



Gautrain Management Agency (2016).



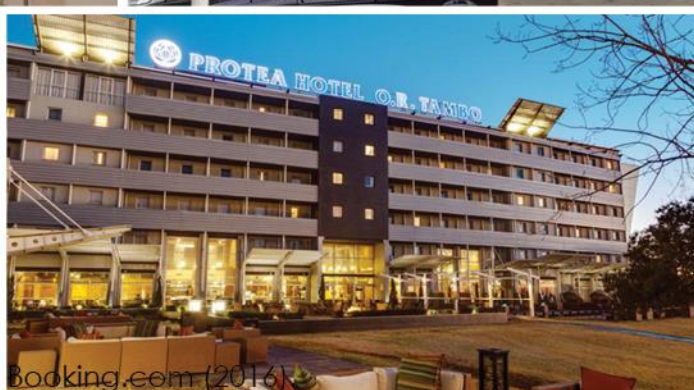
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The Economic Impacts of the Gautrain Station at Rhodesfield

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A research report submitted to the Faculty of Engineering and Built Environment, University of the Witwatersrand, Johannesburg, in partial fulfillment of the requirements for the degree BSc Honours in Urban and Regional Planning.

I declare that his research report is my own unaided work. It is submitted for the BSc Honours degree in Urban and Regional Planning to the Faculty of Engineering and the Built Environment at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination to any other University.

Edwin Ndlovu

.....2016

Abstract

The provision of reliable public transport systems in South Africa has been met with a number of requirements in which government wants to explore and utilise to its full potential. Planning is an ever-evolving discipline, with new concepts being conceptualised every day, and implemented in order to make cities and people living within this areas to benefit from the city. Transit Oriented Development is not a relatively new concept, as it dates back to the early 1970's – 80's, but the notion of using public transportation to enhance the image and economic opportunities of the city have always played a major role throughout the centuries. In South Africa TOD'S are relatively new, with the implementation of the Gautrain project considered the first of its kind. The Gautrain railway system helps to connect the major economic cities of Johannesburg and Pretoria, with that of Sandton and OR Tambo International Airport (ORTIA). With the ever-growing congestion experienced in Gauteng's major highways, a new system of transportation was needed to be implemented to help ease the level of congestion in which Gauteng's highways have been experiencing. The Gautrain project is also meant to help foster economic growth, both directly and indirectly.

In order to see the true value of the impacts it might have on the economy, the Rhodesfield Station was chosen as a study area. A number of critical factors, one being that Rhodesfield houses the only station in Ekurhuleni Municipality (except for ORTIA station), inspired the research. Secondly, the physical characteristics of Rhodesfield as a low-density residential area, and how the station will influence such an area. Thirdly, to add to the ever-growing literature already published and documented on the impacts of the Gautrain stations at various nodal points. Relatively, businesses tend to settle near to areas in which amply public transportation is located. Ease of access to regional and national roadways, and the location of other major transportation systems all play a factor in helping draw investors (American Public Transportation Association, 2015).

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List of Acronyms

BRT – Bus Rapid Transit

CBD – Central Business District

CDT – California Department of Transport

EDG – Ekurhuleni Development Guide

GDP – Gross Domestic Product

GRP – Gross Regional Product

MARTIA – Metropolitan Atlanta Rapid Transit Authority

MSDF – Municipal Spatial Development Framework

NJ – New Jersey

ORTIA – OR Tambo International Airport

PWC – Price Water Coopers

RSDF – Regional Spatial Development Framework

TOD - Transit Oriented Development

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Introducing the research in the context of Rhodesfield and the Gautrain Station

1 Introducing the research in the context of Rhodesfield and the Gautrain Station.

We live in a world that has seen dramatic changes over the past few decades, with the shift mainly happening between rural to urban (International Organisation for Migration, 2014). The shift from rural to urban area has been attributed to the ever-growing globalisation of the world. These cities are home to inhabitants who live, travel, and work within the city or within the proximity of the city. According to Gnade (2013) urban areas have better infrastructure provision; compared to rural areas. According to a study by the World Bank, more than 53% of individuals live in an urban area and is expected to grow to over 70% by the year 2030 (The World Bank, 2016), with cities located within developing countries expected to being the biggest contributors of this increase. The shift from rural to urban has brought change in the way we humans travel and get around different places, as more individuals prefer to use privately owned vehicles. With the growth of privately owned cars, cities are taking charge of addressing urban challenges caused by high traffic volumes by channelling public investments towards public transport. The last few decades have seen an increase in public infrastructure funding, with the shift being steered to more public oriented transportation systems (American Public Transport Association (APTA), 2014; PWC, 2016).

One of the most effective way of addressing certain issues, such as the reduction of cars on the road, linking and connecting centres of economic nodes together, has been the railway (TOD's) and bus systems. the role of public transportation dates back to the early 16th century, while some even more than 5000 years ago (South African History Online, 2012). Trains, steam engines, and trams were invented in the 19th century (South African History Online, 2012), and since then, trains have played a major role in public transportation. TOD's have sprung up in many of the world's major cities, including South Africa as well. There are two types of TOD's which have been implemented in South Africa, the BRT and Gautrain. For the purpose of the report, the TOD system in which the report will be discussing will be the Gautrain railway system.

The Gautrain is an interconnected transit system catering for Gauteng's economic nodes of Johannesburg and Pretoria Metropolis. The project was planned to connect these two economic nodes of Gauteng, due to the level of traffic congestion the two cities had experienced between them (Gautrain Management Agency, ND). Potential economic and social nodes were identified along the major

route in which the train would travel along. Two major routes were then established, as outlined in figure 1.1:

- **South to North** – connecting Park Station (Johannesburg), Rosebank, Sandton, Marlboro, Midrand, Centurion, Pretoria, and Hatfield. This link connects mainly economic hubs, with the exception of Marlboro and Midrand stations.
- **West to East** – Sandton, Marlboro, Rhodesfield, and OR Tambo International Airport. Connecting the country's economic hub and shopping destination with Africa's number 1 airport.

The aim of the Gautrain has been to help link economic nodes of South Africa and ease traffic congestion from Gauteng's two major cities of Johannesburg and Pretoria. The list below outlines some of the other objectives of the Gautrain: (Gautrain Management Agency, ND)

- Increase economic opportunities
- Densify areas along the routes and
- Decrease car dependency by maximising ridership



Figure 1.1: route of Gautrain connecting major economic nodes, running south to north, and west to east. *Source: Gautrain*

The identified stations along the two routes are located within economic areas, and notably known as highly densified areas, both relating to building and pedestrian density. Areas such as Sandton, Rosebank, and Pretoria have high building density

and a wide variety land use mix developments, while Rhodesfield is still considered as a low-density residential area. However, the area of Rhodesfield has seen some changes that have shaped the physical landscape as more and more interested businesses establishing roots in the area (Engar, 2014).

1.1 The railway: shaping of South Africa's past and future development.

The railway industry has been in existence for over 150 years, and many countries around the world have used the railway as a means to get goods in and out of areas, South Africa is no exception (Fourie and Herranz-Loncan, 2015). The railway industry was considered a major economic growth for the periphery compared to industrialised countries in developed countries (Fourie and Herranz-Loncan, 2015). The Cape Colony was one of the first areas where railways were used to connect the economic hub of the Cape with that of the mining areas, which helped create industrial and urban hubs that had shaped the economic geography of the area (Fourie and Herranz-Loncan, 2015).

One of the most notable elements regarding railway systems in South Africa is the link it had on the economic towns of South Africa, which were linked to natural mineral extraction and transportation of such goods. Railways have also helped link economic towns and centres to each other, helping create local nodes along the main routes, which can be seen in today's landscape. However, it should be stated that railways do not always have positive attributes, but can also have negative attributes, as some areas railways have been noted to bring underdevelopment (Litman, 2016). In a broader sense, railways generally help create value for the adjacent land, which is harnessed by the government and large-scale real estate development as a way to help recapture the value generated from the adjacent land value (Belzer and Autler, 2002).

The railway expansion started from the Natal line in early 1860's, with the Cape to Wellington line following suit in 1861, and later on connecting to the newly discovered mineral resources of diamonds at Kimberly during 1869 (Fourie and Herranz-Loncan, 2015). The expansion of the railway extended when gold was discovered along the Transvaal region in 1886. Connections and linkages created to link economic trading centres together in South Africa have given rise to a well-established form of railway, which has evolved and shaped the future of railway as a whole (Fourie and Herranz-Loncan, 2015).

Railway has evolved in South Africa since its main inception during the 1860's. The first few years, ranging from 1860 - 1920 were seen as times in which railway had followed development and economic opportunities, by linking cities of interest together, in order for goods and trade to happen amongst the established areas. The railway has also gained popularity, and has shifted from mainly a transporting commodity good, to also giving access to inhabitants from rural areas to cities. Historically speaking, it has played a major role in day-to-day lives of South African communities, especially in rural areas (periphery) (Fourie and Herranz-Loncan, 2015). Adding to the above information, it is very critical that we help distinguish between heavy and light railway. Heavy and light railway systems are used throughout the world, with heavy rail having more capacity to help move more people compared to light. Light and heavy are terms used to refer to "people-moving-capacities and not the actual weight of the equipment" (O'Toole, 2014).

1.2 Aim of research

The following research aims to help add to the literature concerning the impacts of the Gautrain stations at the certain identified nodes as indicated in figure 1. The researcher aims to investigate if the Rhodesfield Gautrain station has had any economic impacts on the Rhodesfield residential area, looking both at the positive and negative aspect of the research is to add to the already growing research gathered about the Gautrain in certain study areas. The research will add to the already existing literature of TOD's in South Africa, but also adding insight into the effectiveness of the station in improving local areas through the implementation of the project. The study will also be useful for further studies, not only in other Gautrain stations, but also in other parts of the country in which a project similar to the Gautrain, or any other transport-oriented development might be implemented. It needs to be note that studying the impact of the station will not only help with the addition of information, but also give the municipality something to go about working with. The municipality, and other municipalities, will use the gathered information, and try to replicate and mend some of the issues in which the stations have had negative impacts on for instances.

1.3 Rhodesfield and the Rhodesfield Gautrain Station – Background study.

Rhodesfield is a low-density residential area located within the Ekurhuleni Metropolitan Municipality, covering an area of 174ha (GAPP et al, 2010). Rhodesfield is strategically located close to OR Tambo international Airport, Kempton Park CBD,

and Isando industrial park. Thanks to the Gautrain development, it has been noted that Rhodesfield, due to its well-located position will experience development pressures, diversification, and densification (GAPP et al, 2010). The area has experienced a number of developments, with the municipality receiving a number of applications for development in the area. Car showrooms have also popped up in the area, along major routes that cut through Rhodesfield (GAPP et al, 2010). Rhodesfield is also home to a number of guesthouses, which are a response to the demand of the OR Tambo International Airport. Figure 1.2 shows the geographical location of Rhodesfield, with the areas of OR Tambo, Isando, Spartan, and Kempton Park CBD located around the Rhodesfield area.

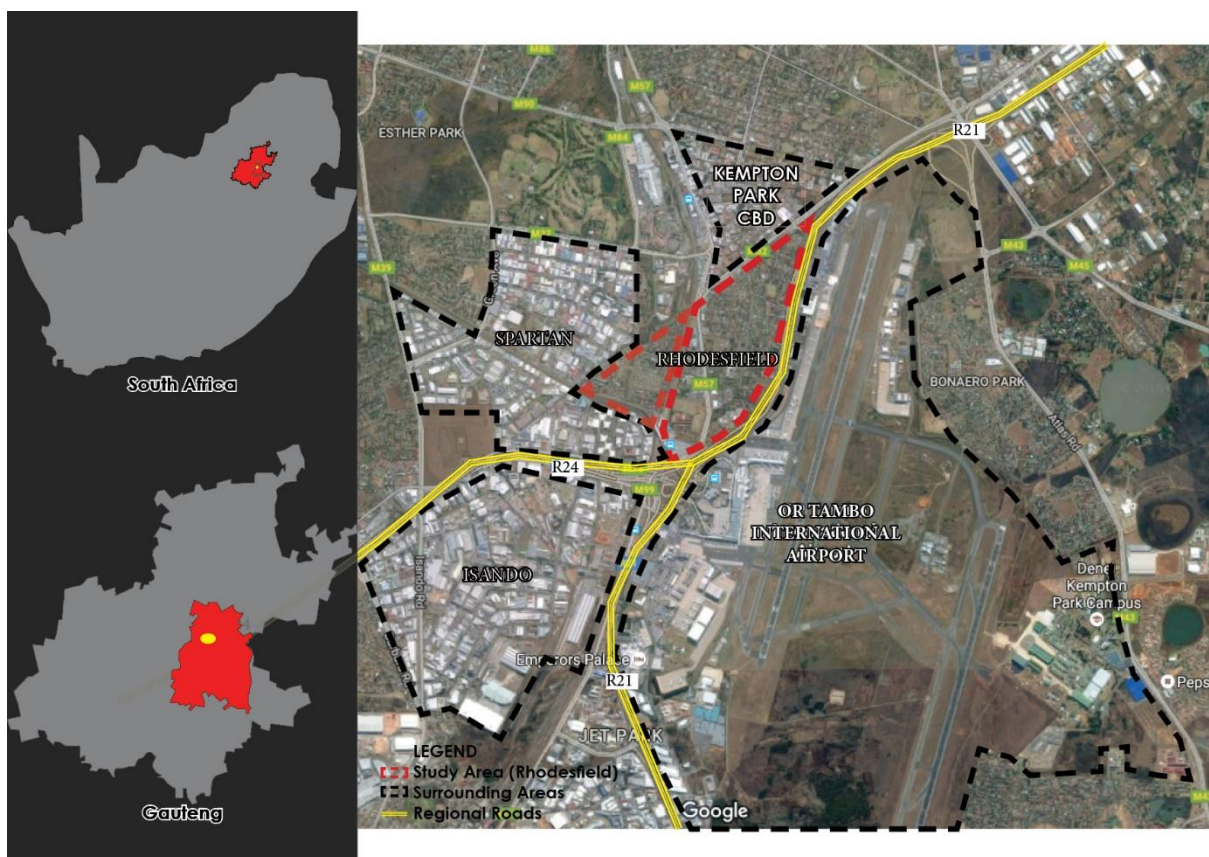


Figure 1.2: Rhodesfield (study area) and the industrial areas of Isando and Spartan, Kempton Park CBD and OR Tambo International Airport. Source: Ndlovu (2016) adapted from Google Earth.

The Gautrain station was not meant to be located at Rhodesfield but was intended to pass it on the way to the ORTIA. During an interview session with an Ekurhuleni Municipality Town Planner, it was stated that the motive behind the construction of the station at Rhodesfield was seen as a political game. This will be elaborated even further in chapter 4. Due to its excellent location, Rhodesfield has seen a number of

developments taking place, which are both linked with diversification and densification of the area (GAPP et al, 2010). The construction of the Rhodesfield station began in the early years of 2009, and opened to the public during the 2010 Soccer World Cup.

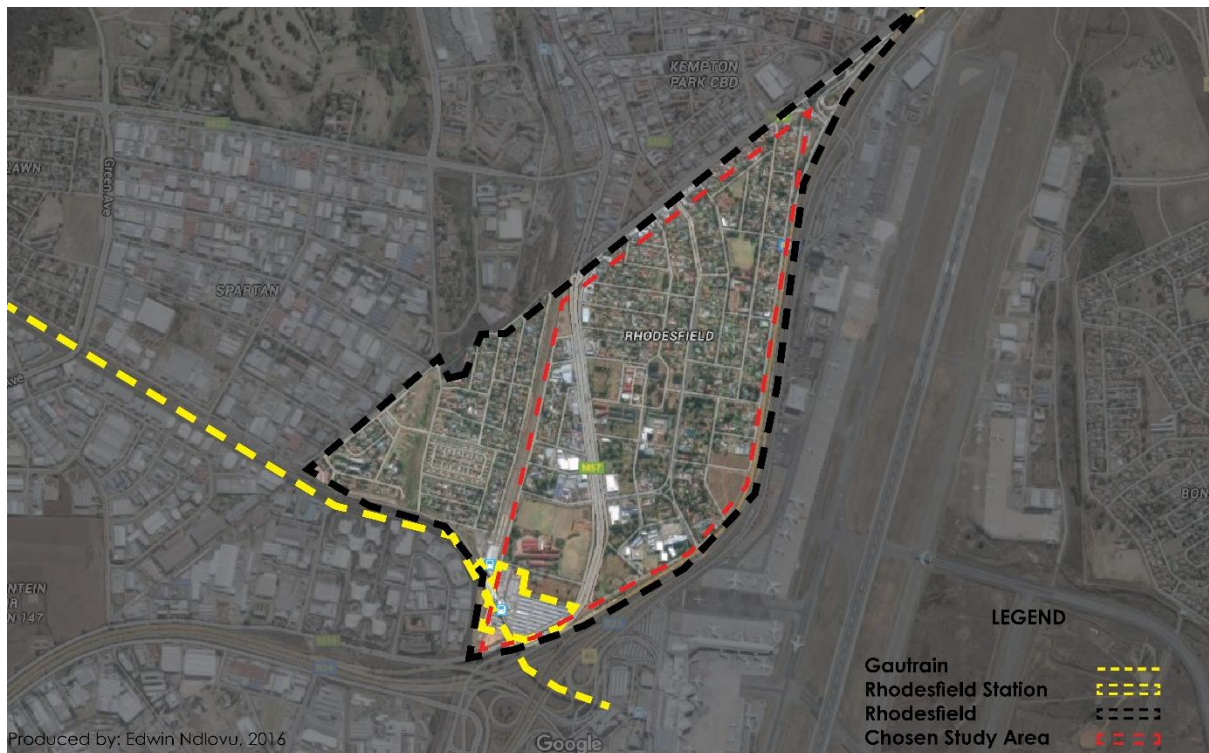


Figure 1.3: Rhodesfield Gautrain Station located on the southern edge of Rhodesfield. Source: Ndlovu (2016) adapted from Google Earth

1.4 Problem statement

The Gautrain is classified as a Transit Oriented Development (TOD). In its pre and post operation phases, a number of reports and research have been conducted regarding certain Gautrain stations within the proximity of the two routes as outlines in figure 1.1. Research based on the political nature, socio-economic, user preferences and the effects it has had on property values. TOD's are seen as a way of improving development in areas, at the same time densifying the surrounding area, which helps lead to an increase in economic opportunities, but also a decrease in car dependency.

Studies have been conducted on Gautrain stations and their impact on the surrounding community. Research reports have focused on Park Station (Johannesburg), Rosebank, Sandton, Marlboro, Midrand, Centurion, Pretoria and Hatfield. The main reason behind the following research report is to help give us

further information regarding the economic impacts of the Gautrain station at Rhodesfield. This is attributed to the limited number of studies conducted on the area, while the municipality has done some; the researcher felt a need to add onto the limited information. As explored earlier on in the chapter, one of the major objectives of a TOD is the increase in density. Areas with established high densities include Sandton, Rosebank, and Pretoria have already established high building and population density. The stations also aim to contribute to economic opportunities, in which people may live close to areas of work place, and acting as a magnet attracting new investors and developers into the area.

The researcher has noticed that a study conducted on the influence of the station on the area will help the reader get a better understanding of the impacts the station has had on the area. International and local studies have been conducted focusing on the residential values, management of the station, political aspects, as well as the attractiveness and accessibility of the station for the consumers.

1.5 Rationale of research

Rhodesfield is slowly changing, and its location to Kempton Park CBD, close proximity to the industrial areas of Isando, Spartan, and the linkage with OR Tambo International Airport (ORTIA) makes it not only a good place to do the research, but also to see if the objectives of the station are actually helping increase the economic opportunities of the area. Studies on ORTIA have been conducted, which have included Rhodesfield in the report, and Ekurhuleni Municipality have written up documents about the station and the Gautrain within the region.

The research aims to add on the literature, but also to give some insight on the impacts that the station is having in the residential area of Rhodesfield. As a student from the metro, I feel like that it would be helpful for me to try to add some sense of what the metro is doing, and how such projects are helping the metro on a bigger scale. This research helps to give some understanding of the type of projects, such as the Gautrain can have on residential based areas, and might also help us give us some understanding of the type of interventions that may be taken to ensure that, wherever, such projects might be implemented, that they are done in a correct manner. The research aims to see if the concept of TOD's, both internationally and locally can yield the same results, or if one might yield while in another area might not.

With major projects such as the Gautrain, it is up to researchers to find out if the investment is yielding any benefits or not. As many other planning projects implemented in South Africa, many are based on international examples, which have positive contributions for the cities that the projects were planned for. Such projects might work out in the context of those countries, but that does not mean that the same type of results gained would translate the same in other international contexts. As such, it is necessary for researchers, and for future developments, that research is conducted to see if it is working as expected for the area.

