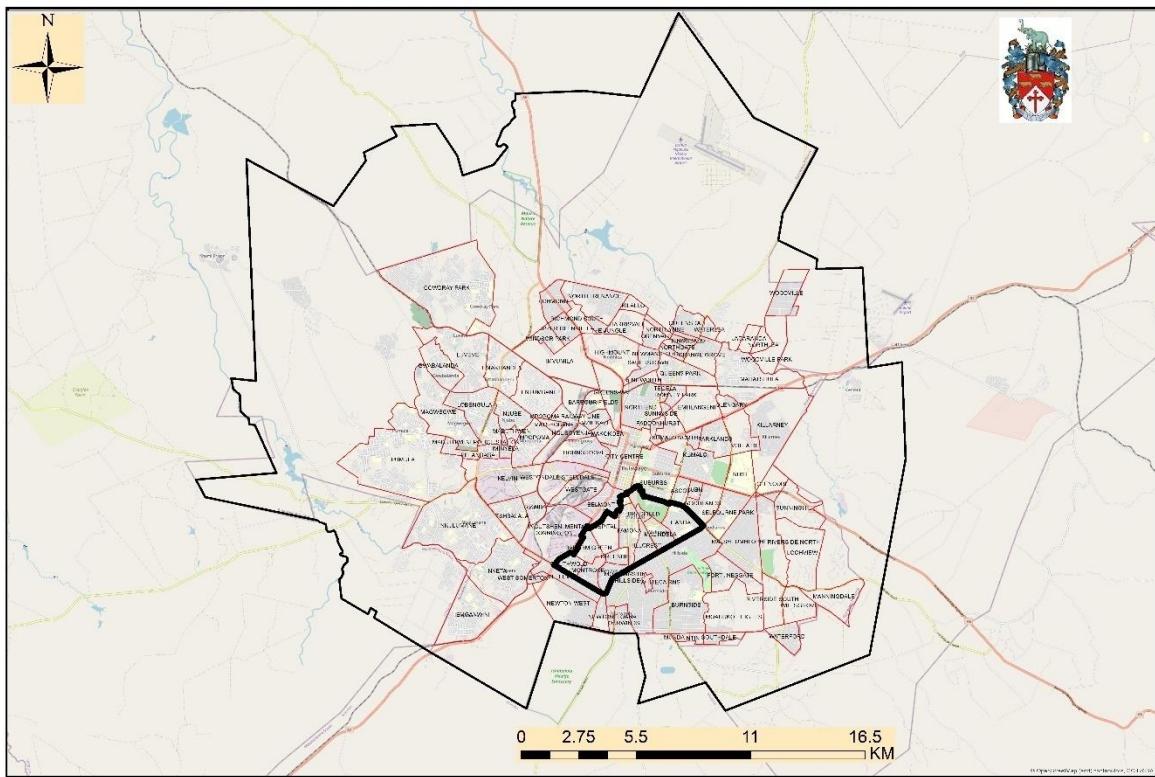




City of Bulawayo

**SOUTHERN CENTRAL AREAS LOCAL DEVELOPMENT
PLAN NO.16**



THE STUDY REPORT

TOWN PLANNING DEPARTMENT-BULAWAYO

2021

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CONSULTATIONS

1. The Minister of State for Provincial Affairs and Devolution for Bulawayo Metropolitan Mhlahlandlela Government Offices,
2. The Provincial Planning Officer, Matabeleland North Department of Spatial Planning and Development, Mhlahlandlela Government Offices.
3. The Provincial Education Director, Bulawayo Metropolitan, Ministry of Primary and Secondary Education.
4. The Provincial Medical Officer of Health, Matabeleland North. Mhlahlandlela Government Offices.
5. The Chief Executive Officer of Ingutsheni Hospital, Bulawayo.
6. The Provincial Agricultural, Technical and Extensions Services Officer, Mhlahlandlela Government Offices.
7. The Provincial Mining Officer, Matebeleland North, Mhlahlandlela Government Offices
8. The Officer Commanding, Zimbabwe Republic Police, Hillside Police.
9. The General Manager, Zimbabwe United Passengers Company, P.O Box 1779, Bulawayo.
10. The Regional Director, National Museums and Monuments, P.O Box 240, Bulawayo
11. The Area Manager, Z.E.S.A., P.O Box 2097, Bulawayo.
12. The City of Bulawayo - Town Clerk and Director Chamber Secretary.
 - Director of Health Services Department.
 - Director of Housing and Community Services Department
 - Director of Engineering Services Department .
 - Director Financial Services
 - Director

1.0 INTRODUCTION

1.1 General

The Bulawayo Master Plan (2000-2015), currently under review, set out broad planning policies for the future development of the City. Famona, of which Local Development Plan No.16 forms a part is included in the Master Plan and is earmarked for residential development. In terms of Section 17 of the Regional, Town and Country Planning Act, 29:12 ,1996,a local planning authority shall at all times keep under review the desirability of preparing a local plan for any part of the area for which it is the local planning authority. The first stage in the preparation of a Local Development Plan is the study of the planning area, and this, therefore, forms the justification of this document.

1.2 Rationale for the Study

Firstly, the preparation of this document is in line with the provisions of Sustainable Development Goals, specifically Goals 11 and 15 focusing on sustainable cities and communities together with sustainable life on land by year 2030. Secondly, this plan is prepared under the auspice of National Vision: Empowered and Prosperous Upper Middle-Income Society by 2030 as outlined in NDS 1 (2021-2025) and NDS 2 (2026-2030). Also, Southern Central Areas, herein after referred to as SCALDP 16, is crafted with the Bulawayo city Council's Vision of having a Smart and Transformative City by the year 2024. Further, the preparation of a Local Development Plan is in line with the proposals of the operative Bulawayo Master Plan (2000-2015). As mentioned above, in terms of Section 17 of the Regional, Town and Country Planning Act, chapter 29:12 of 1996, a local planning authority shall at all times keep under review the desirability of preparing a local plan for any part of the area for which it is the local planning authority. It is a statutory requirement that all the areas must be guided by Local Development Plans. Currently, for development control purposes, Southern Central Areas depend on two broad statutory documents i.e., the archaic Bulawayo Outline Plan and the Operative Master Plan (2000-2015). The major challenge with these is that they are obsolete and not adequately detailed in terms of development and growth to provide a flexible and effective development control policy. Additionally, the preparation for the Local Development Plan for the Famona area is long overdue as it currently imports policies for development control purposes from adjacent Local Development Plans like (LDPs No. 4, 8,9,12, and 13). This is contrasting to town planning practices as areas should be planned and dealt with based on their unique characteristics. It is against this background that a detailed and contextualized Local Development Plan is inevitable and cannot be overemphasized towards sustainable urban planning policies for the study area.

1.3 Scope of the Planning Area

The area to be covered by the study lies mainly to the south and southeast of the Central Business District and encompasses the developed areas of:

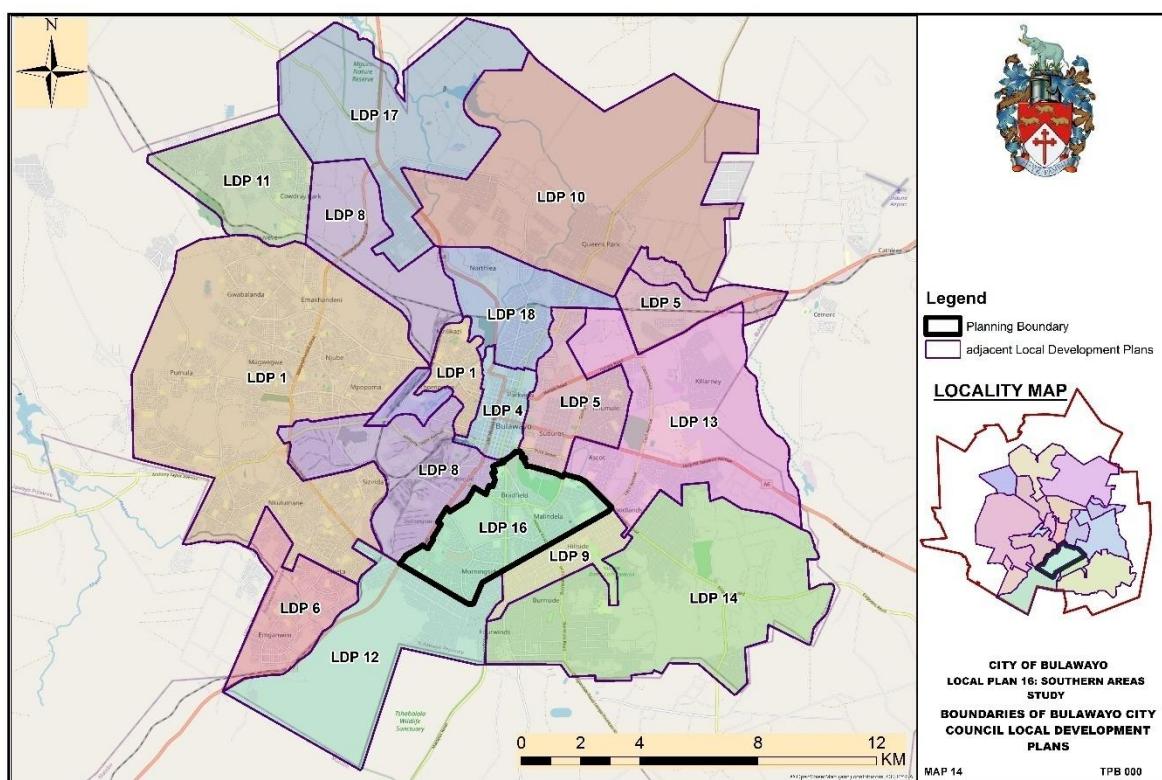
- a) Famona
- b) Barham Green
- c) Southwold
- d) Montrose
- e) Morningside
- f) Greenhill
- g) Hillcrest
- h) Malindela
- i) Ilanda
- j) Bradfield and
- k) A portion of suburbs (Qalisa).

The study area is bounded by Doncaster Road in the north-west, Plumtree Road to the west, Wellington Road to the south, Cecil Avenue to the east, and Essexvale Road (Old Esigodini) to the north-east. It should be noted that the planning area also coincides with the areas bounded by the following:

- (a) Local Plan No. 4: Central Area (to the north)
- (b) Local Plan No. 8: Industrial Areas (to the west)
- (c) Local Plan No. 9: Hillside (to the east)
- (d) Local Plan No. 12: Southern Areas (to the south)
- (e) Local Plan No. 5 (Eastern Areas)
- (f) Local plan No. 13 (University NUST)

A detailed map showing other adjacent Local Development Plans in Bulawayo is shown in Map 1 below. The demarcation of the planning boundary is marked by roads, a power line servitude, watercourses as well as property boundaries. The local plan proposals will be based to a large extent, on the proposals of the operative Master Plan as well as the findings of the study of the planning area.

Map 1: Local Development Plans in the City of Bulawayo.



1.4 Context of the Local Development Plan

The preparation of Local Development Plan 16 (Famona) hinges on the Bulawayo's overall strategy for future development along with the Operative Master Plan's proposals. It is as a response to the evolving economy of the city which was recognized through a Council meeting on the 1st December 1993 that resolved that "authority be granted for the preparation of Local Plan No 16 (Famona) which covers medium density suburbs to the south of the City Centre. Moreover, the Famona LDP is prepared as part of the ongoing local plan preparation exercise which commenced with the approval of the Operative Master Plan in 2004. Other local plan areas are depicted in Map No:1 together with the urban setting of Local Plan No: 16. The local plan will cover all aspects of town planning including social, economic, and physical development aspects and the proposals will be based to a large extent, on the proposals of the operative Master Plan, as well as the findings of the study of the planning

area. The implementation of the Local Plan will lead to further development of the vacant land and open spaces within the study boundary and the development of these areas will depend on the extension of services, soil suitability, and plans of development as well as regulations pertaining thereto. The study of the area will form the basis upon which goals and objectives and development strategies will be formed.

1.5 Aims of the Local Plan study

The aims of Local Plan Number 16 are:

- a) To study and analyze the nature of existing land uses, public utilities, traffic conditions, public transport systems, and the operative statutory controls.
- b) To investigate the potential for the development of vacant land within the built-up area and formulate appropriate proposals.
- c) To formulate detailed and sound proposals after taking into consideration the Master Plan and Outline Plan proposals for the area.
- d) To develop a comprehensive and appropriate development control policy for the area under study.
- e) To formulate environmental enhancement and protection strategies.
- f) To analyze and evaluate traffic and transportation systems with particular emphasis on mass transportation.
- g) To identify problems and constraints against, and opportunities for development in the study area.

1.6 General Methods of Approach Used In the study

The following aspects were covered in the study report:

- Scope of the study area and context of the local plan
- Physical characteristics
- Existing landuses and reservation
- Land ownership
- Public utility services
- Constraints and Opportunities

Each aspect was however examined through the use of both quantitative and qualitative data collection methods.

Information gathering was in the form of the following strategies:

1.6.1 Desktop Research Strategy

The following issues were examined closely using desktop research: -

- i. Physical characteristics of the area.
- ii. Economic activities in the area
- iii. Population and employment characteristics of the area
- iv. Existing statutory controls
- v. Existing zoning of the area
- vi. Current traffic and transportation policies that apply to the area.

1.6.3 Google Search Strategy 2

This was used to augment the Town Planning tools in the Local Authority to ascertain boundaries and changes over the years. Also, the study employed Google maps during the household survey in ascertaining street names.

1.6.4 Household Surveys Strategy

To determine various physical, social, and economic characteristics of the study area, door-to-door visits guided by a questionnaire were conducted in all the suburbs in the study area. Students from the Town Planning Services, Housing and Community Services (Valuations), and the Engineering Services Departments (GIS) were coordinated by Town Planners to gather the requisite data.

1.6.5 Traffic Surveys Strategy

To determine the traffic issues of volume, peak, direction, and flow, the study embarked on a week-long traffic survey of major intersections in the study area.

1.6.6 Stakeholder Consultations Strategy

Relevant stakeholders were consulted to confirm and buttress the findings of the study.

2.0 STATUTORY PLANS AND OTHER PLANNING PROPOSALS

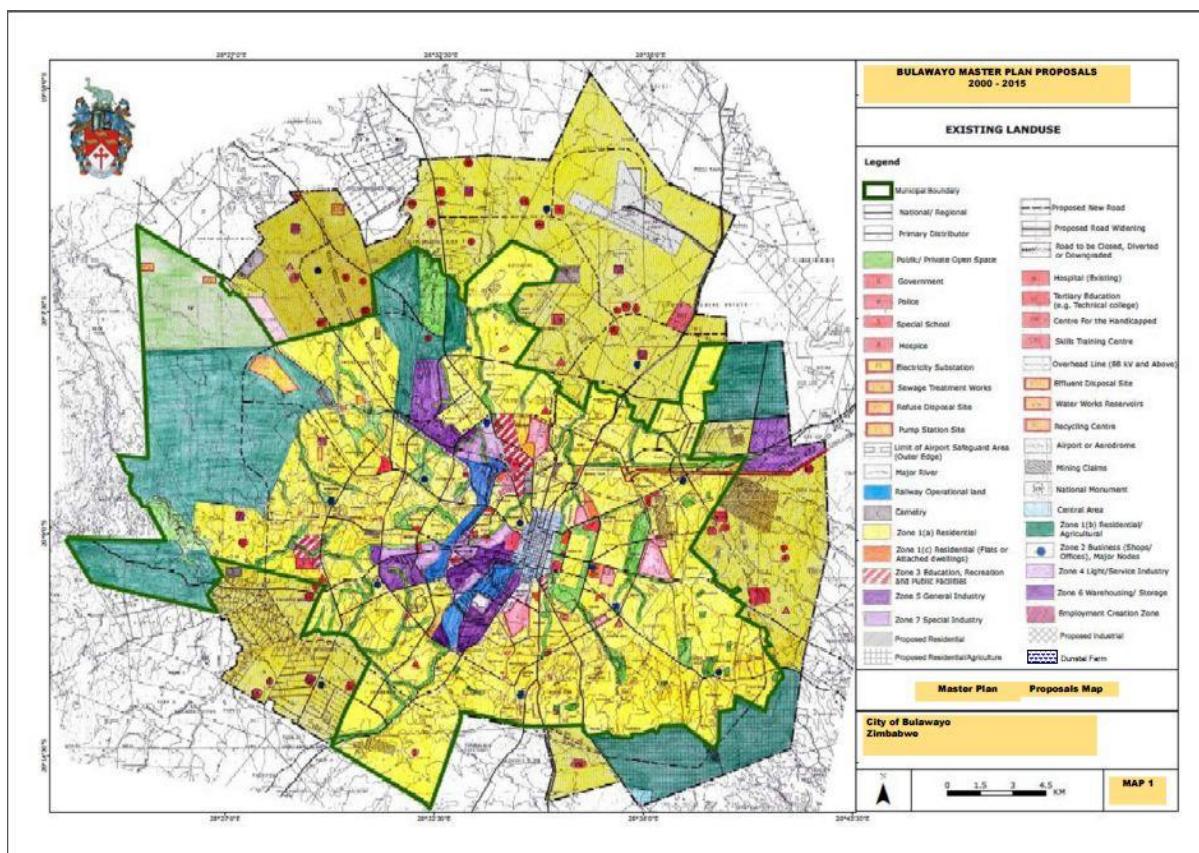
2.1 General

Development Control within the City boundary is subject to several Town Planning statutory documents including the Master Plan, Outline Plan, Local Development Plans, and Town Planning Schemes. Town Planning Schemes, though detailed, are archaic and have been overtaken by events rendering them irrelevant in some instances. The Bulawayo Outline Plan that used to guide development in the area is now obsolete but moreover has been replaced by the Operative Master Plan. Though being the only statutory document guiding development in the study area, this document is way too general to provide a useful guide for detailed development control.

2.2 Master Plan Proposals

The area under study was guided by the outdated Bulawayo Outline plan of 1957 which has since been replaced by a Master Plan. The Operative Master Plan for the City of Bulawayo (2000-2015) has set out proposals with clear planning goals and strategies for the City. The master plan was prepared under several planning considerations. Firstly, on population and households the consideration was that the rate of population increase in Bulawayo has declined from the high levels of the 1970s (5.9% annual average growth) to an estimated 4.5% p.a. growth rate in the period 1982-1992. The meaning of these rates of growth is that Bulawayo's population has grown from 495,000 in 1982 (when the current Master Plan was approved) to approximately 1 million in 2000, an overall increase of just over half a million people. Therefore, projecting the population forward to 2015 requires making some assumptions. Hence, it was assumed that over the next 15 years the impact of a declining birth rate and an increasing death rate (largely caused by HIV/AIDS) will progressively reduce the natural population increase in the city to zero, where it will remain for several years. In actual numbers, it was projected that Bulawayo's population will grow from the current 1 million to over 1.5 million, an increase of approximately 550,000. In terms of the characteristics of the population, Bulawayo has a very young population and this is likely to remain a feature throughout the next plan period. The Master Plan proposals are shown in the Map 2below.

Map2: Master Plan Proposals (2000-2015)



2.3 Master Plan Goals and Strategies

The Master Plan hinges on 7 thematic areas that formed the proposals, goals, and strategies in guiding the development of the city from 2000-2015. These are discussed below;

2.3.1Growth and Development

The City proposed to ensure the availability of suitable land to meet the future needs of Bulawayo. Strategies towards the achievement of the above proposal and goal included consolidation within current boundaries, expansion of the city to the North and East, and exploring long-term options for the next phase of Bulawayo's expansion.

2.3.2 Local Economic Base

This sought to establish a strong and sustainable local economic base in the City of Bulawayo. This will be achieved by providing the appropriate physical factors, supporting an enterprise culture, training for the future, and marketing Bulawayo in the Global economy.

2.3.3 Housing and Social Facilities

The Master plan detailed the need to ensure that provision is made for adequate and appropriate housing & social facilities to meet the city's needs during the plan period. This will be accomplished by providing for adequate housing and social facilities through mobilizing land and other resources to ensure that provision is made for each dwelling's needs. On the social facilities cluster, the Master Plan detailed the need for provision for Pre-School, Primary, Secondary, and Tertiary Education facilities for educational services that are on par or above that offered in other cities. There was a need for the provision of appropriate and adequate health facilities that are accessible to all to encourage a healthy community. Also, the plan encouraged the productive use of leisure time through the adequate and appropriate provision of sports, recreation, and entertainment facilities. Finally, the plan's strategy on social facilities was to support the cohesion and development of the local communities through the provision of a range of appropriate social facilities and social services.

2.3.4 Transportation Systems

The plan's goal here was to ensure that provision is made for an efficient transportation system that meets the needs of the people during the plan period. This will be done through the strengthening and improvement of the main road network in Bulawayo to increase internal accessibility, protect the Central Business District (CBD), and limit the impact of heavy traffic passing through the city. Moreover, all forms of Public Transport will be improved and linked in the interests of the traveling public and the local economy. Furthermore, traffic management, including the control of heavy vehicles, vehicle parking, provision for cyclists and pedestrians will be undertaken to enhance safety, access, and the environment. To ensure mobility within, in the study area the Master plan advocates for the use of road reserves to maximum capacity, the provision of reservations for the completion of the major ring and radial roads, and the improvement of unsuitable alignments. The Master Plan proposes that it may be economically more practical to retain Cecil Avenue, Matopos Road, and Grey Stoke Way Link as the applicable portion of the ring road system. To ascertain safety the Master Plan emphasizes the need to eliminate potential accident blackspots by implementing adequate traffic management measures at major junctions and intersections. These proposals will be implemented as and when justified by traffic volumes.

The Master Plan aims to improve the movement of cross-city traffic to enhance accessibility within the existing roads. The Master Plan proposed that;

- i. Re-alignment of Cecil Avenue where it intersects with Matopos Road. It expands due to an increase in the volume of traffic on the road as a result of growth in the city. (TPD 211/41)
- ii. Re-alignment of Twenty-Third Avenue where it intersects with Hillside Road that joins into Burns Drive and Phillips Drive to increase the turning radius of the road due to the volume of traffic on that major road. This would reduce the sharp curves on Twenty Third which is a link road to industries making it easy for heavy trucks to maneuver on the road and avoid going into the CBD but get direct access to industries. (TPD 211/35)
- iii. If re-alignment of Essexxvale is to be done as a result of development the splays can be reduced to a single splay of 50m x 50m. (TPD 211/36)
- iv. Road reserve required if First Street, Essexxvale Road, Phillips Drive ever become a 4-way intersection, this is however not proposed in terms of the Master Plan (TPD 211/35)

2.3.5 Physical Infrastructure

The other goal of the Master was to ensure that adequate and appropriate Physical Infrastructure is provided to meet the development needs of Bulawayo until the end of the planning period. Strategies will include amongst others ensuring that Bulawayo has a safe, reliable, and environmentally sound system of water and sanitation that will be able to keep pace with growing demand throughout the plan period. Secondly, to make certain that Bulawayo has adequate, affordable, and environmentally sound energy supplies to meet current and anticipated future needs. Thirdly, this will be achieved by making provision for the growing need for an effective and environmentally sound system of waste collection and disposal that meets international standards. Finally, there will be a need to support and campaign for the constant upgrading and improvement of Bulawayo's telecommunications systems to ensure the city can be competitive in the global market.

2.3.6 Land and the Environment

This goal is set to develop Bulawayo into an attractive city and ensure the utilization of land and the environment sustainably. According to the plan, the concept of sustainable development will be promoted by ensuring that all development is environmentally sensitive and that all stakeholders in Bulawayo take account of the need to protect and enhance the environment. Also, the quality of Bulawayo's urban and rural environments will be protected and improved. Additionally, polluting activities will be strictly controlled and their impact on communities and the environment minimized.

2.3.7 Management and Resources

The final goal was of the Master Plan was to promote a capable and forward-thinking management for Bulawayo with adequate resources to meet the development needs of the city. Firstly, this will be achieved by creating a responsive, co-operative, and public service-oriented City Council that operates in a strategic, transparent, and accountable manner. Secondly by enhancing the planning and management capacities of the City Council so that

they can take the lead role in the development of Bulawayo through the plan period. Finally, by increasing the financial resources available to the City Council to implement the various strategies and policies of the Master Plan.

