A CATCHMENT STUDY AROUND THE LOCATION OF TVET COLLEGES.

UNIVERSITY *of the*
WESTERN CAPE

PROVINCE: **LIMPOPO**
TVET COLLEGE: **Sekhukhune TVET College**

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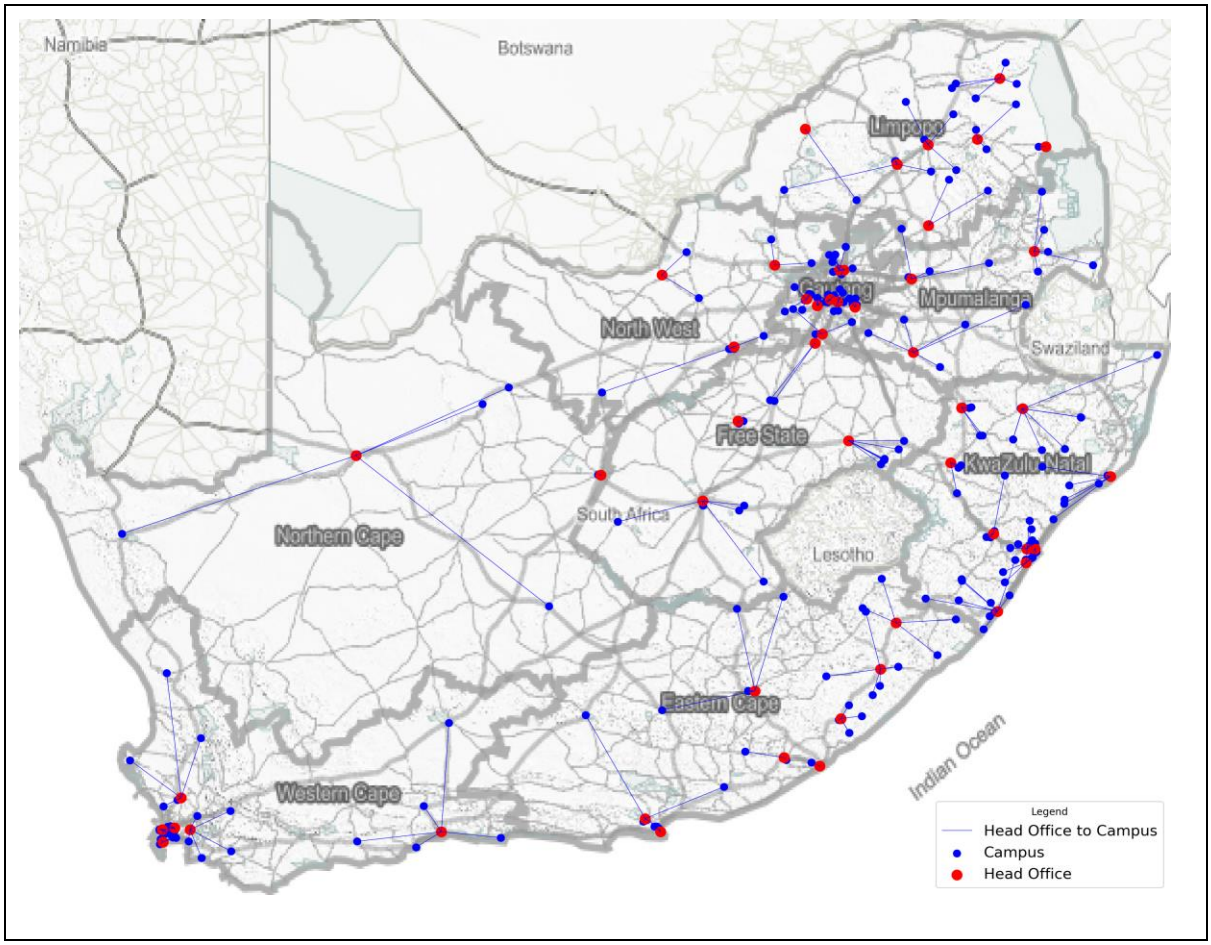
2 INTRODUCTION

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

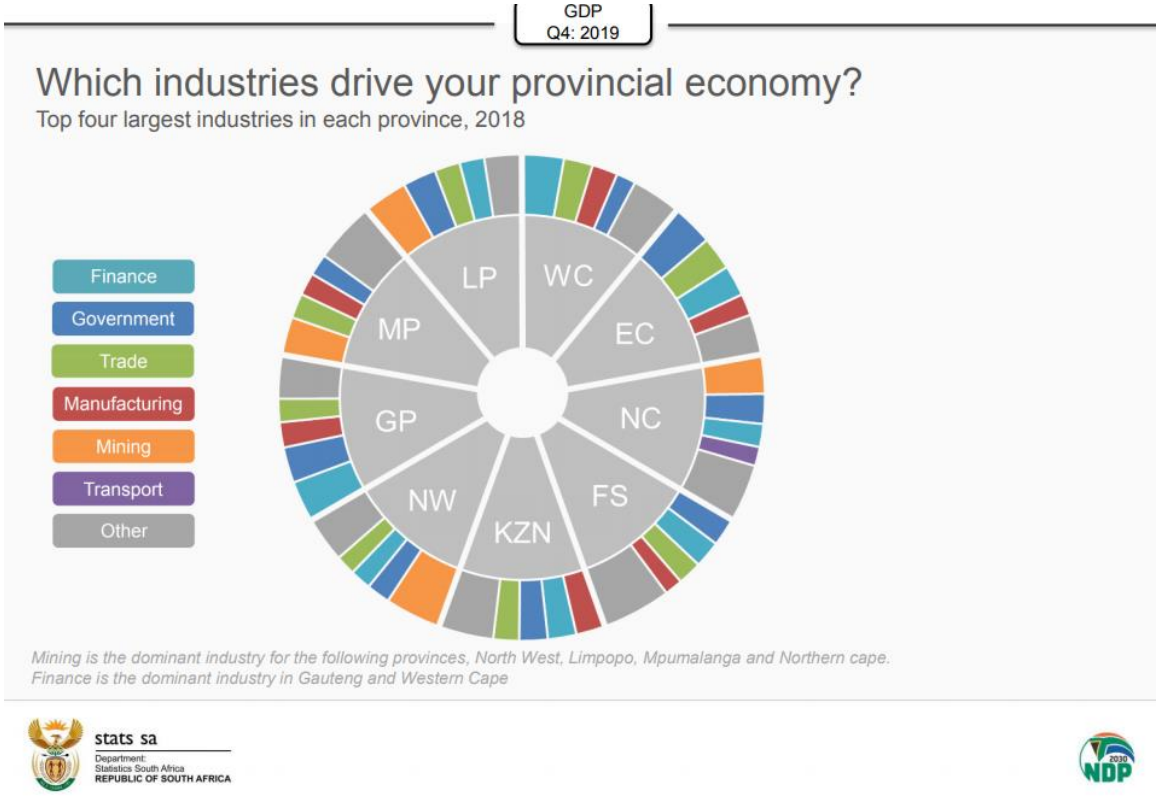


Some of the main industries especially looking at the asd Gross Domestic Product (GDP) are categorized under the following groups:

- 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



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.

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.

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.

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

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.

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

3.2.3 INFOGRAPHIC VISUALS

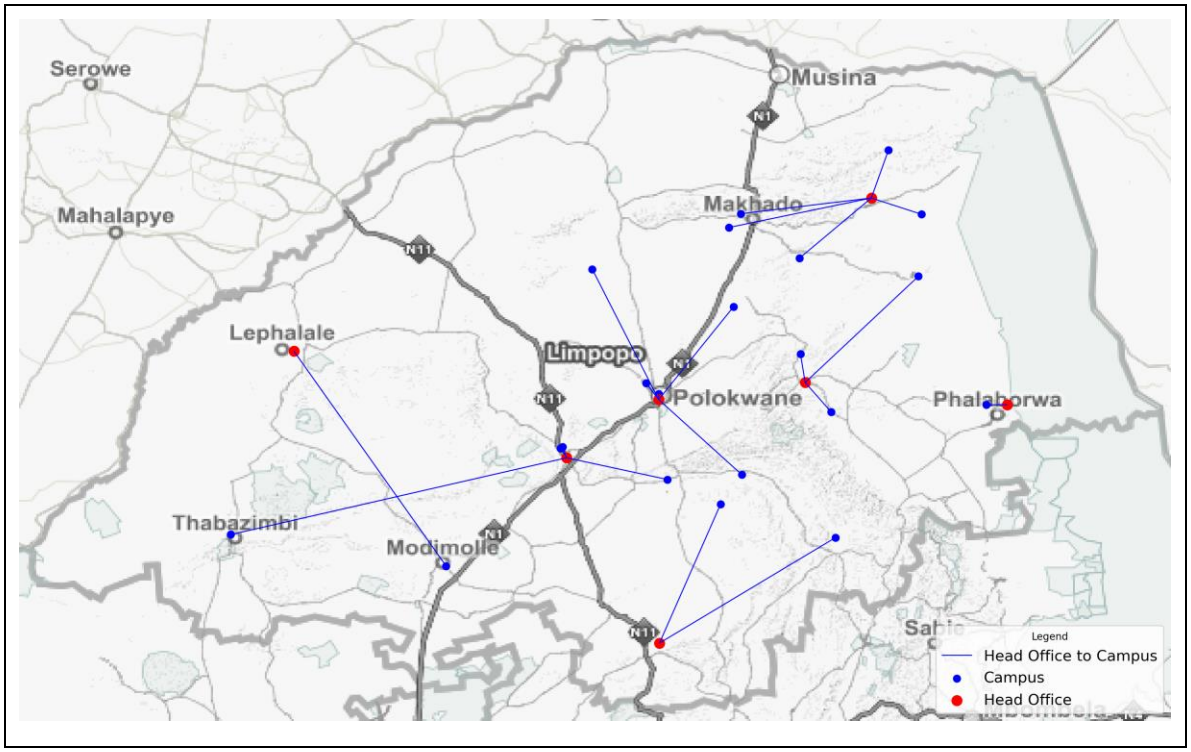
This document contains three main visual infographic types in order to explain and simplify the amount of data to the reader. The visual types of infographics are maps, graphs and word clouds.

