragmentation and dislocation. (GPD, 2016)

The sustainable human settlement concept is akin to the concept of nodal development. Both aim to provide a range of services, amenities and residential options in an integrated approach giving citizens the choice to work, live and play in communities with reduced need for travel, with low density sprawl and consolidating the area in which services and infrastructure are provided.
Figure 10: Mega-human Settlements within the context of Tshwane Nodes and Development Trends
Source: GPD, 2016
**Gap Housing**

Housing the poor was an ingredient of the department’s three-part response to the State’s Vision 2030 Strategy. “Gap housing” is a term that describes the shortfall or gap in the market between residential units supplied by the State and houses delivered by the private sector.

Gap housing is a policy that addresses the housing aspirations of people such as nurses, firefighters, teachers and members of the armed forces, who earn between R3 000 and R15 000 per month and therefore do not qualify for RDP houses (now mega human settlements and similar developments) and do not earn enough to obtain home loans.

Nationally, the houses are financially assisted by the National Housing Finance Corporation (NHFC) through an intervention called Finance Linked Individual Subsidy Programme (FLISP), which gives all qualifying beneficiaries the certainty of being granted loans, bonds or mortgages by banks and other financial institutions.

**Inclusionary Housing**

In 2018, SAPOA commissioned research to look at some of the key issues associated with inclusionary housing policy, with a focus on the Cape Town and Johannesburg contexts. This brief overview comprises of extracts from this comprehensive research.

The Gauteng Province has developed the 3rd draft Inclusionary Housing Bill as a means of facilitating inclusionary housing development within the province.

Since then, policy on inclusionary housing has led to much debate concerning key definitions, outcomes and mechanisms required to implement. For instance, the public sector, the initiators of inclusionary housing policy, is motivated by the need to take on the housing challenge and ensure that access to housing is available to all income groups. The private sector, on the other hand, is concerned about the fiscal risks associated with inclusionary housing. The contrasting views and objectives of inclusionary housing policy has brought on an industry debate on the intricacies of inclusionary housing policy.

The crux of inclusionary housing policy is the ‘inclusion’, either voluntary or mandated through policy, of affordable housing with market-orientated units as part of private sector housing developments. Affordable units in inclusionary projects are conveyed to low-income households, with the definition and income thresholds varying based on the locational context of implementation.

Inclusionary housing initiatives are perceived to be a cost-effective way to increase the supply of affordable housing, while diversifying the housing stock. The concept of inclusionary housing is applied in various jurisdictions around the world, with differing objectives and motives forging unique approaches to the inclusionary concept. These differences can range from implementation of inclusionary housing through government-offered incentives, which may include tax rebates as applied in Ireland and density bonuses as applied in Brazil. Furthermore, the mandatory approach through inclusionary zoning as implemented in Australia and California, or government themselves building affordable housing components within private sector inclusionary housing projects as in Mississippi.
Although considered an important instrument in overcoming the segregated nature of South Africa’s urban areas, a barrier to the implementation of inclusionary housing in this urban context is the inherent cost associated with delivering affordable housing units in place of or in addition to market-related units in private sector housing developments. These costs may include additional capital expenditure on the part of private developers, while limiting their return on investment due to price and rental restrictions. Additionally, the opportunity cost inherent in providing affordable housing in lieu of market units may influence the profitability of developments. Consequently, private developers may place increased expenditure at the door of potential owners and tenants of the market units by increasing housing and rental rates. In this regard, the public sector may seek to avail cost-reducing incentives to private developers to offset profitability concerns and negate the cost of inclusionary housing being placed on housing consumers.

However, offering incentives is not without cost to the public sector and its urban planning and development entities, placing pressure on the public purse - contrary to the initial objectives of inclusionary housing.

Some incentives that have been employed by other cities in the past include:

- Facilitation of prioritised and fast-tracked land use applications
- Reduced bulk service and/or open space contributions
- Engaging financial institutions to allow for more favorable lending rates for reduced debt repayments
- Releasing publicly owned land private developers who put forward the best inclusionary housing proposals for that site
- Delineation of additional Urban Development Zones (UDZS) specifically for the incorporation of inclusionary housing
- A relaxation of parking requirements
- Density bonuses

Inherent to inclusionary housing is the added cost of developing and managing low-income units in addition to the market-related units. A central theme in the investigation of inclusionary housing implementation – and an important factor influencing its feasibility – is determining who will carry this extra development cost.

While the envisioned approach from the City of Joburg and the City of Cape Town is of a voluntary, negotiation-based nature, the successful implementation of inclusionary housing, either mandatory or voluntary, is fundamentally influenced by the financial feasibility of private developers providing affordable housing units in lieu of certain market-orientated housing. An important consideration in the implementation of inclusionary housing is the feasibility of private developers foregoing potential returns by providing low-income, affordably-priced housing units with market-orientated housing. There is an opportunity cost inherent to inclusionary housing: There will be a proportionate revenue loss for private developers substituting some middle-to high income units with low-income housing.

Although the Draft Gauteng Inclusionary Housing Bill (2012) is mandatory in its approach, there are many lessons to be learnt from other countries that have incorporated a voluntary approach to a
lesser or greater extent, in the execution of inclusionary-type housing. The SAPOA research report outlines a few such examples.

At the time of the development of this MSDF, Tshwane was yet to develop an Inclusionary Housing Policy.

4.9 TOWNSHIPS

Townships and informal settlements in Gauteng are predominantly located on the periphery of the urban conurbation. They include the GaRankuwa-Soshanguve-Mabopane-Winterveld-Temba complex to the northwest Atteridgeville in the west, Mamelodi in the east and Olievenhoutbosch to southwest respectively.

These areas correlate with the ‘deprived’ or marginalised areas as identified in the Tshwane Built Environment Performance Plan (2019). The City of Tshwane has developed a Deprivation Index that measures the extent to which the residents of the city are deprived of basic services and generally impoverished.

The Deprivation Index serves to elevate projects which impact underserviced areas i.e. the most deprived areas as identified by spatial data analysis. The Deprivation Index is a spatial layer calculated from Statistics South Africa data at small area layer (SAL) from Census 2011, which provides an indication of the level of impoverishment or lack of services across the municipality.

