




# **Restaurant location problem**




# Problem background

- The Ibirapuera park is one of the major urban parks in Latin America and receives millions of people a year.
  - The Ibirapuera park is in the Center-South of São Paulo – Brazil.
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# Problem description

- An investor would like to take advantage of number of tourist the parks receives every year to open his new restaurant.
  - The investor would like to avoid a region with too many competitors and has experience with Japanese, Italian and vegetarian restaurants.
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# Research questions

- Where is the best location to start a new restaurant next to Ibirapuera park to avoid a high concentration of competitors?
  - Which type of restaurant should be open considering that the investor already has experience with Japanese, Italian and vegetarian restaurants?
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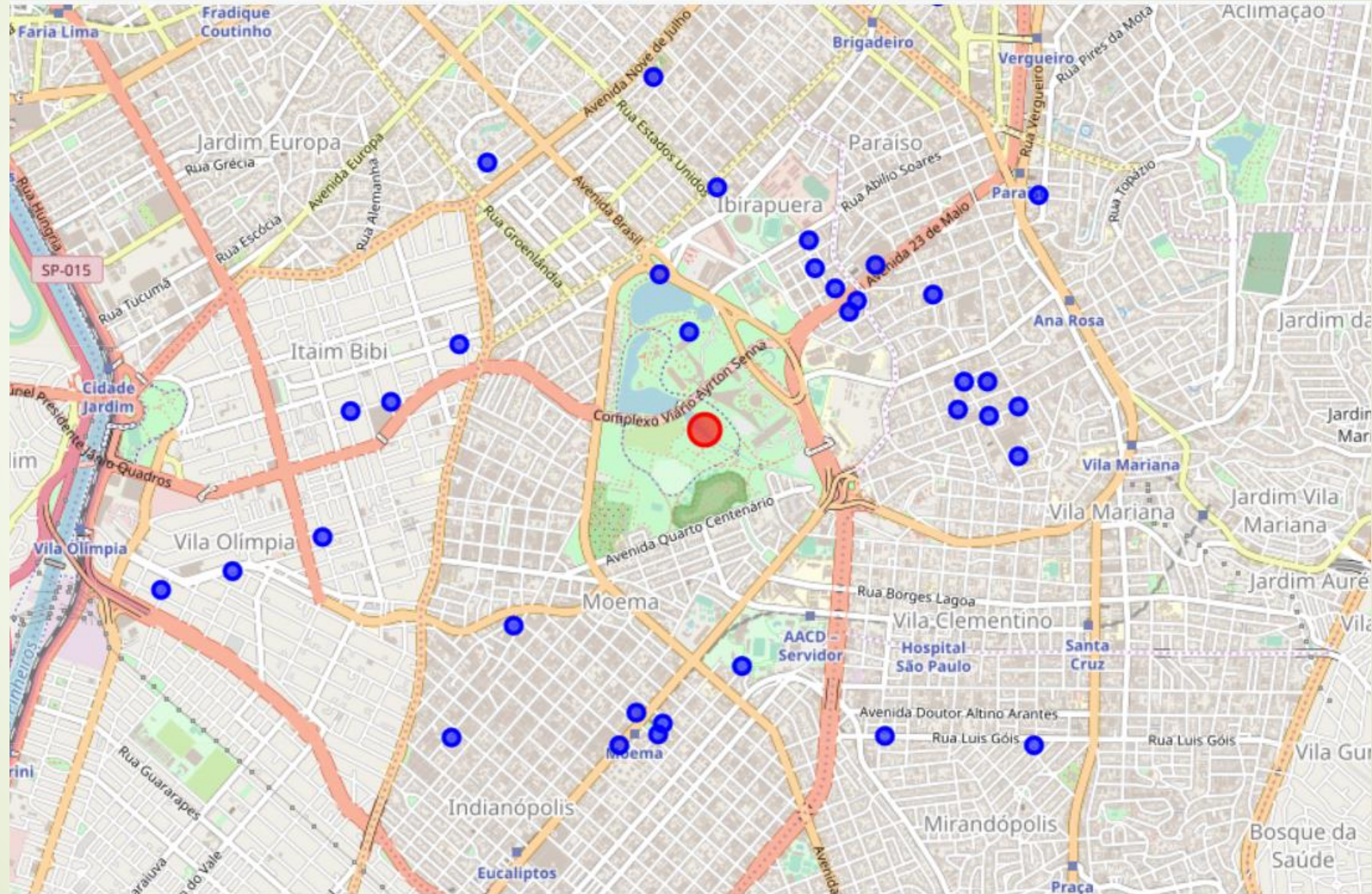


# Data acquisition and cleaning

- There are two major sources of data:
  - Google maps: Provided the latitude and longitude of the park.
  - Foursquare: Provided the location of the food venues around the park.
- Data cleaning:
  - Selecting the columns that contain all the location data,
  - Formatting the data to make the interpretation easier,
  - Remove all columns that were considered food venues, but are not restaurants (for example, a food startup).

