

### **5.3 Strategic Density**

As a counter to increased urban sprawl on the periphery of the City's established areas and with a view to accommodating demand in close proximity to existing economic opportunities and infrastructure, densification of strategic areas (in and round nodes, along mobility and transportation routes) is seen as a key re-structuring strategy.

#### **Relationship to the Growth Development Strategy**

##### **i. Development Paradigms**

Active densification of strategic locations within the City will actively support the following GDS development paradigms:

- Balanced and shared growth
- Facilitated social mobility
- Settlement restructuring

#### **Relationship to the Growth Management Strategy**

In terms of the growth management areas earmarked by the GMS, various priority areas were identified, of which densification plays a direct role in the development of such areas. These include the high priority areas of Public Transport Priority Areas and Marginalised Areas, to be focussed on in the short term, i.e. 2008-2011 Capital Investment and immediate Service Upgrading), densification is encouraged and therefore guided in these areas in order to promote the use of public transportation within walking distance of residential opportunities and to assist in addressing the lack of housing opportunities in a number of Marginalised areas. Densification may be more controlled within the consolidation areas identified by the GMS, in an effort to focus on the short term priority areas mentioned above, however guidelines are still presented although they will mostly apply on the medium term, i.e. 2011 – 2015 for new capital investment. Also within the medium term is the expansion area focus, of which densification is a part both within proposed/existing nodal areas and general residential areas, with appropriate and specific guidelines in place, in an effort to create areas that will compliment and align with existing urban fabric with minimal impact.

ii. Sector Plans

The Densification strategy addresses the following sector plans and associated long-term strategic interventions and indicative 5-year strategic objectives:

SECTOR PLAN	LONG TERM STRATEGIC INTERVENTIONS	INDICATIVE 5-YEAR STRATEGIC OBJECTIVES
Spatial Form and Urban Management	Establish a clear structure of nodes, well integrated with movement systems, with an emphasis on new economic nodes in disadvantaged areas and mixed use, mixed income nodes in other parts of the city	Enhancement of the intensity of existing well-functioning nodes and transformation of declining nodes to enable mixed-use mixed-income high density development  Planned development of 3 new economic nodes in selected marginalised areas
	Promote densification in strategic locations, in accordance with clear principles and criteria, as defined in the Spatial Development Framework and Regional Spatial Development Frameworks	Increase in densities in nodes and along public transportation routes in support of defined spatial structure
	Within a clear structure for movement and accessibility, ensuring that movement systems in the city directly link with, and are supported by, strong high-intensity, mixed-use nodes and higher residential densities	Corridors and mobility routes planned, developed and managed in the way that supports the overall development framework of high intensity nodes on a lattice of connecting routes
	Encourage and enforce a compact urban form through a range of mechanisms	Minimised demand for investment and services on the urban periphery  Optimal utilisation of investment within the urban core (land, infrastructure and capital expenditure)
	Within all new housing developments ensure that the minimal Sustainable Housing Settlements (SHS) thresholds are adhered to and implemented.	Increase in investment of affordable housing in close proximity to public transportation and designated nodes  Increased accessibility to social, economic and environmental infrastructure (thresholds to be determined)  Increase in the % (or number) of areas that have achieved a minimum acceptable level of SHS
	Develop principles, frameworks, and practices to ensure that spaces and specific developments s adhere to good standards of urban design	Design and implement codes to create safer communities, legibility, functionality and aesthetics of the urban environment.
Housing	Ensure that residents in the inner city and older locations are able to enjoy acceptable standards of accommodation (better-buildings programmes, targeted partnerships for upgrade, by-law enforcement etc)	Structure partnerships with stakeholders to promote inner city and older centres residential accommodation programme.
	Ensure the provision, of affordable home-ownership and rental accommodation at scale, addressing the needs of a range of housing segments, with a special focus on the needs of poorer residents not currently catered for	Through both the City's own means, and in partnership with other actors and stakeholders, deliver 100,000 well-located and good quality housing units over the next five years, which includes the delivery of 15,000 rental housing units, 30,000 housing units through the Community Builder Programme and 50,000 mixed income housing units.
Transportation	Support the underlying logic of a compact, multi-nodal city form, with well-integrated land-use and transport systems, in particular by providing a legible public transport 'grid' of focused high-frequency public transport routes connecting key high-density nodes	N/S, NASREC and Ellis Park flagship components of the SPTN completed  Reduced average public transport travel times on selected SPTN routes as measured by a five-yearly survey.

The promotion of residential densification in strategic locations will contribute towards a more compact and concentrated urban form.

Strategic densification contributes towards the following outcomes:

- Increasing the viability of existing and proposed public transportation infrastructure and services;
- Optimising the use of land and provides accommodation in close proximity to urban opportunities;
- Phased, cost effective and efficient infrastructure provision;
- Improving citizens' quality of life via access to opportunities and reduction in travel time;
- Reduction in pressure for development on open spaces and environmentally sensitive areas; and
- Reduction of air, water and land pollution.

However, the City also acknowledges that the following issues need to be considered when addressing increased densities:

- Higher-density living environments require appropriate design (and guidelines).
- Residents have diverse requirements and need areas of both low and high densities.
- Significant public expenditure is needed for the development of an integrated movement system, including a reliable and efficient public transport system. There is a limited capital fund within the public sector in the short term to either carry the cost of actual developments, or to provide infrastructure across the City in support of densification.
- The market is largely demand driven and profit oriented. This means that the areas of densification and the rate of development in support of densification are dependent on market demand, capital availability and profit. The intention is to channel market supply into strategic areas.
- It is increasingly difficult to find well-located land for housing for subsidised housing initiatives.
- Higher densities may result in concentrations of air and noise pollution.
- Infrastructure capacities will have to be assessed in terms of their ability to accommodate higher densities.

