



Pretoria



Chapter 1

Introduction

1.1 Overview

Public transport in South Africa is generally under-utilised and if used it serves mostly lower income users. It is believed that the public-private **Gautrain Rapid Rail Link** enterprise could correct this imbalance through a quick, reliable connection between Tshwane and Johannesburg. This proposal presents an opportunity for design interventions in the field of human interaction and reinforcement of place within the environment of transport facilities.

The focus of this study is the provision of **refreshment, retail and supporting facilities** at Gautrain stations. This forms part of an overarching strategy called *re: fresh** for the deployment of refreshment, retail and supporting facilities at stations. For the purposes of this thesis, the concept of **refreshment** focuses on the aspects of bodily / physiological and mental refreshment, whether this be through sale of beverages and snacks or distribution and availability of information, news and mental stimulation through design. The *re: fresh** strategy is explored in more detail through the design of a multifunctional **kiosk** for medium term deployment at any of the Gautrain stations.

Important factors in this scheme is the identifying of the most popular refreshment and ancillary facilities at other similar train stations as well as the integration of such facilities into the existing Gautrain system identity.



The design approach is formulated on the three levels of scale:

- * **macro**, or neighbourhood to building interior scale, with the focus on the **creation of places** and the idea of the railway station as public meeting place
- * **medium**, or unit scale, informed by the importance of **tectonic** expression in interior architecture
- * **micro**, or unit & details scale informed by various factors relating to **cost** and **sustainability**.

The aim is to contribute to the understanding of user needs in terms of refreshment, retail and ancillary behaviours (e.g. access to info) at transport interchanges. It would also suggest a strategy on management and operations level for the phased implementation of various retail and refreshment interventions at small, medium and large scale. In this manner the thesis would make a contribution to the field of the environment and cultural landscapes as applicable to the discipline of interior architecture.

For the purpose of this thesis the following assumptions are made:

The Gautrain project, currently in the construction phase will be completed.

The projected usage figures of the Gautrain Rapid Rail will be realised, making the *re:refresh** strategy feasible.

Within the scale of the Gautrain Rapid Rail Link, the scope of this investigation is limited to a 300 meter radius, or approximately five minute walking distance, around the **Hatfield Gautrain station**. The Hatfield station building interior will form the backdrop of an in depth design development of the *re:refresh** intervention.

Chapter 1 serves as introduction and highlights local historical transport precedents and an introduction to the recent Gautrain development.

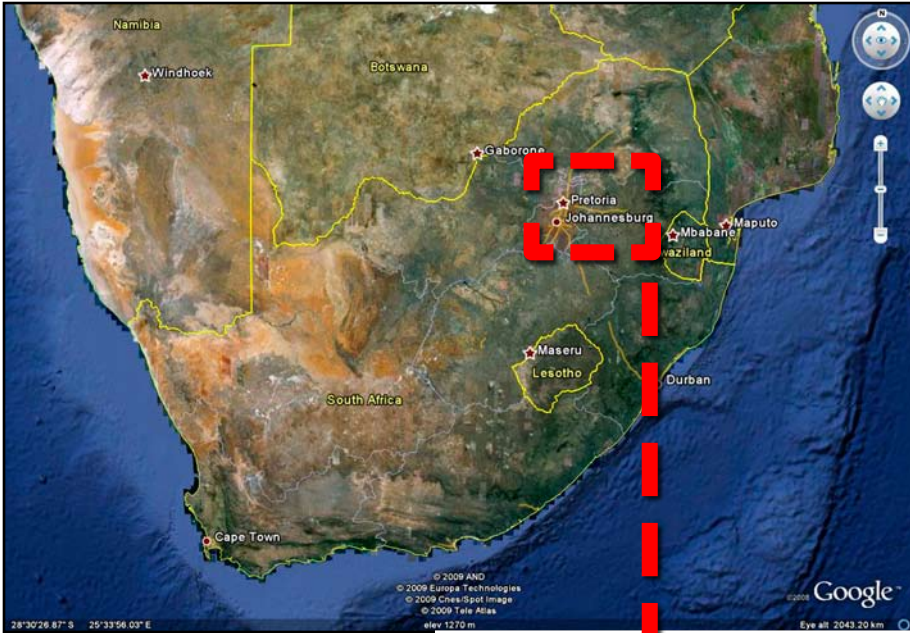
Chapter 2 sets the problem statement and hypothesis.