3.0 PHYSIOGEOGRAPHICAL CHARACTERISTICS

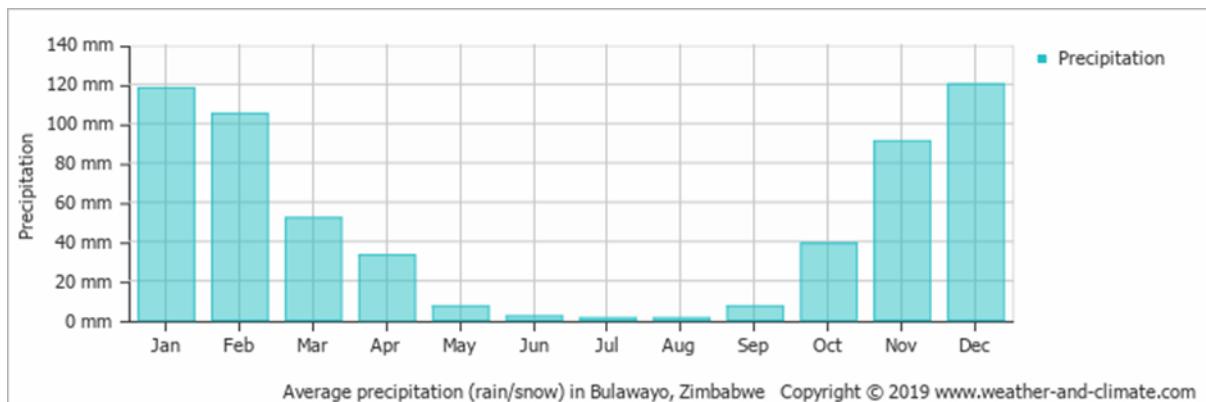
3.1 General

This aspect of the study report will deal with the physical and geographical conditions and characteristics of the study area. These will include the following characteristics: climate, topography, gradient, geology, soils, and vegetation.

3.2 Climate

According to the operative Master Plan, Bulawayo is characterized by variations in both rainfall and temperature with a semi-arid climatic condition. Its average rainfall is 594mm with some variations yearly. It has three broad seasons, a dry-cool winter season from May to August, a hot dry period in early summer from late August to early November, and warm and wet periods from early November to April. However, throughout the year, there are occasional days of cool cloudy weather with drizzle at times. The rainfall is not very reliable which makes the planning area vulnerable to droughts as rainfall tends to vary sharply from one year to another year. The months of January, February, November, and December have a high chance of precipitation as shown in figure 1 below.

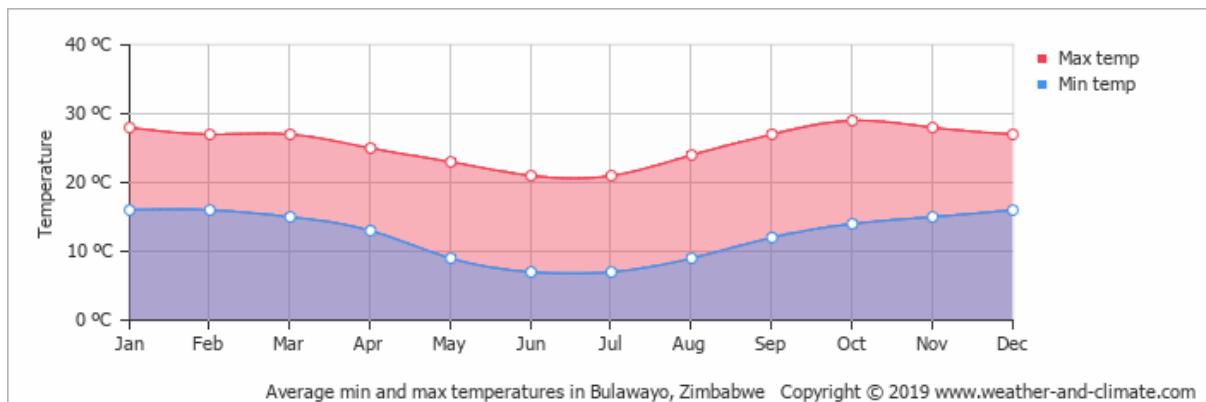
Fig 1: Average monthly rainfall over the year for Bulawayo.



3.2 Temperature

Temperatures are generally warm during summer ranging an average of 30 degrees Celsius or even more when the skies are clear. During the month of April, May, June, July, and August one is most likely to experience good weather with pleasant average temperatures that fall between 20 degrees Celsius (68°F) and 25 degrees Celsius (77°F). The warmest month is October with an average maximum temperature of 29°C (84°F). The coldest month is July with an average maximum temperature of 21°C (69°F). On average, the warmest month(s) are January, October, and November as shown in Fig 2 below.

Fig 2: Average minimum and maximum temperatures over the year for Bulawayo.



3.3 Sunshine

According to the operative Master Plan (2000-2015), there is a fair amount of sunshine throughout the year (7-9 hours daily) with the maximum sunshine occurring during the months of May to October. On the other hand, the least amount of sunshine occurs during the months of November to March (see Fig 3) making it an ideal location for the promotion of green energy sources.

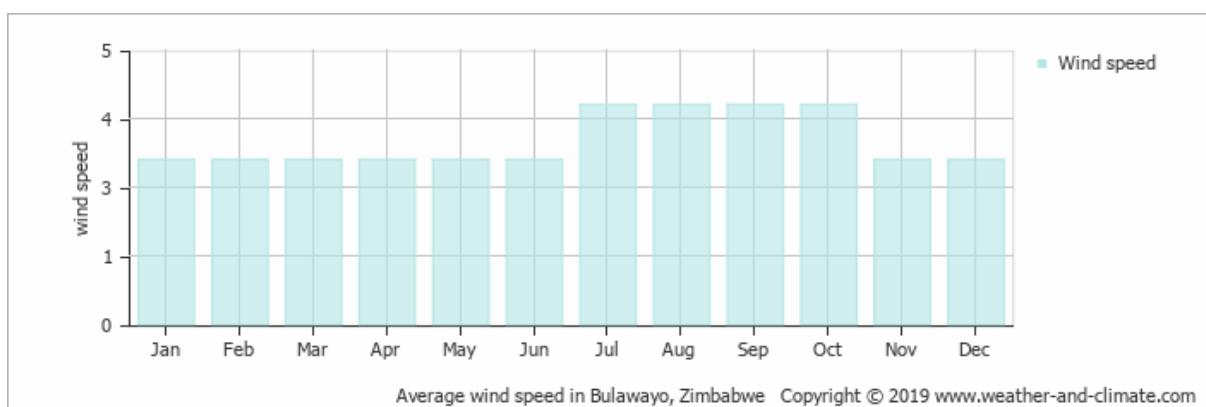
Fig 3: The average monthly total hours of sunshine over the year in Bulawayo.



3.4 Wind

The prevailing wind direction in the city is from southeast according to the wind rose. Throughout the year , the winds from the south-east quadrant are predominant and the speeds are usually moderate at about 10 knots , while there are some days when a speed of 20-25 notes are recorded. Despite them being calm, the winds can be dusty towards the end of the winter. Strong winds can also be experienced during the rainy season particularly at the beginning and end of this season. Wind direction and wind speed are important in the built environment for the positioning of buildings and siting of polluting industries. Wind speed is denoted in Fig 4 below.

Fig 4: The mean monthly wind speed over the year (in meters per second)



3.5 Geology and Soils in the Study Area

The study area is underlain by meta basalts and metabasaltic hornblende schists of the Umganini Formation of the Bulawayo Greenstone Belt. These volcanic lavas are pillowled at places. To the south-east and extending a little bit into Malindela and Ilanda, is the Hillside Syenite –a porphyritic pinkish – reddish granite. Cutting through metabasalts in a) SE - NW direction are intrusive dolerite dykes (of wide-ranging composition).NE – SW direction is

rocks of Meta – gabbroic and Meta – dolerite composition. Also with the same strike are banded iron formation (BIF) horizons. Quartz vein/blow outcrops to the east of the Trade Fair.

The soils vary in colour but they are normally dark-red to brown. There are also shallow to moderately shallow brown or reddish-brown clay mafic rocks in the area. The soils are susceptible to water erosion. As a result, special care should be taken when development programs are being implemented in the area. Metabasalts which cover almost the entire area is normally covered by the substantial thickness of dark-red clayey soil and the ground is usually stoney. Dolerites normally form low and narrow elongate ridges with rounded to sub-rounded boulders due to spheroidal weathering. Soils vary in colour depending on mineral composition but they are normally dark-red to brown. Dolerite may intrude via fractures and sometimes may form sheets/sills. The hillside syenite gives rise to alkaline (potash-rich) sandy soils. The landscape is generally flat with a few remnant kopies. Banded ironstone formations normally form narrow ridges which can be followed for several kilometers on the ground. At places, the ridges may be very low and, in some cases, they occur as a trail of float/rubble. Resultant soils are deep reddish-brown. No faulting was identified during mapping in this area but faulting has occurred in the vicinity. Two sets of faults one trending NW-SE and the other, roughly NNE-SSW occur to the south and east of the area respectively, and won't be a surprise if one of the dolerite dykes or BIF occupies one of these. The area is mostly dominated by Meta basalts and is normally covered by the substantial thickness of dark-red clay soils. Notable on the Southern East of Malindela and Ilanda is the prevalence of the greenstone and granite.

Suburbs such as Green Hill, Southwold, and Barham Green are located in elevated areas due to a crest, which shapes the outcome of the direction of the drainage southwards. Hence, the presence of station pumps in Southwold and Montrose. In addition, the general flow of the drainage of the study area is to the North.

3.6 Vegetation

The proposed area under Local Development Plan No. 16 (Famona) is characterized by both indigenous and exotic vegetation types. Most of the exotic tree species the gum trees, pines, and jacaranda trees are found in the areas which are around the residential, along with the roads and also recreational areas. Some of the indigenous tree species found in the area are as follows:

- a) Marula
- b) Acacia karrooIsinga (N)
- c) Lonchocarpuscapasa,Ichithamuzi
- d) Ficus (fig tree)
- e) Combretum molle,Umbondo (N

The general topography of the study area is shown in Map 3 below.

3.7 Map Description

The map below shows that the area slopes South west and North East wards forming ridges which act as the catchment area for the streams which join at an acute angle. Thus, there are quite a number of streams which dissect the study area and quite notable is a stream which cuts through founders and Montrose studios. There, is a stream also which passes through Masiye college which forms valleys since most streams are canalized within the study area. There is a ridge also on the eastern side of the civic centre in the study area. Furthermore, within the study area the drainage drains downwards to the South western areas towards the Bellevue shopping centre. The study area has areas where there is presence of a crest which shows that the area has a steep slope. The survey also posed a question on whether residents felt trees were important in their neighbourhoods. The results are displayed in Fig 5

Map 3: Topography in the Study Area.

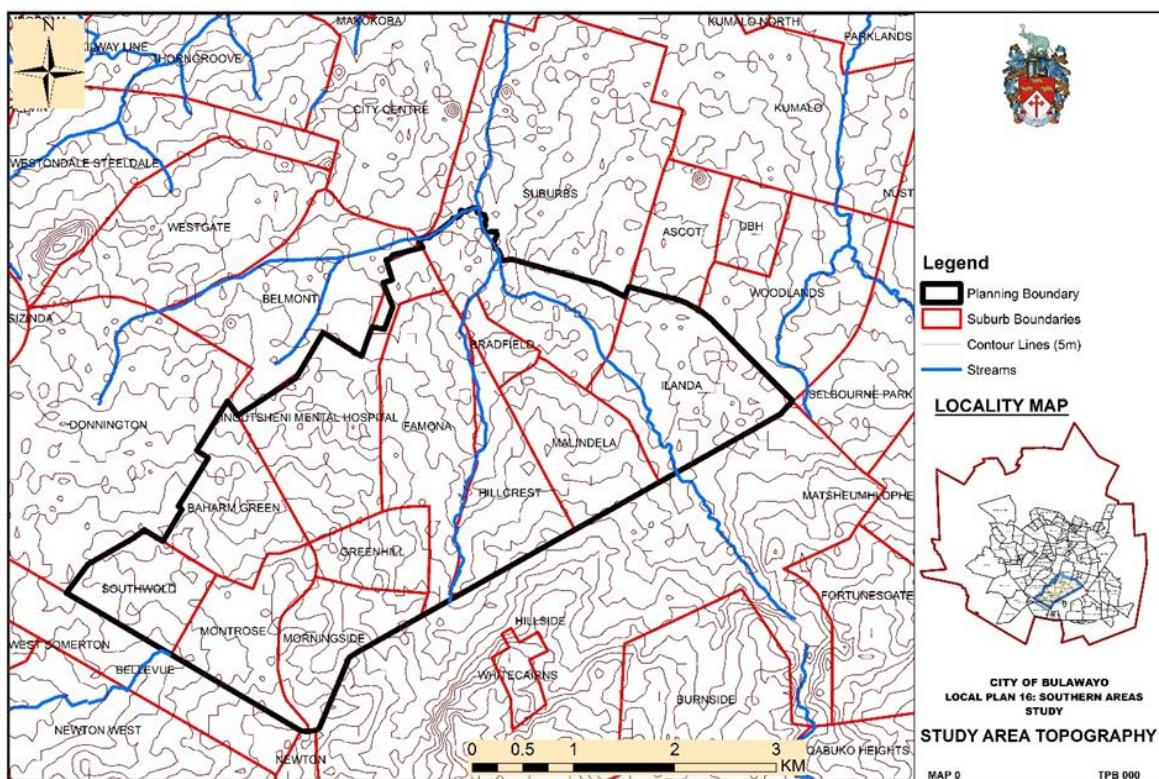
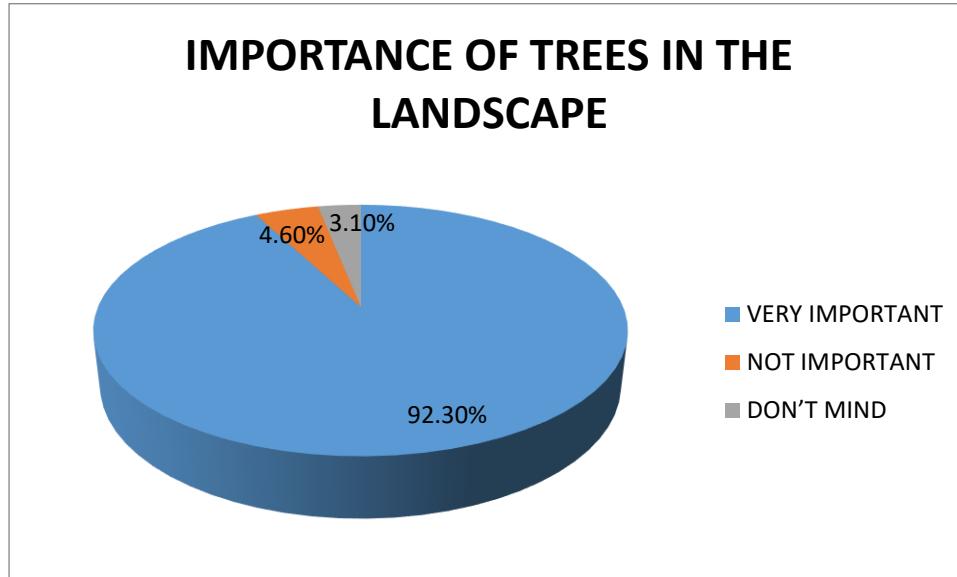


Fig 5. The importance of trees in the study area



4.0 POPULATION

4.1 General

According to the 2012 National Census carried out by the Zimbabwe National Statistical Agency the population in Bulawayo in 2012 was 653 337 and this has been the last comprehensive census done in Zimbabwe. The rate of population increase in Bulawayo has declined from the high levels of the 1970s (5.9% annual average growth) to an estimated 4.5% growth rate in the period 1982-1992. The overall population estimates for the city as per the 2012 census show that there was a population decline by 3% although the last Inter-Censal Demographic Survey was conducted in 2017 and revealed an annual average growth rate of 2.68% from 2012 meaning the population for Bulawayo was 738 600 in 2017. The health department provided the ward population for Bulawayo. The study noted that the 11 suburbs comprising LDP 16 fell under Wards 4,5 and 6 whose populations are provided and projected to 2021 (see Table 1).

Table 1: Ward Populations

Ward	2012	2017	2018	2019	2020	2021
4	25268	26822	27362	27912	28473	29335
5	18359	19488	19880	20280	20687	21314
6	13470	14299	14586	14879	15178	15638

Table 2 shows the different wards where the suburbs forming LDP16 fall under. The challenge comes in trying to ascertain LDP 16 population from this data hence this falls off due to its complications.

Table 2: Wards and their respective constituents/suburbs.

Ward	Constituent/Suburb
4	Malindela and Ilanda
5	Morningside, Greenhill, Hillcrest, Famona, Suburbs Portion, Bradfield,
6	Barham Green, Montrose, Southwold

The next bet of getting the closest accurate figures would be to use the housing unit method which is internationally used as a method of estimating the population for an area. Based on Zimstats figures, Bulawayo's average household size has remained at about 4 people per household since 2002. However, the local authority is adamant that the average household size is 6. Therefore, if one was to adopt an intermediate household size between the Zimstats figure and that of the Bulawayo City Council, one gets to an average of 5. However, an average household size of 5 would be problematic since the BCC housing population register is not based on a scientifically undertaken exercise. In order, therefore, to get close to the average household size of the study area, a household survey study had to be conducted. A question was posed as to how many people stayed permanently in that house. Although, not all houses were able to respond, the data will at least bring a closer average household size figure of the study area. There are 4 391 households in the study area according to the Household survey.

This average size was then multiplied by the number of dwelling units in the study area.

The highest possible population for the area will be 6 multiplied by the number of households(26 346).

The lowest possible population for the area will be 4 multiplied by the number of households(17 564).

This led to an estimated average approximated population of 21 955 in the South-Central Areas. Since the household survey failed to attend to all the houses, the study then employed the data from the rates accounts adopted from the valuations department. This gave a true reflection of the houses in the study area. This was then merged with household survey data to ascertain the average family size in the study area. This average size was then multiplied by the number of dwelling units in the study area. Based on this, therefore, the average family size in the study area was four (4) leading to an approximated population of 17628 in the Famona Study Area.

4.2 Population Trends

The Inter-censal Demographic Survey 2017 shows an in-migration of 336 218(47,8% or 478 per 100) against an out-migration of 186 304(26,6% or 265 per 000 resulting in a positive net migration rate of 21,3 % or an increase by 213 people per 100 meaning that more people were coming into Bulawayo than those who were leaving the city. This contributes to

population growth and the demands for service delivery. According to the 2012 National Census, the population growth rate has seemed to decrease by 0.34% over the past few years, the reason could well be the lack of industrial growth and employment opportunities in Bulawayo over this period. However, the Inter-censal Demographic Survey has observed an increase in the population by 2%. These trends are very critical in dealing with socio-economic issues for the population per study area. The trends will aid planners in ascertaining how much of the housing needs will be required based on the population trends. It, therefore, informs in terms of planning for housing and ascertaining how much may be catered for from the study area. The knowledge of the population characteristics and their trends helps in planning for demand and supply issues for recreation, shopping, employment, and community facilities.

5.0 EMPLOYMENT

5.1 General

Understanding the employment issues for the study area is very key as it informs a wide range of urban planning policies like transport issues (modes and routing), ancillary services, and nodes. The survey data was very critical in ascertaining the employment issues in the study area, though a detailed employment survey for the whole city will be key.

5.2 Existing Situation

The better part of the study area is predominantly residential and based on this, internally the employment potential is limited to domestic work, commercial and community facilities. However, there are other key employment nodes in the study area and these will be detailed in table 3. Although there is no data on domestic workers in Bulawayo, the household survey indicated that almost all the residential dwellings had a domestic worker who either resided in

the study area or would commute to the residents every day. This was noted through either conversations or observations during the household survey.

Also, the Zimbabwe International Trade Fair Exhibition center was a key employment node in the study area employing both skilled and unskilled labour. Additionally, the study area has a few industries that also act as employment nodes. Furthermore, there are quite a number of Lodges dispersed in almost all the suburbs in the study area. Lastly, the study area has one hotel site in Barham Green which also acts as an employment node.

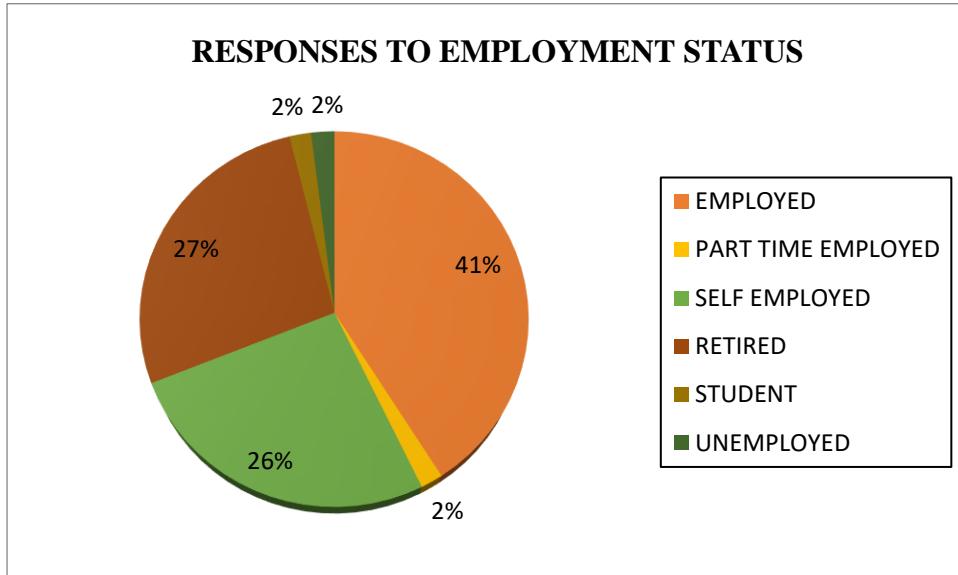
Table 3: Major and Minor Employment Nodes in the Study Area

Type	Number of Facilities
Education (ECDs, Primary and Secondary ,Tertiary)	28
Health (Clinics, Surgeries and Hospitals)	5
Commercial	6
ZITF Exhibition Centre	13
Community Facilities (15
Industrial (Light and Service)	3
Hospitality (Hotels and Lodges)	13
Agricultural	7
Fire and Ambulance	1
Police Station	1
Informal Sector	In every Shopping Centre

Health and educational facilities also provide the better part of employment opportunities as they have placed teachers, health staff, and the general hand that complement these skilled personnel. The informal sector complements all these other employment nodes mentioned above and these range from fruits and vegetable markets vendors and others dotted in the commercial centers in the study area. However, the Central Business District still provides the better part of the employment node for the study area. This relationship needs to be maintained and managed well especially when it comes to office space which now favors the suburban set-up than the CBD. A balance must be made to guard against congestion in the

CBD but avoiding urban decay by only channeling and allowing limited other uses into the suburbs. The Household survey also sought to understand the employment status in each family and also understanding the source of livelihood in each family and the statistics are shown in Fig 6below.

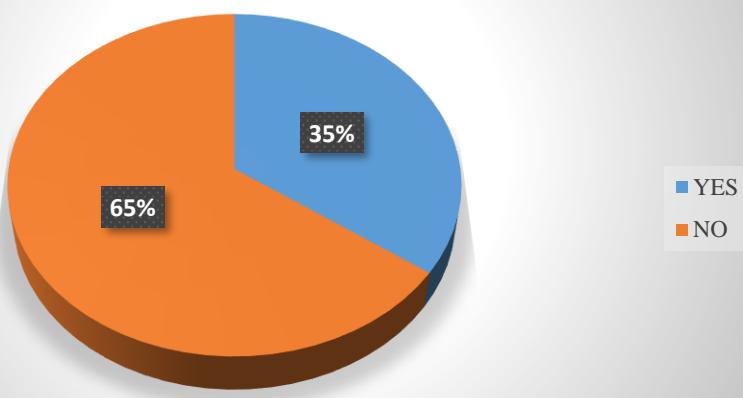
Fig 6: Employment Status in the Study Area.