Consequently, densification within the City is promoted:

- In and around acknowledged and defined nodal boundaries – as per SDF classification and relevant UDF's/Precinct Plans;
- Along transport routes, notably the Pilot BRT/SPTN routes, (specific guidelines around Northern Extent of Phase 1), Mobility Spines and Mobility Roads in support of public transport;
- Within areas of focused public-sector investments (e.g. Kliptown, Alexandra); and
- In selected areas of strong private sector investment and economic activity as highlighted in the RSDFs.

There are three aspects, as shown in **Table 5.16**, to consider in assessing a densification proposal within the City:

#### **What's New in the Strategy?**

Detailed studies and plans have been completed for various areas in the last year, that have a specific affect on the permissible/required densities within such areas, e.g. Precinct Plans for Zandspruit, Kew-Marlboro, Swazi Inn, Diepsloot District node, and Rosettenville; as well as an Inner City Urban design implementation plan; Development Frameworks for Lawey/Anglers/Midanadale/Grasmere Stations, Florida/Unified/Maraisburg/Bosmont/Newclare Stations, Morafi/Naledi stations, and the completion of the detailed design guidelines for the Southern leg of the BRT.

**Table 5.16: Density Assessment**

<p><b>Where will increased density be considered?</b></p>	<p>The following is important when assessing where in the City increased densities will be considered:</p> <ul style="list-style-type: none"> <li>• What do the local planning directives indicate? The RSDFs indicate more specific densities where relevant and will note if there is an over-riding Precinct Plan or Development Framework that stipulates a particular density.</li> <li>• Is there sufficient capacity of existing infrastructure? In all instances, increased densities must not negatively impact on the capacity of existing public infrastructure including bulk services, streets, stormwater management, open spaces and social and community services.</li> <li>• How is access going to be addressed? The mobility function of the Road Network must be protected and enhanced where possible. Access onto the BRT/SPTN routes, Mobility Spines and Roads will not be permitted without the consent of Council. Where possible erven should be consolidated with a single access or facilitate access through a common right-of-way servitude or side / back roads (examples conceptually indicated on <b>Diagram 5.2</b>)</li> </ul>
<p><b>What density will be considered (Locational Factors / Density Guidelines)?</b></p>	<p>Locational factors determine desired densities. These are considered later in this section.</p> <p>The ultimate determination of the density is dependant on a combination of the locational attributes and site specific characteristics including:</p> <ul style="list-style-type: none"> <li>• Critical assessment of adjacent properties (height, orientation, privacy)</li> <li>• Natural features on and around the site</li> <li>• Topography (i.e. slope of site and contours)</li> </ul>
<p><b>What will be utilised to regulate the appropriateness of the density (Management Controls)?</b></p>	<p>Development management controls and Urban Design principles will regulate and enhance development proposals, specifics in relation to such are now indicated in the detailed projects completed in the last year, i.e. BRT Land Use and Design Guidelines – Parktown to Sunninghill, Sandton and Rosebank UDF's and numerous precinct plans.</p> <p>Development Management controls such as Floor Area Ratio (FAR), Coverage, parking ratios, height etc. and general conditions must mitigate constraints and issues identified from the assessment of site-specific characteristics. This is considered in greater detail later in the section.</p> <p><b>Table 5.17</b> considers a range of density design guidelines that are applicable to density proposals.</p>

### 5.3.1 Locational Factors / Density Guidelines

The City has introduced a Gross Base Density of 10 units per hectare to guide future residential developments. In an instance where an RSDF (possibly in conjunction with a precinct plan/development framework) stipulates a density of less than the Gross Density, the lower RSDF density will prevail.

Beyond the citywide base density, locational factors may indicate a greater desired Density figure, the same may also occur once a detailed study has been approved for various areas, i.e. UDFs, precinct plans, etc. These factors may include the proximity of a site or area to one or more of the following:

- Nodes: CBD, Metropolitan, Regional and District nodes;
- Transportation routes: BRT/SPTN routes, Mobility Spines and Roads, Activity Streets, Rail Stations; and
- Subsidised housing initiatives.

Special cases outside of these locational factors and document guidelines may be considered where there is a demonstrable and acknowledged<sup>21</sup> direct and positive impact on the desired urban form.

**NB: Increased densities must be motivated on these locational factors and development principles.**

#### Densification Motivated In and Around Nodes

The City's nodes have the greatest potential for the creation of sustainable patterns of development. In order to maximise nodal growth and to benefit from nodal characteristics of mixed use and public transportation orientated there should, in-principle, be no upper limit on the number of dwellings that may be provided in any node.

This in-principle support is subject to the following safeguards:

- Compliance with existing policies / development plans;
- Avoidance of undue adverse impact on the amenities of the surrounding area;
- Appropriate urban design parameters; and
- Capacity of services and infrastructure.

Potential benefits of densification in the City's nodes should include:

- Assisting urban regeneration initiatives;
- Increasing the optimal use of existing infrastructure;
- Supporting local services and employment;
- Encouraging affordable housing provision; and
- Sustaining alternative modes of travel, such as walking, cycling and public transport.

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<sup>21</sup> In this section 'Acknowledged' refers to an instance where both the applicant and Council are in agreement.

Proposals within and around nodes must be supported by a motivation demonstrating a tangible and positive contribution to the respective node and must be inclusive of the following aspects:

- 1) Acknowledgment of any existing and officially adopted Precinct Plan / Development Framework and/or specific guidelines within the RSDF Sub-Area Intervention Tables. These will prevail over the Desired Units per hectare as envisaged in **Table 5.17**.
- 2) Integrated Site Assessment inclusive of:
  - Critical assessment of adjacent properties (height, orientation, privacy, landscaping/vegetation etc.)
  - Natural features on and around the site
  - Topography (i.e. slope of site and contours)
  - Existing and proposed public transport infrastructure
  - Vehicular access control measures (how is access going to be facilitated – have opportunities to consolidate access points been considered?)
  - Pedestrian access (how will pedestrians access the site maximising the opportunities afforded by existing or proposed public transport routes)
  - Physical and Social Infrastructure assessment (availability of and impact on existing infrastructure capacity)
- 3) Draft / Conceptual Site Development Plan (development proposal) indicating mitigation of constraining aspects as identified in site-assessment (where possible, inclusive of parking and landscaping)

The indicatives in **Table 5.17** are not mandatory. They indicate a preferred scenario at a macro, citywide level. Each proposal must qualify and substantiate a preferred density. This information will provide the basis from which the City will assess the densification proposal.