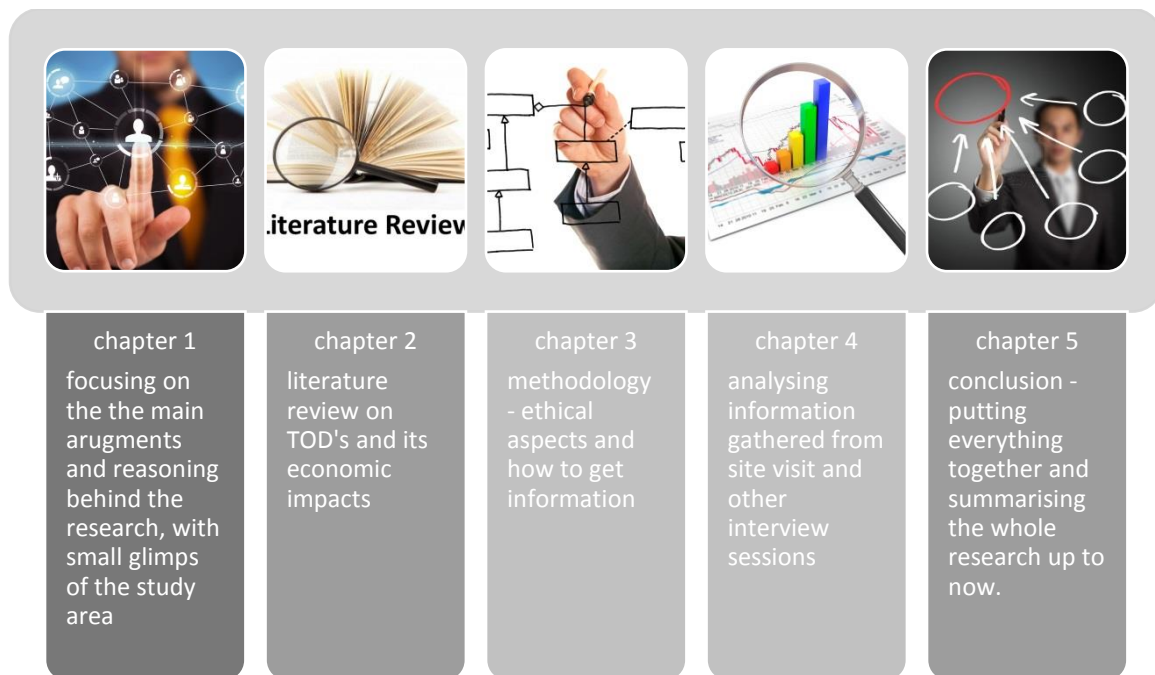
1.6 Research Questions

Research Question: **what is the economic impact of the Gautrain station on the Rhodesfield area?**

Sub-questions:

- What has been the reaction of the investor on developing the Rhodesfield area?
- What kind of economic activities are taking shape in the area?
- What changes is Rhodesfield experiencing?
- What is the municipality doing to try to attract economic development in the area?
- What safety and security features are implemented to help improve the safety of commuters, but also for businesses in the area?
- What is the stations impact on the property prices?

1.7 Chapter Review



Chapter 1 of the research is considered as a proposal chapter, in which certain elements are outlined, including the introduction of the research and site/study area. It aims to unpack the main reasons behind conducting the research.

Chapter 2 takes this a step forward, and looks at international and local literature. The literature helps to paint a clear picture in which will be used on the analyses chapter. **Chapter 2** will focus mainly on TOD's and its elements, while at the same time considering and looking at the economic elements of providing TODS within specific areas.

Chapter 3 considers methodological elements. This will include ethical considerations, methods about how to conduct research. It also considers looking at how information would be gathered and what kind of information that I would be using to answer questions outlined in chapter 1.

Chapter 4 is all about interpreting data that will be gathered through interviews, and field surveying. The chapter also has a section dedicated to observations, and information gathered on property valuations.

Chapter 5 is a summary of the entire research. It also adds on to it further research information. It also aims to summaries and answer the research sub-questions and questions.

Deconstructing the notion of Transit Oriented Development

2 Deconstructing the notion of transit oriented development.

The following chapter is a literature review focusing on the concept of Transit Oriented Development, and its main benefits and goals associated with the concept. The literature review will gather sources both from local and international research. The chapter is divided into a number of sections that help to break down and answer the research question that were posed on in chapter 1. This will aid in better understanding the link between TOD's and economic impacts.

The chapter starts with the introduction and explanation of Smart Growth, and how smart growth, as a broader term, encompasses the concept of transit oriented development. Second, we shift the focus to compact city, in which the concept of transit-oriented development has roots within. Thirdly, the concept of transit oriented development will be defined, and linking the concept to some of the benefits and goals in which it aims on achieving. Further benefits associated with transit-oriented development will be covered, ranging from walkability, mixed-use developments, density, and the availability of public transportation.

The chapter also aims to outline impacts that transit oriented development has on property, both commercial and residential will be covered. We then shift the focus to the aspects of economic impacts, which look at other possible ways in which economic impacts are calculated. We further explore the spatial configuration of TOD's along the interconnected links. We round up the chapter by taking a look at a case study, focusing on the redevelopment of two American cities, by adopting and using transit stations into their advantage.

*If your goal is economic development, then focusing on transit is besides the point –
Eric Jaffe from The Atlantic CITYLAB (2013)*

2.1 Linking Smart Growth to Transit Oriented Development.

The planning profession is an ever-evolving profession; in the past few years, there has been an introduction of new planning concepts, which help to deal with the everyday challenges and solutions on how cities can be made more sustainable and people friendly. One of this is the so-called 'smart growth', defined as a choice and opportunity that helps promote efficiently and sustainable development, incorporating redevelopment, which helps individuals to choose where they want to reside in (American Planning Association, 2012). It focuses on developing an area that is usable to its residents, making it into a liveable place, with all amenities that

would help support the resident's lifestyle. According to this definition, the concept of transit-oriented development falls within the broader concept of smart growth. If we look at the requirements mentioned by the American planning Association (2012) on smart growth, they indicate that smart growth is driven by the following principles:

- Economic development
- Housing
- Infrastructure
- Land use
- Resiliency and transportation.

According to Shrivastava and Sharma (2011), smart growth is the creation of a city that helps to limit the effects of urban sprawl while helping to create transit-oriented development.

The concept of smart growth is straight forward as it aims to incorporate mixed land use, efficient land use management, and infrastructure, creating a walkable neighbourhood, not only being attractive but also providing transportation and housing choices (Iams and Kaplan, 2006: 5). By adopting concepts such as smart growth in urban planning, we aim to bring in investment opportunities within areas that need it most. With the addition of high pedestrian and building density contributes to an increase in the local labour and consumers. This helps to benefit local businesses, as more consumers will shop and spend their hard-earned income on the local businesses, which helps to create an enclosed and sustainable living environment. According to (Litman, 2016: 29), "smart growth helps increase economic development, productivity, business activity, property values as well as tax revenues".

Trying to interpret the purpose and element of smart growth lead to the following conclusion. An area that has a high building density footprint is known to provide higher tax based revenues for the local municipalities. Figure 2.1 helps to illustrate the comparison between a single family home with that of a high-rise apartment. Figure 2.1 helps to illustrate the relationship between tax revenue and building density, the lower the building density, the lower the tax revenue, and vice versa.

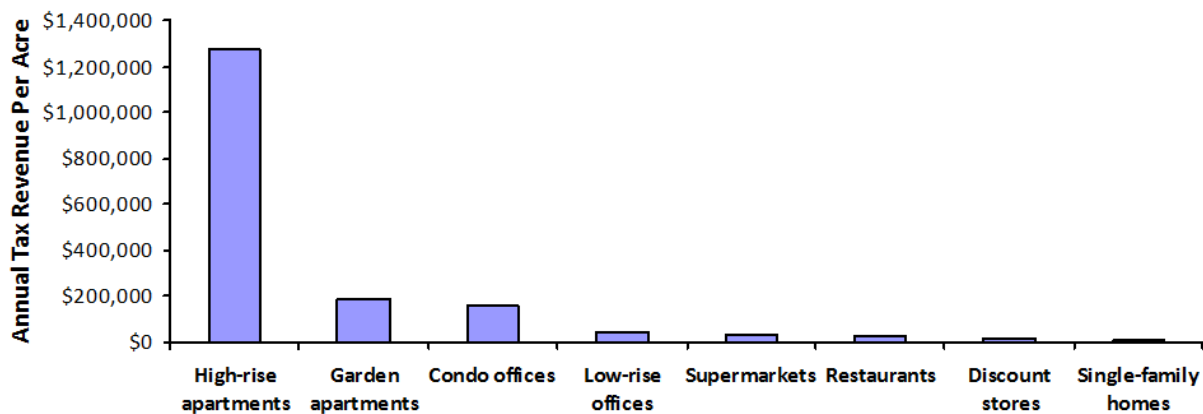


Figure 2.1: higher density and compaction helps with the provision of larger tax revenue than lower density development. *Source: Litman, 2016:29*

Location plays a vital role, with areas located near transit-oriented stations bearing the full brunt of the economic spillovers that the station exhibits on a short to long run bases. The areas may benefit greatly from earmarked developments and to the surrounding areas as a whole. Competition is regarded as a major key player; with businesses located near station are seen as being more favourable and competitive in the end (Center for Transit-Oriented Development, 2008; Belzer and Autler, 2002). Johannesburg, Sandton, Rosebank and Pretoria are already experiencing this phenomenon due to a large number of investors buying up land and building near transit stations. The location of the station does seem to have a strong backing towards it, especially due to the businesses and areas surrounding it. Densification and economic generation does not happen overnight and is considered a long time-consuming process, which focuses on the demand of the area and its attractiveness. It is believed that over time, the station will generate high levels of densification, and due to the close proximity to ORTIA, makes it an ideal location for future development.

2.2 Compact city

Compact city planning is regarded, as the opposite of urban sprawl, as it helps to create liveable cities that are not only energy efficient, but where city dwellers can live closer to work (Neuman, 2005). Below are some of the main characteristics associated with compact city (Neuman, 2005:14):

- High residential and employment densities
- Mixture of land uses

- Fine grain of land uses (proximity of varied uses and small relative size of land parcels)
- Increased social and economic interactions
- Contiguous development (some parcels or structures may be vacant or abandoned or surface parking)
- Contained urban development, demarcated by legible limits
- Urban infrastructure, especially sewerage and water mains
- Multimodal transportation
- High degrees of accessibility: local/regional
- High degrees of street connectivity (internal/external), including sidewalks and bicycle lanes
- High degree of impervious surface coverage
- Low open-space ratio
- Unitary control of planning of land development, or closely coordinated control
- Sufficient government fiscal capacity to finance urban facilities and infrastructure.

This small introduction regarding compact city aims to add further understanding regarding certain characteristics that have been mentioned above on smart growth, and how both 'smart growth' and 'compact city' characteristics are translated and used within the context of Transit Oriented Development. The first few characteristics outlined for compact city, are also relevant when it comes to transit oriented development. Like a compact city model, transit oriented development aims to increase mixed use, increase building density, and the increase in social and economic benefits to name a few. The link between compact city and TOD is the main element of containing urban sprawl, at the same time increasing the need for a diverse mixed use, and building density, which both compact, smart growth and TOD all aim to achieve. Compact city, through multimodal transportation, it lists the introduction and usage of TOD's as a means of reducing car dependency, and increasing public transportation, which helps with the reduction of urban sprawl (Neuman, 2005).

2.3 Transit Oriented Development and its main principles.

Transit oriented development gained popularity in many cities around the globe, since its origination in the United States during the late 1970's and early 1980's

(Wilkinson, 2006). It has since then established a strong relation with concepts like 'smart growth' and 'compact city'. In the case of TOD's, they are notable seen as "nodes within a citywide network of linearly extended public transport-based corridors that facilitate restructuring of the urban system within a designated 'urban edge' to achieve what the advocates of such strategies see as the economic, social and environmental advantages of more compact urban development" (Wilkinson, 2006: 224-225).

Atlanta's Metropolitan Atlanta Rapid Transit Authority (MARTA), has defined the transit-oriented development as a "broad concept that includes any development that benefits from its proximity to a transit facility, which helps generate significant transit ridership" (De'Nay Lambert, 2009). Goodwill (2002) describes it as a development that is located within a walking distance, which is linked to mixes of 'residential, retail, office, and public space uses' in a walkable environment.

A number of cities in South Africa have seen dramatic increases in population sizes, an influx of migration movement into cities has led to increases in traffic congestion (PropertyWheel, 2016). Early 2000's, South Africa saw a shift into more public oriented transportation systems, with policies being published in the early and later 1990's. The proposal of the Gautrain was to help link Gauteng's two economic nodes, with connecting artillery routes linked to it (Gauteng Management Agency, ND). The stations which would be developed would link different areas which included Park Station (Johannesburg), Rosebank, Sandton, Marlboro, Midrand, Centurion, Pretoria CBD and lastly Hatfield. Even though this linkage is between Johannesburg and Pretoria, another link stretches towards the Ekurhuleni Metropolitan Municipality of ORTIA, via Rhodesfield station. Being the two only stations within Ekurhuleni, the only station that seems to be linked with the residential areas is the Rhodesfield station.

Cervero (2004) documented that areas have experienced some benefits of TOD range from social, environmental, and fiscal, both directly and indirectly. The benefits he came across are neighbourhood revitalisation, financial gains through joint development, increases in the supply of affordable housing and revenues to business and landowners (Cervero, 2004).

According to the Gautrain Development Agency (ND), the Rhodesfield station will become a catalyst for the redevelopment of the area. The station will help with the facilitation of multi-storey mixed-use development; corporate office park, with some

associated development (Gautrain Development Agency, ND). It also states that the Gautrain has helped re-activate property development in areas around stations, which falls under one of the principles of TODs as mentioned earlier. The agency has also added that since the operation of the Gautrain project, property prices around the stations have experienced an increase of 3%, compared to other surrounding areas without the Gautrain stations (Gautrain Development Agency, 2015). While studies conducted by Mushongahande *et al* (2014) have shown that property prices have increased from 6% to 24%.

Even though TOD's have been around for quite some time, there has been varying ways that they have been defined over the years. Despite the lack of mainstream definition about TOD's, there seems to be a similar correlation with each other. The vast number of definitions all have a concentration of mixes of moderately dense and pedestrian-friendly development, helping to promote ridership, encouraging walking, reduce environmental impacts caused by private car ownerships, but also bringing about change in the economic environment of the areas (Cervero, 2006). TOD stations are viewed in a positive manner that is seen to help breathe life into areas of need (Cervero, 2006). TOD's are characterised by a number of elements which make it a viable concept:

- Integrated and reliable public transport system
- Public realm that prioritises pedestrians and cyclists over vehicles and ensures high accessibility of the public transport station
- Mix of residential, retail, commercial and community uses
- Medium-to-high-density development within comfortable walking distance of the transit station.
- Reduction in private car ownership/usage.

As outlined above, the concept of transit-oriented development encompasses many different elements and characteristics that help distinguish transit-oriented development from the broader term of smart growth. The principles include 'mix of land use', availability of reliable public transportation systems', 'walkability', and finally 'high-density compact development'. The following section aims to break down each of the principles and go in depth into the benefits of each of the principles outlined by TOD's.

2.3.1 Mixed Use Developments

Mixed land use is considered a crucial element as it helps strengthen the existence of TOD's and supports development. Not only catering to a large range of demographic groups of individuals, but also adding to the attractiveness of the area for potential investors and business development. Depending on the type of land use in the area, user ridership might range from as little as one in terms of residential to 10 times higher in commercial land uses (Mushongahande *et al*, 2014).

The major benefits of mixed-use land development are that they help to reduce urban sprawl within the specific area. By creating inclusive, connected communities, mixed use developments helps to reduce private vehicles usage. The incorporation and adaptation of mixed-use development helps to benefit local businesses, as more consumers will use their disposable income on businesses (Zamorano and Kulpa, 2014).

2.3.2 Availability of reliable public transportation systems.

A reliable public transportation network is considered a good starting point that aims' making TOD's work and useable. It should be able to service not only the proximity of the TOD but also its broader areas (Mushongahande *et al*, 2014). Localising Rhodesfield with its surrounding areas, one notice that a number of high profile industrial offices, and its location to Kempton CBD surrounds it, exposes it to a large pool of economic opportunities. Despite this, the area lacks in public transportation, linking it to the surrounding areas around Rhodesfield. Promoting public transport in the area helps to increase foot traffic, which adds to the value of the area, as well as to promote a more walkable neighbourhood. Also adding to the reduction of car ridership, and increasing economic opportunities in which the public transport system is located. An introduction of one successful public transport may help to open more opportunities for other public transportation systems to be introduced into the area, such as the Ekurhuleni Integrated Rapid Public Transport Network (IRPTN).

2.3.3 Walkability

TOD and walkability go hand in hand with each other. Not only reducing the use of automobiles, but also helping to decrease the amount of disposable income that is used on private transport. The closer the economic activities are to the

station, the more investors it attracts. A walkable environment helps add safety around spaces in which people make use on daily basis. A walkable environment is regarded as a good investment, as it adds to increases in property values (EPA, 2014; EPA, 2012), increasing foot traffic, which have a positive spill over effect to already established businesses. It also adds to the notion of work-folk-place, in which residents are able to work and live within walking proximity to work (EPA, 2012).

2.3.4 High density compact development

To meet high usage ridership, the area surrounding the TOD has to be fairly densified. Rhodesfield area is a low-density suburb, with industrial and commercial activities surrounding the suburb. High densities, both pedestrian and building density adds to the number of potential consumers and individual residing in the area. The level of high density can range from building density, to pedestrian density. Building density reduces urban sprawl, while pedestrian density adds to the level of tax revenue and ridership.

From the above four main characteristics of TOD's it is noticeable that all are linked in one way or another. An increase in pedestrian movement in the area has many advantages, increase in business output, and increases in an overall, revitalised, neighbourhood.

A study conducted by the California Department of Transport (CDT), covered by Cervero, lists 10 key benefits associated with TOD development, out of the 10; I will list the ones that are linked economically. These include (Cervero *et al*, 2002):

- Provide mobility choices
- Increase transit ridership
- Increase households' disposable income
- Play a role in economic development
- Contribute to more affordable housing
- Decrease local infrastructure costs.

There are some economic advantages of implementing TOD's in residential areas. Cervero *et al* (2002), Bagheri *et al* (2012) and Boymal *et al*, (2013) have

stated that properties located at a distance of 0.5km -1km from a station would result in positive benefits. Evaluating the list that the California Department of Transport published, it does contradict what other authors have said. A research conducted by Lewis Workman and Brod (1997) noticed a negative land-value impacts of properties located near rail stations, while property farther away experienced a positive effect (Cervero *et al*, 2002). Now if we look at the above list, CDT states that 'it contributes to affordable housing'. The second benefit that CDT listed was a decrease in local infrastructure cost. This might be different when we look at Rhodesfield, for example, infrastructure cost might increase due to the location of the station.

2.4 Transit Oriented Development and its influence on Property Values

Researchers have conducted extensive research on the impact that TOD's on property prices. Many studies, including the Gautrain Report, have stated that development surrounding the stations tends to benefit the neighbourhood. Positive increase in property prices and development contribution depends on a specific area and the distance of the development from the station. In Portland, land values located within 500m from the station experienced positive effects (Cervero, 2003), while Gautrain Management Agency (ND) has indicated that development ranging from 1.5 to 2km from the station have had experienced an positive effects. Factors such as density and investor involvement would contribute to the economic growth within this radius. In Atlanta, Georgia, a high-income neighbourhood experienced negative knock-on effect, which was caused by nuisances (Mathur and Ferrell, 2009).

Property is regarded as an effective way upon which TOD may function properly. A number of studies have observed the relationships between land value and the impact in which the Gautrain has had on them. One of such studies was conducted by a Wits University former master student Wang (2011), which analysed the *impact of the Gautrain on residential Property Prices in the Johannesburg Area*. Wang collected information regarding to the impacts the Gautrain has on residential, however, also states under her studies, that commercial property research is lacking and has not received the same form of understanding as residential area have. This type of study might be interesting to research on, however, like her, my research will be based on residential property prices.

2.4.1 Transit on Residential impact

One of the most used methods of calculating the effects of property value is the use of the hedonic-price method (Gundimeda, 2006). In a study at San Francisco, it was found that for every meter a single family home was closer to the BART station in 1990, house sale prices went up by an average of \$2.29 (Cervero, 2003). Noland et al (2014) states that there is an increase in the residential property valuations located near TOD stations, compared to areas further away. The study also stated that not all stations provided the same benefits as experienced by the BART station. In the case of the Miami Metrorail, houses located in close proximity of the BART stations induced little or no increase in house values (Cervero, 2003). Land value also depends on what kind of mix use is within the located area. Capturing the value of Transit conducted by the Center for Transit-Oriented Development (2008) tableted the effects of TOD on property prices on varies American cities located within the close vicinity of the TOD stations. Table 1 helps to illustrate the increase and decrease in residential property prices amongst some of American cities. The table clearly shows that residential prices are positively influenced by investments attracted by TD's, with one cities experiencing the opposite (Santa Clara County).

TABLE 2-2: TRANSIT INVESTMENT IMPACTS ON RESIDENTIAL REAL ESTATE VALUES

Variable/Location	Premium Effect	Transit Type	Year	Source
Single-family home sales price:				
San Francisco Bay Area BART System	+17% w/in 500 ft of station	Rapid Transit	1979	Blaney-Dyett Associates/David M. Danbach & Co., Inc. "Land Use and Urban Development Impacts of BART," San Francisco: Metropolitan Transportation Commission, 1979.
San Diego San Diego Trolley System	+2% w/in 200 ft of station	Light Rail	1992	VNI Rainbow Appraisal Service. "Analysis of the Impact of Light Rail Transit on Real Estate Values," San Diego Metropolitan Transit Development Board, 1992.
Portland MAX Light Rail System	+10.6% w/in 1,500 ft of station	Light Rail	1993	AlMawaid, M. et al. "Light Rail Transit Stations and Property Values: A Hedonic Price Approach," Transportation Research Record, 1400:90-94, 1993.
Sacramento Sacramento Light Rail System	+6.2% w/in 900 ft of station	Light Rail	1995	Landis, J. et al. "Rail Transit Investments, Real Estate Values, and Land Use Change: A Comparative Analysis of Five California Rail Systems," Institute of Urban and Regional Development, UC Berkeley, 1995.
Santa Clara County VTA Light Rail	-10.8% w/in 900 ft of station	Light Rail	1995	Landis, J. et al. "Rail Transit Investments, Real Estate Values, and Land Use Change: A Comparative Analysis of Five California Rail Systems," Institute of Urban and Regional Development, UC Berkeley, 1995.
Chicago METRA Commuter Rail System	+20% w/in 1,000 ft of station	Commuter Rail	1997	Gruen, A. "The Effect of CTA and METRA Stations on Residential Property Values," Regional Transportation Authority, 1997.
St. Louis MetroLink Light Rail System	+32% w/in 100 ft	Light Rail	2004	Garnett, T. "Light Rail Transit in America: Policy Issues and Prospects for Economic Development," Federal Reserve Bank of St. Louis, 2004.

