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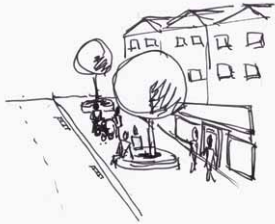


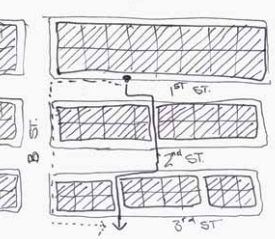
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# *Appendices*





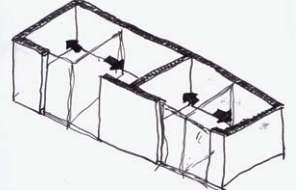
## *Appendix 1 Theory matrix*

| URBAN QUALITIES: IDENTIFICATION OF THEMES                                  |  |  |  |   |   |   |   |
|--|--|--|--|---|---|---|---|
| Source   | Sense of place   | Access   | Control & Safety   | Mixed use   | Scale & fit   | Legibility  | Adaptability  |
| Lynch<br>1981<br>Good city form  | Unique sensory & temporal characteristics of a space allows user to recognize and distinguish it and create a "place"                | People require access to other people, activities, resources, places (shelters, open spaces, symbolic, natural etc), information.  | Those who use wield control over a space must do it with:<br>* Responsibility, and<br>* certainty (people understand system and feel secure) |   | Spatial & temporal patterns should enable competent execution of customary behaviours e.g. movement, social interaction   | Ease of orientation in space and time provides greater legibility   | Two dimensions important for adaptability: Manipulability (small changes to present use) and resilience (reversible) for undoing previous adaptations |
|  |  | Important subdimensions of access:<br>1. require diversity of things accessed<br>2. Require equity of access<br>3. Control of access system, necessary to enforce basic social control | Controlling boundaries can be physical or symbolic   |   | Fit relates to culture and behaviours within culture –clashes between different actions can be overcome by compartmenting == providing overlapping spaces for different behaviours, within control system |   |   |
|  |  |  | Compartmentation – small areas of control  |   | Design elements should relate to human scale  |   |   |
|  |  |  | Tolerance of diversity important   |   | Better fit is achieved if user controls some or all of space  |   |   |
| Dewar, D & Uytendogaardt, R.S<br>1991<br>SA cities: a manifesto for change | Expressing community identity spatially allows social ties to be made in community (p.21)  | Providing freedom to act, WITHIN constraints / structure enables release of energy & constructive action)  | Constraints are necessary for creation of realistic choices, choices lead to individual freedom (p23)  | Need for diverse activities & specialization over relatively small (walking) distances (needs high level of support)          | Spaces need to enable activities  | Community identity in spatial form increases legibility   | Generality of plan allows future reinterpretation of plans  |
|  |  | Equity essential - easy access by majority to opportunities presented  | Constraints offer coherence and continuity (p24.)  | Densified urban environment good for mixed use scheme, as these work better at a pedestrian scale = short walking distances.  | Create places for social interaction & innovation   |   |   |
|  |  | Choice important   |  |   | Densification on urban level works better at pedestrian scale, small businesses are well supported on foot, greater diversity allowed   |   |   |
| Kurtich & Eakin<br>1993<br>Interior Architecture                           | Incorporation of temporal aspects into three dimensional space enhances experiential qualities of space                              |  |  |   |   |   |   |
| Jacobs<br>1961<br>The death and life of American cities                    | Pavement and neighbourhood amenities as communal meeting place (p 66 & 82) Can experience public contact with no private commitments | Short, permeable city block, decrease walking distance between attractions (p161), promote mingling of people, commerce and activity (p.192)   | Residents are natural proprietors (eyes on the street). Continuous 24 h use results in safer streets (p.45).                                 | Diversity generates diversity (retail, commercial), but needs enough local population to support the diversity of uses (p161) | Street & pavement scale for public interactions   | Visual interruptions of long streets increases legibility of street (p397)                                  |   |
|  |  |  | Clear demarcation between public and private space (p 45)  | Ideally 2 or more primary functions (office, retail, something that draws people), busy at different times of day. (p162)     |   | People use landmarks to orientate themselves in a space (p.397)   |   |
|  |  |  | Create attractions to draw people through spaces not regularly used (p46)  | Mix secondary functions with primary to serve people drawn by primary functions & support secondary functions (p174)          |   | Emphasising a space's diversity & difference from adjacent ones increases legibility and recognition (p399) |   |
|  |  |  | Lively activity attracts watchers who act as part-time proprietors (p 47)  | Provide attractions not found nearby will draw people (p172)  |   |   |   |
|  |  |  | Allow Neighbourhood self-governance, limit institutional control   |   |   |   |   |

| Performance criteria                | Ideals  | Illustration   |
|-------------------------------------|---|--|
| <b>1. Sense of place</b>            | Incorporate temporal dimension into three dimensional space to increase recognition & experiential qualities of space and creates "place" |  |
|                                     | Express community identity to enable more social ties   |  |
|                                     | Create public meeting places pavement / local shops for informal communal interaction   |    |
| <b>2. Access &amp; permeability</b> | People require access to other people, activities, resources, and information.  |    |
|                                     | Enable easy access and choice / diversity   |   |
|                                     | Create permeable city blocks / streets to lessen walking distances, increase activity   |  |
|                                     | Provide structured access (control) for constructive activity & energy  |  |