**Table 5.17: Nodal Density Guidelines**

LOCATION PARAMETERS – Erven / farm portions...	DESIRED UNITS PER HA (Max. no. Indicated - NOT CUMULATIVE)
Within defined Nodal Boundary (CBD /Metropolitan/ Regional)*	No upper limit defined - to be determined per development proposal (e.g. where infrastructure, access and design 100+ du per ha could be supported)
Contiguous to a defined Nodal Boundary (CBD /Metropolitan/ Regional) <sup>22</sup>	To be determined per development proposal. Where infrastructure, access and design allows 40-80 du per ha could be supported
Within 500m of the CBD or Metropolitan Nodal Boundary <sup>23</sup>	To be determined per development proposal. Where infrastructure, access and design allows 20-50 du per ha could be supported
Within 500m <sup>23</sup> of a defined Regional Nodal Boundary	To be determined per development proposal. Where infrastructure, access and design allows 15-30 du per ha could be supported
Within District Node <sup>22</sup>	To be determined per development proposal. Where infrastructure, access and design allows 20-90 du per ha could be supported

The following conditions may be applied as part of an approval for a density increase in terms of the Nodal Density Guidelines listed in Table 5.17 (in addition to standard conditions applicable in terms of the relevant Town Planning Scheme for an area):

- A minimum street building line of 2 metres is required
- All parking is to be provided within the erf boundaries
- Parking areas shall be screened from the street boundary by at least a 1.5 metre wide landscaped area and a pedestrian walkway of at least 1.5 metres wide.
- At least 10% of the property is to be landscaped
- 1 tree per 7.5 metres along property street frontages
- Visually permeable materials are to be used along property street frontages (i.e. palisade fencing)
- Pedestrian access is to be independent from vehicular access
- Pedestrian access is to be situated at the closest point on the property to public transportation facilities

<sup>21</sup> As per SDF / RSDF alignment

<sup>22</sup> With discretion, distance may be extended where there is a demonstrable and acknowledged, direct relationship to a recognised node

### **Priority Nodes within an 'Investment Footprint'**

The following existing and planned public-sector initiatives provide unique opportunities to increase densities and complement the respective initiatives:

- Gautrain stations;
- Bus Rapid Transit System (BRT); and
- 2010 World Cup

These three initiatives are and will continue to realise unparalleled levels of investment within the City over a relatively short-term and can loosely be described as an 'Investment Footprint'. The permanent legacy of investment in physical infrastructure provides a golden opportunity to realise additional benefits and opportunities to a greater number of citizens through densification initiatives. This can make a tangible contribution towards the founding SDF principle of facilitating access to urban opportunities within the City.

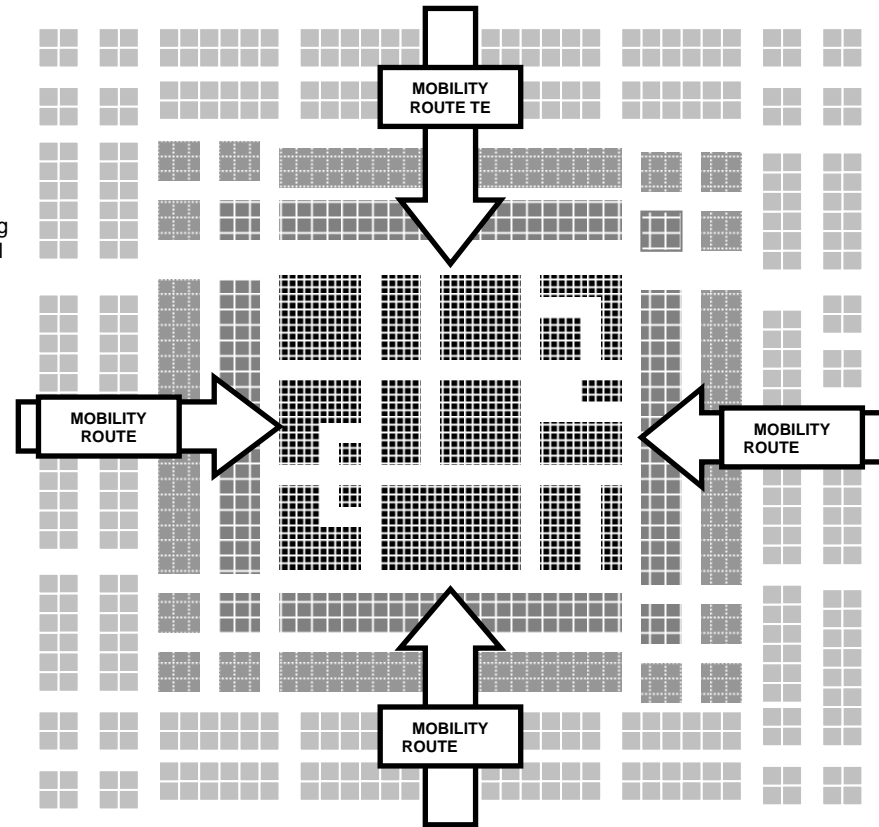
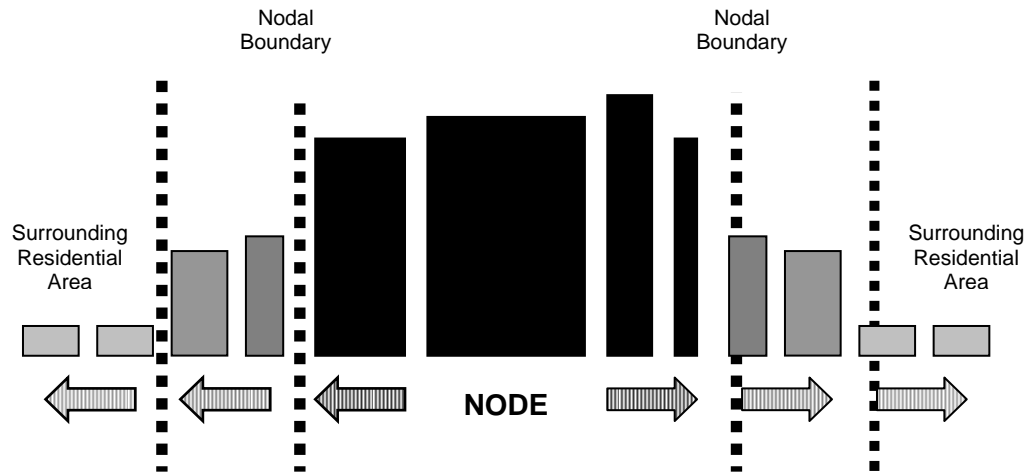
It is within the aforementioned concept that a number of new projects were undertaken in the past year, including those of the Sandton and Rosebank UDFs (captured in the respective RSDFs), BRT Land Use and Design Guidelines – Parktown to Sunninghill, and a number of precinct plans. These nodes continue to be a development focus, hence the additional studies and guidelines completed, which are to be applied to applications in relation to such.

