STANDBY PAPER 2

Bicycle sharing scheme feasibility study

AUTHOR:

T Mangane, NJW Van Zyl, S Leeuw and J Rambuda

Royal HaskoningDHV (Pty) Ltd, Building No. 5 Country Club Estate, 21 Woodlands Drive, Mazars House, 54 Glenhove Road, Melrose Estate, Johannesburg, 2196
Gautrain Management Agency, 44 Grand Central Blvd, Grand Central, Midrand, 1682

ABSTRACT

This paper report on the outcome of the Bicycle Sharing Scheme Feasibility Study that was undertaken for the Gautrain Management Agency. The objective of this study is to investigate the technical and financial feasibility of a bicycle sharing scheme within a five (5) kilometre radius from the Gautrain Hatfield station. Bicycle sharing has become very popular internationally, and it offers an affordable and sustainable mode to travel to and from Gautrain stations over distances less than approximately 5km.

Positive factors are the large number of high-demand nodes around the Hatfield Gautrain station, and particularly the University of Pretoria, as well as the cycling coverage, geography and topography. However, there is a lack of cycling lanes, and bicycle facilities at the Hatfield station will have to be upgraded and expanded to accommodate a bicycle sharing scheme.

In this paper the literature review of local and international best practice is summarised, and particularly the challenges experienced when planning the Bicycle sharing scheme. An evaluation of publicly available information and plans to gain an understanding of the level of existing bicycle usage in the City of Tshwane is also investigated. A summary of characteristics of the Gautrain Hatfield station area is provided (5km radius) including demographic factors, population density, geographic factors and land use. The focus of the paper then moves to an assessment of travel demand and identification of key demand points around the Hatfield Gautrain station. Subsequently, the financial feasibility of providing a bike share scheme at Hatfield Gautrain station is discussed, providing brief results of testing various types and sizes of bike share schemes using a spreadsheet model that was developed. Finally, the Paper provides conclusions and recommendations on the best way in which the GMA can provide a bike share scheme at Gautrain stations.

1. INTRODUCTION

Gautrain is an 80km commuter rail system in Gauteng, South Africa, which links Johannesburg, Pretoria, Ekurhuleni and O. R. Tambo International Airport. A system such as Gautrain provide an opportunity for bikeshare to be integrated into the larger transportation system, such as BRT station in Hatfield and other public transport and non-motorised (NMT) modes. While this may or may not translate into increased ridership, integration between transit and bikeshare would contribute to a better, more seamless transportation network.

The Gautrain Management Agency (GMA) has appointed Royal HaskoningDHV (RHDHV) and specialist partners Mazars Berenschot (financial & management consultants), the University of Pretoria (UP) via Enterprises UP to develop a First and Last Mile (feeder-distributor) Master Plan for the Gautrain rail system as well as a Bicycle Sharing Scheme Feasibility Study. Bicycle sharing is potentially an important component of the overall feeder-distributer system for Gautrain.

Bikeshare has taken many forms over the past decade, from free bikes distributed throughout a community for all to use, to stations where bike rental was managed manually by an attendant, to the more technologically advanced and secure systems we see in most cities today, as indicated by the Bikeshare Planning Guide published by the Institute for Transportation Development Policy (ITDP, 2018).

The ITDP defines the goal of a feasibility study as a way to inform planning decisions that will yield the most successful bikeshare system possible. It further states that a successful bikeshare system should be:

- Safe, reliable, affordable and accessible to all potential users;
- Flexible and adaptable to changes in technology, trends, and operating models;
- Thoughtfully connected to public transit and other modes;
- Able to leverage and generate expanded investments and land use dedicated to cycling; and
- A tool to help meet broader sustainability goals set by the city.

This paper reports on the outcome of the the Bicycle Sharing Scheme Feasibility Study. The objective of this study is to investigate the technical and financial feasibility of a bicycle sharing scheme within a 5km radius from the Gautrain Hatfield station. Bicycle sharing has become very popular internationally, and it offers an affordable and sustainable mode to travel to and from Gautrain stations over distances less than approximately 5km.