The Gautrain organisational and design context as well as the site characteristics are analysed in **Chapter 3**.

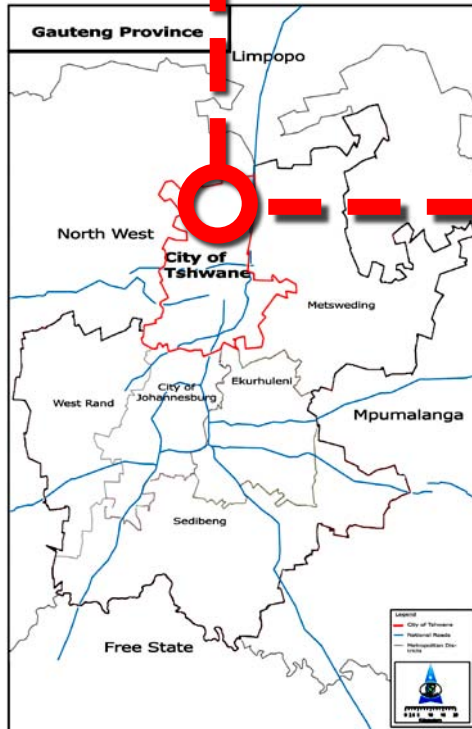
Chapter 4 sees the formulation of a philosophy and design approach for *re:refresh** on three levels of scale.

The *re:refresh** strategy for the phased deployment of refreshment, retail and supporting facilities occurs in **Chapter 5**.

Chapter 6 and **7** illustrate the concept and design development respectively, while technical resolution is contained in **Chapter 8**.

