

# A CATCHMENT STUDY AROUND THE LOCATION OF TVET COLLEGES.



UNIVERSITY *of the*  
WESTERN CAPE

PROVINCE: **MPUMALANGA**  
TVET COLLEGE: **Nkangala TVET College**

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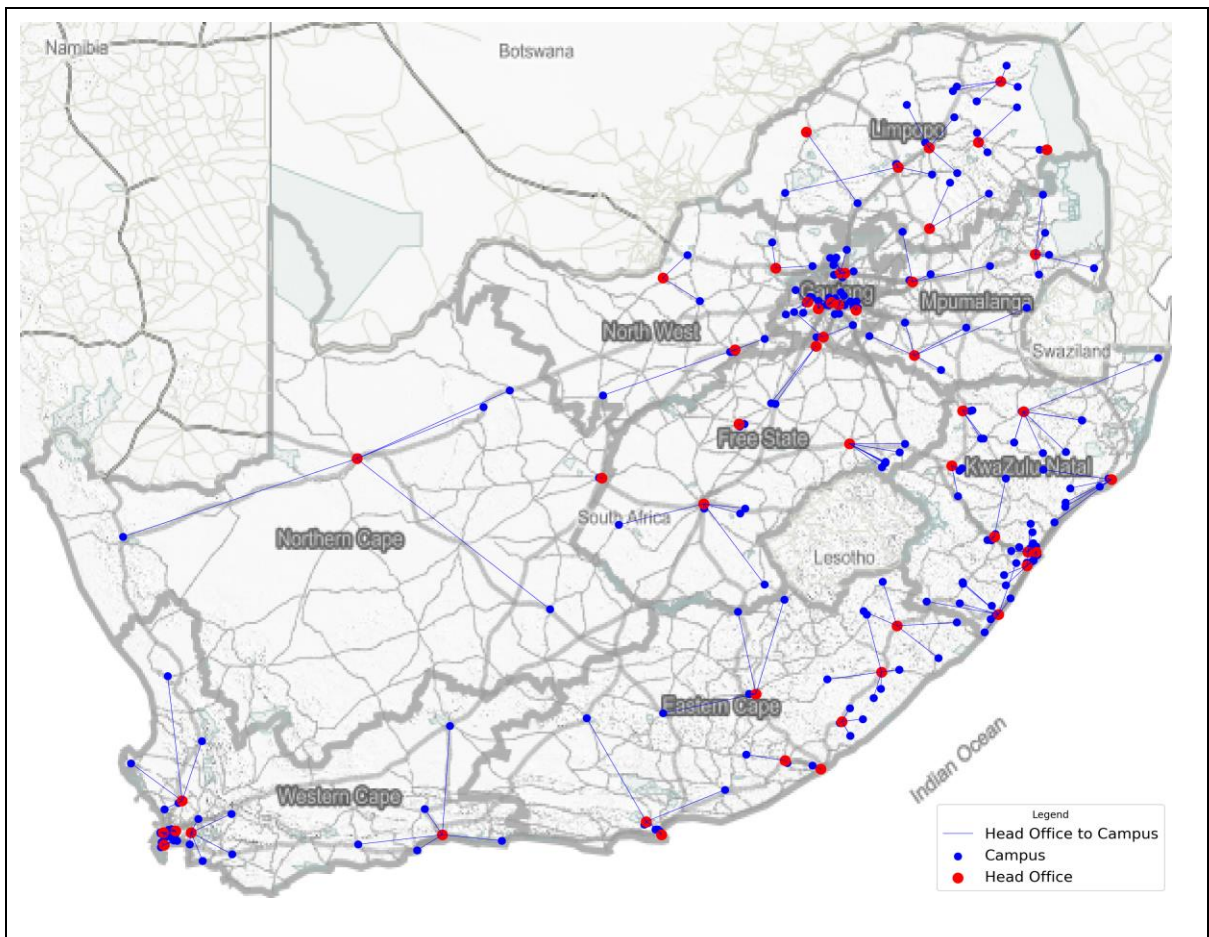
## 2 INTRODUCTION

The University of Western Cape requested a study on the Geographic Profiling of TVET colleges across South Africa. The purpose of this study was to profile each college to identify business and commercial activities within a nearby vicinity. As part of the study, AfriGIS sourced and prepared data in order to understand the economic potential in an area taken the current business footprint into account.

The outcome can be used as basis to improve/adjust course availability at specific study centrums to ensure successful employment after studies have been completed.

The below map shows the geographic distribution of the TVET colleges across South Africa

South Africa: TVET Locations

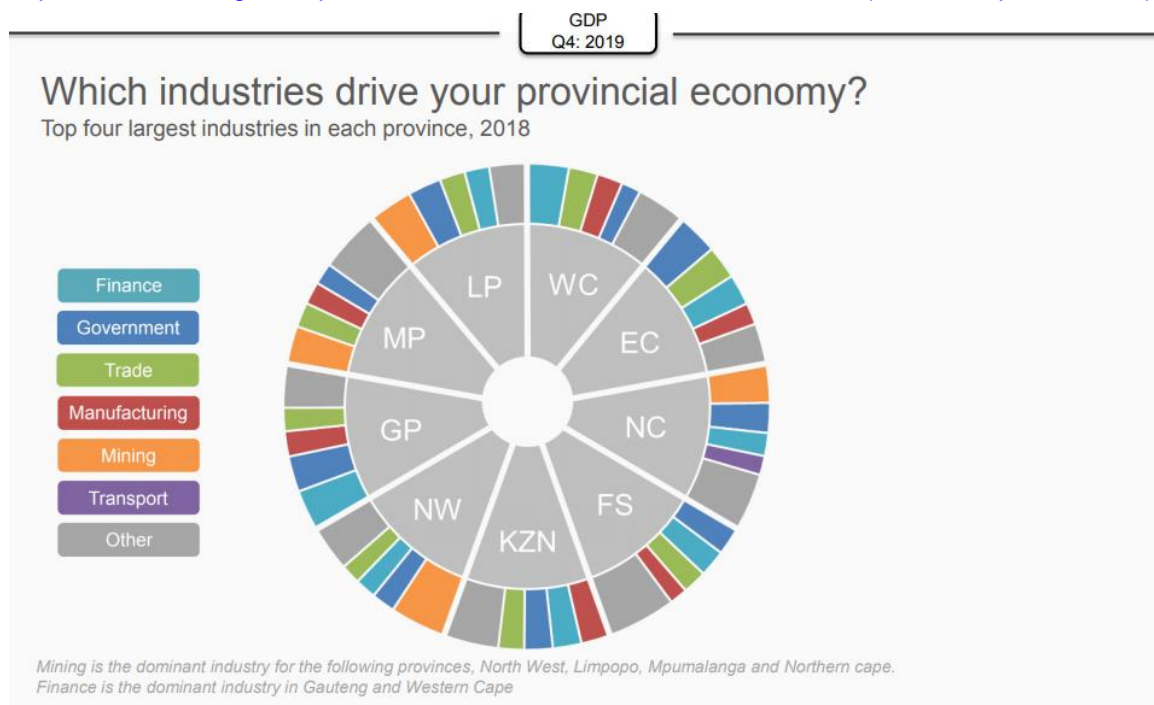


Some of the main industries especially looking at the asd Gross Domestic Product (GDP) are categorized under the following groups:

- Primary Industries
  - Agriculture, forestry and fishing
  - Mining and quarrying
- Secondary Industries
  - Manufacturing
  - Electricity, gas and water
  - Construction
- Tertiary industries
  - Trade, catering and accommodation
  - Transport, storage and communication
  - Finance, real estate and business services
  - Personal services
  - General government services
  - All industries at basic prices
  - Taxes less subsidies on products

Top 4 Industries in each Province: Sourced from StatsSA:

[http://www.statssa.gov.za/publications/P0441/GDP%202019%20Q4%20\(Media%20presentation\).pdf](http://www.statssa.gov.za/publications/P0441/GDP%202019%20Q4%20(Media%20presentation).pdf)





## 3 DATA AND METHODOLOGY

### 3.1 DATA

The geographic profiling considers factors such as business descriptions, points of interest and demographic data. The data was mainly sourced from CIPC (Companies and Intellectual Property Commission), StatsSA and AfriGIS.

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#### 3.1.1 CIPC

CIPC data was used to profile registered companies in the near vicinity of TVET colleges. The CIPC stores and maintain information of a vast list of registered companies. However, the task falls on the owner of each company to provide relevant information about the company. This includes providing a SIC Code which can be linked to a business category. Unfortunately, most of the SIC Codes provided links to a too broad description to be used in this study. There is however a business description field, which is used to describe what the business does. Therefore, most of the CIPC analysis was based on descriptions, rather than fixed categories.

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#### 3.1.2 STATISTICS SOUTH AFRICA (STATSSA)

StatsSA conducted a national census back in 2011. During this census StatsSA gathered, stored and processed a large volume of demographic data. The data included both personal and household information such as the total population, age, income, dwelling types, employment status and much more. StatsSA made the data available for public use on different geographical levels, of which the SAL or small area layer was the smallest geographical boundary which was used to convey census data to the public.

The current project therefore uses the SAL geographical boundaries to conduct the relevant census information. The role of demographic data in the current project are to provide economy and general living condition insights of the surrounding TVET college areas.

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### 3.1.3 AFRIGIS

AfriGIS has a vast data store of many different types of geographical data such as political boundaries, a routable street central line and points of interest. The current study focusses on activity in an area and therefore obtained most of the information from the points of interest layer.

The points of interest layer have many different categories to describe the type of activity accompanied with geographical location information. The categories are described on 4 levels namely category, type 1, type 2 and type 3 where category is a broad description of the types and type 2 and type 3 are subcategories of the type 1 activity. The following describes the hierarchy of the category and type 1 fields:

#### **POINTS OF INTEREST**

##### **CATEGORY: COMMERCIAL**

- TYPE 1 : ACCOMMODATION
- TYPE 1 : AUTOMOTIVE
- TYPE 1 : COMMERCIAL
- TYPE 1 : ENTERTAINMENT
- TYPE 1 : FILLING STATION
- TYPE 1 : MINE
- TYPE 1 : PLANT
- TYPE 1 : RECREATION
- TYPE 1 : SERVICES
- TYPE 1 : STORES

##### **CATEGORY: HUMAN INFRASTRUCTURE**

- TYPE 1 : EDUCATION
- TYPE 1 : GOVERNMENT
- TYPE 1 : MEDICAL
- TYPE 1 : PLACE OF WORSHIP
- TYPE 1 : RESIDENTIAL
- TYPE 1 : SOCIAL SERVICES
- TYPE 1 : TOURISM ATTRACTION
- TYPE 1 : TRANSPORTATION

Type 2 have 401 subcategories of Type 1 such as Fast food outlets, Shopping Centre and Mobile. Type 3 have a further 1322 subcategories of Type 2 such as KFC, Mcdonalds, Hyper Centre, Neighbourhood Centre, Vodacom, MTN etc.

The points of interest layer also contains a spatial confidence level which describes the spatial accuracy of each point. The confidence levels are as follows:

**Confidence Level Technical Description**

- 1 Accurate Erf-Portion Level
- 2 Erf Level
- 3 Street Corner
- 4 Within 5 of Street Number
- 5 Street Name & Suburb
- 6 SG Town
- 7 Suburb
- 8 Town
- 9 Municipality or District
- 10 Province

Due to the nature of the current project it was decided to include points of interests with a confidence level of 7 and below.

## 3.2 METHODOLOGY

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### 3.2.1 CATCHMENT AREA

A catchment area around each TVET college was created using various straight line distances. The distances included in the current study were:

- 0km to 2km
- 2km to 5km
- 5km to 10km
- 10km to 15km
- 15km to 30km
- 30km to 50km

Note: For display purposes, the 0km to 2km and 2km to 5km were combined in the map legend.

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### 3.2.2 INFOGRAPHICS

The first set of infographics are based on the CIPC data. All registered business within each catchment distance were extracted and analyzed per college. Key words were extracted from the description field within the CIPC data. The key words were then grouped and sorted by the count of times used. Only the top 20 words are presented in the graphs. A word cloud was also generated using the count of each word as a size scale.

The second set of infographics are created from the census data. The demographic data were extracted from all the SAL center points within each distance band from the TVET College. This includes dwelling types, household income bands and employment status.

The third set of infographics are analyzed from the AfriGIS points of interest layer. This includes the top 20 Type 1 and Type 2 categories in points of interest as well as the top 20 Type 2 and Type 3 of the points of interest belonging to the commercial category. Furthermore, the following list of types of points of interest were also excluded from the commercial points. These types were found to be prominent at most colleges but is too general or have no found to be none essential to the current study.