The Deprivation Index considers the following indicators:
- Household Income (Weighted at 25%)
- Household Size (Weighted at 5%)
- Household Dwelling Type (Weighted at 5%)
- Household Cooking (Weighted at 10%)
- Household Heat (Weighted at 5%)
- Household Light (Weighted at 5%)
- Household Piped Water (Weighted at 20%)
- Household Toilet (Weighted at 20%)
- Household Refuse Disposal (Weighted at 5%)

In addition to the township areas already identified, the BEPP additionally identifies Eersterust, Ekangala, and Hammanskraal as marginalized areas.

(CoT, 2019)

The description ‘township’ indicates that townships are different and spatially and functionally isolated from other settlements. This terminology entrenches the real and perceived separation of these areas from the rest of the urban environment.

The structural challenges of townships include spatial isolation and separation, concentration of poverty, limited access to services and facilities, the lack of a secondary housing or property market, the lack of a local economy and poor environmental quality.

The following maps show the overlap between the location of townships and areas of greatest unemployment, concentrations of poverty and poor education levels. There is also a high level of spatial
polarisation between areas of deprivation (i.e. townships) and areas of economic and employment opportunities.
Urban Classifications
Source: GPD, 2016

Clustering of unemployment as per Census 2011
Source: GPD, 2016
Persons between 16 and 35 years of age with less than matric (Density)

Source: GPD, 2016

Cumulative percent low income households

Source: GPD, 2016
Concentration of Employment and Low Income Communities

Source: GPD, 2016
4.10 GATED COMMUNITIES

The two broad categories of gated communities are: enclosed neighbourhoods and security estates. Enclosed neighbourhoods refer to existing neighbourhoods that are closed-off for security purposes. Security estates are new private developments that range from large estates to townhouse and apartment complexes, and can even include predominantly non-residential gated or security parks such as office or industrial parks.

Most security estates in Gauteng are located in the north of Johannesburg, southeast of Tshwane and west of Ekurhuleni, predominantly on the periphery of the existing urban footprint. Many of the business and office parks are found just outside the built-up area and are often concentrated alongside residential security estates. This creates clusters of private gated communities that are adjacent to major transport routes.

Gated communities affect spatial transformation in several ways: They contribute to spatial fragmentation and have implications for integration and accessibility:

- They change the urban fabric, by displacing the movement of motorised and non-motorised (cyclists and pedestrians) traffic. As large areas are physically closed-off, traffic is forced to use the remaining open roads (mostly arterials), which in turn causes traffic congestion and displaces traffic to neighbouring areas.

- They change the normal dynamic urban process of change. Densification and redevelopment over time is impossible because these areas are developed and isolated from surrounding areas.

- They compromise the sustainability of public transport because of a lack of connectivity and permeability between the transport route and the gated community. All pedestrians are forced to use a single access point, which often creates longer walking distances and decreases residents’ willingness to use public transport. (In open neighbourhoods, pedestrians generally have several options when choosing the shortest route possible to the public transport stop.)

The GSDF quotes Landman and Badenhorst (2012), when they say that the Human Rights Commission’s report on enclosed neighbourhoods maintains that “they cause social division, contribute to dysfunctional cities and lead to further polarisation of the city. […] closing off existing roads also has an impact on the response rate of emergency services and service delivery as well as road maintenance”. (GDP, 2016)

At the time of the preparation of this MSDF, a Restricticon of Access Policy, dealing with gated communities, was being considered. Whatever the outcome, the objectives of the City’s IRPTN should not be compromised.
4.11 AGRI-VILLAGES

At the time of the development this MSDF, the Sustainable Human Settlements Plan was being reviewed and updated. Further to the SHSP, a plan that addresses rural housing- with agri-villages being an integral component- is being developed. As much as the urban areas of the City are attracting many people in search of improved work opportunities and living conditions, trends have shown that rural and marginalised settlements have experienced continuous population growth in areas where access to land is possible and transport services are good. Population densities in these places are approaching those of urban areas, but the economic base and the infrastructure to manage the said areas are still undesirable. The City is in the process of developing the Rural Settlement Strategy aimed at retaining the existing rural/ agricultural areas. Research will also be conducted to investigate implementation of different subsidies when settlements located in these areas are implemented.

Agri-village establishment is a relatively new Human Settlements concept in the policy environment which has a focus on self-sustaining living specifically in rural areas. The focus on the establishment of specialised centres in the form of agri-villages in appropriate locations will specifically help to facilitate agrarian transformation and land reform as envisioned by the Comprehensive Rural Development Programme (CRDP).

Rural areas constitute spaces where human settlement and infrastructure occupy only small patches of the landscape. The majority of rural poor live in areas that are resource-poor and highly heterogeneous. At the time that this MSDF was being prepared, the City of Tshwane did not have a Corporate Rural Development Strategy. Nonetheless, the Human Settlements Department was in the process of developing a Rural Settlement Strategy which will incorporate the concept of agri-villages.

The key to the success of agri-village development is rooted in the principle of focused and deliberate government investment spending to ensure that these centres develop to provide an extensive range of community facilities, and becoming the spatial focal points of agriculturally driven LED interventions and land reform initiatives. By doing so, an agri-village possess the inherent potential to act as a spatial point within a larger rural space-economy around which the critical mass required to initiate formal and informal local economic development can occur over time (CoT, 2014).

Areas such as Dewagensdrift and Onverwagct, Sokhulumi, etc, with rich rural characteristics will qualify for these type of developments. The Rural Development Strategy is currently being developed by the City in order to guide the development of these areas.