The nodes that fall within this 'Investment Footprint' include:

- Kliptown;
- NASREC;
- Johannesburg CBD (including Greater Ellis Park);
- Parktown;
- Rosebank;
- Sandton;
- Illovo;
- Midrand; and
- Lenasia.

The City will actively support higher density residential development proposals within and around these nodes, either in line with the specific plans or through the outlined SDF density strategy. These nodes form part of the GMS studies that have taken place, including assessment by the various departments and MOE's of the City, in relation to existing and planned infrastructure provision.

**Diagram 5.2: Conceptual Plan and Elevation of Nodal Density Guidelines**



## Densification Motivated on Mobility and Public Transportation Routes / Infrastructure

The primary rationale for increasing residential densities along movement lines is to increase the accessibility of public transportation to a broader market and to increase this market's contribution towards a cost effective and citywide public transport network.

It is acknowledged that densities across the whole City do not presently support an effective and sustainable citywide public transport system. Densification along the primary public transport routes such as the BRT will assist in these short-term Phase 1A and 1B routes, i.e. Lenasia –Regina Mundi – Parktown – Sunninghill, and the medium-long term interventions of the broader ±330km long full BRT/SPTN network. This lead to the detailed study being completed and approved for the Parktown to Sunninghill extent, with the Johannesburg Development Agency (JDA) currently compiling similar guidelines relating to land use, densities and design guidelines for the southern extent of Phase 1.

It is further acknowledged that to promote increased residential densities along these movement lines whilst protecting the inherent mobility function of the routes is a delicate issue. This issue is compounded further when the public transport network is undeveloped in many parts of the City and medium-long term plans will take time to implement. To protect the mobility function of the road infrastructure, density proposals must be supported by a motivation demonstrating a tangible and positive contribution to the respective mobility route and/or public transport and must be inclusive of the following aspects:

- 1) Acknowledgment of any existing and officially adopted Precinct Plan / Development Framework and/or specific guideline within the RSDF Sub-Area Intervention Tables. These will prevail over the Desired Units per hectare as envisaged in **Table 5.18**.
- 2) Nature of the locational attribute leading to the densification motivation (e.g. BRT Phase 1A/B route, Mobility Spine / Road, Existing Rail Station).
- 3) Objective assessment of proposal's impact on:
  - Existing and proposed Public transport infrastructure
  - Vehicular access control measures (how will access going to be facilitated and the mobility function of a road retained – have opportunities to consolidate access points been considered?) – as indicated in **Diagram 5.3**
  - Pedestrian access (how will pedestrians access the site and specific attributes e.g. designated bus / taxi stops thereby, maximising the opportunities afforded by existing or proposed public transport routes)
- 4) Integrated Site Assessment inclusive of:
  - Critical assessment of adjacent properties (height, orientation, privacy)
  - Natural features on and around the site
  - Topography (i.e. slope of site and contours)
  - Physical and Social Infrastructure assessment (availability of and impact on existing infrastructure capacity)

- 5) Draft / Conceptual Site Development Plan indicating mitigation of constraining aspects as identified in points 3 and 4 and how pedestrian access to the existing public transport infrastructure will be effectively facilitated (where possible, inclusive of parking, pavements and landscaping).

The indicatives in **Table 5.18** are not mandatory. They indicate a preferred scenario at a macro, citywide level. Each proposal must qualify and substantiate a preferred density. Each proposal must indicate how access, both pedestrian and vehicular will be addressed. The mobility function of these routes is paramount and must not be negatively impacted because of increased densities and associated vehicular trip generation. **Accordingly, access onto the BRT/SPTN, Mobility Spines and Roads for the purpose of increased densities will not be permitted without the consent of Council.**

Similarly, should vehicular access be re-routed to side or back streets, the impact of the proposal on these routes must also be indicated and not be to the unreasonable determinant of the neighbourhood. This information will provide the basis from which the City will assess the densification proposal.

**Table 5.18: Public Transport Density Guidelines**

LOCATION PARAMETERS – Erven / farm portions...	DESIRED UNITS PER HA (Max. no. Indicated –NOT CUMULATIVE)
Within 500m* of an existing or proposed train station	To be determined per development proposal. Where infrastructure, access and design allows 30-60 du per ha could be supported
Adjacent to and fronting on to a Phase 1 BRT Route <sup>23</sup>	To be determined per development proposal. Where infrastructure, access and design allows 70-90 du per ha could be supported
Within 200m* of a Phase 1 BRT Route <sup>23</sup>	To be determined per development proposal. Where infrastructure, access and design allows 20-50 du per ha could be supported
Fronting on to an existing Mobility Road	To be determined per development proposal. Where infrastructure, access and design allows 30-50 du per ha could be supported
Fronting on to an existing Mobility Spine	To be determined per development proposal. Where infrastructure, access and design allows 50-70 du per ha could be supported

NB: Motivations for densification proposals on proposed / planned new roads will only be considered where there is Medium-Term capital commitment by the implementing authority.