The household survey noted that the majority (see Fig 7) of the residents were employed outside the study area and this had implications on the mode of transport to be used having a bearing on the road network.

Fig 7. Employment locality

**IF EMPLOYED DO YOU WORK WITHIN YOUR
LOCAL AREA**



6.0 HOUSING

6.1 General

The study area was established as a medium-density residential area but has since been upgraded to low density due to the revision of the standards through Circular 70 of 2004. A household survey was conducted to establish the housing typology and conditions of buildings within the study area. The study revealed that the Famona study (i.e., all the suburbs) area predominantly comprised of detached houses with isolated flats and townhouses in the suburbs of Famona, Bradfield, Ilanda, and Qalisa. The housing typology used in this Local Development Plan is depicted in Table 4 below.

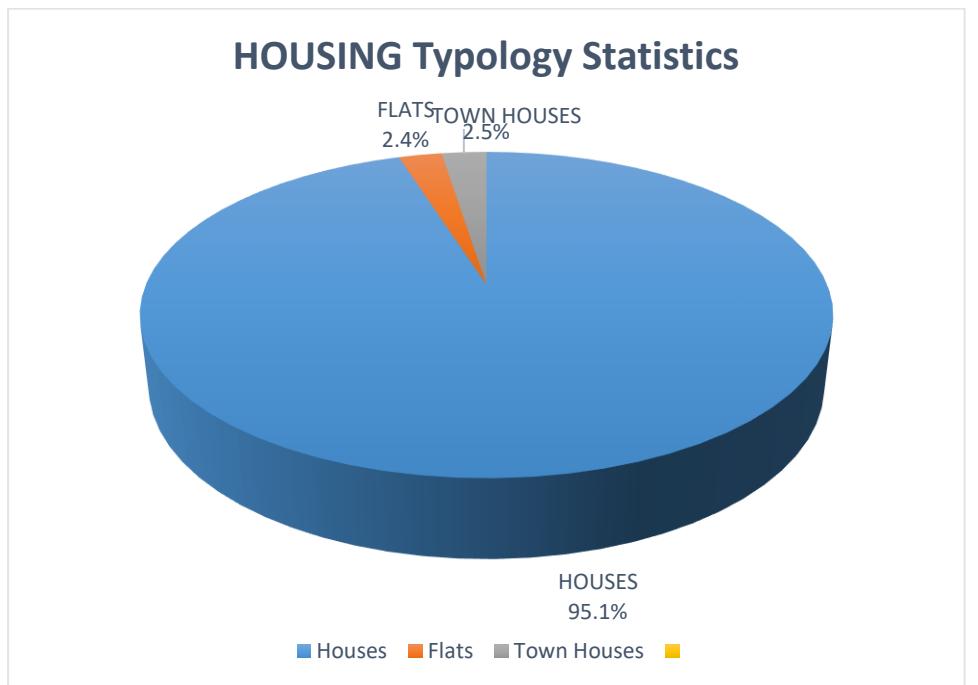
Table 4: Housing Typology and their Description

Typology	Description
Detached	A house that is not attached to another dwelling in any way
Semi-detached	A single-family duplex dwelling house that shares one common wall with the next dwelling
Apartment	A group of housing units in one building all owned by one entity
Townhouse	Uniform dwellings built in a distinct community that may have a homeowner's association
Duplex	A dwelling that is constructed on two floors. It has a single dining room and a single kitchen, has a common central wall, and consists of two living units, either side by side or on two floors, with separate entries. It is sold together and is owned by an individual.

6.2 Existing Housing Situation

As of 30th November 2020, the study area consisted of 4 407 dwellings including infills, where 95, 1% (4 176) are houses (detached and semi-detached), 2.4% (106) are flats and 2.5% (108) are townhouses as depicted in the Pie chart in Figure 8. The majority of the residents were owners of the houses (51%) with 31% renting the properties (see Figure 9). In terms of the Operative Master Plan, there is a huge demand for new housing to cater to the increasing population in the City of Bulawayo. The official housing waiting list to date is approximately 120 000 applications. According to the household survey conducted during the preparation of the Local Development Plan, the average occupancy rate is 4 people per dwelling.

Fig 8: Housing typology in the Study Area



In terms of typology, the majority of houses were detached with a few semi-detached found in Bradfield and Famona. The study area also has flats in the suburb of Famona and townhouses in Ilanda and Qalisa. The housing typology in the study area is depicted in Map 4.

MAP 4: Housing Typology in the Study Area

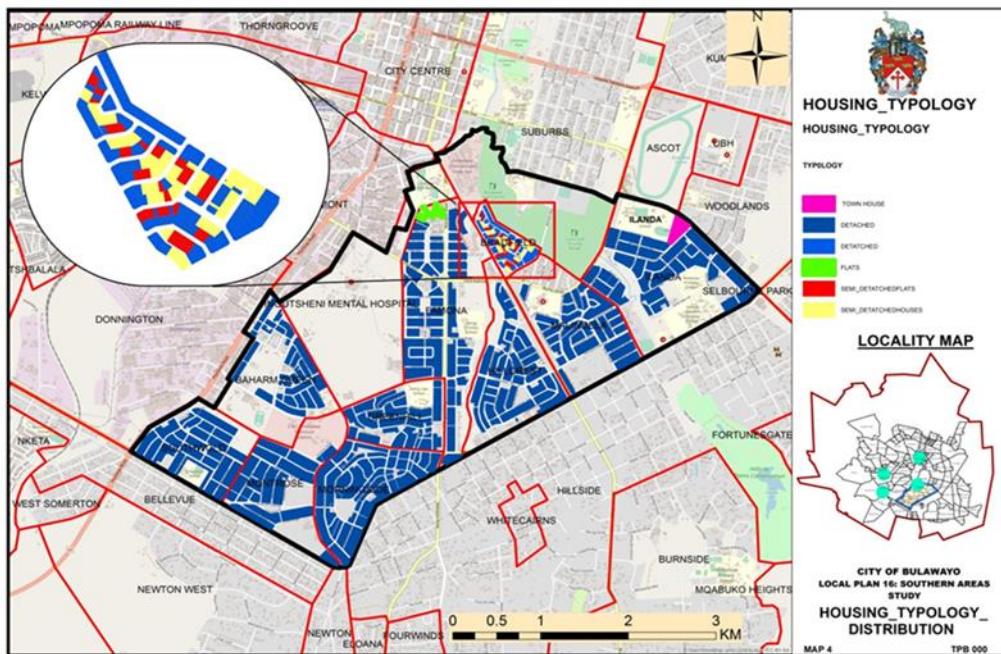
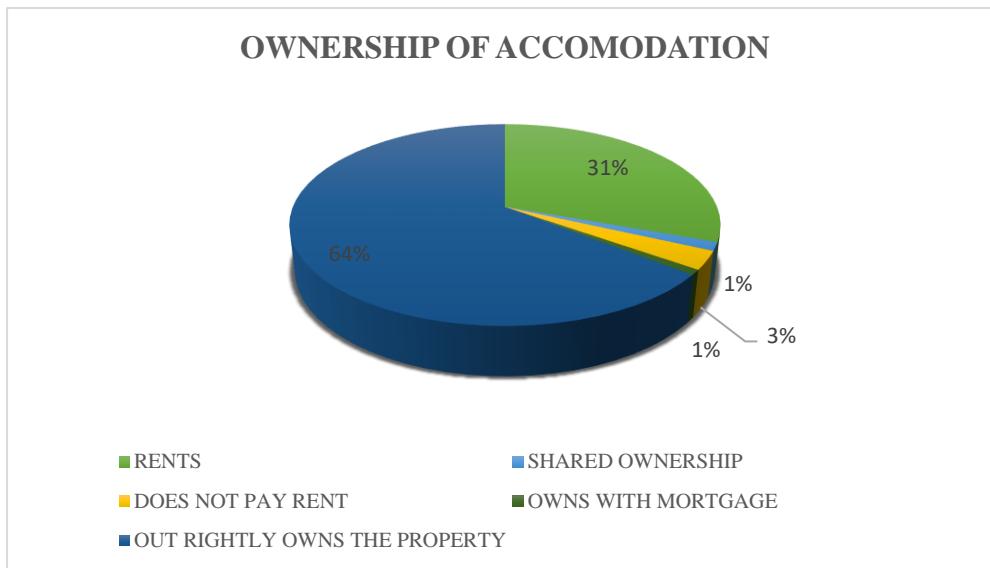
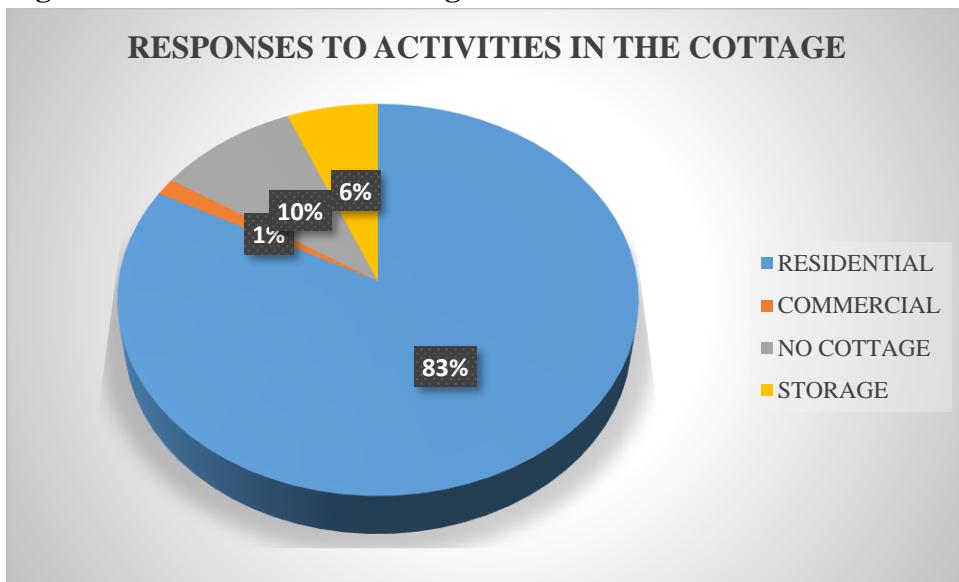


Fig 9: Ownership of accommodation



It was noted that the majority of houses had cottages which were mainly used for rental accommodation with a few using them for storage purposes (see figure 10) . This also justifies the need for more housing but this has to be linked with affordability.

Figure 10 :Activities in the cottage



The study area consists of varied designs in terms of housing including semi-detached units, flats, duplex, detached houses, and townhouses. The layout designs in the study area varied suburb by suburb ranging from the grid-iron, P-loop, cul-de-sac, and loop designs with 12 and 15m access roads. Dwelling units in the study are varied in type and design but with a predominance of 3 bedoomed houses with a lounge, dining room, kitchen, ensuite bathroom, separate bathroom, and toilet. Residential buildings in Bradfield, Southwold, Barham Green, Hillcrest, and Greenhill have servant quarters whereas the rest have cottages.

Table 5: Housing typology and total in the study area.

Suburb	Type of accommodation	Total units
Famona	Semi-detached flats	104
	Detached houses	596
Bradfield	Semi-detached houses	103
	Semi-detached flats	112
	Detached houses	303
Southwold	Detached houses	385
Barham Green	Detached houses	431
Montrose	Detached houses	537
Morningside	Detached houses	456
Malindela	Detached houses	404
Ilanda	Detached Houses	367
	Townhouses	37
Greenhill	Detached houses	299
Hillcrest	Detached houses	397
Qalisa(Suburbs)	Townhouses- Detached	86
	Semi-Detached	5

Table 6: Condition and property values per Suburb in the study area

Residential Area	Condition of the house	Average property values
Famona	Very Good	US\$55000
Bradfield	Good	US\$40000
Southwold	Average	US\$40000
BarhamGreen	Average	US\$45000
Montrose	Good	US\$50000
Morningside	Very Good	US\$65000
Malindela	Very Good	\$US40000
Ilanda	Very Good	US\$75000
Greenhill	Average	US\$40000
Hillcrest	Good	US\$40000
Qalisa (Suburbs)	Very Good	US\$60000

The study area has a wide range stand sizes ranging from 300 – 4550 square metres in land area. The study went on to calculate the average stand sizes in each suburb and these are shown in the Table 7.

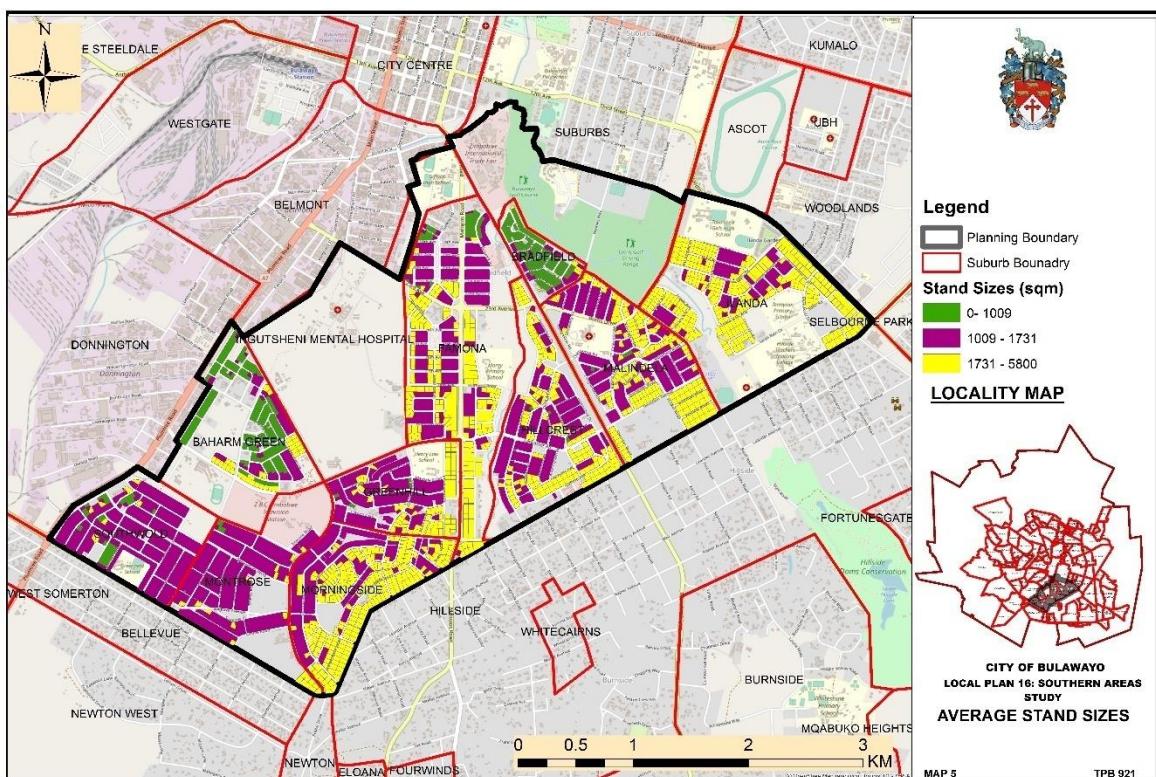
Table 7: Average Stand Sizes in the Study Area

SUBURB	STAND SIZES (RANGE) m ²	AVERAGE STAND SIZE PER SUBURB m ²
FAMONA	488 – 4550	1615
GREENHILL	809 – 2818	1497
MORNINGSIDE	1105 – 3825	1841
MONTROSE	957 – 3577	1303
SOUTHWOLD	867 – 2499	1087
BARHAMGREEN	495 – 2615	984
BRADFEILD	300- 2007	610

ILANDA	1424 – 3883	2018
MALINDELA	902 – 3332	1632
HILLCREST	954 – 3781	1634

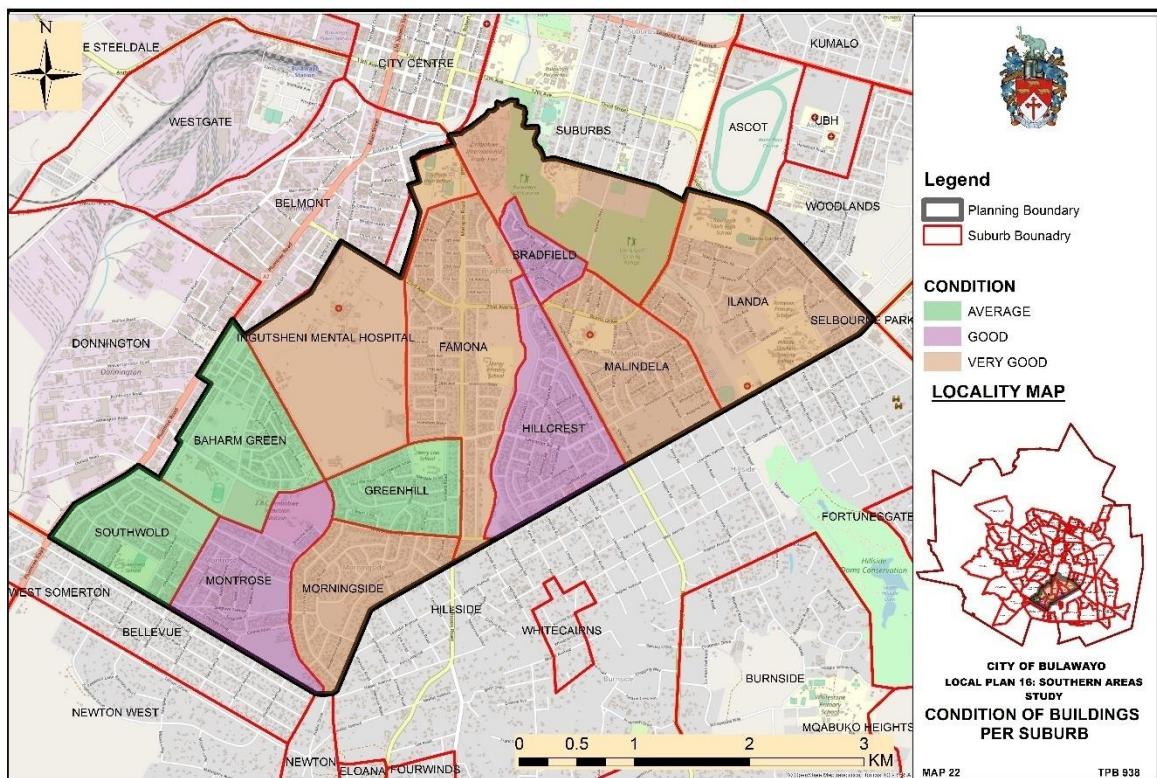
The stand sizes were run through a GIS system to come up with different ranges as shown in map 5. The majority of stand sizes are above 1000square meters (see map 5)

Map 5: Average stand sizes in the Study Area



The criteria set for the condition of houses was derived through observation which was undertaken during the household survey. The parameters of ascertaining the standards of individual households were based on the age of the infrastructure, landscape, and maintenance of buildings. Thus, during the survey it was observed that houses in a noble state were occupied by rightful owners and those in a pitiable state were being rented out. The table below shows the condition of houses based on the findings from the household survey in each suburb. Good in this case denoted the best condition, with bad indicating the worst and fair being in the middle. These were then averaged according to conditions that should be found in a low-density suburb. Generally, houses in Famona, Malindela, and Morningside were in good condition, and Southwold, Greenhill, and Barham Green were in poor condition. Hillcrest and Montrose will be categorized in fair condition and the property values as per the City valuer will denote the above assertion.

Map 6: Map Showing the Condition of Buildings in the Study Area



7.0 EXISTING COMMERCIAL SERVICES IN THE STUDY AREA

7.1 General

There are six commercial centres in the study area and these are Zonkizizwe shopping centre, Bradfield shopping centre, Hillside shopping centre, Barham Green shopping centre, Morningside shopping centre, and Southwold shopping centre. These shopping centre's attributes and classifications will be discussed in detail below. The classification of the Shopping Centres was based on the standards laid out in the 1999 Layout Design Manual by the Department of Physical Planning in the then Ministry of Local Government and National Housing as given in Table 8 below. Where necessary and relevant the classification will be based on findings of investigations into commercial activities of Bulawayo carried out by the Town Planning Branch in 1972. The classification was based on a hierarchy of centres derived from the range of functions each centre offers. Statutory Instrument 216 of 1994 on Regional, Town and Country Planning (Use Groups Regulations) was pivotal in differentiating use groups found in the Study area's Commercial centres.

Table 8: Classification of Centres as per the layout Design manual (1999).

Type of centre	Services offered
Central Business District	Services offered include retail business, service activities, and ancillary functions such as those given below: Retail - food, clothing, car sales, entertainment. Service - finance houses, banks, local and central government offices, headquarters of organizations, and hotels. Ancillary - educational facilities, parks, petrol service stations, parkades, and bus termini.
District Shopping Centre	Has all the functions of a Neighbourhood centre plus the following: Offices, banks, cinemas, restaurants, surgeries, bookshops. A limit on the number of functions is required otherwise it can take over the functions of the Central Business District (CBD). Services should be restricted to avoid Central Business District Decay. Besides, the bulk factor and the number of floors should be limited.
Neighbourhood Service Centre	Bus stop and market, beer hall, general dealer/superette, bottle store, petrol filling station, bakery, hairdresser's shop.
Corner shops	One shop sells basic commodities or lower-level goods e.g., commodities matches, bread, milk, sweets.

Source: DPP Layout Design Manual (1999)

7.1.1 Zonkizizwe Shopping Centre.

The study observed that Zonkizizwe is a fairly new and state-of-the-art district shopping centre which is located in the suburb of Famona a stone's throw away from the City's Central Business District. The shopping centre is located along the Hillside road corridor and was opened in the year 2016. The shopping centre is a perfect example of landfill reclamation as it is built on land that was once a landfill site for the City. This commercial centre consists of different types of commercial activities as depicted in Table 9 based on varying user groups. By the time of the survey, the centre was on 100% occupancy rate mainly due to the variety of commercial facilities. The survey also noted that the centre had two sets of parking areas meant for the general members of the public and that of the staff members. The parking seemed adequate to cater for peak shopping hours and the herringbone parking design ensured free and smooth circulation of vehicles within the centre. The vicinity is aesthetically pleasing with a lot of greenery and waterfronts tapping from the watercourse flowing across the site.

Table 9: Showing Uses and their quantities in Zonkizizwe Shopping Centre.

Use	Number
Shops	25
Banks	3
Fresh Farm Produce Markets	1
Medical Suites	4
Public Buildings	Nil
Parking area	Available on-site
Petrol filling station	Nil
Offices	5
Residential Units	Nil
Food Outlets	3
LP Gas stations	1
Community Facilities	Nil

7.1.2 Bradfield Shopping Centre.

Based on the 1972 Town Planning Branch Findings and the Layout Design Manual(1999),Bradfield is a Neighbourhood Shopping Centre. The Centre is located at the edge of Bradfield suburb diagonally opposite Zonkizizwe Shopping Centre separated by Hillside Road. It consists of thirteen shops, one Pharmacy, and a fuel station. The shopping centre is strategically positioned at the corner intersection of Hillside Road and 23rd Avenue. The centre has a parking area that is always overwhelmed accommodating an average of 50 cars. The parking design is a combination of the parallel and herringbone design that allows a smooth flow of traffic. The shopping centre has an informal trader's area that accommodates fruits and vegetable vendors amongst others. The recently established Kentucky Fried Chicken food outlet is a major boost to both human and vehicular traffic and has brought life to a centre that almost died due to the establishment of Zonkizizwe. There is one petrol Filling

station that has an onsite tire mending facility. The area is characterized by various small grocery shops with bottle stores and sports bars. Generally speaking, the shops are in fair condition with just a few needing renovation and maintenance. The rest of the building uses are listed in Table 10 below.

Table 10: Showing Uses and their quantities in Bradfield Shopping Centre.