Table 1: effects of TOD stations on property values in certain America cities.

Table 1 also helps to illustrate that distance does not really play a major factor when it comes to property prices. Casing pint, in San Diego houses located at 200ft (60m) from the station only experienced a growth of 2%, while in Portland houses located within 1500ft (457m) experienced an increase of 10.6%. The figures expressed on the graph go hand in hand with some of the figures in which Cervero and other listed above regarding the distance and value of residential areas. Merely speaking that 500m seems to be an average distance in which most residential prices may be affected by the investment of TOD's, but this is not always the truth. Some residential areas would report a decrease in property prices because of ambient noise levels (Cervero, 2003).

2.4.2 Transit on commercial impact.

Results have been inconsistent when it came to commercial property. A study on the BART found no evidence of rail presence on commercial prices over a long term (Cervero, 2003). Through access to rail stations and policies produced in encouraging intensive development around the railway stations, commercial properties prices respond positively (Cervero, 2003). Cervero (2003) states that through commercial synergies and joint development projects, commercial prices averaged rent premiums of 7% to 9%. This kind of study can be attributed to the types of rail. Depending on the type of rail, either light or heavy, effects can differ according to the location. During his investigation on the effects of transit development on commercial property, Cervero (2003) found that using the hedonic-price method that value premiums had exceeded 100% in the business districts of Santa Clara County, but was not the case in anywhere else.

Expressing interest on land use and transit oriented development programs has been documented that land use decisions can be affected by the demand of land for different types of development, degree to which development will improve accessibility and the reduction of costs (Litman, 2016). Litman (2016) elaborates that it might be hard to determine the exact land use impacts of transport planning, particularly if they are related indirectly and have long-term impacts.

2.5 Economic benefits of implementing Transit Oriented Development.

Implementing TOD's are known to be beneficial for areas where stations were constricted. As shown above, the researcher has outlined some of the main benefits

of adapting TOD's in certain areas. Not only does it create a more walkable environment, it helps create value for businesses located within the radius of the station. To put it in a more realistic sense, transit development have proven to capture and reinvest in communities, as it helps concentrate development within the specific community, which helps with the increase in tax base, and increase in business activities (Reconnecting America, 2009). Reconnecting America (2009) has outlined through Community Development Corporations, TOD's have prompted comprehensive and long lasting revitalisation, paving way for an environment that could cater for affordable housing for families.

A study conducted by ULI/Price Water House Coopers during 2005-2007 as outlined in Reconnecting America (ND) "ranked TOD as one of the best bets for investors three years in a row". This ranged from proximity of location, distance between where we live and work will matter more, and finally global gateways with 24-hour characteristics and mass transportation have turned into nation's investment property meccas (Reconnecting America, ND). Due to the accessibility of the TOD in relation to density, it is advisable that investors find TOD areas more attractive, which increases investment in the area. In addition, a highly densified area, means more tax base for businesses, but also means an economic threshold for small to medium sized businesses.

Another alternative way of understanding the role economic impacts is through a number of ways in which Weisbrod and Weisbrod (1997) have described 'economic impacts' as the effect on the level of economic activity in a given area. Below is a list in which Wesibrod and Wesibrod (1997) have adopted regrading measuring economic impacts:

- Total employment reflects: related to the number of jobs added and created by the economy within the specific area.
- Aggregate personal income: looks at the average salary increase of the individual.
- Value added: this looks at the GDP OR GRP of an area. This looks at the income and tax generated within the specific area. In the case of Rhodesfield, if there have been any economic impacts or GDP growth, it should be reflected on the municipalities yearly tax revenues.

- Business outputs: this is noted as the broadest measure of economic activity. This includes the level of business revenue.
- Property values: property values can be associated with the increase in income values within the area, but can also be linked with investment opportunities in the area

When considering research based on the effects of economic impacts, researchers should consider the above ways in which they can be calculated. The term economic impact is usually associated with the expansion or contraction of the economic activities of the area, as a result of a program or project (Weisbrod and Weisbrod, 1997). There is a clear distinction between economic impacts from valuation of individual user benefits and social impacts. It should be noted that economic impacts lead to fiscal impacts, which are seen as changes in government revenues and expenditures (Weisbrod and Wesibrod, 1997).

The above results show the different ways in which economic impacts according to Weisbrod and Weisbrod (1997) pointed out can be classified as looking at the way that one may be able to measure economic impacts. PWC (2012) have identified economic impacts may be classified into three categories, namely direct, indirect and induced impacts. Direct economic effects looks at the 'changes in local business activity occurring as a direct consequence of public or private business decisions, or public policies and programs' (Weisbrod and Weisbrod, 1997). Indirect evaluates the number of jobs created by the supplier. Induced is an increase in personal income because of both direct and indirect. This links back to Weisbrod and Weisbrod way of looking at economic impacts.

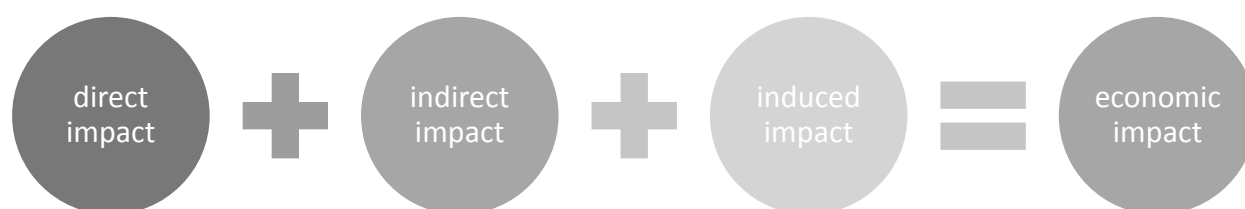


Figure 2.2: the combination of direct, indirect and induced impacts equals economic impacts. Source: Ndlovu (2016) adopted from Weisbrod and Weisbrod (1997).

2.6 Neighborhood rejuvenation as a catalyst

The notion of building a TOD station is to help foster social and economic growth around identified nodes. In essence, public transport helps to encourage economic and social activities, which helps to create strong neighborhood centers that have economic stability, are safe and productive (American Public Transport Association, 2007). TOD's help to generate the following characteristics (American Public Transport Association, 2007):

- Provides convenient access to public transportation and the integration of transit in the community
- Provides land-use programs that generates synergies and create a range of housing types, from single homes to apartments
- The revitalisation of neighbourhoods, increase in social interaction and pedestrian activity.
- Generation of financial return for communities and businesses as well as individual and collective savings that can be captured and invested in housing or amenities rather than transportation, parking and auto-oriented infrastructure.

2.7 Using TOD's as attraction tools for developers and investors.

The following section aims to unpack the value commercial developers find more desirable in a TOD station or development. In an article by Niles and Nelson (1999), these scholars raised the point of permanence, in which developers are more attracted to developments due to their permanence. The level of presence radiated by the station translates in a constant flow of developers locating nearby areas that house TOD stations. As a result, heavy rail stations are notably known to be big contributors to investment confidence, as train stations signify government's commitment to long-term investment in the node (Norsworthy, 2014). There has been suggestion in which theory has proven that light-rail systems confer smaller benefits than heavy-rail investments, while some researchers report the opposite (Cervero, 2003).

In a study conducted in the United States, it was found that TOD stations have a higher concentration of development in major CBD's (Porter, 1997). This can be compared to Gautrain major CBD's of Johannesburg, Pretoria and Sandton, which all have experienced major investment opportunities in the area. It also established

that physical infrastructure such as the provision of rail is not sufficient to generate development. Strong market factors and the use of supportive documents are of most importance (PBQD, 1996). It is for that reason that policies are generated and followed to reach the desired outcome, by supporting strong economic development within the nodes that are deemed as important. See figure 1.2 above for more information.

Norsworthy (2014) elaborates what Niles and Nelson (1999) argued, “station area development is more a product of market interest in specific locations than a response to transit”. TOD stations help with the creation of nodes, which investors may respond to these nodes. Niles and Nelson (1999) go on to state the success of TOD's is dependent of various factors including store owners, developers, consumers, density and the all-important accessibility provided by the station. The provision of population density and the ease of accessibility to the station tend to make the area more favourable, equating to economic growth.

2.8 The importance of spatial development in relation to Transit Oriented Development and the relevance to stations.

There is no doubt that transit-oriented developments tend to create development wherever stations are located (Reconnecting America, 2008). From high-density residential areas to low-density residential areas. From economically active areas, to non-economically active areas as a whole. The case of private transportation is due to the movability and flexibility that one gets from using modes of transportation. The freedom to move about anywhere and everyone has given private car ownership an excellent excuse to demand increases in road widths, and construction of new roads to link economic areas to existing ones.

South Africa's economic hubs and centres are all dispersed, and the majority of the areas are accessible through private transportation. The displacement of the centres has created a unique spatial character in South Africa. TOD, and in relation to the South African Gautrain project, tries to change the ‘free pattern of development within its proximity, by defining a development edge (Gautrain Management Agency, ND). The Gautrain aims to create this edge by linking the nodes with each other, such as “beads on a string”.

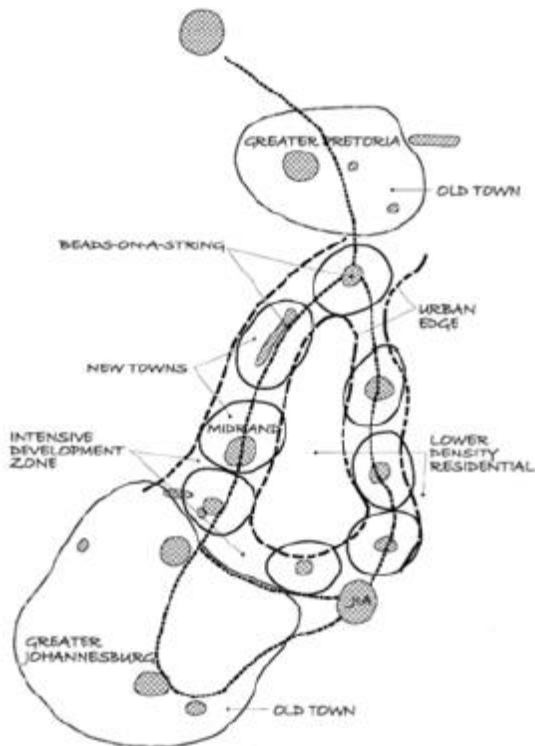


Figure 2.3: Gautrain linkage that represents beads on a string. Source: Gautrain Management Agency (ND).

Figure 2.3 depicts the relationship between the Gautrain and the link it has to the established economic nodes. As one can see, the linkage to the nodes creates a bead like an effect, not only reducing urban sprawl, but also creating the so-called edge. According to the Gautrain Spatial Development Report (Gautrain Management Agency, ND), the established nodes should help create a development that will include highly

accessible nodes, with mobility and visibility that will help influence the spatial form of the development. Within the bead on strings, certain guidelines are needed that will create new towns (Gautrain Management Agency, ND):

- Economic and employment opportunities must exist and should be provided
- General amenities should be located within or near to the node to improve access and reduce private transport
- The areas should cater for a mix of income groups (not only low or high income residents)
- The target for residential densification should be set at a gross residential density of at least 20 dwellings per hectare within the new town areas over the next 10 years
- The residential areas should consist of three to four storey buildings (not townhouses or single residential units). This is minimum requirements and can be increased to achieve more efficient urban space.
- An inward focus for the rail should be encouraged.

2.9 TOD's and its communication in the revitalisation of American Cities: the case study of The City of Evanston's.

The following section is based on a study conducted on the Light Rail Transit System at the City of Evanston's and Hudson in the United States. The case study aims to unpack the impact that the rail transit system has had on the two cities, and looks at the benefits in which the areas have experienced as a result of the stations being located within the specified cities. It should be clarified that both of the cases below were once thriving cities, but suffered heavily during the great 1950 exodus (deindustrialisation, companies moved to cities that are more efficient. E.g. Sandton), that affected thousands of cities in America.

2.9.1 The City of Evanston's

Evanston's is an American compact urban suburbia, located in close proximity to the city of Chicago. Over the past few decades, from the early 1980's to present, the city of Evanston's has noticed a sharp increase in property prices, residential, tax and even ridership. A little background into the area shows that during 1908, a rapid transit service had linked Chicago to Evanston, which had helped provide services amongst the two cities (Gorewitz and Ohland, 2006). Most of the commuters between this times, worked at both Chicago and Evanston. Like any other city in America, Evanston saw a decline in residential populations, and businesses moving to the outskirts, onto cheaper greenfield land. The great exodus of 1952 was due to the results of the World War II, in which two shifts had taken place in the United States. Firstly, s shift associated with individuals and businesses moving away from older cities, towards newer urban centers. Secondly, the movement from cities to suburbs (Columbus Neighbourhoods, 2016). This had resulted in a boom in economic activities within the suburbs, while retail and industrial companies suffered within the city.

The city, through its management decided to revitalise the city, by taking advantage of the main elements that made up the city and its transit system it already had. In 1986, a comprehensive plan was drawn which had called for a 24/7 downtown with high-density residential development along the main transit corridor. Evanston was considered as a compact city, in which the city could not expand onto the periphery, but could only expand upwards. In order for the city to revitalise itself, the public had a helping hand in rejuvenating the run down city (Gorewitz and Ohland, 2006). Transit systems investments were introduced, which included the

construction of a new transit station that would accommodate train, buses, and other forms of transportation that included bicycles. The city also invested in new public libraries, research, Technology Park, and street lighting upgrade. On top of this, an economic development toolkit was implemented, which had introduced new incentives ranging from Sales Tax Agreements, Tax Credit Agreements, Industrial Revenue Bond Agreements, Property Tax Zone and shared investments in parking at some locations (Gorewitz and Ohland, 2006).

Since the comprehensive plan was introduced in the 1970's, and the massive investment put forward by the government, the city has experienced an increase in higher density residential units, an increase in local and international businesses activities. Increases in property prices, transit ridership, developments as well as affordable housing were some of the benefits that the city has had experienced. The lessons learnt with transit-oriented development and Evanston was that transit development could lead to (Gorewitz and Ohland, 2006):

- Catalyse sustainable, yet substantial growth.
- Commitment to comprehensive planning, research, financing, and monitoring helps to lead to sound and reliable development.
- Active citizens groups are considered as valuable players in the planning process
- Regional financiers may have more say than the city or the developers.

2.9.2 Hudson Bergen Light Rail Transit System.

Like in the case of Evanston, Hudson Bergen prior to 1970's was once an economic powerhouse of the area, being home to large corporate companies such as Colgate-Palmolive Company. In 1908 and 1909, the Pennsylvania Railroad tunnel was built under the Hudson. The city saw a decrease in residential population, businesses relocating to the surrounding areas, and an increase in residential taxes.

During 1980's, the city of New Jersey introduced a new plan to reinvent and revitalise the area. The New Jersey officials set up the Jersey City Economic Development Corporation that had helped with urban enterprise zones and the redevelopment zones were created to offer businesses a variety of tax incentives and subsidies (Goerwitz and Ohland, 2006). Prior to the economic expansion in 1980s, the city's rail and bus systems were deteriorating away. A new NJ Transit was

created as an initiative to revive the public transport system (Goerwitz and Ohland, 2006).

Public-private partnerships and new urban policies have helped New Jersey to emerge as the gateway for commercial, cultural, and financial center of New York. Residential buildings have also increased over the years, with much of them located within walking proximity to the stations. With the above case of Evanston, some benefits are highlighted which included the following (Gowerwitz and Ohland, 2006):

- An increase in residential and business activity
- Transit ridership
- Ethical demographics
- Provision of affordable housing

On top of the benefits that were noticed with the Hudson Transit system, some lessons were learnt about the project:

- Rail investment can be used as a catalyst for development
- Transit mode connectivity is vitally important to success
- Public involvement is critical
- TOD projects take time to materialise
- Art and Landscaping is important
- Density helps to support transit use

2.10 Conceptual framework

Based on the literature review above, what was persistent with the sectors was that, transit oriented developments rely on economic development and economic activities to help make a transit oriented development work and function. Transit Oriented Development, leads to economic development for a specific location. In this case, the Gautrain stations should provide economic development for the areas where the station is located. In order for economic development to flourish, certain elements need to be present, which is also linked to Transit Oriented Development. These elements include density, which adds to tax revenue for the area. Mixed-use development also adds to economic development, which is also linked with density of individuals. A third element includes investors, both public and private add to economic development, and to mixed-use development. Lastly, property values

tend to add to the economic value of the area, as investors enter an area, property values tend to increase.

2.11 Conclusion

The nature of TOD is broad and one has to be careful when dealing with the topic at hand. The above literature review has seen the researcher aim to break down the main concepts that will help explain the notion of transit oriented development. The concepts of smart growth and compact city are interchangeably linked with TOD's, with both of the concepts having similar aspects associated with TOD's. Increases in density, both from building and residents, the introduction of mix land use development, reduction of cars, and the all-important increase in transit oriented ridership help to paint a clear picture of what the concept of TOD's has and is aiming to achieve in a broader sense.

The literature has also helped us understand how TOD's can impact on the economy and the area in which stations are located, not only in one way, but may also be measured differently. Both methods of measuring economic impacts may be used interchangeably, or independently. The researcher found it interesting and necessary to show both methods, one more related to TOD's, and the latter being more related to economic impact analysis used by economist. The literature review should help serve as a guide, and should give both the reader and researcher the type of viewpoint one should consider when conducting and analysing research linked to TOD's.

As discussed, transit oriented development originated within the context of the United States, and as such, some very important settings should be taken into consideration. First is the whole issue of north vs south. Western experiences might translate in the same manner as they do within the southern context of South Africa. The main objectives and benefits as listed about TOD's might not necessary replicate or offer the same benefit as those cities that have adopted and seen positive results directly related to transit oriented development.

Methods of research: the adaptation of tools and skills necessary for conducting research

3 Methods of research: the adaptation of tools and skills necessary for conducting research.

The following chapter outlines research methods used to conduct and gather relevant data that will be presented in the next chapter of this document. Taking into consideration the research topic, and the amount of literature review gathered and interpreted in chapter 2, below I will outline the ways the data will be gathered, and how it will be used and interpreted.

According to chapter 2 of the literature review, the common concepts picked up were that TOD's have positive impacts on certain aspects within the proximity of the station. Amongst these elements was the mentioning of an increase of property prices within a 500m-1km radius from the station. As such, this chapter will help with understanding the different types of methods needed to measure the impacts of TOD's. Rhodesfield area is largely a low-density area, located in close proximity to the international airport, but also the Gautrain station. Its location makes it a great location for economic opportunities in the area. Not only for the residents of the area but as well as businesses and investments. The station might be constructed in the community; the question that needs answering is how effective has it been on the community. Analysis, observations, and adopting a number of different methods will be considered in order to help with the formulation and understanding of the information, which will be gathered during numerous site visits.

Research Question: **what is the economic impact of the Gautrain station on the Rhodesfield area?**

Sub-questions:

- What has been the reaction of the investor on developing the Rhodesfield area?
- What kind of economic activities is taking shape in the area?
- What changes is Rhodesfield experiencing?
- What is the municipality doing to try to attract economic development in the area?
- What safety and security features are implemented to help improve the safety of commuters, but also for businesses in the area?
- What is the stations impact on the property prices?

The above questions are all based on the extensive research based on TOD's as outlined in chapter 2 of the literature review. Drawing from the above literature, the questions have been centred on the main aspects of what makes TOD's function within a given specific area. This includes mixed-use development, density and the increase in property values. The questions are also structured according to other factors, which include developers' response to the stations presence in the area.

The Rhodesfield case study, evaluating Qualitative method.

In order to document the economic impacts of the area, the researcher aims to visit the area, which I would take part in a field survey experimentation and data gathering work. Information will be gathered relating to the impacts of the Gautrain at the area. Certain information will include data that will be gathered that will show information based on pre operational and post operational influences. My research will follow a more qualitative based research method. Measuring qualitative data is regarded as time consuming according to Kawulich (2005), but is noted as a relatively good method to use as it takes into consideration the understanding of the research subject or object in which the research is exposed to. Kawulich (2005) also explores the benefit of using qualitative as a way of understanding of the natural setting, through observation, which aids in a more accurate and quality driven collective data and representation.

Literature review covered in chapter 2 looked at certain elements of TOD's and their influence on the surrounding area in which stations are located. The research will thus consider the level of information gathered in chapter 2, to help formulate a strategic way of helping gather relevant information regarding the research at hand. It aims to use information theorists gathered about TOD's in their countries, and take into consideration the level of practicality within the Rhodesfield context. For the purpose of this research, observations into the area will need to be conducted. A special site visit will be necessary to see the current economic activities that take place within the area. The research will be in a form of a case study; this is because the Gautrain is unique in the context of Rhodesfield.

3.1 Research Methods

Qualitative method is an effective method to adapt when considering research based on case studies, such as Rhodesfield. A case study according to Yin (2013) is "very essential as it allows the researcher to preserve the holistic characteristics of

real-life events such as changing neighbourhoods". The research is based on gathering information that will be relevant to the research. In order to achieve this goal, a qualitative method of research will be used, which is about coming up with strategies of inquiry and methods of data collection, which are used to analyse and interpret the data gathered (Creswall, 2009).