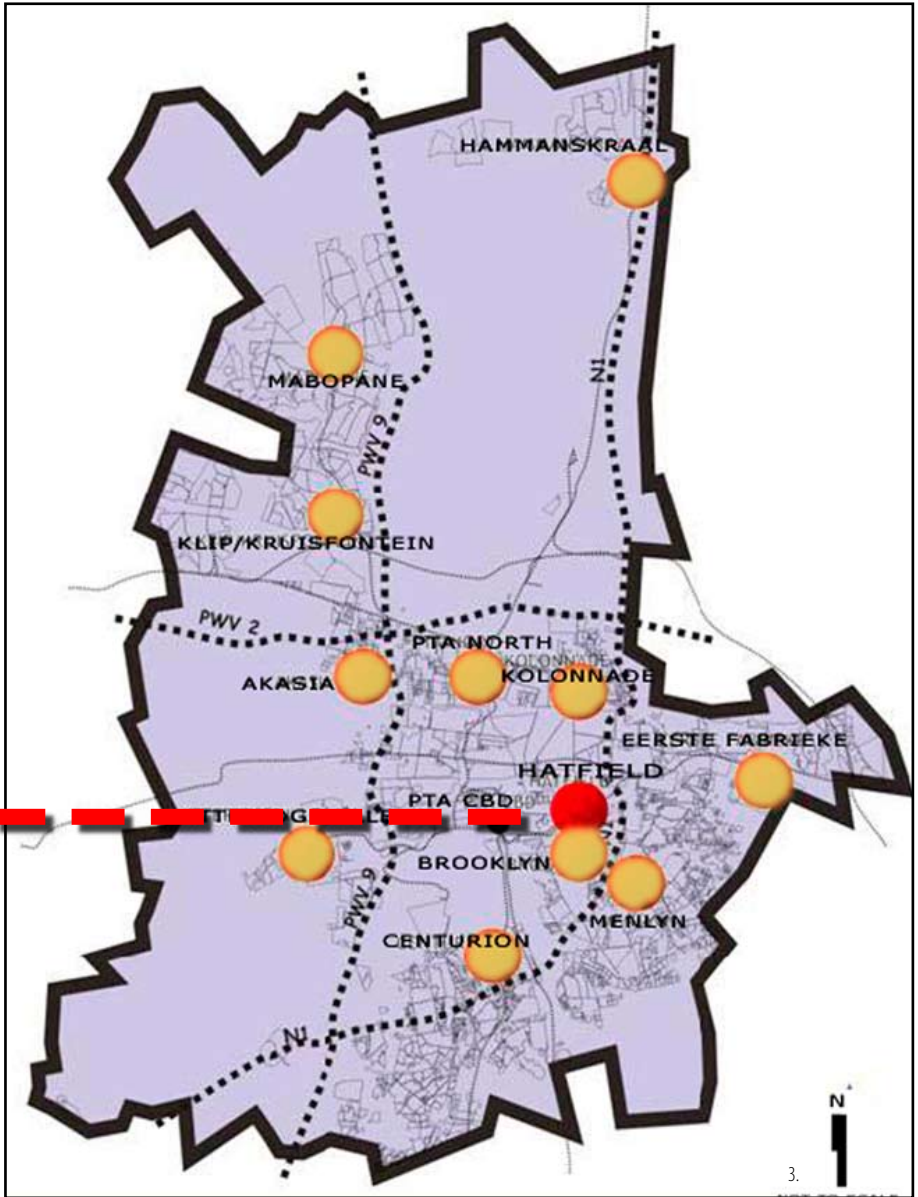


1.



site location in Gauteng





1. Aerial photograph of South Africa (Google Earth 2009: [sp])
2. Map of Tshwane, Gauteng (City of Tshwane: Cartography 2008:[sp])
3. Areas for development as Metropolitan Activity Nodes as indicated in the City of Tshwane Spatial Development Strategy. 2010 and beyond, one of which is the proposed investigation site (City of Tshwane: 2007:17)





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4. Calender advertising the coach service owned and run by George Heys, 1892 (Allen 1971:72)
5. George Heys' stage coach with horses (Allen 1971:68)
6. The arrival of the first train at Pretoria station on 1 January 1893, not from Delagoa Bay, but from the Vaal River (De Jong e.a. 1988:160)

1.2. Historical precedents for transport in Gauteng

It was around the 1870's that the first refreshment facilities at a railway station was provided on the Cape railway line at **Matjiesfontein** by Scotsman and founder of the station, James Logan. As the station was a crucial watering point for then steam engines travelling between Cape Town and Kimberley, all trains stopped there. This made it the ideal place for a **restaurant** on the station platform, as the trains had no dining cars as of yet (Ash 1998:66).

The first **"express coach"** services from Pretoria were established around late 1882 or early 1883 by merchant and concessionaire George Heys (Allen 1971:69). This route connected Pretoria to four major destinations:

- * Charlestown towards Durban
- * Kimberly and the start of the Cape railway
- * Barberton with branches to Lydenburg and Pilgrim's Rest to serve the Eastern goldfields
- * Pietersburg to accommodate Northern Transvaal trade. (ibid).

The speedy 24-hour travel, achieved by changing horses every ten to fifteen miles. This assured that George Heys was awarded the contract for mail delivery between Pretoria and Kimberley (the last station on the railway line from Cape Town at that time) in 1888. Later on passengers were also transported. This service was gradually replaced from early 1893 to 1905 as the existing railways were extended through Bloemfontein to Pretoria to connect it to Johannesburg and the Cape (Allen 1971:128).

The completion of the **NZASM** (Nederlands Zuid-Afrikaansche Spoorweg Maatschappij) railway connecting Pretoria with Delagoa Bay in the east in November 1894, and linking with the existing Cape and Natal railways to the south and south east marked the end of Heys' coach service and the start of fast, more comfortable travel across South Africa.