This paper addressees the following topics:

- A literature review of local and international best practice with a particular focus on the challenges experienced when planning the Bicycle sharing scheme;
- An evaluation of publicly available information and plans to gain an understanding of the level of existing bicycle usage in the City of Tshwane;
- A summary of the characteristics of the Gautrain Hatfield station area (5km radius) including demographic factors, population density, geographic factors and land use;
- An assessment of travel demand and identification of key demand points around the Hatfield Gautrain station;
- The financial feasibility of providing a bike share scheme at Hatfield Gautrain station, providing brief results of testing various types and sizes of bike share schemes using a spreadsheet model that was developed; and
- Conclusions and recommendations on the best way in which the GMA can provide a bike share scheme at Gautrain stations.

2. LITERATURE REVIEW OF LOCAL AND INTERNATIONAL BEST PRACTICE

Apart from international research and schemes, there seems to be active interest in bike sharing schemes in South Africa, as indicated by

various feasibility studies and a few schemes that were implemented on limited scale or as a pilot. A few notable examples are studies in Johannesburg (de Beer, 2015), in Cape Town (Jennings, 2014), a pilot operated at the Nelson Mandela University (Uyiloebike, 2019), a pilot scheme tested at the University of Pretoria (City of Tshwane, 2018), and a small scheme operating in Sandton by a private company (Green Cycles, 2018).

The key lessons learned from a wide body of literature on bike sharing are indicated below:

- If a bike share system needs to be financially viable and promotes the quality and brand of a high-quality system, it needs to be located in an affluent area. On the other hand, staff-serviced rental schemes, located in middle- and low-income areas, need to be publicly financed and complemented by significant investment, to be feasible.
- There is limited local data that could be used to support assumptions on the demand for a feasible bicycle share scheme. Safety and Security could hinder the successful implementation of a bicycle share scheme.
- A bicycle sharing system requires an integrated approach of transportation, inventory and facility costs as well as service quality. Sign-up to the system should be on the spot and automated. Communication with current and potential users should focus on simple messages based on the mobility benefits afforded by public bikes.
- Bike share schemes are more utilised in areas where there are dedicated cycle lanes than to share the road with cars. Trips by electric bikes, e-bikes, are shown to have a wider variety of trip purposes than regular bicycle trips. Considering that most e-bike trips are displacing walking trips in the campus environment, e-bike sharing greatly expands user mobility, although it may perhaps not have a strong positive influence on reduced environmental impacts of the transportation system. Making the bike share program simple and cheap increases the chance of its success; and
- Keeping to "old technology", i.e. without using modern technology to automate the process, but use staff at stations, will be beneficial in terms of job creation, and may be more affordable. Bike share could work in South Africa, provided the design is geared to address the needs and risks of the target market.

3. EXISTING BICYCLE USAGE IN THE CITY OF TSHWANE

3.1 Mode Choice in City of Tshwane

The City of Tshwane (CoT) Comprehensive Integrated Transport Plan (CITP) 2015 was used to source mode choice and utilisation information. As shown in Figure 1: Modal split for all trips, there is a high proportion of walking trips (29% in total), for all trips within Tshwane. The high proportion of walking within the city provide a high possiblity of