Due to the rich agricultural characteristics of the far eastern regions of the City, the Tshwane Human Settlements Department proposes that the agri-village concepts be explored there to retain the agricultural nature of these areas.
4.12 HUMAN SETTLEMENTS AND CLIMATE RESPONSE

In terms of national land use and settlement patterns, climate change begs serious questions with regards to future human settlement in national space, such as: How will climatic change impact regional development patterns in terms of temperature, liveability, water, food security and the adaptation to viable agricultural practices and commodities? What kind of impacts can be expected in settlements and where should new cities be built, and with what population-size in mind? What are the disaster-risk reduction interventions, coping capacity and national resource implications, e.g. drought relief, that are required in areas that are set to experience significant and intolerable changes in climate: Should high-risk settlement development for instance be curbed, will government be able to provide support for the most vulnerable and if so, of what kind and at what cost? Furthermore, what kind of activities and settlement patterns should be allowed in such areas, and should new settlement development in these areas be discouraged, or concentrated in alternative, carefully selected suitable locations? Questions around regional adaptation includes consideration includes consideration whether directing or discouraging urban and settlement in certain regions is constitutional, and if so, what kind of method or measure to regulate settlement in such areas would be used?

(DRDLR, 2019)

Currently, there is a push for climate responsiveness in order to mitigate the effects of climate change. This development is important to consider, especially because it has implications for the way the City’s developments will be designed: infrastructure design, human settlements and housing design, design of the transport system, etc. A failure to appreciate the environmental implications of the planning of the City’s development may trap the City in a socio-economically costly development path.

The main considerations within the context of spatial transformation are:

1. **Land and space**: combination of densification, compaction (subject to the requirements of urban agriculture), mixed land-use, mixed income residential areas, greening, child-centered urban design for maximum safety and visibility, provision for urban agriculture in smaller spaces in the inner areas increasing to larger farms on the peripheries and transit-oriented development. IRPTN should be aligned with strategic, spatially sound human settlement locations.

2. **Building materials and design**: introduction of new building regulations that link approval of building plans to a sustainability audit based on an assessment of the environmental and social impact of the combination of proposed building materials, and the spatial and architectural design (taking into account matters such as north orientation, passive heating and cooling via roof overhang and window design, insulation and ventilation, interior-exterior relations, etc).

**Land and Space**

Urban sprawl is still an urgent problem in Tshwane. The current spatial structure of Tshwane is such that less affluent areas tend to be found on the peripheral areas of the City. The high capital outlay
required to provide infrastructure in peripheral areas thus further compounds the problem. The result is that certain communities do not enjoy access to a full range of services, social amenities and facilities. The manner in which people traverse the City is also important. Those who can afford to do so make use of private vehicles. The majority of the City’s residents have no option other than to rely on inadequate public transport which is also becoming increasingly expensive.

The South African Presidential Infrastructure Coordinating Commission (PICC) believes that “quality, affordable infrastructure raises economic productivity, permits economic expansion and allows marginalised households and communities to take advantage of new opportunities.” To this end, 18 Strategic Integrated Projects (SIPs) have been identified and adopted for implementation as part of the National Infrastructure Plan. Of relevance to the City of Tshwane is the ‘Integrated Urban Space and Public Transport Programme’ that has been developed to focus on the 12 largest urban centres including all of the metros in the country. The SIP will coordinate the planning and implementation of infrastructure namely, human settlements, economic and social infrastructure, and public transport. A particular principle is that of creating “sustainable urban settlements connected by densified transport corridors.”

Compact, mixed-use, transit-served neighbourhoods have dramatically lower emissions per person – as much as half or less per capita of sprawled developments. Due to the high cost of providing bulk infrastructure in low density areas, urban sprawl should be discouraged. Growth management is critical.

The City of Tshwane has adopted a nodal approach to spatial reconfiguration. Nodes are those parts of the City where development should be focused. The widest variety of services and opportunities should be provided at nodal points, at degrees relative to their nodal status. The process of increasing land use densities (the building density) in a planned and meaningful way within the existing boundaries of a specific area increases overall efficiency and reduces cost in the use of infrastructure, services and amenities.

And thus, land and space should be managed in order to:

- Reduce the costs of infrastructure provision
- Support a more efficient space economy
- Better connect communities to work and recreation opportunities
- Protect natural resources within the city

**Building Materials and Design**

One of the areas that has not been thoroughly investigated and translated into policy in the low-cost housing space in Tshwane. One of the stumbling blocks in this area is often said to be the existing legislation that governs housing construction in the country. In 2015, Mark Jackson of urbanAfrica.Net, with a background in both environmental sciences and city and regional planning has compiled a list of current building regulation norms and standards as well as some suggested guidelines for efficient and sustainable housing design by government bodies. These constraints and opportunities make up a framework for thinking about positive and innovative housing solutions that offer a step forward in terms of resource use, economic cost, environmental sustainability, socio-economic responsibility as well as livability.
### CONSTRAINTS

<table>
<thead>
<tr>
<th>FORM</th>
<th>OPPORTUNITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum 40 m² floor area. Two bedrooms</td>
<td>Materials very loosely defined</td>
</tr>
<tr>
<td>Separate bathroom (toilet, shower and hand basin)</td>
<td>Form not defined</td>
</tr>
<tr>
<td>Combined living area and kitchen (wash basin and electricity supply)</td>
<td>Construction by certified builders who have warranties for roof leakage (one year), major structural defects (five years) and non-compliance (three months.)</td>
</tr>
<tr>
<td>Built on favourable soil conditions</td>
<td></td>
</tr>
<tr>
<td>Maximum of 10 metres from a municipal water and sewage connection</td>
<td></td>
</tr>
<tr>
<td>Safe foundation for load and damp resistance</td>
<td></td>
</tr>
<tr>
<td>Water and weather resistant facade. Minimum window footage and controllable ventilation at 5% of floor area. One at least 0.1 m²</td>
<td></td>
</tr>
<tr>
<td>Wall height of 2.4 m minimum and ceiling height of 2.1 m minimum</td>
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### ENERGY