| Performance criteria          | Ideals   | Illustration  |
|-------------------------------|--|---|
| <b>3. Control</b>             | Control offers realistic choices, coherence & continuity   |   |
|                               | Diversity must be tolerated  |   |
|                               | Control of boundaries between public and private can be physical or symbolic and is most effective if spaces are compartmentalized as small areas of control |    |
|                               | For safety, lively activities attract watchers who act as part-time proprietors and 24h use ensures safer environments.                                      |   |
|                               | Limit institutional control, neighbourhood or business district self-governance allows people to take charge of "their" space                                |   |
| <b>4. Contextual dialogue</b> | Overlap conditions and activities to provide vital complexity & diversity  |    |
|                               | Balance society & cosmos, and society & nature   |   |
|                               | Include mix of levels of intensity & exposure from very intensive & exposed to quiet and private   |    |
| <b>5. Mixed use</b>           | Provide diverse activities & specialization over relatively small (walking) distances.   |   |
|                               | Mix secondary functions (shops, eateries) with primary functions (railway, offices) to serve people drawn by primary functions & support secondary functions |  |
|                               | Provide attractions not found nearby to draw people  |   |



| Performance criteria             | Ideals   | Illustration   |
|----------------------------------|--|--|
| <p><b>6. Scale &amp; fit</b></p> | <p>Spaces need to enable competent execution of activities in terms of</p> <p>a. human scale and</p>                                     |    |
|                                  | <p>b. enabling of culturally linked behaviours</p>   |    |
| <p><b>7. Legibility</b></p>      | <p>Use landmarks or expression of community identity to enable people to orientate themselves easily and increase legibility</p>         |    |
|                                  | <p>Emphasise difference and diversity of a space compared to others nearby to increase legibility and recognition</p>                    |   |
| <p><b>8. Adaptability</b></p>    | <p>Design to allow for manipulability (small changes to present use) and resilience (reversibility) for undoing previous adaptations</p> |  |
|                                  | <p>Allow generality of plan and standardization to increase future adaptability</p>  |  |



# Appendix 2

## Urban framework

### 1. Urban framework

The main aim of investigating the existing urban frameworks proposed for the Hatfield area is to analyse the Hatfield context site in terms of current proposals such as the Gautrain project, *Hatfield station development framework* and the *City of Tshwane Spatial Development Strategy 2010 and beyond*, discussed briefly in the next section.

### 2. City of Tshwane Spatial Development Strategy 2010 and beyond

The Hatfield precinct is identified in the strategy as an area in which economic activity needs to be **strengthened**. Three types of economic development areas are identified, namely:

- Metropolitan Activity Nodes
- Development Corridors
- Specialised Activity Areas

Hatfield is identified as a potential **metropolitan node** and a **specialized Activity** area. This is due to the Education and Research Hub and the proximity of various academic institutions including the University of Pretoria and the Innovation Hub (see below).

Metropolitan Activity Nodes are major urban **centres of activity**, characterised by **mixed** land uses such as commercial, residential, social and cultural.

These areas should as far as possible be physically and functionally integrated with major transport infrastructure in the area. These areas are further characterised by:

- High intensity and high density mixed land use;
- Highest level of accessibility;
- 24 hour activity;
- Well defined public spaces;
- Pedestrian friendly environments; and
- Public transport facilities and activities.





The focus of the development strategy around the Hatfield Gautrain station involves the redevelopment of the existing business node to **align** with the **Gautrain** development, **pedestrianisation** and integration with existing and proposed dedicated **public transport** facilities (City of Tshwane Spatial Development Strategy, 2010 and beyond. 2007:17)

The Innovation Hub is a Blue IQ project undertaken with the Gauteng Provincial Government to partially achieve the goals set out in the Gauteng Growth & Development Strategy. The main aims of the latter strategy is to develop Tshwane as a Smart Province and investing in the knowledge and innovation economy sectors (Blue IQ 2009:[sp])

This cluster of innovation businesses is located in a business complex to the east of the N1 highway bordering the University of Pretoria experimental farm which is in turn located just east of Hatfield.

The project has a number of strategic objectives:

- \* Support entrepreneurship
- \* Increase local technological development to bridge the “commercialization chasm”
- \* Create a centre for innovation knowledge and practical experience in support of the Provincial knowledge economy initiatives
- \* Sustain economic growth by yielding more knowledge workers in innovative businesses
- \* Create a Smart Province and develop high tech businesses in Gauteng.

The proximity of the Innovation Hub contributed to the perceived need for a Gautrain station in Hatfield.

### 3. Development framework for the Hatfield station functional area, 2003

This development framework was initiated in order to coordinate the Station Functional guidelines prepared by the Gautrain team with other COTMM design proposals in the area. It has been adopted almost wholesale for the purposes of this study. Since the focus of the study is at a relatively small scale, and due to time constraints, the development of a new urban framework was not deemed essential. An abbreviated version of this framework is included here to demonstrate cognizance of the larger scale of urban development schemes, with a few alterations in line with the design philosophy and approach as outlined in Chapter 4.

#### Vision

The vision for Hatfield Station is to create a **pedestrian friendly** environment where all major destinations are connected via pedestrian routes. Security, general appearance and marketing are also important issues to be considered. The Hatfield Station area should:

- \* become a **tourist** destination for local and foreign visitors, incorporating entertainment, educational and sports facilities.
- \* support and extend **pedestrian** movement
- \* support residential **densification**
- \* encourage more **permanent** residents to combat the seasonal nature of student occupation
- \* encourage **integration** of the station with surrounding land uses
- \* make provision for the pedestrian **linkages** of the Gautrain station with existing SARCC stations, Hartbeespoort and Rissik.

