

# A Dashboard of the Popular Establishments In South Africa's Three Capital Cities

## 1. Introduction/Business Problem

In efforts to continuously encourage people to explore South Africa, my project will develop a dashboard that will display popular establishments located in the country's three capital cities: Bloemfontein, Cape Town, and Pretoria.

This dashboard can be useful to the following stakeholders:

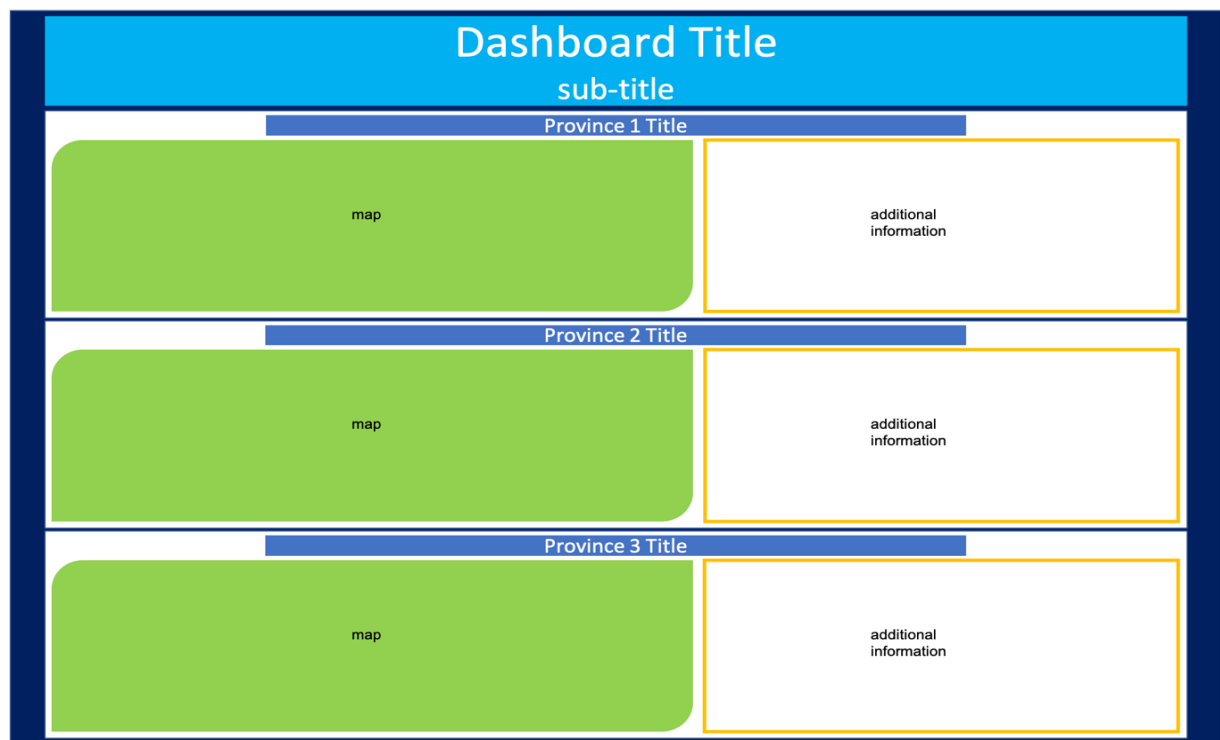
1. Locals
2. Tourists
3. The South African Department of Tourism

Both locals and tourists can use this dashboard as a source of content to plan their bucket-list experiences.

The Department of Tourism can use the dashboard to know which establishments should be featured in the Sho't Left and Discover South Africa campaigns that they run.

The following details of the popular establishments will be indicated: the establishment's name, the type of establishment, and the street address.

Figure 1 is an example of the expected dashboard layout, colours are used for example purposes:



**Figure 1:** Dashboard template.

## **2. Data**

This project will use the Foursquare location data as it contains names of the popular establishments, including, but not limited to, the category, address and geographical coordinates (longitude and latitude), city, state and country.

Using my existing Foursquare developer account credentials, of which I have already obtained the access token, I will be accessing each of the three South African provinces' data.

## **3. Methodology**

This project will implement the following three steps:

### **A. Data collection**

Data indicating popular establishments in the three capital cities (Pretoria, Bloemfontein, and Cape Town) of South Africa were downloaded from the Foursquare location data (as explained above in the Data section).

### **B. Pre-processing**

To ensure that quality data is used in the downstream analysis, all data from the three capital cities will be subjected to this cleaning processes will entails the following two steps:

1. check and remove records with missing establishment name.
2. check and remove records with missing category.
3. replace missing addresses.
4. filter data by selecting columns of interests only.

### **C. Analysis**

This step includes the following:

1. visualize the popular establishments in each capital city.
2. find the total number of unique categories in each capital city.
3. list the unique categories and their corresponding total number of popular establishments.
4. create a dashboard to visualize the popular establishments in each capital city.

## **4. Analysis**

This will implement the following two steps:

### **4.1. Visualize Popular Establishments**

Use the Folium library to visualize the popular establishments in each capital city.

Add the popular establishments to the map as blue markers.

Clicking on each marker should display the following details of each popular establishment:

- the establishment's name, written in bold.
- the type of establishment, written inside brackets.
- the street address, written in italics.

## **4.2. Create Dashboard**

As per the dashboard template (displayed in the Introduction/Business Problem section above), the additional information section should include the following:

1. the total number of unique categories in each capital city.
2. table that lists the unique categories and their corresponding total number of popular establishments.

## **5. Results and Discussion**

This analysis shows that there are numerous popular establishments in each of the three capital cities (Pretoria, Bloemfontein, and Cape Town) from South Africa.