<table>
<thead>
<tr>
<th>ENERGY</th>
<th>OPPORTUNITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficient and safe is the aim.</td>
<td>Installation of 110-150 Wh/Day of solar in much of SA at R2500-R4000.</td>
</tr>
<tr>
<td>Free basic provision to applicable houses on grid or off (50 kWh per month).</td>
<td>Combined board and meter as Electricity Control Unit.</td>
</tr>
<tr>
<td>230V preferable within 207V-253V flexible range at point of supply.</td>
<td>Efficient lighting, heating and cooking designs.</td>
</tr>
<tr>
<td>Single or three phase system.</td>
<td>Bulk supply of LNG, cheaper and safer than most sources.</td>
</tr>
<tr>
<td>Grid extension cost at R20,000-R55,000 per km.</td>
<td>Renewable source (wind, solar, biofuels)</td>
</tr>
<tr>
<td>50% of water heating should be supplied by means other than electrical resistance.</td>
<td>Solar water heating (40% of average household energy consumption), subsidized with 4-5 year payback time.</td>
</tr>
</tbody>
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### WATER

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<tr>
<th>WATER</th>
<th>OPPORTUNITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single stand pipe per stand.</td>
<td>Rainwater collection with filters.</td>
</tr>
<tr>
<td><strong>DRAINAGE</strong></td>
<td>Minimize downstream impact, don’t damage natural flows.</td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Runoff conveyed &gt;1.5m from structure.</td>
</tr>
<tr>
<td></td>
<td>Prevent pollution.</td>
</tr>
<tr>
<td><strong>SANITATION</strong></td>
<td>Human right. Should be reliable, acceptable, appropriate, affordable and sustainable in the eyes of the user.</td>
</tr>
<tr>
<td></td>
<td>Toilet facility for each household.</td>
</tr>
<tr>
<td></td>
<td>Minimal environmental impact.</td>
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<tr>
<td></td>
<td>Adequate disposal of waste water.</td>
</tr>
<tr>
<td></td>
<td>Shared sewage connections.</td>
</tr>
<tr>
<td></td>
<td>4-10 year emptying and maintenance cycle.</td>
</tr>
<tr>
<td></td>
<td>Separate greywater conveyance. Generated at 20-60 litres p/per day.</td>
</tr>
<tr>
<td></td>
<td>Energy efficiency through windows, skylights and low wattage lightbulbs.</td>
</tr>
<tr>
<td></td>
<td>Thermal efficiency: Appropriate overhangs (Northern side), fenestration (R2.2 or masonry at</td>
</tr>
<tr>
<td>SAFETY</td>
<td>Passive housing design</td>
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</tr>
<tr>
<td>Protection and evacuation of occupants in case of fire. Limit the spread.</td>
<td>Building materials that are more resistant to fire and therefore protect neighbouring properties.</td>
</tr>
<tr>
<td>Safe air quality through ventilation. For damp and smoke.</td>
<td>Health improvement and disease reduction through improved air flow.</td>
</tr>
<tr>
<td>Humidity compensation.</td>
<td>Visibility and connectivity.</td>
</tr>
<tr>
<td>Street lighting or communal high mast lighting.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>FUNDING</th>
<th>Multiple funding options with constraints.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple subsidy options available around community and self construction as well as social housing buy in.</td>
<td></td>
</tr>
<tr>
<td>Family earning less than R3,500 per month can qualify for a subsidy of up to R160,573.</td>
<td>In-situ options available for informal areas.</td>
</tr>
<tr>
<td>Subsidies linked with down payments (FLISP) can amount to between R20,000 and R87,000.</td>
<td></td>
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Table 2: Building Materials and Design
Source: Jackson, 2015
At the time of the preparation of this MSDF, the City was reviewing its Green Buildings by-law. Green buildings (also known as green construction or sustainable building) refers to a built structure and process that is environmentally responsible and resource-efficient throughout a building’s life-cycle: from siting to design, construction, operation, maintenance, renovation, and demolition. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort.

Although new technologies are constantly being developed to complement current practices in creating greener structures, the common objective is that green buildings are designed to reduce the overall impact of the built environment on human health and the natural environment by:

- Efficiently using energy, water, and other resources
- Protecting occupant health and improving employee productivity
- Reducing waste, pollution and environmental degradation

Once finalised, the Green Buildings By-law, together with sound streetscaping and urban design strategies, should be used to inform human settlement design throughout the City, consistently.

### 4.13 URBAN MANAGEMENT AND QUALITY OF THE BUILT ENVIRONMENT

The public realm incorporates those spaces that we spend more than half our time in. The importance of the quality of the built environment may not be obvious, but is still important for the overall efficiency of both the urban and rural environment. Urban areas, though, seem to be more susceptible to negative impacts of environmental deterioration such as urban decay.

The management of the quality of the environment is important for the following reasons:

- **Environmental Impact**: the quality of the built environment will have important implications for the natural environment. Urban design largely deals with the quality of the built environment that is vital for preserving the natural environment.

  Urban and architectural design, in particular, can both have a significant impact on reducing the negative effects of climate change if implemented on a large scale. This would require an entire city to take on a formal policy that incentivises green buildings.

- **Competitive Edge**: the image that a city presents has ripple effects not only nationally but internationally. Physical features may influence investor confidence. There is also a strong relationship between technological changes in the economic production and structural changes in the quality and production of urban spaces.

- **City Image**: an important factor determining why people choose to visit, invest in or relocate to a particular place is the "atmosphere" or the "cultural identity". Tourists now look for the "local culture" of places rather than a visit a particular art gallery, monument or place of natural beauty alone. Also a desirable location, good educational facilities, a
friendly, caring community, a healthy and safe environment, good quality housing, and a competitive, stimulating local atmosphere are essential for business development. Therefore the "image of the local community" is becoming more significant to attract investors and tourist to that area. It is imperative to create a sense of pride for the residents of a city. When striking up a conversation with a stranger seated next to you on an airplane, does that person respond: I’m from – you fill in the name of the city – and expect you to immediately recognize their city and to have a positive image of, if not envy for, that community. This factor is nearly impossible to quantify – but I think we all know it when we see it and relish it when we have it. “I’m proud of my community and let me tell you why!” (Stafford, 2006)

The BEPP (2019) clearly defines urban management and outlines the role it plays creating practical efficiencies and the improvement and maintenance of high quality environments in our City and indicates that urban management relates to the specific management steps taken by the City, above and beyond its regular functions, to ensure the (re)development of specific spatially targeted areas.

