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# Pet Venues in the city of São Paulo (Brazil)



# Introduction

- São Paulo is the largest city of Brazil;
- Located in the state of São Paulo, being its capital;
- The State of São Paulo concentrates 25% of the population of pets in Brazil with its capital having a good share on this;
- Brazil is the 4th in number of pets in the world
- Each year more people and families are looking for a pet for companionship, giving and receiving affection and attention

THE PROPOSAL OF THIS WORK IS TO MAP THE CONCENTRATION PER DISTRICT OF VENUES RELATED TO THE PET MARKET AND, BY DOING THIS, HELP PEOPLE TO UNDERSTAND THE DISTRICTS WITH THE MOST VENUES PROVIDING SERVICES TO THEIR PETS AND AT THE SAME TIME HELP ENTREPRENEURS TO BETTER UNDERSTAND THE PET MARKET IN THE CITY OF SÃO PAULO.

# Data

- List of the 96 Districts of São Paulo scraped from Wikipedia;
- Longitude and Latitude information for São Paulo, its districts and their Pet Related Venues;
- 1852 Venues retrieved from Foursquare API with a radius of 1.5km for each district;
- All incorrect, inaccurate or irrelevant data dropped;
- Final Data contains 4 features;

THE OBJECTIVE OF THE DATA COLLECTED IS TO RETRIEVE THE NUMBER OF PET VENUES PER DISTRICT IN THE CITY OF SÃO PAULO AS WELL AS PRESENT THE DISTRICTS WITH THE HIGHEST CONCENTRATION OF PET SERVICES THROUGH A MAP OF THE CITY.



# DataFrames 1

Districts Data Scrapped from Wikipedia

Posição		Distrito	População 2010	Unnamed: 3
0	1.0	Grajaú	360.787	NaN
1	2.0	Jardim Ângela	295.434	NaN
2	3.0	Sapopemba	284.524	NaN
3	4.0	Capão Redondo	268.729	NaN
4	5.0	Jardim São Luís	267.871	NaN
...	...	...	...	...
92	93.0	Sé	23.651	NaN
93	94.0	Pari	17.299	NaN
94	95.0	Barra Funda	14.383	NaN
95	96.0	Marsilac	8.258	NaN
96	NaN	NaN	NaN	NaN

97 rows × 4 columns

Data Cleaned with latitude and longitude values

	District	Latitude	Longitude
0	Grajaú	-23.785907	-46.665197
1	Jardim Ângela	-23.712528	-46.76872
2	Sapopemba	-23.604326	-46.509885
3	Capão Redondo	-23.671903	-46.779435
4	Jardim São Luís	-23.683573	-46.737762
...	...	...	...
91	Jaguara	-23.507446	-46.755315
92	Sé	-23.550443	-46.633446
93	Pari	-23.532976	-46.615849
94	Barra Funda	-23.525462	-46.667513
95	Marsilac	-23.937142	-46.71023

96 rows × 3 columns

# DataFrames 2

Final Data with Number of Venues per District

	District	Latitude	Longitude	Number of Venues
0	Grajaú	-23.785907	-46.665197	0
1	Jardim Ângela	-23.712528	-46.768720	0
2	Sapopemba	-23.604326	-46.509885	13
3	Capão Redondo	-23.671903	-46.779435	8
4	Jardim São Luís	-23.683573	-46.737762	5
...	...	...	...	...
91	Jaguara	-23.507446	-46.755315	16
92	Sé	-23.550443	-46.633446	39
93	Pari	-23.532976	-46.615849	6
94	Barra Funda	-23.525462	-46.667513	42
95	Marsilac	-23.937142	-46.710230	0

96 rows × 4 columns

Sorted Final Data with Number of Venues per District

	District	Latitude	Longitude	Number of Venues
0	Moema	-23.597085	-46.662888	50
1	Perdizes	-23.537929	-46.680671	50
2	Vila Mariana	-23.583700	-46.632741	50
3	Tatuapé	-23.540252	-46.576642	50
4	República	-23.545335	-46.642257	50
...	...	...	...	...
91	Jardim Ângela	-23.712528	-46.768720	0
92	José Bonifácio	-23.564115	-46.434737	0
93	Parelheiros	-23.824791	-46.733078	0
94	Tremembé	-22.957140	-45.547526	0
95	Marsilac	-23.937142	-46.710230	0