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 LIMPOPO

4.1 PROVINCE OVERVIEW

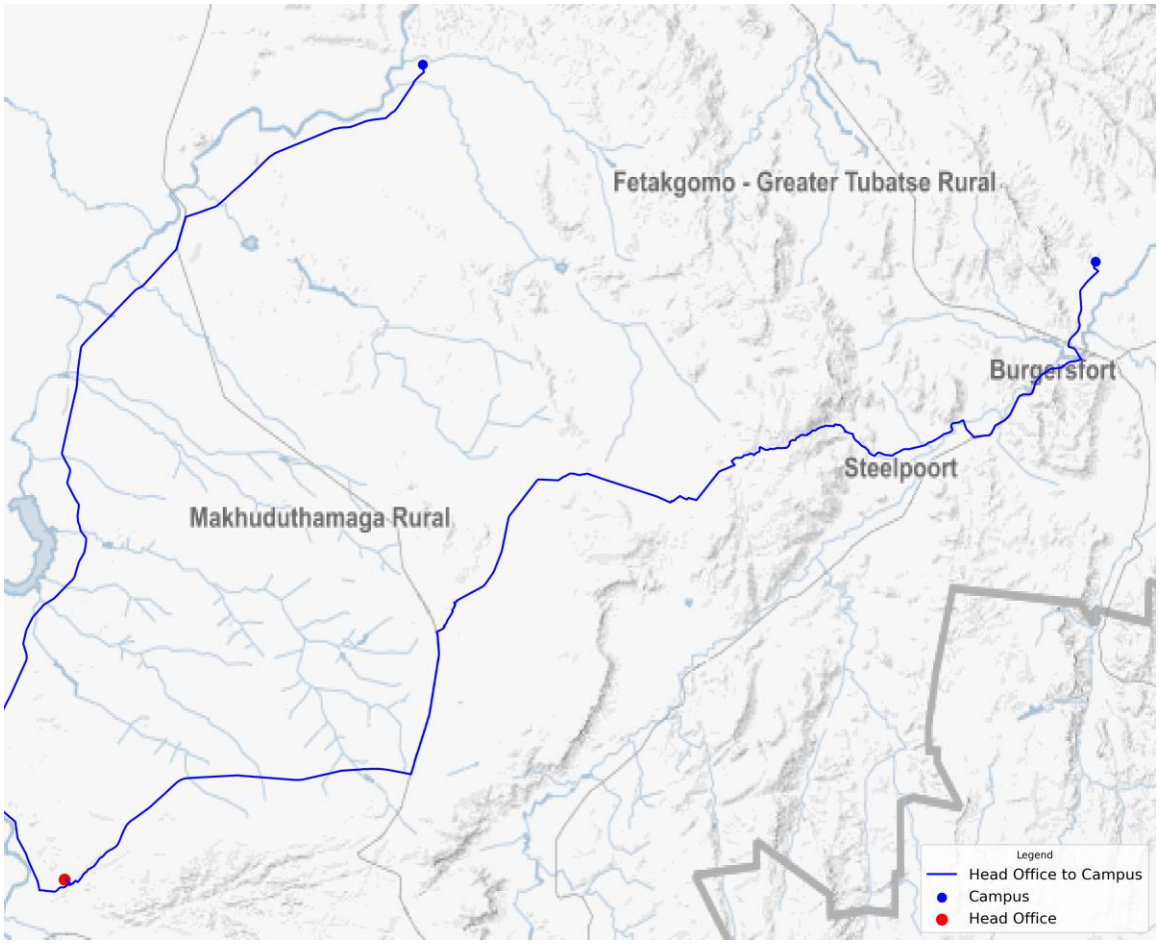
LIMPOPO: TVET Locations



5 SEKHUKHUNE TVET COLLEGE

5.1 COLLEGE OVERVIEW

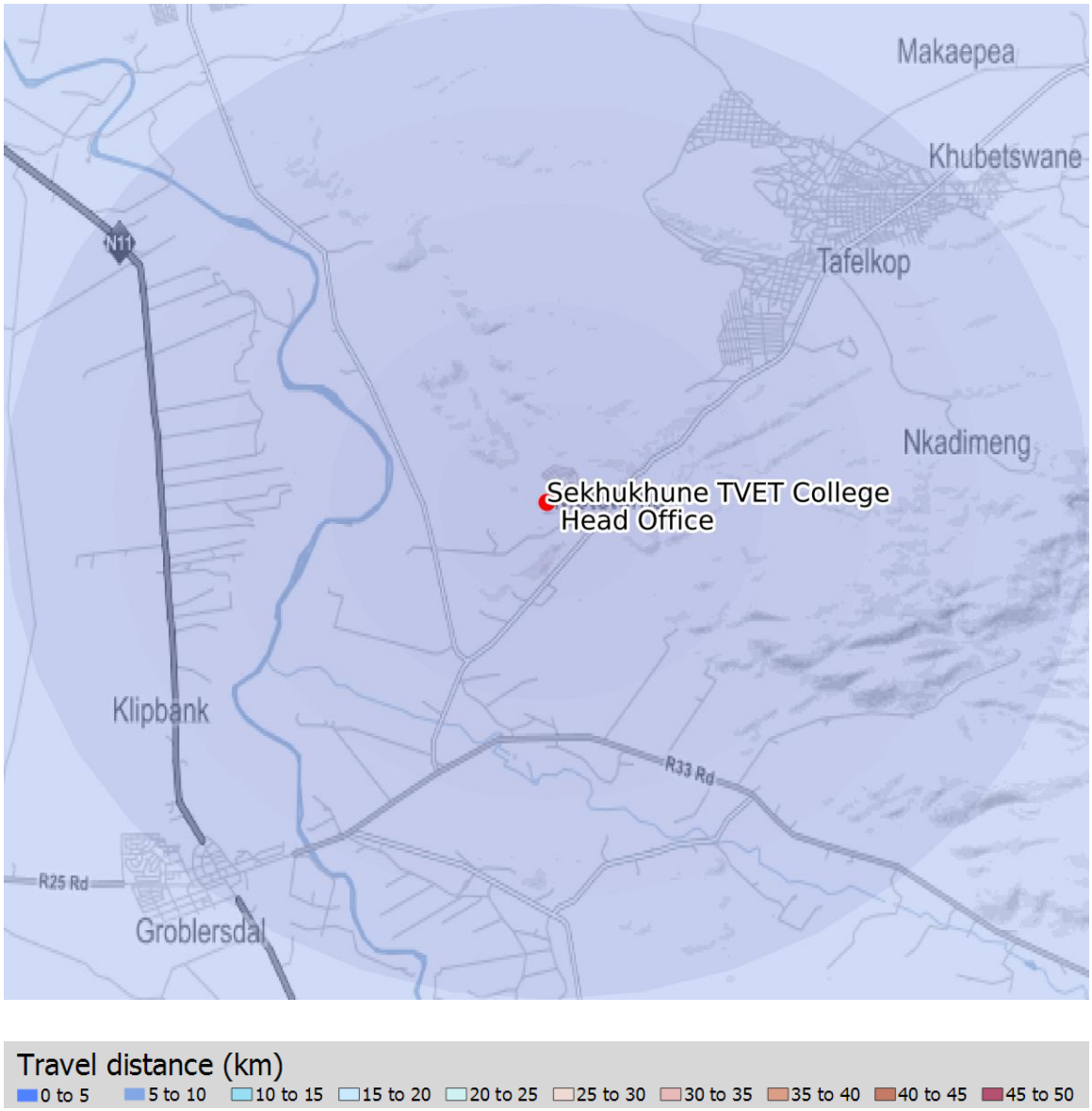
Sekhukhune TVET College: TVET Locations



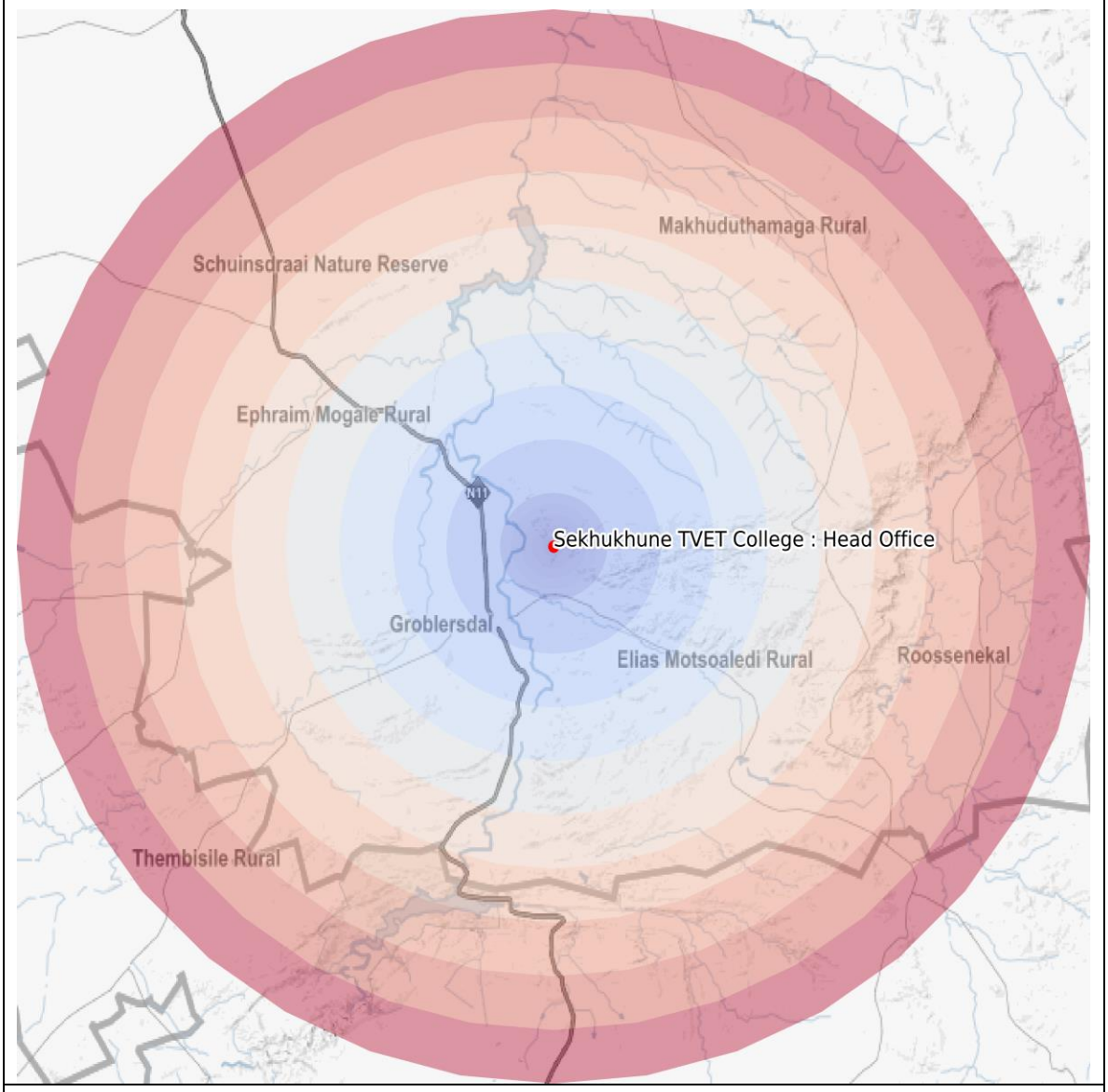
5.2 DETAILED OVERVIEW OF EACH CAMPUS

5.2.1 SEKHUKHUNE TVET COLLEGE : HEAD OFFICE

Sub-Classification: B 4
Location Confidence: 1
Province: Limpopo
Municipality: Elias Motsoaledi Local Municipality
Town: Elias Motsoaledi Rural
Address: Stand 676 Motetema 0473
Head Office Travel Distance (km): 0.0
Head Office Travel Time (min): 0.0



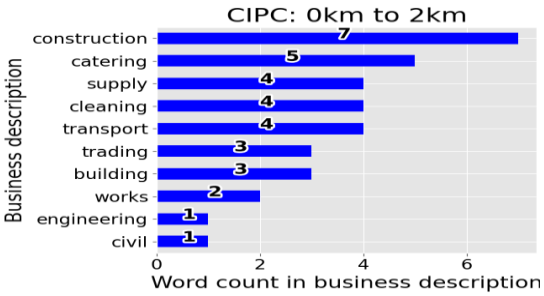
5.2.1 SEKHUKHUNE TVET COLLEGE : HEAD OFFICE: 50KM RADIUS

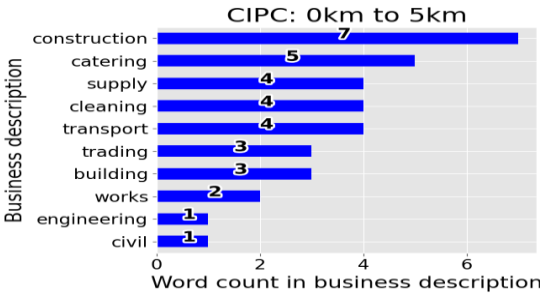


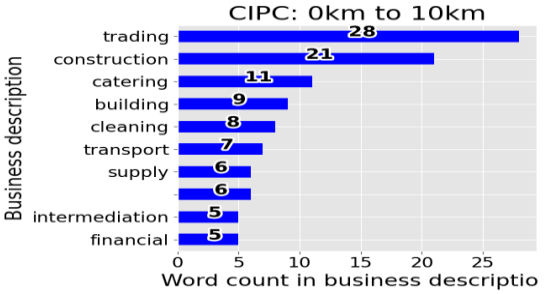
Travel distance (km)

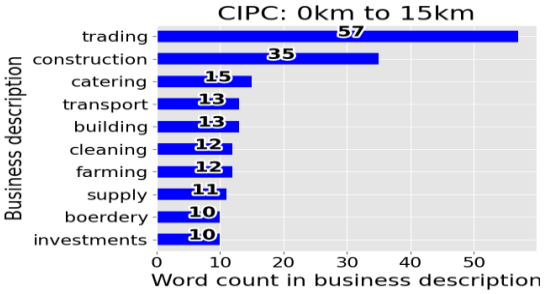
0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 to 45 | 45 to 50