To this should be added:



- \* Focus on the creation of place inside the station and in station vicinity.
- \* Care should be taken to incorporate local and/ or cultural references to enable community identification with the place. With an international standard system such as the Gautrain the pressures of globalisation and mass culture could stifle local authentic influences.

### Short term objectives

In the short term, these objectives focus mostly on **pedestrian movement** and improvement of pedestrian routes.

- \* Implement generous sidewalks
- \* Ensure appropriate signage for wayfinding
- \* Increase permeability due to large city blocks
- \* Ensure adequate lighting and safety along pedestrian routes
- \* Guide development to enhance public realm along pedestrian routes
- \* Guide or restrict informal development along pedestrian routes
- \* Allocate space and coordinate interaction at modal transfer points
- \* Ensure road improvements consider pedestrian movement
- \* Ensure legibility in urban form

### Medium term objectives

These objectives focus on change of and management of land use in surrounding area.

- \* Develop and monitor the potential spatial structure
- \* Determine hard and soft fabric to determine the limits of intervention
- \* Promote mixed-use development
- \* Implement a City Improvement District (CID) to ensure clean and safe environments
- \* Ensure appropriate interface rules between different land uses
- \* Promote linkages through existing developments

## Context

The following context analysis includes only information not already contained in Chapter 3.

### Functional area (see map)

The functional area is defined by Church Street in the north, Hill street to the west, Lynnwood Road to the south and the border of LC de Villiers University sports grounds to the east.

It encapsulates a range of land uses including a large retail node (along Burnett St), offices located in office buildings and converted dwelling houses, residential areas (mainly low density), student accommodation to the south and the educational precinct of the University of Pretoria.

There are a number of important facilities in and around the Hatfield station functional area where **link-ages** should be encouraged and facilitated:

- \* The Innovation Hub located on a portion of the University of Pretoria experimental farm
- \* The university of Pretoria campus and sports grounds (LC de Villiers)
- \* Securicor Loftus stadium
- \* Brooklyn business node, including Brooklyn Mall
- \* Hatfield retail node (Hatfield Plaza, Hatfield Square and retail along Burnett st)
- \* Business / office zone to the north and north-east of the station.

### Land use

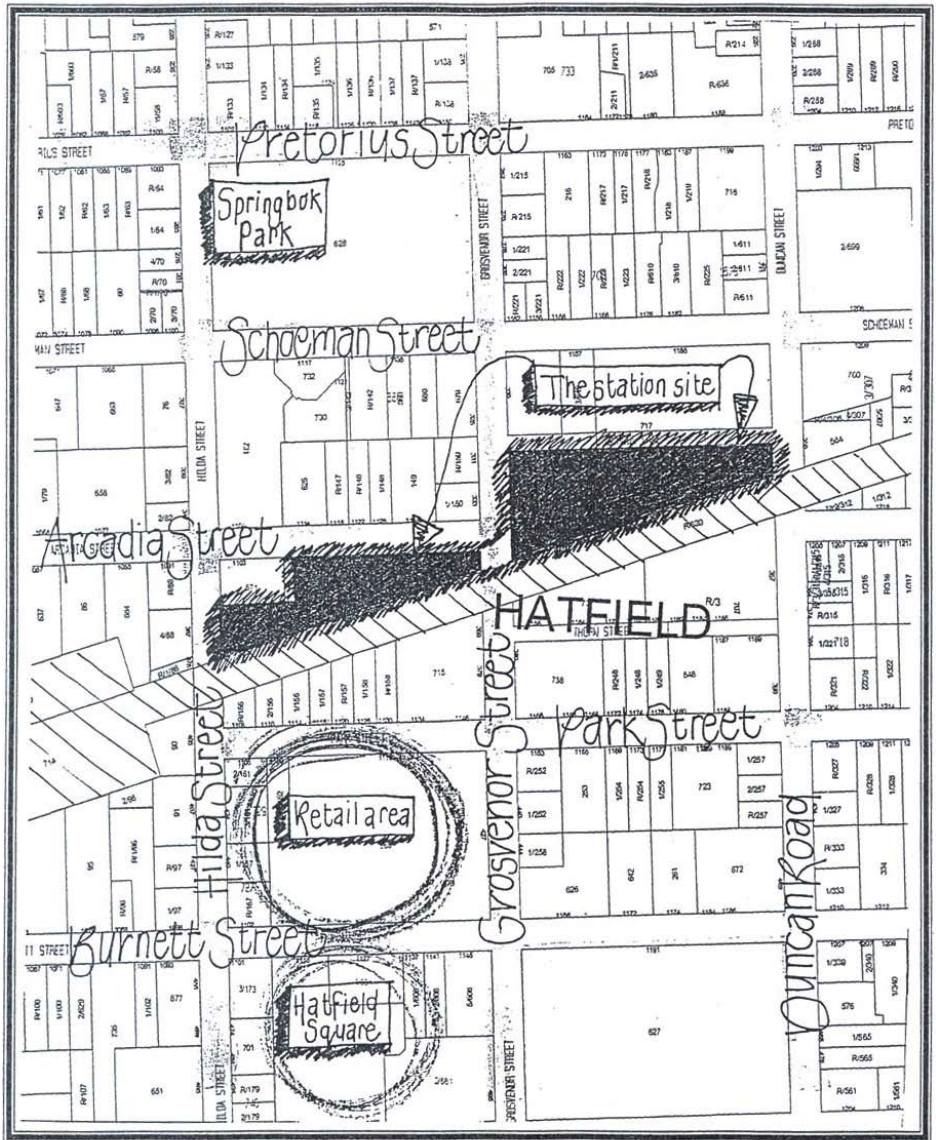
Land uses trends in the different areas within the functional area were identified