Urban Management also relates to a lower level of planning, referred to as precinct planning. Precinct planning specifically focus on the implementation and spatial organisation within a specific precinct and often turns towards Precinct Plans (inclusive of urban design frameworks) as a more detailed spatial development and management framework to assist the development and maintenance of such areas within the context of the approved Municipal Spatial Development Framework and the Regionalised Spatial Development Frameworks. Urban Design Frameworks in itself are however not sufficient and is only the first step towards Urban Management.

(CoT, 2019)

Institutionally, within the City of Tshwane, urban management is being addressed though the implementation of existing and future Precinct Plans and Improvement Districts.

Through the RSDF revision process- which concluded in September 2018- a need for new or reviewed Precinct Plans was identified. These needs have been identified city-wide, thus requiring prioritisation. Precinct plans are being prioritised annually in order to determine which will be undertaken in specific financial years.

Due to the financial and capacity constraints within the City, some of the precinct plans will be developed in-house, while others will be developed with the support of the community and service providers. Precinct plans will be informed by a scope of works that have specific requirements that should be met within the document such as infrastructure, urban design and implementation plan, amongst others. All plans, if they are to become Council policy, are to be done according to the City’s requirements, in collaboration with the City. No plan that is still under development may in any way impact on or influence the City’s decisions or land use applications that are in process.

At the time of developing this MSDF, the City was also in the process of developing the City of Tshwane Metropolitan Municipality Improvement By-law which will provide the legislative framework for City Improvement Districts in the City.

A City Improvement District (CID) is a geographically defined area where ratepayers agree, in a legal contract with the City Council, to provide supplementary services in that area. This is done through an additional levy paid by ratepayers within the CID. As an added-value service, the CID is designed to top-up the levels of service that the municipality provides through the dedicated levy. The CID does not in any way replace the services that the local authorities already have in place within their areas.
provide, nor does it mean that there is a reduction in these services or in the rates. The CIDs work closely with local authorities and the community to identify where supplementary assistance is required. CID services may include security, cleaning, fixing potholes and promoting the area.

The ability to administer and effectively enforce directives emanating from the City’s policies are often hampered by a lack of legally binding framework and process plan. The Draft By-Law will ensure that both are addressed, specifically insofar as directives around:

- CID Establishment and Approval process
- Extension of Boundaries
- Clear differentiation between business and residential CIDs
- Funding for CIDs
- Billing and Collection
- Management of CIDs
- Governance of CIDs
- Oversight of CIDs

- Performance measurement of CIDs thought the Business Plan and annual requirements

The CIDs are one of the key mechanisms to revitalise specific nodes within the City. The quality of the physical environment can be an indication of the city’s commitment to the protection of various investments (both public and private) including service infrastructure. Again, this is a matter that influences investor confidence. Urban management of one such tool towards supporting investor confidence.
4.14 SPATIAL TARGETTING FOR SUSTAINABLE HUMAN SETTLEMENTS

The City's vision for human settlement is to provide the communities of Tshwane with sustainable and affordable human settlements opportunities and security of tenure and the mission is to ensure access to adequate housing through the upgrading of informal settlements, provision of affordable, sustainable and integrated human settlements with adequate access to basic services.

Though the implementation of these sustainable human settlements is a long process, there are challenges such as land invasions, informal settlements growth, unavailability of bulk infrastructure, unavailability of well-located land closer to economic opportunities, poor intergovernmental relations, etc. delaying the implementation. Partnerships between government and private developers through the Public Private Partnership (PPP) seems to be the best solution to fastrack the delivery of these sustainable human settlements in order to balance both the demand and supply of these settlements.

As such, the Tshwane Human Settlements Department has identified strategic locations for further investigation for the purposes of providing affordable housing that support support a sustainable human settlement

As emphasized by the National Planning Commission (2011) Settlement patterns should meet the needs and preferences of citizens, taking into account broader social, environmental and economic interests. Travel distances need to be shorter. This means ensuring that a larger proportion of workers live closer to their places of work, and that public transport is safe, reliable, affordable and energy efficient. It means building denser and more liveable cities and towns.

The NDP targets for 2030 that will influence future City planning include that:

- more people should be living closer to their places of work;
- better quality public transport should be provided; and
- more jobs in or close to dense, urban townships.

(National Planning Commission, 2011)
Inner city and Tshwane West

The inner city is currently characterised by high density residential areas with few social amenities, old dilapidated buildings, etc. The following interventions should therefore be implemented to address the existing challenges:

a) Inclusionary housing to promote integrated settlements accommodating different income groups and land uses. Incentives to private developers will be explored in order to attract more developers willing to partner with the City;

b) Redevelopment of dilapidated buildings especially along Johannes Ramokhoase to increase affordable rental housing;

c) High density affordable housing (i.e. gap and rental) along Bosman, Salvokop and Capital park stations;

d) Densification along major routes such as WF Nkomo road towards the western side of the city, existing and future Bus Rapid Transit;

e) Student accommodation around Arcadia, Hatfield, Boom and Bloed streets, etc.

f) Mega housing developments towards the western side (i.e. Kirkney/Andeon, Suiderberg

g) Development of multi-purpose centres (incorporating social amenities such as recreational facilities, clinics, schools, etc.)

- Mixed housing developments in old hostels such as Saulsville towards the western side to accommodate the existing hostel dwellers and the demand from the neighbouring townships.
Figure 12: Tshwane Human Settlements Policy Position 2019: Tshwane West
The eastern side of the City comprises of regions 5, 6, and 7. Region 6 is currently land locked but it has potentials for infill developments, mega human settlements developments around the Willows side. The existing townships needs to be revitalized to improve/increase the provision of social amenities such as clinics, recreational facilities, etc. Infill developments should focus on high density affordable rental units along major transport routes. Plans to redevelop the existing Mamelodi hostels into a mixed human settlement development accommodating different tenure options are currently in progress.

The main challenge is the unavailability of land to accommodate both the current and future housing demands within the region especially the households currently located in informal settlements and back yards. There is currently sufficient land in the far eastern side of the city (i.e. regions 5 and 7) however the main challenge is the unavailability of bulk infrastructure to supply future developments. Infrastructure unlocks the development potential of rural areas. Appropriate levels, form and location are important, given that infrastructure investment is less cost effective in lower density areas with small economies.