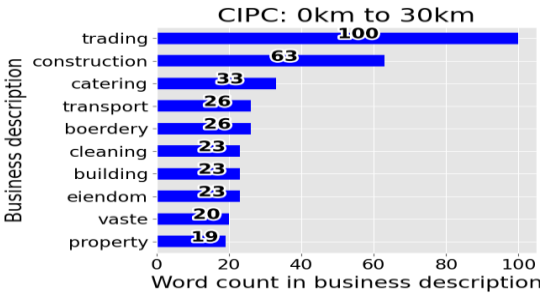
5.2.1 SEKHUKHUNE TVET COLLEGE : HEAD OFFICE: CIPC INFOGRPAPHICS

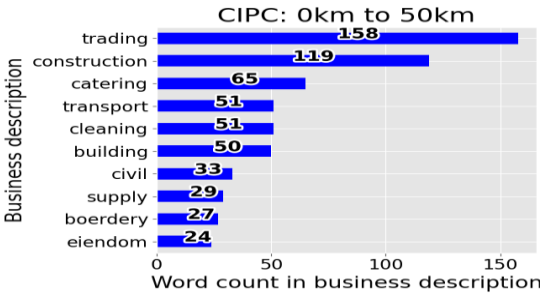




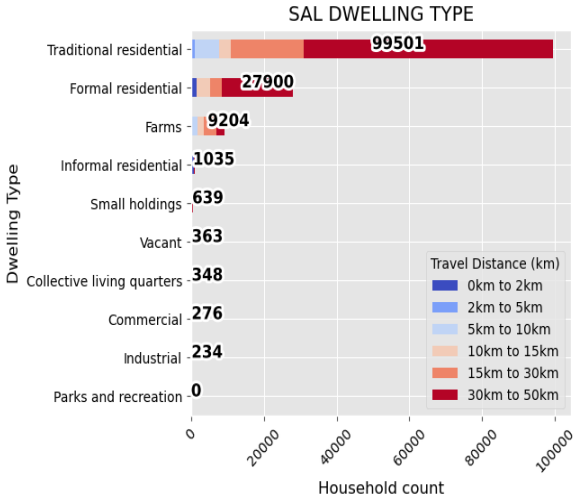


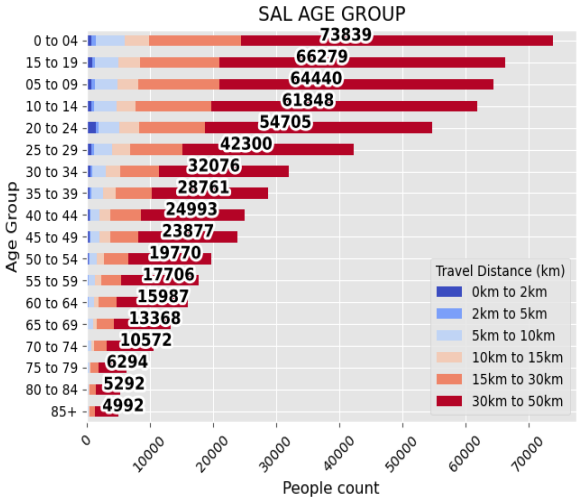


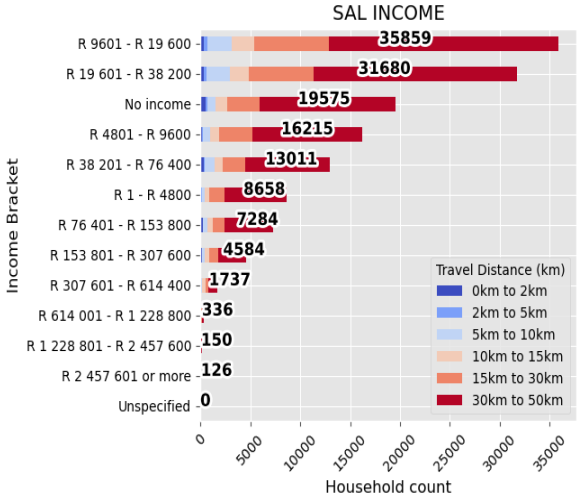


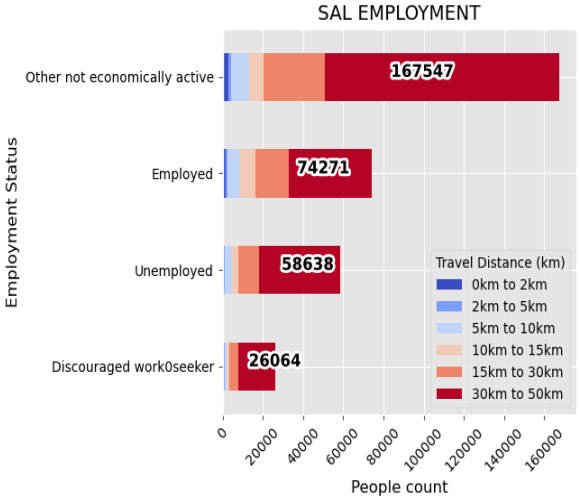


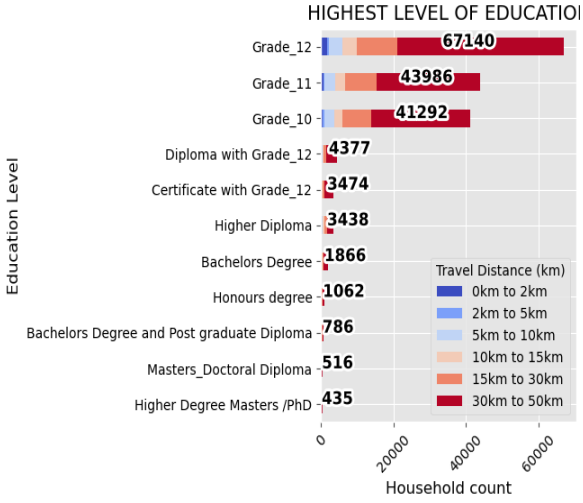
5.2.1 SEKHUKHUNE TVET COLLEGE : HEAD OFFICE: DEMOGRAPHICS

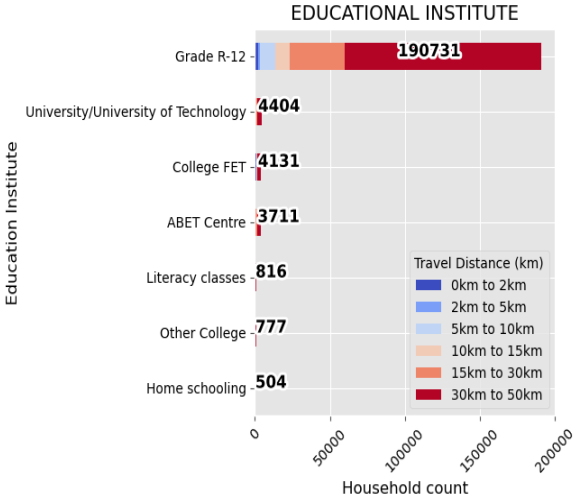


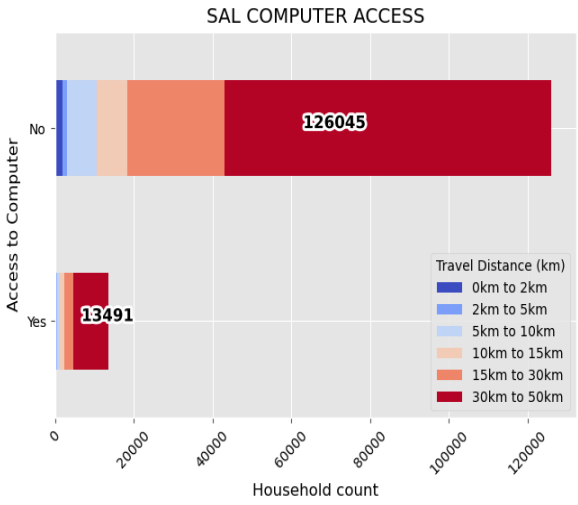


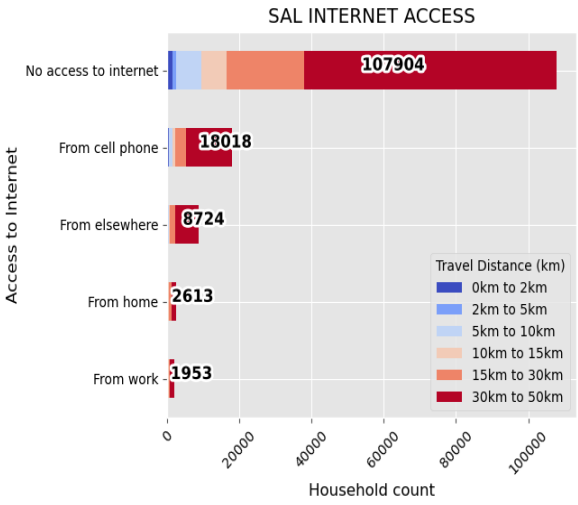


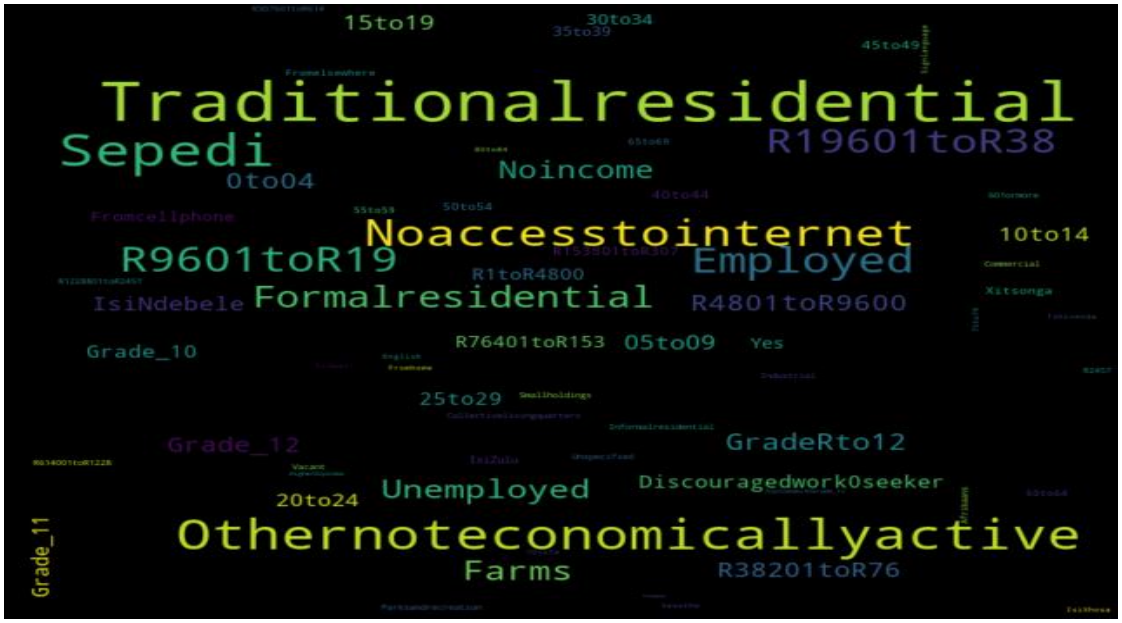




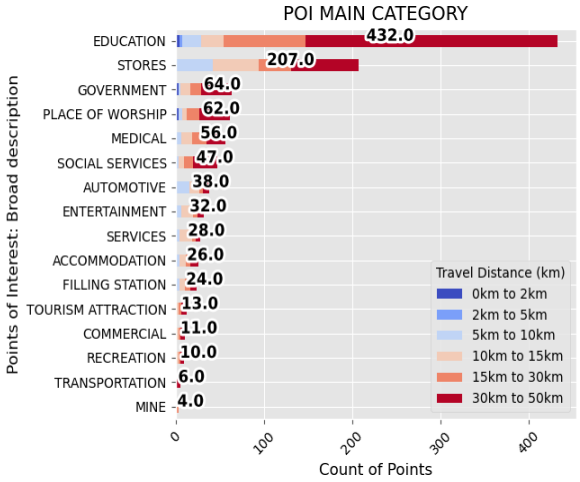


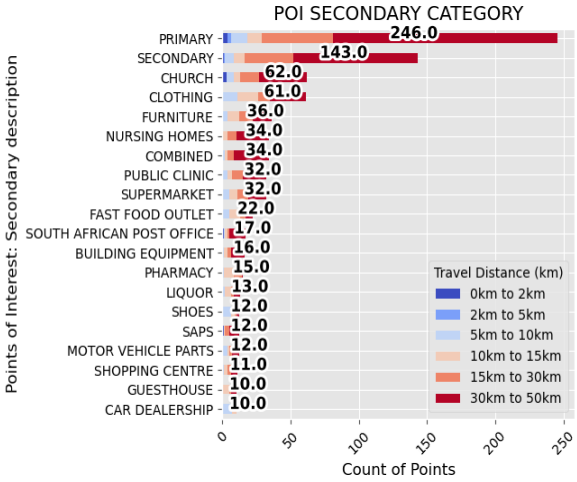

SAL COMPUTER ACCESS
Access to Computer
No
Yes
126045
13491
Travel Distance (km)
0km to 2km
2km to 5km
5km to 10km
10km to 15km
15km to 30km
30km to 50km
0
20000
40000
60000
80000
100000
120000
Household count