96 rows × 4 columns



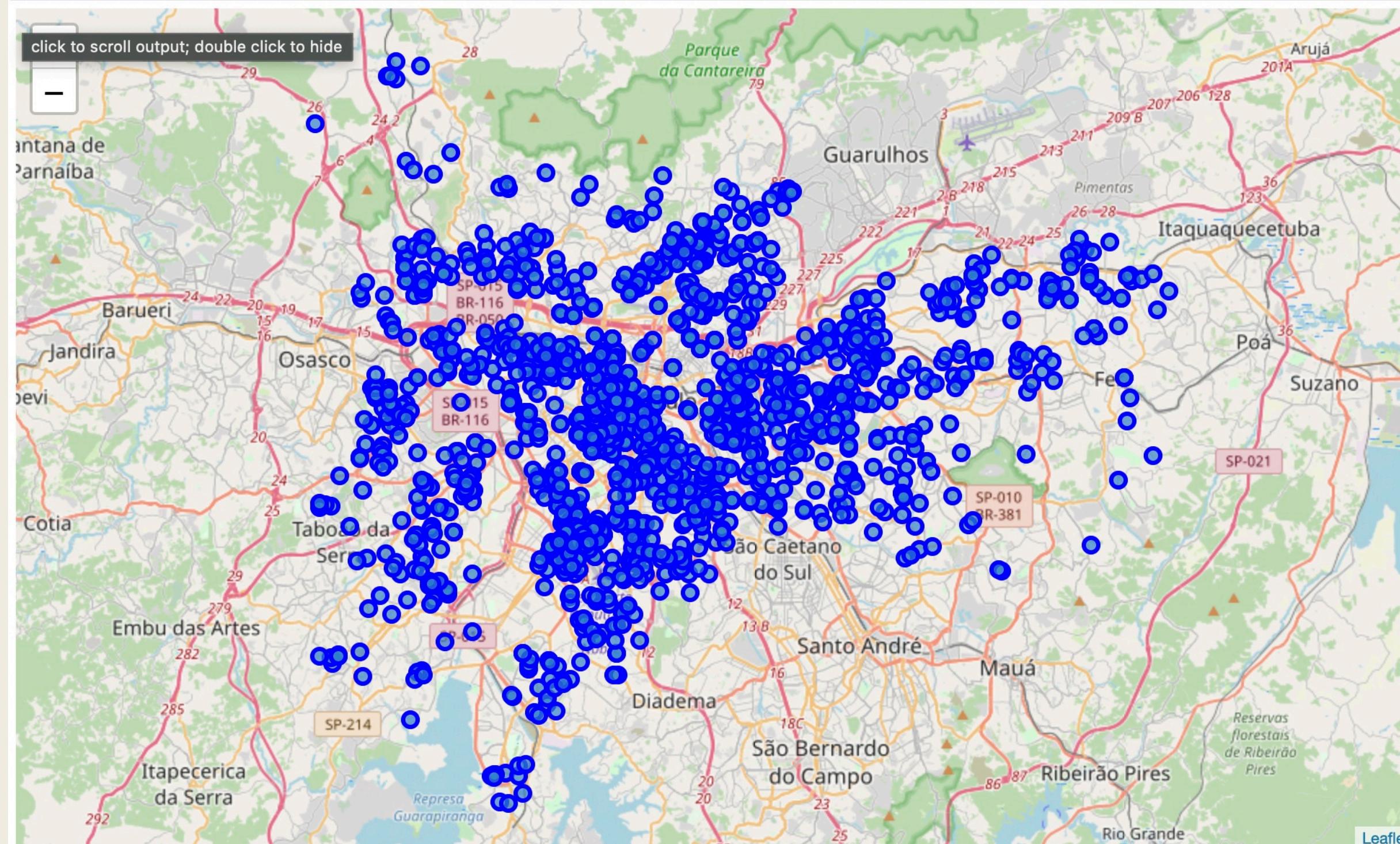
# Analysing DataFrames

- There are 96 districts in São Paulo;
- From Foursquare API the returned number of venues are 1852;
- The Districts with higher number of Pet related venues are: Moema, Perdizes, Vila Mariana, Tatuapé e Repúblíca;
- The Districts with lower number of Pet related venues are: Jardim Ângela, José Bonifácio, Parelheiros, Tremembé e Marsilac;
- Descriptive analytic approach was defined for the project;