Points of interest types excluded from commercial analysis:

- Stores
- Entertainment
- Clothing
- Restaurant
- Fast Food Outlets
- Supermarket
- Specialty food
- Liquor
- Shoes
- Convenience
- Shopping Centre
- Ticket Station
- Other

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### 3.2.3 INFOGRAPHIC VISUALS

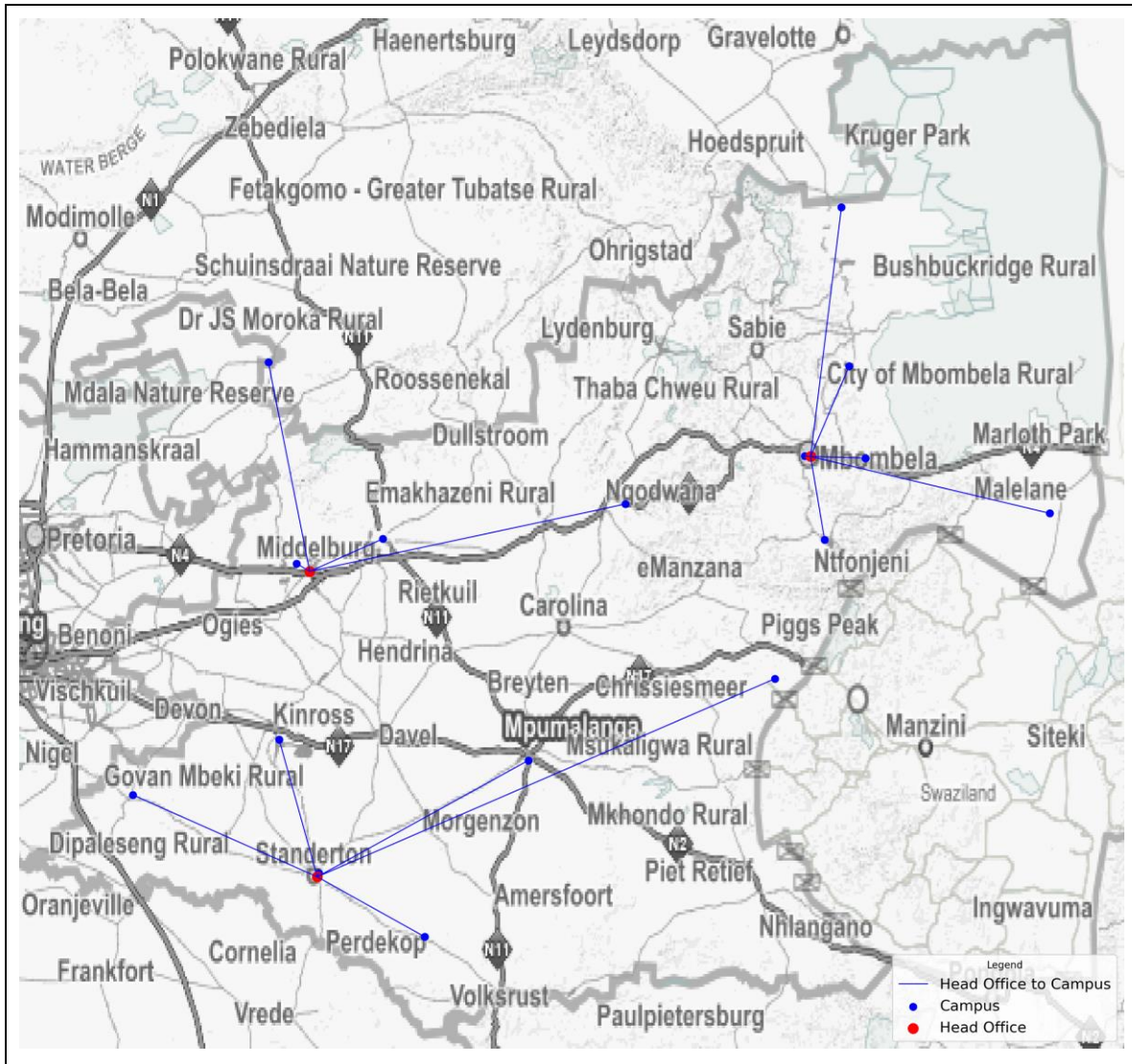
This document contains three main visual infographic types in order to explain and simplify the amount of data to the reader. The visual types of infographics are maps, graphs and word clouds.

The maps display the locations of each of the TVET colleges as well as straight line distances from each college. The distance bands were divided into 2, 5, 10, 15, 30 and 50km bands. The graphs depict counts of CIPC, demographic and points of interest data within each of the latter mentioned bands. Word cloud infographics display and quantify the most frequent used words. The word cloud was generated using business descriptions, demographic types and points of interest categories within 30km in the Gauteng, Western Cape and Kwa-Zulu-Natal Provinces and 50km in the Northern Cape, Eastern Cape, Free State, Limpopo and Mpumalanga Provinces.

## 4 MPUMALANGA

### 4.1 PROVINCE OVERVIEW

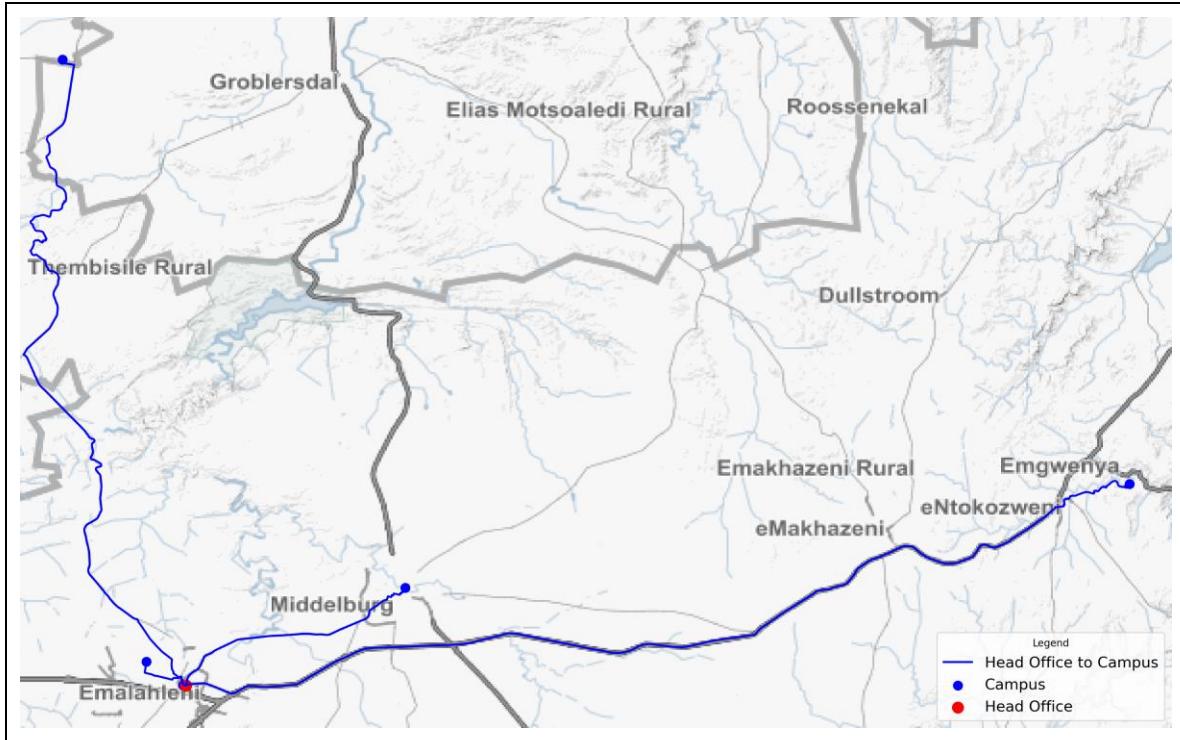
MPUMALANGA: TVET Locations



## 5 NKANGALA TVET COLLEGE

### 5.1 COLLEGE OVERVIEW

Nkangala TVET College: TVET Locations





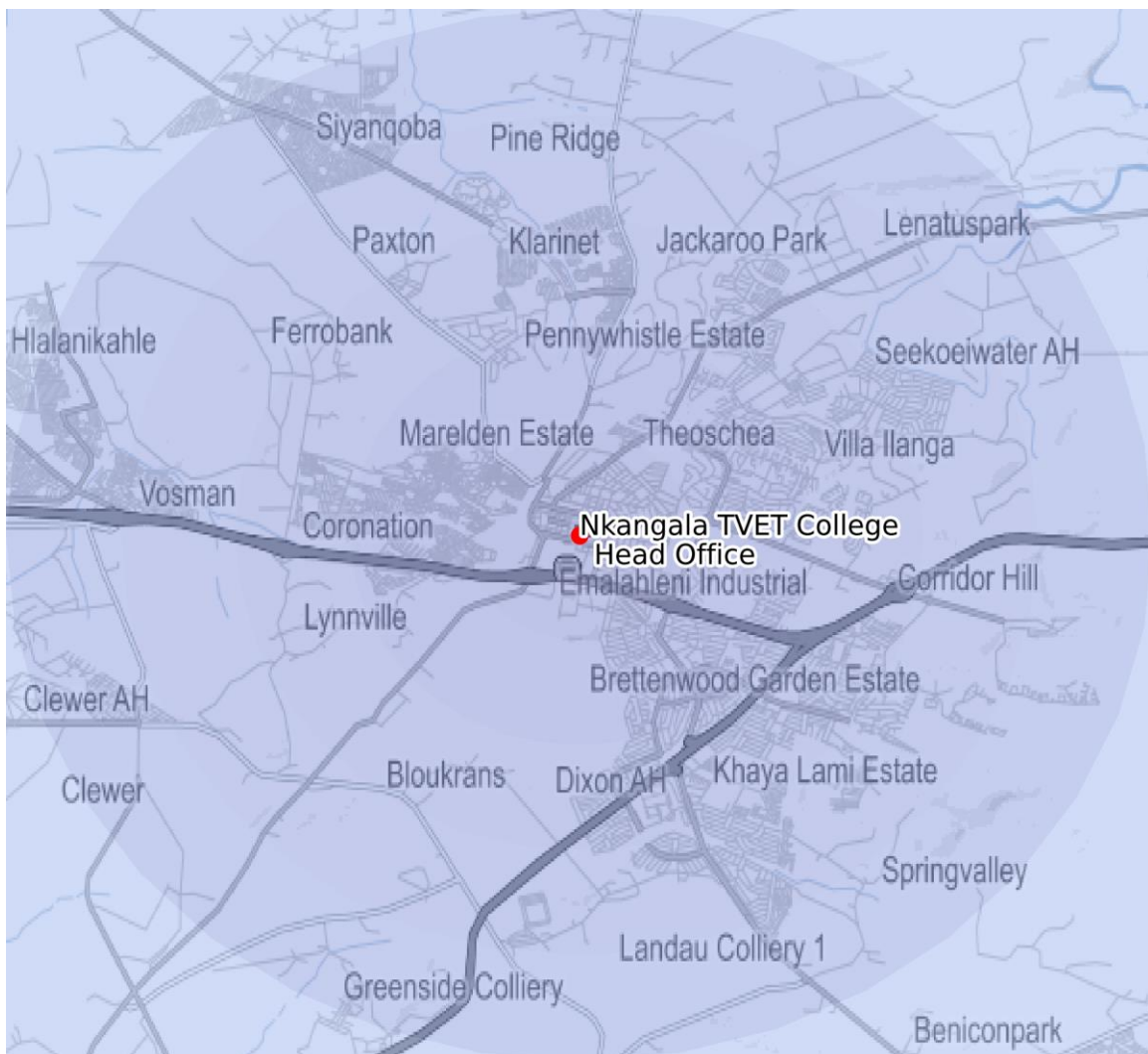
## 5.2 DETAILED OVERVIEW OF EACH CAMPUS

### 5.2.1 NKANGALA TVET COLLEGE : HEAD OFFICE



UNIVERSITY of the  
WESTERN CAPE

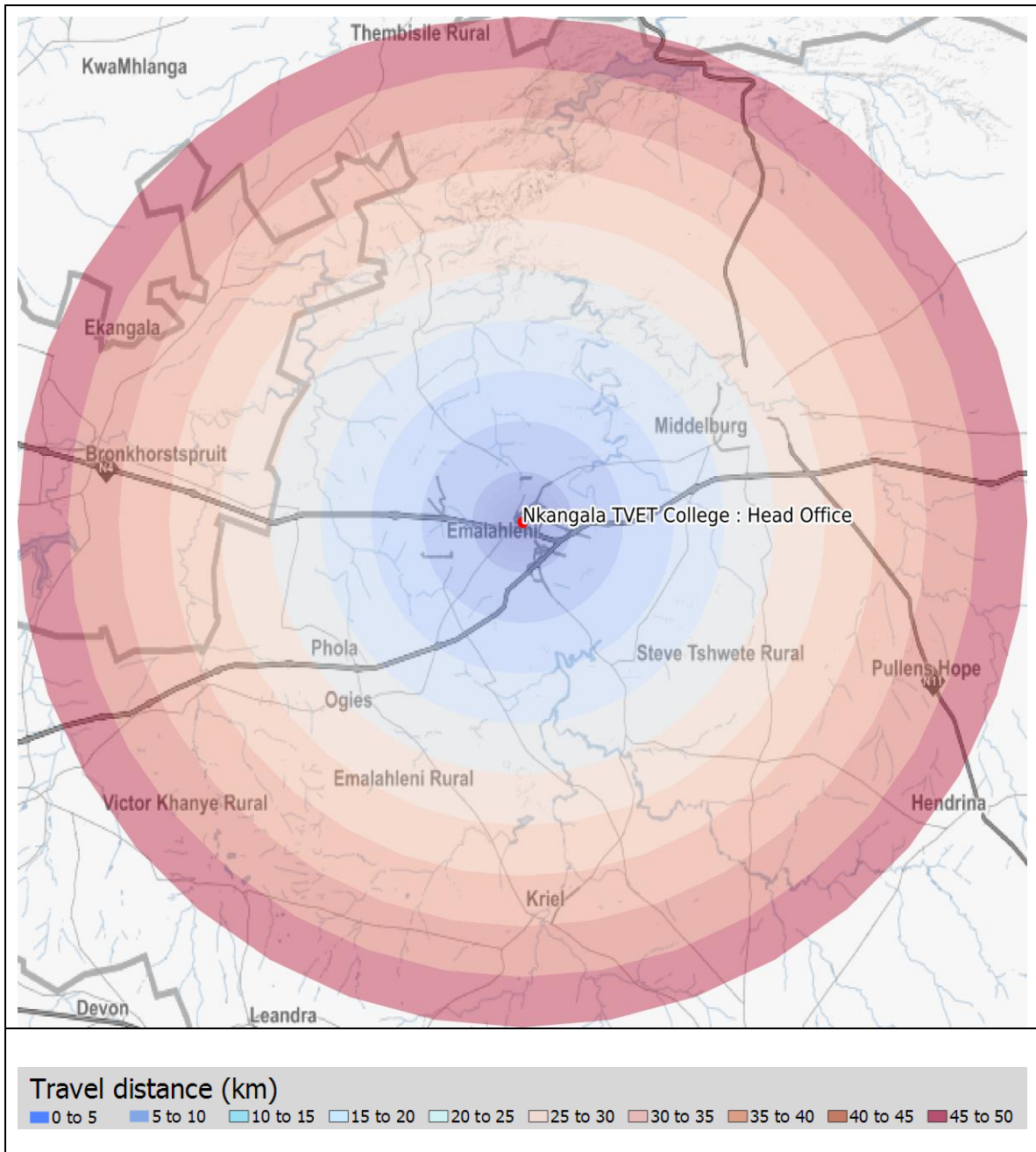
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Location Confidence: 3  
Province: Mpumalanga  
Municipality: Emalahleni Local Municipality  
Town: Emalahleni  
Address: Cnr Haig and Northey Streets Witbank 1035  
Head Office Travel Distance (km): 0.0  
Head Office Travel Time (min): 0.0