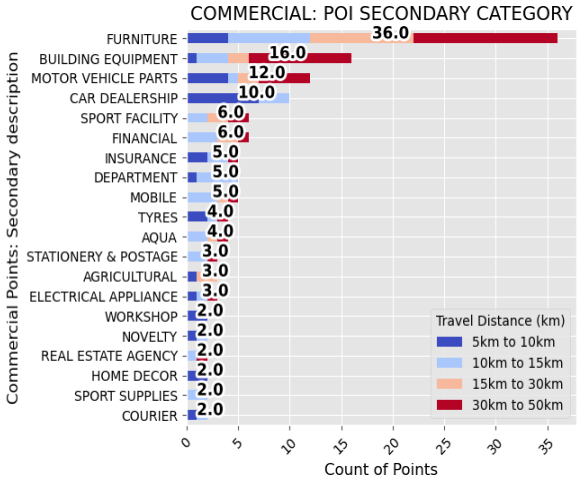

SAL INTERNET ACCESS
Access to Internet
No access to internet
From cell phone
From elsewhere
From home
From work
107904
18018
8724
2613
1953
Travel Distance (km)
0km to 2km
2km to 5km
5km to 10km
10km to 15km
15km to 30km
30km to 50km
0
20000
40000
60000
80000
100000
Household count

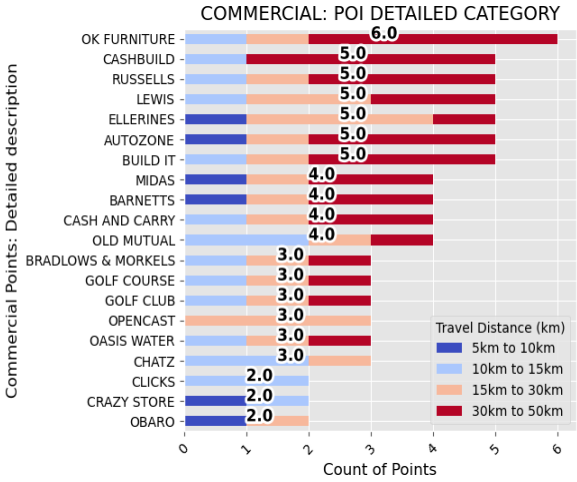

15to19
30to34
35to39
45to49
Traditionalresidential
Sepedi
R19601toR38
0to04
Noincome
Noaccesstointernet
10to14
R9601toR19
Employed
R1toR4800
IsiNdebele
Formalresidential
R4801toR9600
Xitsonga
Grade_10
R76401toR153
05to09
Yes
25to29
Grade_12
GradeRto12
20to24
Unemployed
DiscouragedworkOseeker
Grade_11
Othernoteconomicallyactive
Farms
R38201toR76

5.2.1 SEKHUKHUNE TVET COLLEGE : HEAD OFFICE: POINTS OF INTEREST



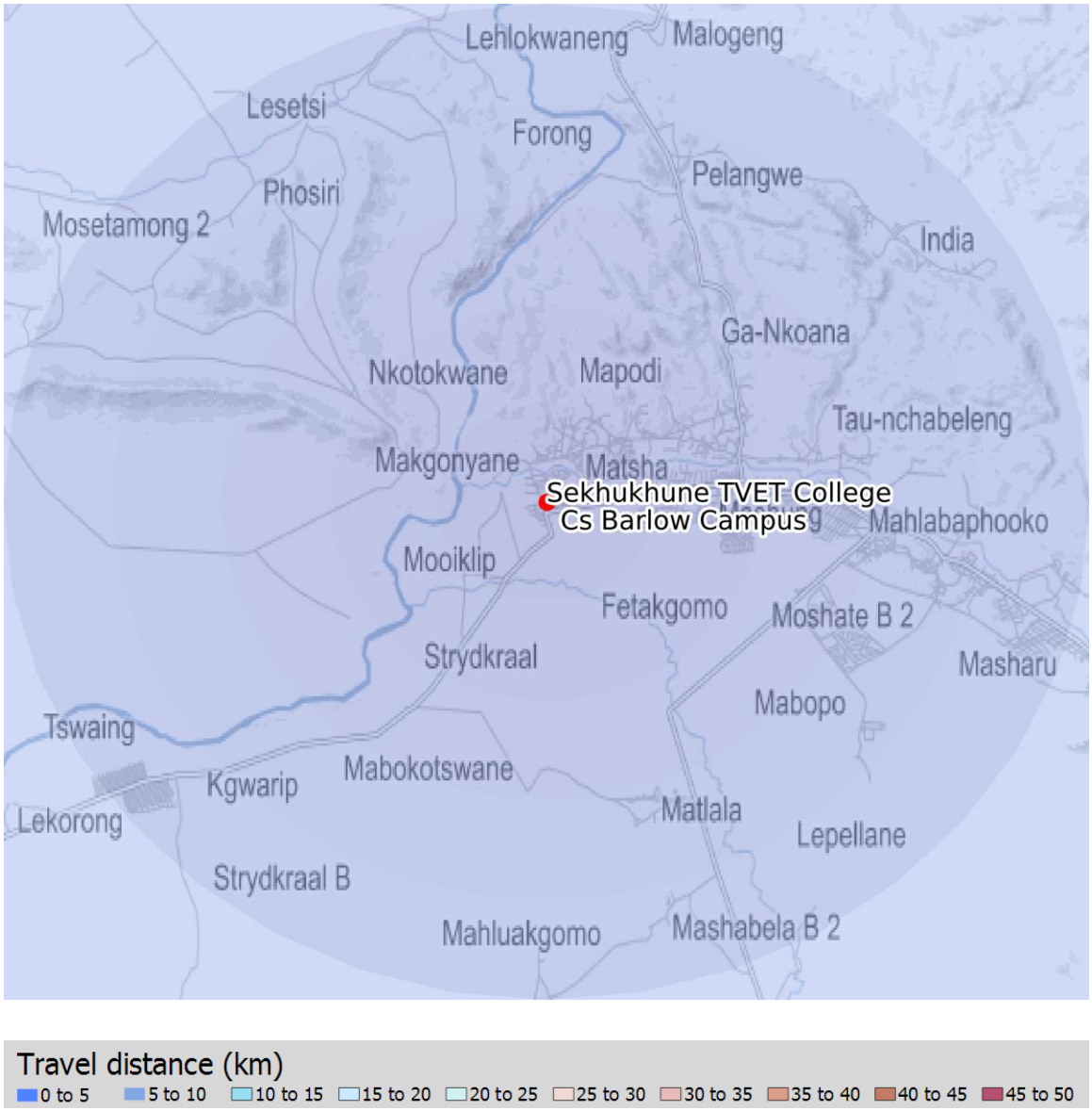




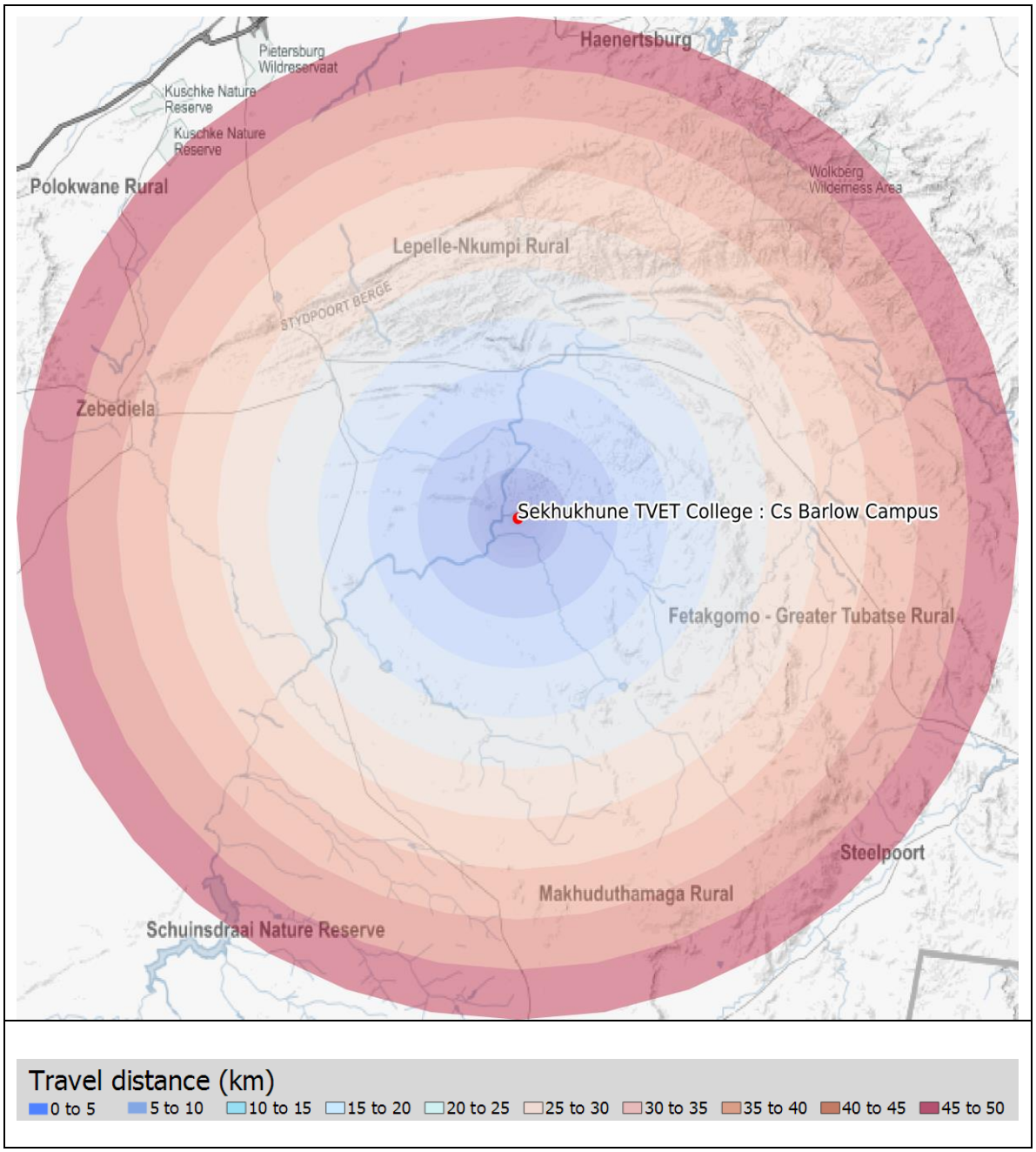


5.2.2 SEKHUKHUNE TVET COLLEGE : CS BARLOW CAMPUS

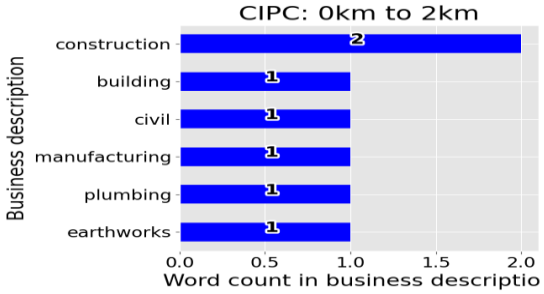
Sub-Classification: B 4
Location Confidence: 1
Province: Limpopo
Municipality: Elias Motsoaledi Local Municipality
Town: Fetakgomo - Greater Tubatse Rural
Address: Stand 676 Motetema 0473
Head Office Travel Distance (km): 98.5
Head Office Travel Time (min): 121.41