<sup>23</sup> With discretion, distance may be extended where there is a demonstrable and acknowledged, direct relationship to the locational attribute

The following conditions may be applied as part of an approval for a density increase in terms of the Public Transport Density Guidelines listed in **Table 5.18** (in addition to standard conditions applicable in terms of the relevant Town Planning Scheme for an area):

- A minimum street building line of 3 metres is required
- All parking is to be provided within the erf boundaries
- Parking areas shall be screened from the street boundary by at least a 1.5 metre wide landscaped area and a pedestrian walkway of at least 1.5 metres wide.
- At least 10% of the property is to be landscaped
- 1 tree per 7.5 metres along property street frontages
- Visually permeable materials are to be used along property street frontages (i.e. palisade fencing)
- Pedestrian access is to be independent from vehicular access
- Pedestrian access is to be situated at the closest point on the property to public transportation facilities

Phase 1A and 1B routes are indicated on **Map 23** contained in Section 5.1 of the SDF, listed as follows:

1. Lenasia - Sunninghill
2. Jabulani – Alexandra
3. Baragwanath – Ellis Park
4. Orlando – Sandton
5. CBD - Randburg
6. Dobsonville – Eastgate
7. Sandton - Alexandra

The Parktown to Sunninghill route has been the subject of a detailed study, and as approved in February 2008, specific guidelines and densities apply. These are captured in terms of **Map 31, and Tables 5.19 and 5.20.**