NZASM railways stations were typically **utilitarian** and ranged from simple corrugated iron shacks to grander red brick and dressed stone buildings (De Jong 1988:81-88). Most stations had, besides necessary ticket offices, baggage rooms and staff accommodation, only a **waiting room** for passengers. There is mention of a kitchen and restaurant at Elandsfontein station, but it is not clear whether this was for staff or passengers (De Jong 1988:91).

Stations were typically part of official buildings such as magistrate's courts and post offices **combined** under one roof (De Jong 1988:81). Schools were also often found in close vicinity to some stations, such as today's Jeppe station.

To accommodate weary travelers at the Pretoria station, the **Victoria Hotel**, known then as the Hollandia Hotel, in Scheiding Street, opposite the Pretoria main rail station, first opened its doors in 1896 (Allen 1971:128).

For about thirty years, the ground floor **shops** along Scheiding Street opposite Pretoria station housed a **men's outfitters** and **barber shop** before these made way for the hotel **lounge** (Allen 1971:130). The owner of the land, T.W. Beckett, leased it to Jacob Joffe on condition that he builds a hotel on it (Allen 1971:128)

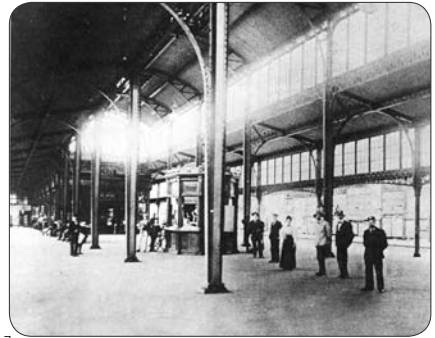
English trader TW Beckett greatly profited, not only from his shops, such as TW Beckett & Co on the corner of Church and van der Walt streets, but also from supplying tools for the construction of the NZASM railway line from Delagoa Bay to Pretoria. (Allen 1971:139). His business grew rapidly, opening more shops over Transvaal and London, supported in part by the drive for expansion and faster transport connections in the Transvaal.

The year 1896 saw the first recorded use of **horse-drawn trams** in Pretoria, adopted as public transport in 1904 (Pretoria 150 2005: 30).

In 1897 the first **motor** vehicle in South Africa is publicly displayed in Berea Park (Pretoria 150 2005: 25).

Electric trams were first used in Pretoria in 1910. These were supplemented by **double height buses** in 1935 and **trolley buses** in 1938, by which they were ultimately replaced in 1939 (Pretoria 150 2005: 44-45).

Pretoria has since the earliest days had a history of public transport, with modes ranging from stage coach, rail, tram and bus. In contrast, over half of modern day transport in Gauteng occurs by means of private motorized transport (City Of Tshwane Integrated Transport Plan 2006: 3-21).



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7. Covered platform at Johannesburg's Park station showing ticket kiosk and luggage room in 1898 (De Jong 1988:92)

8. Horse drawn tram in front of TW Beckett's store on the corner of Church and van der Walt streets in Pretoria in 1919

9. Electric tram at Pretoria Station, 1910.





Matjiesfontein railway station refreshment facilities (restaurant) established on Cape lines

1882 - 1905. George Heys express coach service established

1894. Completion of NZASM railway line from Pretoria to Delagoa Bay // Lourenço Marques

1896. Victoria Hotel at Pretoria Station opened
1897. First private motor vehicle displayed in Pretoria

1860

1860. Pretoria proclaimed as capital of the ZAR and seat of the "Volksraad"

1877. Annexation of Pretoria by British forces

1880

1899. 12 October. Second Anglo-Boer War declared
1900. 29th May. Pretoria peacefully surrendered to British forces
1902. Hillcrest laid out

1900

1905. Hatfield laid out by W.R. Lanham
1910. Transvaal University Kollege (TUK) established

[De Jong 1988] [Laubscher 1992:1-3, 12] [Lombaard 2005: various] [Spoornet 2006]