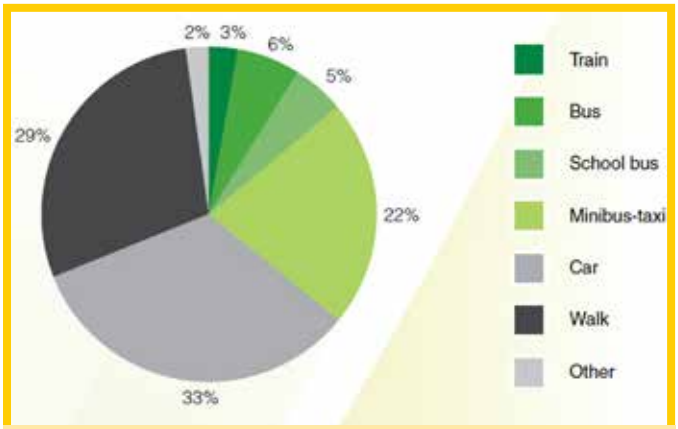

FIGURE 1: Modal split for all trips

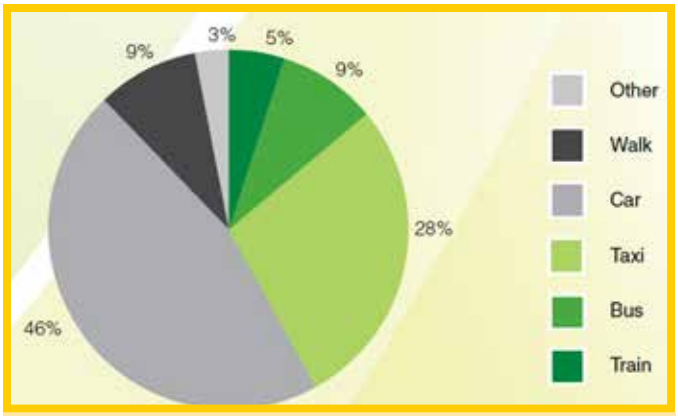

FIGURE 2: Mode of travel to work

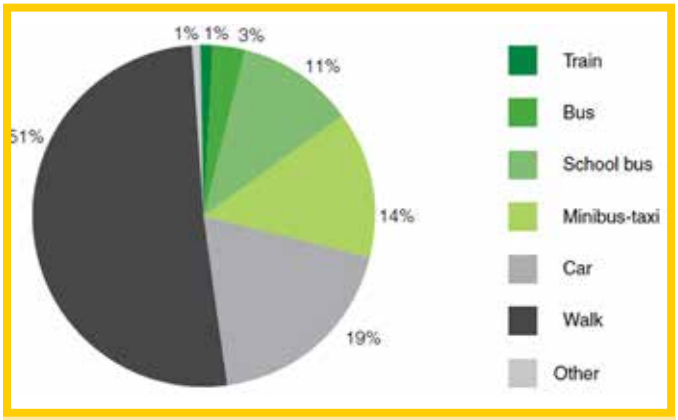

FIGURE 3: Mode of travel to educational facilities

TABLE 3.1: Mode usage per income group

Main Mode of Work - % Commuters						
Income Group	**Train**	**Bus**	**Taxi**	**Car**	**Walk/ Cycle**	**Other**
Up to R500	3.0	7.0	20.5	4.4	57.9	7.2
R501 – R1 000	6.6	10.5	29.0	6.6	39.5	7.8
R1 001 – R2 000	10.4	12.4	37.9	13.8	19.4	6.2
R2 001 – R3 000	8.9	11.1	31.3	28.5	13.7	6.4
>R3 000	6.2	5.5	26.6	2.7	24.6	5.7
RSA	6.2	9.2	26.6	2.7	24.6	5.7