**Diagram 5.3: Conceptual Plan and Elevation of Movement / Public Transport Density Guidelines**

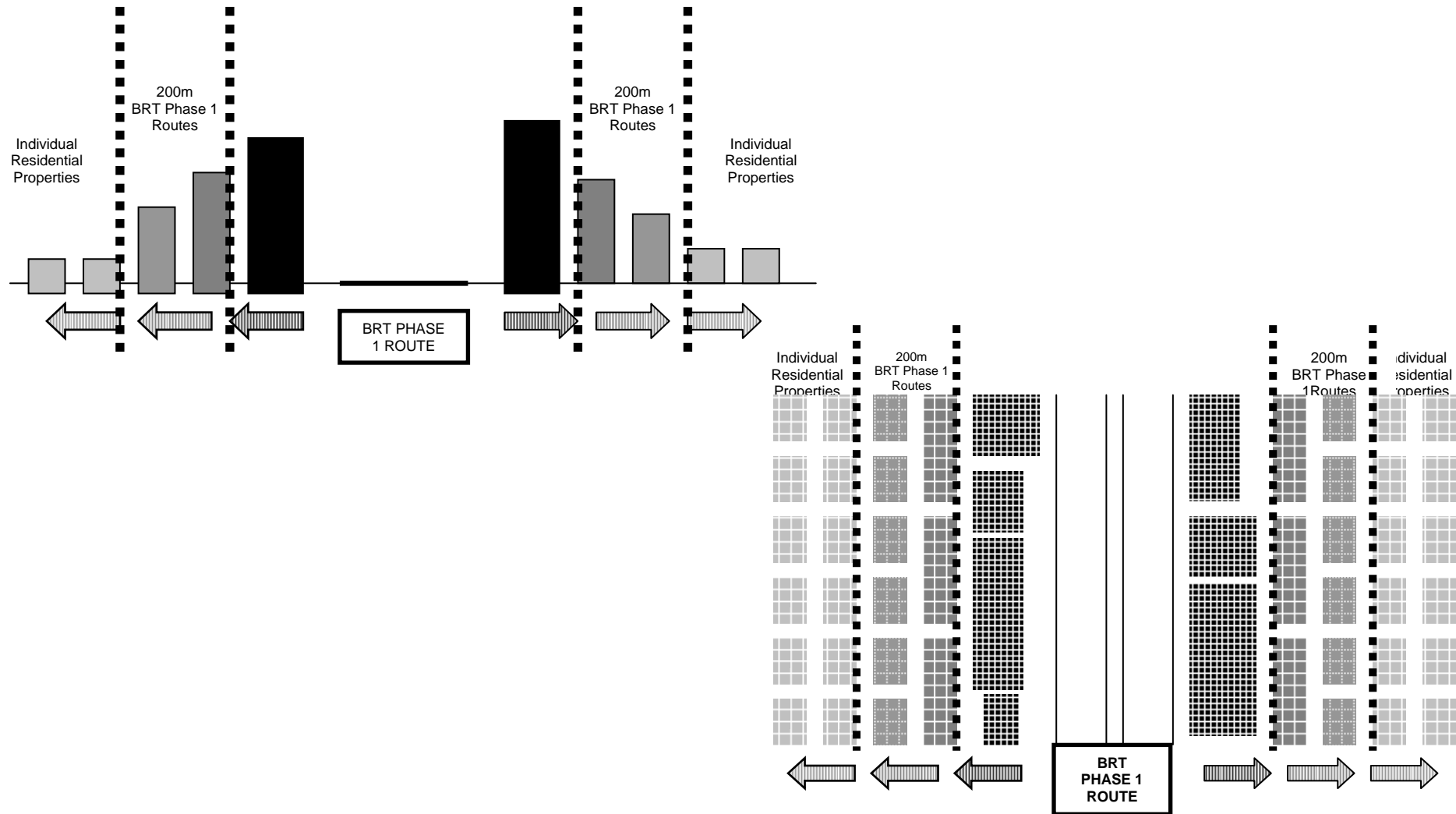
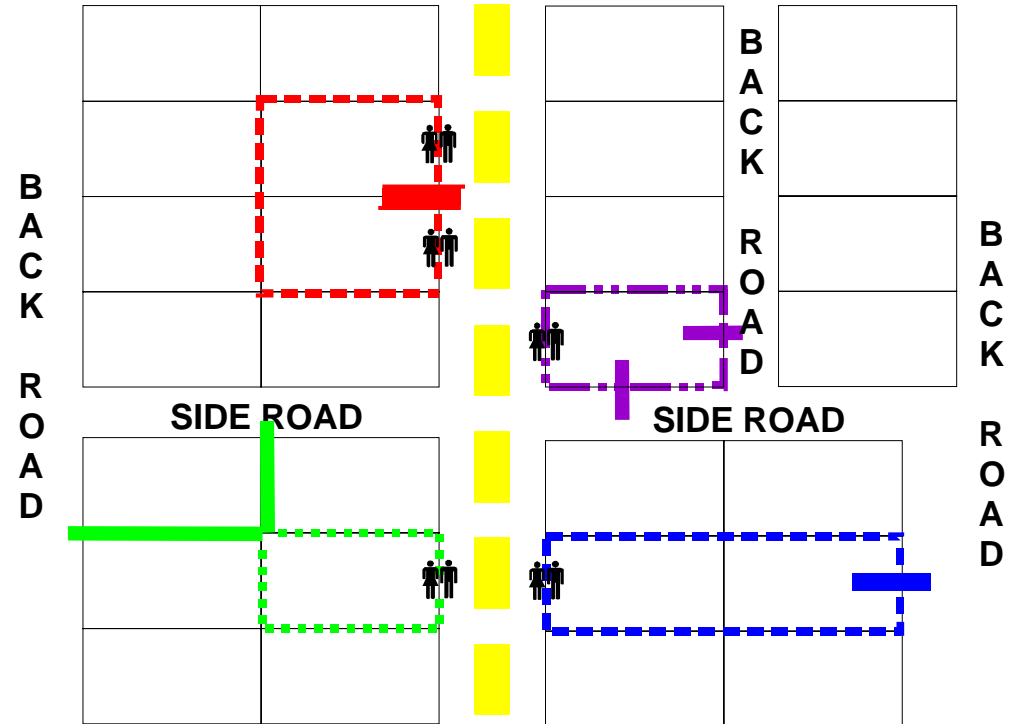
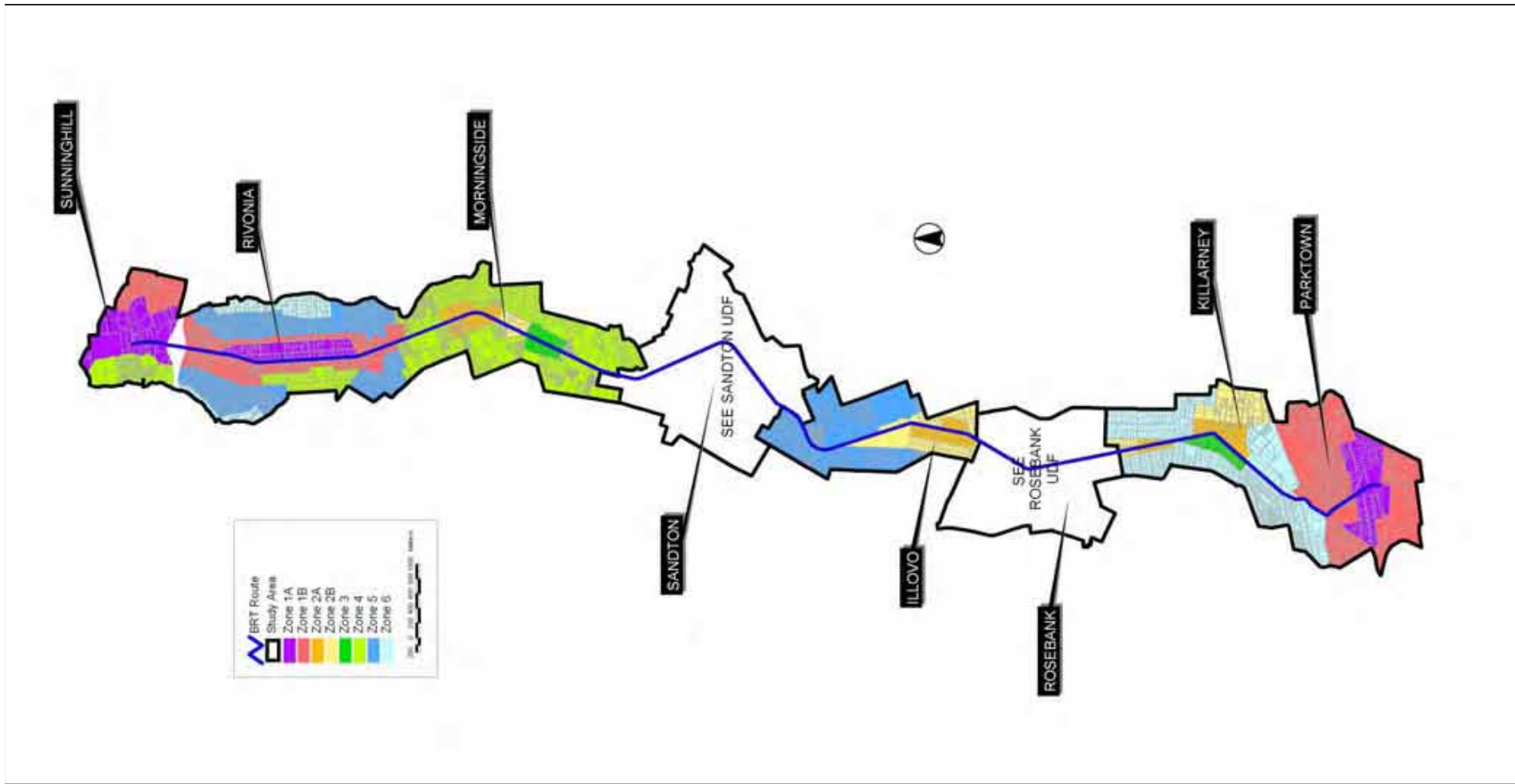