#### Travel distance (km)

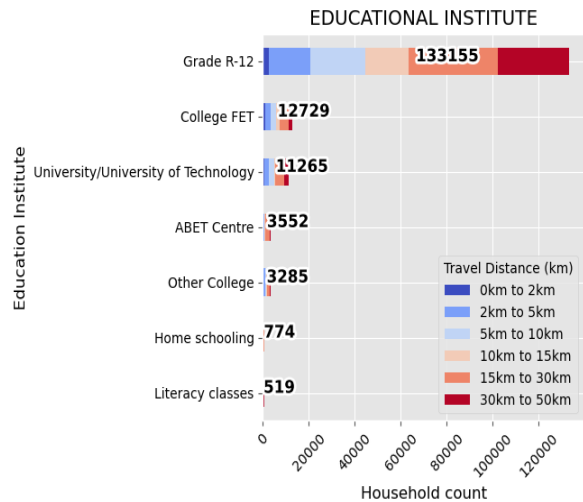
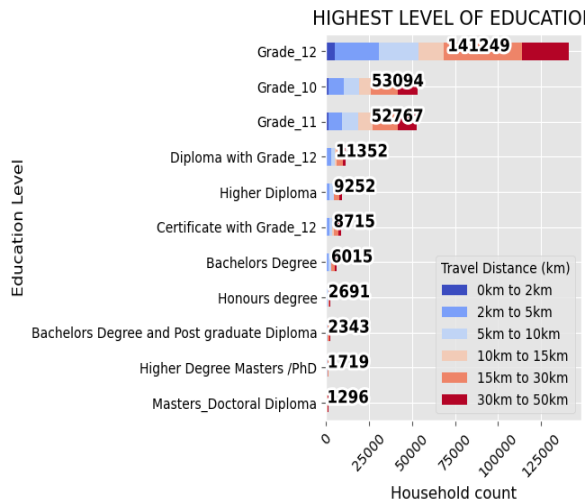
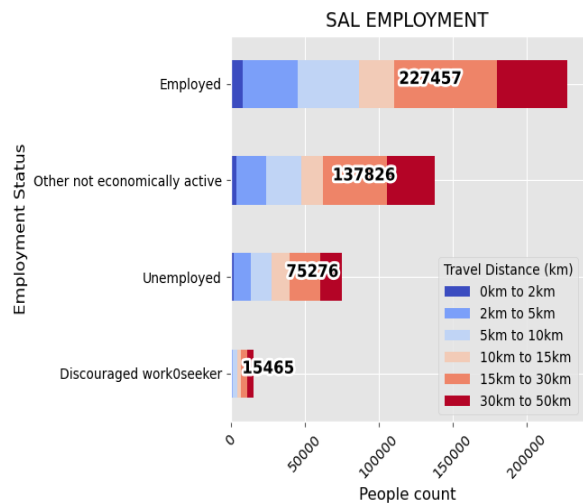
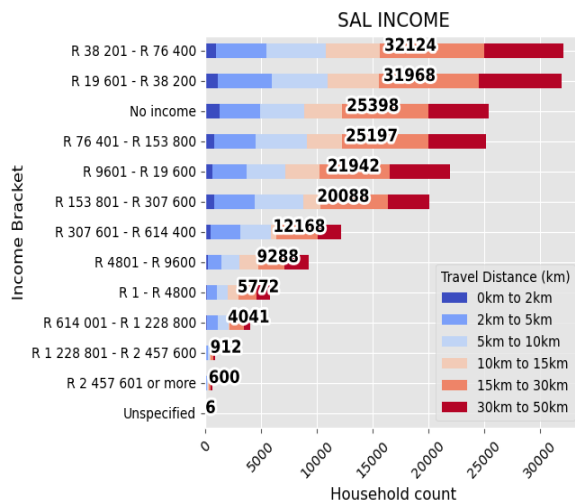
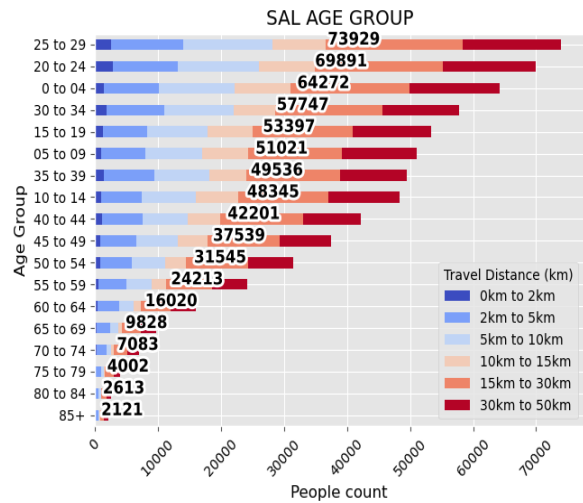
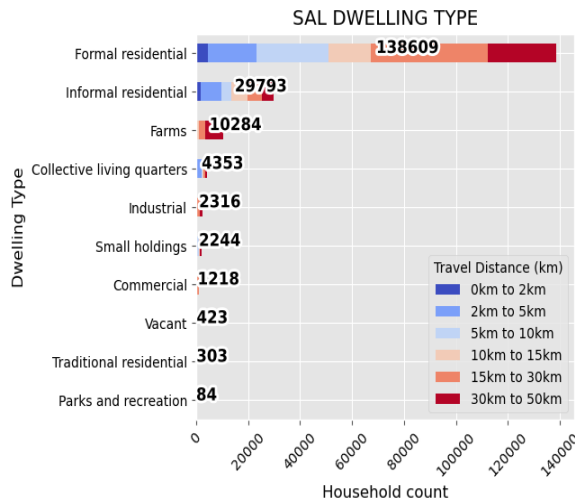
0 to 5 5 to 10 10 to 15 15 to 20 20 to 25 25 to 30 30 to 35 35 to 40 40 to 45 45 to 50

5.2.1 NKANGALA TVET COLLEGE : HEAD OFFICE: 50KM RADIUS





## 5.2.1 NKANGALA TVET COLLEGE : HEAD OFFICE: DEMOGRAPHICS





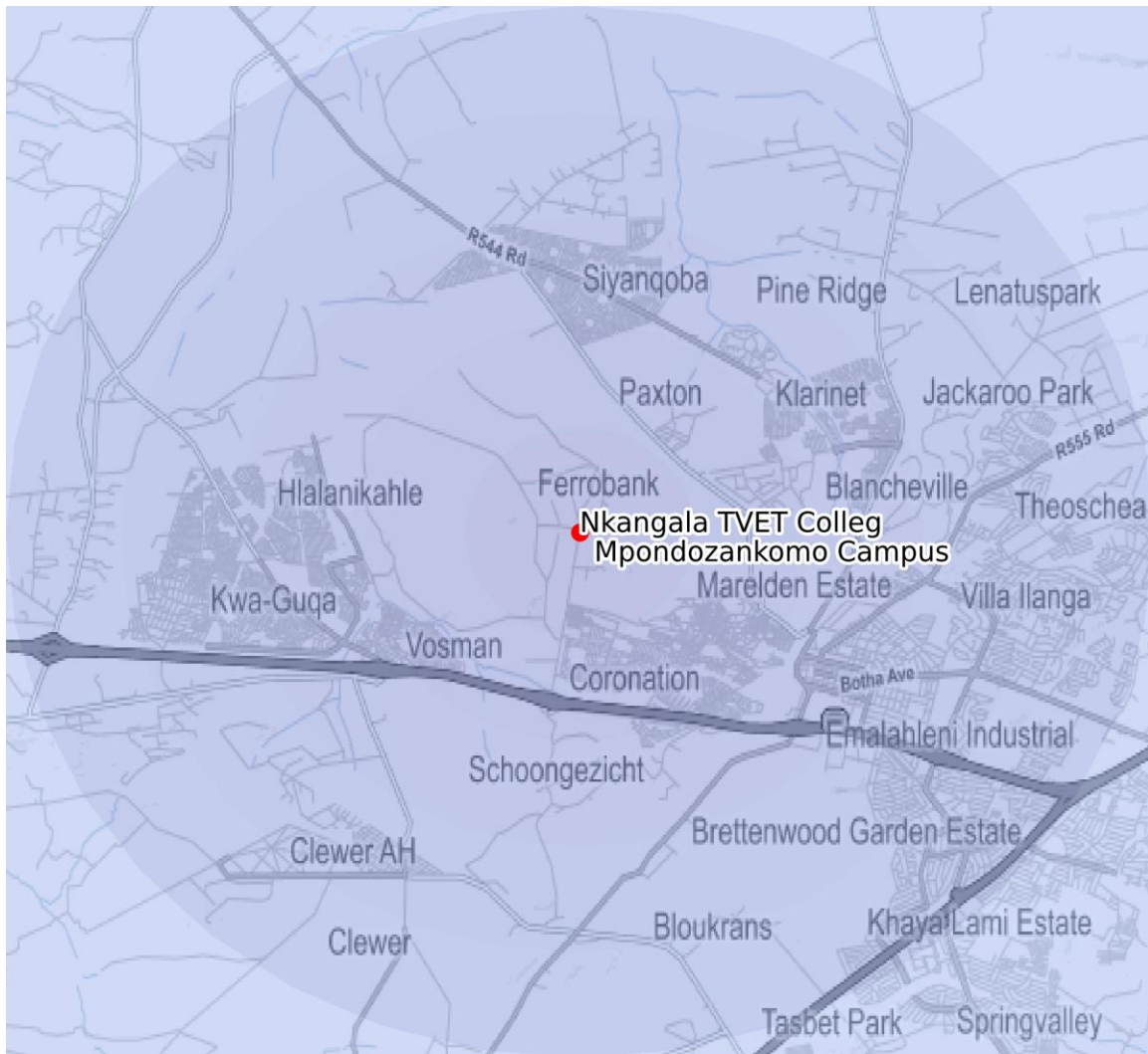




### 5.2.2 NKANGALA TVET COLLEGE: MPONDOZANKOMO CAMPUS



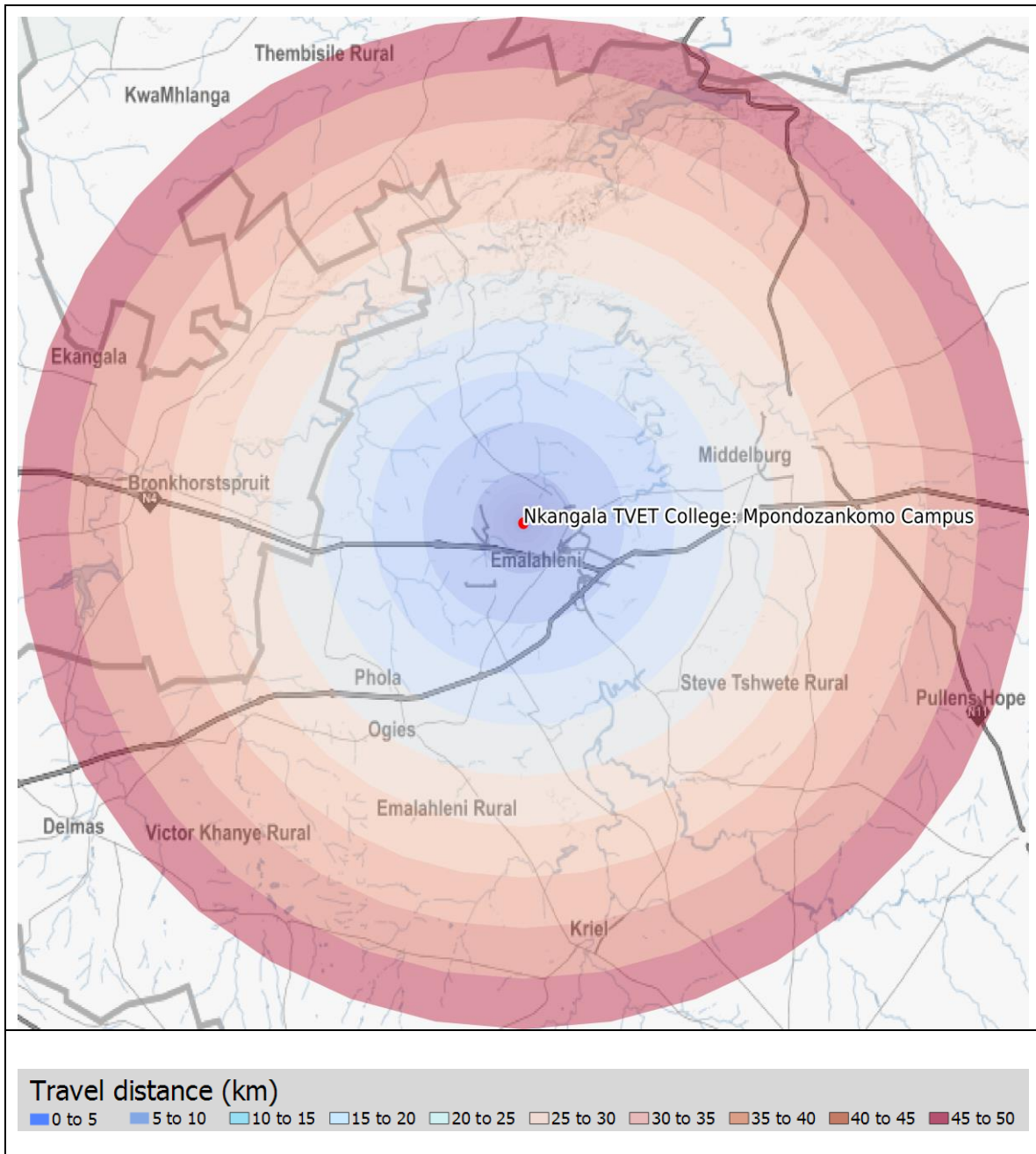
Sub-Classification: B 1  
Location Confidence: 5  
Province: Mpumalanga  
Municipality: Emalahleni Local Municipality  
Town: Emalahleni  
Address: 1 Shonlad Drive Ferrobank Witbank 1039  
Head Office Travel Distance (km): 7.7  
Head Office Travel Time (min): 19.36



