Tracking the most attractive spots for food truck fast food business in Skopje, North Macedonia

A clustering analysis by Gjorgji Dimeski

Problem introduction

- Food truck business not present in Skopje, with great business potential
- Neighborhoods have different types of venues, some types more prevalent in some neighborhoods than other
- We can use the types of venues to segment the neighborhoods and cluster them into three distinct clusters

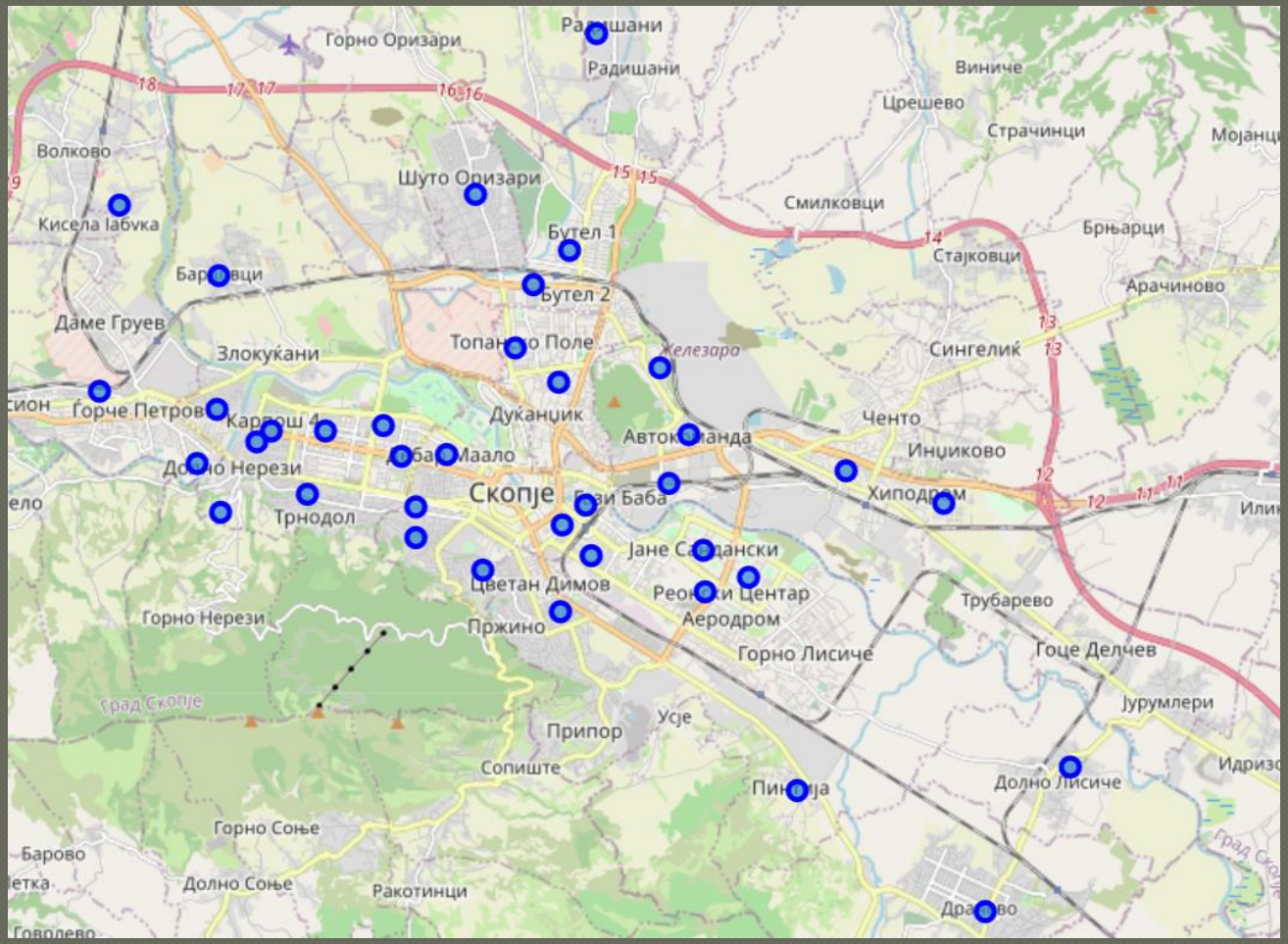
Problem introduction

- As is it conductive for the food truck business to operate in three shifts, we can recommend each cluster for the respective shift
- Ex: The cluster of neighborhoods with outdoor type venues (parks, stadiums etc) will be used for the first shifts while the cluster with bars and clubs for the third(night shift)
- This will allow business owners to gain insight on how to operate a business and capitalize on specific areas

Methodology

- We start off by using web scrapping, although the format and unavailability of data requires some manual inputs as well
- We extract the neighborhoods in Skopje, along with their latitude and longitude
- We then use Foursquare API to extract the venues from each neighborhood and their categories.