Diagram 5.4: Access Alternatives for Increased Density Proposals

- Single Direct Vehicular Access for consolidated mid-block erven (2 or more)
- Single Vehicular Access from Back/Side Roads for consolidated corner/rear erven
- Private Direct Vehicular Access from Side/Back Roads for consolidated erven
- Shared Vehicular Access via servitudes connecting to Side/Back Roads
- BRT, SPTN or Mobility Spine/Road
- Pedestrian Access





Map 31 BRT Land Use Zone Map – Parktown to Sunninghill

**Table 5.19: BRT Land Use and Design Guidelines – Parktown to Sunninghill: Standard Land Use Management System**

Development Controls	Category	Detailed Category	Regional Node		District Node		Residential Area					
			Zone 1A High-density mixed-use nodal core	Zone 1B Medium-density mixed-use nodal periphery	Zone 2A Medium-density mixed-use nodal core	Zone 2B Low-density mixed-use nodal periphery	Zone 3 High-density residential node	Zone 4 Medium-density residential zone	Zone 5 Low-density residential zone	Zone 6 Very low-density residential zone		
Land Use	Residential	Very low-density (10 u/ha)									•	
		Low-density (20 u/ha)								•		
		Medium-density (30 u/ha)		•		•		•				
		High-density (80 u/ha)	•	•	•	•	•					
		Accommodation	•	•	•	•						
		Social	Educational		•		•	•	•	•	•	•
			Medical	•	•	•	•	•	•	•	•	•
			Community facility	•	•	•	•	•	•	•	•	•
		Business	Retail	•	•	•	•					
			Office	•	•	•	•					
	Entertainment		•	•	•	•						
	Institutional	Motor trade		•		•						
		Municipal		•		•						
		Government		•		•						
	Industrial	Light										
		Commercial		•		•						
		Heavy										
	Open space	Active		•		•	•	•	•	•	•	
		Passive							•	•	•	
	Max. FAR			3.6	2.4	1.6	1.2	n/a	n/a	n/a	n/a	
Max. Coverage			60%	60%	40%	40%	n/a	n/a	n/a	n/a		
Max. Height			6 storeys	4 storeys	4 storeys	3 storeys	4 storeys	3 storeys	2 storeys	2 storeys		
Max. Density			n/a	n/a	n/a	n/a	80 u/ha	30 u/ha	20 u/ha	10 u/ha		

Source: Maluleke Luthuli and Associates, 2007

**Notes:**

- a. The densities indicated on **Table 5.19** (above) are a minimum compulsory requirement.
- b. No direct access from/to the BRT route, except with the consent of the Council.

**Table 5.20: BRT Land Use and Design Guidelines – Parktown to Sunninghill: Density Bonus Programme**

Category	Definition	Regional Mixed-Use Node		District Mixed-Use Node	
		Zone 1A High density mixed-use nodal core	Zone 1B Medium-density mixed-use node periphery	Zone 2A Medium density mixed-use nodal core	Zone 2B Low-density mixed-use nodal periphery
Middle income dwelling units	Dwelling units with a unit floor area not exceeding 70m <sup>2</sup> .	15% added to floor area if 10% of floor area is dedicated to medium-income units, with a 1.5% floor area increase for every percentage increase in floor area dedicated to medium-income dwelling units above 10% and;			
Low income dwelling units	Dwelling units with a unit floor area not exceeding 50m <sup>2</sup> .	20% added to floor area if 10% of floor area is dedicated to low income units, with a 2.0% floor area increase for every percentage increase in floor area dedicated to low-income dwelling units above 10% and;			
Very-low income dwelling units	Dwelling units qualifying for and accessing the Housing Subsidy and Restructuring Grant within a Restructuring Zone. Zones 1A, 1B, 2A and 2B are considered Restructuring Zones.	25% added to floor area if 10% of floor area is dedicated to very low income units, with a 2.5% floor area increase for every percentage increase in floor area dedicated to very low-income dwelling units above 10% and;			
Community facilities	Including a crèche, primary school, secondary school, tertiary education institution, clinic, day-hospital, hospital, community hall, library, post office, police station or emergency service centre all open to the general public for a minimum period of 15 years.	10% added to floor area if 5% of floor area is dedicated to social facilities, with a 2% density increase for every percentage increase in floor area dedicated to social facilities above 5% and;			
Pedestrian facilities	Including a pedestrian thoroughfare on the property, pedestrian mall on the property, town square on the property or a minimum 2m street-front sidewalk on the property all accessible to the general public for the life-span of the density bonus	0.5m <sup>2</sup> added to floor area for every 1m <sup>2</sup> dedicated to pedestrian facilities and;	0.5m <sup>2</sup> added to floor area for every 2m <sup>2</sup> dedicated to pedestrian facilities and;	0.5m <sup>2</sup> added to floor area for every 2m <sup>2</sup> dedicated to pedestrian facilities and;	0.5m <sup>2</sup> added to floor area for every 3m <sup>2</sup> dedicated to pedestrian facilities and;
Vehicle access	No access from/to the BRT route, other access options to the satisfaction of the Council in relation to density bonuses.	10% added to building floor area for a non-BRT route vehicle entrance or a shared vehicle access or a service road access and 2m <sup>2</sup> added to floor area for every 1m <sup>2</sup> dedicated to a park and ride facility to a;			
Maximum FAR of:		5.4	3.6	2.4	1.6
Maximum Coverage of:		60%	60%	40%	40%
Maximum Height of:		9 storeys	6 storeys	6 storeys	4 storeys
Parking reduction		1% parking reduction for every 0.1 FAR earned using density bonus			
Maximum parking reduction:		12%	4%	4%	3%

Source: Maluleke Luthuli and Associates, 2007

The table above is designed as a user-friendly reference for the calculation of Density Bonuses. Density Bonuses are calculated for each Land Use Management Zone as set out **Table 5.20** above.

## Densification Motivated by Subsidised Housing Initiatives

As a result of the high premium of land, as well as an established need for a variety of housing typologies, increasing residential densities within subsidised housing schemes can prove to be an efficient way of optimising existing land resources, bulk infrastructure and accommodating a range of housing options.