#### Hatfield Village

- \* Low density **residential**
- \* Limited **medium density** (20units/ha and more) residential
- \* **Student** flats and communes
- \* **Offices** in converted dwelling houses along Glynn and Burnett streets are the second largest land use in the area
- \* **retail** facilities and higher order **offices** close to Duncan Road

#### Hatfield south

- \* Retail facilities on ground floor within respective land parcels are not clearly **linked** via pedestrian walkways
- \* **offices** as well as student **accommodation** are situated in medium high buildings with retail and/or entertainment and/or restaurants on ground floor
- \* Duncan road includes a large number of **motor** related developments while land use to the west of the retail node focuses on **apartment** buildings / residential
- \* The area in proximity to the railway line north of the retail node has not been extensively developed and no linkage to this area is evident
- \* Although limited informal trade is located in this area and the area is demarcated as a controlled trade area, this is not being managed properly.



Hatfield north

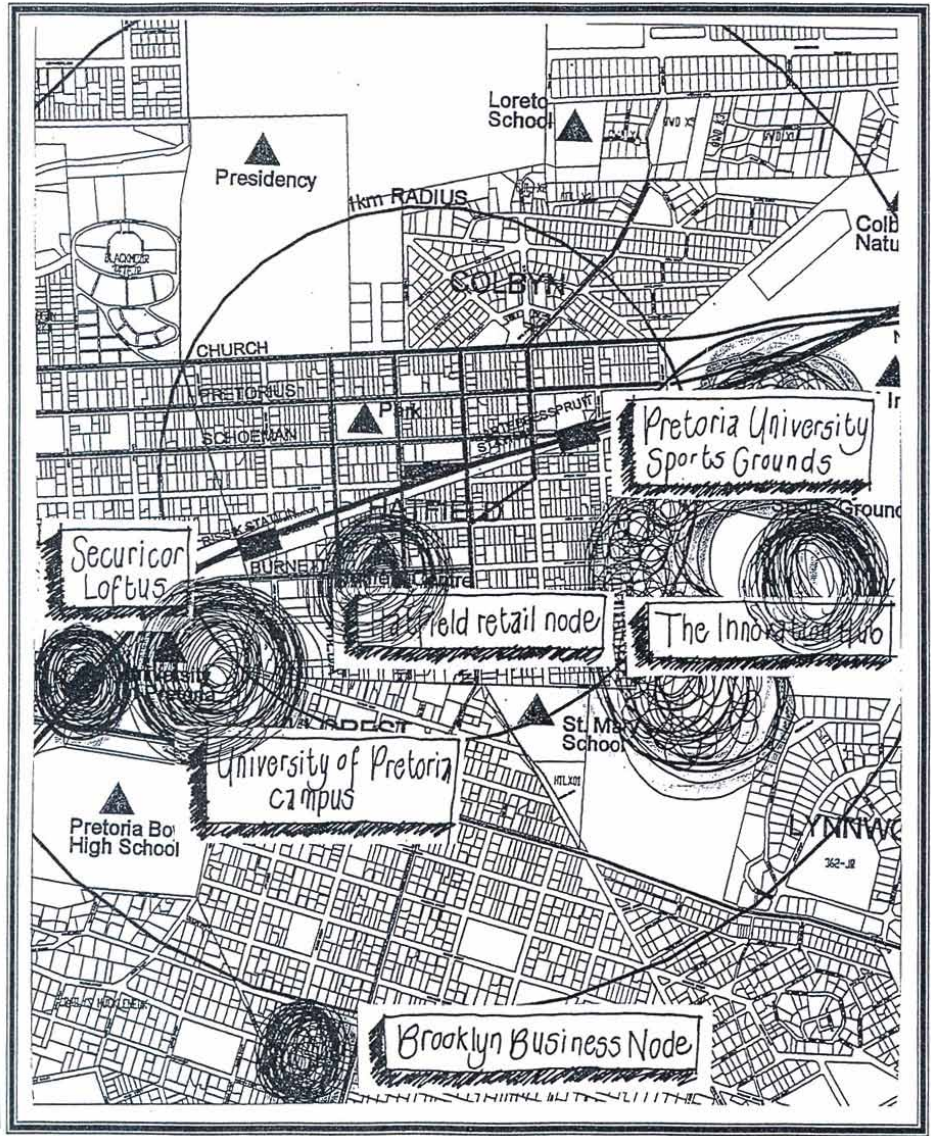
- \* **Offices** (blocks, dwelling type offices, embassies)
- \* Limited **residential** component except for Arcadia st west