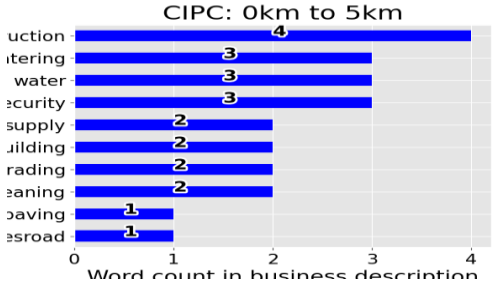


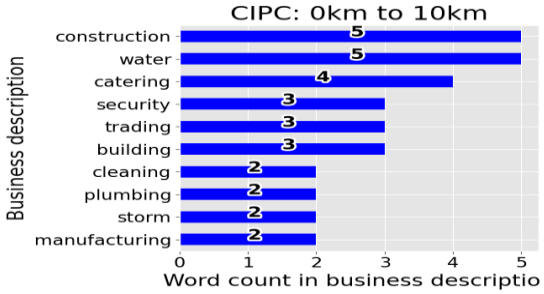
5.2.2 SEKHUKHUNE TVET COLLEGE : CS BARLOW CAMPUS: 50KM RADIUS

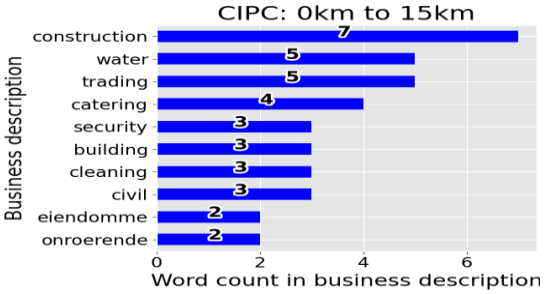


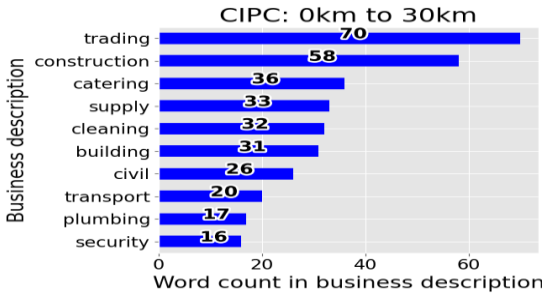
5.2.2 SEKHUKHUNE TVET COLLEGE : CS BARLOW CAMPUS: CIPC INFOGRPAPHICS

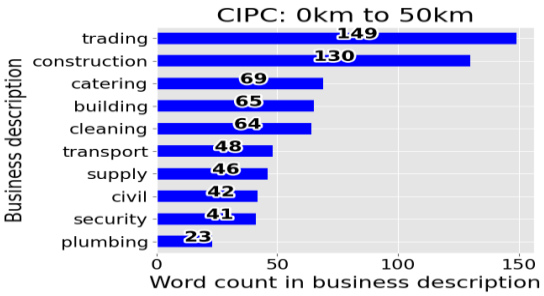




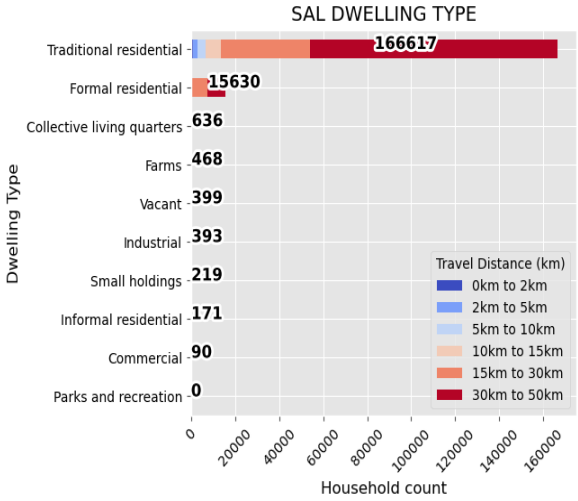


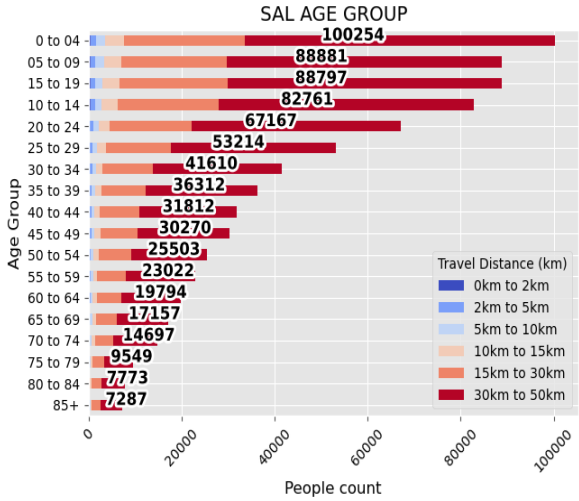


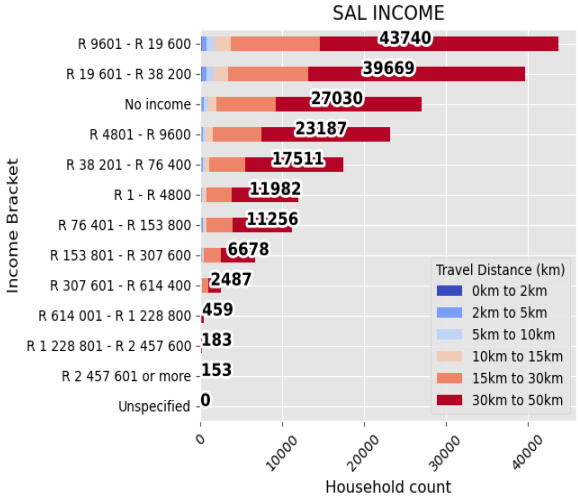


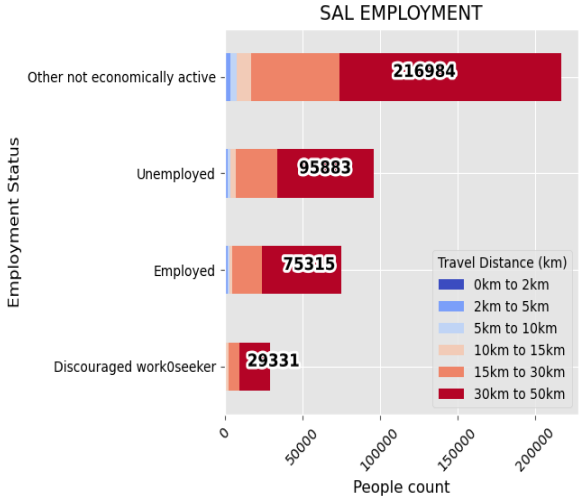


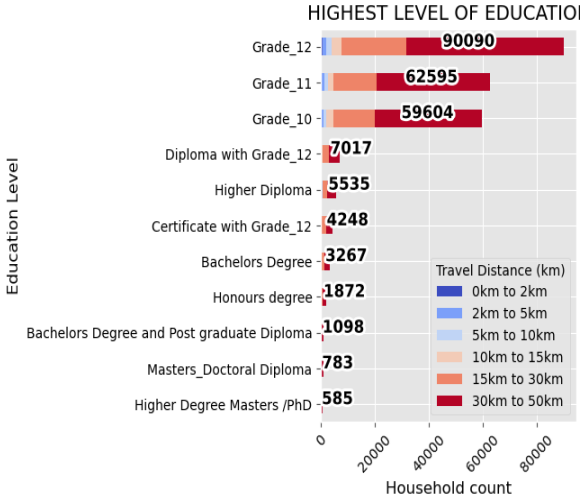
5.2.2 SEKHUKHUNE TVET COLLEGE : CS BARLOW CAMPUS: DEMOGRAPHICS

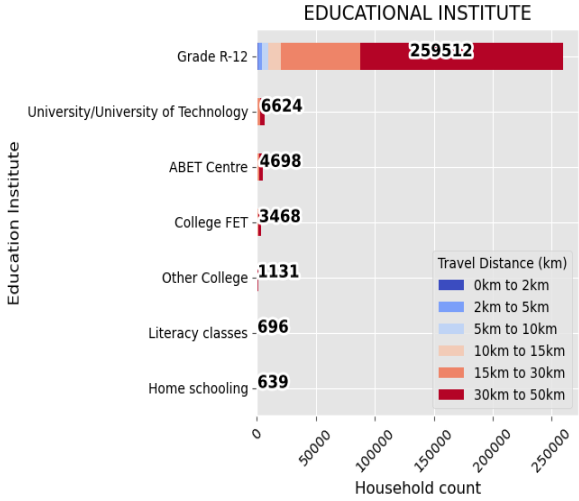


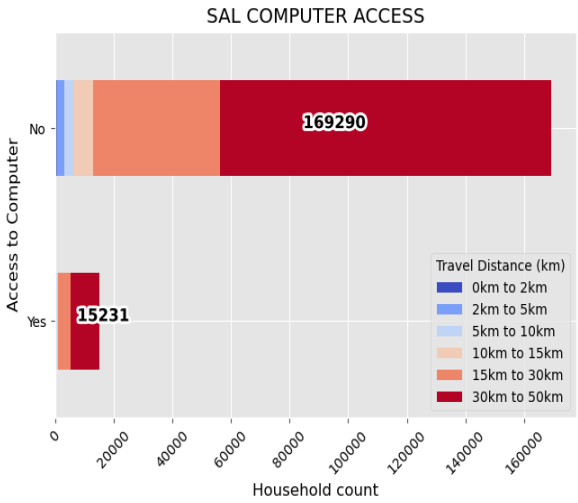


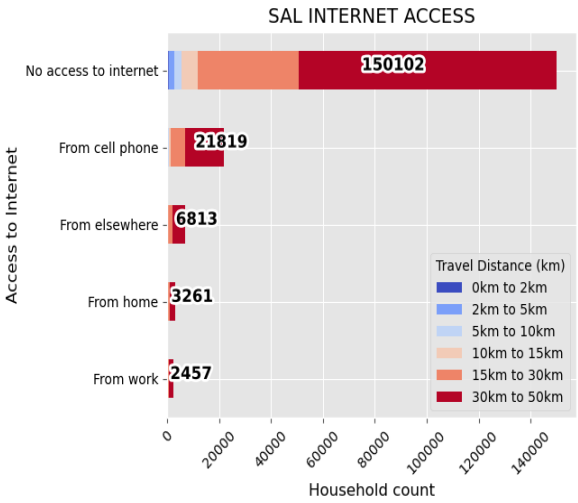






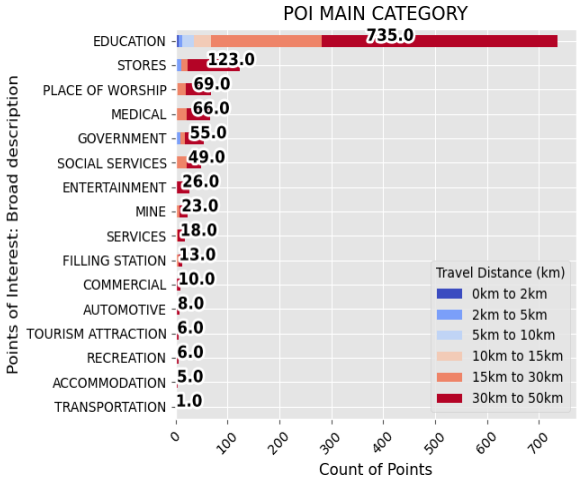


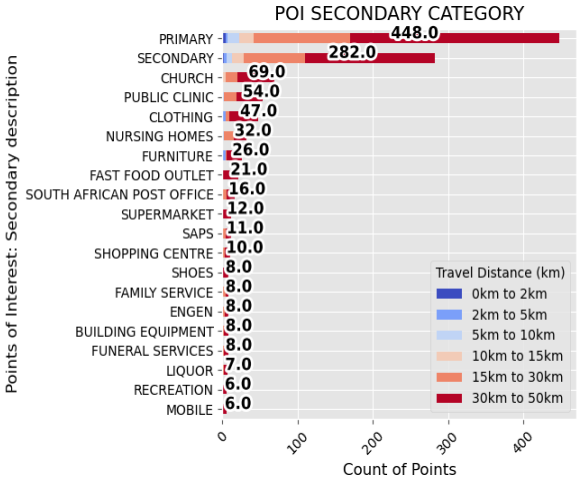

SAL COMPUTER ACCESS
Access to Computer
No
Yes
169290
15231
Travel Distance (km)
0km to 2km
2km to 5km
5km to 10km
10km to 15km
15km to 30km
30km to 50km
0
20000
40000
60000
80000
100000
120000
140000
160000
Household count