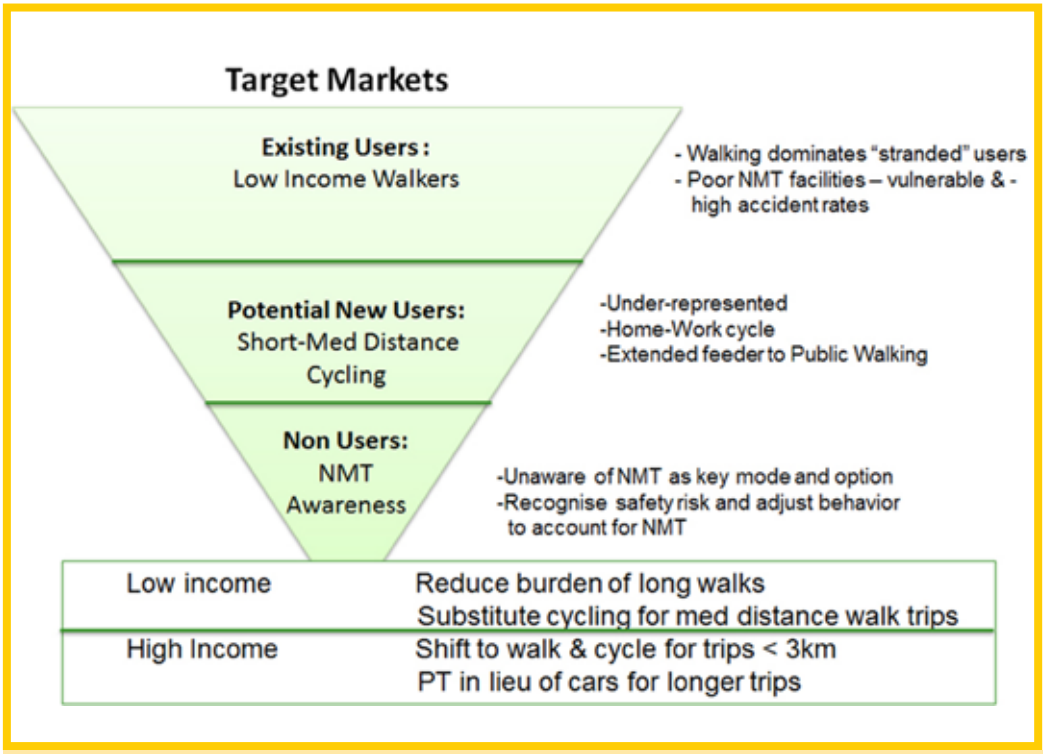

FIGURE 4: Extract from Tshwane NMT Framework – Targeted Intervention Strategy

having a successful bikeshare scheme. The cycling trips are captured as part of "other" and could account for 0.8% modal share within the City.

In areas where there are few cycle lanes, you expect the number of cycling trips to be low.

The "travel to work" data revealed that people in the CoT prefer to use a private car (46%) as well as public transport (42%). Non-motorised transport shows low percentages, e.g. walking (9%), indicated in Figure 2: Mode of travel to work.

With specific reference to this project, Figure 3: Mode of travel to educational facilities shows that scholars / students in Tshwane mainly walk to educational facilities (51%) versus using public transport (29%) or using a private car (19%) as a means of transport. The use of the bicycle is less than 1%, even for educational trips, which is a traditional stronger market for cycling. This implies a significant potential for increasing the share of cycling.

The effect of income on the choice of travel mode is shown in Table 3.1. The income group with the highest people walking or cycling to work is people with a low income with 58 percent followed by people earning between R501 – R1 000 and >R3 000 with 40 and 25% respectively.

In view of the sustainability goals of the GMA and the CoT, Bicycle Sharing Scheme at Hatfield station will not only demonstrate sustainable transport but also remove the stigma that bicycle transport is only for the poor and that all income group levels can use it for transport.

3.2 City of Tshwane's NMT Policy and NMT Master Plan

The NMT Goals and Policy Statements CITP (2015) are listed below:

- Providing Accessibility and Ensuring Equity
- Promoting Development through Green Economy Measures
- Public transport Integration
- Improving Safety of NMT Users in Tshwane
- Creating Sustainability by Investing in Greener Modes
- Raising Awareness through the Promotion of NMT
- Enhancing Institutional Capacity for NMT Implementation

The First and Last Mile project is in line with, and promote, the City's NMT Goals and Policy Statements.

In 2010 the CoT developed a Non-Motorised Transport (NMT) Master Plan, also referred to as the City's Shova Kalula Bicycle Project.

The following is an extract from the 2010 Master Plan:

"The City of Tshwane with this NMT master plan commits itself to transform NMT within the city. The City undertakes to make available the necessary resources, both in terms of funding, manpower and equipment, to provide a service which is of such a standard that the City can confidently market it to current users, as well as people currently using other modes of transport."

3.3 The City of Tshwane's Draft NMT Strategic Framework, 2013

The CoT Draft NMT Strategic Framework was developed in November 2013. As part of the framework, the CoT aims for the change in mode choice indicated in Table 2 aiming at a transport system based on strong NMT & Public Transport programmes.

It states that the shifts deemed possible and achievable over the medium term, 15-20 year horizon.

TABLE 2: City of Tshwane possible future modal split targets

Main Mode of Travel	% of Person KM	
	Current	Future
Walk	13%	12%
Cycle	1%	11%
P.T.	47%	48%
Car	39%	30%
TOTAL	100%	100%

A targeted intervention strategy was proposed as part of the framework and this is illustrated in Figure 4: Extract from Tshwane NMT Framework – Targeted Intervention Strategy.

A Bicycle Sharing Scheme initiated by the GMA will assist the City to achieve its aim for a change in modal split as well as support the intervention strategy.

International best practice indicates, that as more success is realised, larger cities are expanding bike sharing into lower density and lower income areas and new, smaller settlements/cities are entering the bike share market.

4. DEMOGRAPHIC CHARACTERISTICS AND LAND USE IN THE HATFIELD STATION AREA

4.1 Population Density

Population density of the Hatfield area is shown in Figure 5.