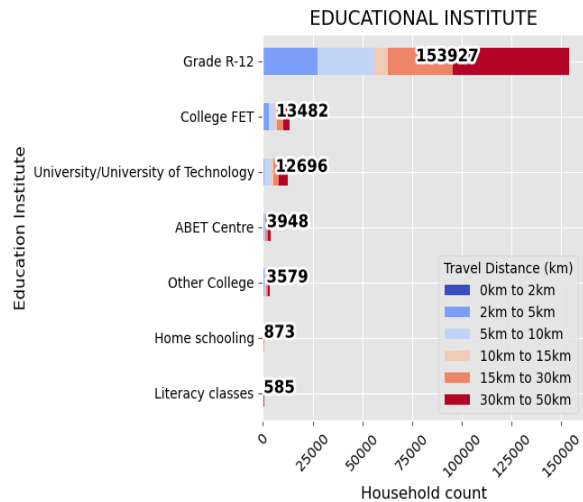
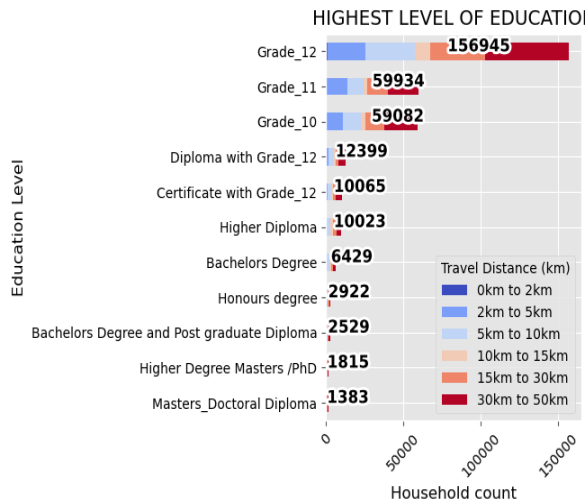
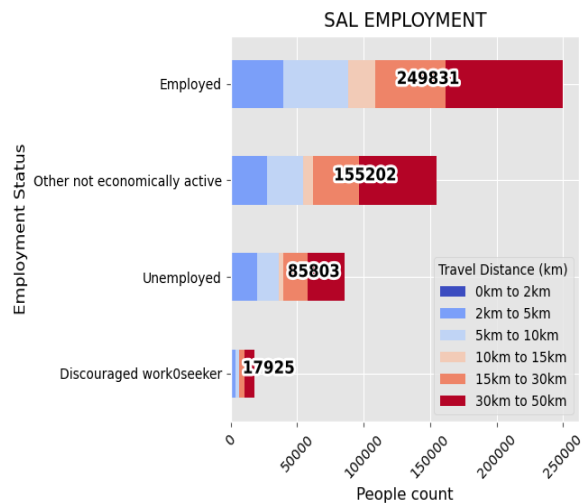
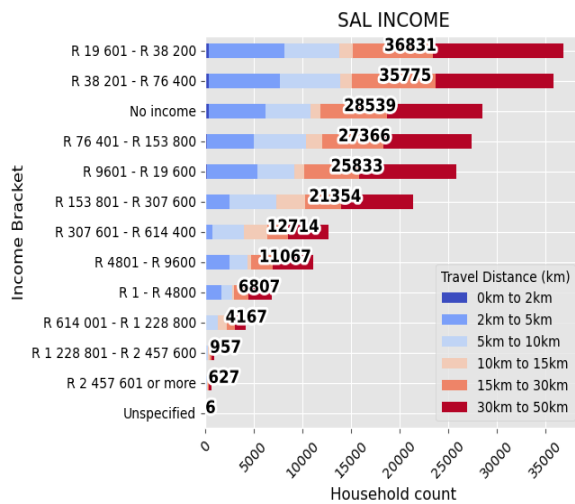
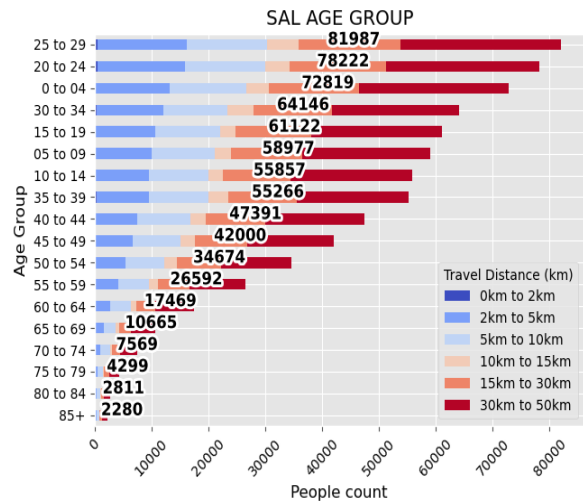
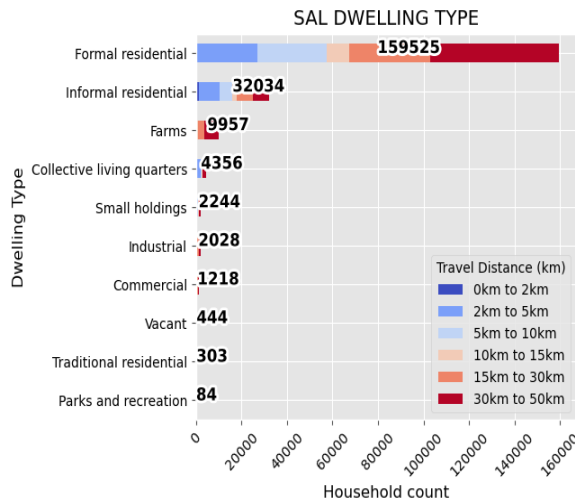
#### Travel distance (km)

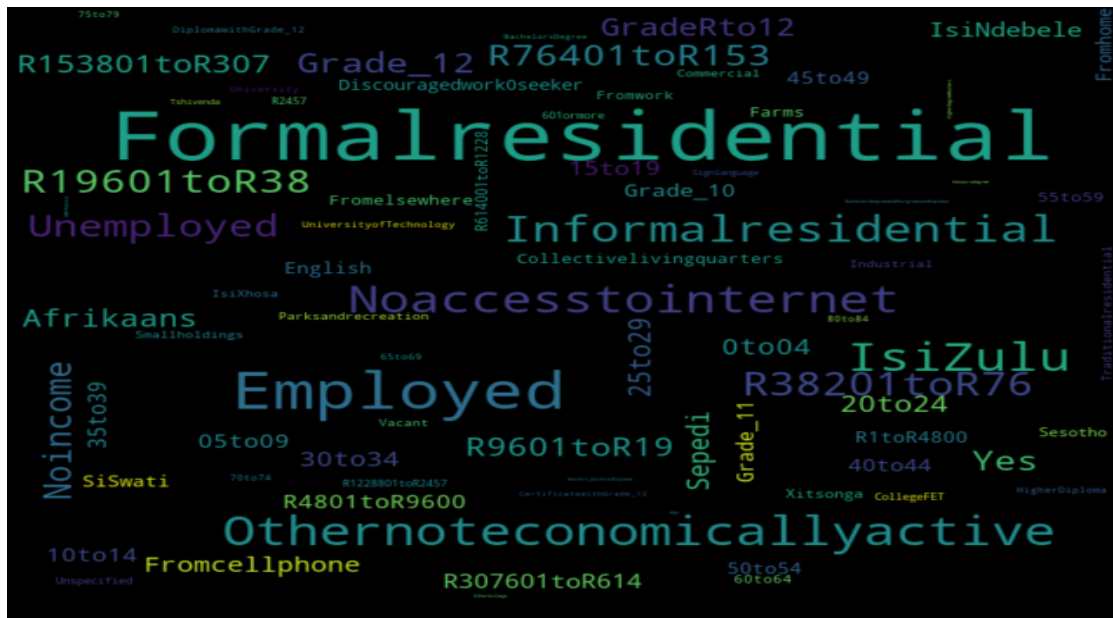
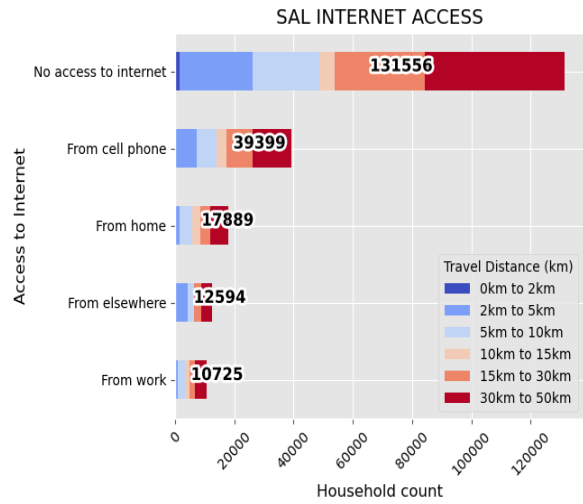
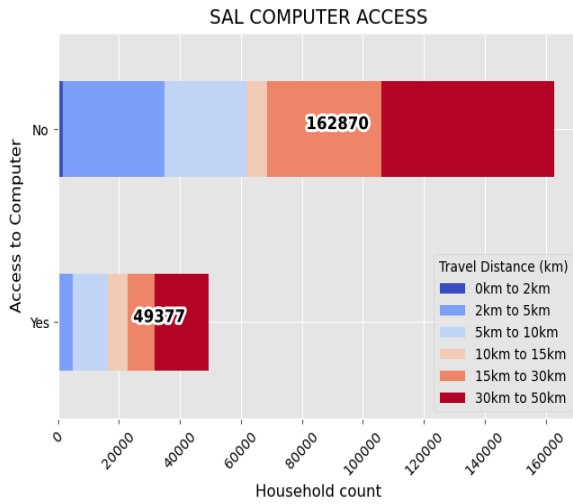
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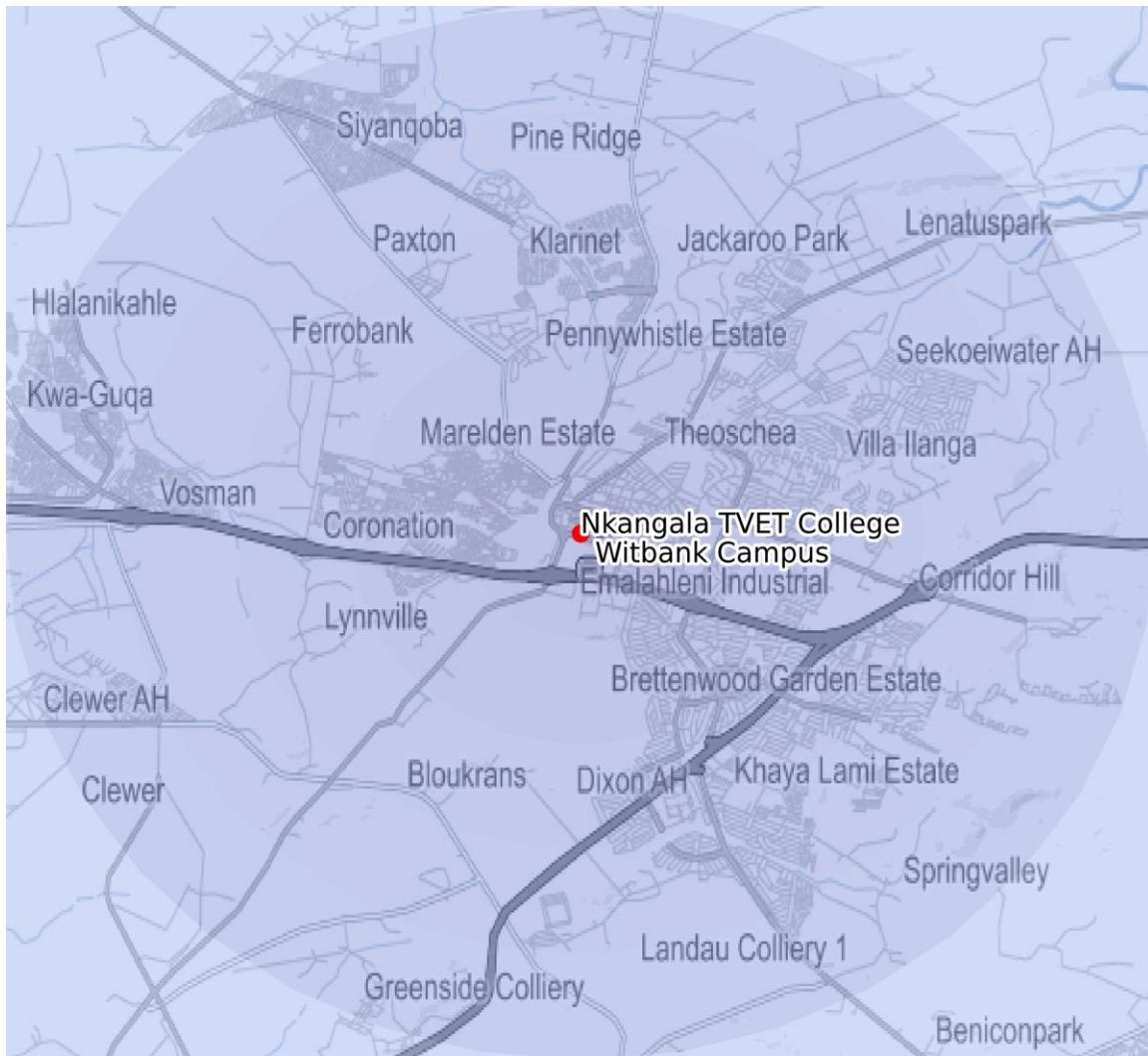