3.1.1 Field surveying

Field surveying will require the researcher to go on the site, observe, and understand the current situation of the area on the ground. In a more general sense, field surveying will require writing down any observations, and accompanied by a series of photographs to be documented on the final research report. During the course of the field surveying, encounters with normal bystanders and other people will be interviewed to help get their understanding of the impacts of the stations. Questions and interviews will be based on relevant information that will help yield the desired information pertaining to the research. Windscreen surveying means just observing the surroundings and taking down necessary notes of the area.

3.1.2 Grey literature

This part will look at online desktop information, journals, and publications about the area. Currently, the municipality of Ekurhuleni is in the process of revising their RSDP to accommodate the change and future projects of the area. Other documents that should shed some light on what has and is been planned in the area will need to be considered when analysing the results which will be gathered. Grey literature tends to give accurate information based on research already conducted on the same topic, but at a different level or area. Grey literature also helps with the understanding of the research, but also adding to literature knowledge. Outten (2008) clarifies and states the use of grey literature as a way to "serve scholars and lay readers alike with research summaries, facts, statistics, and other data that offer a more comprehensive view of the topic of interest".

A number of documentations will need to be gathered. The documentations will be obtained from the local Ekurhuleni Metropolitan Municipality that include a land-use applications and development applications for the area. Other necessary information to be gathered will include property valuations for a

range of different areas, and other important information from interviews with municipal town planners. The zoning application map will be used to analyse where most of the development is happening in relation to the station and Rhodesfield. Property valuation of Rhodesfield, ranging from 2009-2013 will be gathered and analysed. Property valuation information will also be gathered from municipal officials. It should be noted that the information that might be gathered needs to correlate with the economic aspects of the area, and that some information might be too sensitive to get or produce in the final report.

3.1.3 Maps

In this section, I will gather aerial imagery of the area ranging from the year 2002-2015. This is in response to the fact that Google Earth imagery for Rhodesfield dates back from 2002. The utilisation of Google Earth will be used to gather the regarded aerial imagery of the area and document any changes. The aerial imagery should also give a clear image of how the area has changed over the period. The aerial imagery will be complimented with land use maps of the area. This will also help us understand at which areas of Rhodesfield the development is being influenced by the presence of the station. A land use-zoning map will also be gathered for the purpose of the report.

3.1.4 Interviews

Certain interviews will be conducted and information gathered ranging from town planners, and local business owners. The interviews are situated in such a way that information is gathered regarding the impacts of the station at Rhodesfield, but at the same time, information regarding the main purpose of the investment. An interview with Rhodesfield Technical was intended to be held. However, the school had not replied to the numerous emails and phone calls.

3.2 Research participants and respondents

Varied participants and respondents have been identified as the preferred group of individuals that the research will seek answers from. The information that will be gathered from the number of interviews will give assistance in helping understanding what is happening, in order to help interpret and answer the research questions. The participants identified represent a wide range of individuals, ranging from the municipal workers, to normal bystanders. A non-bias result aims to add to the

legitimate of the research. Below are some of the groups of individuals that will be needed:

- Ekurhuleni Municipal Officials
 - Town planners
 - Property valuers
- Property developers (FLT Global Holdings/ Rescon)
- Local Businesses
- Rhodesfield Technical High School

3.3 Ethical obligations

When one conducts research of any nature, a non-biased view needs to be followed by the researcher, in order to make the research as authentic as possible. As the researcher, I need to take into consideration all aspects of the findings, both the interviews, and fieldwork, and apply it in a readable and well-documented research. Interviewees, documentations and other necessary pieces of information might come with some consequences; as such, I am obliged to think about morals, and ethical knowledge and judgement in which the gathered information may be represented in a rightful and non-bias or discriminating manner.

The researcher will be exposed to many facets of observation and information gathering, ranging from different viewpoints that might include negative and positive elements. Ethical clearance has been obtained from the University of the Witwatersrand. The obtained information clearly outlines that, as the researcher, I am obliged to explain the purpose of the research to the selected interviewee groups, the nature of research needed, and the interpretation of the information in which individuals names will be omitted from the research, unless otherwise agreed on by the interviewee.

Any sensitive information uncovered during the gathering process will not be published without the written and signed permission from affected party. Interviewee names and all other relative parties or organisation will be kept confidential and anonymous. Photos will be taken of the site and surrounding areas, individuals faces caught on camera will be blurred out, and will be destroyed at the end of the final research submission.

3.4 Challenges encountered during the research phase

The duration of the research report, came with it some challenges both from the researcher himself, and from the amount of information that was needed to be gathered. The conceptual research started earlier on in 2016, and from there on, the researcher had to make sure that certain information was gathered, interviews were conducted, and interviewees were contacted regarding the topic at hand. During this course, the researcher encountered a number of challenges.

Firstly, the uncertainties with the literature review and research. During this phase, a number of documents were collected, in which the literature review chapter had to be based on. I found it hard to convey the message that I wanted to at the beginning, however, the more I read on, the literature and research started to make more sense. The literature review helped to shape my understanding, the main purpose that needed to be carried out when I would be collecting data for chapter 4.

Secondly, slow paced information gathering. The rate in which the information was gathered was considered slow and tedious. Information was gathered in small increments, due to certain factors like, the long delay with information gathering, interviewees not responding to requests as soon as possible, and some not willing to participate.

Thirdly, proposed interviewees not willing to participate. One of the main elements that would have been beneficial to the research report was going to be that of Rhodesfield Technical High School. The purpose was to interview the principle of the school, to get the knowledge of the situation in which the school has encountered since the Rhodesfield station was operational in the area. The interview would have helped unpack certain elements, such as the effect the station has had on the school, level of crime, and of any other future prospects that the school might be going through. I considered interviewing the principle, believing that he will have the insights of the ins and outs of the area. The School Governing Boards (SGB's) of the school was also considered, however, they involvement might not be as observant as the principle.

3.5 Ekurhuleni Metropolitan policies – and Rhodesfield.

The following section will look at the documents that have been prepared by Ekurhuleni Municipality. The section aims to look at certain municipal

documentations that look at the development of Rhodesfield, and how the municipality intends to help drive economic growth at Rhodesfield.

According to the Ekurhuleni Development Guide (EDG) of 2010 (2010), the municipality under section 5: *Core Economic Development Triangle*, the propose of the section is to identify the main economic development nodes in the municipality. Four areas include Rhodesfield's (study site, Pomona Agricultural Holdings, areas of Bardene/Bartlett, and finally the mining belt stretching from the industrial areas of Boksburg and Germiston CBD. The development guide of 2010 envisioned Rhodesfield as an area that will cater to office park development, which would add on becoming a major structure, as it will aims to be part of the development planned for ORTIA (EMM, 2010).

Shifting from the Ekurhuleni Development Guide of 2010, to the recently released Ekurhuleni Aerotropolis document, the same type of elements described by the EDG 2010 will happen with the Aerotropolis development. The 'Creative Hub at Rhodesfield' is envisioned to turn Rhodesfield into an area that will help bring people together. Through the use and establishment of certain functions that will make the area unique, which include components such as world class media, and high tech office facilities, hotels, schools, and world-class health facilities to mention a few. The 'Creative Hub' will not only be beneficial in the end, but also will incorporate the usage of the station, increase pedestrian movement in and around the station, and introduce mix use development, which are some of the main principles that transit-oriented development aims at achieving (Aurecon *et al*, ND).

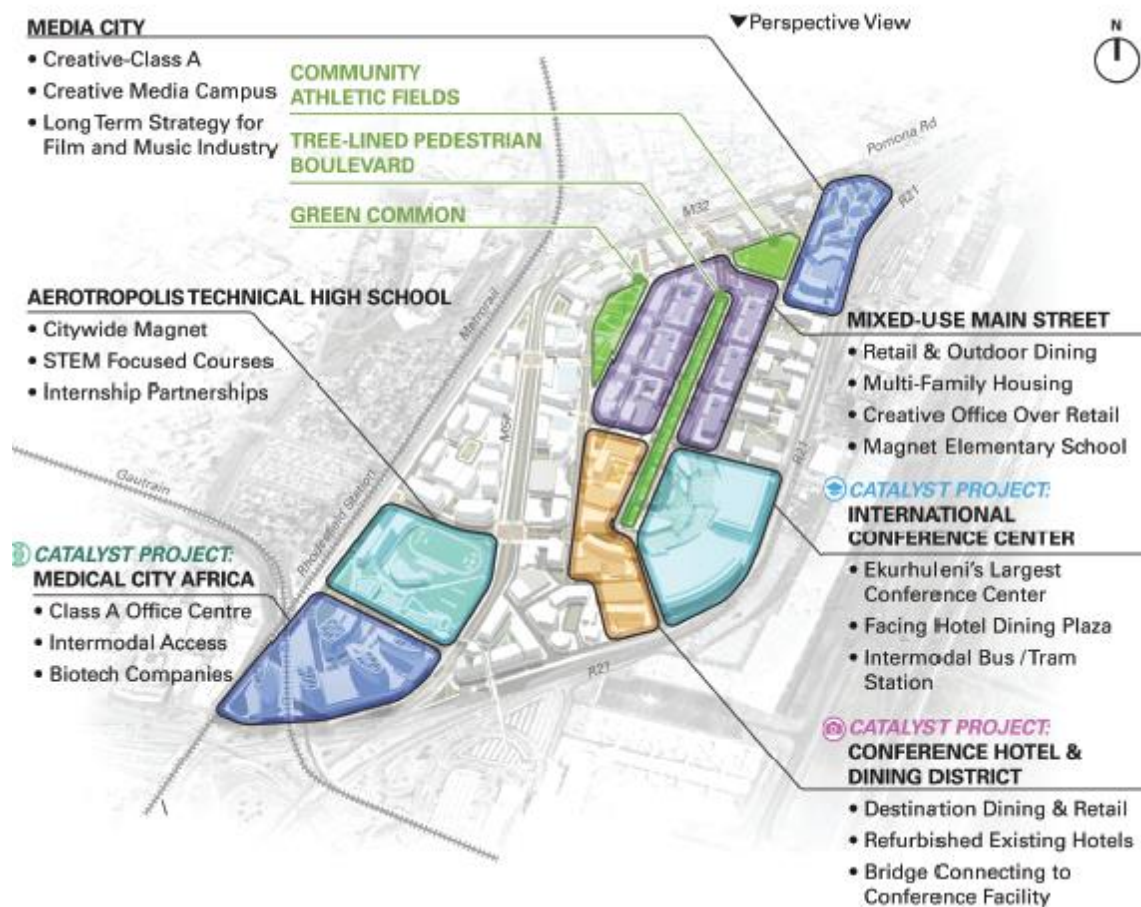


Figure 3.1: the envisioned redevelopment of Rhodesfield that will meet the requirements of the Ekurhuleni Aerotropolis Masterplan. Source: Aurecon et al, ND.

Figure 3.1 is a plan adopted from the newly completed Ekurhuleni Aerotropolis 25 year Master Plan, in which it helps to illustrate the type of development the municipality wants happening at Rhodesfield. It takes into consideration the existing Rhodesfield station, and helps with incorporating it with mixed-use development, and a mixture of densification.

Currently, the municipality is engaged in updating Rhodesfield RSDF, which should take into account the already existing Rhodesfield Gautrain station and metro station. The RSDF should layout the objectives of the municipality regarding the type of development that the city would like to see happening within Rhodesfield.

Ekurhuleni's MSDF of 2015 has outlined the redevelopment of Rhodesfield due to the location of the area to ORTIA but most importantly, to the Gautrain Stations. The MSDF outlines that the redevelopment of Rhodesfield will promote mixed-use development, high density residential development in which the municipality

"hopes to provide professionals and companies with a business address in the metro area" (EMM, 2015).

3.6 2010 Soccer World Cup – the known invariable.

The Soccer World Cup is an internationally beloved sporting event that takes place every 4 years. In 2010, South Africa was given the opportunity to host this magnificent event. Hosting the event had contributed to an estimated R93 billion injection into the local economy, ranging in the improvement of roads, public transport, and building of stadiums, hotels and accommodations (EngineeringNews, 2010). Investors at Rhodesfield took advantage of this, and investors built hotels, and accommodation for visitors who were here for the World Cup. Hotel companies such as Premier and Protea developed hotels at Rhodesfield, and a number of guesthouses were established, or refurbished. It is important to know what kind of development and impact the 2010 Soccer World Cup has helped bring into Rhodesfield.

3.7 Concluding remarks

The chapter helped to outline the necessary research methods that are considered necessary regarding the topic at hand. The chapter also explores how the researcher aims to go about gathering information, from the identified individuals, down to the municipal archives. The chapter helps to give guidance for the researcher in conducting and analyzing information in which will be gathered for the next chapter

**The real impact of the
station: walk through
Rhodesfield and the
analyses of the station on
the area.**

4 The impact of the station: walk through Rhodesfield and the analyses of the station on the area.

The following chapter is analysing the information gathered by the researcher on the economic impacts of the Rhodesfield station. The analysis takes into consideration many factors, one being the site and field surveying of Rhodesfield, interviews with business owners and town planners, and information gathering from the local municipal offices. The chapter aims to uncover the impact the station has had on Rhodesfield. Chapter 4 will be divided into three main sections, first interpretation of interviews and documentations. Second, analysing municipal achieves and documentations gathered during the visit to the local municipal offices. Thirdly, is a look at potential investors who have taken interest on the area of Rhodesfield and Rhodesfield station.

Personal observation

- Researchers' perspective of the station: a walk through Rhodesfield.

First person perspectives were needed regarding the nature of the research. I (the researcher) went to the study site, over a period of two months. A walk throughout Rhodesfield was seen as a valuable experience. From south to north, west to east, street-by-street, the full Rhodesfield community was covered. A number of photographs were taken, notes documenting the walking experience were written down.

Interviews

- Municipal town planners

Municipal town planners were approached for information relating to Rhodesfield and the station in particular. During the interview process, two town planners were approached. The two planners gave the research ample information on Rhodesfield and the reason justification behind the station being located at Rhodesfield.

- Local businesses

Local businesses were approached and interview sessions were set up and held with managers and owners of set businesses. Businesses in which interviews were conducted included hotel chains, Protea and Premier Hotel, gentlemen's club,

property companies and FLT global Holdings were formed part of the interview process.

- School (Rhodesfield Technical High School)

I requested an interview with the Rhodesfield Technical High School principle. A number of emails and phone calls to the school were sent, with no prevail. A full month was spent trying to contact and request an interview with the principle with no prevail to my request. The interview with the principle would have given the research an in-depth understanding of the type of impacts the school has experienced during the construction and post operational phase of the Gautrain station.

- Metered taxi driver

During the site visit, I came across a meter taxi driver. An interview session was held between me and the driver, in which various information was shared by the driver.

Other sources of information

- Maps

Various maps were gathered for Rhodesfield. Maps consisted of Google Earth imagery, which were collected to illustrate the physical changing landscape of Rhodesfield over a period. The maps collected date back from 2002 to 2013. Municipal maps were also requested; maps on the current zoning of Rhodesfield, and land use application maps were obtained.

- Property Valuations

Property valuations for Rhodesfield were also obtained for the purpose of the research. Valuations were based on two sets of years, 2009, and 2013. According to the municipality, valuations are conducted every 4-5 years. By the time you read this research, the municipality might be still in the process of gathering 2016 valuations, which I could not get as they were premature, and would be available in 2017.

4.1 Personal observation – a walk through Rhodesfield.

It was back in 2015, in my third year of study, we were told by our lecturers that we had to come up with topics of interest that one wanted to explore in 2016. I came up with a number of topics, but one of the main issues for me was that I wanted to

do something that was located in Ekurhuleni. As such, this year (2016) I decided to research the Gautrain station located at Rhodesfield. For starters, the Gautrain is a relatively new project, with a number of researches already conducted about its effectiveness around communities in which the stations are located. Secondly, I wanted to familiarise myself with areas that I have not been to previously.

18th July 2016: first site visit

On the 18th of July 2016, I decided to go to my study site. Since I was documenting the impacts of the Gautrain station in Rhodesfield. At around 10:40am I decided to take the Gautrain straight to Rhodesfield, from Park station. Arriving at Rhodesfield, I suddenly noticed that not a lot of people actually exited the train. Most of the commuters were going straight to the airport. I then decided to take out my map, and walk around the many streets of Rhodesfield. As soon as one exits the premises of the station parking, one comes across a number of parked cars outside the station (on Ventura Street), and not inside the designated parking spots. Traveling east from the station, on the right hand side was Rhodesfield Technical High School, and on the right hand side, a large piece of vacant lots, fenced off to the public. I noticed there was some house rubble left over from demolition.



Figure 4.1: cars seen parked on Ventura Street next to the station. The Reason behind this due to the lack of parking available inside, and the refusal to pay the exorbitant parking fees.

Source: Ndlovu (2016)

As a commuter, travelling from Sandton to Rhodesfield, or Airport to Rhodesfield, one will come across a number of cars parked on the side of the street. Figure 4.1 shows us that there a number of cars that prefer to park outside the designated station parking area. During the visit, I engaged with some of the car owners and the Rhodesfield Station security guards. According to them, the reason behind the customers parking on the street was purely due to financial reasoning. It seems like

the customers do not want to pay for the parking offered by Gautrain, and as such, result to parking on the street. The security guards at the station have explained that there is a person who guards the cars parked outside. However, on two separate occasions to Rhodesfield (18 July 2016 and 16 August 2016) there was no sign of the 'so-called' guard.

As I continued on my walk, observing and noting down the features of Rhodesfield, I found myself along Pretoria Road, and as I looked at both directions of the road, I noticed a number of car dealerships stretched along the main Pretoria Road. Used car dealerships, and new car dealerships seemed to be the image that Rhodesfield was painting at that point. Moving away from Pretoria Road, and deeper into Rhodesfield, other types of businesses were visible. Logistics businesses, airport related businesses such as the headquarters of Comair were also part of the area. Most of the businesses were located on the southern edge of Rhodesfield, just a mere 200m-400m away from the station.

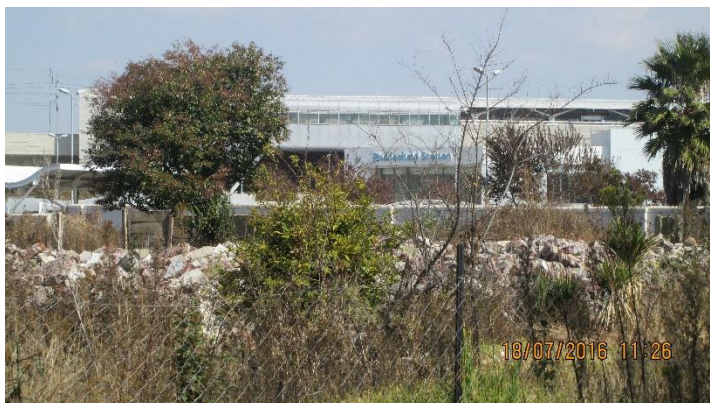


Figure 4.2: a vacant plot situated right next door to the station. Evident of house rubbles left behind after demolition.

Source: Ndlovu (2016)



Figure 4.3: ford dealership (one of many car dealers in Rhodesfield) along Pretoria Road

Source: Ndlovu (2016)

Continuing with the walk, I came across two major hotel groups, Protea Hotel and Premier Hotel. The latter being so visible that one could see its tall façade building from the station, and other parts of Rhodesfield. Premier Hotel acted as a landmark for the community. Not only was it the tallest building, with an approximately nine floors, it directly faced onto OR Tambo International Airport. Heading further north, I noticed less and less changes into the area. Street-by-street, it seemed that most of the developments were all located on the southern edge of Rhodesfield, until I came across another business venture. 'The Millionaires Club', described as a gentlemen's club was located further north of Rhodesfield, which will be discussed in-depth later in the chapter.

My day was about to end, however before that was about to happen, I noticed that Rhodesfield also had a specific feature about it. I noticed a vast number of plots which were empty, either had no houses built on them, some had evidence of left over rubble. This can be described as land speculation when a buyer purchases land on the hopes that prices will increase in the near future (wiseGEEK, 2016).

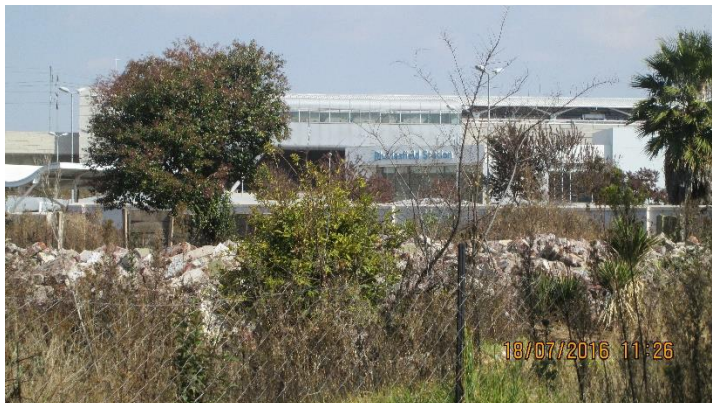


Figure 4.4: house rubble left over from demolition located on Wellington Street.

Source: Ndlovu (2016)



Figure 4.5: vacant plot with 'For Sale' sign located on Whirlwind Street.

Source: Ndlovu (2016)



Figure 4.6: vacant land, with a no-trespassers sign on Kingfisher Street.

Source: Ndlovu (2016)



Figure 4.7: another vacant land, with 'For Sale' sign on Kingfisher Street.