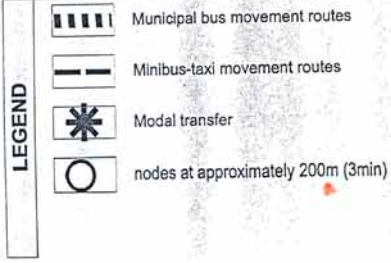
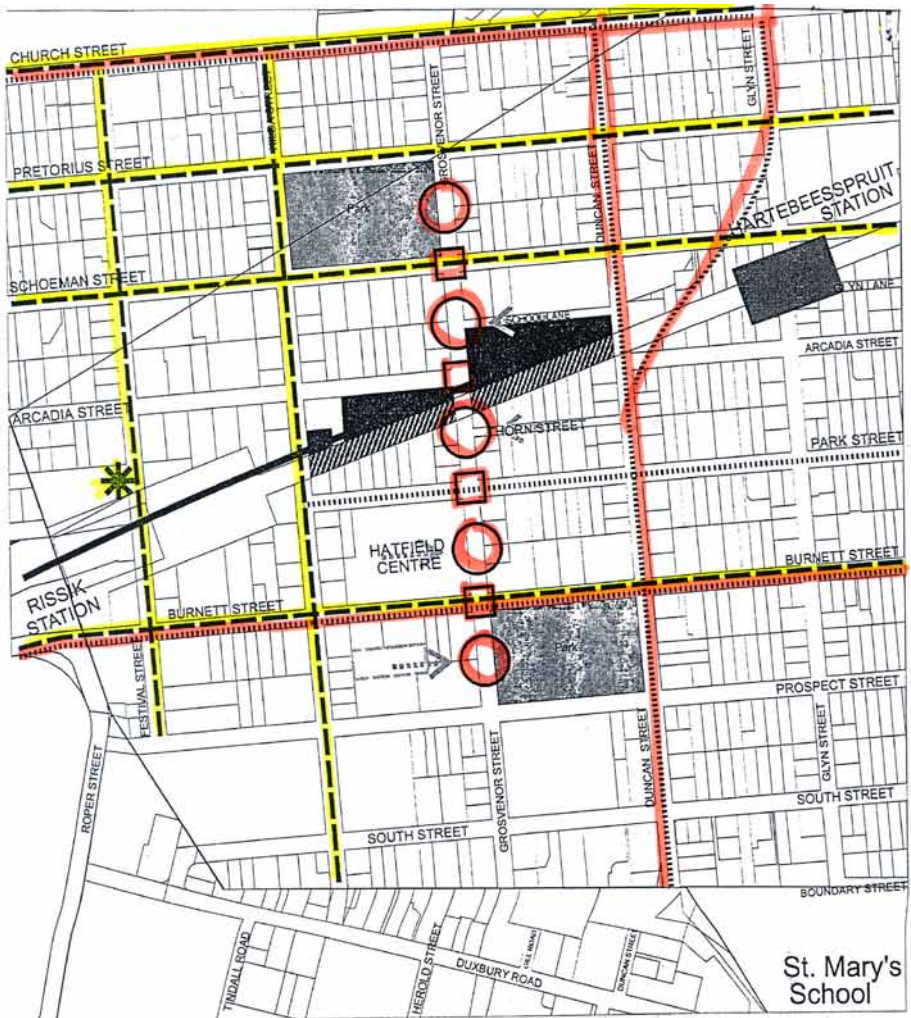
Table 4.2: Density Proposals for 100 ha around Hatfield Station

| LAND USE            | STATUS QUO                   |                 |                | QUANTIFIED FUTURE SCENARIO         |                |                                 |                          |                      |                                 |
|---------------------|------------------------------|-----------------|----------------|------------------------------------|----------------|---------------------------------|--------------------------|----------------------|---------------------------------|
|                     | Total area (m <sup>2</sup> ) | Current mix (%) | Average height | Future bulk area (m <sup>2</sup> ) | Future mix (%) | Required bulk (m <sup>2</sup> ) | Desired height (storeys) | Desired coverage (%) | Required area (m <sup>2</sup> ) |
| Residential         | 94,337                       | 17.7            | 2.4            | 250,000                            | 29             | 155,663                         | 4                        | 50                   | 77,832                          |
| Offices             | 267,130                      | 50.3            | 4              | 300,000                            | 34             | 32,870                          | 4                        | 60                   | 13,696                          |
| Retail              | 50,817                       | 9.6             | 1.7            | 80,000                             | 9              | 29,183                          | 1                        | 60                   | 48,638                          |
| Industry            | 0                            | 0.0             | -              | 0                                  | 0              | 0                               | -                        | -                    | -                               |
| Community Fac       | 17,876                       | 3.4             | 1              | 25,000                             | 3              | 7,124                           | 1                        | 50                   | 14,248                          |
| Recreation / Parks  | 60,073                       | 11.3            | 1              | 100,000                            | 11             | 39,927                          | -                        | -                    | 39,927                          |
| Hotel / Conference  | 11,616                       | 2.2             | 1              | 40,000                             | 5              | 28,384                          | 4                        | 60                   | 11,827                          |
| Transport / Parking | 3,142                        | 0.6             | 1              | 80,000                             | 9              | 76,858                          | 3                        | 80                   | 32,024                          |
| Vacant              | 26,534                       | 5.0             | 0              | 0                                  | 0              | 0                               | -                        | -                    | -                               |
| <b>TOTAL</b>        | <b>531,525</b>               | <b>100</b>      | <b>-</b>       | <b>875,000</b>                     | <b>100</b>     | <b>370,009</b>                  | <b>-</b>                 | <b>-</b>             | <b>238,192</b>                  |

Source: Primary project research







**movement system/ pedestrian linkages**

## SWOT analysis

### Strengths

- \* **Diversity** of land use that creates a variety of opportunities
- \* Possible **linkage** with Hatfield retail area and University educational precinct to strengthen the node and station use
- \* Links with **diplomatic** organisations and embassies
- \* proximity to **tourist** destinations
- \* Linear **pedestrianisation** and access to development along the railway line, connecting Loftus station, Rissik station, proposed Gautrain station and Hartbeesspruit station

### Weaknesses

- \* Development has generally been **low to medium density** (e.g. motor showrooms which de-densify concentrations)

### Opportunities

- \* **Linking** the Gautrain station with the Hartbeesspruit SARCC station as part of the Tshwane ring rail system and proposed extension of the Hatfield retail area

### Threats

- \* Increased **traffic congestion** would make the station less accessible

## Development framework concept

The urban design concept is based on the short and medium objectives as well as the vision for the Hatfield station area.