High density developments along Moloto and Zambezi routes due to their advantage to linkages with major transport roads to major economic areas are crucial. Townships like Refilwe, Cullinan and Zithobeni will require revitalization to increase the provision of social amenities in order for them to fully comply to sustainable human settlements principles.

Due to the rich agricultural characteristics of the far eastern regions, it is proposed that agri-village concepts be explored to retain the agricultural status of these areas. The focus on the establishment of specialised centres in the form of Agri-villages in appropriate locations will specifically help to facilitate agrarian transformation and land reform as envisioned by the CRDP. Notably, such villages also aim at promoting food security.

The key to the success of Agri-village development is rooted in the principle of focused and deliberate government investment spending to ensure that these centres develop to provide an extensive range of community facilities, and becoming the spatial focal points of agriculturally driven LED interventions and land reform initiatives. By doing so, an Agri-village possess the inherent potential to act as a spatial point within a larger rural space-economy around which the critical mass required to initiate formal and informal local economic development can . Areas such as Dewagensdrift and Onverwagct, Sokhulumi, etc. with rich rural characteristics will qualify for these type of developments. The Rural Development Strategy is currently being developed by the City in order to guide the development of these areas.
Figure 13: Tshwane Human Settlements Policy Position 2019: Tshwane East
Tshwane South

The southern part of the City is one of the City’s active areas due to the existing economic opportunities and its linkages to the two (2) big metropolitan areas (i.e. City of Johannesburg and City of Ekurhuleni). The Breaking New Ground Strategy emphasizes the need to locate residential areas closer to these economic opportunities. Most of the the region’s soil is affected by dolomite making the privately owned land available to be too costly to acquire by government to develop more social amenities and residential areas to accommodate the existing and future housing backlogs.

The implementation of Public Private Partnerships for mixed developments and Inclusionary housing will be crucial in order to respond to the existing and future human settlements demand in the region. Developments along M26, R55, N14 including Knopjeslaagte and Erasmia as future residential expansion areas are recommended however bulk infrastructure provision in partnership with City of Johannesburg will be required to unblock their potential.

Old townships such as Olievenhoutbosch, Laudium, etc. require revitalisation to increase the provision of social amenities and affordable rental units in infill sites or unused government buildings. The existing BRT routes should also be expanded to cater for these areas as well.

Tshwane North

The northern part of the City links well with both Limpopo and North- West provinces. It is characterised by industrial nodes, semi-rural areas and old townships such as Mabopane, Garankuwa and Soshanguve. High density developments along major transport routes and tertiary institutions (student accommodation) will be developed to respond to the demand. Old townships will be revitalised by developing high density infill developments and increasing the provision of social amenities.

Particular attention must be paid to rural densification in parts of the previous homelands, where rural settlements are growing rapidly in areas where access to land is possible and transport services are good. Population densities in these places are approaching those of urban areas, but the economic base and the infrastructure and governance arrangements to manage this change are lacking (National Development Plan). This includes areas such as Hammanskraal in Region 2 and Winterveldt in Region 1. Creating more opportunities in these areas will reduce daily travel times for these households to and from the inner city and other regions.
The alignment of the City’s plans with Gautrans plans is crucial as many of the City’s future strategic developments depends to provincial routes for accessibility. The development of these routes will unlock more opportunities- both residential and economic- that will generate more revenue and work opportunities for the City. Examples will be the provincial PWV9 (also known as the R80 or Western Bypass) and K-routes planned around the City. The figure below indicates some of those routes. Currently many households must traverse the length and breadth of the City using lower congested lower order and convoluted routes. The same applies to freight transport.

*Impact of provincial routes such as PWV 9to residential developments*
Land Banking

The ‘shape’ of cities, and their sustainability, is determined to some extent by the nature of ownership and property rights defining land, the complexity of commodification on land and the effectiveness of the land market.

(Urban LandMark, 2015)

The prohibitive costs of strategically located land requires that government takes a more prudent approach to acquiring (and retaining) land for human settlements. Assessing the full extent of the City’s assets in terms of land and buildings, coupled with under-utilised state-owned land and assets will are a practical way of accruing such strategic land.

Land banking, within this context, is the practice of aggregating and/or setting aside parcels of land for future strategic use. The City is currently updating its Asset Register. As part of the process, all municipal-owned land and buildings that have potential to contribute towards sustainable human settlements and other strategic objectives of the City, should be flagged.

A separate process of engaging Provincial and National government pertaining to under-utilised land and property owned by each will also need to be pursued that the possibility of transferring them to the City of allowing the use of those assets for sustainable human settlements can also be investigated.

Land banking will be one of the most effective mechanisms for improving access by the poor to urban land markets.

In 2019, Tshwane updated and approved a new land release strategy, which is presented in the Council Approved report of 28 March and entitled the Policy Framework: Immovable Property Asset Transfer, Disposal and the Granting of a Right to Use, Manage or Control a Property Asset owned by the Municipality (CoT, 2019a)

The report recognises the on one hand, there are arguments put forward that public land must be preserved for future generations while on the other, the idea that municipalities should recognise the potential of the transfer of municipal property assets or the granting of lease rights with a view to inject much needed revenue and/or investment in targeted areas, is also gaining traction. It is therefore important that the City finds and manages the delicate balance between these two competing views and the process to be followed in implementing either of them.

From the spatial planning perspective, whether property is transferred or retained is not so much the issue as much as ensuring that the land is used is used or developed optimally to achieve the strategic outcomes of the City.

When considering mechanisms such as inclusionary housing in order to ensure socio-economic integration, though, retaining strategic land in areas where land values are higher would be prudent in order to allow for the release of that strategic publicly owned land private developers at an appropriate time who put forward the best inclusionary housing proposals for that site. The successful developer could also, though carefully considered agreement, be given the land, without charge, in order to offset losses to be incurred thorough the inclusion of inclusionary housing units in that development.
In specific instances, the property asset is a commodity that should be used for financial sustainability, and as a mechanism to fund service delivery projects. Where specific properties are identified for retention and financial sustainability that is dependent on private sector investment either on or around that land, it is important to consider that investors and developers require a sufficient return on investment. If the plans of the City do not benefit them in some way, they are likely to take up opportunities that are offered up to them. Therefore, where the private sector is to be involved, this will often mean that area(s) selected need to have the real potential to attract large enough development and investment by the private sector that will generate sufficient income to service the developer/investor loan amounts, while at the same time provide Council and the private sector investors with acceptable income or return on investment.