Source: Ndlovu (2016)

16th August 2016: second site visit

The second site visit was scheduled on the 16th of August, almost a month after I had visited the site. It included going to the Technical High School to ask for interviews and to interview other businesses owners. As I re-walked around Rhodesfield, I noticed a new development been promoted in the area. An advertisement trailer, advertising newly refurbished apartments was on display. During the first visit on the 18th of July, there was no sign of any renovations I came across. Another visible characteristic that was visible at the area was the new wall being built along the Metrorail line. The wall once completed, would stretch from the southern edge of Rhodesfield, where the Gautrain station starts, up further north to where Rhodesfield, and Kempton Park CBD intersect. The wall aims to block any visible view from the metro trains onto the properties at Rhodesfield, but also aims to help reduce noise and crime within the area, and forms part of Prasa's strategic investments.

4.2 Interviews sessions

Interviews were conducted by the researcher, aiming to break down and understand certain aspects of Rhodesfield and the establishment of the Gautrain Station on the area, through a number of various interviewee participants. This included viewpoints from town planners, businesses, and a meter taxi driver.

4.2.1 Municipal Town Planners v Provincial Government – there was no other place to place the station.

As disclosed earlier on in the report, the researcher learnt that the main reason behind the construction of the Rhodesfield Station was based on political intentions, enforced by the Municipality of Ekurhuleni. It was during 2005/6 when the Gauteng provincial government formed the Gautrain Planning Commission, to help formulate the route on which the Gautrain would travel. According to one of the senior municipal town planners, the planning process behind the constructing of the station was intended to link Sandton with the ORTIA. With no other station planned over the west-east line. It was during the planning phase in which the municipality of Ekurhuleni consulted with the Provincial planning team about building another station at Ekurhuleni.

“On the line”... words used by one of Ekurhuleni's senior Town Planner, which states that the only place a station was going to be constructed at Ekurhuleni (except ORTIA station) would have to be along the already built Gautrain train track. Areas of Isando, Kempton Park, or even Boksburg were not considered as likely areas where another station could be built at, however, Rhodesfield was chosen due to the already existing line running on the southern border of Rhodesfield. Due to the already aforementioned, Ekurhuleni thus had to go along with the plan, and had designated Rhodesfield as a strategic and logical plan.

The municipality has also invested millions of rands in a brand new substation at the southern edge of Rhodesfield, which aims to add energy capacity for the Gautrain station and Rhodesfield.

4.2.2 Local businesses

We need to ask ourselves if the introduction of the station has had any direct or indirect economic influences to the area. In addition to this, there are certain businesses that have used the location of the station to their full advantage. The Premier Hotel opened its doors to the public in June 2010. The hotel looked at the

potential that the Soccer World Cup would bring to South Africa, and its close proximity to the location to the airport meant that Rhodesfield was a wonderful area to build and establish themselves. Over the years, the hotel has gained some recognition, from internet advancement, which made it more attractable to clients, by describing the hotel according to its surroundings.

"Time-conscious local and international business travellers will enjoy the convenient location and intuitive service of the Protea Hotel O.R. Tambo Airport. Only 35 minutes from Sandton and Pretoria, our hotel's location near O.R. Tambo International Airport is also just 800m from the Rhodesfield Gautrain Station"

<http://www.marriott.com/hotels/travel/jnbor-protea-hotel-or-tambo-airport/>

accessed 24 August 2016

*"Situated in Gladiator Street in Rhodesfield, Premier Hotel O R Tambo is a mere 2.7km from the **O R Tambo International Airport** and 500 metres from the **Rhodesfield Gautrain station** – both easily accessed through a **free shuttle service** to and from the hotel. The Free shuttle service runs from 05h30 – 23h45 every 30 minutes on the quarter hour mark"*

<https://www.premierhotels.co.za/hotels/gauteng/johannesburg/or-tambo-airport/>

accessed 24 August 2016

Premier Hotel is a chain of hotels owned by the Premier Hotel and Resort Group. The company consist of many hotel portfolios around South Africa, including a hotel at Rhodesfield. During an interview with one of the managers at Premier Hotel, he stated that over time, shuttle services have been expanded for passengers using the facilities of the station. The manager also added that, due to the location of the station to the hotel, they have actually utilised the station by notifying and promoting the use of the station to the customers to certain shopping destinations, most notably Sandton.



Figure 4.8: Premier Hotel – high density building catering to hospitality and leisure.
Source: Ndlovu (2016)

The conversation has helped to shade some light in the study. For starters, even though the hotel was established in the area as a means to accommodate visitors for the 2010 Soccer World Cup, it has extended its services, by offering shuttle services to the station. Hotel customers then need not pay for transportation to the station, knowing that the hotel offers such, which means customers in the end save on costs.

In the area like Rhodesfield Gautrian Station, it would not come as a surprise that business opportunities would arise from meter taxi drivers from the customer base that passes to and from the station, but that was not the case. I only noticed one-meter taxi parked on the outside, waiting patiently for customers. During an interview with the meter taxi driver, he stated that he has worked at Rhodesfield station since its operation. However, he also stated that business has not been fruitful, and that 'work is slow, as many of the customers do not use the meter taxis'.

Most of the customers, who get off the station, would make use of the bus service provided for them, which travels along the major hotel chains indicated above, the Airport, and even straight north to Kempton Park CBD. Because of this bus service, we can conclude that it has limited the number of customers from using meter taxis', which creates a negative impact on the taxi owner, as there is less income for them to live on.

“The Millionaires Club”, a gentlemen’s club dealing in adult entertainment, gambling services and restaurants services, is located on the eastern side of Rhodesfield is an establishment that opened its doors in 2014. During an interview session with one of the owners, it was stated that the club has not relation to the Airport or Rhodesfield station. However, the main purpose of establishing at Rhodesfield was for the business to be located closer to their cliental bases, which were mainly customers from Emperors Palace. Indirectly, the Rhodesfield station does serve some purpose for the establishment, which includes bringing in customers from other areas, like Sandton via the Gautrain station. The establishment is also located about 1.5 km away from the station, compared to the other businesses, which are located within 500m away from the station radius.



Figure 4.9: The Millionaires Club gentlemen’s club Entrance on Fulmar Road. Source: Ndlovu (2016).

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R3,900/month 0 Bed 1 Bath 0 Garage 1 Parking Bay [Contact Portfolio Manager](#)

Welcome to Airfield Towers and Rhodes Court Complex, situated in Rhodesfield, Kempton Park which is close to the Gautrain station, OR Tambo Airport and the R21 highway. Offering newly renovated bachelor, one-bedroom, two-bedroom and three-bedroom apartments. An open plan lounge and dining room with separate modern kitchens which have built-in cupboards and a double sink. All units are tiled throughout.

IF YOU APPLY BEFORE OR ON THE 10TH OF SEPTEMBER YOU QUALIFY FOR R1000 OFF YOUR 1ST MONTH'S RENT

Each unit offers:

- Open plan living area
- Kitchens with built-in cupboards and a double sink
- Built-in cupboards in bedroom/s
- 1 Bathroom
- 1 secure controlled uncovered parking
- 24-Hour security
- Swimming pool in complex
- Patio / balcony

Nearby amenities include:

- 1.1 km from Rhodesfield High School
- 800m from U-Fly Training Academy
- 2.4 km from Spartan High School
- 2.6 km from Festival Mall
- Premier Hotel OR Tambo
- Artery Medical Centre

Financial information:

- Rent per month: R3,900.00 - R6,000.00
- Rent deposit: 1 x 3 Months Deposit
- Admin cost: R700
- Utilities deposit: R750
- Reserve deposit: R250 each

Requirements in order to let the property are as follows:

- 3 Months bank statements
- Latest pay slip
- 2 Contactable references
- Copy of ID / Valid passport
- Proof of residence
- A completed application form once a full enquiry has been made.
- Minimum lease of 12 months

features

1 Secured Parking Bay	Built in cupboards
Seasonal Swimming Pool	Electric Fence
Garden	Kitchens with Built in Cupboards
Open Plan Living Area	

Figure 4.10: newly refurbished apartments at Rhodesfield. Source: Ndlovu, 2016 adopted from Prime Letting website

<http://www.primeletting.co.za/property/bachelor-and-1-bedroom-units-available-at-airfield-towers/>

Prime Letting, a real estate company that has recently invested at Rhodesfield, bought old run down flats and have converted and refurbished the units. The company considered this development as an investment, and as such decided to buy and revitalise the newly acquired apartments taking into consideration the many amenities that Rhodesfield

and surrounding areas have to offer. This type of investment in the area shows the level of interest that developers and investors see in Rhodesfield. This also adds to the fact that medium density apartments are necessary, and correlate with the principles of TOD's. During an interview session sent out via email, it was put forward that the company was trying to expand and build on the large portfolio of property that they own. Rhodesfield seemed as a good investment, stating, "Its close proximity to the airport, the Gautrain station and walking distance to Kempton Park CBD and Festival Mall made this a good area to investment and expend our operations".

FLT Global Company and Rescon Projects

Another major investor that Rhodesfield has attracted is FLT Global Company, a Chinese owned company based in Johannesburg. Its main purpose is a holding company, with a number of varies subsidiaries which are utilised for property development. Rescon Projects is amongst the subsidiaries and provides Architectural consultancy services. FLT Global Company decided to expand its operations, and noted the level of future projected developments in which Rhodesfield was planned

for, in which FLT purchased land next door from the station back in 2008, before the station was built. The main reason behind them investing at Rhodesfield was due to the municipality's vision for Rhodesfield, which dates back before the Rhodesfield station was even constructed. According to the interview, Mehluli stated that "Rhodesfield is earmarked as the central point for development of the Aerotropolis in Ekurhuleni. It is therefore an attractive area within which to invest in property".



Figure 4.11: Piece of land owned by global company FLT Global Holdings next to station and opposite Rhodesfield THS. Source: Ndlovu (2016) adapted from Google Earth.

Proximity to ORTIA, Gautrain Station (Rhodesfield Station) and the overall proposed spatial development for Ekurhuleni were some of the factors that were considered during the initial investment. According to the company, the development should get off the ground within the next 5 years, with a proposed mixed-use development (residential, commercial-convenience shopping) envisioned to happen. According to the interview with Mehluli, he justified that the development was a better cost efficient investment, as it has better economic returns on the land, which will be able to accommodate the large influx number of people as the area develops and grows.

Over the years the company and the development has experienced some challenges. The economic climate has not favoured the development as of yet, and on top of that, the unfinished proposed spatial development for Rhodesfield as expressed in chapter 3. Town planning Regulations have also added to the delay of the development, with issues ranging from height restrictions, consolidation of stands and rezoning being some of the main issues pointed out during the discussion.

Rhodesfield Technical High School

Rhodesfield Technical High School is a Model C high school, located adjacent to the Gautrain Station. Most of the students who attend the school travel from Tembisa, north of Rhodesfield and Kempton Park, who attend the high school here. According to the town planners, when asked about the school they stated that most of the students are from Tembisa and not from Rhodesfield. Another interesting fact was that most of these students made use of the Metrorail located next to the Gautrain station. Considering the location of the school to the station, I decided to go directly to the school to ask for an interview session with the principle. In my understanding, I thought that, speaking to the principle would give me a better position and insight on how the school has been affected, if any, by the station. Another option I had was speaking to the schools School Governing Boarder (SGB), however felt that the principle, who is physically around the school all the time could give me the desired answered that I wanted answered.

On the 16th of August, I went to the school to request an interview with the principle. I was told that I would need to email the school so I could set up an interview session with them. Emails and documentations stating the purpose of the research were emailed to the school. Weeks passed and decided to call. I was told that the message would be forwarded to the principle. However, this had not happened. I kept calling every third day, to ask if my message was forwarded to the principle. For over a month, I kept calling and calling with no prevail.

4.3 Analysis of municipal records

The section will look, at the information regarding zoning and zoning applications that were gathered during a visit to the local municipal offices. This includes a look at a zoning map, zoning applications that the municipality has received as a results of development being pushed in the area.

4.3.1 The interpretation of the impacts the station has had on Rhodesfield – rezoning and application process.

Rhodesfield, as stated in the above chapters, is characterised by low-density residential units. Figure 4.12 clearly shows the type of zoning and that 95% of the entire area is residential, with small pockets of Education and commercial zoning taking place.

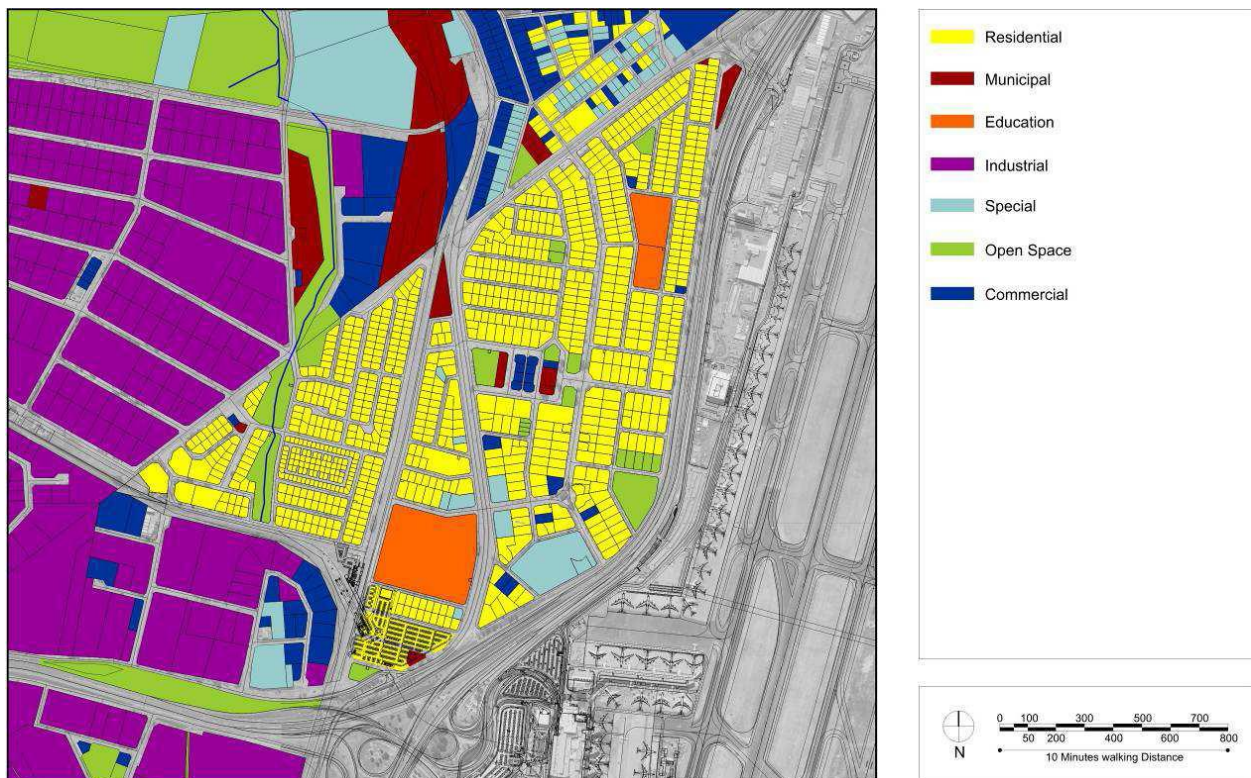


Figure 4.12: current land use zoning of Rhodesfield indicating a dominate residential feature. Source: Aadil Engar (2014).

4.3.2 The visit to the municipal town planning department At Ekurhuleni

During the visit to the local municipal offices of Ekurhuleni, it came to my attention that I needed certain maps and documents to determine the activities taking place in Rhodesfield. One of the maps provided to me by the town planner at the municipality was one indicating the land use zoning of the area. The zoning map indicates that most of the residential areas are located on the northern edge of the area, while the southern edge, which is closer to the station, is still predominately residential, with a mixture of commercial and other types of zoning allocated within the area. The map alone does not show us that the change in zoning, or the areas allocated as commercial, retail are due to the presence of the station, or any other factor.

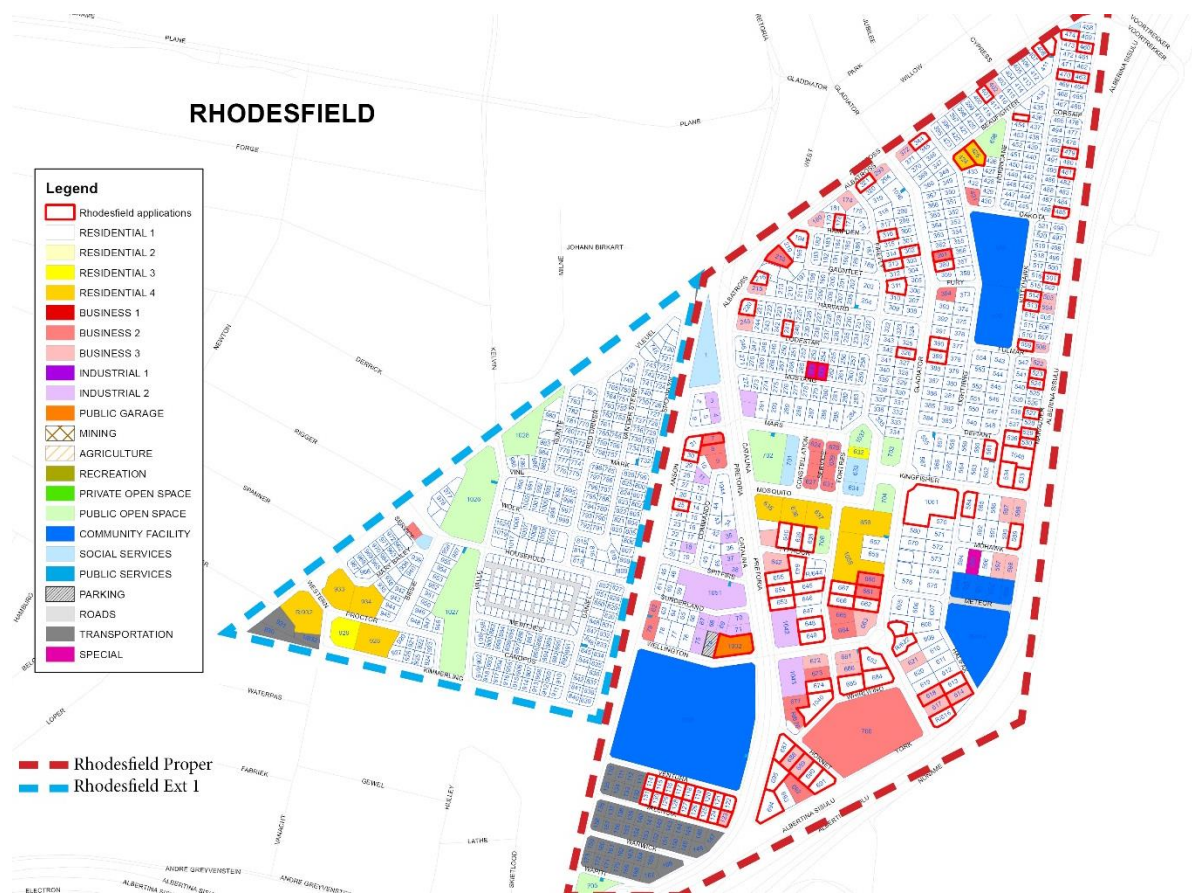


Figure 4.13: map indicating the number of land use zoning applications received by the municipality. Source: Aadil Engar (2016).

Figure 4.13 is an illustration regarding land use applications submitted and received by the municipality. Figure 4.13 helps to illustrate the number of land use applications that the municipality has received. The applications should be considered according to their context, as the map helps to indicate the applications which have been approved. The applications are about 6 months old. Most applications are congregated on Rhodesfield proper, while Rhodesfield ext. 1 has not shown any changes regarding any land use changes. Most of the applications are located at the southern edge of Rhodesfield, with other also occurring along Pretoria Road, and on the eastern edge of Rhodesfield. One can quickly draw into conclusion, by examining the map and noticing that a large number of applications for the area are located on the southern edge of Rhodesfield, in which the Gautrain Station is located.

However, as we examine the map, we should not already determine that most of the applications might be due to the presence of the station, but might be due to

other factors. We can conclude that the area has received a large number of applications.

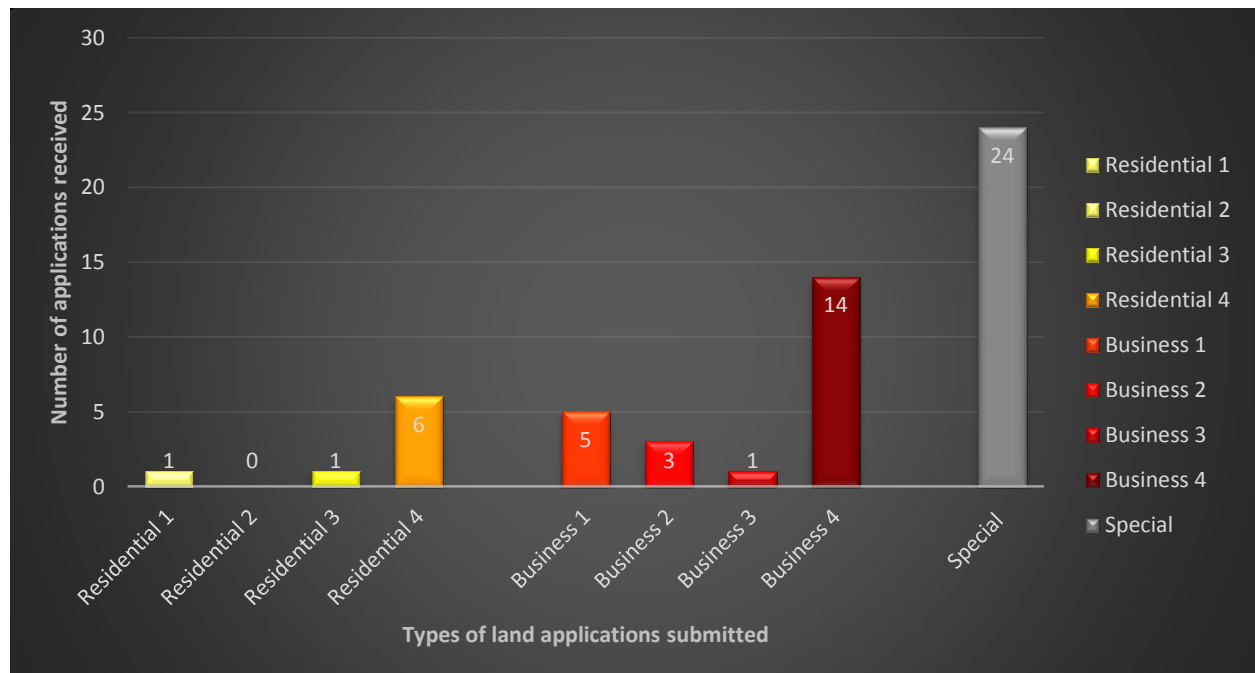


Figure 4.14: land use applications received by Ekurhuleni Metropolitan Municipality for Rhodesfield. Source: Aadil Engar (2016)

Figure 4.13 indicated that a number of applications have been made, but does not state what kind of applications have been proposed and approved. Figure 4.14 adds to figure 4.13, but helping us understand what kind of applications have been submitted to the municipality. The researcher acquired the land use applications on 28 July 2016, and should add that the applications are based on processed, dating back to 6 months ago. Table 1 aims to help broaden the type of development allocated to each zoning application, ranging from 'residential 1' to 'special'. Based on figure 4.14 graphical representation, there is a great emphasis made for 'special' use, 'business 4' and 'residential 4' land use for the area.