Use	Number
Shops	13
Banks	Nil
Fresh Produce Markets	Nil
Medical Suites	1
Public Buildings	Nil
Parking Area	Available on-site
Petrol filling station	1
Offices	Nil
Residential Units	1
Food Outlets	1
Service Industry	1

7.1.3 Hillside Shopping Centre.

Furthermore, another notable Neighbourhood shopping centre which is located in the suburb of Hillcrest along Cecil Avenue and Stafford Avenue is commonly referred to as Hillside Shopping Centre. It consists of eleven shops with different activities, one post office, one medical suite, and offices and residential units. It also has a car wash which is an illegal use. Thus, the Shopping centre has ample parking space in shop frontages around the whole shopping area. The shopping area has a terminus to the east to cater to commuter omnibuses. The area has a car washing facility, one hypermarket, various supermarkets, and a variety of Food outlets that are critical in bringing both vehicular and human traffic to a not-so-busy commercial centre. Other uses found at Hillside Shopping Centre are listed in Table 11 beneath.

Table 11: Showing Uses and their quantities in Hillside Shopping Centre

Use	Number
Shops	15 (with 5 being vacant at the time of the survey)
Banks	Nil
Fresh Produce Markets	Nil
Medical Suites	1
Public Buildings	Nil
Parking Area	Available on-site
Petrol filling station	1
Offices	1
Residential Units	
Food Outlets	3
Service Industry	3

7.1.4 Barham Green Shopping Centre.

This is a Neighbourhood shopping centre which was designed in a civic centre setup and it is located at Barham Green suburb. A civic centre is a prominent land area within a community that is constructed to be its focal point or center. This civic centre was designed to cater for the community predominantly found in this area. It is designed in a manner that they will not need to go out of this community for quite a few services serve for just a few. The shopping centre is surrounded by various complementary uses that qualify it to be a civic centre i.e., public buildings, stadia, swimming pool, hotels, and health institutions. Other uses are as noted in Table 12 underneath.

Table 12 Showing Uses and their quantities in Barham Green Shopping Centre

Use	Number
Shops	4 (to be confirmed)
Banks	Nil
Fresh Produce Markets	Nil
Medical Suites	1
Public Buildings	4
Parking Area	Available on-site
Petrol filling station	Nil
Offices	Nil
Residential Units	Nil
Food Outlets	Nil
Educational institutions	2
Hotels	2

7.1.5 Morning Side Shopping Centre.

Morningside shopping centre is a Neighbourhood Shopping Centre that is located along GrayStokeway in Morningside. The shopping centre consists of a supermarket, saloon, bottle store, sports bar, and a Post Office. By the time of the survey, there was an 80% occupancy rate and the centre is characterized by minimum shopping activity during the day and improves towards the evening. The shopping centre has adequate onsite parking space for both the general public and the staff. The shopping centre also has an onsite terminus with a fairly good furnisher. Table 13 below shows in detail the commercial uses found in the centre.

Table 13: Showing Uses and their quantities in Morning Side Shopping Centre

Use	Number
Shops	7
Banks	Nil
Fresh Produce Markets	2
Medical Suites	2
Public Buildings	1
Parking Area	Available on-site
Petrol filling station	Nil
Offices	Nil
Residential Units	Nil
Food Outlets	Nil
Educational facilities	Nil
Office	Nil
Service industry	Nil

7.1.6 Southwold Shopping Centre.

This is another Neighbourhood Shopping Centre that is located at Southwold suburb along Plumtree Road bounded by Banbury Drive to the west and Evesham Road to the East. It consists of several shops that include sports bars, bottle stores, hyper market-fresh farm produce, and a petrol filling station with a tire mending facility onsite. The shopping centre has a spacious parking area that is also used by Heavy duty Vehicles. The survey noted that the back of the shops was also being abused to accommodate illegal hair salons, barbershops, electrical goods repairs shops. These are to be shown in Table 14 below.

Table 14: Showing Uses and their quantities in Southwold Shopping Centre

Use	Number
Shops	6
Banks	Nil
Fresh Produce Markets	1
Medical Suites	Nil
Public Buildings	1
Parking Area	Available on-site
Petrol filling station	1
Offices	Nil
Residential Units	Nil
Food Outlets	2
Educational institutions	Nil

7.2 Vending sites

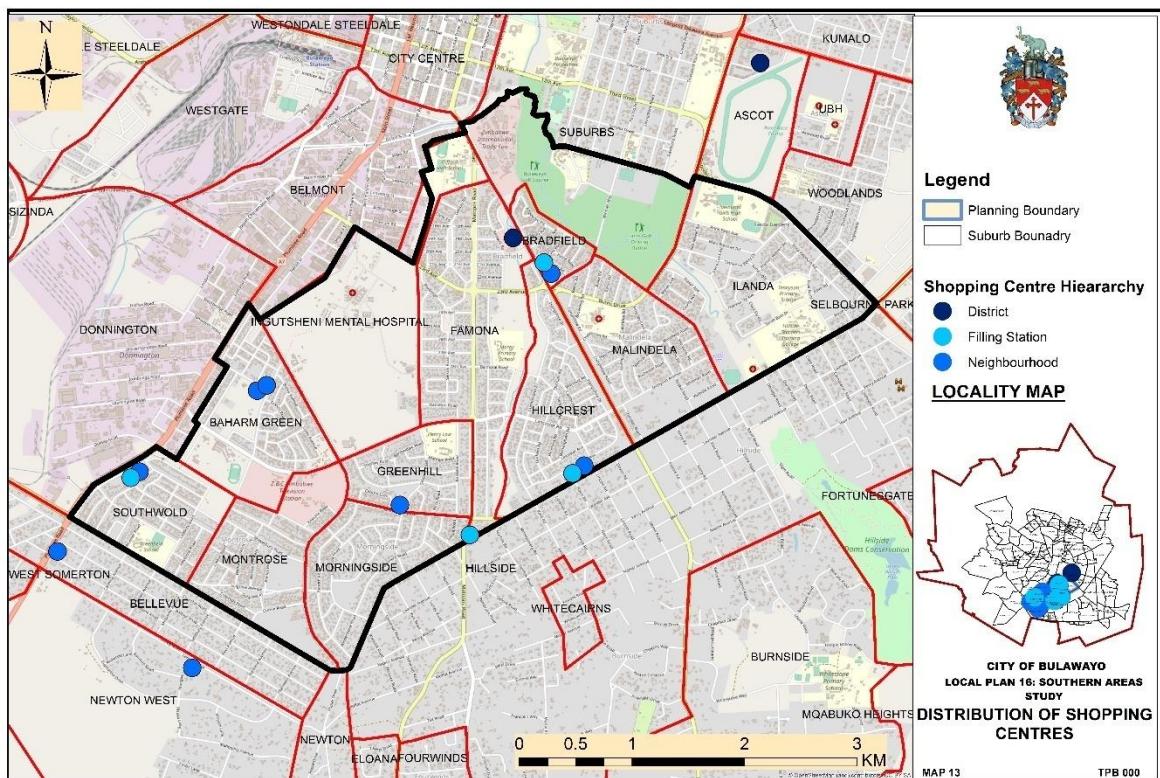
All the shopping centres, save for Zonkizizwe, had vending sites leased to traders involved in fresh farm products and clothing in some instances. These have proven to be complementary to the formal shops especially the fruits and vegetables. Zonkizizwe has a different type of informal trading in the name of curios found at the fringe of the shopping centre. The study revealed that bay sizes were increased to cater to and observe the COVID-19 regulations of social distancing. Thus, Table 15 below shows the number of vending bays found in each commercial centre.

Table 15: Shopping centres and the number of vending bays provided for.

Name of Shopping Centre	Number of Vending Bays
Bradfield	100
Southwold	100
Barham Green	100
Morningside	100
Hillside	100
Zonkizizwe	Nil

Map 7 summarizes the spatial distribution of the Commercial facilities in the study area as per their levels (i.e district and neighbourhood shopping centres) and petrol filling stations.

Map 7: Spatial Distribution of Commercial facilities in the Study Area



8.0 EDUCATION FACILITIES

8.1 General

The Master plan recognizes that the City's development hinges on and is intertwined with the level of education of its residents. Therefore, this study will analyze the distribution of educational facilities in the study area taking into consideration the levels of educational facilities. The study could not ignore the capacity of these schools together with projected and current student enrolments and the adequacy of in terms of infrastructure. Thus, future needs will also be examined and recommendations will be put forward in the written statement. Generally speaking, educational facilities are fairly distributed within the study area. The present educational system encompasses pre-primary education, primary education, secondary education, vocational and technical training, and tertiary. The existing situation in each level will be detailed in the preceding paragraphs.

8.2 Existing Early Childhood Development facilities (ECD)

This involves the pre-primary level and the survey revealed that several centres were offering ECD. Some were operating from church premises, halls, and residential areas. However, the survey noted that most of those operating from houses had no special consent approval hence could not be registered by the Ministry of Education. Thus, there was an interview with the officials from the Ministry of Education (Primary and Secondary) which revealed that the age group for early childhood development which aimed at physical, mental, and psychological and development of the child ranged as follows:

- i. 0-3 years (ECD A)
- ii. 3-4 years (ECD B)
- iii. 4-6 years (pre-primary)

By the time of the survey, there were 14 established early childhood development facilities which are shown in table 16 below. Also, all the primary schools within the study area were offering ECD education. These were also confirmed by the Bulawayo Metropolitan Province's Education offices. In all these privately owned centers, the average teacher to pupil ratio was reasonable at 1 to 15.

Table 16: Early Childhood Development Facilities in the study area

Name of the Suburb school or development Centre	Enrolment	Number of classrooms	Stand sizes	Ownership
Arkel Nursery	Barham Green	45	3	1Acre
Famona Nursery	Famona	12	2	1Acre
Children Dreamhouse	Southwold	38	3	1Acre
S. T. Ks Nursery	Southwold	31	2	1Acre
Scallywags	Malindela	21	1	1Acre
Engedi	Hillcrest	27	1	1Acre
St Clares	Morning side	23	1	1Acre
Lancaster Pre-school	Hillcrest	110	5	1Acre Private (Baptist Church)
Kiddies Cottage	Ilanda	54	4	1Acre
Eagle academy	Hillcrest	21	2	1Acre
Little hearts	Hillcrest	56	3	1Acre
Twinkle nursery	Famona	28	3	1Acre
Nicolas	Famona	22	1 Acre	Private

Source: Field surveys, BCC, MoPSE(November 2020)

8.3 Existing Primary Schools in the Study area (Famona)

According to the survey, the planning area consists of 8 developed primary schools evenly distributed and 1 proposed primary school located in Montrose. Two of these primary schools cater to the special needs learners that have various challenges. Most of these schools are owned by the government and hence rely on the Ministry of Primary and Secondary Education for planning, coordination, and development. There are no council or privately owned or trusts schools in the study area. Currently, these schools adequately supply the study area however with the ever-increasing population additions can be made.

Table 17: Primary Schools in the Study area

Name of school	Est.	Enrolment	Teacher to Pupil ratio	Suburb	Ownership
Barham Green	1953	871	1:58	Barham Green	Government
Greenfield	1916	1217	1:36	Southwold	Government
Henry Low	1955	1378	1:37	Greenhill	Government
Hillside	1951	1285	1:44	Malindela	Government
John Slaven	1975	116	1:6	Malindela	Government
Moray	1957	1278	1:58	Famona	Government
Tennyson	1959	904	1:39	Ilanda	Government
St Francis	1982	75	1:8	Ingutsheni Hospital (Famona)	Government
Primary school	Not yet established			Montrose	Private

Source: Field surveys, BCC, MoPSE (November 2020)

8.3.1 Challenges

The study noted that all the primary schools, save for those serving special needs, had a high teacher-student ratio with an average of 1:48 in a country with an average of 1:40. The Ministry of Primary and Secondary Education standards also requires that each school must have a maximum enrolment of 880 learners. Based on the above table 66% of the main primary schools are way over the stipulated enrolments. This according to the survey is attributed to a shortage of public schools in the western areas. The Ministry of Education noted some classroom and educational facilities shortages in these government schools in the Study Area. These schools are favored by parents because of their proximity to the CBD and Industrial areas which are employment nodes. There was a notable shortage of teachers in

these 8 public schools attributed to the Government's freeze in the hiring of teachers to lower the wage bill. However, it was noted that School Development Committees were employing temporary teachers to cover this gap and address the problem. Also, the stand sizes did not permit the expansion of buildings to cater to new curriculum requirements. This even limited space for teachers' accommodation in these public schools.

8.4 Existing Secondary/High schools in the Study area

In total there are six (6) high schools located within the study area and these are Founders, Gifford, Hamilton, Montrose, Townsend, and MaSiye Phambili College. The five (5) high schools are owned by the government and MasiyePhambili is being run privately by a Board of trustees. All these offer places from Form 1-6 i.e. both Ordinary level and Advanced level studies. The better part of these schools has the necessary support facilities such as libraries, science laboratories, and computer laboratories. These are evenly distributed all over the study area as shown in Table 18 below.

Table 18: Secondary/High schools in the study area (Famona)

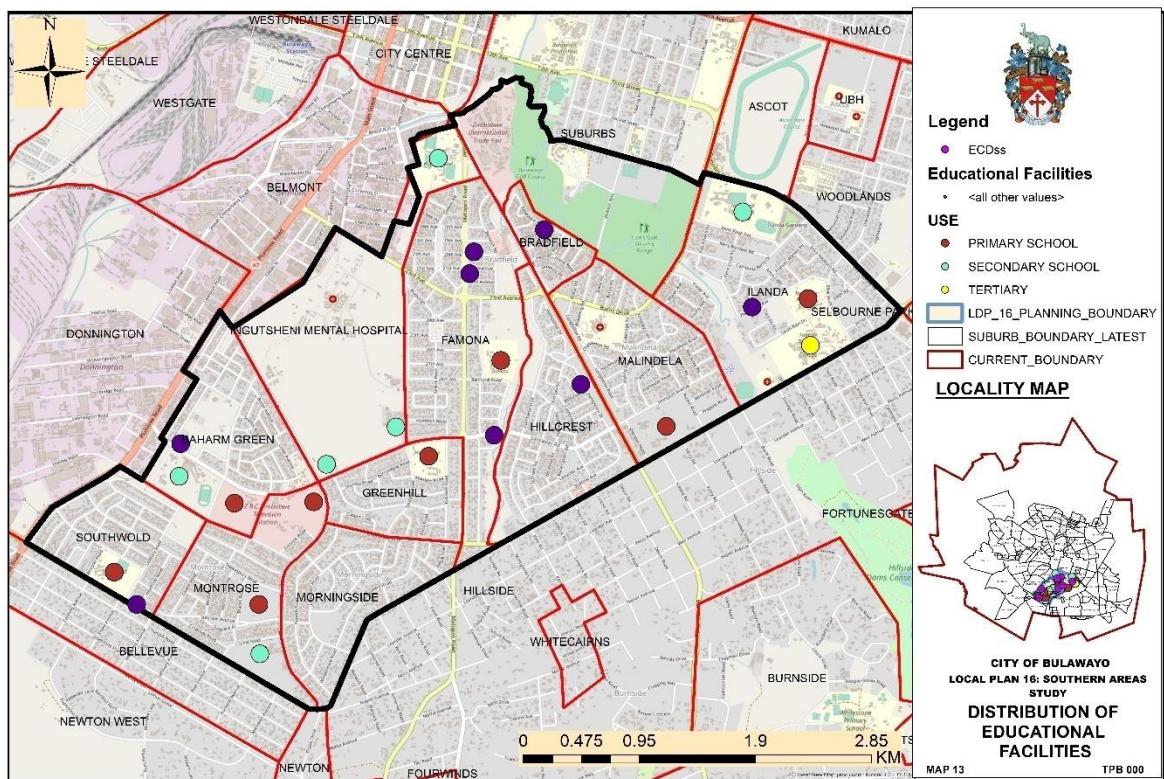
Name of School	High/Sec school	Est.	Enrolment	Location	Ownership
Founders	High	1952	1623	Barham Green	Government
Gifford	High	1927	980	Famona	Government
Hamilton	High	1959	972	Famona	Government
Montrose	High	1971	787	Morningside	Government
Townsend	High	1950	1051	Ilanda	Government
Masiyephambili College	High school	1999	196	Montrose	Private (Board of trustees)

Source: Field surveys, BCC, MoPSE (November 2020)

8.5 Existing Tertiary Educational Facility in the Study area

There is one tertiary institution in the study area in the name of Hillside Teachers College located along Cecil Road in Ilanda. Hillside Teachers' College is the first Associate College of the University of Zimbabwe and the first College mandated to educate Post 'A' Level pre-service secondary school teachers. It has pioneered programmes in the education of practical and foreign languages teachers. The College curriculum keeps evolving in response to the needs of the education sector and national goals. They offer 2 year post Advanced level programmes which are Sciences, Mathematics, Humanities, Commercials, Languages, and practical and also offer a 3 year post Ordinary level programme which include, practical, Languages and Sciences.

Map 8:Spatial Distribution of Educational facilities in the Famona study Area



9.0 HEALTH FACILITIES

9.1 General

Healthcare services in the City of Bulawayo are provided for by the Government, Local Authority, the private sector, the Non- Governmental Organization, and traditional medical

care. The Bulawayo City Council offers its healthcare service delivery through the Health Services Department and operates clinics and conducts community-based health services. The department has two key sections that of personal and environmental health. The Personal health directorate is in charge of the following functions; outpatient care, coordination of community participation for health initiatives, prevention of parent to child transmission of HIV, child adolescent health care, and maternity care. The environmental health directorate offers cemetery and crematorium management, pest control cleaning services, and health inspections. Health facilities include hospitals, health centers, clinics, dental surgery health care, and general practitioner facilities. According to the Ministry of Health and Child Care, there are four levels of care namely primary (including Rural Health Centre found in villages and wards), secondary (district hospitals), tertiary (Provincial hospitals), and Quaternary (Central Hospitals which are at National level of administration). The preceding paragraphs will detail the existing health care facilities in the study area.

9.2 Existing Hospitals in the Study Area

There are three major hospitals in the study area and these are Mater Dei Hospital (MDH), Ingutsheni Hospital, and Premier Hospital.

9.2.1 Mater Dei Hospital

Mater Dei is a private Christian hospital in Malindela established by the Roman Catholic Board in 1953 and provides health services and specialist services. Mater Dei Hospital has 186 inpatient beds. It is owned and operated by a Board of Trustees. It offers a wide array of health care services comprising radiology, renal hemodialysis, ordinary dental, and ophthalmic surgery, physiotherapy, and laboratory services. Other attributes of the hospital are laid out in Table 19.

9.2.2 Premier Hospital

Premier is a fairly new private hospital located in Ilanda and was established in 2006. It offers a wide range of health care services that are similar in Mater Dei save for the pharmacy and radiology. Other attributes of the private Hospital are depicted in table 19

9.2.3 Ingutsheni Central Hospital

Located in the suburb of Famona and established in 1908, Ingutsheni Central Hospital is the largest and oldest national Psychiatric government referral center in the country. Ingutsheni hospital specializes in providing psychiatric care to community members in Zimbabwe. Bed capacity is 708. The hospital was converted to a psychiatrist hospital in 1933 and it is missioned to providing quality mental health care services to the people of Zimbabwe.

Table 19: Hospitals in the Study Area (Famona).

Name Of	No. Establishment	Staff Existing Staff	Nurse To	Catchment Area
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Beds		Compliment	Patient Ratio	
Mater Dei	169	235	235	1:1 Bulawayo Metropolitan
Premier Hospital	42	53	53	1:1 Bulawayo Metropolitan, Matabeleland North and South Provinces.
Ingutsheni	708	136	132	1.5 National Referral centre

9.3 Existing Clinics and Surgeries

There is one municipal clinic in the study area called Dr. Shennan clinic located in the suburb of Barham Green. When the survey was conducted there were seven (7) existing staff against a staff compliment of 11 denoting a shortage of 4 staff members. Other attributes about this health facility are denoted in Table 20

Table 20: Showing Clinics within the Study Area

Name	Type	Suburb	Ownership	Catchment Area	Services
Dr. Shennan	Clinic	Barham Green	Council	Belmont, Famona, Southwold, Montrose Bradfield, Hillcrest, Greenhill,	Family and child health, general health, anti and post-Natal services, TB services, HIV testing and counseling, and EPI services.
Royal Women's	Clinic	Malindela	Private	Malindela, Ilanda, Hillcrest, Morningside	Maternity care services and gynecology services

9.4 Challenges Faced By Health Institutions in the Study Area

9.4.1 Ingutsheni Hospital

- Insufficient funding- Health care service at the institution is free and is dependent on allocation from the national fiscus. Inadequate budgetary provision affects the operations and capital infrastructure development at the institutions.
- Shortage of drugs- This is critical in giving the providing care to patients as the provision of drugs is essential to patients some of whom sedatives are necessary for calming them down.
- Understaffing- The ideal nurse to patient ratio is 1:1 while the existing ratio is 1:3. This is not ideal in an institution housing people with mental challenges and who require a lot of nursing attention.

9.4.2 Mater Dei Hospital

- Inadequate funding depends on donor funding,
- Old equipment,
- Shortage of medicines and drugs as a result of the economic depression.

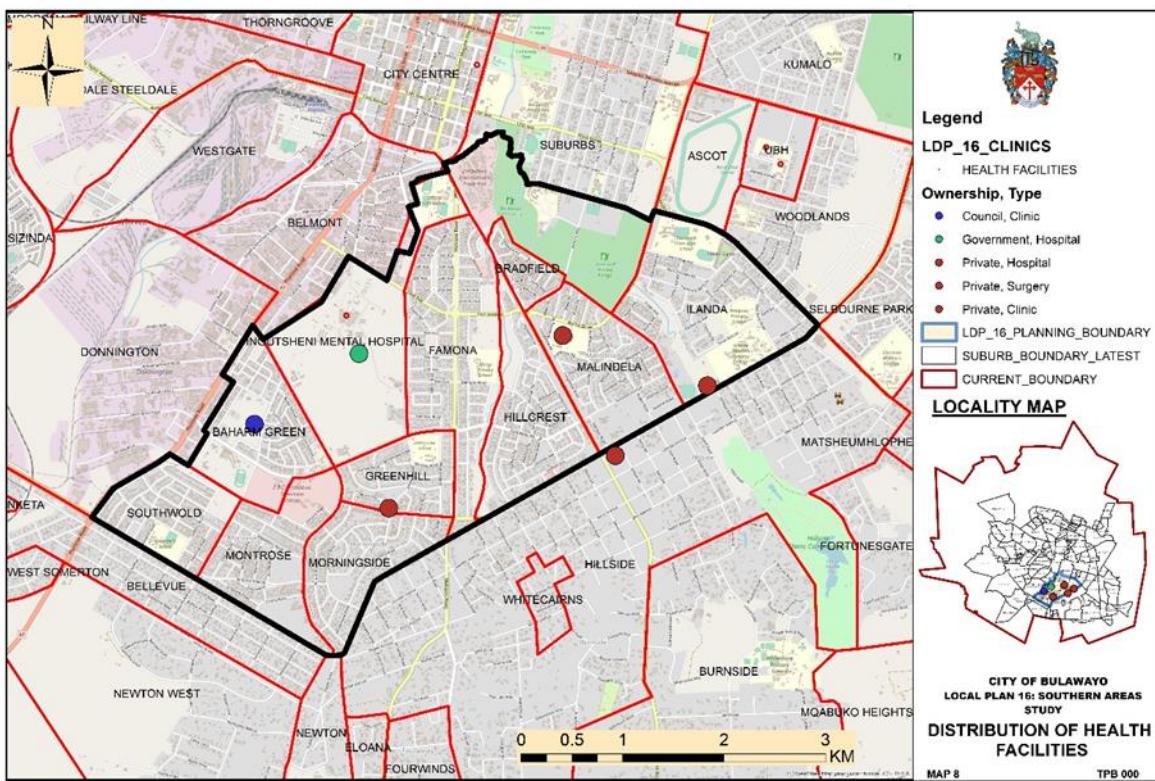
9.4.3 Premier Service Medical Investments (PSMI) Hospital

- Exorbitant prices of drugs
- Shortage of foreign currency

9.4.4 Dr. Shennan Clinic

- Obsolete equipment
- Understaffing
- Shortage of drugs due to lack of foreign currency

Map 9: Spatial Distribution of Health facilities in the Study Area



10.0 INDUSTRIES IN THE STUDY AREA

10.1 General

An industry is a group of productive enterprises or organizations that produce or supply goods, services, or sources of income. Therefore, in economics industries are generally classified as primary, secondary, and tertiary industries. Thus, within our study area, there is a wide range of secondary industries which are also termed as manufacturing industries which collect raw materials supplied by primary industry and process them into consumer goods. Therefore, secondary industries also include construction industries.