1910. Electric trams used in Pretoria

1935. Double height buses used in Pretoria
1938. Trolley buses used in Pretoria



1958. First diesel electric locomotive arrives in SA

1983. Belle Ombre - Mabopane commuter railway in Pretoria completed
1997. Metrorail created as division of Transnet for commuter services

2000. Gautrain project announced by Gauteng Provincial Government
2005. Bombela announced as preferred bidder
2006. September. Gautrain construction commences



1916. Hatfield / Hillcrest officially part of Pretoria
Named Hatfield in honour of 2nd Earl of Selbourne, British Governor of Transvaal from 1905. Hatfield was the name of his property in England
1927. Natal Immorality Act makes it illegal to marry a person of a different race
1930. University of Pretoria established from TUK
1939. Atteridgeville proclaimed as black residential area

1945. Native Urban Areas Act 25 of 1945 decrees that black people may not be present in white areas for longer than 72 h. Pass system established
1959. UP Sports grounds LC de Villiers set into use.
1961. Republic of South Africa. CR Swart as first president

1985. PW Botha's Rubicon speech
1986. Pass laws abolished
1990. ANC unbanned. 12th February Nelson Mandela released from prison
1994. Democratic elections. Nelson Mandela elected president

2000. Gautrain project announced by Gauteng Provincial Government
2005. Bombela announced as preferred bidder
2006. September. Gautrain construction commences

timeline

Indicates major historical events in South Africa and Gauteng, as well as illustrating important transport and related passenger facilities highlights



10.

10. Relief of congested roadways, such this crossing of Duncan and Schoeman roads in Hatfield, is one of the reasons for the implemented Rail Link.

1.3 The post-apartheid city

Even before Dr. H.F. Verwoerd came into power in 1958, previous land and settlement policies in apartheid cities like Pretoria had pushed black populations out of the cities and into the urban peripheries (Chipkin 1998:160). Here they were isolated from the city centres, advanced infrastructure and opportunities provided by the cities, leading to large pockets of peri-urban **underdevelopment** (ibid).

A series of new towns were established in the urban periphery of Pretoria to consolidate population in the underdeveloped areas (Chipkin 1998:163). Examples of such towns are Temba at Hammanskraal, started in the 1950's which had an express rail service to Pretoria; Ga-Rankuwa, Mabopane and Soshanguve (ibid).

Limited job opportunities existed in these border towns, despite the establishment of nearby industrial centres such as Rosslyn (Chipkin 1998:163).

The new towns were described as the "commuting hinterland" by urban geographers Hattingh and Horn in 1991, and were characterized by long and uncomfortable commutes into the city (Chipkin 1998:163). In 1983 it was recorded that 400 000 Africans were commuting to Pretoria city core of which 40% came from Mamelodi and Atteridgeville and 60% from outside Pretoria (ibid).

The doctrine of apartheid had a far-reaching effect on the spatial quality of South African cities. It created a **spatial duality**, an imbalance in the allocation of urban space and access to the opportunities and infrastructure of cities. Contemporary urban spatial development frameworks in part attempt to **rectify** this imbalance. Interventions are suggested in various sectors, such as in the:

- a) **economic** sector by encouraging development in previously underdeveloped peri-urban areas (City Of Tshwane Integrated Transport Plan 2006: 2-2, 2-3),
- b) **political** sector by unifying the areas under the auspices of the Tshwane Metropolitan Council, and
- c) **spatially** by espousing sustainable urban development practices to revitalize the inner city center, such as mixing uses, densification, compaction and development and promotion of **public transport** systems (City Of Tshwane Integrated Transport Plan 2006: 2-3).

Public transport in Tshwane is not being optimally utilized. The majority of **private car owners** reside in the



more affluent Pretoria Eastern suburbs, with lowest number of car owners residing in the outlying townships of Temba, Winterveld, Mabopane and Garankuwa (City Of Tshwane Integrated Transport Plan 2006 – 2011:3-15).