Map of Skopje neighborhoods



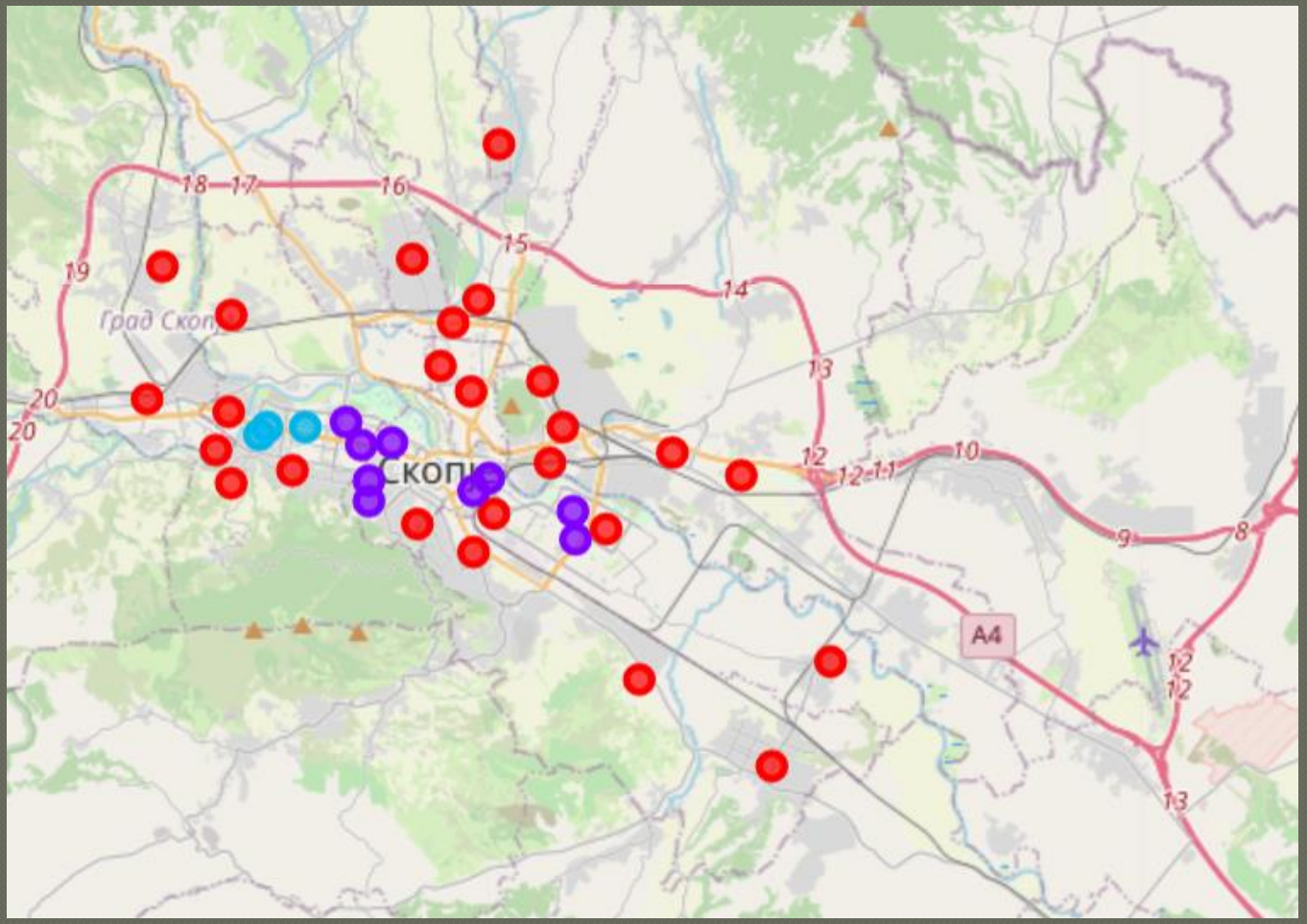
Neighborhood venues

- The foursquare API provided us with all venues in a neighborhood, in a radius of 750 meters from the neighborhood center point
- We use the venue categories to analyze what types of venues are most common in a neighborhood
- A dataframe with 10 most common venue types is created and used for clustering

Clustering neighborhoods

- The clustering algorithm (K –means) segments the neighborhoods in accordance to the frequency of the venue types i.e. by the occurrence of some types of venues relatively to other
- The clusters are then mapped and show a clear divide between three types of neighborhoods each with speficic venue types.

Clustering neighborhoods



Conclussion

- The cluster of neighborhoods in red color is mainly represented by neighborhoods with outdoor types venues, relevant for the first shift
- The clusters of blue neighborhoods has more shopping malls and stores, relevant for the second (mid-day) shift
- The cluster of purple neighbrhoods is mainly with bars and clubs, relevant for the third (night) shift

Limitation and further considerations

- Other factors (population density, income, etc) not considered
- Owners could select one of the neighborhoods from the clusters, or serve several at once by deploying more trucks