Densification proposals linked with subsidised housing initiatives must be supported by a motivation inclusive of the following aspects:

- 1) Acknowledgment of any existing and officially adopted Precinct Plan / Development Framework and/or specific guideline within the RSDF Sub-Area Intervention Tables. These will prevail over the Desired Units per hectare as envisaged in **Table 5.21**.
- 2) Existing / prospective funding agreements / approval based on proposed yield of project.
- 3) Integrated Site Assessment inclusive of:
  - Critical assessment of adjacent properties (height, orientation, privacy)
  - Natural features on and around the site
  - Topography (i.e. slope of site and contours)
  - Existing and proposed public transport infrastructure
  - Vehicular access control measures (how is access going to be facilitated – have opportunities to consolidate access points been considered?)
  - Pedestrian access (how will pedestrians access the site maximising the opportunities afforded by existing or proposed public transport routes, social facilities etc.)
  - Physical and Social Infrastructure assessment (availability of and impact on existing infrastructure capacity)
- 4) Conceptual plan of complete development indicating mitigation of constraining aspects as identified in site-assessment and specific design aspects.

The indicatives in **Table 5.21** are not mandatory. They indicate a preferred scenario at a macro, citywide level. Each proposal must qualify and substantiate a preferred density.

This information will provide the basis from which the City will assess the densification proposal.

**Table 5.21: Subsidised housing Density Guidelines**

LOCATION PARAMETERS – Erven / farm portions...	DESIRED UNITS PER HA (Max. no. Indicated – NOT CUMULATIVE)
City endorsed subsidised Housing initiative	To be determined per development proposal. Where infrastructure, access and design allows 40 - 300 du per ha could be supported

The following conditions may be applied as part of an approval for a density increase in terms of the Subsidised Housing Density Guidelines listed in Table 5.20 (in addition to standard conditions applicable in terms of the relevant Town Planning Scheme for an area):

- A minimum street building line of 2 metres is required
- All parking is to be provided within the erf boundaries
- Parking areas shall be screened from the street boundary by at least a 2 metre wide landscaped area and a pedestrian walkway of at least 1.5 metres wide.
- At least 10% of the property is to be landscaped
- 1 tree per 7.5 metres along property street frontages
- Visually permeable materials are to be used along property street frontages (i.e. palisade fencing)
- Pedestrian access is to be independent from vehicular access
- Pedestrian access is to be situated at the closest point on the property to public transportation facilities

### Design Guidelines

Design guidelines are necessary as they provide the framework at a local and site level that gives shape and form to urban spaces that together shape the City. These guidelines provide basic direction for the manner in which buildings should relate to the spaces around them, such as roads and open spaces, as well as to other buildings. This is important as where there is synergy between buildings and spaces, the area between buildings takes on a definite form that adds to the urban character and contributes to the better functioning of the area.

These guidelines inform all developments and provide parameters for the interface between the public and private spaces.

A sense of identity or place has to be created through the design and placement of buildings.

**Table 5.22** indicates those important elements and associated density design guidelines that need to be considered in this regard.

**Table 5.22 Density Design Guidelines**

Element	Density Design Guidelines
General	<ul style="list-style-type: none"> <li>• Promote variation in the alignment of roofs.</li> <li>• A variety of facades promotes diversity and individuality and overcome monotony.</li> <li>• Screen walls should be staggered or otherwise articulated.</li> <li>• Hard landscaping should be restricted to vehicle parking and access zones, essential pedestrian pathways and private patios so as to reduce storm water runoff.</li> <li>• Variation in scale through mixing single and multi-storeyed units in one development is encouraged.</li> <li>• Street frontage should suit the efficient use of the site, the residential amenity and the character of the neighbourhood.</li> </ul>
Neighbourhood Character, Site Layout and Landscaping	<ul style="list-style-type: none"> <li>• Development should be sited and designed to acknowledge the privacy of abutting developments.</li> <li>• The siting of individual dwelling units should avoid long rows of buildings, minimise setbacks and preferably not position buildings at right angles to the street boundary.</li> <li>• Layouts should respond positively to site features e.g. topography, drainage and vegetation.</li> <li>• Good lighting, visibility and surveillance with perimeter lighting on the street frontage is encouraged.</li> <li>• The objectives of landscaping is to:               <ul style="list-style-type: none"> <li>○ Mitigate noise;</li> <li>○ Screen objectionable views;</li> <li>○ Establish a sense of place;</li> <li>○ Provide definition to dwelling unit entries and pedestrian pathways;</li> <li>○ Promote safety, security and privacy;</li> <li>○ Enhance structural elements;</li> <li>○ Provide visual relief from blank exterior walls, building mass and bulk;</li> <li>○ Help retain the long term value of property;</li> <li>○ Minimize the visual impact of impervious surfaces; and</li> <li>○ Provide protection from winter wind and summer sun.</li> </ul> </li> </ul>
Safety and Security	<ul style="list-style-type: none"> <li>• Promote the placement of windows on the façade of buildings to allow for surveillance from the building onto the street and other public spaces.</li> <li>• Spaces around buildings should be designed to relate to the built form, so that residents can take ownership of the space.</li> <li>• Property enclosures should be permeable to allow for visual surveillance onto and from the street.</li> <li>• Landscaping should not detract from lines of vision and hiding places should not be created.</li> <li>• Ensure appropriate lighting of common spaces such as the perimeter, pathways, and entrance halls.</li> </ul>
Parking and vehicle access	<ul style="list-style-type: none"> <li>• The number of bays in residential developments should be in line with the car ownership trends in the particular area and the Town Planning Scheme requirements.</li> <li>• Access must be sited so that cars entering the development will not hinder the vehicle movement in the public street.</li> <li>• Paved areas should not hamper the efficient management of storm water.</li> <li>• A minimum of one tree for three open parking bays should be planted.</li> <li>• Car parking facilities should not dominate the development or street frontage.</li> <li>• The focus should be on pedestrian movement and vehicle movement should be planned in such a way that pedestrian movement can occur unhindered.</li> </ul>