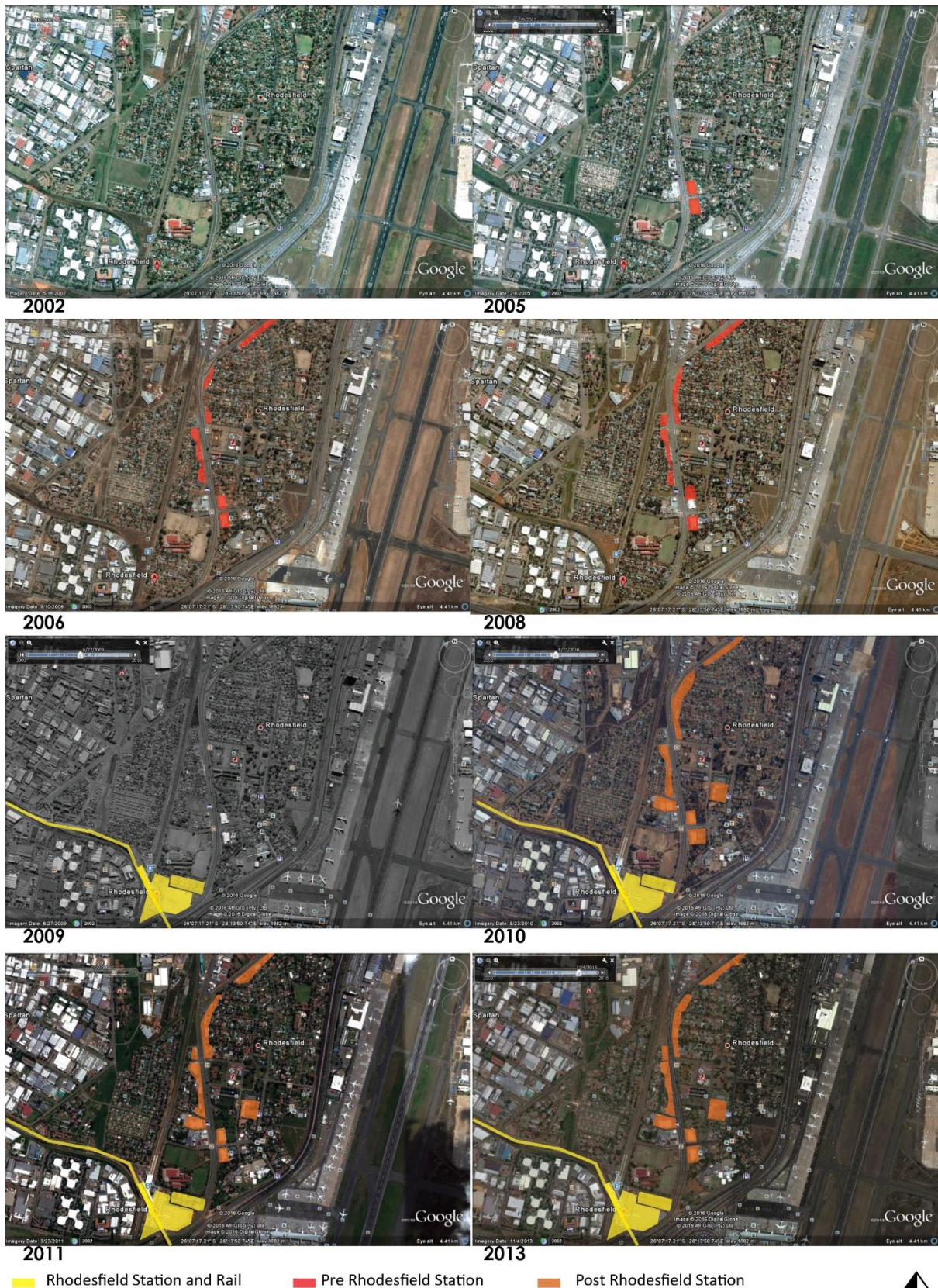
What each rezoning consists of:

Type of rezoning applications	What consists of each zoning applications
Residential 1	Guest house purposes
Residential 2	
Residential 3	Medium density housing
Residential 4	High density residential with guest

	housing functions
Business 1	
Business 2	Air freight and courier services
Business 3	Motor showroom
Business 4	Warehousing, home enterprises, business with dwelling units and residential units
Special	Motor dealerships, conference centres, hotels, offices, public garage, exhibition centres.

Table 2: categorization of land use and the types of applications for each. *Source: Aadil Engar (2016)*

The field visit to the area on the 18th of July 2016 shed some light on the types of activities that the area is engaged in. before going on site, the researcher explored google maps and earth, in search for some clues and answers. Rhodesfield has some economic activities taking place, but at a very slow pace. It was also evident that the area is more linked to ORTIA with hotels, flight schools, and logistic companies. In addition, what was evident from the site visit, certain property houses were demolished, but with no further introduction of future development, outcomes that the vacant land would hold. As such, this is all pure speculation now until we really see the true value of the land.



By Edwin Ndlovu

Figure 4.15: Rhodesfield development as seen from birds eye view. Showing the number of development that have happened within a period of 2002 to 2015.

Source: Ndlovu (2016), adopted from Google Earth

Over a course of few years, Rhodesfield has gone through a number of physical changes. An aerial photograph of the area from 2002 to 2013, as illustrated in figure 4.15 shows the level of physical development in which Rhodesfield has gone through over the years. From 2002 to 2008, the amount of development has been situated along Pretoria Road. This consists of new car dealership and used car dealership that have established themselves within the busy Pretoria Road at Rhodesfield. Figure 4.15 also shows that during 2009, the construction of the station on the southern edge of Rhodesfield was constructed. Since then, the level of development has been minimum, with a few developments happening in the central area of Rhodesfield.

4.4 Property valuations information

Property valuation information was gathered for the area of Rhodesfield based on 2009 and 2013 valuations. Prior to 2005 valuations could not be acquired as they were taken to a safe storage facility, while 2016 valuations, were still being processed at the time of writing this report. The information below will look at the shift in property prices of Rhodesfield for both the year periods mentioned above. Suburbs of similar characteristics that of Rhodesfield will be compared, to see if the shift in property valuations is similar in the area areas.

4.4.1 A property boom or bust?

Property is considered as a good investment, and when it comes to property, certain words will always pop up from any developer or buyer...location, location, location. Location is one of the many factors that help determine what kind of value the property has, and how its surrounding areas influence it. Transit oriented developments have been documented to increase values of property within the radius of stations. This section will look at property valuations conducted at Rhodesfield, which were implemented in 2009, during the construction phase, and 2013. How has the station influenced the property prices of Rhodesfield? For the purpose of the research, property valuations of the area will be considered on according to the land use applications that have been maps on figure 4.13. Figure 4.13 illustrates land applications made on Rhodesfield. The following valuations will look at the applications made on the property, and look at the values during 2009 and 2013. It should be stipulated that certain valuations dates could not be obtained. 2005, or valuations previously before 2009 could not be obtained from the municipality due to the information being held up in some storage unit outside the

municipal offices. Valuations prices for the year 2016 could not be obtained at the time of writing as the municipality is still in the process of gathering and finalising the results.

4.4.2 Pre-operation, Post-Recession, and the year of the construction: 2009 - 2012

2008 was one of the worst years recorded in history, with the global economy slipping, huge company recessions, and the drop of property prices that left many house owners homeless (Verick and Islam, 2010). 2008 houses prices in South Africa fell by 0.5, while the drop decreased to 0.3 in 2009 (Global Property Guide, 2016). South Africa was not exempt from any of the impacts of the great recession. Shifting the focus to 2009, when the Rhodesfield Station construction had started construction, property valuations were done for the entire Rhodesfield area. During the 2009-2012 valuation period of the property within the proximity of the station and in Rhodesfield. The number of property located next door to the station, erf's 114 – 131 on figure 4.13 were valuated, with prices ranging from the least expensive R620 000 to the most expensive priced at R1 472 000. The prices of the property also do not have a distinguishing feature. Considering and reviewing the prices of the properties of the entire Rhodesfield area, properties both on the southern and northern edge have plus minus the same property prices.

4.4.3 Post operation and the growth of land use applications: 2013-

Post operation of the station has also had some significance on the properties in the area. The research has noticed that certain properties within the proximity of the station and Rhodesfield have changed compared to 2009's valuations. Looking at erf's 114 – 131, the parcel prices for the erf's in 2013 had dropped significantly compared to 2009 values, with the least expensive having a market capital of R410 000 while the most expensive priced at R960 000. There also seems to be trend when it comes to the location of the property regarding to the proximity of the station. Many of the parcels of land located on the southern edge of Rhodesfield have seen a decrease in values, while some properties located on the northern edge have seen an increase in property values. The properties are located within a 2km walk from the station.

Case in point is erf 216, located adjacent to Pretoria Road. During the 2009 valuation of the properties, it was noted down that the erf was valued at R1 900 000. This has increased to R2 200 000 during the 2013 valuation period.



Figure 4.16: decrease in property prices at Rhodesfield over a period of 4 years, looking at least and most expensive. Source: Ndlovu (2016) adopted from Ekurhuleni Metropolitan Municipality (2016).

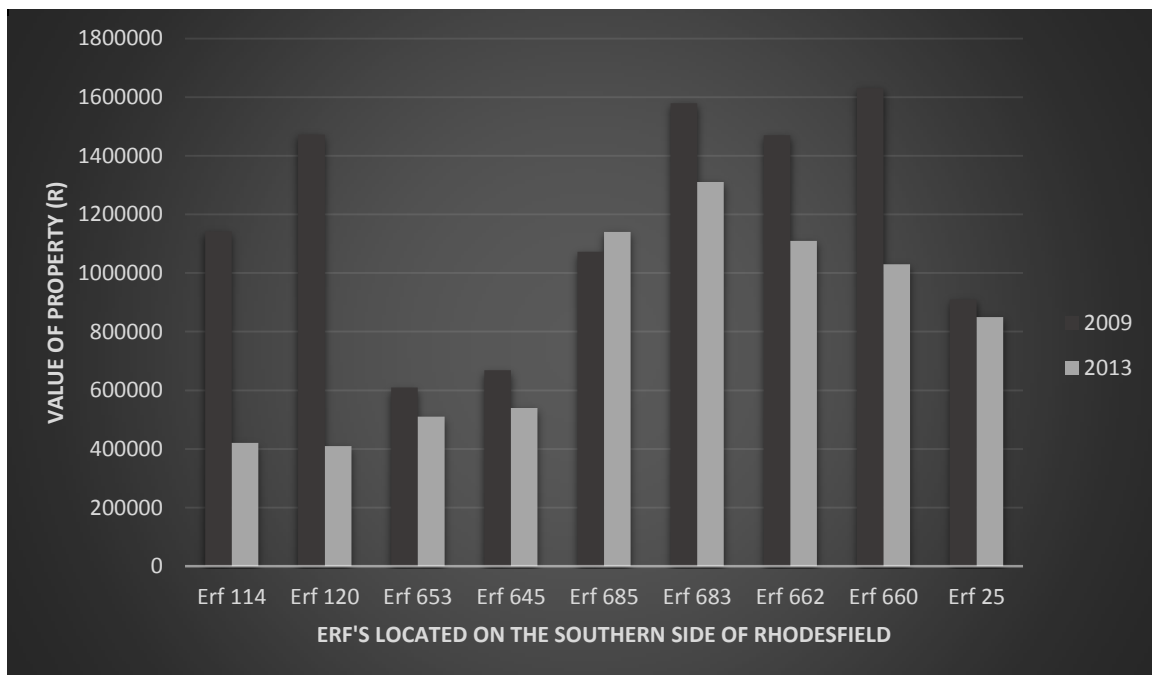


Figure 4.17: selection of property at Rhodesfield valuating property prices from 2009 to 2013. Source: Ndlovu (2016) adopted from Ekurhuleni Metropolitan Municipality (2016).

Figure 4.17 is a representation of a number of selected erf's located on the southern edge of Rhodesfield. Property values are shown for both 2009 and 2013. The graph

shows that a number of erf's have decreased over the years, while erf 685 increased. Erf's 114 and 120 are vacant, open land parcels. Vacant land do not provide tax for the municipality and the erf value decreased extremely.

Looking at the data for Rhodesfield alone does paint a vivid picture; however, to make sure that the results are accurate comparisons need to be done. Rhodesfield experienced a drop in the level of property prices, but is this the same in some other areas? Alternatively, is it only in Rhodesfield? Suburbs were specifically picked, due to the level of similarity the areas had to that of Rhodesfield. Allen Grove, Cresslawn, Estherpark and Kempton Park ext5 were the chosen suburbs to make comparisons with Rhodesfield. The following areas were chosen according to the following criteria:

- Must be a suburb similar in size to Rhodesfield
- Close proximity to railway track (either Gautrain or Metrorail).
- Located within the Kempton Park Region.

A random property sampling method was applied when it came to the specified areas. Reason being, information that was obtained contained sensitive personal details, and due to the large number of property erf's which were too much to get through them all. It should be noted that this is not considered as an accurate depiction of the results, and that it is based on an average value.



Figure 4.18: property comparison between certain suburbs from 2009, 2013 property

valuation. Source: Ndlovu (2016) adopted from Ekurhuleni Metropolitan Municipality (2016).

On average, Rhodesfield and Esther Park are the only two areas where a decrease in property prices has occurred over a period of 2009-2013. While Allen Grove, Cresslawn and Kempton Park ext5 all experienced increases in values as illustrated in figure 4.18. To how much some properties in the areas have increases/decreased, one house in each area was chosen randomly; with the current 2013 value was compared to that of 2009.

4.4.4 Hypothesising the real reason behind a decline in property prices

It was made clear that property prices within the vicinity of the station and within the entire Rhodesfield area have decreased over the years. One can assume that there are certain factors that have attributed to the decrease of the prices. I will attempt to explain the decrease behind the property values in Rhodesfield.

An increase in the number of open vacant land

The increase in vacant land at Rhodesfield might be considered as one of the main reasons behind the decline in property prices. Since the early years of 2009 to current, a number developer have shown interest, with many properties been bought for development purposes.

The number of visible vacant erf's at Rhodesfield can contribute to a bad image for the other properties located next or in close proximity to the number of erf's. However, it should be noted that the number of vacant land does add to the fact that many investors and developers have shown interest in the area.

Negative impacts of the station

For every positive correlation, there is an almost equal and opposite reaction. Below are some of the negative aspects documented about railways and trains around train stations in general.

- Trains usually cause noise

A documented factor associated with trains and railways is the impact that they have on the environment. Trains usually create noise pollution, which may have negative influence on the surrounding areas (Bragdon, 1978). Rhodesfield station is located on the southern edge of Rhodesfield; however,

from the analyses of the property values, properties located on the northern edge have decreased in prices. Hypothesising that noise has affected the property prices can be contradicting in this point.

- Crime

Crime is considered as a predominantly negative factor in South Africa. Train stations relatively increase criminal activities. This is attributed to the large number of customers using the services, which helps attract criminal activities. According to Zukerman (2013), he mentions that crime tends to increase within increases of rail transit access. Below are some newspaper articles from local and national newspaper agents depicting crime increases at Rhodesfield Station.

Crime Spikes at Rhodesfield Station (Eyewitness News, 2013)

It Remains Dangerous at Gautrain and Rhodesfield stations (Kempton Express, 2014)

- Traffic caused by an increase in cars flowing to and from station.

Another factor that may result in a decrease in property prices may be the daily traffic experienced around the station. On a daily basis, traffic is usually highest during peak times (6-8am) and (4-6pm). Rhodesfield is not exempt from this phenomenon. In the morning, it was observed that traffic builds up towards the entrance of the stations, all away from Pretoria Road. On top of that, the school also contributes to the level of congestion at the area. Parents and buses dropping off their kids at the school also add to the already congested street.

In addition, it should be noted that there are a number of other ways in which property values may decrease/depreciate over time. Noise is considered as one of the main elements that may cause the decrease in property values; however, there are other ways in which this can also add to the value of property to depreciate. Municipal restrictive land-use regulation can prevent increases in property values by limiting development (AboutMoney, 2016). Money Smart.sg is a blog that has dedicated its page on explaining some of the main factors that Mass Rapid Transit (MRT) can have on property values. This is outlined below (Money Smart, 2013):

- Values Rise after construction, Fall during Construction

According to the blog website, it quoted directly from a property developer as saying, "during construction of the station, there is a lot of noise and dust. Also, the roads around the area tend to become more congested".

- It depends on the Train Line

Value of property depends on where the train line has been established to go. According to the money smart blog, if the line does not go straight to key employment zones, the station may not add as much value as you think. This can be justified in the case of Rhodesfield, as the area is predominantly residential. Unlike Johannesburg, Sandton, Pretoria, and Hatfield, where it is predominantly an economic node, prices will rise near those areas compared to Rhodesfield.

4.5 OR Tambo International Airport more influential than Rhodesfield Station

ORTIA is an excellent airport situated in the heartland of Africa's most advanced and developed economic hubs. Located in Ekurhuleni Metropolitan Municipality, the airport can be said to have a larger economic and investor attraction magnet compared to other forms of transportation. Rhodesfield Station, which is merely located 800m from ORTIA might have some economic impacts through it, however, when looking at a greater scale, ORTIA has a more influential economic base compared to Rhodesfield station. Rhodesfield station has a small economic base, with its economic stronghold only being associated to the areas in which the station is located within. However, with ORTIA, being an international Airport, has a national and regional economic base. Most economic centres within South Africa are located near big metros that have an established international airport. Cape Town, Durban, and Johannesburg all have those established international Airports.

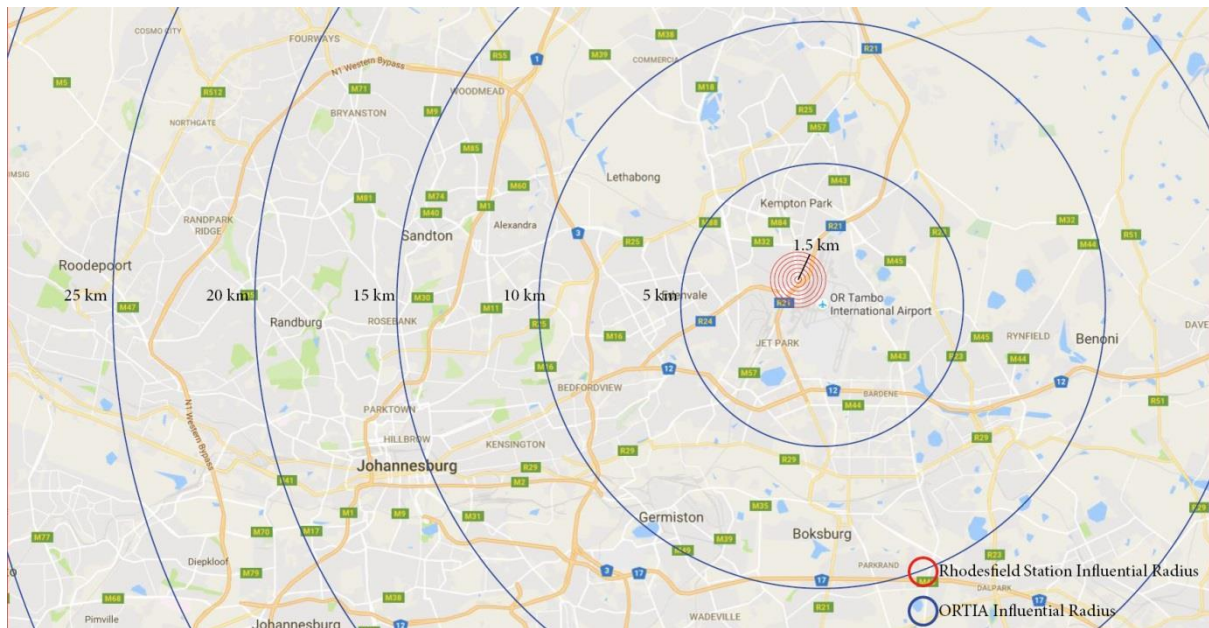


Figure 4.19: influential levels of ORTIA and Rhodesfield Station. *Source: Ndlovu (2016) adopted from Google Maps*

As discussed above, Rhodesfield has seen some economic opportunities in the area. The Rhodesfield station is noted to bring with it economic opportunities. However, from the visit to the area, most of the established businesses are airport based. Hotels, logistic companies, and even an airport washing service are all located at Rhodesfield, and have been located in the area for some time. Hotels have only popped in 2010, the same time the station was operational. Figure 4.19 indicates the level of influence ORTIA and Rhodesfield have on the surrounding areas. Rhodesfield station has a smaller influential range, expanding couple of km away, while ORTIA has a major influential footprint. Stretching over 30km's and over. What we can draw from the results is that the Gautrain Station will have an influence on a local, neighbourhood scale, while the airport will have influence on a regional and provincial level.