10.2 Existing Industries in the Study Area

There is a portion of general industry, owned by both state and private, in the study area and this is located in the fringes of the Ingutsheni Hospital. There are three (3) Industrial stands accommodating various uses. The first stand houses a Company called General Bedding which specializes in the manufacturing of wooden trusses, wooden doors, and beds. This company also housed an organization called Wakle dealing with the same services. The second company is NatPharm which is into packaging and distribution of medical supplies. The third stand is owned by Bulawayo Rottery and houses various industrial companies. The first one specializes in the processing of jewelry goods. Within the same stand, there is a company that focuses on the production of photo frames and portraits. Also, there are two construction companies in that stand that specialize in building material and complimentary services. The last company is into the manufacturing of stoves ideal for the physically challenged. The detail of the Industry in the study area is found in the table below.

Table 21: Existing Industries in the Study Area.

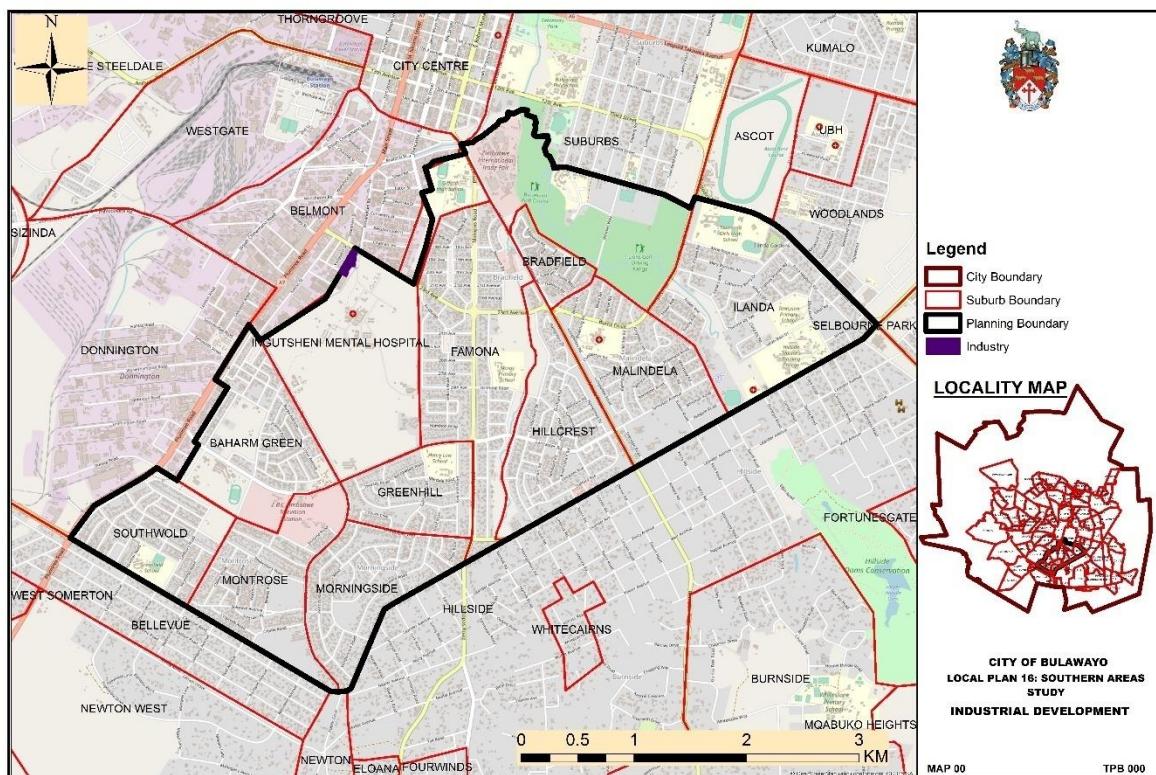
Name of the Industry	Stand Number	Street Address	Ownership
Maco Builders	13688 BT	23 RD Avenue	Private
Jewelry	13688 BT	23 RD Avenue	Private
Disabled Training craftwork	13688 BT	23 RD Avenue	Private
Photo frames	13688 BT	23 RD Avenue	Private
Wakle	15569	Trojan Street	Private
General Bedding	15569	Trojan Street	Private
Nat Pharm	28 Mental Hospital Grounds	Empress Street	State

10.3 Challenges

The survey revealed through interviews with the notable stakeholders that tenants were worried about the water-shedding by the council and this affected their operations. Other companies like Nat pharm have sunk boreholes to complement council water. Secondly, there were visible poor drainage problems in the industrial area also leading to temporary flooding of industries in times of heavy downpours. Tenants were also worried about the state of the road infrastructure which was in a dilapidated state affecting access to the industrial stands.

There was also a challenge of refuse collection in the study area and this has led to Natpharm subcontracting a private entity to recycle the waste and do the collection.

Map 10: Spatial Distribution of Industries in the Study Area



11.0 PUBLIC UTILITIES

11.1 General

The Bulawayo City Council provides water and sewerage utility services with the Zimbabwe Electricity Supply Authority providing the electricity utilities. Other utilities to be considered in this study will be the telecommunications offered by both private and government.

11.2 Water Reticulation and Reservoirs

The city has a total of 129123 properties and 121732 metered connections. The study area comprises a distinct underground water distribution network that services the entire area efficiently, with most properties in the study area relying on alternative sources of water supply such as boreholes. Water supply in the study area along with the rest of Bulawayo is from a group of five dams that have a combined capacity of 366085 million m³. The water reticulation system is made possible through an infrastructure that consists primarily of pipes, booster pumps, and reservoirs. The water is delivered to its destination (the consumers) with the use of pressure generated by water booster pump stations and the storage of the water capacitated by reservoirs. Precisely, the area is adequately served in terms of water reticulation

As depicted in Map 11 below the study area consists of two water booster pump stations situated north of the study area around the trade fair vicinity. This location is remote from the main pump station and is hilly, a very important aspect to serve their main purpose, to increase the water pressure in the pipeline. These two water booster pumps are aimed at fully and efficiently servicing the entire study area. The pipes run parallel, in front of every stand, making these connection points for each stand, this makes up the shape and the framework of the entire piping system. The overall outline layout of the piping system shows that these pipes join at a 90-degree angle. Also, as depicted in the Map, the Famona study area is serviced by one reservoir located south of the study area along Wellington road between Montrose and Morningside.

The City of Bulawayo intends to improve and upgrade the water supply services in the city to contribute to the improvement in the health and social wellbeing of its population. Just as most to all areas in Bulawayo the piping system in the study area is very old therefore experiences a lot of pipe bursts. The City of Bulawayo with help from the Bulawayo Water and Sewerage Services Improvement Project (BWSSIP) aims to reduce the city's Non-Revenue Water, upgrade and rehabilitate the water distribution system. This entails the enhancing as well as edifying of pump stations, refurbishment of water treatment plants, renewal and upgrading of water mains, reduction of non-revenue water, system water meter replacement as well as strengthen customer billing system.

SUBURB	NUMB ER OF STAND	ALTERNATI VE RESEVOIR	MAJOR RESEVOIR	CAPACI TY OF IR	WATE R MAJOR	PIPE DIAMET RE
--------	------------------------	-----------------------------	-------------------	-----------------------	--------------------	----------------------

S				RESEVO IR m ³	ND m ³ /DAY	
FAMONA	727	TULI/ CRITERION	HILLSID E	45 000		225
BRADFIELD	312	CRITERION	HILLSID E			300
SOUTHWOL D	400	CRITERION	6J	45 000		225
MONTROSE	523	CRITERION	6J			225
GREENHILL	306	CRITERION	6J			150
ILANDA	420	TULI	HILLSID E			225
HILLCREST	421	CRITERION	HILLSID E			150
MALINDEL A	412	CRITERION / TULI	HILLSID E			225
MORNINGSI DE	453	CRITERION	6J			150
BAHAM GREEN	493	CRITERION	6J			225
SUBURBS	91	TULI	TULI	45 000		

The capacity of water likely to be sustained by each reservoir with all things being constant

Hillside +or – 3000 properties (i.e. distributed amongst all suburbs serviced by this reservoir)

6j + or- 2000 properties (i.e. distributed amongst all suburbs serviced by this reservoir)

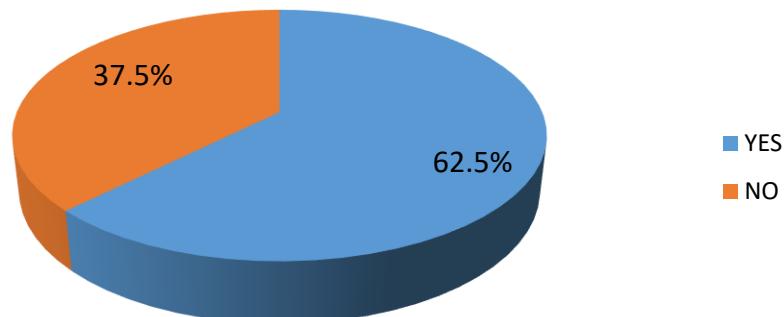
There may be areas which are developed but not yet serviced hence the provisions of the + or – figure to allow room for such scenarios.

Fig 11 Challenges of water supply

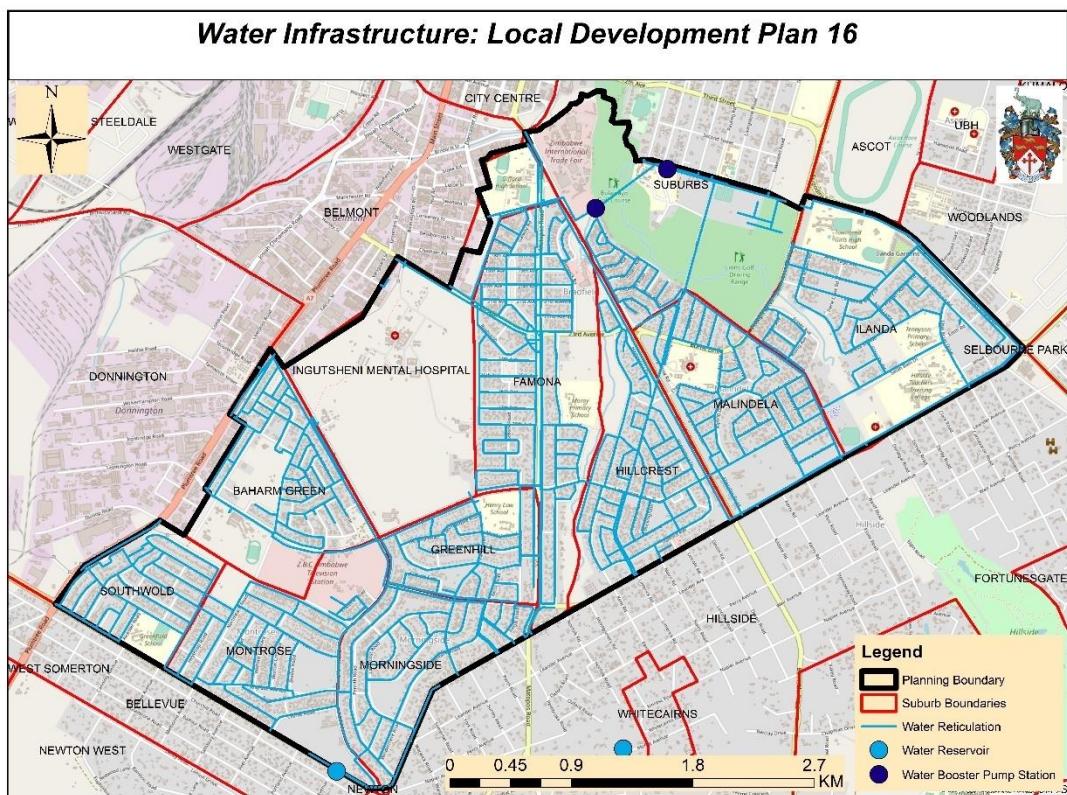
From the survey which was undertaken it was concluded that 62.5% had water challenges which was causes by the drought which had lowered the water levels. Moreover, 37.5% had no water challenges as they relied on boreholes to compensate water shortages (see figure 11).

Figure 11:Challenges of water supply

IS WATER SUPPLY A CHALLENGE?



Map 11: Existing Water Infrastructure in the Study Area



11.2.1 Challenges

There may be a need for more water pumps since some areas of Southwold and Montrose face challenges with water pressure since they are much-elevated grounds.

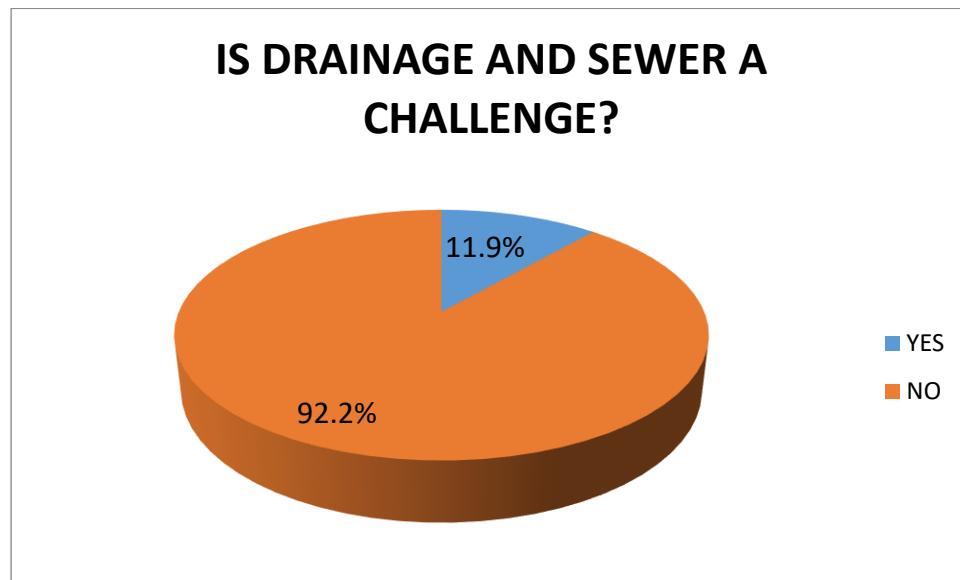
11.3 Sewerage Reticulation

The study area is fully serviced by a reticulated sewage disposal system (offsite disposal) and drains to Aisleby treatment works. The study area has three sewer pumping stations which are found in Montrose, Southwold, and Zimbabwe International Trade Fair areas as depicted on the map below. Pumping stations are located here because the suburbs are positioned on rough terrain whilst the bulk of the area uses gravitational pull to pump out the waste caused by the allowing terrain. The piping system runs at the back of the stands.

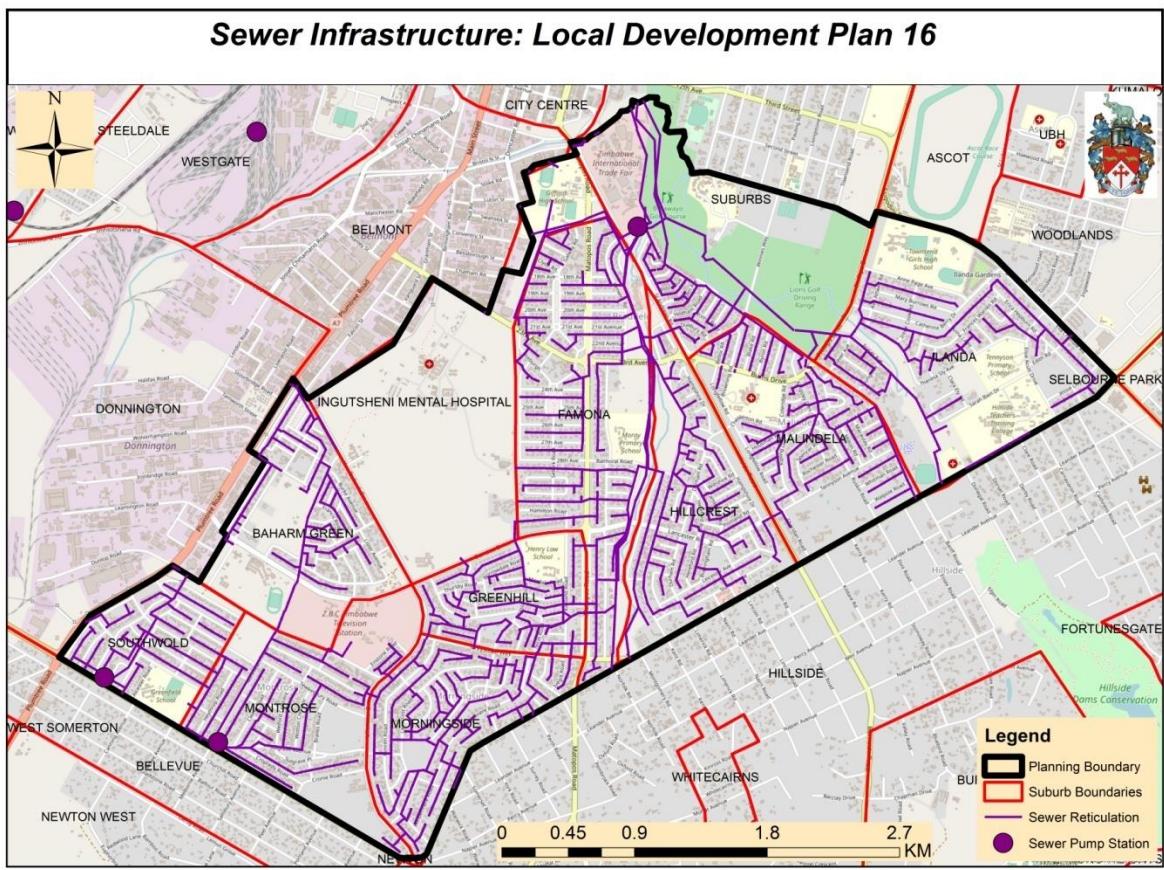
Fig 12 Challenges in Drainage and Sewer

From the survey it was discovered that the majority was not affected by drainage and sewer which amounted to 92.2% and leaving 11.9% amounting to those affected by drainage and sewer (see figure 12).

Fig 12: Challenges in Drainage and Sewer.



Map 12: Existing Sewer Infrastructure in the Study Area.



11.4 Electricity Reticulation

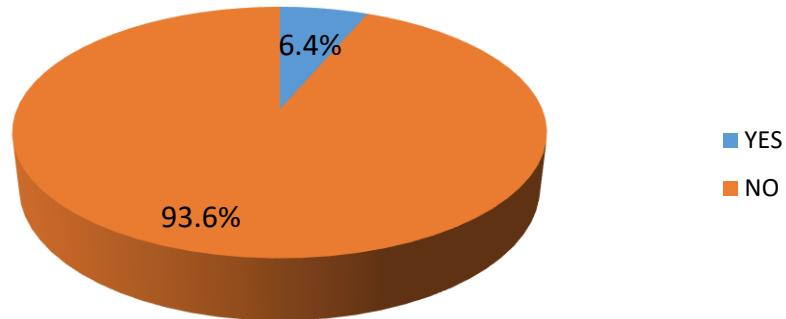
All the existing developments in the study area are reticulated in terms of electricity. The study area is endowed with overhead and underground cables of different sizes. However, it was noted that the area is predominantly serviced from underground cables as shown in Map 13 below. There are high voltage power lines of 88kv comprising of both underground and overhead cables stretching from Southwold to parts of Barham Green but mainly running along Plumtree road. Households are connected directly by both High-tension underground and overhead cables denoted with green colour in the Map. The study area has quite a number of both primary and secondary substations. Further development may be adequately covered by the existing electricity infrastructure.

Fig 13 Challenges with Electricity supply

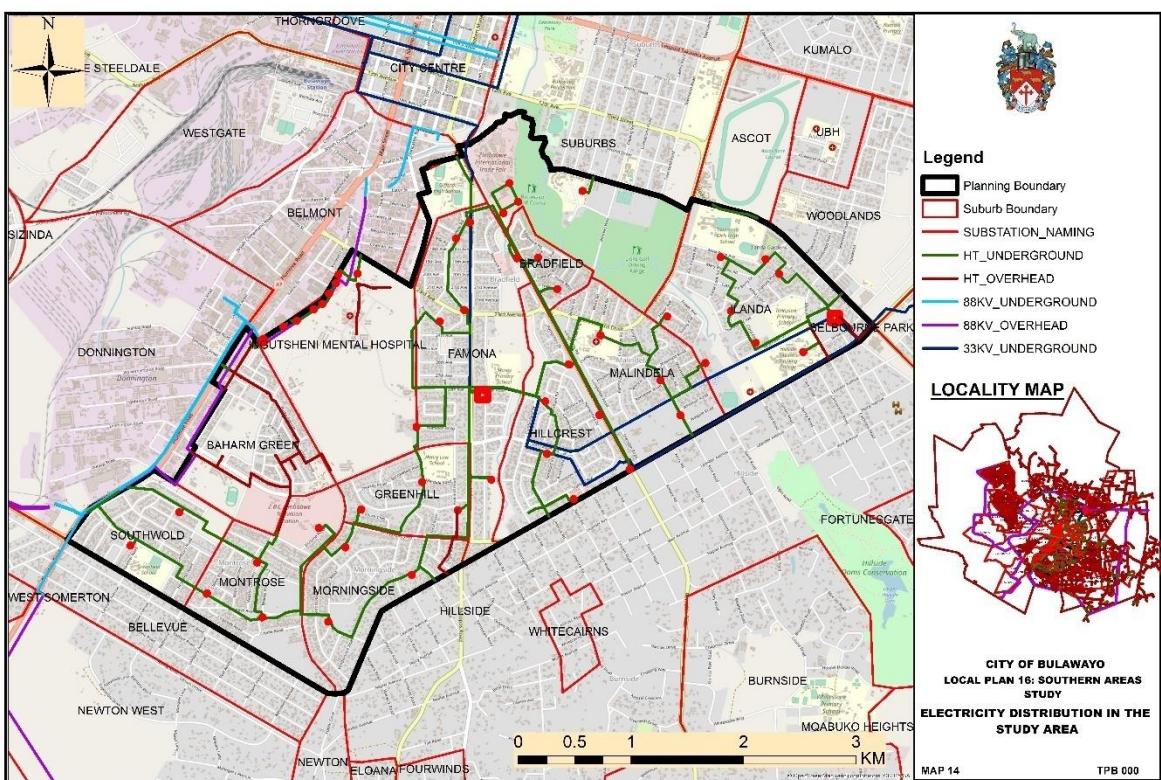
The survey established that the majority were happy with electricity supply (93,6) with the remainder facing some challenges. The major alternative sources of energy which were noted where solar and gas (see figure 13).

Figure 13: Challenges with Electricity supply

IS ELECTRICITY SUPPLY A CHALLENGE



Map 13: Electricity Infrastructure in the Study Area



11.5 Telecommunications and Broadcasting services.

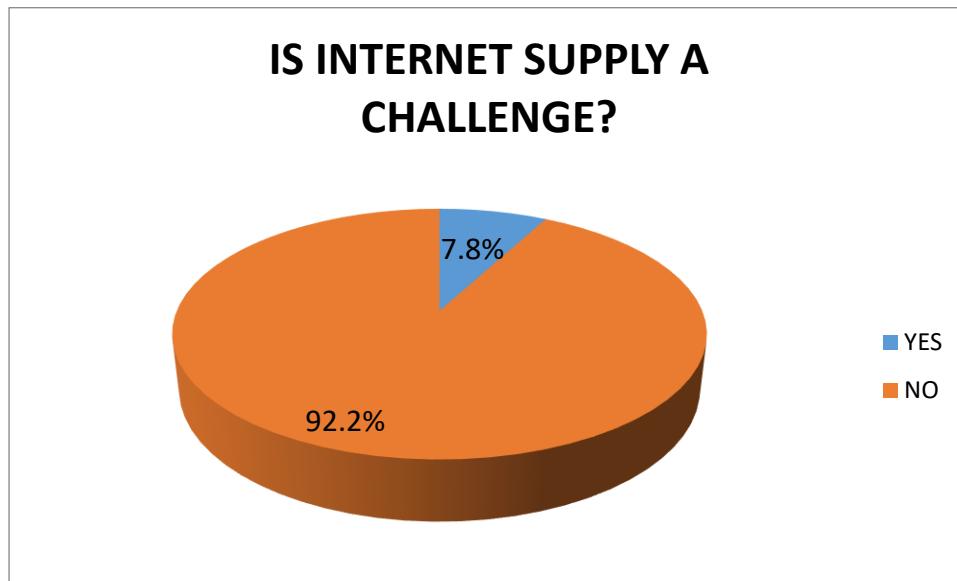
3 major mobile telecommunication networks serve the area and these are Econet, Netone, and Telecel. Some of the areas are also networked by Telone which is mainly an immobile service that uses landlines. Furthermore, quite notable among the broadcasting services within the study area is the Khulumani FM which is well known as KFM 95.0, this

community radio station is state-owned by the ZBC (Zimbabwe Broadcasting Co-operation) was first flighted on 2 March 2018. Thus, the station has a sphere of influence that covers a 60km radius. Moreover, the community radiostation is based in ZBC's Montrose Studios in Bulawayo.