The Gautrain station is regarded as a catalyst for spatial restructuring. The focus is on improving access, linkage and mixed use in the node.

Spatial articulation should be improved by celebrating nodes at pedestrian and vehicular traffic intersections and along routes, ideally at 3 minute walking distances (200m).

Permeability should be enhanced in light of the fairly rigid, large block nature of the urban fabric. Mid-block pedestrian linkages should be encouraged.

The linkage of Grosvenor street across the railway cutting provides an opportunity to reduce the scale of the super block defined by Burnett, Schoeman, Hilda and Duncan streets. Although this linkage is mainly for improved vehicular access, there is an opportunity for a strong pedestrian oriented linkage. This has a logical extension to the two north and south urban parks.

## Development framework guidelines

The framework aims to improve pedestrian accessibility, spatial articulation, increased density and a stronger identity for the area.

- \* Land use changes are crucial for densification as there is little vacant land available
- \* Two urban spaces should be connected via Grosvenor street and the planned bridge across the railway cutting to increase legibility and symbolic character of the area
- \* Support the Grosvenor link with east-west pedestrian walkways to ensure a multidirectional linkage. This may be reinforced by the integration of Hatfield Plaza as a mid-block linkage into the station





**area**

- \* **The Hartbeesspruit station is currently isolated from the Hatfield core area. The linkage of this station and the Gautrain station should be a priority.**

To this could be added conclusions on macro scale from Chapter 4:

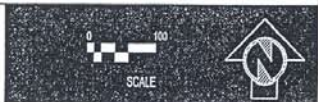
- \* Support the creation of place and the node at the Grosvenor / Arcadia st. intersection with a vibrant and user-oriented refreshment and retail node at the station
- \* Provide a greater mix of uses and more intensity of use within the station, linked to the Grosvenor / Arcadia st. intersection node.
- \* Create public meeting places (within the station as public space as well), with space for casual social interaction.
- \* Provide access to opportunities and services where these might be in short supply, including the secondary functions identified in Chapter 3, EAT SHOP, PAUSE, ACCESS INFO.
- \* Provide complexity and diversity in terms of activities and scales from larger scale outdoor activities to smaller scale indoor activities (re:refresh)
- \* Mix levels intensity and exposure from very intensive and exposed (e.g. public space, outside and inside station, train platforms, transport interchange) to less intensive and more private (e.g. kiosk interface inside stations).
- \* Mix secondary and primary functions, including the secondary functions identified in Chapter 3, EAT SHOP, PAUSE, ACCESS INFO.





|               |  |                             |  |                                  |  |                              |
|---------------|--|-----------------------------|--|----------------------------------|--|------------------------------|
| <b>LEGEND</b> |  | Pedestrian link             |  | Pedestrian development interface |  | Residential densification    |
|               |  | Mid-block pedestrian access |  | Commercial edge interface        |  | Buffer zone/office interface |
|               |  | Proposed bridge over road   |  | Urban square                     |  | Interface with building      |
|               |  | Landmark opportunity        |  | 300m radius walking distance     |  | Existing building            |
|               |  | Open space to protect       |  | Main vehicular route             |  |                              |
|               |  |                             |  |                                  |  |                              |

# urban design framework





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## *Appendix 3 Calculations*



## Horizontal beam and deck elements

Floor material :Oriented strand board

Closest type of element is plywood floor decking.

To get depth range:

Typical depths  $d$  (mm) 12-30    Typical spans  $L$  (m) 0.3-0.9    Typical  $L/d$ 30-40

Depth 18mm

$L/d = 30-40$

$L = 30d$

$L = 30(18)$

$L_{min} = 540\text{mm min span}$

Depth 18mm

$L/d = 30-40$

$L = 40d$

$L = 40(18)$

$L_{max} = 720\text{mm max span}$

To get depth assume span 600mm

$D = L/30$

$D = 600/30$

$D_{max} = 20\text{mm}$

To get depth assume span 600mm

$D = L/40$

$D = 600/40$

$D_{min} = 15\text{mm}$

## Vertical support elements:

Steel

RHS column

Height 2,9m

Typical heights single storey 2-8m

Span values  $h/d = 20-35$

Critical factors for sizing



Buckling  $h/d > 20$

Buckling and compression  $h < 20$

H/d between lateral supports at 20

$$X = h/d$$

$$20 = 2.9 / d$$

$$d = 2.9/20$$

$$d = 0.145$$

$$145\text{mm}$$

$$h/d =$$

$$S_{\text{max}} = h/d$$

$$35 = 2.9 / d$$

$$d = 2.9/35$$

$$d = 0.082$$

$$d = 82\text{mm}$$

(Orton)

### Gas Spring calculation:

Weight of 25x25x3mm angle iron frame at approx 1,11kg/m:

Total length: 15,34kg

Weight= 17kg

Weight of steel grid at approx 1,1kg/m<sup>2</sup>

Area : 3,53m<sup>2</sup>

W = 3,8kg

Weight of cast acrylic at 1190kg/m<sup>3</sup>

Thickness 4mm

volume approx= 0.0141

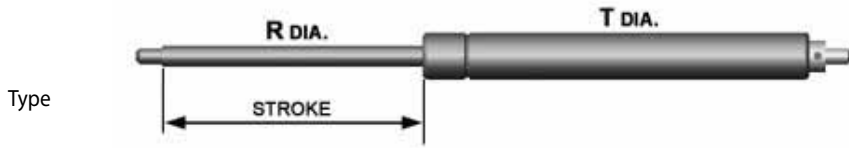
$$x \text{ kg/ m}^3 = 1190$$

$$x / 0.0141 = 1190$$

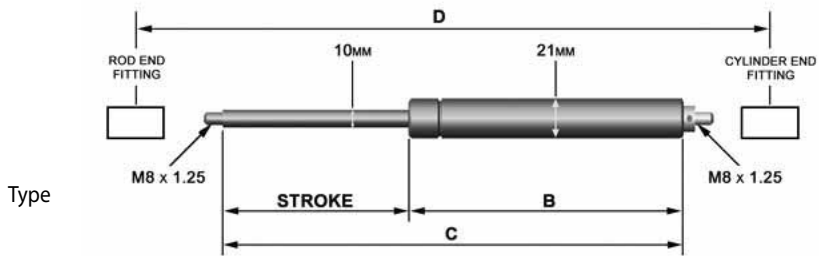
$$x = 16 \text{ kg}$$



Total screen weight = 17 + 3.8 + 16 = 36,8kg



|         |    |    |           |                 |             |
|---------|----|----|-----------|-----------------|-------------|
| Type    |    |    |           |                 |             |
| SS-SD01 | 6  | 15 | 60 - 200  | 1 - 10          | 30 - 400N   |
| SS-SD02 | 8  | 18 | 100 - 250 | 6 - 35          | 75 - 650N   |
| SS-SD03 | 10 | 23 | 100 - 400 | <b>25 - 140</b> | 100 - 1200N |



|             |            |            |            |
|-------------|------------|------------|------------|
| Type        |            |            |            |
| SDSS-03-100 | 100        | 150        | 250        |
| SDSS-03-150 | 150        | 200        | 350        |
| SDSS-03-200 | 200        | 250        | 450        |
| SDSS-03-250 | 250        | 300        | 550        |
| SDSS-03-300 | 300        | 350        | 650        |
| SDSS-03-400 | <b>400</b> | <b>450</b> | <b>850</b> |



*Appendix 4*  
*Sample board*





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# Security screen /

## canopy Twin walled polycarbonate

**Where applied:** Cantilevered front canopy, lockable security screen.

**Fixing:** Bolted into steel frame (see technical).

**Surface finish:** Frosted (clear).

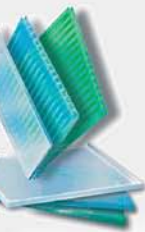
**Properties:** High impact strength (up to 80 times stronger than glass).

**Fireproof**

**Variety of colours**

**UV protective coating** - normally used as light diffuser.

**Size:** Maximum width 1200mm, 4mm thickness



## Specimesh

white polyester powder coated steel mesh bolted into steel frame.

**Where applied:** Cantilevered front canopy / lockable security screen.

**Fixing:** Bolted into steel frame (see technical).

**Surface finish:** White polyester powder coated.

**Properties:** Relatively inexpensive versatile mesh product.

Available in a wide variety of aperture and wire diameters.

Flush-cut all round (no sharp edges).

Ease of installation when welding and framing.

Easy to profile.

**Size:** 2400 x 1200 x 3mm (selected for this application)

100 x 50mm mesh aperture

**Reason for selection:** Security to front screen, closed and locked at night, Appearance, colour and pattern.



# Lighting



26mm dia 600mm fluorescent tube lamps.

**Where applied:** Display board

**Front light box / signage**

**Size:** 26mm dia - 600mm length, 18W

**Specifications:** Appropriate lamp holders / ballast to be provided, two areas to be switched separately to light switch

**Trebrant** 230V, GU10 (50W) halogen lamp, surface mounted, adjustable ceiling down light.

**Size:** 82.5 x 82.5 x 90mm height

**Specifications:** 220V, Halogen lamp 50W / GU10, IP 20

Aluminium body and base.

Surface mounted

Adjusts and rotates

**Finish:** Aluminium

**Reason for selection:** Fits flush with timber ceiling slats. Adjustable to adapt to changing displays or focus / activity areas. Suitable light levels for retail environment.



# Ceiling slats

## Saligna (Eucalyptus)

**Where applied:** Ceiling slats

External skirting boards

**Fixing:** Countersunk wood screws

**Surface treatment:** Satin finish polyurethane varnish

**Properties:** Fairly heavy wood (approx. 920 kg/m<sup>3</sup>).

Fairly hard

Coarse, even grain, reasonably easy to work.

Moderately durable.