These areas are also the areas of some of the lowest income groups in Tshwane (ibid.). Since the majority of job opportunities lie in the inner city core (City Of Tshwane Integrated Transport Plan 2006: 3-14), this makes the **lower income groups** the most likely and most needful of **public transport**. Public transport has become the domain of the disenfranchised. Considering the incidences of bad driving and intimidation by taxis (Addison 2002: 225) and crime and passengers' fear for safety on buses, trains and taxis (City Of Tshwane Integrated Transport Plan 2006: 3-23) it is no wonder anyone who is able to, will utilise private motorized transport.

However, private transport does not come without **costs**. There are some serious environmental, social and economic drawbacks. Noise & air pollution affect cities and natural environments. Freeways cut through the landscape like dark scars. Vast amounts of energy are expended in transit.

Personal energy is also expended by travelers trying to get from point A to point B. Traffic congestion increases personal time spent on the road and away from families, and is generally unpleasant. Society suffers from the effects of pollution, loss of privacy, expense of providing new roads and parking, accidents and death. Costs for goods on roads increase as the delivery time increases (Lynch 1981: 193-194).

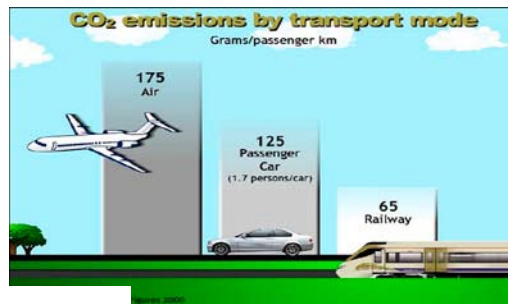
There seems to be a need for the increased use of public transport. The image, comfort and safety of public transport and associated facilities are an area of concern. The idea that public transport is the domain of the peri-urban poor needs to be challenged in order to improve sustainable public transport use.

1.4 Gautrain rapid rail link

1.4.1 Brief description and route

The Gautrain Rapid Rail Link (GRRL) is a local government intervention to address the public transport condition as described in section 1.3. It is a state-of-the-art rapid rail network planned in Gauteng. Upon completion it will link Tshwane, Johannesburg and OR Tambo, between the ten planned stations (Gautrain Rapid Rail Link 2009:[spj]).

Comparison of CO₂ emissions by transport mode (Andrew 2009:10)





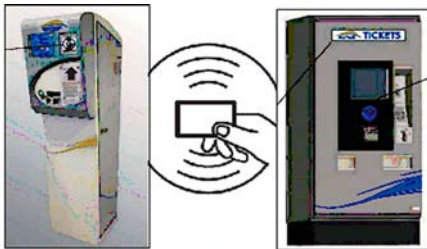
The project is a **public-private partnership** between the Gauteng Provincial Government (GPG) and Bombela Concessions Company (Gautrain Rapid Rail Link 2009:[sp]).

At speeds of **160 – 180km/h** the journey time from Hatfield station to Park station is estimated at **40 minutes**. Sandton to OR Tambo Airport should take 15 minutes. Four four-car sets (450 passengers) of Bombardier's tried and tested **Electrostar** range of vehicles will be supplied initially, later to be increased to eight. The service will run at least from 5:30 to 20:30, seven days a week (Andrew 2009:9).



At peak times there will be a service **every twelve minutes**, whilst off-peak hours the service runs **every twenty to thirty minutes** (Gautrain Rapid Rail Link 2009:[sp]).

Gautrain **fares** have been determined in relation to existing taxi fares, bus fares and private transport costs. The fares, yet to be specified, will be less than the cost of using a car, but more than existing rail and taxi fares, as the new train will offer a higher quality service (ibid.). Airport passengers' fare will be higher than the fares charged on other services. (ibid.).