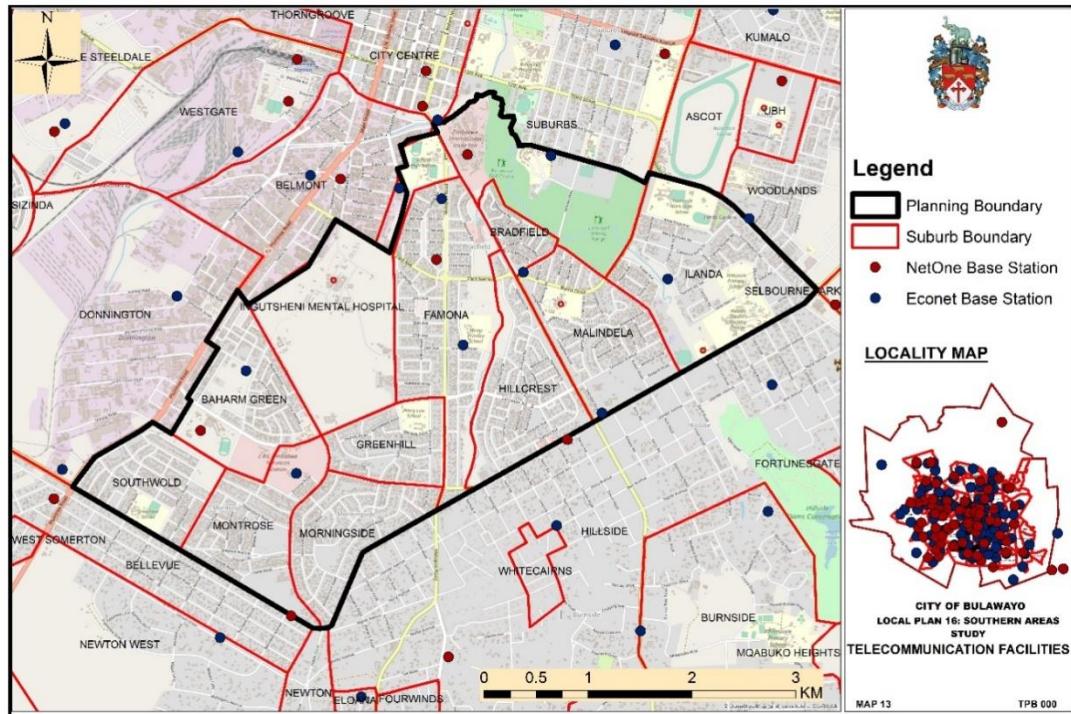
11.6 Internet Supply

The majority of the respondents where happy with the internet supply (92,2%) and a remainder was affected (see figure 14).

Fig 14: Challenges with internet supply



Map 14: Telecommunications infrastructure in the Study Area.



11.7 Postal Services

There are two postal services in the study area and these are established in the suburbs of Hillcrest and Morningside. These are well-established offices with infrastructure to cater for such services but would need to be spruced up to accommodate state-of-the-art information and communication technology. These are strategically situated to at least provide some relief to the Central Business District Post Office. There is, however, a need to have these postal services in every Shopping Centre to bring convenience to the residents.

12.0 COMMUNITY FACILITIES

12.1 General

Community facilities are public places where members of a community gather for recreational, educational, artistic, social, or cultural activities. Recreational amenities include (swimming pools, sports clubs, golf courses, etc.) social amenities will include (community hall, youth centres, etc.), cultural-artistic activities (craft centres). In as much as most of these community facilities in the study area are run by the Council, some are either privately owned or are owned by religious organizations. The main emphasis will be on council-owned then privately and religious owned but to be comprehensive other facilities will be highlighted.

12.2 Existing Community Facilities in the Study Area

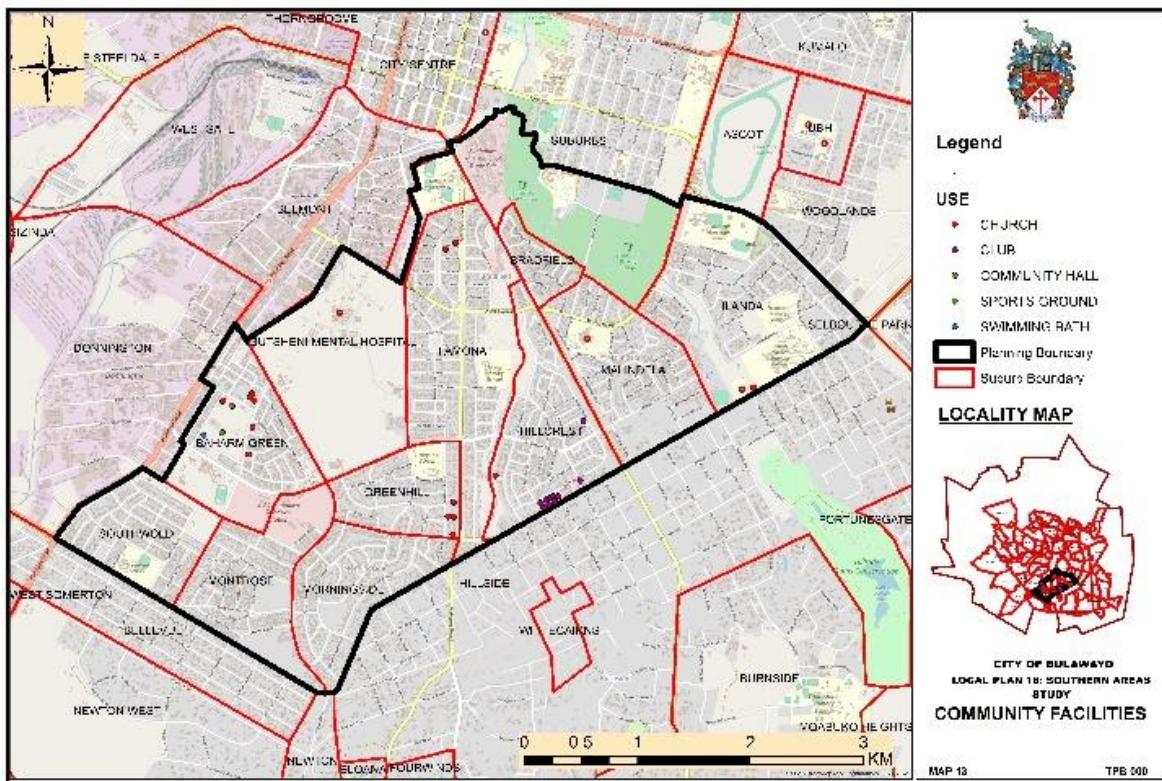
The existing main community and recreational facilities within the planning boundary are illustrated in table 22below.

Table 22: Main Community Services and Recreational Facilities

LOCATION	NAME
Hillcrest	Hillside Hall and Library
	Hillside Women's Institute
	Bridge Club
	Loris Club
	Hillside Scout(closed)
	Brownies Guide Hall
Ilanda	John Slaven
	Smokehouse club
	Penguins Swimming club
Barham Green	Barham Green Stadium
	Barham Green Social Club(BGSC)
	Swimming Pool
	Child Care Centre
	Barham Green Broadway Children's Park
	RufusiCultural Centre
	Rhodes Jubilee Cottage Old People's Home
	Barham Green SDA church
	Barham Green Methodist church
Montrose	Barham Green Hall
	Water World
	Venezon wedding venue
Bradfield	Shisha Lounge
	Roosters Pub and Grill
	Bac Leisure club

	Hellenic Community Hall
	Revival Centre Ministries
Malindela	Malindela Baptist church
Greenhill	Kingdom Of Jehovah's Witness
	Ebenezer Church Of Sabbath Keeping Adventist
Famona	Famona Adventist Church

Map 15: Spatial Distribution of Community facilities In the Study Area



13.0 VACANT LAND AND OPEN SPACES

13.1 General

Open space is any open piece of land that is undeveloped and is accessible to the public. The use of open space as an element of the design is an important aspect in balancing residential communities with supporting commercial and service facilities. There are three types namely incidental, passive and active open spaces. Incidental open space generally consists of

naturally vegetated and landscaped areas situated along streams and outside residential cartilages, often close to the pavement and road. Passive open space is an outdoor area that is designed for use in an unstructured or informal way. This type of open space consists of land protected and managed as a natural environment with passive recreation value and minimal development. Active open space refers to the area of the playing surface. In general, at least double that again needs to be set aside to allow for supporting infrastructures such as spectator areas and parks. Parks and open spaces create a high quality of life that attracts tax-paying businesses and residents to communities. Open space and trails raise property value. Urban parks and recreational open spaces stimulate commercial growth and promote inner-city revitalization. Floodplain protection offers a cost-effective alternative to expensive flood control measures. Open space preservation helps communities prevent the higher costs of unplanned development.

13.2 Existing Situation

There exist expansive open spaces in the study area of both passive and active nature and these are better detailed in the table below.

Table 23: Open spaces in the Study Area

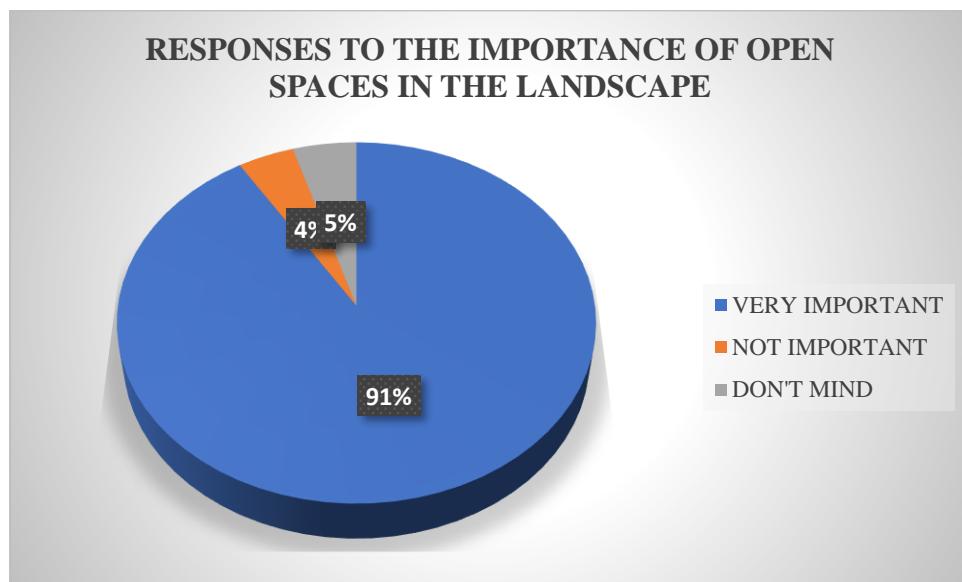
LOCATION	DESCRIPTION	STATUS AND REMARKS
Barham Green	It stretches from Reynolds to Dundee Dr	Undevelopable
Barham Green	It extends from Dundee to Stratford, next to Arkell Pre-school	Developable land that could be considered for infill stands for residential purposes
Barham Green	It falls between Reynolds and Kinmont Avenue	
Barham Green	BG Broadway Children's Park	Recreational
Barham Green		
Montrose	Proposed school site	Developable and Reserved for Institutional purposes
Hillcrest	It stretches from Lancaster to Kindermire	Developable but will require deep foundations
	It falls between Famona and Hillcrest, Grenock-Kilmock	
	Lancaster Ave and Durham	Developable and could accommodate about 4 infill stands or could be preserved as an open space.
	Hungerdon East, Buckerham West	
	It falls between Lancaster and Balmoral	Developable but would

		require special foundations.
	Behind James Butcher Sports Club	
	Corner Hillside and Baines	
Southwold	Bath Road(11020)	Developable land that should however be reserved and maintained as an open space
Southwold	Dorsey and Pressure	
Montrose	Seagrove Place	Undevelopable
Montrose	It is located next to Montrose Studio between Enstrone and Stratford	Developable land that is serviced and could accommodate about 22 stands
Ilanda	Jerseyloyd Rd	Developable
	Edith Mitchell Rd	
	Opposite Edith Mitchell Rd	
	Stand abating to Tennyson Primary	

13.3 Importance of Open spaces in the Landscape

The majority of the respondents supported the idea of open spaces within their communities as they attributed open spaces as places for leisure (91%) with only a remainder who where not prioritizing open spaces (see figure 15).

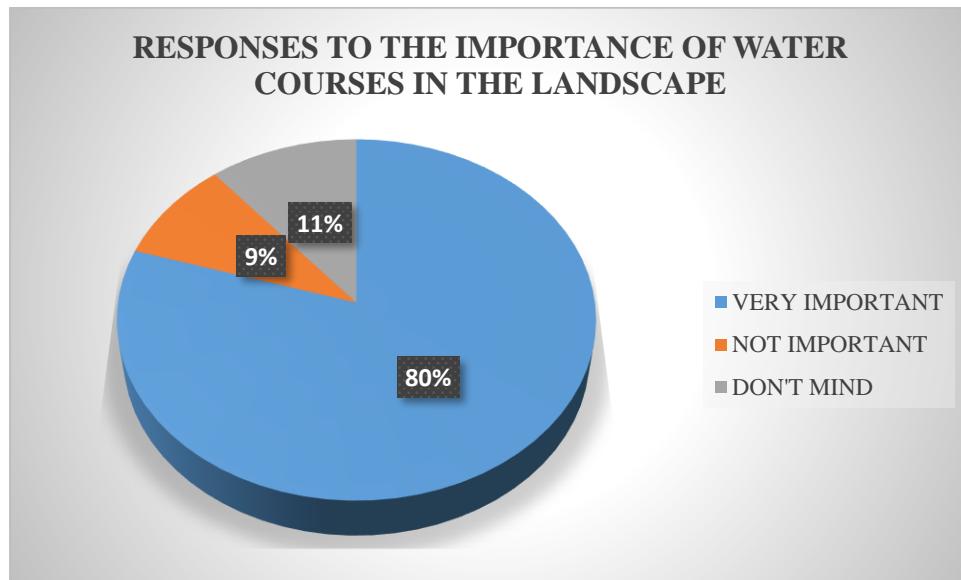
Fig 15: Responses to the importance of open spaces in the Landscape.



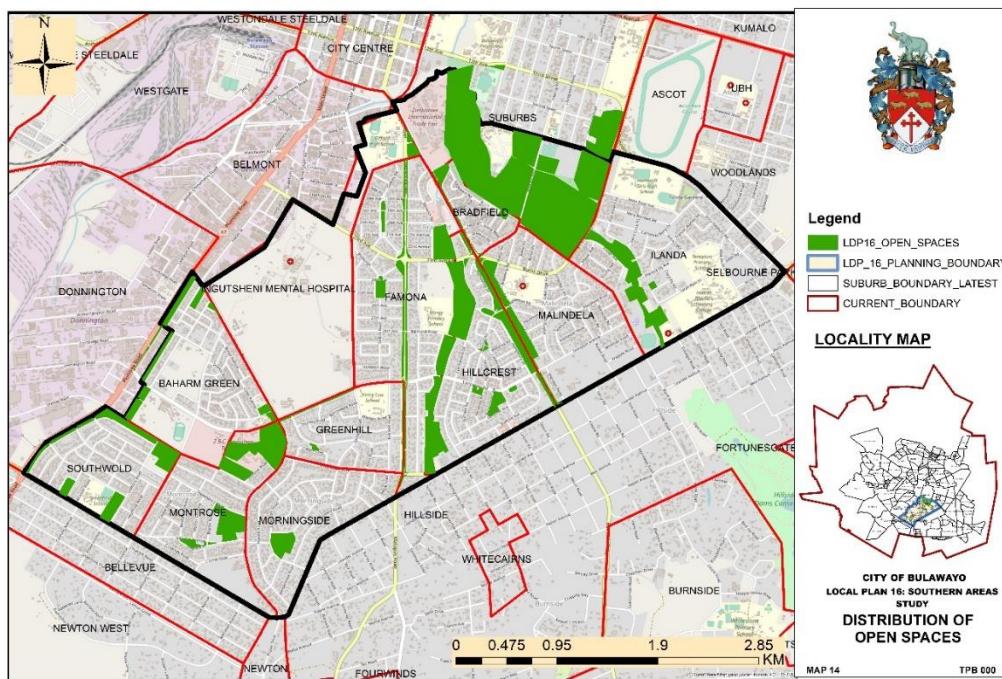
13.4 Importance of water courses in the Landscape

The majority of the respondents supported the idea of water courses in the landscape (80%) with only a few respondents which did not prioritise water courses in the landscape (see figure 16).

Fig 16: Responses to the importance of water courses in the landscape.



MAP 16: Existing Open Spaces in the Study Area



14.0 TRAFFIC AND TRANSPORTATION

14.1 General

The road network is the only existing transport system in the study area as there is no rail network system dissecting through. The function of a road network is to facilitate movement from one area to another. As such, it has an important role to play in the urban environment to facilitate mobility. It furthermore determines the accessibility of an (urban) area (together with public transport options). The capacity of a network is determined by its roads. The capacity of a road is the maximum number of vehicles that can pass a certain road section per hour. The capacity of a road is determined e.g., by its width, the number of lanes, and speed limit. If the traffic demand is larger than the road capacity, congestion will occur. When congestion is present, the road network cannot longer fulfil its task. Therefore, one tries to prevent or reduce congestion with traffic management measures. Developing a good road network for Bulawayo has many positive effects, such as stimulating the development of certain areas (commercial activities, urban development, creating jobs, etc.). For security, good accessibility by the road network is also important, for example for good accessibility in case of incidents like firefighting and ambulance services.

14.2 Road System

The study area has both major and minor roads that make it easy to access the city center and other neighboring localities. Morningside, Greenhill, Hillcrest, Malindela, Bradfield, and a portion of as part of the study area access the city center via Matopos and Hillside roads, where these two roads meet by the Trade Fair they coalesce to form Robert Mugabe way with Hillside road continuing on the other hand to join Samuel Parirenyatwa. The suburbs of Southwold, Montrose, Barham Green, and a portion of Famona ingress the central business district via Plumtree road (formerly known as Mafikeng). Ilanda accesses the city center via Esigodini road. Matopos road, Plumtree road are national roads as they extend and carry traffic outside the area of study, the rest terminate within the local planning area and act as inner and adjacent local planning areas distributors. Major connectors into the major roads that provide a free flow of traffic within the local planning area include Greystoke Way, Dundee Drive, Lancaster Avenue, 23rd Avenue, and Van Riebeeck Drive. The study area adopted a radial road layout pattern with all the major roads radiating from the Central business district connected by Cecil drive as a circular road with other lesser roads completing the pattern as shown in the map below. Two ring roads are pointed out in the planning area both of which are in Morningside, one of which is St Bees that feeds into Lanercost road as the Cecil avenue, Matopos, Greystoke way ring road.

14.3 Master Plan Proposals

To ensure mobility within the study area, the Master plan advocates for the use of road reserves to maximum capacity, the provision of reservations for the completion of the major ring and radial roads, and the improvement of unsuitable alignments. The Master Plan proposes that it may be economically more practical to retain Cecil Avenue, Matopos Road, and Grey Stoke Way Link as the applicable portion of the ring road system. To ascertain safety the Master Plan emphasizes the need to eliminate potential accident blackspots by

implementing adequate traffic management measures at major junctions and intersections. These proposals will be implemented as and when justified by traffic volumes.

The Master Plan aims to improve the movement of cross-city traffic to enhance accessibility within the existing roads. The Master Plan proposed that;

14.3.1 Cecil Avenue

Re-alignment of Cecil Avenue where it intersects with Matopos Road. It expands due to an increase in the volume of traffic on the road as a result of growth in the city. These can be comprehended in the 211 series in the town planning department drawing room with specific reference to (TPD 211/41). Cecil road bounds the study area to the south and is one of the ring roads meant to minimize the amount of traffic passing through the CBD at the same time improving suburb to suburb linkages.

14.3.2 23rd Avenue

Re-alignment of Twenty-Third Avenue where it intersects with Hillside Road that joins into Burns Drive and Phillips Drive to increase the turning radius of the road due to the volume of traffic on that major road. This would reduce the sharp curves on Twenty Third which is a link road to industries.

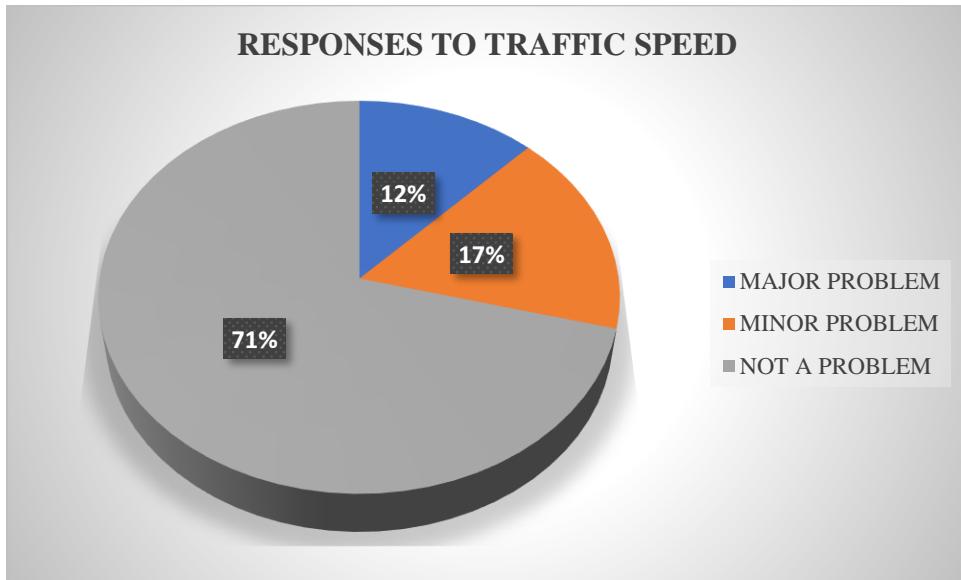
tries making it easy for heavy trucks to maneuver on the road and avoid going into the CBD but get direct access to industries. These can be fully comprehended in the TPD 211/35 diagram.

14.3.3 Essexfale Road

If re-alignment of Essexfale is to be done as a result of development the splays can be reduced to a single splay of 50m x 50m these can be referenced in TPD 211/36. Also, a road reserve required if First Street, Essexfale Road, Phillips Drive ever become a 4-way intersection, this is however not proposed in terms of the Master Plan (TPD 211/35)

The household survey also sought to understand if traffic speed was a problem in both major and minor roads of the study area. The results are summarized in the pie chart in Figure

Fig 17: Responses to traffic speed.