Conclusion

The above chapter aimed at interpreting information gathered from interviews held with town planners, and business owners, as well as the interpretation of property valuations which were gathered from the municipality. It seems that the area of Rhodesfield has seen physical change, from car dealerships, hotels which are so high that as a train user or resident you can see. Economically, the Gautrain station has helped bring in investment into the area, but has also impacted on the area in a

negative way. Property prices for example drooped from 2009 to 2013, and reasons for that were outlined, such as noise, increase in traffic congestion, and the global recession in which property prices had been affected.

On a lighter note, the introduction of such businesses into the area and the increase in the number of zoning applications is considered as a great understanding of how the area is evolving. From a predominantly residential area, into an area which will, hopefully soon house more than car dealerships and hotels. It does seem that the Gautrain station is changing the physical landscape of the area, and hopefully we will see introduction of mixed use development, as outlined by the FLT Company.

**Concluding remarks:
an overview of the
research and future
prospects**

5 Concluding remarks: an overview of the research and future prospects

The following report aimed at exploring the economic impacts of the Gautrain Station at Rhodesfield. During the research work, certain elements needed to be addressed in order for the researcher to get into grips with the research at hand, but more precisely, the analytical work ahead of us. The following chapter is a summary of all the literature, and analytical research gathered. The chapter aims to add concluding remarks, but also give the necessary requirements for further and future research. The main purpose of the research is to answer the research question: What is the economic Impact of the Gautrain Station at Rhodesfield. Work was conducted, including interview sessions with town planners, business owners and other mentioned individuals.

Extensive research has been conducted about the effects of the Gautrain, the impacts it has had the surrounding areas in which stations are located, research looking at the spatial configuration, to people oriented perspective, socio-economic impacts, economic impacts and the effects it has on property, governance and many more. Adding to already, existing research does not make the research itself conducted to be less significant, but helps to illustrate that changes occur, and this changes helps to affect the level of research needed and gathered.

5.1 Answering the research questions.

From chapter 3 there was a main research question and several sub-questions that needed to be answered, based on the data gathered and interpreted in chapter 4. As such, this finally chapter helps to answer the research questions, starting with the sub questions, and moving to the main research question.

5.1.1 What has been the reaction of the investor on developing the Rhodesfield area?

Rhodesfield has seen a number of new investors flocking into the area. The construction and operation of the station seems to have also attracted a number of new businesses. The number of new businesses such as car dealerships, hotels, and investments in logistics are all part of investors having interest in the area. Interpreting information gathered under chapter 4, we conclude that the introduction of the Gautrain station at Rhodesfield has driven demand for more and more businesses to happen within the area of Rhodesfield. For instances, the zoning application map,

indicates that most of the residential units will be turned into other forms of zoning, including businesses, high rise residential units and more car dealerships.

Prime Letting, Millionaires Club, Premier Hotel and Protea, and finally FLT Global Holdings are some of the major investors have invested in the area. FLT Global, as stated above in chapter 4, said development might take place within the next 5 years. The development in which the company is aiming to develop will help to give a distinctive feature to Rhodesfield. Not only is it located next to the station, but also according to the interview session, the development will include mixed used developments that will be complimenting the station.

5.1.2 What kind of economic activities are taking shape in the area?

There are a number of economic activities taking place in the area. The most prominent of this would be the number of car dealerships stretching along Pretoria Road. The number of developments taking place include office areas, hospitality based development based on the two hotels and the number of guesthouses in the area.

5.1.3 What changes is Rhodesfield experiencing?

Not a lot of change can said about the actually physical landscape of Rhodesfield, except the number of car dealerships and hotels. One of the major changes that in which Rhodesfield's seems to be the changes related to zoning. The number of zoning applications is a good indication about the level of change the area is experiencing. The shift from residential zoning to business and special zoning indicates that the station is having a specific function in the area. Knowing what kind of businesses would be taking place would have been more productive, however, due to some applications not been processed.

5.1.4 What is the municipality doing to attract economic development in the area?

The municipality now is still busy with its RSDF for the Kempton Park and Rhodesfield area. However, the municipality over the years, have indicated the importance of Rhodesfield, and have included the development of Rhodesfield under a number of plans published by the Ekurhuleni Municipality. The latest of these plans includes the incorporation on Rhodesfield with the greater Aerotropolis Plan as indicated in chapter 3. The municipality has also spent millions of rands constructing a new substation, located on the southern edge of Rhodesfield to help with power delivery for the station and Rhodesfield.

5.1.5 What safety and security features are implemented to help improve the safety of commuters, but also for businesses in the area?

Crime is a serious issue in South Africa. Rhodesfield is no exception to that. As indicated in chapter 4, the area has seen an increase in crime related activities around the Rhodesfield Gautrain station back in 2014. Despite that, the station does provide a number of security guards who monitor customer's cars. As also stated above, there is a random individual who tends to sit outside and look after customers cars that are parked on Ventura Road. This helps to show the level of safety and opportunity created by the station. The construction of the wall also shows the level of investment and safety measures that have been put into place regarding criminal activities in the area.

5.1.6 What is the stations impact on the property prices?

Overall, property prices at Rhodesfield have decreased, with just an exceptional few that have seen an increase in value. According to the literature review above, property located around 500m-1km from the station experience an increase in property. While the further you move away from the station, the lesser the impact becomes. Unlike studies conducted and covered in the literature review, Rhodesfield's properties located near the station, at a radius of 500m-1km have mostly experienced a decrease in value. While, 2km away from the station, some of the properties have witnessed an increase in value. This does not correlate to what the literature had pointed out would happen. In order to make sure that this was happening only at Rhodesfield, other suburbs within the Kempton Park area were picked and compared to Rhodesfield. Certain characteristics were supposed to be met, such as predominantly residential zoning, railway line crossing along the chosen townships. Cresslawn, Esther Park, Allen Grove, and Kempton Park ext.5 were chosen.

It seemed that this was not only happening at Rhodesfield, with Esther Park also experiencing a decline in property values on average. Cresslawn, Kempton Park ext.5 and Allen Grove reported an average increase in property values. It should be stated that not all properties decreased or increased, but that on average most of the property values had increased, compared to Rhodesfield and Esther Park in which on average a number of properties had declined in value.

This then leads us to the main question at hand. Has the Gautrain station had any economic impacts on the area of Rhodesfield's? Yes. The research has helped

demonstrate that the station itself has had some form of positive insight into the area of Rhodesfield. For starts, "infrastructure is a catalyst to development" (Gwagwa, 2014). This seems to be the case with the Gautrain station. Since the commencement of the station, a number of interested investors have eyed Rhodesfield as a potential developmental area for one to set up shop. Businesses such as Premier Hotel, Millionaires Club seem to be benefiting from the station, as most of their customers either make use of the station, or are told to make use of the station by the so mentioned businesses. The Rhodesfield station has had a negative economic impact on the value of properties, especially ones located in close proximity to the station (500m-1km). These may be attributed to a number of factors, but does aim to show that house prices have fallen in a short period. Looking at the positive impact it has had is the increase in the number of land use zoning applications, with the municipality seeing a number of individuals wanting to change from residential zoning to more business based zonings, including special zoning. A decrease in property values usually means that property owners are the ones missing on investment, but also means that businesses willing to buy have a better chance, due to property prices being low.

FLT Global Holdings, for me seems to be the main company that I believe to be linked to the station than the other businesses I have come across during my information gathering process. For starters, it is located next to the station, but not only that, it is also the plans that the company is willing to see been established at Rhodesfield. Mixed use development that will make use of the station. However, despite this, the economic situation of the area will be clearly in the next coming years. We should be able to see what kind of economic impact the station is really having, especially when zoning applications are completed and finalised. That will be the time in which we will fully comprehend the full extent of the Gautrain stations impact on Rhodesfield. Nevertheless, for now, we can still conclude that the station has had both positive and negative economic impacts on the area. TOD's need to operate in the constraints of the market and realistic expectations of behaviour and lifestyle patterns, in other words it should not be considered or envisioned as an utopian vision (Belzer and Autler, 2002).

5.2 What is next for the research? Further topics of exploration

The research helped to uncover certain elements that were linked to the main research topic. The researcher found that, even thou, 5 – 6 years down the line after

the construction of the station, and operation, there is development that has taken place. The massive developments have been as a response to hotel needs, with two massive hotels being located at Rhodesfield. The level of development might also be attributed to the delay of the Rhodesfield RSDF, and other important town planning regulations, including building heights and rezoning, considered time-consuming processes. Due to time constraints, certain information could not be attained. Research is a never-ending process in which terms of persons strive to attain new horizons in the field of research. The following proposed research topics should be explored in the next 5 years, as a short time goal. Nevertheless, I feel that, regarding this research, medium term of 10 years might be worth a while to see the full extent at which the station will have on the area.

5.2.1 Further investigation into property prices

A further look into property prices into the area needs to be investigated. During the research, it was evident that property prices had decreased from 2009 to 2013, and certain ideas were elaborated to substantiate the reasoning behind such decline. However, the researcher was told that new property valuations were taking place, which would give levels of property prices for 2016. Due to that, the latest numbers that could be gathered were that of 2013. Further research might look at the changes in property prices.

Another reason would be to accurately measure and document the changes of the property prices with those other areas located near Gautrain stations. An in-depth understanding will help to explain the reason behind such a decrease. A decrease in property prices will be a disadvantage to household owners, as one would sell their properties at a smaller price, while for investors and developers, gives them many opportunities to buy and expand into the area.

5.2.2 Serving not only Rhodesfield, but other surrounding areas

Rhodesfield station now is only servicing Rhodesfield Proper, and does not service the remaining areas. This is due to the metro rail railway line that divides Rhodesfield from Isando, Spartan as well as Rhodesfield ext. 1. Conducting research on how to integrate the station to the other areas, in order to service them might be an interesting research topic.

5.3 Research summary

The research aimed at gathering relevant data to help me answer the question raised on chapter 1, in which it looked at if the Rhodesfield station has had economic impacts in the area of Rhodesfield. Drawing the vast amounts of literature around TOD's, I helped to justify and explain that TOD's have vast economic impacts on areas in which stations are located on. Some studies indicated economic impacts on a positive scale, while some studies reported negative contributions because of the stations presence. Most of the literature review looked at the impact TOD's have on property prices. the research also indicated other ways in which TOD's may have an economic impact on the area, by looking at a more planning aspect involving mixed use development, density, walkability. While on an economic point of view, it looked at jobs created, income and supply and demand aspects of the station.

The research thus intended on data gathering and observation regarding to Rhodesfield station. Data gathered ranged from interviews with town planning officials, businesses, and property valuations, land use zoning changes, applications, and finally aerial photographs of Rhodesfield over a specific period to see the change in which the area has experienced. Since the operation of the station, the municipality has received a number of land use applications. Some land use-zoning applications ranging from high residential to businesses, to special zonings. This type of information's helps to generalise that there is some impact in which the station has on the area. A once residential area is now diversifying into a mixed-use area.

One of the most noticeable differences during the research I noticed was the drop in property prices within Rhodesfield. Ranging from 2009 to 2013, property prices in the area had decreases. This does go against some of the studies covered in the literature review, however, also does support some studies. Such as the closer, you be, the more the property will be affected by factors ranging from crime to noise. At the same, TOD's should increase property prices at a radius of 500m to 1.5km. However, this has not been the results in Rhodesfield. There are some stands in which property prices have increased; however, this is just a hand full, compared to the average drop for the entire area. The drop was compared to other residential areas around the Kempton Park area, which resemble the same type of atmosphere as Rhodesfield. The characterisation looked at suburbs located near rail lines. Cresslawn, Kempton Park ext. 5, Estherpark and Allen Grove were picked as

comparison models. Allen Grove like Rhodesfield experienced a drop in property prices. While areas on Estherpark, Kempton Park ext. 5 and Cresslawn had an average increase in their overall property increases over the period of 2009-2013.

The station has seemed to attract a number of investors. This however, might be attributed thanks to the location of ORTIA. Vast amounts of open land were observed, throughout the walk through around the area. Developments have also established themselves that make use of the station. The two hotels, Premier and Protea have shuttle services to and from the station, which a real estate company has recently refurbished a block of flats, and have made it available to the public. FLT Global Holdings acquired land couple of years before the station was operational. However, even so, it has been noted that the company aims to provide development that is conducive to TOD's, by providing mixed-use development, and high-density buildings.

5.4 Conclusion

To conclude, the station seems to have had some economic impacts on the area, both positive and negative. The number of land use rezoning applications is a good sign; this shows the level of interest that the area is drawing from investors, and with the addition of the station helps to make it a viable area to invest. A number of businesses are taking advantage of the location of the station, using it in an indirect manner. However, it has only been 5 years, and it seems that the station is contributing to the area. It is considered that within the next 5 to 10 years, the real value of the station will be noticeable, and its economic impacts could then be calculated precisely.

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Appendix

Appendix A: interview questionnaires

Questionnaire for investors/business owners

- 1) For how long have you been situated at Rhodesfield?
- 2) What was the intention of developing here at Rhodesfield?
- 3) Do you believe that the Gautrain station has added any value to your business?
- 4) Would you say the station, or other factors generate development in the area?
- 5) Do you believe that there has been an increase in crime levels?

Interview questions for FLT Global Holdings/Rescon

- 1) What is the purpose of FLT Global Company/Rescon Projects?
- 2) The main reason behind investing at Rhodesfield?
- 3) What were the factors that the company considered when investing at Rhodesfield?
- 4) How would you say the Rhodesfield station has affected you? Economically.
- 5) When was the land purchased?
 - a. If possible, at what cost was it purchased for?
- 6) What kind of development is proposed for the area? Residential, commercial, industrial, offices, mixed use, other?
 - a. Why this kind of development?
- 7) What kind of challenges has the company and proposed development experienced or overcome?
- 8) When will the proposed development as for mentioned above be constructed?
- 9) Is the company expecting to expand further more into Rhodesfield in the not so distant future?

Questionnaire for municipal planners

- 1) Why was Rhodesfield chosen to house the station?
- 2) What did the municipality envision when it came to the Gautrain station being located at Rhodesfield?
- 3) What is the municipality trying to do to increase economic opportunities at Rhodesfield?

- 4) What plans are there to help generate investor development?
- 5) Is Rhodesfield benefiting from the Gautrain station? In addition, in which way?
- 6) Do you believe that the policies developed by the municipality for Rhodesfield will help generate economic opportunities and link it with the Gautrain?
- 7) Were you involved, or part of the GAUTRAIN STATION PLANNING PROCESS?
- 8) May you please explain what the objective of constructing the station at Rhodesfield was?
- 9) Why was the station not placed at another area?
- 10) During the planning and construction phase, what was the objective of the municipality? What was envisioned would happen to Rhodesfield?

Questionnaires for Rhodesfield Technical High School

- 1) Since the operation of the Rhodesfield station, may you tell me how has it impacted on the school and surrounding areas?
- 2) Would you say with the presence of the station, that the school has been affected in a positive or negative way? In addition, how?
- 3) I would also like to find out, how many of the schools staff members make use of the stations services?
 - a. Where do they travel?
 - i. Home to work
 - ii. Work to shopping destinations (eg Sandton)

Appendix B: Ethic Form



SCHOOL OF ARCHITECTURE AND PLANNING HUMAN RESEARCH ETHICS COMMITTEE

CLEARANCE CERTIFICATE PROTOCOL NUMBER: SOAP93/24/06/2016

PROJECT TITLE: The Economic Impacts of the Gautrain Station at Rhodesfield

INVESTIGATOR/S: Edwin Ndlovu (Student No. 682603)

SCHOOL: Architecture and Planning

DEGREE PROGRAMME: BSc Honours Urban and Regional Planning

DATE CONSIDERED: 26 July 2016

DECISION OF THE COMMITTEE: APPROVED

EXPIRY DATE: 26 July 2017

CHAIRPERSON
(Professor Daniel Irurah)

DATE:

cc: Supervisor/s: Aly Karam

DECLARATION OF INVESTIGATORS

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee.

Signature

Date

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Appendix C: Signed Consent Form

FORMAL (SIGNED) CONSENT FORM
For research purposes on the following topic:
Looking at the Economic Impacts of the Gautrain Station at Rhodesfield

**SCHOOL
ARCHITECTURE
PLANNING**



I hereby confirm that I have been informed by the student researcher of the purpose, procedures, and my rights as a participant. I have received, read and understand the written Participant Information Sheet. I have also been informed of:

- ☒ the nature of my participation in the form of an interview
- ☒ the place and duration of the study
- ☒ the reasons for why I was selected to participate in the study
- ☒ the voluntary nature, refusal to answer, and withdrawing from the study
- ☒ no payment or incentives
- ☒ no loss of benefits or risks
- ☒ anonymity
- ☒ confidentiality
- ☒ how the research findings will be disseminated

I therefore agree to participate in this study by completing the interview and the questions that will be asked.

I AGREE / DO NOT AGREE to audio-recording during interviews.

PARTICIPANT:

P A Sumanapet
Printed name

[Signature]
Signature

11 Aug 2016
Date

Appendix D: Property Valuations of Rhodesfield for 2009

EKURHULENI METROPOLITAN MUNICIPALITY - VALUATION ROLL PERIOD OF VALUATION: 01 JULY 2009 - 30 JUNE 2012

Cluster: KEMPTON PARK
Township: RHODESFIELD
Registered Full Title Properties

PAGE NUMBER: 1278

Account Number (TXR00000)	Property Description	Physical Address	Owner Name	Extent (Sqm)	Site Code	Rating Category Code	Part A		Part B		SHL (Internal Extension Number)
							Market Value	Exclusions	Market Value	Exclusions	
170451420	897 113 OF RHODESFIELD	7 VENTURA STREET, RHODESFIELD	VALUENET PTY LTD HENDRIK CHRISTOFFEL JACOBS VAN	561	A01	1	1 016 000	Y	1 016 000	Y	420004
170451421	897 114 OF RHODESFIELD	8 VENTURA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	561	A01	1	1 142 000	Y	1 142 000	Y	420005
170451422	897 115 OF RHODESFIELD	11 VENTURA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	561	A01	1	1 184 000	Y	1 184 000	Y	420006
170451423	897 116 OF RHODESFIELD	13 VENTURA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	561	A01	1	1 271 000	Y	1 271 000	Y	420007
170451424	897 117 OF RHODESFIELD	14 VENTURA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	561	A01	1	1 329 000	Y	1 329 000	Y	420008
170451425	897 118 OF RHODESFIELD	11 VENTURA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	561	A01	1	1 428 000	Y	1 428 000	Y	420009
170451426	897 119 OF RHODESFIELD	10 VENTURA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	561	A01	1	1 368 000	Y	1 368 000	Y	420010
170451427	897 120 OF RHODESFIELD	31 VENTURA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	561	A01	1	1 472 000	Y	1 472 000	Y	420011
170451428	897 121 OF RHODESFIELD	23 VENTURA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	561	A01	1	1 326 000	Y	1 326 000	Y	420012
170451429	897 122 OF RHODESFIELD	30 CATALINA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	1 185	A01	1	1 329 000	Y	1 329 000	Y	420013
170451717	897 123 OF RHODESFIELD	41 KATHOLIK RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	1 189	B17	3	620 000		620 000		420014
170451437	897 124 OF RHODESFIELD	24 VALENCIA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	561	A01	1	1 230 000	Y	1 230 000	Y	420015
170451438	897 125 OF RHODESFIELD	22 VALENCIA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	561	A01	1	1 047 000	Y	1 047 000	Y	420016
170451439	897 126 OF RHODESFIELD	20 VALENCIA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	561	A01	1	849 000	Y	849 000	Y	420017
170451440	897 127 OF RHODESFIELD	18 VALENCIA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	561	A01	1	1 049 000	Y	1 049 000	Y	420018
170451441	897 128 OF RHODESFIELD	16 VALENCIA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	561	A01	1	1 122 000	Y	1 122 000	Y	420019
170451442	897 129 OF RHODESFIELD	14 VALENCIA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	561	A01	1	973 000	Y	973 000	Y	420020
170451443	897 130 OF RHODESFIELD	12 VALENCIA STREET, RHODESFIELD	ANCHOR PARK BV 31 PTY LTD	561	A01	1	1 079 000	Y	1 079 000	Y	420021