Another factor beyond location and cost when it comes to return on investment is time. Should the agreement between the investor/developer be a lease agreement, a minimum of 30-40 year lease agreements would be required in order for the developer/investor to make a reasonable return on investment for larger developments. There are a few such areas in the City which should be identified and flagged.

In terms of the newly approved land release strategy, a short term lease is deemed to be no longer than 3 years, while a long term lease may not exceed 9 years and 11 months.

This is another balancing act that the City will need to fulfil.

A practical example where in relation to BRT line 1A (CBD to Rainbow Junction). The City has made an investment in world-class infrastructure in order to realise the BRT line 1A, which has been built and gazetted.

The BRT, a component of the IRPTN, is being implemented in the city in order to improve movement and connectivity in the City, giving more segments of the population greater access to economic and social opportunities that may be located some distance from their residence. The BRT is also an important spatial restructuring tool as a mechanism for Transit Oriented Development (TOD). TOD incorporates densification, intensification and compaction of mixed land use in close proximity to significant transit connections. The BRT stations serve as transit connections. The intention of TOD is to maximise the potential of developed or developable land, create the population threshold required for sufficient ridership of public transport, reduce the carbon footprint by combating sprawl and promoting pedestrianism thus reducing reliance on private vehic’ usage and creating vibrant 24-hour centres that provide sustainab human settlements.

Unlike with the completed BRT line 2A where developers have submitted a number of land use applications and building plans in line with the spatial plans for the City, there has not been much take up or interest along Line 1A. There may be numerous reasons for this. But one option for catalysing development along this line is to consider the municipal-owned land along the line- some of which include open spaces. It may be necessary to reconsider the current land uses and lease limitations of the council properties in order to encourage developers to invest along the line and support the City achieving TOD and sustainable human settlement outcomes.

In a broader context, though, before the City makes decisions concerning its property portfolio and how best to allocate infrastructure within the City, it is critical that the City has an intimate understanding of the Market. Assuming either value capture or value creation through specific public interventions can altogether undo the efforts towards strategic outcomes.
Urban LandMark makes clear that government interventions which are not based on an understanding of the market’s logic and on real data about the market can be unsuccessful or even damaging—either because they underestimate the private sector’s pre-existing willingness and ability to undertake activity, or because they may displace potential market activity which would support the fulfilment of the state’s objectives (Urban LandMark, 2011).

And so, the following should be addressed when the strategy around land banking is considered:

- A land release strategy that supports spatial transformation
- Support of public transport planning of the City
- Support of human settlements planning of the City
- Support of the approved spatial development frameworks of the City
- Sufficient return on investment for both the City and investors
- Support of strategic national and provincial investments that are in line with Council policies
4.15 IMPLEMENTATION

The implementation of sustainable human settlements will require an integrated approach as various stakeholders are involved in the process. This sometimes leads to failure due to many factors such as lack of resources, poor intergovernmental relations, etc. to implement them in an integrated manner. There are currently regulatory frameworks developed to guide these type of developments promoting spatial transformation, compact cities, transit oriented development, developments in areas of economic nodes, etc. and it’s critical that the stakeholders comply in order to achieve the goals.

The policy directives that have been identified are clear. But a number of actions will need to be taken to realise them. The following are proposed