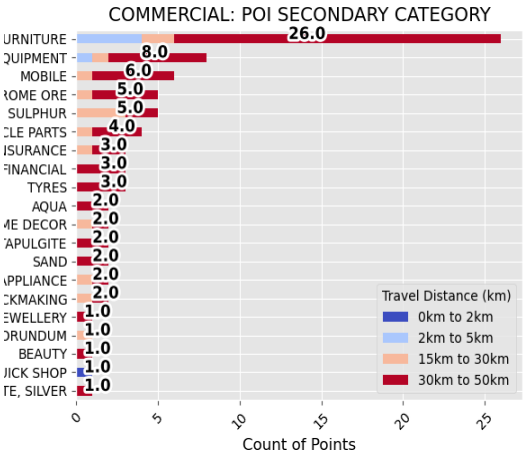

SAL INTERNET ACCESS
Access to Internet
No access to internet
From cell phone
From elsewhere
From home
From work
150102
21819
6813
3261
2457
Travel Distance (km)
0km to 2km
2km to 5km
5km to 10km
10km to 15km
15km to 30km
30km to 50km
0
20000
40000
60000
80000
100000
120000
140000
Household count

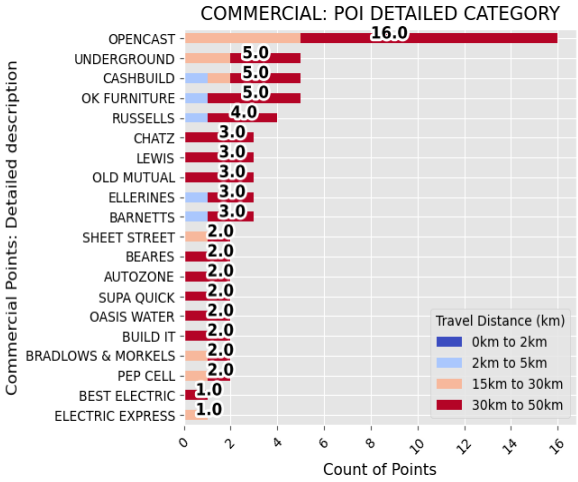
Employed
20to24
Formalresidential
Fromcellphone
50to54
10to14
55to59
Grade_12
GradeRto12
15to19
0to04
R153801toR307
Unemployed
R76401toR153
Grade_10
Sepedi
Traditionalresidential
05to09
R19601toR38
25to29
R38201toR76
Yes
Othernoteconomicallyactive
Grade_11
40to44
Noaccesstointernet
30to34
Discouragedwork0seeker
R9601toR19
R1toR4800
Noincome
R4801toR9600
45to49
35to39

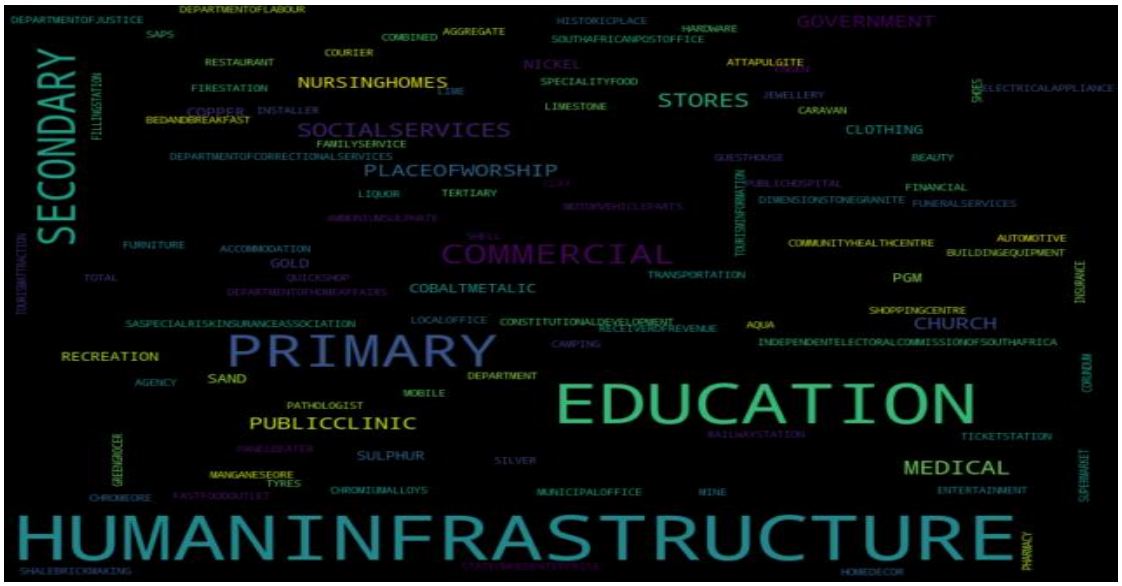
5.2.2 SEKHUKHUNE TVET COLLEGE : CS BARLOW CAMPUS: POINTS OF INTEREST





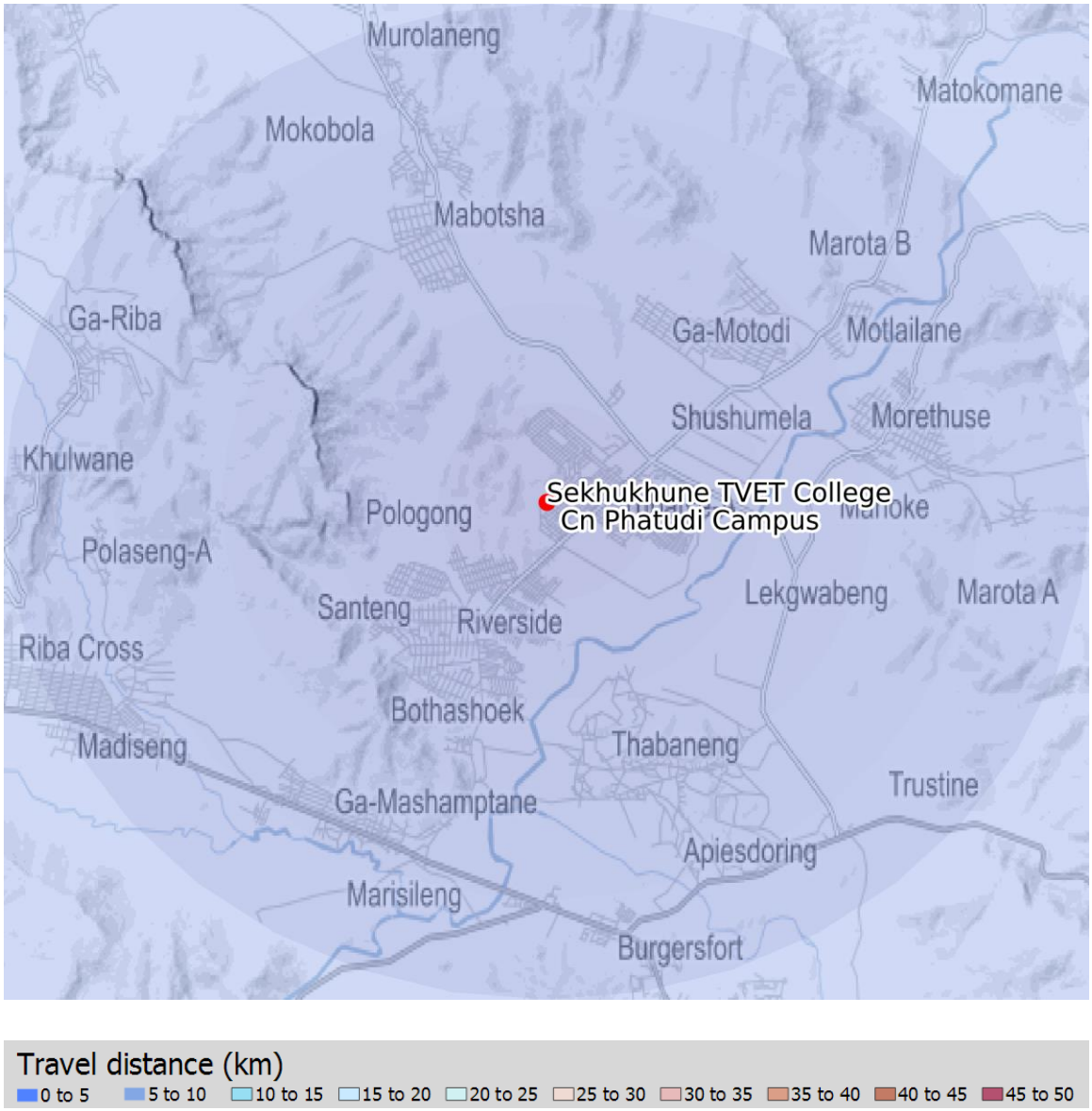




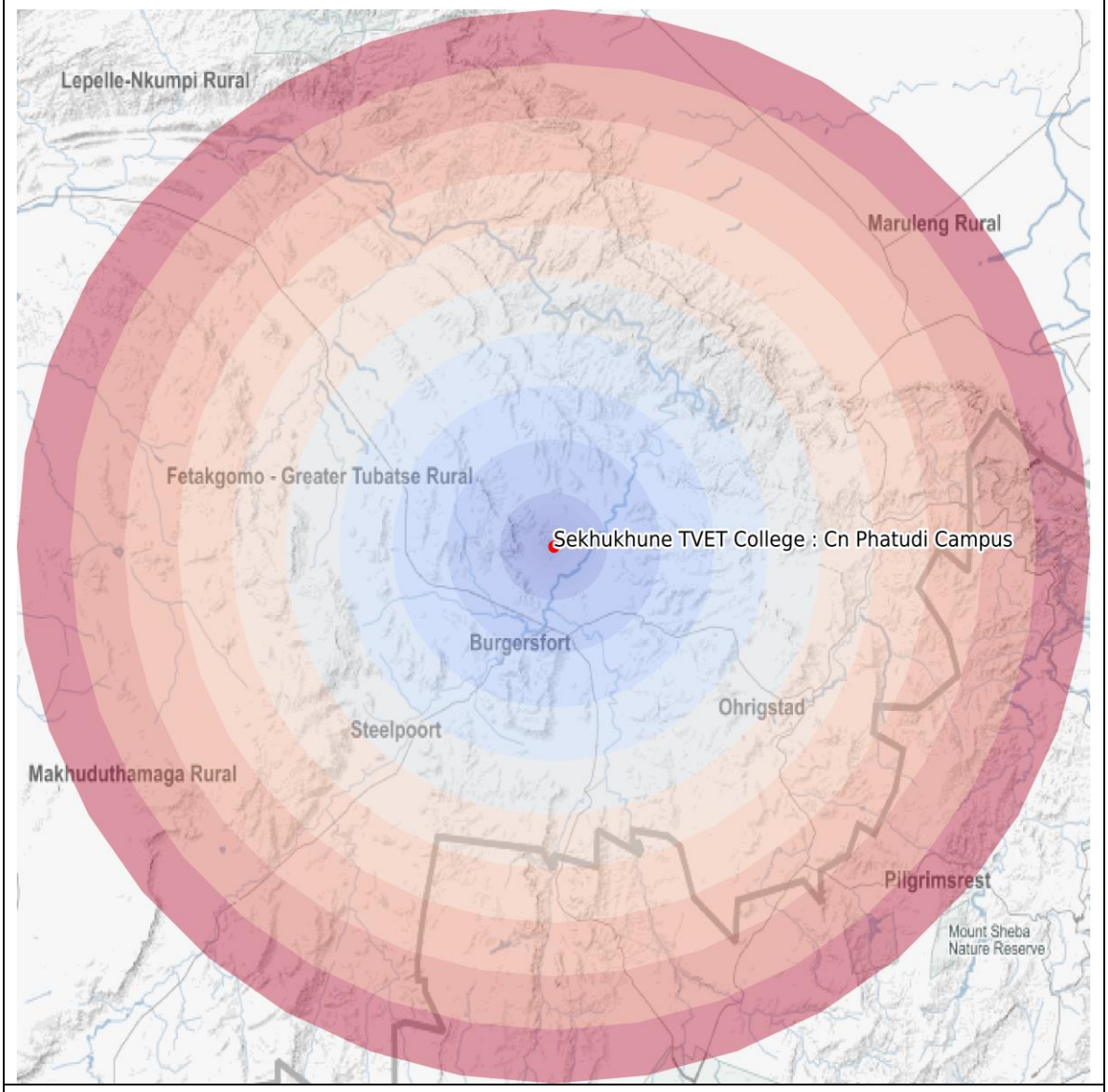


5.2.3 SEKHUKHUNE TVET COLLEGE : CN PHATUDI CAMPUS

Sub-Classification: B 4
Location Confidence: 1
Province: Limpopo
Municipality: Fetakgomo Tubatse Local Municipality
Town: Fetakgomo - Greater Tubatse Rural
Address: Stand 2659 Praktiseer 1150
Head Office Travel Distance (km): 133.46
Head Office Travel Time (min): 190.74