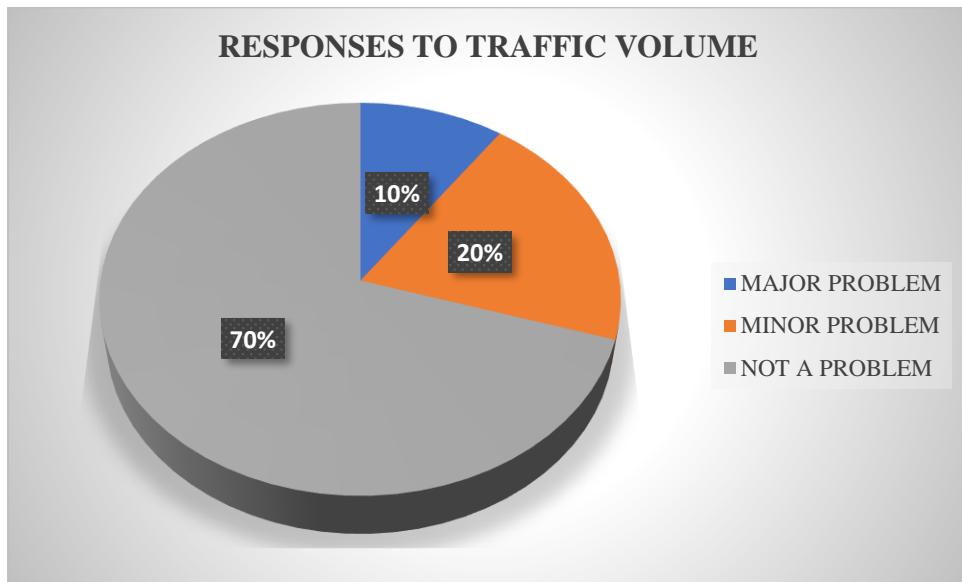


14.3.4 Traffic Volumes in Major Roads and Intersections

It has been long since the Engineering Services Department conducted a traffic monitoring counting survey. This prompted a traffic counting survey of motorized traffic on all major roads and intersections in the study area. This was used as the volume of data regarding road traffic movement in the study area. The study might not be as comprehensive as one would have expected to be but gives a true reflection given that it was conducted during a time when all COVID-19 regulations had been relaxed. A browse through all traffic surveys reveals that morning peak hour flows have been employed as they indicate these to be the highest of the day. Peak-hour flows are very critical as they form the foundation for traffic design. In this study flows will be given in equivalency of passenger car units per hour (pcs/hr) For the Study Area the peak hour.

The household survey sort to understand the perceptions of the residents on whether traffic volumes were problematic.

Fig 18: Traffic volume in the study area

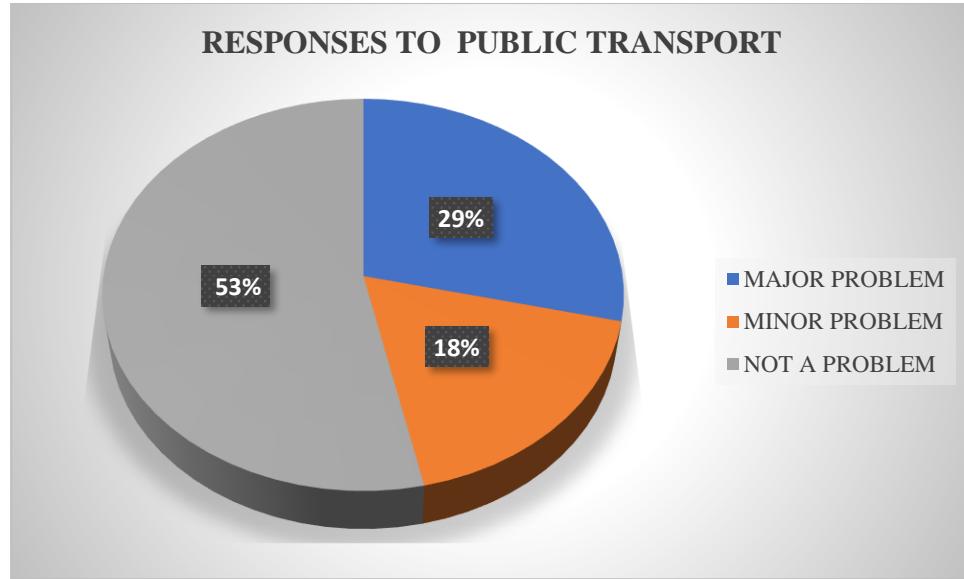


14.5 Public Transport

Over the years, before the Covid 19 pandemic, those that have been commuting to the suburbs in the study area have been using the private commuter omnibuses. By the time of the survey, the only public transport operator, servicing the area, was the Zimbabwe United Passengers Company commonly known as Zupco. In the initial phases of the Corona Virus pandemic, the government of Zimbabwe regulated the public transport system by bringing all bus operators under its wing a move that is yet to be seen its effectiveness. All the suburbs are now serviced but only via the major roads like Matopos Road (to Famona, Hillcrest, Greenhill, and Morningside), Plumtree Road (to Barham green and Southwold), Hillside Road (to Bradfield, Famona, Ilanda, and Hillcrest) and Esigodini to suburbs and Ilanda. It is, however, the Matopos and Plumtree roads that experience the heavy bus and commuter flows as they deliver people within and without the study area.

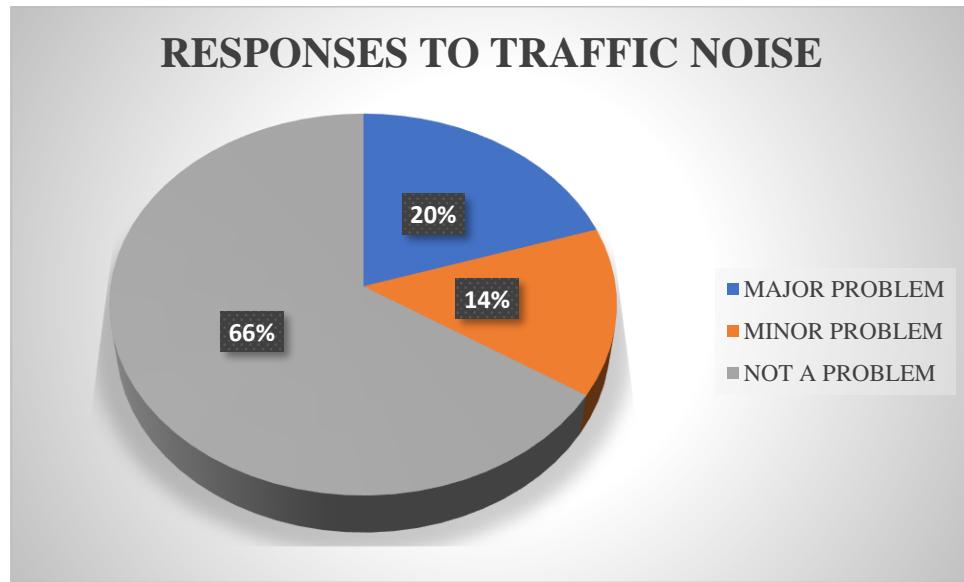
The majority of those interviewed acknowledged that public transport was not an issue. This however may not be a true reflection of the status quo as those interviewed were either property owners or those renting in the main building. Earlier on the study revealed that 83% of the cottages were used for accommodation and this would commute as the majority did not own cars. A browse through council files revealed that residents of the study area had serious challenges before in terms of public transport.

Fig 19: Responses to public transport.



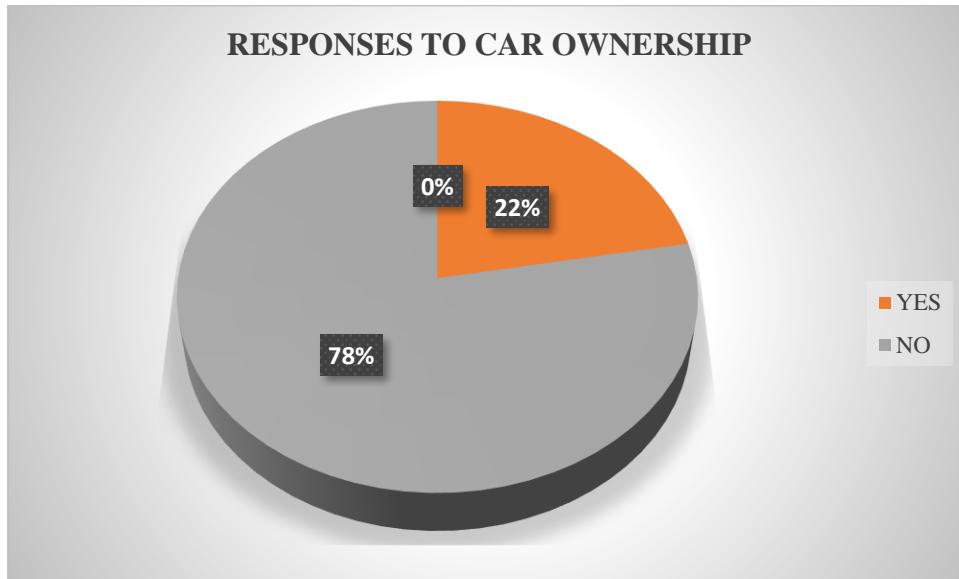
The majority of the residents had no problem with noise (66%) with only a few residents which are affected by traffic noise.

Fig 20: Responses to traffic noise

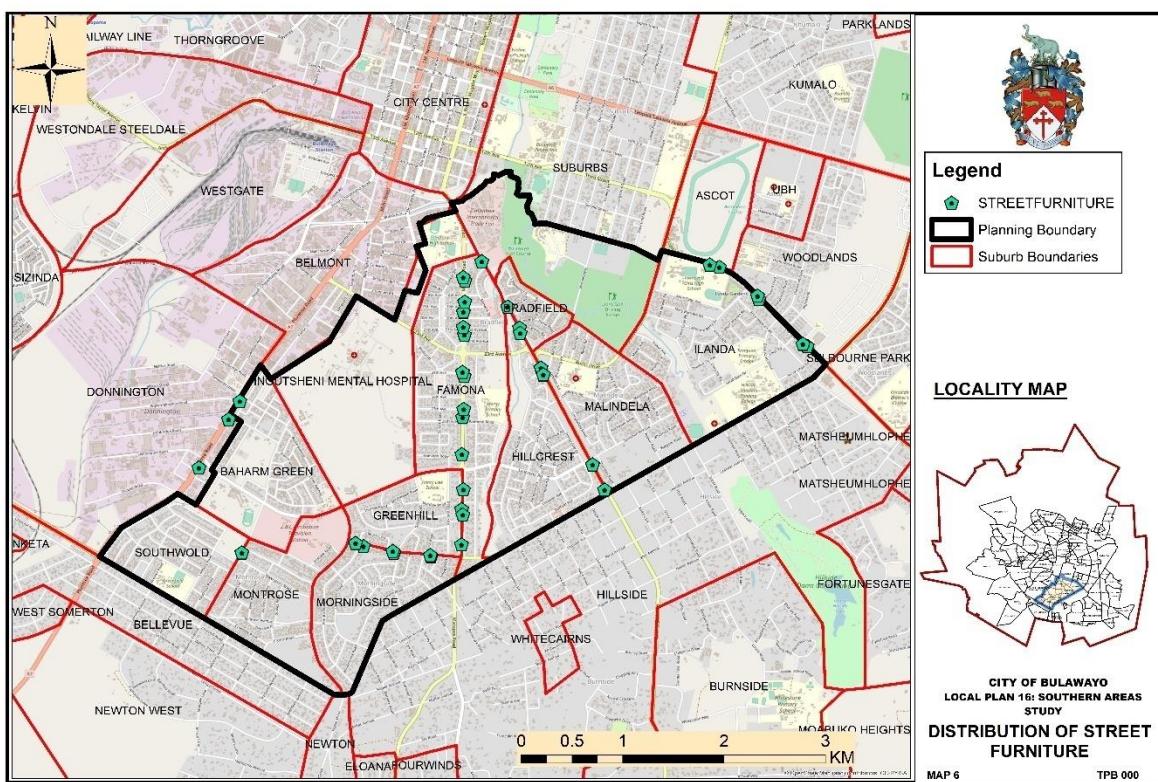


The survey revealed that the majority of residents did not own cars thus, they used public transport for travelling purposes.

Fig 21: Responses to car ownership



Map 17: Street Furnisher in the Study Area.



14.5.1 Challenges

The main challenge experienced is that Zupco is failing to meet the demand of commuters leading to loopholes for private unregulated operators. For unknown reasons, the better part of the study area is serviced mostly by small vehicles like Honda Fits and Toyota Ipsums. Residents from Southwold, Morningside, Montrose, and Barham green have always expressed displeasure as they have been deprived of public transport. This has led to exorbitant transport fares that have been almost double what other routes are charging even though distances are way shorter.

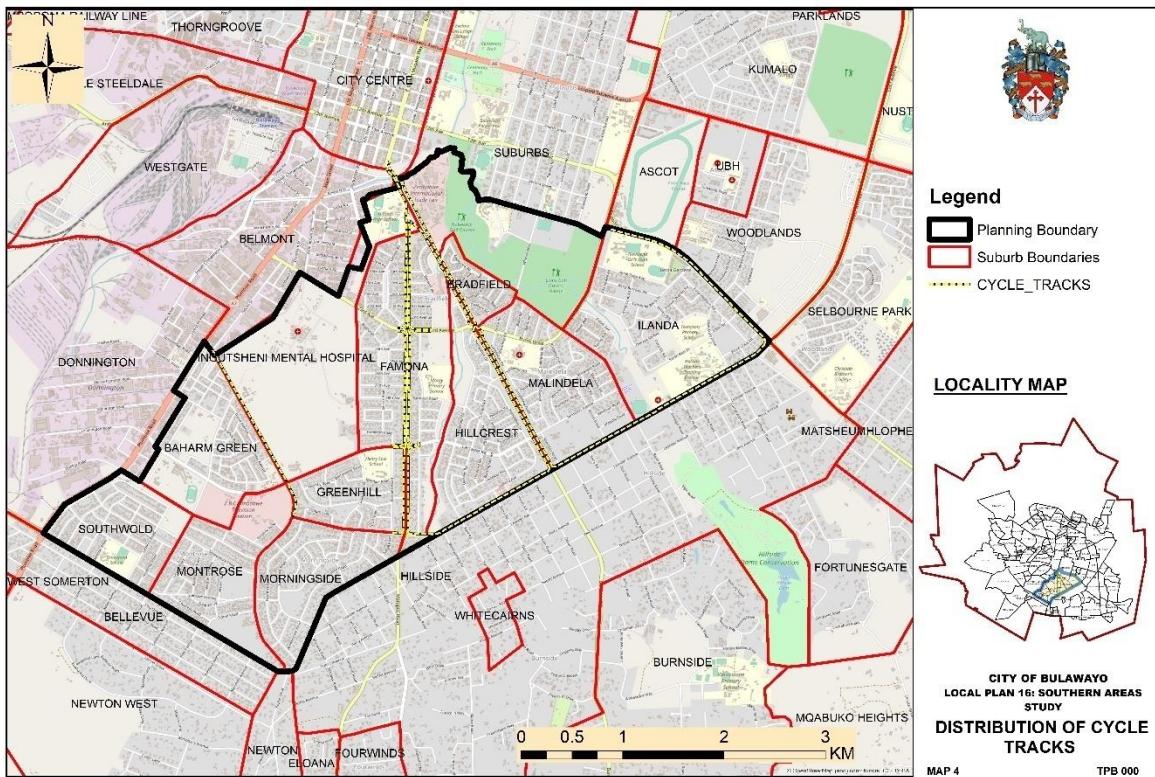
14.6 Pedestrians and Cycle Tracks

Walking and cycling are healthy and pollution-free forms of mobility that are fundamental to life. As the study area is close to the CBD, many are dependent on these modes as their primary means of transport. Even for those who choose public transport or personal motor vehicles, walking often becomes the dominant mode for short trips during the day. There exist a notable pedestrian and cycle track network system especially along Hillside road. However, there is a need for proper maintenance of existing tracks and design of new tracks as the need for these is overwhelming for accessing other suburbs and leisure and exercise by a population that prioritizes health and fitness.

Routes that have cycle lanes include the following.

- a. Matopos road stretching into 23rd
- b. Van Riebeck drive in Barham Green
- c. Ilandagardens proceeding to Hillside Zuva garage stretching into Cecil Avenue

Map 18: Map Showing the Spatial Distribution of Cycle Tracks in the Study area.



15.0 LAND OWNERSHIP

15.1 General

Land ownership is the legal right or exclusive rights and control over the estate inland. It involves multiple rights, collectively referred to as title deeds which may be separated and held by different parties. Land ownership is divided into Private ownership, Council land, and State land (government). The greater part of the study area consists of privately owned land with a few proportions owned by the government as public institutions (e.g. health facilities, schools and post offices, media studios). The government also owns some residential properties in the Ingutsheni Hospital site and these houses the health fraternity civil servants. There is also a sizeable chunk of state land in the Montrose area that also accommodates civil servants from various government departments. The state still has some land reserved for institutions that have not yet been developed. The City Council, on the other hand, owns very few residential properties (flats), all the public open spaces, private recreational areas leased to clubs, public utility land. There remains some land available for development in the study area and the better part is covered in the Open spaces segment. It was, however, noted that that the Ingutsheni Hospital, though state land, has some vast tracts of land that can be used for densified residential accommodation that may go a long way in reducing the housing waiting list. The future development of the Famona areas will depend on the attitude and willingness of all the three stakeholders' i.e. private, government and council to utilize the existing small tracts of land available for development.

Table 24:Land Ownership in the Study Area

OWNER	LAND
The Council	Bulawayo township lands, fire station, public open spaces, private recreational areas leased to clubs roads.
The Government	Schools, Medical facilities,Police stations
Private (individual and institution)	Residential (flats and townhouses) Early childhood developments Commercial entities

16.0 POLICE AND FIRE SERVICES

16.1 General

Police facilities are a constituted body of persons empowered by the government, intending to enforce the law, to ensure the safety, health, and possessions of citizens, and to prevent crime and civil disorder. According to the Zimbabwe Republic Police, there are three types of facilities to be found in policing institutions i.e. police station, a police camp, and a police post. A police station is an office where incidents are reported, and from where they are investigated. A police camp is the accommodation/recreation section that may be part of a police station or post. A police post is a reporting post, for use by the public. A fire station also called a firehouse, fire hall, firemen's hall, or engine house is a structure or other area for storing fire-fighting apparatus such as fire engines and related vehicles, personal protective equipment, fire hoses, and other specialized equipment. Fire stations frequently contain working and living space for the fire-fighters and support staff.

16.2 Existing Police Services in the study

The study area has one Police facility located in Hillcrest and is commonly referred to as Hillside Police station. The other nearby Police facilities that service the study area are the Donnington and ZRP Kumalo located between Fife Street and Leopold Takawira Avenue. According to Zimbabwe Republic Police, Ilanda, Malindela, Hillcrest Morningside, Greenhill, and part of Famona which is 23rd avenue Hillside are serviced by foot, cycle, and mobile patrols from Hillside Police station. Barham Green, Southwold, Montrose, and Ingutsheni Hospital are patrolled by foot, cycle, and mobile patrols by ZRP Donnington. Bradfield, suburbs, and part of Famona falls under ZRP Khumalo policing area which is policed by Bulawayo Central District Headquarters.

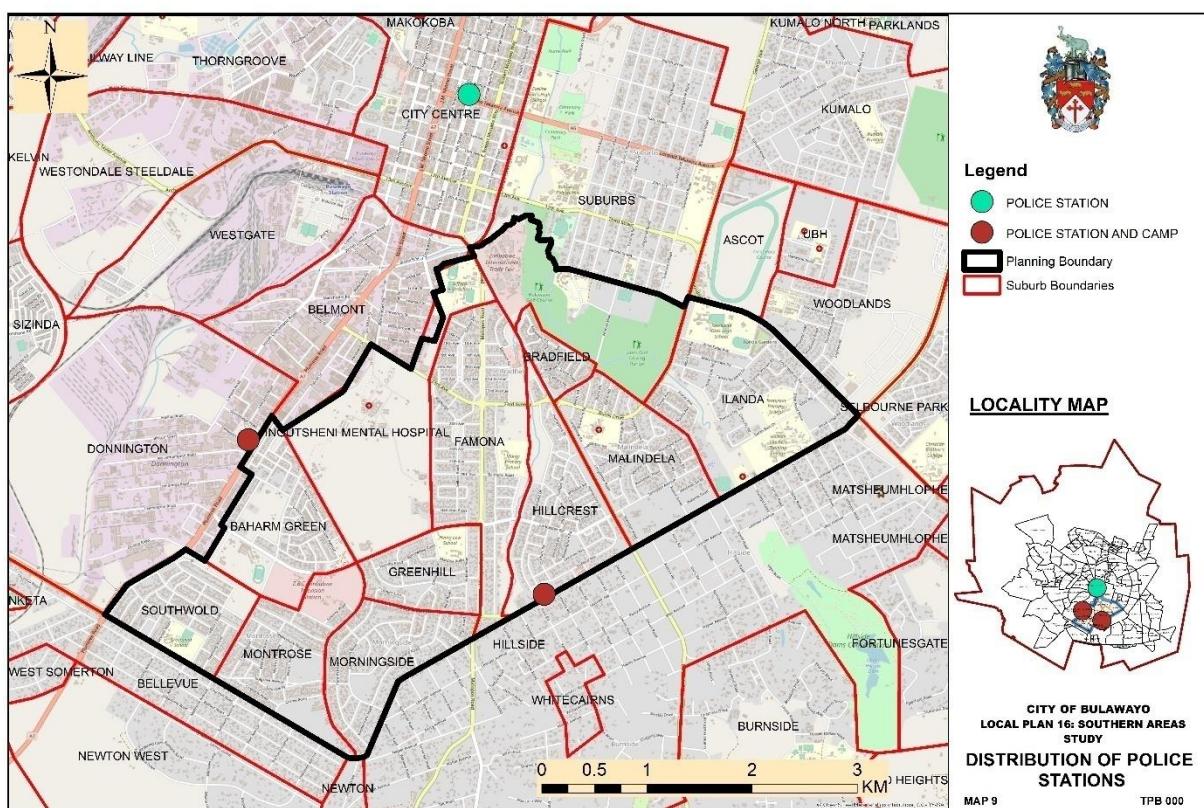
Table 25: Existing Police Services in the Study Area

Suburb	Station	Camp	Post	Other Remarks
Barham Green	X	X	X	Patrolled on foot, cycle, and mobile by Donnington Police
Bradfield	X	X	X	Falls under Kumalo which is Policed by the Bulawayo Central District Headquarters.
Famona	X	X	X	Part of it Falls under Kumalo which is Policed by the Bulawayo Central District Headquarters and part of which is patrolled on foot, cycle, and mobile by Hillside.
Greenhill	X	X	X	Patrolled on foot, cycle, and mobile by Hillside Police.
Hillcrest	✓	✓	✓	This has a Traffic Section

Ilanda	X	X	X	Patrolled on foot, cycle, and mobile by Hillside Police.
Malindela	X	X	X	Patrolled on foot, cycle, and mobile by Hillside Police.
Morningside	X	X	X	Patrolled on foot, cycle, and mobile by Hillside Police.
Montrose	X	X	X	Patrolled on foot, cycle, and mobile by Donnington police
Southwold	X	X	X	Patrolled on foot,cycle, and mobile by Donnington police

Source:BCC, Field survey, ZRP (November 2020)

Map 19: Spatial Distribution of Police Stations in the Study Area.