Used in construction, flooring (light domestic), weather-board boat-building, fencing and plywood (veneer needs careful drying)

Generally pale straw coloured wood, occasional pinkish or red hues

**Size:** Standard timber size 19 x 100mm is reduced to 16 x 94mm when planed as used in ceiling.

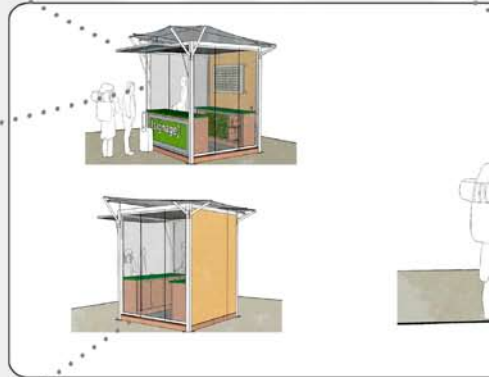
**Reason for selection:** Relatively inexpensive locally grown timber good appearance and durability



# Steel structural frame

Galvanised mild steel, painted

**Surface treatment:** One coat metal primer, two coats gloss finish emulsion in colour Silky grey.



# Storage cupboards

## Okoume veneer

similar in appearance to Saligna

**Where applied:** Front and back service counter and storage counter.

**Fixing:** Wood screws, knockdown kitchen cupboard fittings. Concealed hinges to front counter and 180 degree butt hinges to back storage counter.

**Surface treatment:** Satin finish polyurethane varnish.



# Floor finish

## OSB painted white

**Surface treatment:** White floor paint, satin finish.



## Tensile Fabric

### Satine 5500 PVC coated glass fibre mesh

Where applied: Roof

Fixing: Tensioned stainless steel wire fixed with NF Inox anchoring / rigging system.

Surface treatment: Factory applied PVC coating

Properties: Weight 535 g/m<sup>2</sup>

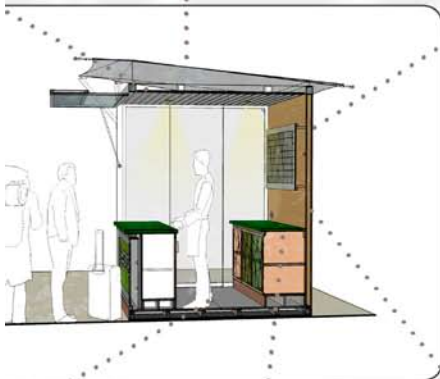
Heavy weight PVC coated glass based mesh fabric, RF welded or stitched in zig zag pattern. Used for internal structures, including ceilings and screens.

Fire rated to BS 476 Pt 6 & 7, Class Q M1, B1. Can be printed.

Reason for selection: Filtered light quality similar to tree canopy and extension beyond kiosk creates intermediate public space. Light, airy feel desirable.



Stainless steel threaded end clevis, part of tensile fabric roof rigging



## Counter tops

Formica laminate

Colour: Primary Green



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## Steel Gridwall

Where applied: To Surinno backlit display

Fixing: Steel brackets anchor fixed through solid surface

Size: 750 x 1220 x 3mm. 75 x 75mm mesh apertures

Accessories: Variety of proprietary, commercially available hooks, shelves, angled shelves, shelf brackets, baskets, clothes rails etc.

Reason for selection: Readily available (supplied locally e.g. from Cyntron Wire products or online ordering) Relatively cheap.

Commercially available and adaptable, highly customisable system.



Fixing bracket



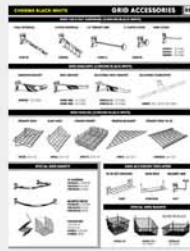
Metal gridwall interchangeable display accessories



Gridwall pegs



Gridwall angled wire shelf



## Display board

Surinno solid surface in colour Alabaster.

Proprietary metal gridwall display bolted to solid surface backing

Where applied: Gridwall display unit

Fixing: Anchor bolt fixed to 25x25mm rectangular steel frame, which is in turn bolted to steel angle brackets fixed through OSB into metal studs in back wall.

Surface finish: Semi-matt

Properties: Manufactured from acrylic, modified polyester resin and mineral fillers, mainly Aluminium Hydroxide (ATH). Suitable for vertical and horizontal applications (12mm standard thickness)

Non-porous. Consistent finish throughout due to manufacturing process, making it easily to lightly sand and polish out scratches and damaged areas.

Heat and stain resistant. Durable.

Low maintenance. Scratch resistant.

Hygienic, due to non-porosity, stains are not absorbed, leaving no substrate for microbial action. Fabrication technology can achieve seamless joints, reducing potential for microbial growth.

Size: 3050 x 765 x 12mm (from PG Bison) Half sheet used per kiosk for cost saving - determines display size in interrelation with gridwall sizes

Reason for selection: Aesthetic. When backlit, the pattern of the solid surface resembles the OSB surface. This play on material characteristics lends depth to the scheme and links to the idea of Stoffwechseltheorie as part of tectonic expression.

Surface is fairly translucent, and achieves attractive and attention focusing glow on display / menu area.



## Wall cladding

OSB satin varnished

Where applied: Back wall finish, inside and outside.

Fixing: Countersunk wood screws Surface treatment: Wall - satin finish polyurethane varnish

Properties: Made from softwood strands approximately 75mm long placed in layers in different directions and compressed with exterior grade water resistant resins. Moderately water resistant.

Environmentally sound use of normally discarded scraps of wood. Cheaper than plywood.

Good strength in both directions. Uniform, decorative appearance. Suitable for sheathing, flooring and decorative panels.

Size: 18mm thick for flooring (see appendix 3). 15mm thick for back wall. Sheet size 2500 x 2500mm (from PG Bison). Cut one sheet in half for one kiosk unit floor.

Reason for selection: Aesthetic - strands of wood bring texture and movement and suit the tree concept.