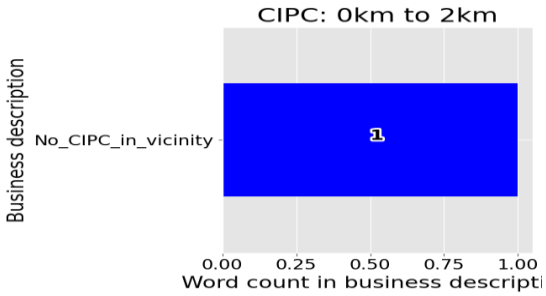
5.2.3 SEKHUKHUNE TVET COLLEGE : CN PHATUDI CAMPUS: 50KM RADIUS

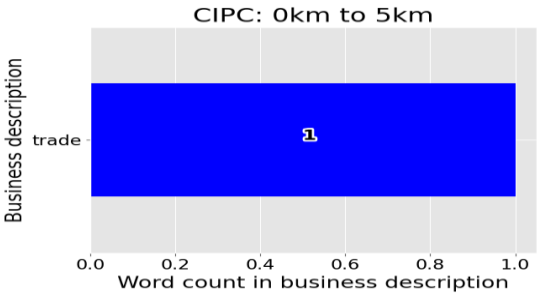


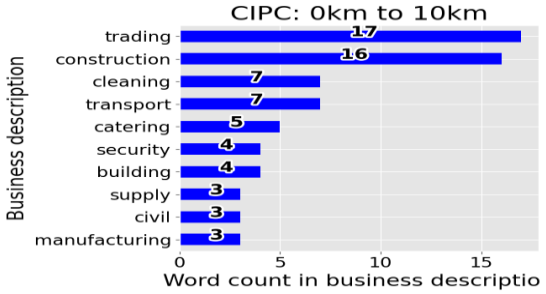
Travel distance (km)

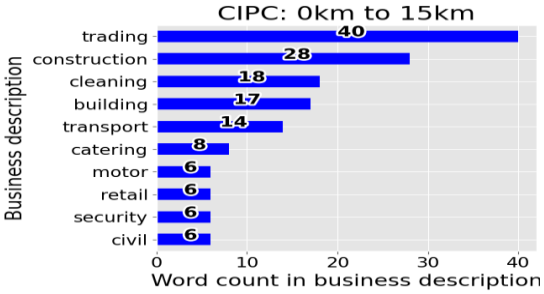
0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 to 45 | 45 to 50

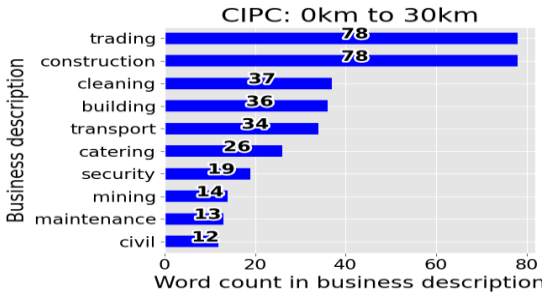
5.2.3 SEKHUKHUNE TVET COLLEGE : CN PHATUDI CAMPUS: CIPC INFOGRPAPHICS

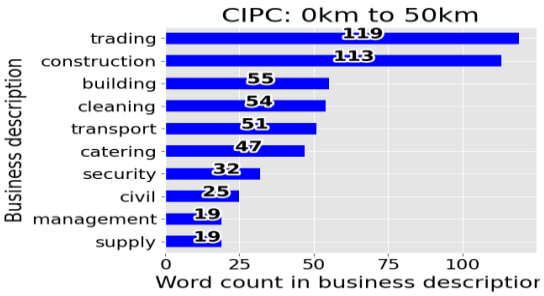






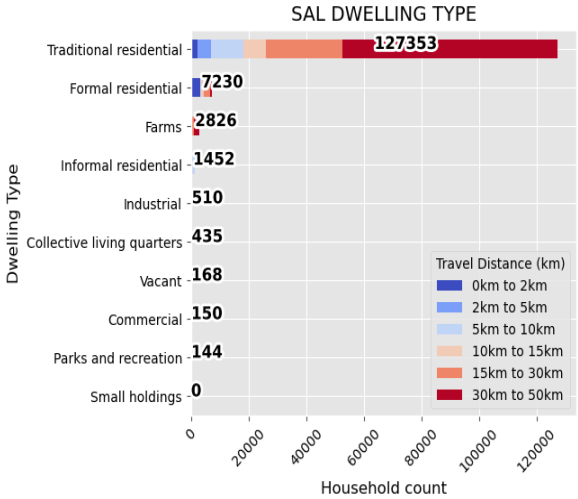


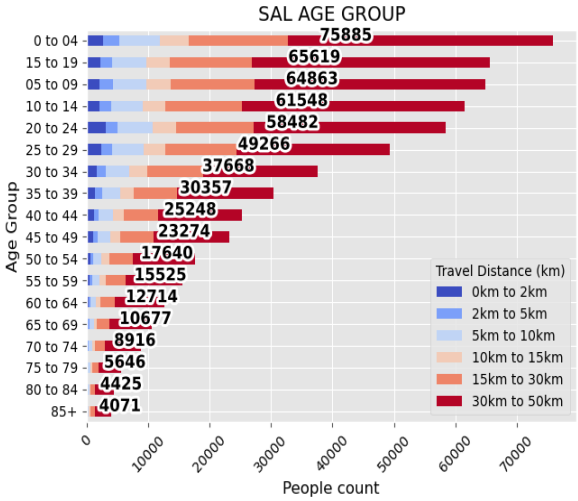


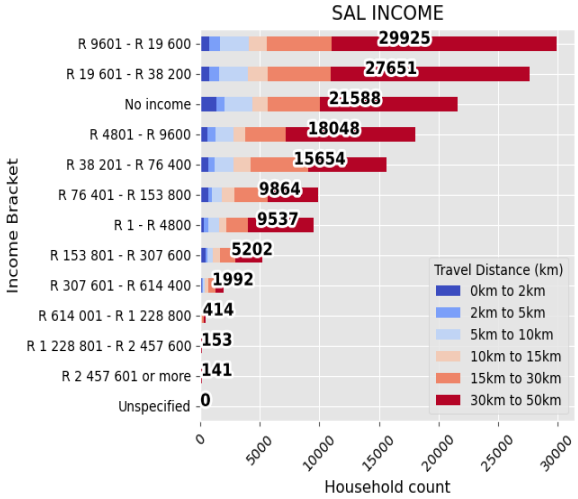


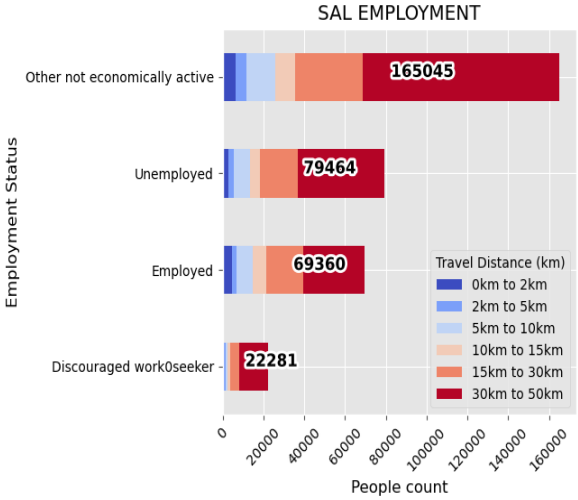
CLEANING
TRADING
CONSTRUCTION
TRANSPORT
SECURITY
CATERING
BUILDING
MANAGEMENT
DEVELOPMENT
MAINTENANCE
CIVIL
SUPPLY
TRAINING
STATIONERY
PLUMBING
REPAIR
MINING
SUPPLIER
RETAIL
INVESTMENT
PAVING
TRADE
LABOUR
PROPERTY
RESTAURANT
PLANT
EVENT
WATER
HIRE
GOODS
TRANSPORTATION
MANUFACTURING
ENGINEERING
PROJECT
WELDING
CYCLES
SPARE
MATERIAL
RENOVATION
SERVICE
WORK
FARMING
ELECTRICAL
GARDENING
MOTOR
DISTRIBUTION
EXPORT
PAINTING
WHOLESALE
FENCING
CLOTHING
ROAD
SALE
TOURISM
SUPPLIES
HOUSEHOLD
FINANCIAL
FUNERAL
OFFICE
PLASTERING
IMPORT
EQUIPMENT
LOGISTICS
MAINTANANCE
PRINTING
LAUNDRY
HOUSE
LIQUOR
VEHICLE
PERSONAL
ELECTRICITY
HARDWARE
MEDICAL
INSURANCE
DEALER
INDUSTRIAL
UNDERTAKER
HOTEL
DEALING
ROOFING
WASTE
TILING
ACCOMMODATION
EXCEPT
PLASTIC
METAL
PRODUCTS
CRIME
PLUS
real_estate
SEWING
LODGE
TILLING
STATION
ELECTRONIC
CLEARING
BOERDERY
RECRUITMENT
INSTALLATION
CONSULTING
MOTORVEHICLES
STEEL
COMPUTER
SCHOOL
SANITATION
DESIGN
BREAKDOWN
FASHION
CARE
SUPPORT
SERVICING
SELLING
FACILITIES
ACCOUNTING
FOOD
GAS
RADIO
TUCKSHOP
BUTCHERY
STALLWERK
DEBTORS
EARTHMOVING
CONFERENCE
HOME
HANDEL
TERBLYE
GUEST
COUNTRY
SAFETY
STORE
HEALTH
AL
PANEL
HOLD
PEOPLE
TECHNOLOGY
CARPENTRY
ASPECT
Carpentry
PROVISION
TRANSPORTNBELEGGINGS
GLASS
REMOVALS
RETAILING
PASSENGER
LANDS
TRADERS
DRY
CASH
AUTO
MADE
APTEEK
TYRE
FUNCTIONS
CONCRETE
UNDERHOOD
LOAN
SUPPLYING
CONSULTANTS
ART
FASETTE
OFMOTOR
PRODUCTION
RADIATORS
BOOKS
FORWARDING
MANUFACTURE
FURNITURE
ARTICULATION
ENERGY
KINS
SV
LICENSE
NATURE
DISTRIBUTORS
PARTS
ENTERTAINMENT
LANDS
CLAIM
GUNSHOP
BEATERS
CLEANING
PASSENGER
CLAIM
CARE
BREAKDOWN
PLATINUM
PLATINUM
PLASTIC
EXCEPT
ACCOMMODATION
ROOFING
DEALING
HOTEL
PEOPLE
HOLD
PANEL
Carpentry
TECHNOLOGY
CARPENTRY
ASPECT
DESIGN
BREAKDOWN
FURNITURE
MANUFACTURE
FORWARDING
BOOKS
CLEARING
NATURE
LICENSE
ARTICULATION
ENERGY
KINS
SV
PRODUCTION
RADIATOR