The following three population areas are shown within the 5 km area:

- Groenkloof, Groenkloof Nature Reserve, Waterkloof Area, CSIR and Innovation Hub with less than 500 persons per square kilometre
- Hatfield, Brooklyn and Moot areas with 1,500 – 3,000 persons per square kilometre
- Central Pretoria with more than 10,000 persons per square kilometre

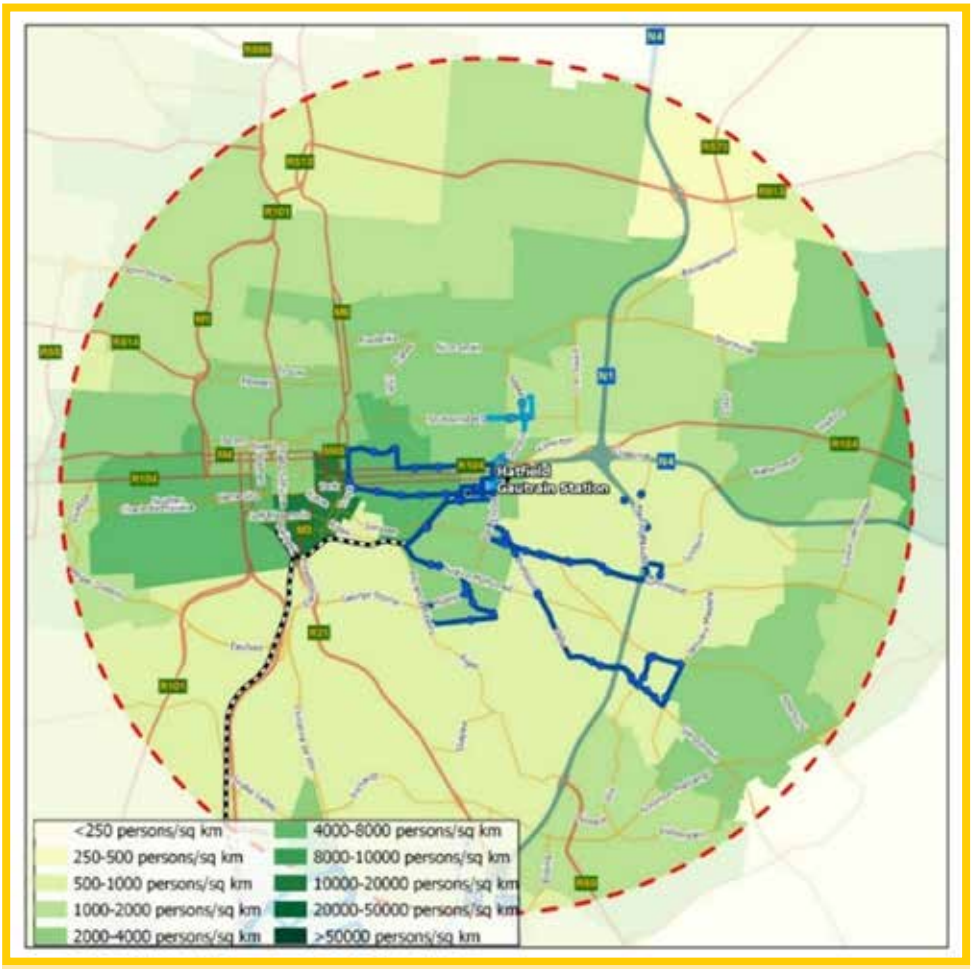

FIGURE 5: Population density

4.2 Land Use

The land use map shown in Figure 6: Hatfield land use map depicts concentrations of land use within the 5km study radius. One can deduce possible types and characteristics of users (such as office workers, students and government workers) that are able to comfortably access the locations surrounding the station.

Bike share systems are most successful where there is a mix of land uses and where trip-making occurs throughout the day. In Hatfield, bike sharing would provide an additional mobility option for:

- Local residents, who live, work and recreate in the area covered by the bike share program;
- Students going to the University of Pretoria, student residence in the area or the University sports campus, LC de Villiers sports grounds;
- Visitors or tourist going to sports events hosted at Loftus Versfeld Stadium; and
- Commuters travelling to the service area via the Gautrain or other transportation.
  – In this way the system can:
  1. Offer a "last mile" option for existing transit services.
  2. Extend the reach of transit into areas that are currently underserved and /or do not currently warrant bus services, or area covered via the feeder and distribution buses.

5. FACTORS INFLUENCING THE DEMAND FOR BIKE SHARE

A public perception study conducted by the Hatfield City Improvement District (CID) provides some insight into the factors impacting on the demand for bicycle usage.