Although, the initial downloaded data from the Foursquare location data didn't include any missing names and categories for each popular establishment in each of the three capital cities, there were several establishments that didn't have an address associate to it. For the latter, the string "---" was used as an address.

In total there were 25, 12, and 30 popular establishments in Pretoria, Bloemfontein, and Cape Town, respectively (Figure 2). With Cape Town having the most popular establishments, this indicates that the capital city has a wider variety of establishments to choose from and mostly, there is something to suit everyone's interests.

Exploring the categories of the popular establishments indicated that 4 of the popular establishments located in Pretoria are Burger Joints (Figure 2). Similarly, 4 of the popular establishments located in Cape Town are Cafes (Figure 2). On the other hand, 2 of the popular establishments in Bloemfontein are Fast Food Restaurants and Portuguese Restaurants (Figure 2).

# Explore South Africa

Fun Awaits You!

## Pretoria, Gauteng Province

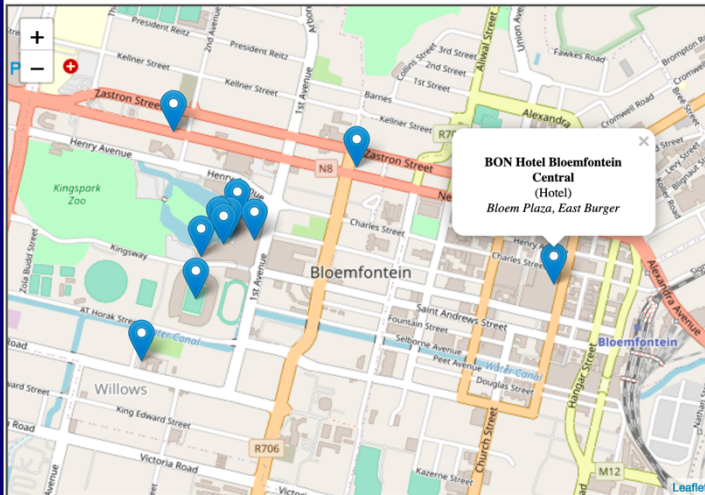


### Additional Information

Number of Popular Establishments: 25

Categories	Number of Establishments
Burger Joint	4
Café	1
Coffee Shop	1
Exhibit	1
Fast Food	3
Restaurant	1
Furniture / Home Store	1
Gas Station	1
History Museum	2
Hotel	3
Performing Arts Venue	1
Plaza	1
Portuguese Restaurant	1
Restaurant	1
Salad Place	1
Shopping Mall	3

## Bloemfontein, Free State Province

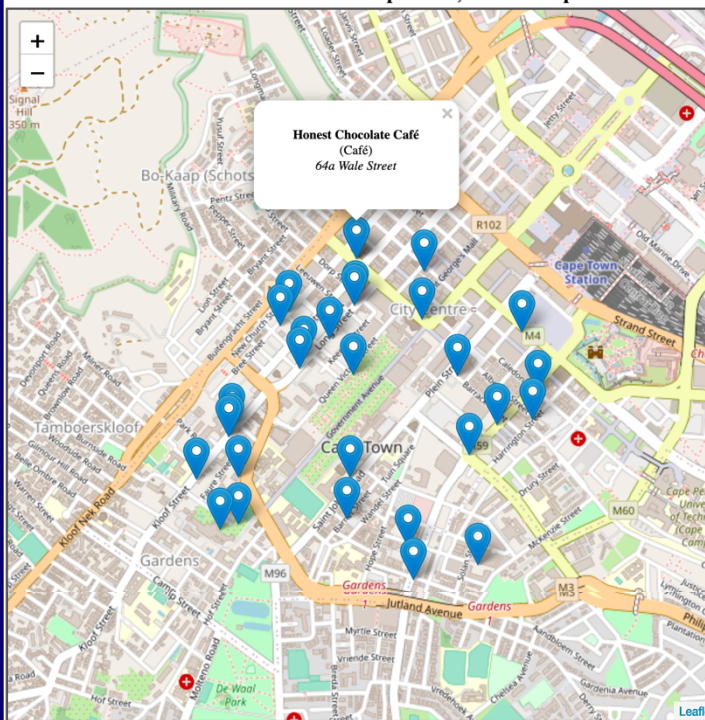


### Additional Information

Number of Popular Establishments: 12

Categories	Number of Establishments
Breakfast Spot	1
Bus Station	1
Fast Food	2
Restaurant	1
Football Stadium	1
Hotel	1
Multiplex	1
Pizza Place	1
Portuguese Restaurant	2
Restaurant	1
Seafood Restaurant	1

## Cape Town, Western Cape Province



### Additional Information

Number of Popular Establishments: 30

Categories	Number of Establishments
African Restaurant	1
Bagel Shop	1
Bakery	1
Bar	1
Bookstore	1
Burger Joint	2
Café	4
City Hall	1
Cocktail Bar	1
Coffee Shop	2
Dessert Shop	1
Furniture / Home Store	1
Gastropub	1
Greek Restaurant	1
Gym	1
Hotel	1
Hotel Bar	1
Ice Cream Shop	1
Indian Restaurant	1
Italian Restaurant	1
Movie Theater	1
Museum	1
Park	1
Restaurant	1
Theater	1

**Figure 2:** The dashboard displaying the popular establishments in the three capital cities of South Africa.

## **6. Conclusion**

This project has managed to create a dashboard that displays the popular establishments in three of South Africa's capital cities: Pretoria, Bloemfontein, and Cape Town.

The layout of the dashboard is aimed to be simple yet informative. Hence, the dashboard offers users an interactive experience by being able to click on the markers on map to find the popular establishment's name, category, and street address. For each capital city, users are also given additional information regarding the total number of popular establishments and the category the establishments.