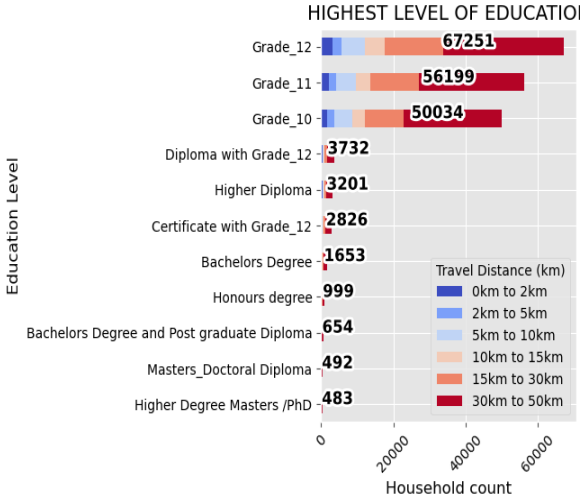
5.2.3 SEKHUKHUNE TVET COLLEGE : CN PHATUDI CAMPUS: DEMOGRAPHICS

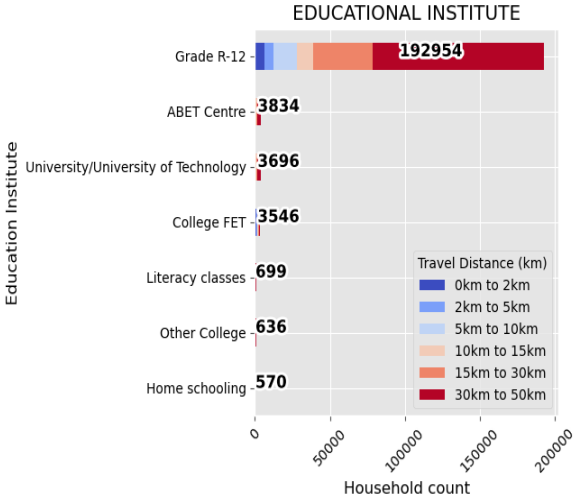


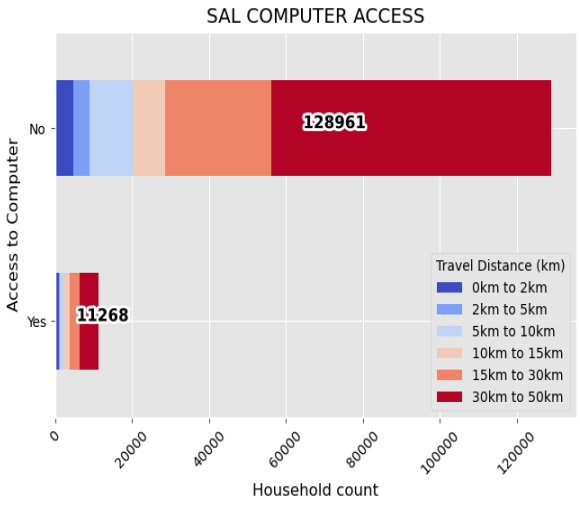


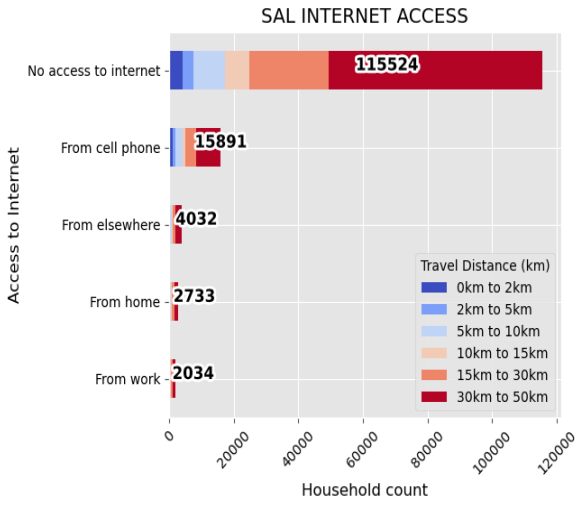


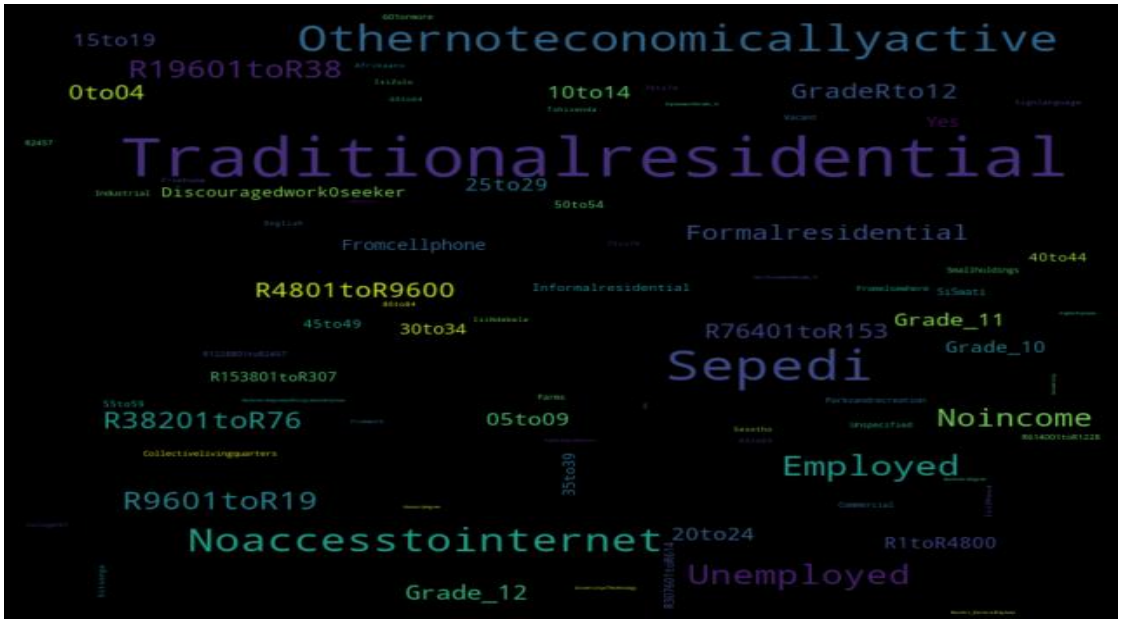
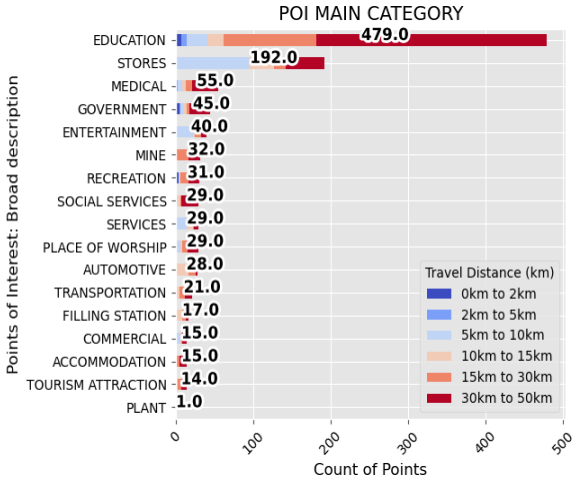
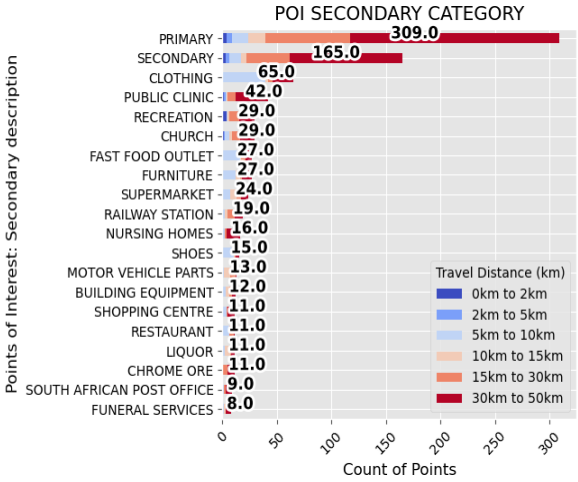
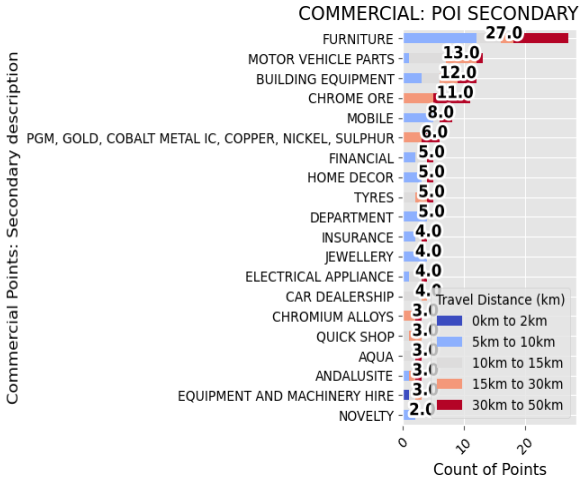
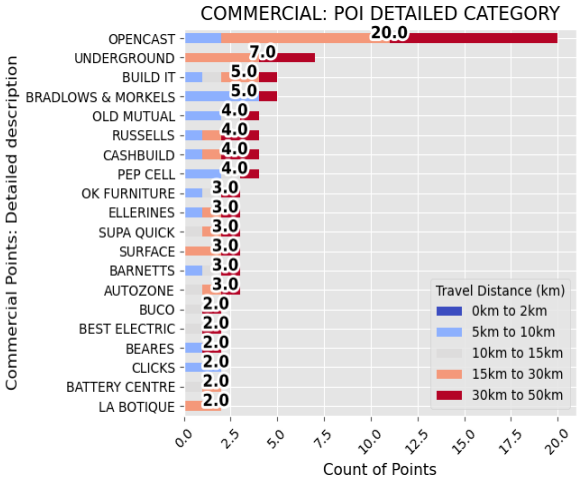
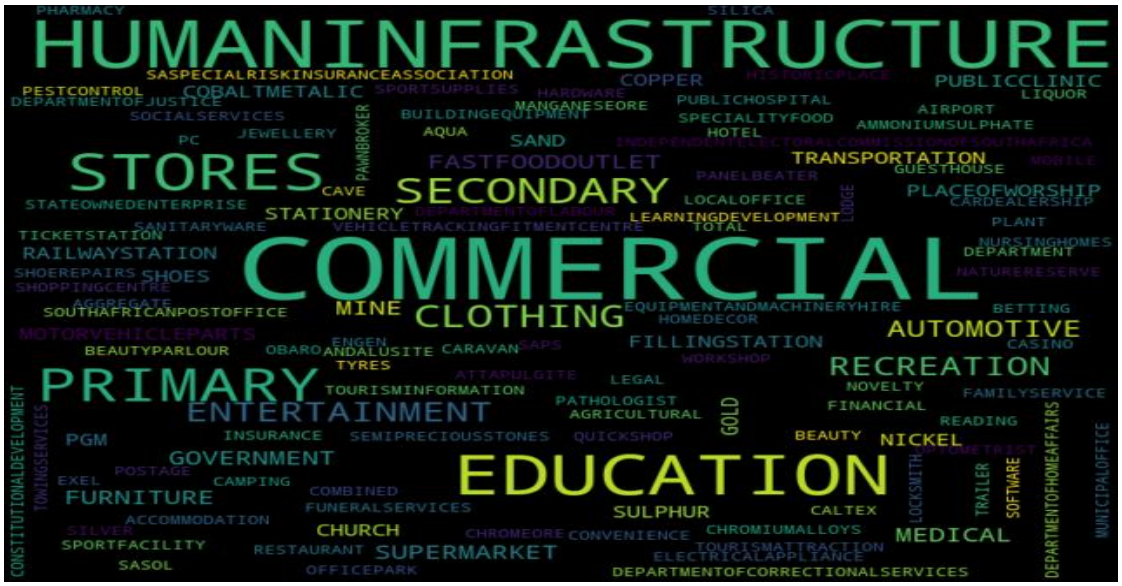







SAL COMPUTER ACCESS
Access to Computer
No
Yes
128961
11268
Travel Distance (km)
0km to 2km
2km to 5km
5km to 10km
10km to 15km
15km to 30km
30km to 50km
0
20000
40000
60000
80000
100000
120000
Household count


SAL INTERNET ACCESS
Access to Internet
No access to internet
From cell phone
From elsewhere
From home
From work
115524
15891
4032
2733
2034
Travel Distance (km)
0km to 2km
2km to 5km
5km to 10km
10km to 15km
15km to 30km
30km to 50km
0
20000
40000
60000
80000
100000
120000
Household count


15to19
Othernoteconomicallyactive
R19601toR38
0to04
10to14
GradeRto12
Yes
Traditionalresidential
Industrial
Discouragedwork0seeker
25to29
50to54
Formalresidential
Fromcellphone
40to44
R4801toR9600
Informalresidential
45to49
30to34
R76401toR153
Grade_11
Grade_10
Sepedi
R153801toR307
R38201toR76
05to09
Noincome
Employed
35to39
R9601toR19
Noaccesstointernet
20to24
R1toR4800
Unemployed
Grade_12

5.2.3 SEKHUKHUNE TVET COLLEGE : CN PHATUDI CAMPUS: POINTS OF INTEREST