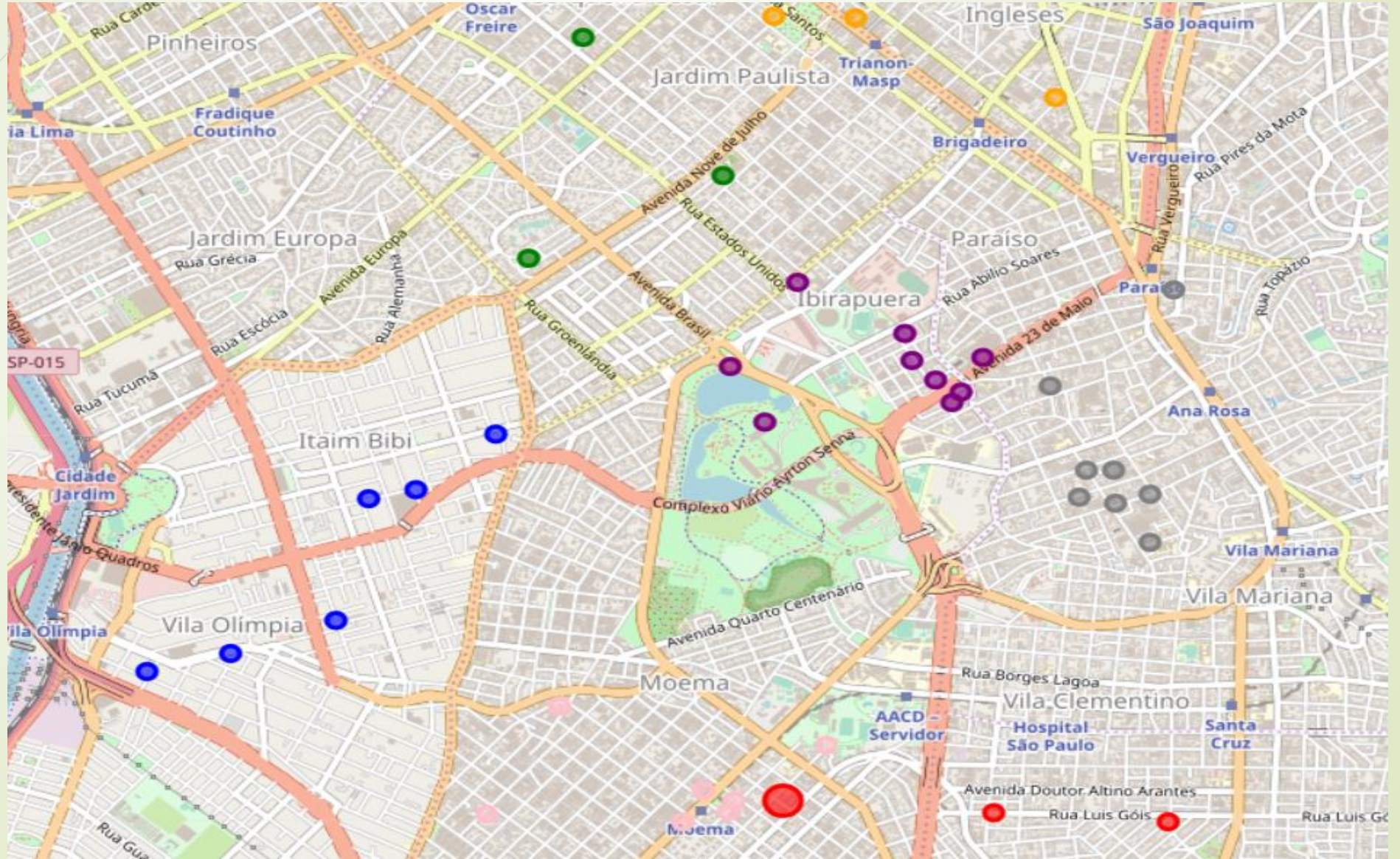


# Venues location



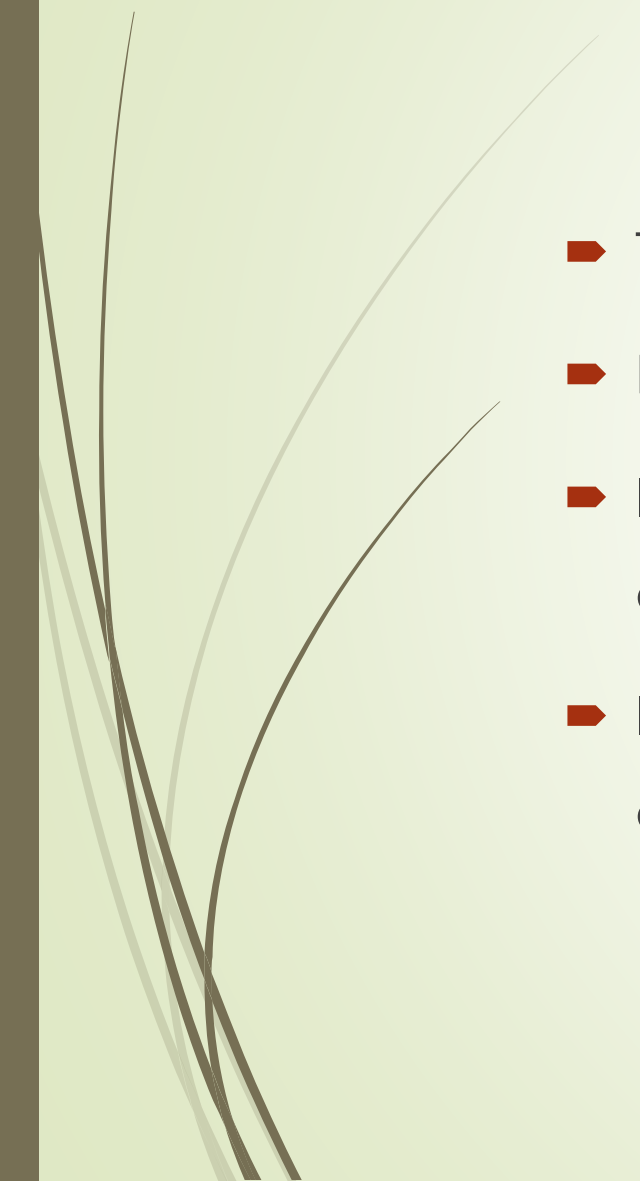


# Venues clustered





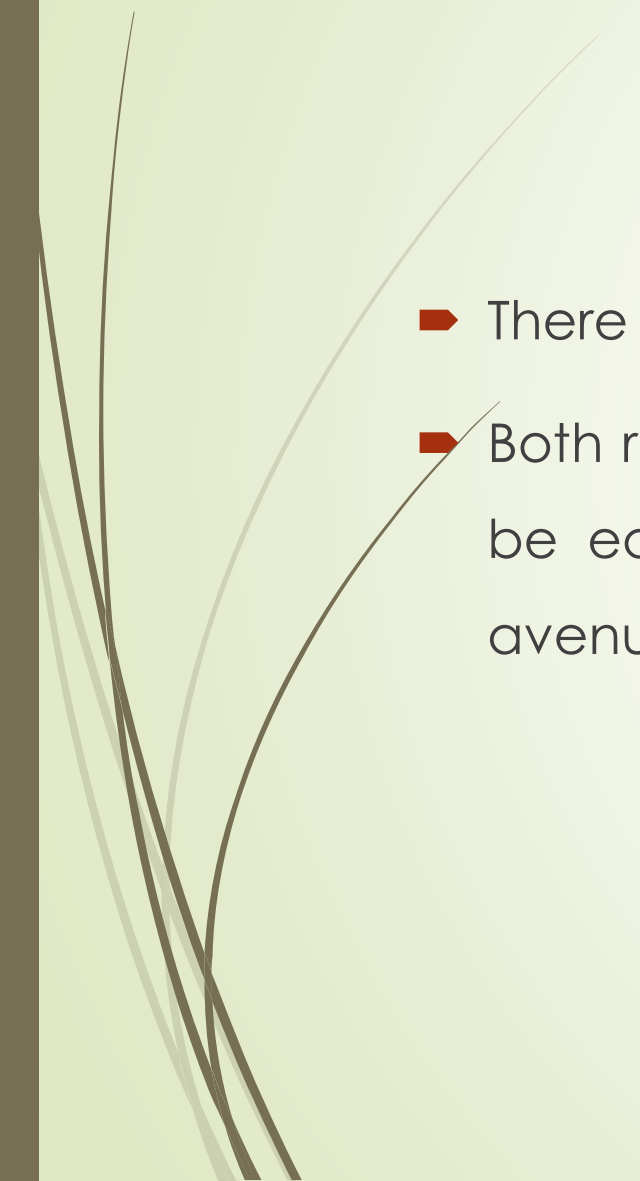
# Results and discussion

- Two main regions had a lower venue density, South and West.
  - Both regions can also be easily accessed using the avenues nearby.
  - If the investor chooses to stay in the South, the best option would be an Italian restaurant or a vegetarian restaurant.
  - If the investor chooses to stay in the West, the best option would be an Italian restaurant.
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# Conclusion

- There are two main regions that the investor can choose, South or West.
  - Both regions are equally interesting, both have lower venue density and can be easily accessed by either Quarto Centenário or República do Líbano avenues.
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# Conclusion

- If the investor chooses to stay in the South, the best option is a vegetarian or Italian restaurant.
- If the investor chooses West, the best option is an Italian restaurant.
- If the investor follows the guidelines, he will not have a direct competitor.