### 5.2.3 NKANGALA TVET COLLEGE : WITBANK CAMPUS



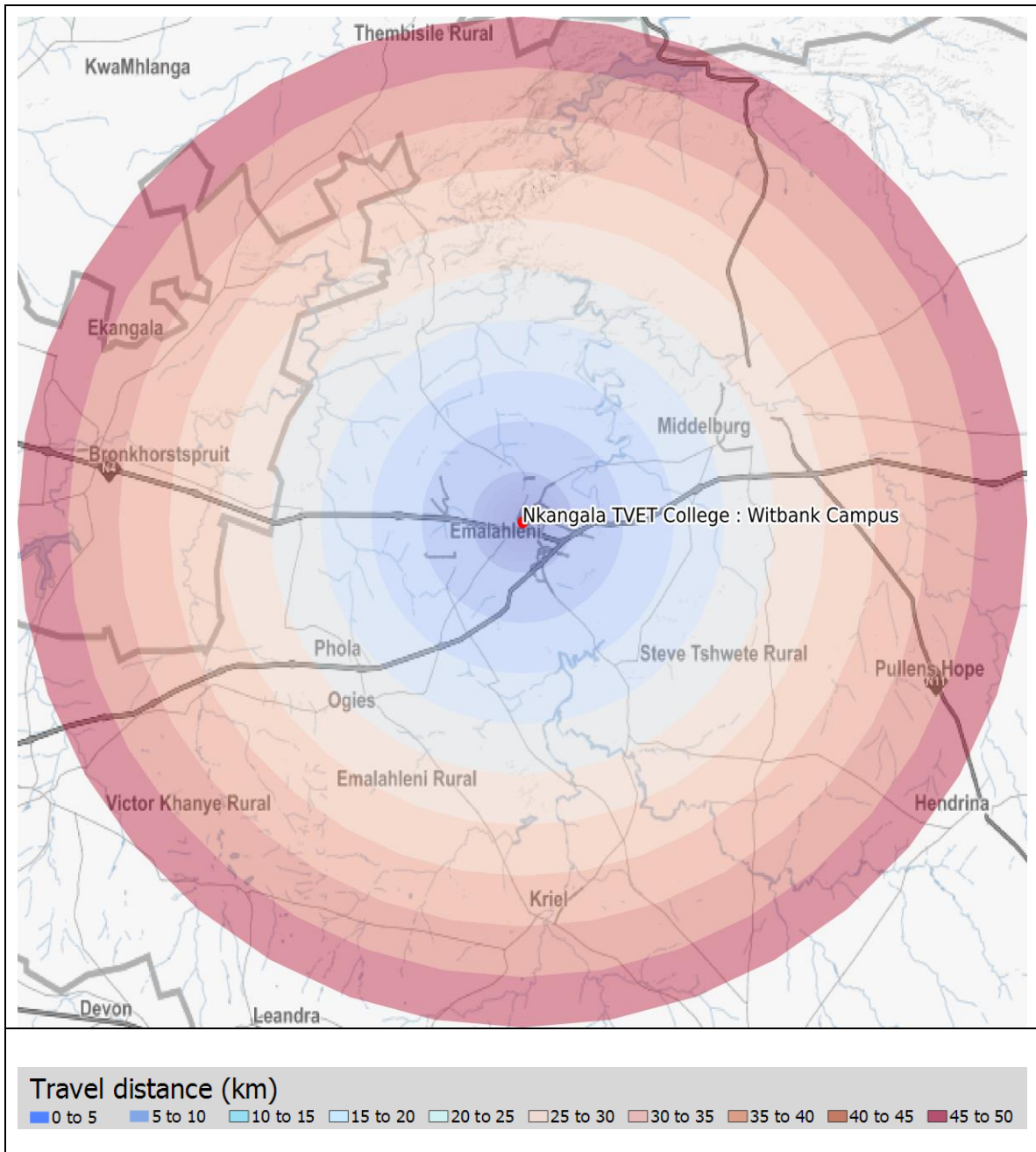
Sub-Classification: B 1  
Location Confidence: 5  
Province: Mpumalanga  
Municipality: Emalahleni Local Municipality  
Town: Emalahleni  
Address: Cnr Smuts & Arras Streets Witbank 1035  
Head Office Travel Distance (km): 0.39  
Head Office Travel Time (min): 1.17



#### Travel distance (km)

0 to 5   5 to 10   10 to 15   15 to 20   20 to 25   25 to 30   30 to 35   35 to 40   40 to 45   45 to 50

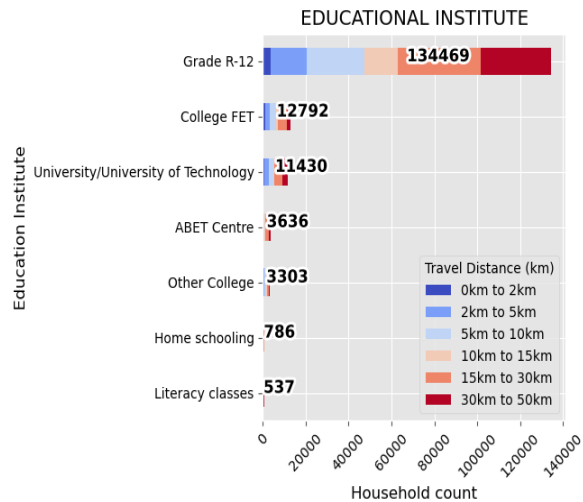
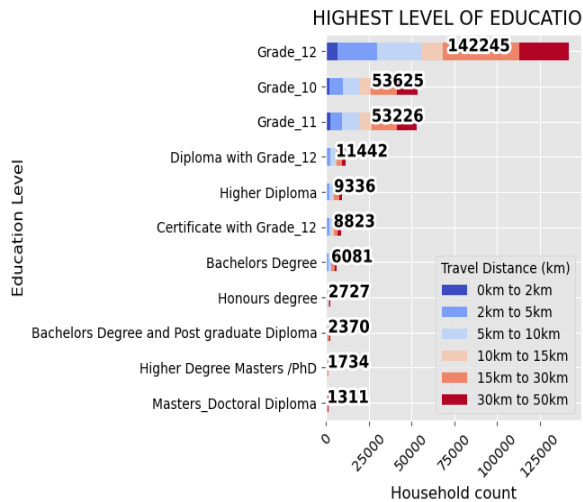
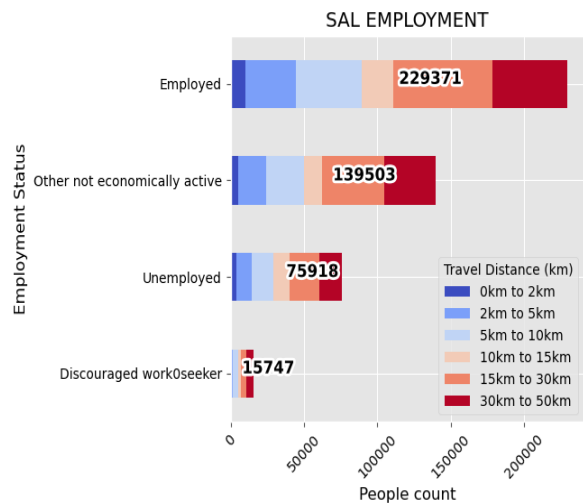
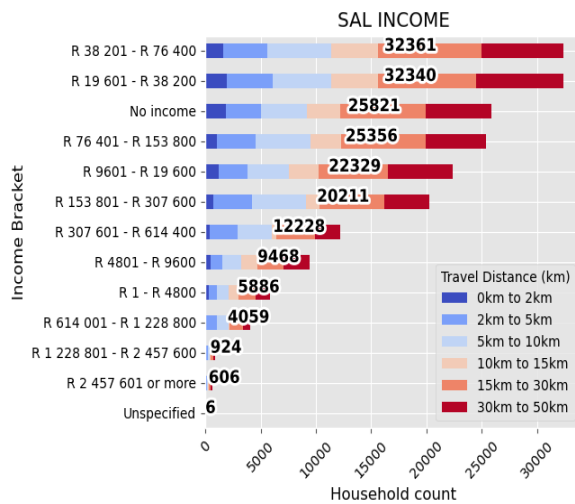
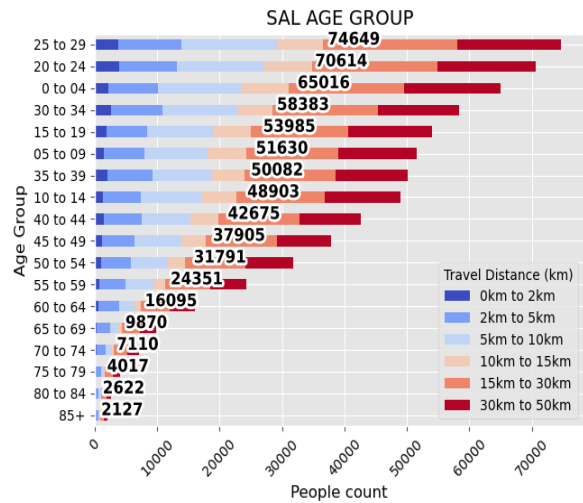
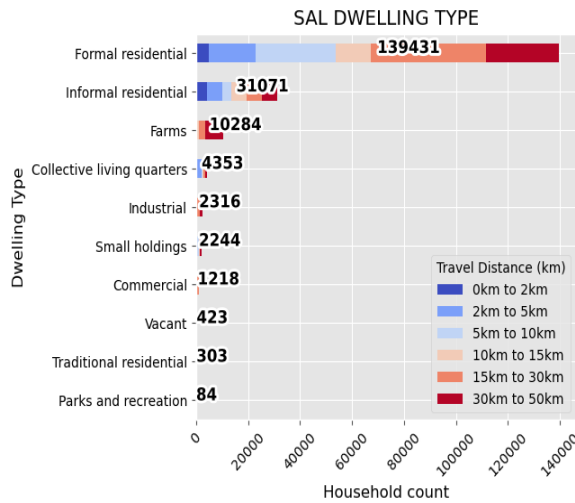
5.2.3 NKANGALA TVET COLLEGE : WITBANK CAMPUS: 50KM RADIUS