The project also includes the implementation of dedicated **bus feeder routes** to and from the stations (Gautrain Rapid Rail Link 2009:[sp]). It is directed mainly at users of **low to middle income** who may or may not own cars and need to commute regularly between Tshwane and Johannesburg (ibid.).

The vision of the GRRL is to provide an international standard transport service with safety, reliability, predictability and comfort being paramount. It is envisaged that the Gautrain Rapid Rail Link will provide a cost effective, efficient and **sustainable** alternative to private vehicle commuting and relieve traffic congestion, especially on the freeway between Tshwane and Johannesburg (ibid.).



The main aim of the GRRL project is **improving** public transport in order to enhance and support economic growth and stimulate job creation and economic opportunities in Gauteng. This aim is in line with the objectives of the *Integrated Development Plan 2006-2010*, the *Tshwane Growth and Development Strategy Final Draft 2006*, and the *City of Tshwane Integrated Transport Plan 2006-2011*.

The Gautrain System Identity (GSI) is a broad spectrum

11. Gautrain carriages in South Africa on a test run and the interiors, showing high visibility grab rails

12. The GRRL would be operating an electronic ticket

standard of design, developed by Bombela designers and Gautrain Architects Joint Venture (GAJV). It is to be applied to all GRRL stations, with subset of the GSI at each station responding to local context. In general it amounts to the branding of the GRRL and aids legibility and customer identification with the GRRL (Steer 2009:[sp]).

The proposed site for the investigation of retail and refreshment facilities is the Hatfield Gautrain station. Located within the existing Hatfield business node, the Hatfield Gautrain station is the last on the north-south line of the Gautrain rail system.

From perusing the Gautrain stations plans it would seem that no refreshment or retail facilities are provided. Bombela have indicated approval for future appropriation of portions of the parking allocation for such facilities.



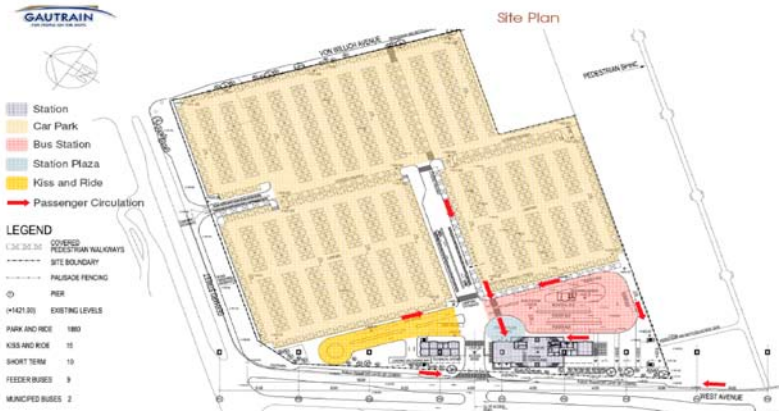
13. Gautrain route alignment and stati



1.5 Summary

From a historical perspective the presence and use of public transport has always been evident in Pretoria. The current transport condition is one of large-scale private vehicle use and congested roads, as well as the accompanying environmental and social disadvantages.

If fully realised, it is believed the Gautrain will reinvigorate the city centres of Tshwane and Johannesburg as well as providing a fast, efficient, predictable link between the two cities. However, it would seem that opportunities for refreshment and retail facilities in the stations have been overlooked. It is believed that the GRRL system would benefit from the investigation of and implementation of the *fresh** intervention in this regard. Provision for bodily and mental refreshment would contribute to the establishment of the railway stations as places by the creation of small “nodes of choice” contributing to the sense of place inside the stations. It would also contribute to customer satisfaction and identification with the GRRL system as a whole.



14. Excerpt from Plan of Centurion Gautrain station plans and digital design images showing no refreshment facilities (Presentation To Hatfield Stakeholders: 2007:[sp])



15. Design images of Pretoria Gautrain station showing no refreshment facilities (Presentation To Hatfield Stakeholders: 2007:;sp).