16.3 Existing Fire and Ambulance Services in the Study Area

The whole study area is serviced by the Famona Fire and Ambulance services Headquarters which is located in the suburb of Famona Headquarters. A fire station supports the needs of the fire department and the community in which it is located. It must accommodate extremely diverse functions, including housing, recreation, administration, training, community education, equipment and vehicle storage, equipment and vehicle maintenance, and hazardous materials storage. The mission of the Bulawayo Fire and Ambulance Services is to

protect and save lives, property, provide pre-hospital care and render humanitarian services. The operations of the Fire Brigade are governed by the Zimbabwe Urban Councils 29:15 Act part XV Section 2000 - 2003 states that a local authority may provide and maintain for use inside or outside its council area for the protection and saving of lives and property in the case of fire and other emergencies, that is Fire Brigade and fire protection services including all personnel, vehicles, machines, equipment, appliances, and appurtenances necessary. According to the City of Bulawayo service level standards, the response time to any incident within the City of Bulawayo is 10 minutes except for Waterford and Cowdray Park. The City has four Fire Stations namely **Famona HQ, North End, Nketa, and Nkulume**. Each station has its turnout area (boundary) and these boundaries are as follows:Famona (L. Takawira/Gwanda road, Lobengula street, 6thavenue, Basch street, Old Khami road, steelworks road, Anthony Taylor, 13thavenue, fort street then Plumtree road) North-End: (L. Takawira, Lobengula street, 6thavenue, Basch street, Old Khami road, Station road, ManjaKhumalo road, Luveve road, J.Z Moyo, Old fall road then Vic Falls road)Nketa

Table 26: Existing Fire and Ambulance Services in the Study Area

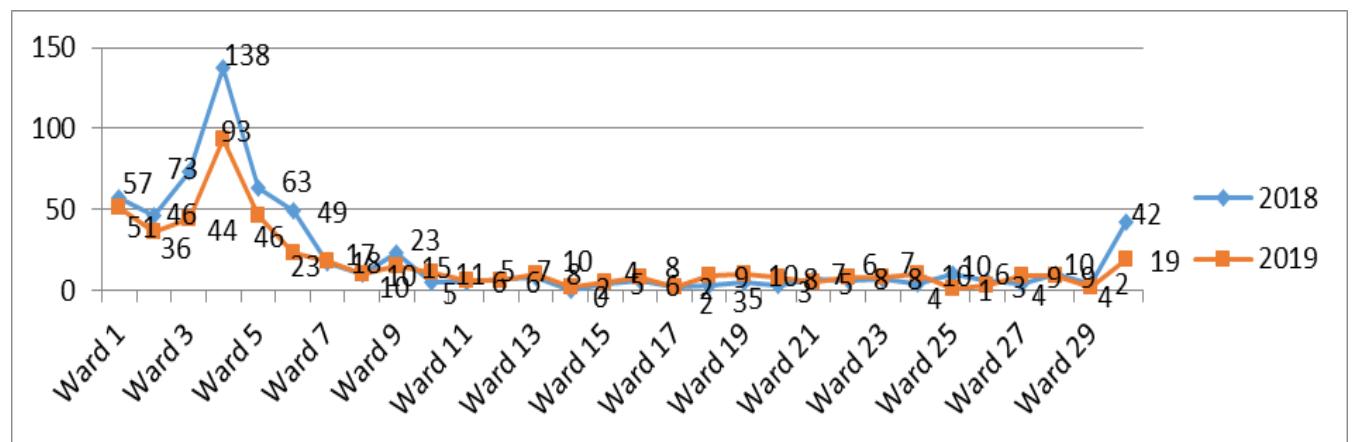
Suburb	Station	Services Offered
Famona	Famona Headquarters	<ul style="list-style-type: none"> ✓ <u>Firefighting:</u> (property fires, vehicle fires, veld fires,etc.), ✓ <u>Special service:</u> (road traffic accidents, rail traffic accidents, well/mine shaft rescue, persons shut in lifts, trees fallen on property or roadway, hazardous material(spilled or leaking), extricate trapped animals, gain entry into locked premises, pump out flooded premises, deal with bees, water delivery, cutting of handcuffs and rings, wedding processions,etc.). ✓ <u>Ambulance Services:</u> (road traffic accidents, conveying patients with different general diseases, maternity cases,etc.). ✓ <u>Inspections:</u> Development plans, Development permits, Change of occupancy, Service stations, Fire risk assessments, LPGas retail outlets, Public building inspections, Routine inspections, Fire investigation, Hydrant inspections. ✓ <u>Fire Awareness Campaigns</u> ✓ <u>Pieces of training:</u> Fireteam training, First aid, Confined space, Rope Rescue, Fire management lectures. Competency training and test, Emergency preparedness and response planning, mock drill supervision

Source, BCC & Field surveys (November 2020)

16.4 Trends in the Study Area

Fire outbreaks data for the years 2018 and 2019 show that fire outbreaks are highest in the wards where the study area falls under. According to the Fire Department, Wards 3, 4, and 5 record high veld fire occurrences because most of the land is virgin land covered by vegetation with less infrastructure and the used land is for residential purposes. The predominant fire incidences.

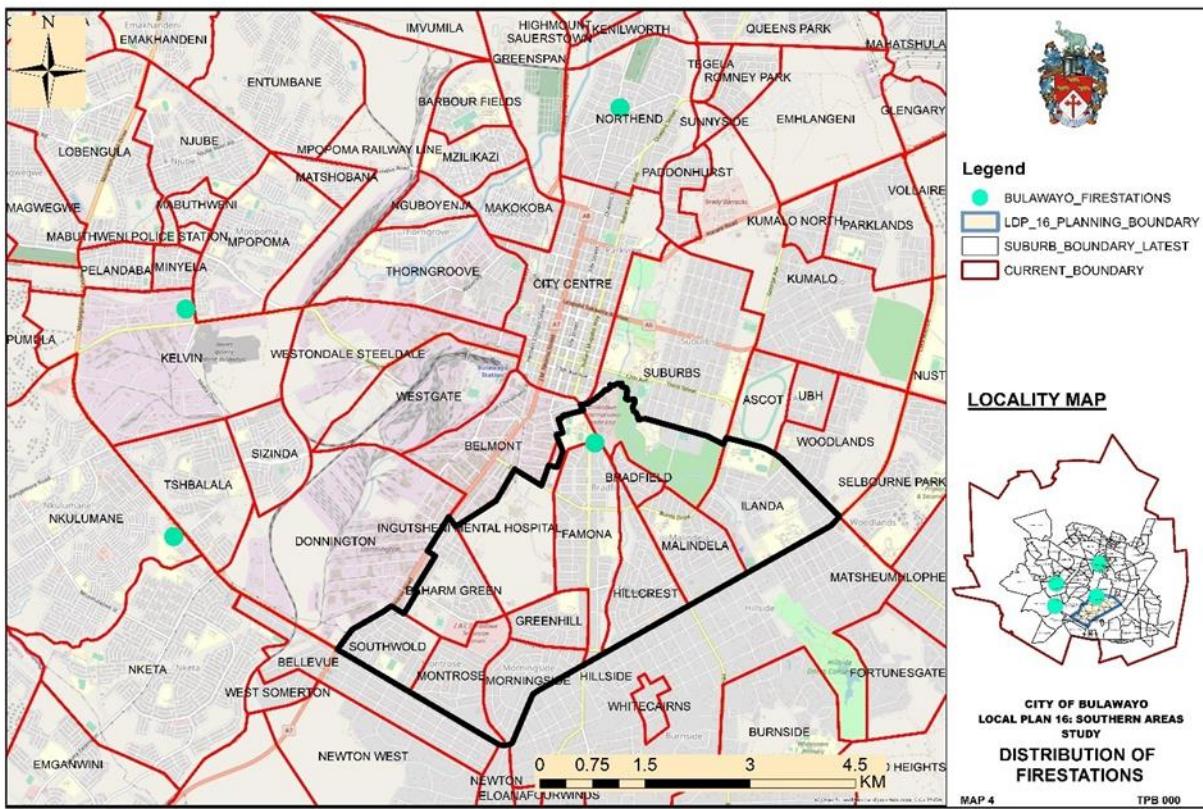
Fig 7: Graphic Comparison of Fire Outbreaks In The 29 Wards Of Bulawayo For The Period 2018 And 2019



16.5 Challenges

The rapid population growth, urbanization, and development in the City give Emergency Services a serious challenge in responding to emergencies on time and fire fighting and this determines the turnout area and construction of the Fire Stations. The value of the properties and population also determines the manpower at each station, specialized fire, and ambulance appliances. There are 171 552 properties registered in the City of Bulawayo according to the BIQ system.

Map 20: Spatial distribution of Fire Stations in the Study Area.



17.0 AGRICULTURAL USE

17.1 General

The Council's policy on Urban Agriculture defines urban agriculture as the growing of plants and rearing of livestock for food and other uses within the urban and peri-urban areas, and related activities such as production and delivery of inputs, and the processing and marketing of products. The scale of activities is determined by the land size, water availability, skills, labour, legislative framework as well as finance. Sociologically, urban agriculture (UA) has received attention from planners, policymakers, practitioners, institutions, activists, and community residents as a way to improve urban communities, as well as their connection to broader social and natural processes. Economically, UA affects local economies when it (a) creates jobs; (b) strengthens local economic linkages, including attracting new capital and opportunities for business development; and (c) improves property values and therefore the local tax base. Urban agriculture has the potential to influence human health both directly and indirectly. For example, the experience of growing food locally is positively correlated with the consumption of fresh fruits and vegetables. Urban agriculture also supports health by contributing to safe, healthy, and green environments in Neighbourhoods, schools, and abandoned areas which are prevalent in the Famona study area.

17.3 Existing situation in the Study Area

The availability of undeveloped and vacantland, watercourses, lack of a stringently enforced development control, and borehole water policy in the planning area has fostered urban agriculture in the Famona study area. However, it is prudent to note that in most cases it is illegal urban agriculture with small portions where UA is permitted. Urban agriculture in the study area varies from shifting cultivation of vegetables to copious seasonal cultivation of maize and sweet potatoes as shown in table 9.1. However, seasonal cultivation is the most prevalent mainly due to the abundance of open spaces available along road servitudes, watercourses, public utility servitudes, and within residential stands as well as the need to improve food security. Because the survey was conducted in November, there was a lot of maize farming during this time of the year supported by the good rains the city was receiving.

17.4 Challenges

Urban Agriculture is problematic to the local authority especially when it is happening on undesignated land. The challenge is that UA in the study area is now happening on land set aside for other purposes. It will also be interesting to have a survey on the implications on the water supply of using municipally treated water for urban agriculture. The area of study is zoned residential, however, in Zimbabwe agriculture is the backbone of the economy and food security, reserving land for agricultural use is of paramount importance. As shown in Table 9.1 below, the study area is dominated by unauthorized cultivation seen by the seasonal crop cultivation of maize and sweet potatoes hence the need to increase land for urban agriculture within the planning boundary.

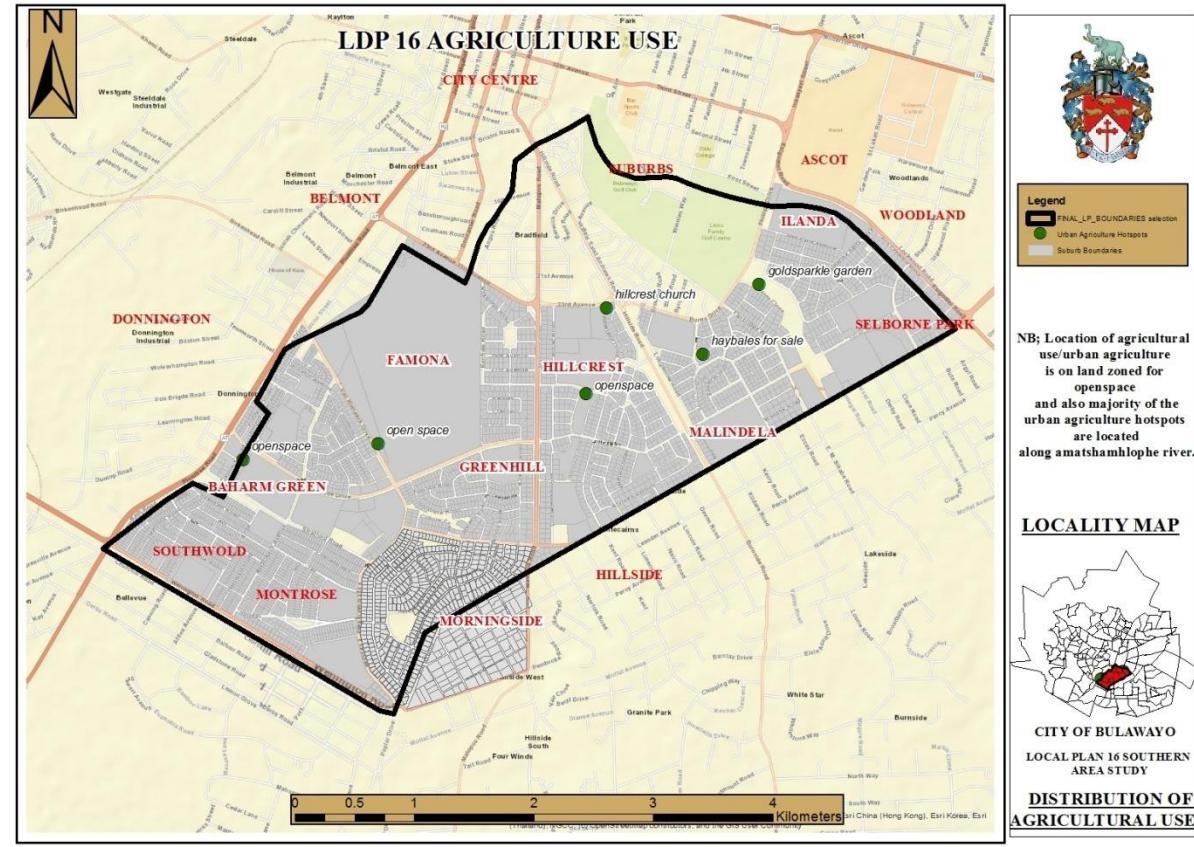
TABLE 27: Distribution of Urban Agricultural Use in the Study Area.

Suburb	Agricultural activity	Company/Road description
1. Malindela	Haybales for sale	Coller ridge road
2. Ilanda	Shifting cultivation(vegetables, tomatoes, cornflower)	Gold Sparkle Garden,Phillips Dr, along Frazer avenue
3. Barham Green	(maize and sweet potatoes seasonally)	Gainsborough road
4. Morningside	NIL	NIL
5. Greenhill	NIL	NIL
6. Bradfield	NIL	NIL
7. Famona	(maize)	Doncaster road. Between 16 th and 17 th avenue,Famona
8. Southwold	(maize and sweet potatoes seasonally)	Dunlop Road, Southwold
9. Montrose	(maize and sweet potatoes seasonally)	Along van Riebeck road, Montrose
10. Hillcrest	Shifting cultivation (vegetables)	Church of Jesus Christ of latter-day saints,23 rd avenue, corner Cumberland drive, hillcrest

Source: Field surveys, BCC (November 2020)

NB: Most of Agricultural Use in the area of study is on Open Spaces within residential stands.

MAP21: Distribution of Agricultural Use in the Study Area.



18.0 NATIONAL MONUMENTS

18.1 General

The National Monuments of Zimbabwe are protected and promoted following the National Museums and Monuments Act 1972. This law replaced the colonial-era Monuments and Relics Act 1936, which in turn replaced the 1902 Ancient Monuments Protection Ordinance and 1912 Bushmen Relics Ordinance. The National Museums and Monuments of Zimbabwe (NMMZ) is the body responsible for maintaining the Archaeological Survey, the national inventory of monuments and sites.

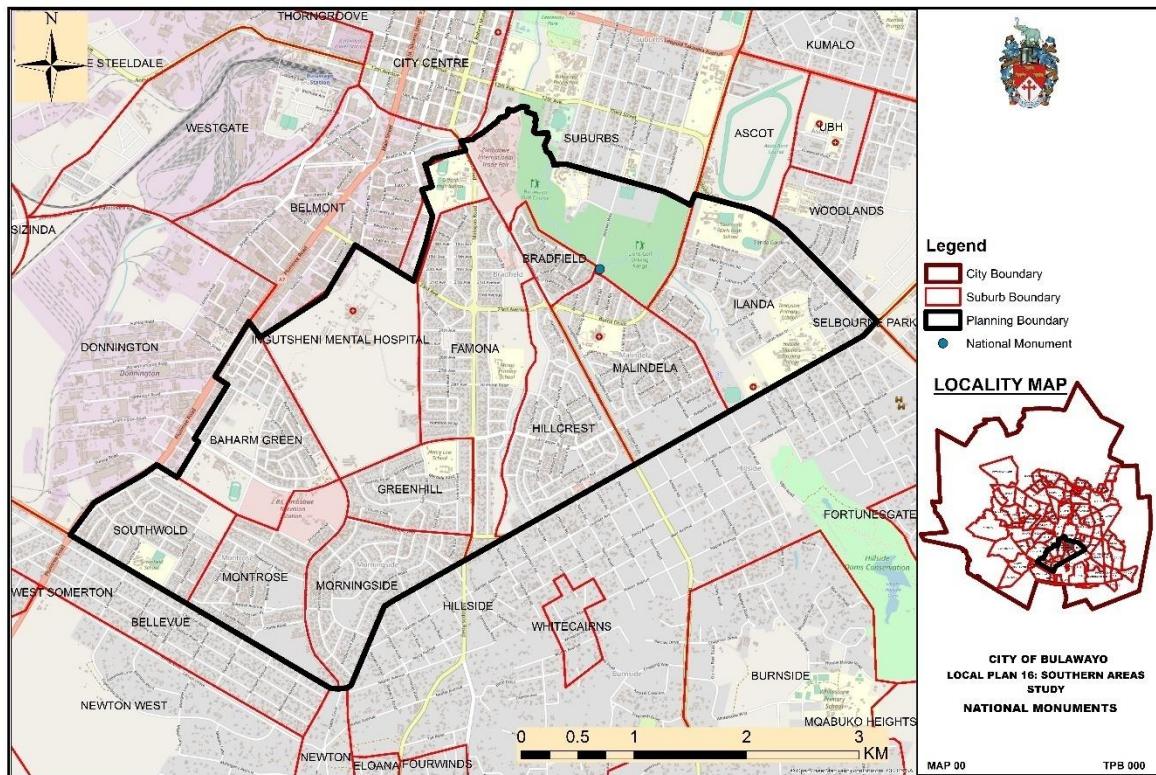
18.2 Existing National Monuments in the Study Area

There is only a site of national importance and of historical merit in the study area it's called the Silver Queen located corner Winnies Way and Fair bridge way adjacent to Lions Golf club.

18.2.1 Silver Queen

The first aircraft to reach this country, the Silver Queen, a Vickers Vimy bomber, crashed near this place on 6th March 1920. The aircraft was flown by Lieut-Col Perre, Van Ryneveld DSO MC, and Flight Lieut C.J Quintin Brand DSO DFC. The other members of the crew Mr. F.W Sheratt, An engineer from Rolls Royce, and FLT SGT F.F Newman (RAF) an Air Frame Engineer. This was the first flight from London to The Cape. After the crash and some days after the flight was continued and completed by Van Ryneveld and Brand in a DH 9 aircraft Hamed Voortrekker.

Map 22: Spatial Distribution National Monuments in the Study Area



19.0 CONSTRAINTS AND OPPORTUNITIES

19.1 Natural features

The study area is endowed with various natural features that provide for recreational purposes in the Famona area. From a glance, the numerous valleys and watercourses in the study area are natural features that are key for recreational purposes. Moreso, these natural features have been efficient in separating various land uses like residential and industrial areas. These have been very key in creating a sense of community in the areas that have been separated. All these natural features should therefore be integrated into public open spaces.

19.2 Land Ownership

There is limited land that belongs to the Council and can be developable, hence the pace for development will be directed by the private owners and the government and not the local authority. However, there are vast developmental opportunities due to vast land in the Ingutsheni Hospital site that could be utilized for residential accommodation and be earmarked for densification purposes. However, the council is only left as an advisor because of ownership issues and because of its proximity to issues on the ground, the government may not want to develop as quickly as the local authority. The constraint is that development and investment capital from the government and private sector has not been regular and generous for the past 10 years. The local authority is also limited in terms of funding but can tap on the advantage of the existing services in the study area.

19.3 Public Opinion

The household survey also proved that the residents may be highly opposed to any densification proposals as they are comfortable with the current ambiance in their Neighbourhoods. Famona area residents are against the reduction of their open spaces and argue that any densification proposal may lead to the lowering of the property values and infringement on their privacy. However, the Local Authority must use its town planning skills to sell and promote the idea of densification and its benefits to the community, city, and nation at large.

19.4 Servicing Costs

Should there be densification, the servicing costs are likely to be lower as the new developments will be connecting from existing sewer and water mains. The only extra costs will be on procuring pipes and constructing new stormwater drains where necessary. According to the Engineering Service Department, all things being constant, the current water and sewer infrastructure can accommodate further intensified development. The Hillside reservoir can accommodate further 3000 properties distributed amongst all the 10 suburbs with 6J having the capacity to accommodate about 2000 properties. There also exists adequate pump stations that should aid in servicing the area, hence there will be no extra cost in this area.

19.5 Road System

There will be minimal road developments in the state land earmarked for further densification and even less in council land as the areas are already serviced by roads. In areas with patches of land earmarked for further development, there is an advantage of both internal and main access roads that are surfaced to standard. Also, these developments will tap into the well-developed distributor and outer ring roads like Cecil Drive, Plumtree Road, Matopos, 23rd Avenue, and Hillside roads. There is, however, a need by the Local authority to maintain and improve these roads to standards so that they can carry the traffic that circulates through the Famona Area.

19.6 Electricity

All the suburbs in the study area are adequately provided for in terms of electricity reticulation. Different sizes of voltages traverse the study area and are serviced by both underground and overhead cables making it affordable to connect any proposed development. The area is adequately supplied for in terms of substations hence the only foreseen expenses should be on the acquisition of installation equipment.

19.7 Public Transport

The study area is well endowed with public transport infrastructure to cater to both conventional buses and commuter omnibuses. The street furnisher is strategically positioned to accommodate all public service transport with bus-stops, termini, and lay byes in almost all the suburbs. The two termini in Morningside and Hillcrest should serve the study area, however, there might be a need to add extra termini in the suburbs of Barham Green and Southwold. The greatest challenge in the study is, according to the household survey has been the non-availability of public transport in the suburbs of Barham Green and Southwold.

19.8 Statutory proposals

The operative Bulawayo Master Plan is very open and promoted the idea of densification and hence these should be integrated into the local Pan.

19.9 Accessibility

Most of the suburbs in the planning area are situated within a radius of 5km of the Central Business District. Those that are further are situated in a radius of 6km and this is not a problem given that the area is well endowed with access, arterial, and distributor roads. These existing roads and road reserves in the study area are key in ensuring accessibility of the CBD and Famona areas. There is also an opportunity for extending and widening these existing roads through road alignments to expand accessibility even further with minimal demolition of existing development.

19.10 Land Suitability

The general topography of the area is ideally suited for further proposed developments. The soil types still encourage both medium and low-density residential development but more so encourage for further densification and mixed-use densities purposes.

19.11 Poor Drainage

It was noted that most of the suburbs in the study area were characterized by poor drainage. This could pose possible flooding in these suburbs especially when the city receives above normal rainfall. This could be a challenge for future developments; therefore this should be rectified by attending to the existing stormwater drains and constructing new stormwater drains.

20.0 Recreation and Leisure

The study area consists of a sum of 14 lodges and recreational facilities and quite notable of these recreation and leisure facilities is the Hotel stay Afrique which is located in Barham Green. Moreover, the Stay Afrique Hotel provides a wide range of activities such as accommodation, a restaurant, free private parking, a shared lounge, and a garden. Thus, the hotel has a capacity of 25-bed rooms to cater for accommodation purposes.

Additionally, the recreation and leisure facilities are dispersed within the study area as it is evidenced by Famona which has 2 lodges, and among them, there is Eight Wington lodge whereas in Barham Green there is a guest house and Hotel Stay Afrique. Moreover, in Malindela there are 7 lodges and a guest house namely Motsamai guest lodge, Oceansdale guest lodge, and NRZ guest house among the notable leisure and recreation facilities.

Furthermore, Montrose has 1 lodge, iLanda has 2 lodge which is Mc Dinangwe lodge and Hillcrest has 2 lodges which complete the total of 14 leisure and recreation facilities in the study area.

Suburb	Condition of the house
Famona	Eight Wington Lodge Mpala Boutique Hotel
BarhamGreen	Hotel Stay Afrique Padanduro Guest House
Montrose	
Malindela	Motsamai Guest Lodge Oceansdale Guest Lodge NRZ Guest House Lillys Backpackers Hostel PDP Lodge Choice Backpacker Hostel 4 On Housman Backpackers

Ilanda	Mc Dinangwe Lodge Kismet Lodge
Hillcrest	
Morningside	Cycad Lodge