The Hatfield CID is a non-profit organisation who is funded by the 26 property owners within the area. According to the Hatfield CID website (http://www.hatfieldcid.co.za) the CID embarked on a "Spatial and Institutional Development and Management Framework for the Hatfield Campus Village" in 2016.

According to the perception survey conducted in 2015, the majority of people in three sub-areas, Arcadia, UP Students, and Burnett, do feel safe to walk in the area, varying between 71% and 79% in the three sub-areas. Some 69% of people in Arcadia and UP consider traffic to be a problem, compared to 38% of people in the Burnett area.

Stakeholder discussions revealed that security challenges do exist. The built environment is shaped by high walls and electrified fences. Out of caution, many people prefer to drive and park adjacent to their destinations rather than walk and the result is streets that, even in the during the day, are often devoid of pedestrians or other activity.

The social response was that dedicated walkways and cycle tracks must be provided, along with recreational, sport and shower facilities on the Village Campus for staff and workers choosing to walk, run or cycle to and from campus. Strategic thrusts, such as a walking and cycling trails with appropriate and aesthetically pleasing signage, connecting the various neighbourhoods, are proposed. Street lighting in all the busy and concentrated areas should be a high priority. The vulnerable areas include the road from Lynwood Road in a western direction to Jorissen Street – many students, also females, walk this road late at night from campus or the library and certain areas, from Walton Jameson where Lynwood becomes Jorissen, are very dark and unsafe.

A decent, safe and extended walking and cycling trail network should be designed and implemented, based on students' expressed needs and also current patterns. A preliminary study tracking students' walking patterns in Hatfield produced the map.

FIGURE 6: Hatfield land use map

While this is based on too small a sample to be representative of all students, it is clear that strong desire lines exist along Burnett, Lunnon, and South Streets (West of Duncan), which connect men and women's residences to the campus.

The Hatfield Campus Village report concluded with objectives, strategies, guidelines, projects and programmes in support of goals identified as follows:

- In various CIDs, specific efforts are being made to create historical tours, an 'urban art hike' and bicycle and photography tours to stimulate tourism and attract visitors to the area.
- A dedicated, well-designed cycle/pedestrian path with sufficient bicycle stands should be developed to provide convenient access and movement for cyclists and pedestrians. This initiative should also include a public bicycle renting system for students and workers.
- With regards to student preferences for alternative modes of transport, it was indicated that they preferred a fare-free bus system in combination with their current mode of transport. Other modes that yielded relatively high levels of preference were pedestrian routes and a hop-on/hop-off campus bus.
- Bicycle lanes were least preferred, probably because of perceived inconvenience, the car-oriented road networks and a concern for safety.
  - With regards to bikeshare pilot project implemented by City of Tshwane Metropolitan Municipality (CoT) through a research grant via the Tirelo Bosha- Public Service Improvement Facility. By the end of the bikeshare pilot project, 437 bookings of conventional bikes (347 large and 89 small) and 414 electric bicycles were made. On average, between 16 June and 30 November, there were 14 bookings per day, with the maximum number of bookings being 40, for 2 and 16 November.

The analysis of the tracking data shows bright spots around the Lunnon Street entrance of UP's Hatfield campus, as well as around the Field's centre and Hatfield Plaza shopping centre. These centres contain fast food restaurants, gyms and retail stores. The Lunnon Street entrance of the Hatfield campus is also the closest entrance to the main campus from LC de Villiers.

6. FINANCIAL FEASIBILITY OF ALTERNATIVE BIKE SHARE SCHEMES

The financial model was developed on a spreadsheet platform to assess the financial feasibility of the bike sharing scheme. The financial model includes an analysis of the following:

- Capital investment requirements;
- Operating costs; and
- Revenue estimates.

To estimate the potential costs the following sources of information were consulted:

- Internet research on the cost of other systems implemented internationally;
- Cost associated with the bikeshare pilot study in the City of Tshwane;
- Discussion with technology providers; and
- Discussion with operators of existing bike sharing schemes in South Africa.

Various scenarios were developed to understand how different parameters affect the feasibility of establishing the bike sharing scheme, described below. The financial model has the following worksheets:

- Inputs
- Discounted Cash Flows (DCF)
- Outputs

The input sheet captured all the assumptions relating to the bike sharing scheme. It served as a basis for all the calculations relating to capital investment, operating costs, revenue and profits.