PERIOD OF VALUATION: 01 JULY 2009 - 30 JUNE 2012

Edition: NEWTON PAK
 PowerUp: 940884510

Registered Full Title Properties

Water Number 2288

Account Number	Property Description	Physical Address	Grant Name	Exempt (Yes)	Use Code	Exempt Code	Market Value	Excludes	APN
154672512	EXP 250 OF RHOODESFIELD	257 7TH RHODESFIELD	MORCHANE LAMBLEE PHILADEL		A02		\$91,000	Y	430257
150387351	EXP 500 OF RHOODESFIELD	31 GLASTONE STREET, RHODESFIELD	MORCHANE PHILADEL		A01		\$29,300	Y	430356
150384670	EXP 301 OF RHOODESFIELD	27 GLADIATOR STREET, RHODESFIELD	BUTT BLASINTE ELLERD AND OTHERS		A01		\$173,000	Y	430359
150445058	EXP 300 OF RHOODESFIELD	31 GLADIATOR ST, RHODESFIELD	THOMASSEN JAMES STANLEY		A01		\$103,000	Y	430360
150384680	EXP 303 OF RHOODESFIELD	33 GLASTONE STREET, RHODESFIELD	PROLLIS ANDERSON JOSEPH BALDWIN		A01		\$121,000	Y	430371
150384686	EXP 304 OF RHOODESFIELD	35 GLADIATOR AVENUE, RHODESFIELD	PROST MARIE LOUIS		A01		\$95,000	Y	430383
150384711	EXP 355 OF RHOODESFIELD	37 GLADIATOR AVENUE, RHODESFIELD	COURTNEY EDWARD ATHLETIC		A03		\$63,000	Y	430390
151515098	EXP 288 OF RHOODESFIELD	38 GLADIATOR AVENUE, RHODESFIELD	COURTNEY EDWARD ATHLETIC		A01		\$164,000	Y	430394
150384748	EXP 287 OF RHOODESFIELD	47 GLADIATOR STREET, RHODESFIELD	VOLLARD JAN		A01		\$100,000	Y	430395
150384767	EXP 288 OF RHOODESFIELD	48 GLADIATOR STREET, RHODESFIELD	BEYON HELLER		A01		\$149,000	Y	430396
150384783	EXP 288 OF RHOODESFIELD	48 HANNAH STREET, RHODESFIELD	ADAMSON AREA OTTO STEPHEN THOMAS		A01		\$160,000	Y	430397
150384778	EXP 210 OF RHOODESFIELD	34 PEARLY STREET, RHODESFIELD	ADAMSON AREA ADAMSON		A01		\$10,000	Y	430398
150384785	EXP 311 OF RHOODESFIELD	32 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$50,000	Y	430399
150384787	EXP 312 OF RHOODESFIELD	30 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$43,300	Y	430399
150384793	EXP 313 OF RHOODESFIELD	19 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430400
150384804	EXP 314 OF RHOODESFIELD	18 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430401
150384806	EXP 315 OF RHOODESFIELD	17 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430402
150384808	EXP 316 OF RHOODESFIELD	16 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430403
150384810	EXP 317 OF RHOODESFIELD	15 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430404
150384812	EXP 318 OF RHOODESFIELD	14 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430405
150384814	EXP 319 OF RHOODESFIELD	13 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430406
150384816	EXP 320 OF RHOODESFIELD	12 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430407
150384818	EXP 321 OF RHOODESFIELD	11 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430408
150384820	EXP 322 OF RHOODESFIELD	10 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430409
150384822	EXP 323 OF RHOODESFIELD	9 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430410
150384824	EXP 324 OF RHOODESFIELD	8 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430411
150384826	EXP 325 OF RHOODESFIELD	7 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430412
150384828	EXP 326 OF RHOODESFIELD	6 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430413
150384830	EXP 327 OF RHOODESFIELD	5 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430414
150384832	EXP 328 OF RHOODESFIELD	4 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430415
150384834	EXP 329 OF RHOODESFIELD	3 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430416
150384836	EXP 330 OF RHOODESFIELD	2 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430417
150384838	EXP 331 OF RHOODESFIELD	1 PEARLY STREET, RHODESFIELD	BEYON CONNOR		A02		\$17,500	Y	430418

EKURHULENI METROPOLITAN MUNICIPALITY - VALUATION ROLL PERIOD OF VALUATION: 01 JULY 2008 - 30 JUNE 2012

Gesam: KESGTON PARK
Township: RHODESFIELD
Registered Full Title Properties

PAGE NUMBER: 5388

Account Number	Property Description	Physical Address	Owner Name	Rating Code	Use Code	Rating Category Code	Market Value	Exemptions	SNV (Annual Subsidy Support)
175461120	ERP 430 OF RHODESFIELD	45 MARLBOROUGH STREET, RHODESFIELD	UNIT 10/11/12	891	A01	1	814 000	Y	43590
175505783	ERP 448 OF RHODESFIELD	47 MARLBOROUGH STREET, RHODESFIELD	STOFFBERG DOMONIKUS BERTHA AND OTHERS	891	A01	1	850 000	Y	43700
170005773	ERP 500 OF RHODESFIELD	48 MARLBOROUGH STREET, RHODESFIELD	PHILLIPS MARIA CATHERINE	891	A01	1	300 000	Y	42030
170220816	ERP 501 OF RHODESFIELD	51 MARLBOROUGH STREET, RHODESFIELD	CHARTER INTERNATIONAL FREIGHT PTY LTD	891	A01	1	150 000	Y	43000
170005789	ERP 502 OF RHODESFIELD	53 MARLBOROUGH STREET, RHODESFIELD	STRAUSS CAROLINA ELIZABETH	891	A01	1	100 000	Y	43000
170005791	ERP 503 OF RHODESFIELD	55 MARLBOROUGH STREET, RHODESFIELD	DAVID CHIRIEMPHI DANIEL	891	A01	1	800 000	Y	43000
175401405	ERP 504 OF RHODESFIELD	57 MARLBOROUGH STREET, RHODESFIELD	DAVID CHIRIEMPHI DANIEL	891	A01	1	1 200 000	Y	43000
170101609	ERP 505 OF RHODESFIELD	59 MARLBOROUGH STREET, RHODESFIELD	MDKMANA LINDA	891	A01	1	800 000	Y	43000
170116238	ERP 506 OF RHODESFIELD	61 MARLBOROUGH STREET, RHODESFIELD	HODDIN KANA ROBERTA VAN	891	A01	1	1 000 000	Y	43000
175419919	ERP 507 OF RHODESFIELD	63 MARLBOROUGH STREET, RHODESFIELD	STAD 508 RHODESFIELD PTY LTD	891	A01	1	800 000	Y	43000
170005786	ERP 508 OF RHODESFIELD	65 MARLBOROUGH STREET, RHODESFIELD	SAPO DANA 1100 CC	891	A01	1	2 500 000	Y	43000
170005773	ERP 509 OF RHODESFIELD	67 KITTENHAWK STREET, RHODESFIELD	SOUTHERN ROAD GROUP GROUP PTY LTD	891	A01	1	300 000	Y	43000
170116167	ERP 510 OF RHODESFIELD	69 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000
170005773	ERP 511 OF RHODESFIELD	71 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000
170116167	ERP 512 OF RHODESFIELD	73 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000
170005773	ERP 513 OF RHODESFIELD	75 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000
170005773	ERP 514 OF RHODESFIELD	77 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000
170116167	ERP 515 OF RHODESFIELD	79 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000
170005773	ERP 516 OF RHODESFIELD	81 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000
170116167	ERP 517 OF RHODESFIELD	83 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000
170005773	ERP 518 OF RHODESFIELD	85 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000
170116167	ERP 519 OF RHODESFIELD	87 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000
170005773	ERP 520 OF RHODESFIELD	89 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000
170116167	ERP 521 OF RHODESFIELD	91 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000
170005773	ERP 522 OF RHODESFIELD	93 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000
170116167	ERP 523 OF RHODESFIELD	95 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000
170005773	ERP 524 OF RHODESFIELD	97 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000
170116167	ERP 525 OF RHODESFIELD	99 KITTENHAWK STREET, RHODESFIELD	STAD 508 RHODESFIELD ASSESSORS	891	A01	1	100 000	Y	43000

EKURHULENI METROPOLITAN MUNICIPALITY - VALUATION ROLL
PERIOD OF VALUATION: 01 JULY 2008 - 30 JUNE 2012

Cluster: KEMPTON PARK
 Township: RHODESFIELD
 Registered Full Title Properties

PAGE NUMBER: 5350

Account Number	Property Description	Physical Address	Owner Name	Sizal (Sqm)	Use Code	Part 2		Market Value	Exclusions	PIN (Internal Reference Number)
						Building Category Code	Part 3			
1702010120	587 514 OF RHODESFIELD	48 KITTTHAMK STREET, RHODESFIELD	CODEOWN MARKOV ADOLF AND OTHERS	997	A01	1		1 029 000	Y	430204
1701040203	584 611 OF RHODESFIELD	46 KITTTHAMK STREET, RHODESFIELD	KOSKEMAN ELSA ANTONETTE	991	A01	1		1 207 000	Y	430205
1702010123	586 516 OF RHODESFIELD	44 KITTTHAMK STREET, RHODESFIELD	ALEXANDER AGOS AND OTHERS	991	A01	1		956 000	Y	430206
1702010123	589 519 OF RHODESFIELD	42 KITTTHAMK STREET, RHODESFIELD	EDLINA RICH-LOHLO AND OTHERS	997	A01	1		861 000	Y	430207
1702010120	588 820 OF RHODESFIELD	40 KITTTHAMK STREET, RHODESFIELD	BOSS WAHRE VAN DER AND OTHERS	991	A01	1		947 000	Y	430208
1702030200	591 521 OF RHODESFIELD	75 S. RHODESFIELD	LIEBOWITZ RUTH AND OTHERS	992	A01	1		1 375 000	X	430209
1702030190	590 522 OF RHODESFIELD	67 MARAUDER STREET, RHODESFIELD	ARSEP SOFTWARE CC	873	B17	3		2 065 000		430210
1702030204	589 518 OF RHODESFIELD	48 MARAUDER STREET, RHODESFIELD	GAUTENG TRUCK RENTAL PTY LTD	991	A01	1		941 000	Y	430211
1701040211	585 514 OF RHODESFIELD	71 MARAUDER STREET, RHODESFIELD	GAUTENG TRUCK RENTAL PTY LTD	541	A01	1		806 000	Y	430212
1701040219	586 524 OF RHODESFIELD	73 MARAUDER STREET, RHODESFIELD	DRAGLO PIERRE STEPHANUS	991	A01	1		801 000	Y	430213
1701040207	585 514 OF RHODESFIELD	75 MARAUDER STREET, RHODESFIELD	MAGNET JARRO	891	A02	1		829 000	Y	430214
1702041000	590 517 OF RHODESFIELD	77 MARAUDER STREET, RHODESFIELD	401 CHURCH STREET PTY LTD	991	A01	1		1 040 000	Y	430215
1701030146	589 401 OF RHODESFIELD	79 MARAUDER STREET, RHODESFIELD	BALZAC RANCHES	941	A02	1		875 000	Y	430216
1701040206	585 516 OF RHODESFIELD	81 MARAUDER STREET, RHODESFIELD	471 CHURCH STREET PTY LTD	991	A01	1		978 000	Y	430217
1704010120	587 515 OF RHODESFIELD	83 MARAUDER STREET, RHODESFIELD	NOTES CHILD INV PTY LTD	991	A02	1		974 000	Y	430218
1702010140	588 511 OF RHODESFIELD	85 MARAUDER STREET, RHODESFIELD	NOTES CHILD INV CC	991	A02	1		878 000	Y	430219
1702010140	589 512 OF RHODESFIELD	87 MARAUDER STREET, RHODESFIELD	NOTES CHILD INV CC	991	A01	1		911 000	Y	430220
1702010140	589 513 OF RHODESFIELD	89 MARAUDER STREET, RHODESFIELD	GAUTENG TRUCK RENTAL PTY LTD	2 307	A01	1		1 160 000	Y	430221

EKURHULENI METROPOLITAN MUNICIPALITY - VALUATION ROLL
PERIOD OF VALUATION: 01 JULY 2009 - 30 JUNE 2012

Cluster: KILIMON PARK
 Township: RHODESFIELD
 Registered Full Title Properties

PAGE NUMBER: 3007

Assessed Number	Property Description	Physical Address	Owner Name	Extent (SqrM)	Site Code	Rating Category Code	Market Value	Exclusions	PSN (Internal Reference Number)
170402507	897 834 OF RHODESFIELD	5 TYNDHON STREET, RHODESFIELD	HOLDEN PROPS PTY LTD	1 082	08	13	925 000		430432
170402511	897 841 OF RHODESFIELD	4 TYNDHON STREET, RHODESFIELD	HOLDEN PROPS PTY LTD	1 063	08	13	904 000		430434
170217072	897 841 OF RHODESFIELD	10 CATALINA AVENUE, RHODESFIELD	STAND 961 RHODESFIELD DO	1 704	061	1	1 324 000	Y	430435
170208028	PORTION 1 OF 897 841 OF RHODESFIELD	10A CATALINA AVENUE, RHODESFIELD	BURS JACOBS AND OTHERS	1 291	063	3	946 000		430436
170209009	897 842 OF RHODESFIELD	3 TYNDHON STREET, RHODESFIELD	HE & SHE 897 PTY LTD	2 613	061	1	1 000 000	Y	430437
170209010	897 843 OF RHODESFIELD	3 TYNDHON STREET, RHODESFIELD	471 CHURCH STREET PTY LTD	2 298	06	13	847 000		430438
170209088	897 846 OF RHODESFIELD	110 FORTRESS STREET, RHODESFIELD	MCLAREN MARTIN SOLLEY	1 468	061	1	1 543 000	Y	430439
170217042	PORTION 1 OF 897 844 OF RHODESFIELD	8 TYNDHON STREET, RHODESFIELD	ROSELL TYNDON HUNLEY	830	061	1	670 000	Y	430440
170209078	PORTION 2 OF 897 844 OF RHODESFIELD	7 FORTRESS STREET, RHODESFIELD	VLJSEN AMULA AVAND	602	061	1	780 000	Y	430441
170217060	897 845 OF RHODESFIELD	18 FORTRESS STREET, RHODESFIELD	471 CHURCH STREET PTY LTD	2 476	06	13	898 000		430442
170208118	897 846 OF RHODESFIELD	18 FORTRESS STREET, RHODESFIELD	471 CHURCH STREET PTY LTD	2 196	06	13	639 000		430443
170208104	897 847 OF RHODESFIELD	17 FORTRESS STREET, RHODESFIELD	471 CHURCH STREET PTY LTD	1 886	06	13	611 000		430444
170208197	897 851 OF RHODESFIELD	19 FORTRESS STREET, RHODESFIELD	471 CHURCH STREET PTY LTD	1 593	06	13	638 000		430445
170217002	897 851 OF RHODESFIELD	21 FORTRESS STREET, RHODESFIELD	471 CHURCH STREET PTY LTD	1 693	06	13	604 000		430446
170208101	897 853 OF RHODESFIELD	24 CATALINA AVENUE, RHODESFIELD	471 CHURCH STREET PTY LTD	1 865	06	13	868 000		430447
170208109	897 854 OF RHODESFIELD	22 CATALINA AVENUE, RHODESFIELD	471 CHURCH STREET PTY LTD	1 860	06	13	828 000		430448
170218042	897 856 OF RHODESFIELD	23 CATALINA AVENUE, RHODESFIELD	471 CHURCH STREET PTY LTD	1 563	06	13	820 000		430449
170209023	897 856 OF RHODESFIELD (VALUED WITH 55 LIESERSTON)	8 FORTRESS STREET, RHODESFIELD	HAMBULENSDA	1 402	06	1			430450

Appendix F: Property Valuations of Rhodesfield for 2013

Empire Eff 2013

↑ increase
↓ decrease

TOWNSHIP	ERF NUMBER	EXTEND	MARKET VALUE R	CATEGORY
RHODESFIELD	ERF 00000007	RHODESFIELD	1358	ASS RATES BUSINESS & COMMERCIAL
RHODESFIELD	ERF 00000025	RHODESFIELD	991	ASS RATES BUSINESS & COMMERCIAL
RHODESFIELD	ERF 00000030	RHODESFIELD	991	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000031	RHODESFIELD	1476	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000114	RHODESFIELD	991	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000115	RHODESFIELD	991	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000116	RHODESFIELD	991	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000117	RHODESFIELD	991	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000118	RHODESFIELD	991	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000119	RHODESFIELD	991	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000120	RHODESFIELD	991	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000121	RHODESFIELD	991	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000122	RHODESFIELD	1195	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000123	RHODESFIELD	1189	ASS RATES BUSINESS & COMMERCIAL
RHODESFIELD	ERF 00000124	RHODESFIELD	991	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000125	RHODESFIELD	991	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000126	RHODESFIELD	991	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000127	RHODESFIELD	991	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000128	RHODESFIELD	991	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000129	RHODESFIELD	991	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000130	RHODESFIELD	991	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000131	RHODESFIELD	991	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000178	RHODESFIELD	991	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000194	RHODESFIELD	1571	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000216	RHODESFIELD	1033	ASS RATES BUSINESS & COMMERCIAL
RHODESFIELD	ERF 00000218	RHODESFIELD	2069	ASS RATES BUSINESS & COMMERCIAL
RHODESFIELD	ERF 00000220	RHODESFIELD	1419	ASS RATES BUSINESS & COMMERCIAL
RHODESFIELD	ERF 00000241	RHODESFIELD	991	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000302	RHODESFIELD	1190	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000311	RHODESFIELD	1699	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000313	RHODESFIELD	1190	ASS RATES RESIDENTIAL

RHODESFIELD	ERF 00000316 RHODESFIELD	1190	↓ 590000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000321 RHODESFIELD	1170	Q VAC300	ASS RATES BUSINESS & COMMERCIAL
RHODESFIELD	ERF 00000326 RHODESFIELD	1190	↓ 780000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000344 RHODESFIELD	1170	↓ 900000 VAC300	ASS RATES BUSINESS & COMMERCIAL
RHODESFIELD	ERF 00000360 RHODESFIELD	1190	↓ 830000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000361 RHODESFIELD	1190	↓ 800000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000389 RHODESFIELD	1487	↓ 900000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000390 RHODESFIELD	1487	↓ 740000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000401 RHODESFIELD	991	↓ 890000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000408 RHODESFIELD	991	↓ 640000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000424 RHODESFIELD	1735	890000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000425 RHODESFIELD	1847	900000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000460 RHODESFIELD	991	↓ 840000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000463 RHODESFIELD	991	↓ 760000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000470 RHODESFIELD	991	↓ 280000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000474 RHODESFIELD	1284	↓ 940000 VAC300	ASS RATES BUSINESS & COMMERCIAL
RHODESFIELD	ERF 00000479 RHODESFIELD	991	↓ 700000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000481 RHODESFIELD	991	↓ 680000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000485 RHODESFIELD	972	↓ 800000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000501 RHODESFIELD	991	↑ 800000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000509 RHODESFIELD	972	↓ 880000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000513 RHODESFIELD	991	↓ 850000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000514 RHODESFIELD	991	↓ 750000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000523 RHODESFIELD	991	↓ 740000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000524 RHODESFIELD	991	↓ 760000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000527 RHODESFIELD	991	↓ 830000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000529 RHODESFIELD	991	↑ 820000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000530 RHODESFIELD	991	↓ 810000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000533 RHODESFIELD	2087	930000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000534 RHODESFIELD	2459	↑ 1260000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000536 RHODESFIELD	1487	↓ 770000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000561 RHODESFIELD	1467	↓ 830000 VA0100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000584 RHODESFIELD	1963	↓ 1020000 VA0100	ASS RATES RESIDENTIAL

RHODESFIELD	ERF 00000589 RHODESFIELD	1963	↑ 1180000 VAO100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000613 RHODESFIELD	1983	↓ 1190000 VAO300	ASS RATES BUSINESS & COMMERCIAL
RHODESFIELD	ERF 00000614 RHODESFIELD	2016	1250000 VAO100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000616 RHODESFIELD	1983	↓ 1010000 VAO100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000618 RHODESFIELD	1983	↓ 970000 VAO300	ASS RATES BUSINESS & COMMERCIAL
RHODESFIELD	ERF 00000622 RHODESFIELD	1957	↑ 1340000 VAO300	ASS RATES BUSINESS & COMMERCIAL
RHODESFIELD	ERF 00000638 RHODESFIELD	1983	↓ 500000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000639 RHODESFIELD	1983	↓ 490000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000640 RHODESFIELD	1983	↓ 480000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000643 RHODESFIELD	2299	↓ 510000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000645 RHODESFIELD	2478	↓ 540000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000648 RHODESFIELD	1983	↓ 500000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000649 RHODESFIELD	1963	↓ 500000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000653 RHODESFIELD	1983	↓ 510000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000654 RHODESFIELD	1983	↓ 510000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000655 RHODESFIELD	1983	↓ 490000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000660 RHODESFIELD	1983	↓ 1030000 VAO100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000661 RHODESFIELD	1983	↓ 840000 VAO100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000662 RHODESFIELD	1983	↓ 1110000 VAO100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000666 RHODESFIELD	1983	↓ 510000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000667 RHODESFIELD	1983	↓ 520000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000674 RHODESFIELD	1983	↓ 1080000 VAO300	ASS RATES BUSINESS & COMMERCIAL
RHODESFIELD	ERF 00000683 RHODESFIELD	2745	↓ 1310000 VAO100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000684 RHODESFIELD	2965	↓ 1160000 VAO100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000685 RHODESFIELD	2734	↓ 1140000 VAO200	ASS RATES INDUSTRIAL
RHODESFIELD	ERF 00000687 RHODESFIELD	2100	↓ 500000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000688 RHODESFIELD	1982	↓ 980000 VAO100	ASS RATES RESIDENTIAL
RHODESFIELD	ERF 00000689 RHODESFIELD	1983	↑ 1180000 VAO300	ASS RATES BUSINESS & COMMERCIAL
RHODESFIELD	ERF 00000690 RHODESFIELD	1983	↓ 480000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000691 RHODESFIELD	2195	↓ 1260000 VAO300	ASS RATES BUSINESS & COMMERCIAL
RHODESFIELD	ERF 00000694 RHODESFIELD	3272	↓ 550000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00000695 RHODESFIELD	2640	↓ 520000 VAO100	ASS RATES VACANT LAND
RHODESFIELD	ERF 00001040 RHODESFIELD	3595	↓ 1110000 VAO100	ASS RATES RESIDENTIAL