### 5.2.3 NKANGALA TVET COLLEGE : WITBANK CAMPUS: DEMOGRAPHICS





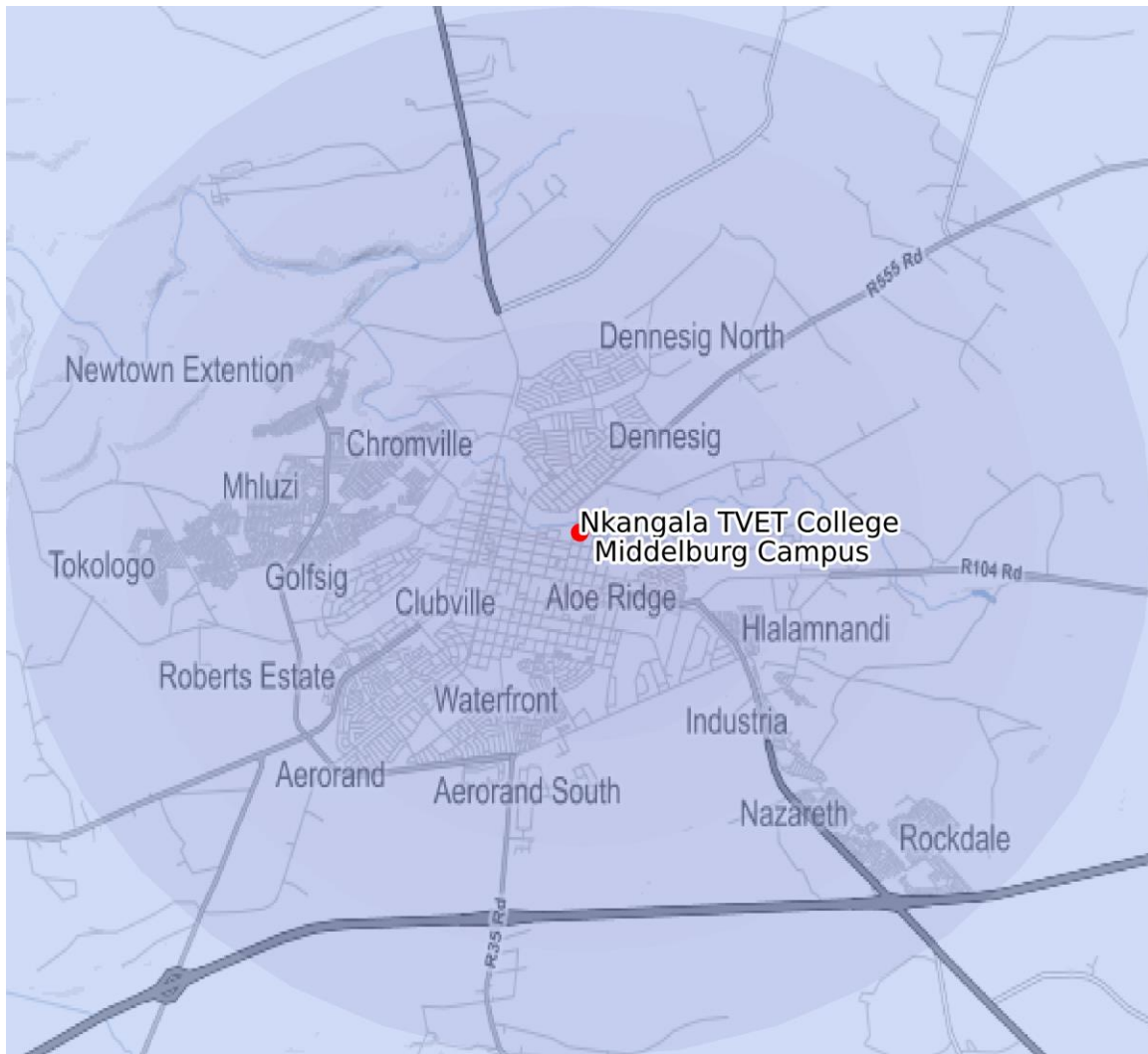




#### 5.2.4 NKANGALA TVET COLLEGE : MIDDELBURG CAMPUS

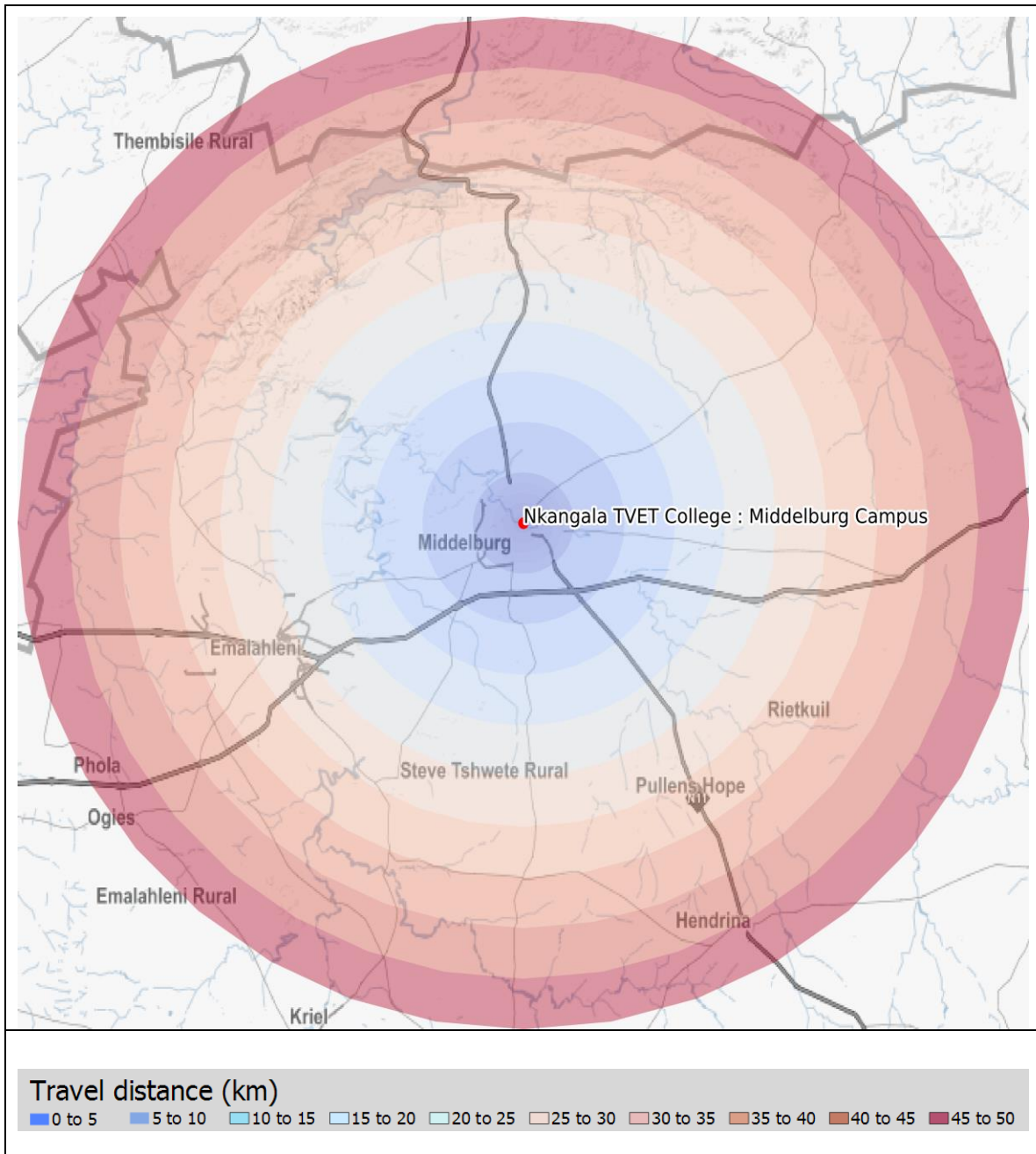


Sub-Classification: B 1  
Location Confidence: 5  
Province: Mpumalanga  
Municipality: Steve Tshwete Local Municipality  
Town: Middelburg  
Address: 1 Brug Street Middelburg 1050  
Head Office Travel Distance (km): 32.06  
Head Office Travel Time (min): 39.54



#### Travel distance (km)

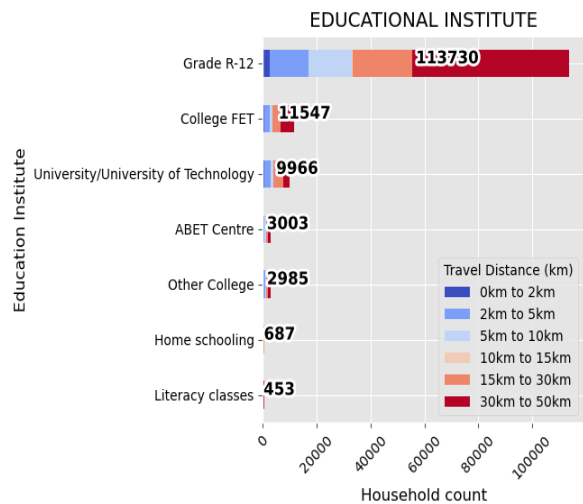
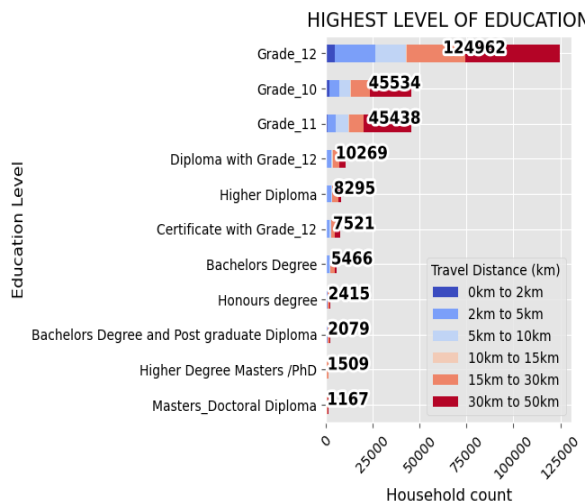
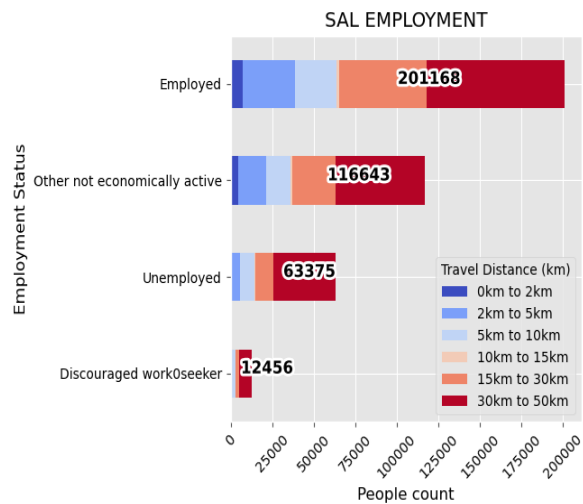
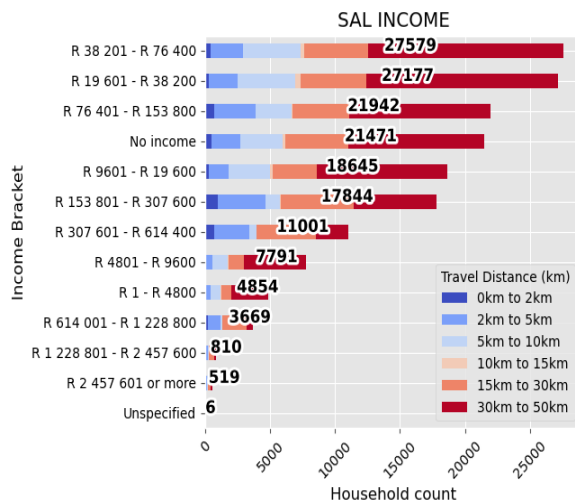
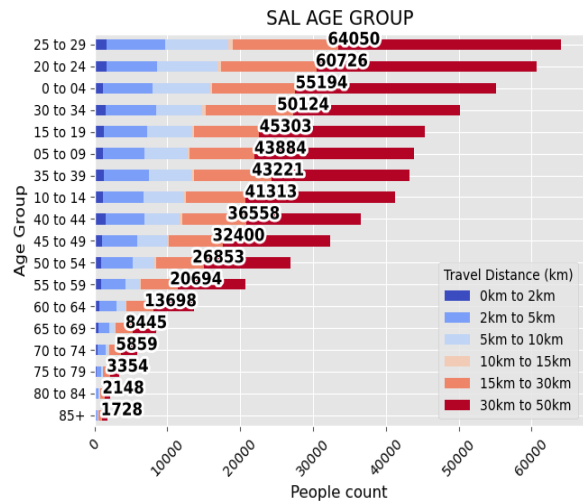
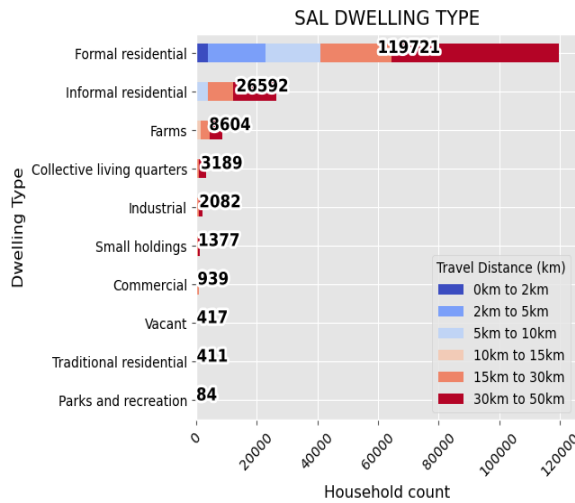
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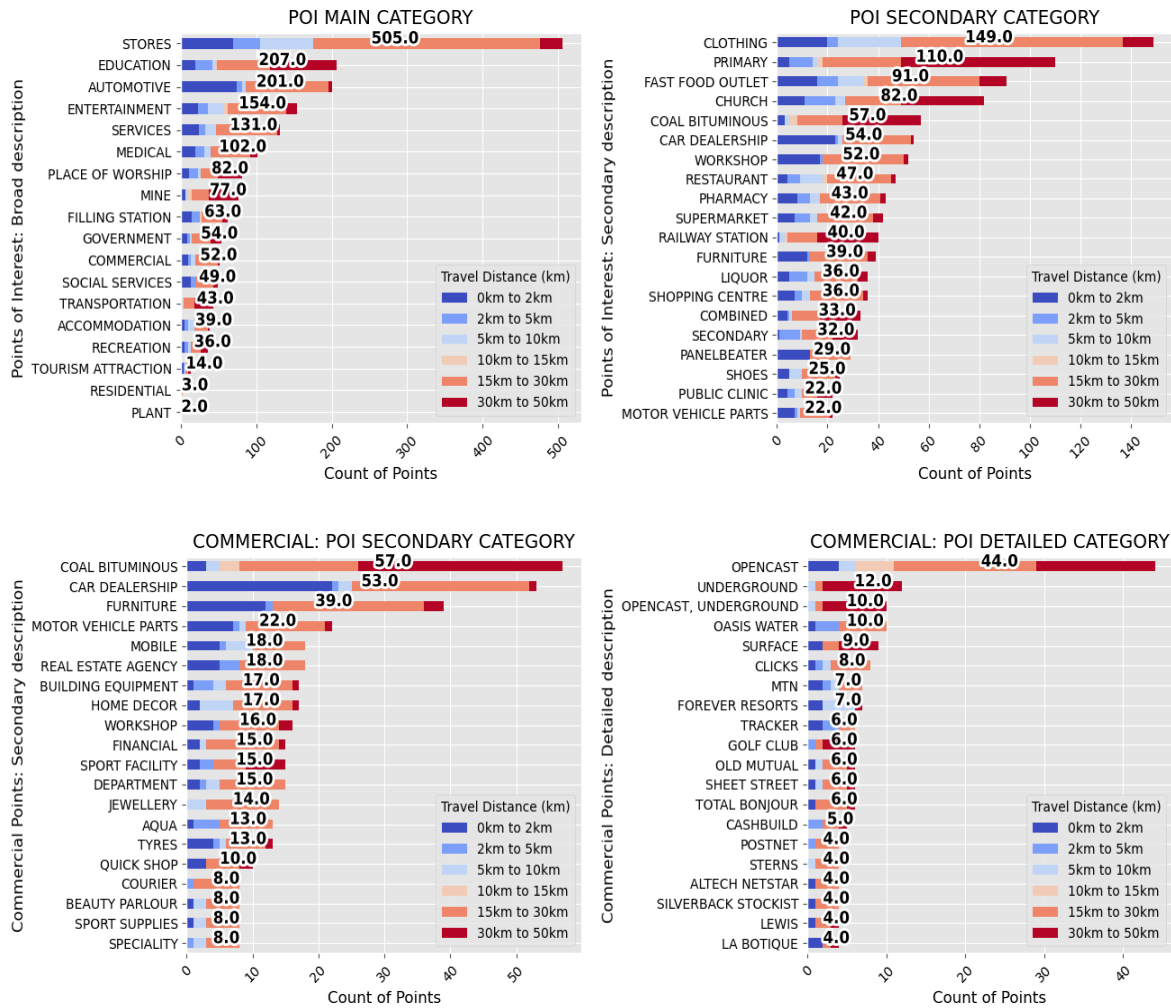