6.1 Scenarios Tested

For the purposes of testing the sensitivity of a number of the input variables, 18 scenarios were tested. The sensititivity of the following variables was tested:

- Scenario A1, A2 and A3: Two satellite stations and 40 bikes, testing the impact of e-Bikes vs Manual bikes for dockless systems:
  - A1 including 20 eBikes and 20 Manual bikes;
  - A2 40 eBikes and 0 manual bikes; and
  - A3: 0 eBikes and 40 Manual Bikes .

TABLE 3: Summary of financial model results of scenarios with advertising revenue

Scenario	Description*	ZAR Million				Percentage	
		Capital Investment	Total Revenue	Total Operation Costs	Total EBITDA	EBITDA	Operating cost Subsidy
A1	2 (S), 20 (EB), 20 (MB), D/L	1.19	6.19	8.70	-2.51	-40%	29%
A2	2 (S), 40 (EB), 0 (MB), D/L	1.68	6.19	10.24	-4.05	-65%	40%
A3	2 (S), 0 (EB), 40 (MB), D/L	0.69	6.19	7.10	-0.91	-15%	13%
B1	2 (S), 40 (EB), 60 (MB), D/L	2.22	9.6	11.9	-2.34	-24%	20%
B2	2 (S), 100 (EB), 0 (MB), D/L	3.72	9.6	16.7	-7.14	-74%	43%
B3	2 (S), 0 (EB), 100 (MB), D/L	1.22	9.6	8.7	0.86	9%	
C1	4 (S), 40 (EB), 60 (MB), D/L	2.24	12.01	12.37	-0.36	-3%	3%
C2	4 (S), 100 (EB), 0 (MB), D/L	3.74	12.01	17.16	-5.16	-43%	30%
C3	4 (S), 0 (EB), 100 (MB), D/L	1.24	12.01	9.17	2.84	24%	
D1	5 (S), 40 (EB), 60 (MB), D/L	2.27	13.21	12.66	0.55	4%	
D2	5 (S), 100 (EB), 0 (MB), D/L	3.77	13.21	17.46	-4.25	-32%	24%
D3	5 (S), 0 (EB), 100 (MB), D/L	1.27	13.21	9.46	3.75	28%	
E1	6 (S), 40 (EB), 60 (MB), D/L	2.30	14.42	13.01	1.41	10%	
E2	6 (S), 100 (EB), 0 (MB), D/L	3.80	14.42	17.81	-3.39	-24%	19%
E3	6 (S), 0 (EB), 100 (MB), D/L	1.30	14.42	9.82	4.61	32%	
F1	6 (S), 40 (EB), 60 (MB), No D/L	2.41	14.42	41.46	-27.04	-188%	65%
F2	6 (S), 100 (EB), 0 (MB), No D/L	3.91	14.42	46.26	-31.84	-221%	69%
F3	6 (S), 0 (EB), 100 (MB), No D/L	1.41	14.42	38.27	-23.84	-165%	62%

*S = number of satellite stations, EB = number of electric bikes, MB = number of manual bikes, D/L = dockless system

- Scenario B1, B2 and B3: Testing the impact of an increased number of bikes, from 40 to 100, with same number of stations than in A, two satellite stations:
  - B1: 40 eBikes and 60 manual bikes;
  - B2: 100 eBikes and 0 manual bikes; and
  - B3: 0 eBikes and 100 manual bikes.
- Scenario C to E: Testing the impact of additional satellite stations (4, 5 and 6 stations, respectively), with same number of bikes as in Scenario B, i.e. 100 bikes:
  - C1, D1 and E1: 40 eBikes and 60 manual bikes;
  - C2, D2 and E2: 100 eBikes and 0 manual bikes; and
  - C3, D3 and E3: 0 eBikes and 100 manual bikes.
- Scenario F: Testing the impact of manual docking, compared to Scenario E with automatic docking, with 6 satellite stations and 100 bikes:
  - F1: 40 eBikes and 60 manual bikes;
  - F2: 100 eBikes and 0 manual bikes; and
  - F3: 0 eBikes and 100 manual bikes.