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<tr>
<th>RESPONSIBLE SECTOR DEPARTMENTS</th>
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<tbody>
<tr>
<td>Human Settlements</td>
<td>Promote high density and mixed-use development around priority and public transport nodes and corridors</td>
<td>Existing informal settlements that fall outside of the urban edge should not be provided with in-situ upgrading. They should rather be relocated</td>
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<td>Transport</td>
<td>Focus on strategically targeted nodes and corridors</td>
<td>Brownfield development is preferable to greenfield development in order to achieve infill development, compaction and rejuvenation of decaying areas (where applicable)</td>
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<td>Economic Development</td>
<td>Focus on urban renewal, clustering, densification and infill development</td>
<td>Finalise the Tshwane Inclusionary Housing Policy</td>
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<td>City Planning</td>
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<td>Investigate meaningful and impactful incentives that would encourage private developers to comply with the strategic vision of the City</td>
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<td>Utilities</td>
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<td>Land banking of optimally located land for public housing</td>
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<td>Group Property</td>
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<tr>
<td>Human Settlements</td>
<td>Integrate housing with public transport systems and economic and social infrastructure</td>
<td>Optimally-located state land and buildings to be set aside for sustainable human settlements and public housing</td>
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<tr>
<td>Transport City Planning</td>
<td>Future settlements and affordable housing should be channelled into activity nodes and corridors. Improved rural access and mobility to and integration with urban areas and markets through public transport.</td>
<td>Increased residential densities are needed within business nodes in order to promote more affordable housing (facilitating accessibility to economic opportunities and decreasing travel costs). Housing location should be targeted towards significant places of work opportunity, i.e. metropolitan nodes and primarily and urban cores. Housing developments should include the provision of or be located next to safe and efficient linkages with space for pedestrians and cyclists. Housing location should be well planned to ensure connectivity via public transport to other places of significance in the metropolitan area. Urban design, landscaping and streetscaping should be incorporated in housing schemes. Social housing should be an effective component of sustainable human settlements i.e. providing or being located close to social amenities and facilities. Mixed-use residential buildings should be implemented where possible, allowing for an optimal use of all available resources, supporting transit-oriented development and providing a sustainable living environment oriented development.</td>
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<td>Develop the Tshwane Inclusionary Housing Policy</td>
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<td>Investigate meaningful and impactful incentives that would encourage private developers to comply with the strategic vision of the City</td>
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<td>Human Settlements plans should be inclusive of considerations of and planning for access to social infrastructure planning, inclusive of supporting facilities for health, education, recreation, emergency services and the police, as far as is applicable</td>
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<td>Group Property</td>
<td>Adequate, affordable and variety of housing opportunities</td>
<td>Land banking for public housing</td>
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<td>City Sustainability</td>
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<td>State land to be set aside for sustainable human settlements and public housing</td>
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<td>Environmental Management</td>
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<td>Finalise Tshwane Green Building By-law and implement consistently, including public housing and buildings</td>
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<td>City Planning</td>
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<td>Develop an desirable</td>
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<td>• landscaping/ open space planning for affordable housing in Tshwane</td>
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| Human Settlements            | Mixed-use economic development in townships | Upgrading of townships formalisation informal settlements and rollout of social infrastructure  
Deliberate efforts to improve infrastructure services in the previously disadvantaged communities, road tarring, formalisation for informal settlements, tenure upgrading etc. |
| Transport City Planning      | Eliminate gated communities and improve social cohesion | The Transport Department and City Planning Division need to ensure that road closures do not impede efficient movement though the City, both by non-motorised and motorised means. |
| All                           | State funding must not support the further provision of non-strategic housing investments in poorly located areas | Human Settlements outside of the urban edge should not be supported  
Improved IGR  
Better alignment of funding streams  
As a City we need to strengthen our voice concerning:  
• Locations of mega-housing projects that are misaligned with City’s strategic priority areas  
• Focus primarily on housing and not ‘human settlements’ by DHS i.e. no provision of engineering infrastructure or social facilities and amenities |
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<td>by national when housing projects are implemented. This then becomes a burden to the City</td>
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<td>• Continuing with the RDP/ one-stand-one-house approach in the context of land scarcity, high costs of infrastructure and a preferred shift towards densification by the City</td>
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<td>Solid Waste Management Human Settlements</td>
<td>Achieve integrated waste management planning</td>
<td>Solid Waste Management plans need to be part and parcel of Human Settlement planning, specifically when it comes to group housing developments i.e. means for separation at source</td>
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<td>Sort-and-recycle initiatives from the household and business level</td>
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<td>Geology and Disaster Management Human Settlements</td>
<td>Disaster Risk Management preparedness</td>
<td>Informal settlements should only be relocated to areas that geotechnically sound and do not fall within a flood line</td>
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<tr>
<td>City Sustainability</td>
<td>Promote the use of green energy, buildings and infrastructure</td>
<td>The Net Zero Carbon Emissions and Green Buildings By-law revision work being done through the C40 programme in the City of Tshwane needs to be finalised and fully incorporated into the City’s implementation of projects and application of policies, including buildings built by the City</td>
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<td>Human Settlements</td>
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### Required strategies, plans and frameworks:

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<tr>
<th>Document</th>
<th>Purpose</th>
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| **Review of Sustainable Human Settlements Plan** | The purpose of the plan is to initiate, plan, coordinate, facilitate, promote and enable appropriate housing development within the City. The SHSP comprises the following: At the time of the preparation of this MSDF, the SHSP was being reviewed but has not been finalised and approved by Council as yet.  | • Estimates of demand for housing units across different socio-economic categories  
• Clear definitions of settlement ‘formalisation’ in Tshwane context  
• Trends in informal settlement growth or decline  
• Trends in backyard dwelling growth or decline  
• The identification, surveying and prioritisation of informal settlements  
• The identification of well-located land for housing inclusive of a the city’s Land Banking Strategy or Programme when initiated  
• The identification of areas for densification; and  
• The linkages between housing and urban renewal and the integration of housing planning and transportation frameworks |
| **Inclusionary Housing Policy**                | To provide a framework and mechanism through which affordable housing can be provided for within private developments in order to allow for socio-economic integration within strategically located areas  | • A strategy on how the Inclusionary Housing Policy will be implemented  
• An indication of where inclusionary housing may be considered |
<p>| <strong>Land Banking Strategy/Programme</strong>           | To aggregate and/or set aside parcels of land for future strategic use.                                                                                                                                                                                                                                                                  | • A strategy or programme that intentionally identifies, acquires and/or retains strategic land for sustainable human settlements and other strategic uses in line with the City’s Vision.                                                                                                                                                                                      |</p>
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<th>Document</th>
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|                          | To inform and more sustainable design of buildings in Tshwane. A green building refers to a built structure and process that is environmentally responsible and resource-efficient throughout a building’s life-cycle: from siting to design, construction, operation, maintenance, renovation, and demolition. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. | - A strategy informed by in depth research that looks at land market failures versus successes and how the impact of policies, developmental interventions and land-use planning have on these.  
- A register of the identified land  
- Prioritisation of IRPTN corridors that have been built and gazetted  
- A mechanism of tracking the transactions in relation to and status of that land  
- An identification of strategic land parcels that might be exclusion or release of land from the 9 year 11 months long term lease limitation, allowing for 30 year or longer lease agreements to secure return on investment by investors and/or developers  
- Should be enforceable  
- Should be implemented within the framework of National Building Regulations (NBR) or recommend amendments to NBR in order to realise improved green buildings in the City  
- Should be streamlined into building application processes of the City |
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<th>Document</th>
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<tr>
<td>City-wide Urban Design and Streetscaping Framework</td>
<td>To provide a framework for design requirements for different precinct typologies, transit-oriented developments, in the city e.g. high-density residential, industrial, etc</td>
<td>Considerations of the following elements:</td>
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<td>• Spatial context (urban/rural)</td>
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<td>• Signage</td>
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<td>• Public art, symbols and decoration</td>
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<td>• Vehicular Access points</td>
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<td>Document</td>
<td>Purpose</td>
<td>What is required</td>
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<td>City Improvement Districts By-law</td>
<td>To provide an overall framework for the establishment and running of CIDs within Tshwane, clearly defining the roles and responsibilities of various parties</td>
<td>Enforceable directives around</td>
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<td>- CID Establishment and Approval process</td>
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<td>- Extension of Boundaries</td>
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<td>- Clear differentiation between business and residential CIDs</td>
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<td>- Performance measurement of CIDs thought the Business Plan and annual requirements</td>
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</table>
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