## 5.2.4 NKANGALA TVET COLLEGE : MIDDELBURG CAMPUS: DEMOGRAPHICS



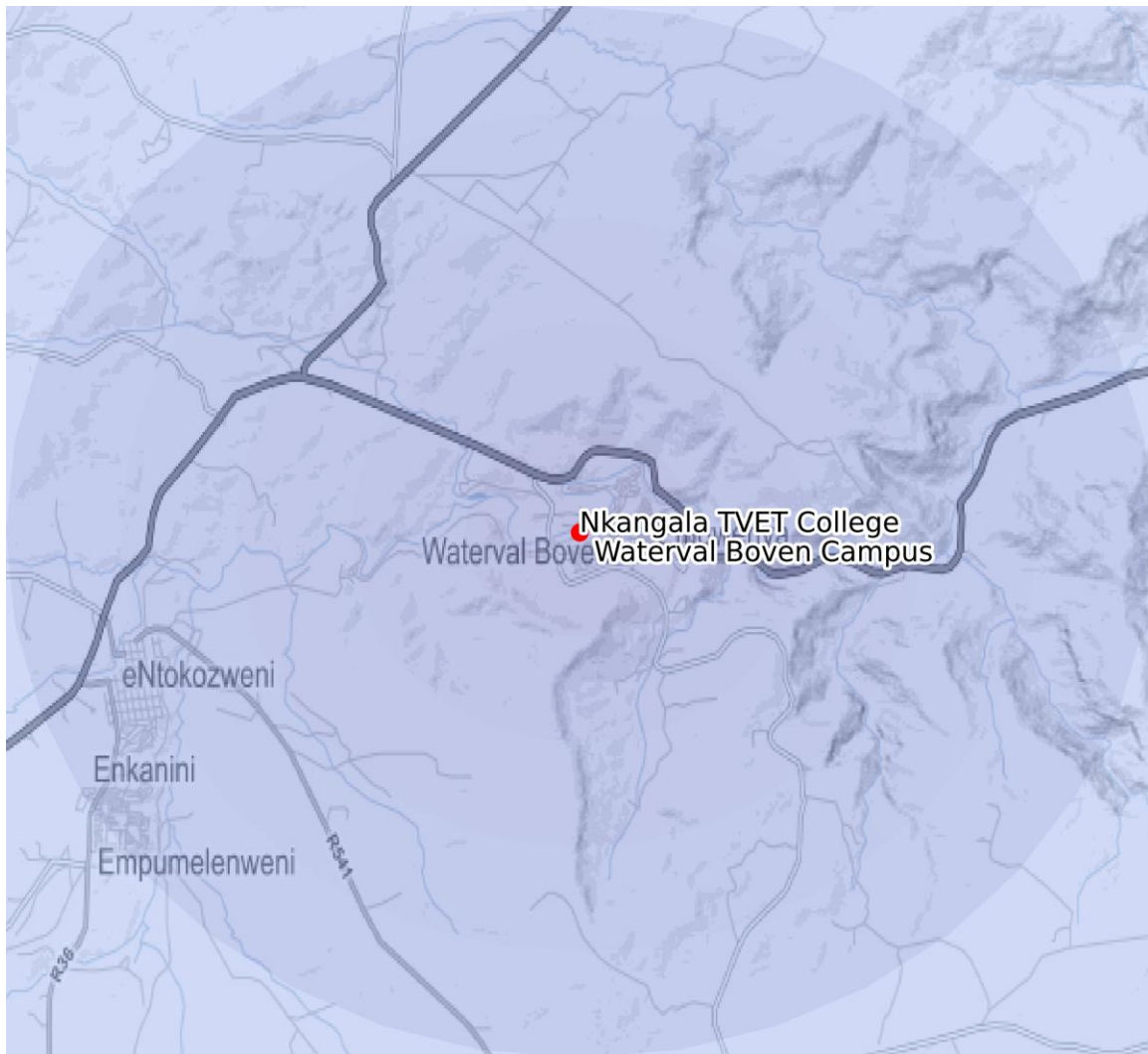




### 5.2.5 NKANGALA TVET COLLEGE : WATERVAL BOVEN CAMPUS



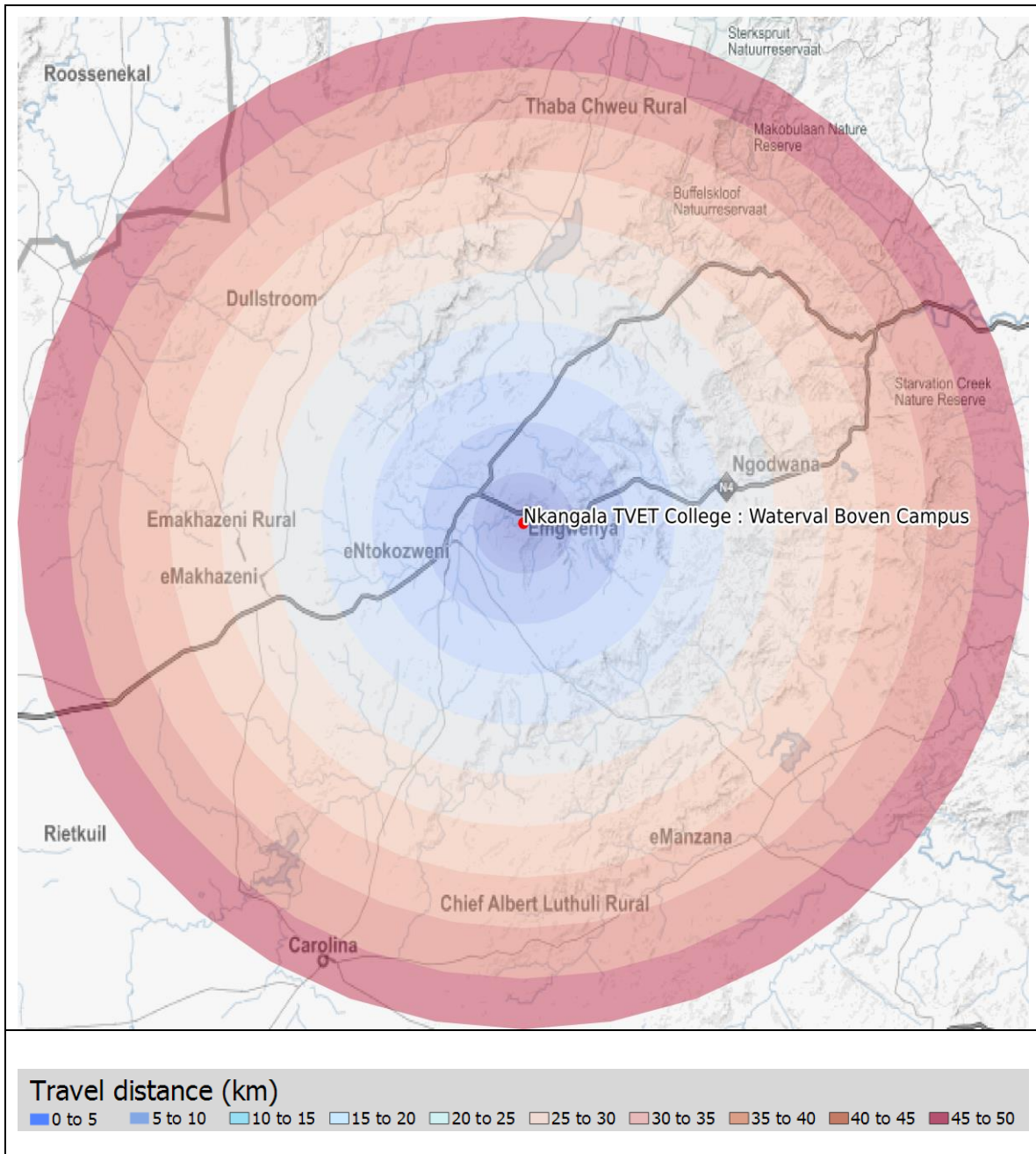
Sub-Classification: B 2  
Location Confidence: 5  
Province: Mpumalanga  
Municipality: Emakhazeni Local Municipality  
Town: Emgwenya  
Address: 1 President Street Waterval Boven 1195  
Head Office Travel Distance (km): 125.34  
Head Office Travel Time (min): 98.43

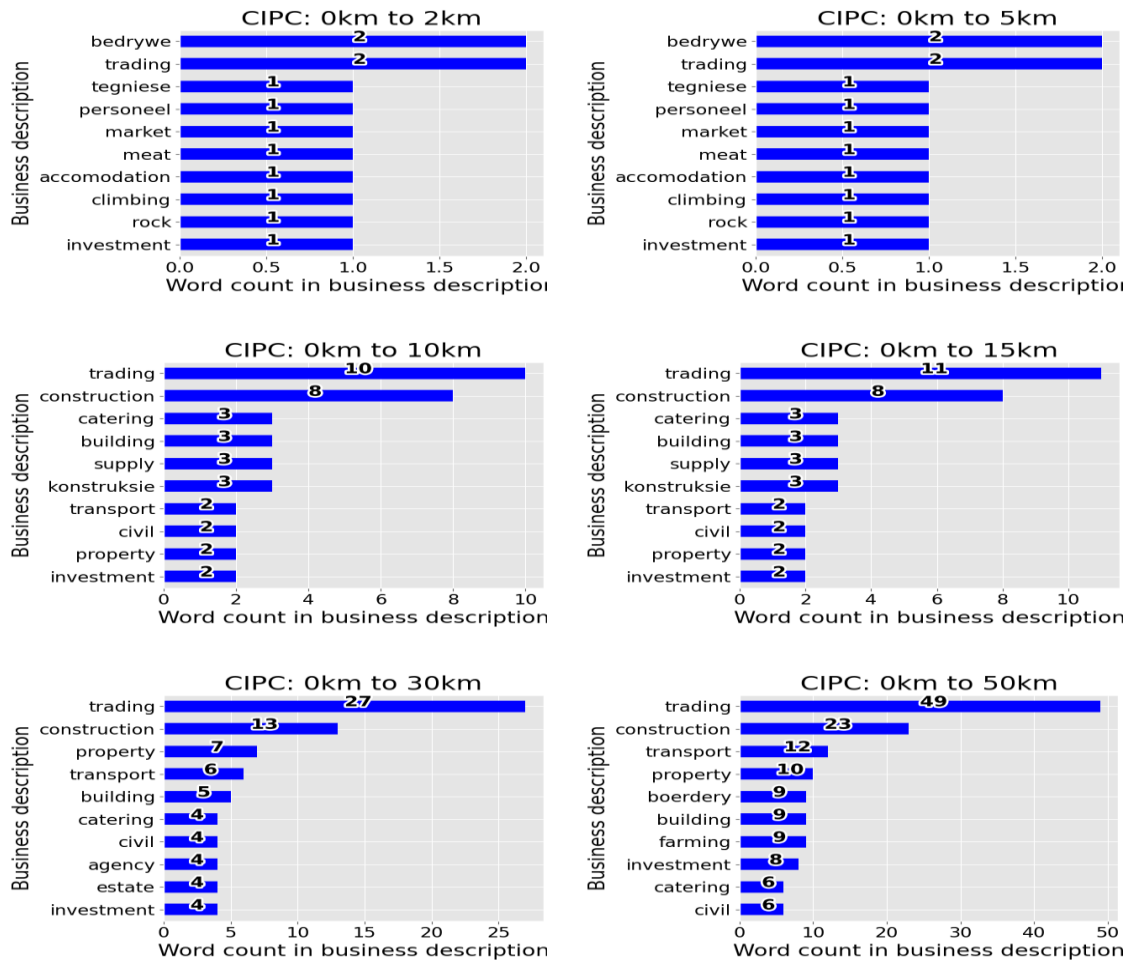


#### Travel distance (km)

0 to 5   5 to 10   10 to 15   15 to 20   20 to 25   25 to 30   30 to 35   35 to 40   40 to 45   45 to 50