6.2 Financial Results with advertising revenue

Table 3: Summary of financial model results of scenarios with advertising revenue presents a summary of the Financial Model results over ten years, including advertising revenue. Key highlights are:

- Despite the financial model yielding negative profitability ratios, the scenarios highlighted in grey (B3, C3, D1, D3 and E1) will over the 10-year period cover the operating cost of the business. Therefore they do not require regular subsidy to cover the operating costs.
- The estimated required investment for the scenarios that do not require subsidies for operating costs ranges between ZAR1,2 million and ZAR2,3 million.
- Positive results are achieved when the largest proportion of bikes are manual.

6.3 Financial Results with no advertising revenue

Table 4 shows the financial results of the three best schemes without any advertising revenue.

The financial results highlight the following:

- With no advertising revenue, not even the best scenarios are feasible.
- None of the bike sharing schemes will recover the initial investment without any advertising revenue.
- The scheme would require between 67% to 69% subsidy depending on the selected scenario.

7. CONCLUSIONS AND RECOMMENDATIONS

The main conclusions from the Bicycle Share Feasibility Study are as follows:

The literature review indicated that bike share schemes have become very popular internationally, but the success of a scheme depends on a wide range of factors. Although it is concluded that bike share schemes could be implemented successfully in South Africa, limited local data and applications are available to support assumptions about the demand for such schemes. A review of the land use, transport

TABLE 4: Summary of financial model results of best schemes with no advertising revenue

Scenario	Description*	ZAR Million				Percentage	
		Capital Investment	Total Revenue	Total Operation Costs	Total EBITDA	EBITDA	Operating cost Subsidy
C3	4 (S), 0 (EB), 100 (MB), D/L	1.24	3.03	9.17	-6.14	-203%	67%
D3	5 (S), 0 (EB), 100 (MB), D/L	1.27	3.03	9.46	-6.44	-213%	68%
E3	6 (S), 0 (EB), 100 (MB), D/L	1.3	3.03	9.82	-6.79	-224%	69%
*S = number of satellite stations, EB = number of electric bikes, MB = number of manual bikes, D/L = dockless system							

demand and supply patterns in the Hatfield node, the road and NMT infrastructure, NMT planning and policies of the City of Tshwane, indicated that there are many factors that would make a bike share scheme in Hatfield viable.

Positive factors are the large number of high-demand nodes around the Hatfield Gautrain station, and particularly the University of Pretoria, as well as the cycling coverage, geography and topography. However, there is a lack of cycling lanes, and bicycle facilities at the Hatfield station will have to be upgraded and expanded to accommodate a bicycle sharing scheme.

The CoT policy and planning supports and promotes the increased use of cycling as a mode of transport. The Hatfield CID also indicated the need for dedicated bicycle infrastructure.

A financial model was developed on a spreadsheet platform which was used to evaluate the financial feasibility of bicycle share schemes. A wide range of scenarios have been tested, and these indicated that a bike sharing scheme is not feasible without alternative revenue, such as advertising revenue, in addition to the bike rental income. With advertising revenue, the scheme is only feasible when there are 100 bikes, mostly manual bikes, which are much cheaper than e-bikes, more than four satellite stations, and with automatic docking, to save the cost of kiosk attendants.

In view of the results of the scenario testing, a realistic bike sharing system was proposed for the Hatfield node and tested with the financial model. A scheme using 100 bikes, 20 e-bikes, six bike stations, with automatic docking and advertising revenue, is shown to be financially viable.

A critical factor that is still uncertain, is the demand for such a scheme, due to lack of local data to support assumptions made. The CoT implemented a small pilot bike share scheme in Hatfield with only one station and 20 bikes, which indicated adequate demand to conclude that a more extensive pilot would be warranted.

Various management options have been identified which the GMA could use to implement a bike share scheme. Options are operating a scheme as an extension of current services, as a separate legal entity or a completely outsourced business. The choice should be based on the risks and benefits expected from each management structure.

The following recommendations are made:

- GMA should pursue further initiatives to move towards the implementation of a bike share scheme in Hatfield and in Sandton.
- GMA should co-operate with the City of Tshwane and the University of Pretoria to implement a pilot bike share scheme in Hatfield serving the Hatfield Gautrain station, the UP Campus, and other high-demand nodes. The first action should be to share and discuss the studies conducted by both parties and then to agree on a joint way forward.
- In view of the fact that the City of Johannesburg (CoJ) is also busy with an initiative to implement some form of bike share scheme in Sandton, the GMA should continue to consult with the CoJ to identify joint opportunities, as well as relevant property owners who would be willing to support such schemes.

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