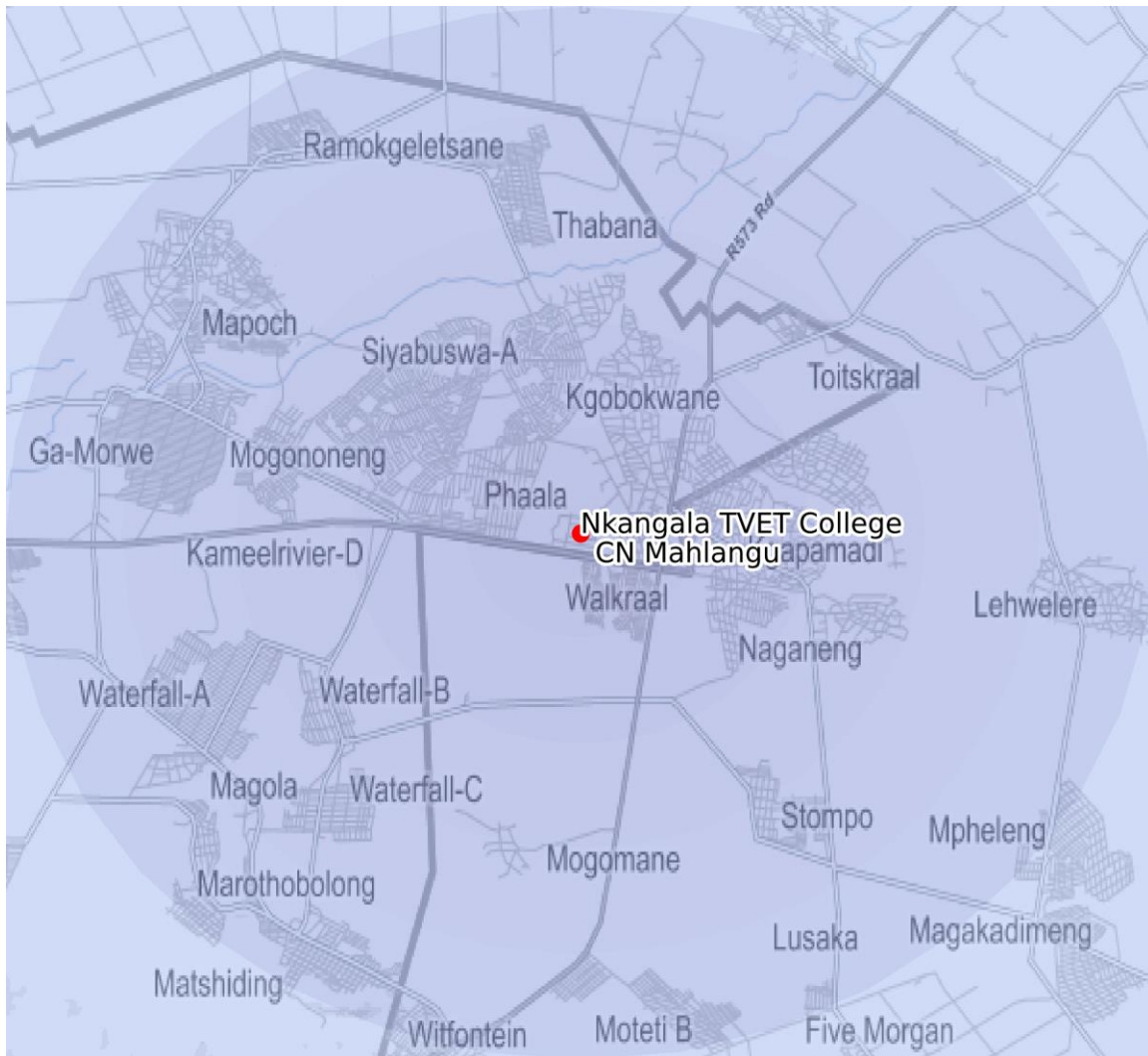




### 5.2.6 NKANGALA TVET COLLEGE : CN MAHLANGU

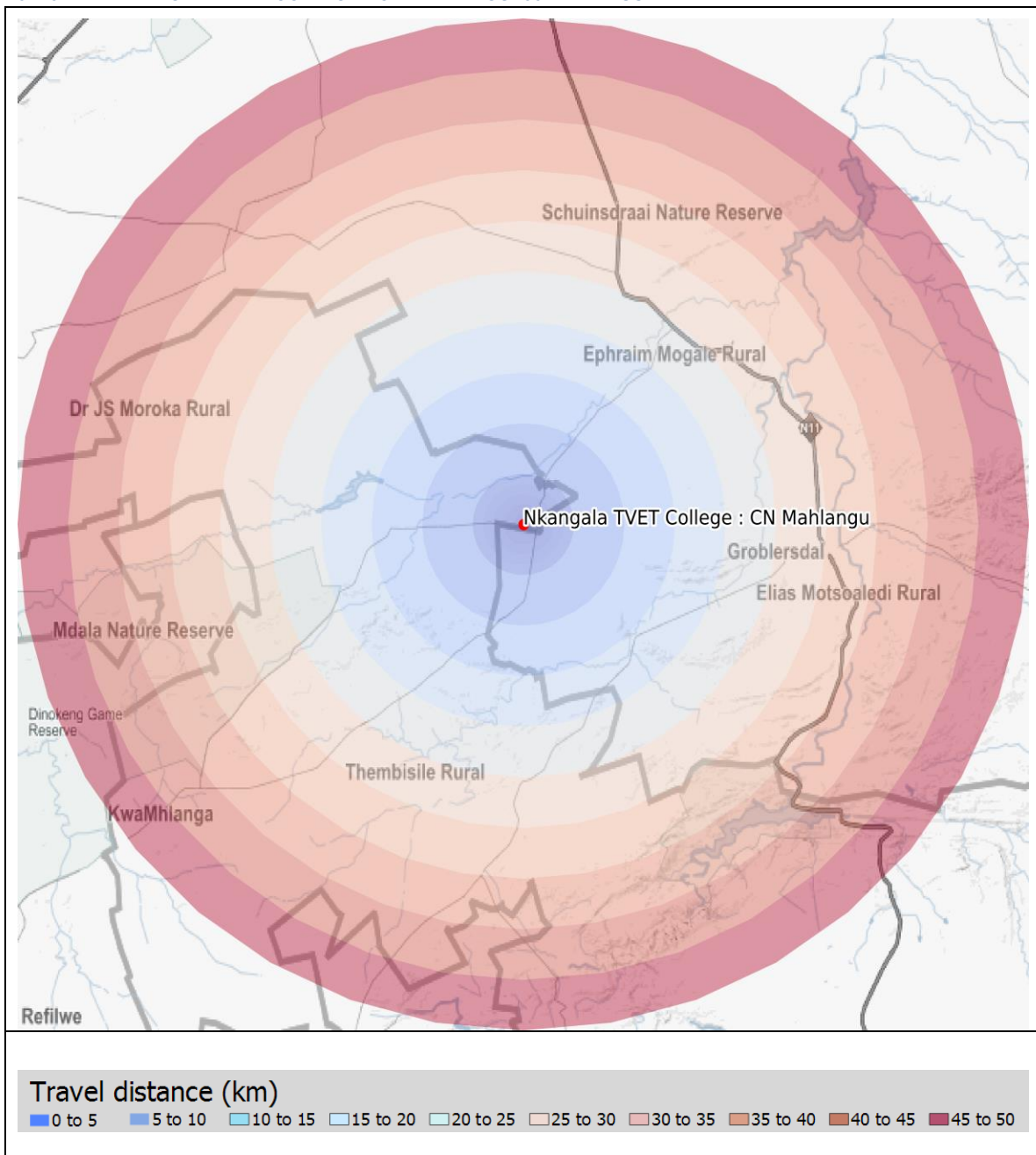


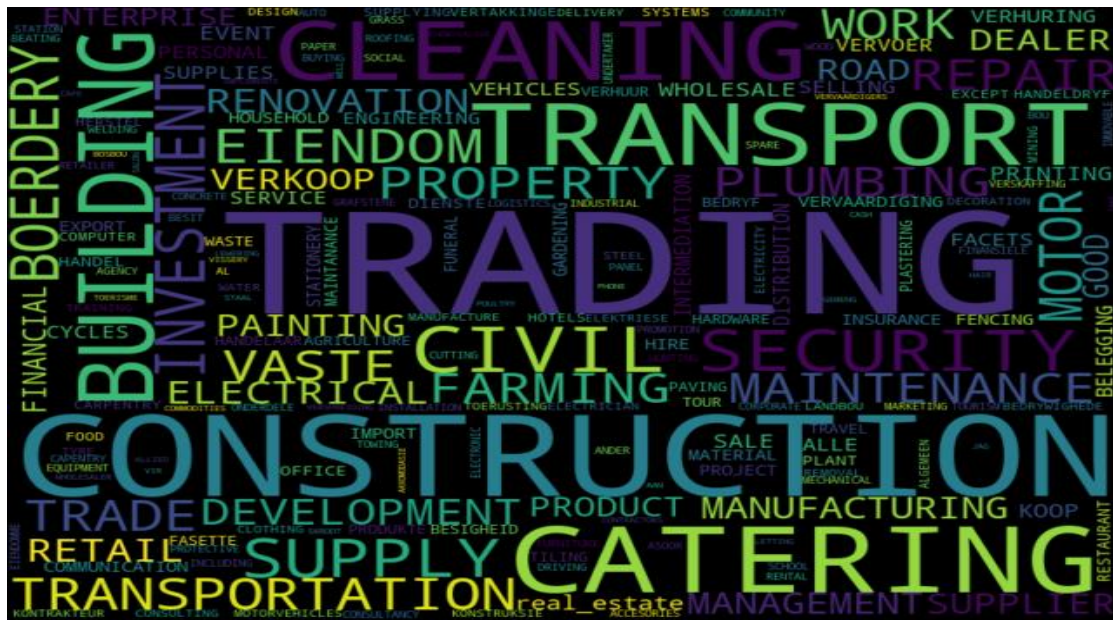
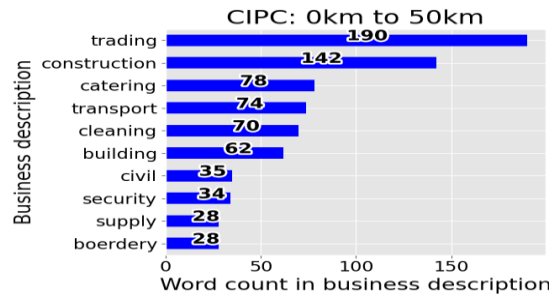
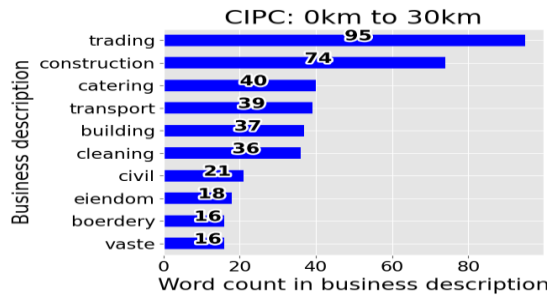
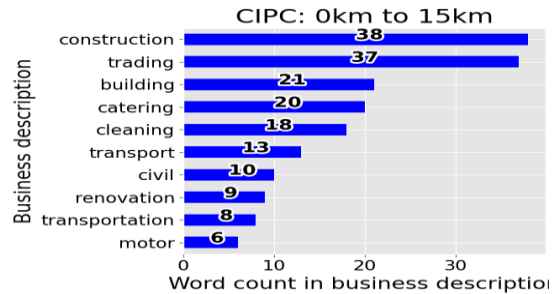
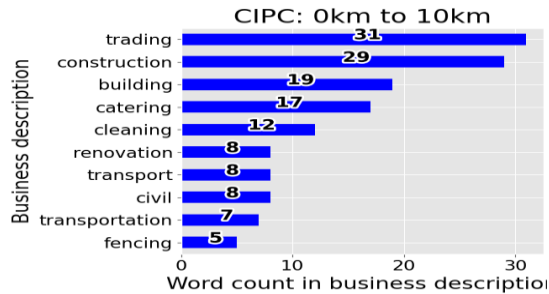
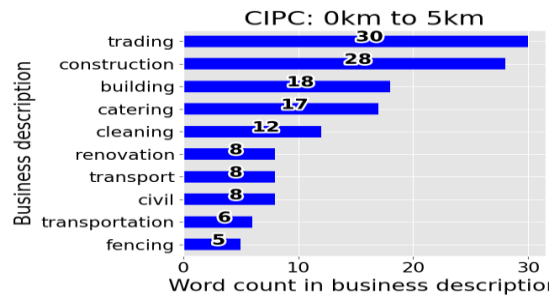
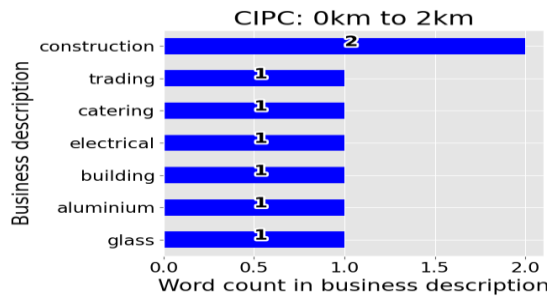
Sub-Classification: B 4  
Location Confidence: 8  
Province: Mpumalanga  
Municipality: Dr JS Moroka Local Municipality  
Town: Dr JS Moroka Rural  
Address: Training Centre Road Industrial Area Siyabuswa 0472  
Head Office Travel Distance (km): 106.24  
Head Office Travel Time (min): 127.67



#### Travel distance (km)

0 to 5   5 to 10   10 to 15   15 to 20   20 to 25   25 to 30   30 to 35   35 to 40   40 to 45   45 to 50







## 5.2.6 NKANGALA TVET COLLEGE : CN MAHLANGU: DEMOGRAPHICS