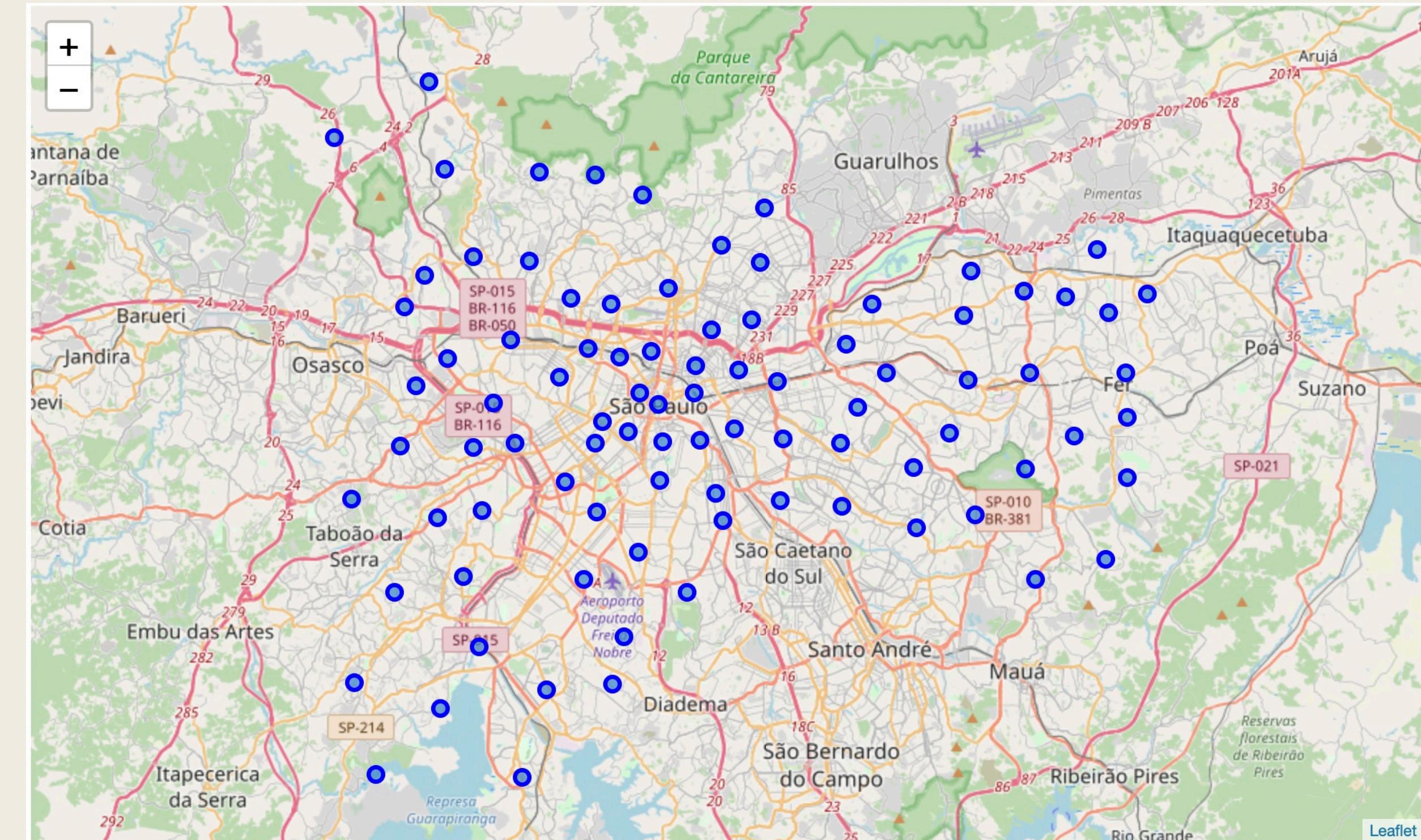
FOR THE ANALYTIC APPROACH IT WAS SELECTED THE DESCRIPTIVE APPROACH AS THE PURPOSE OF THE WORK WAS TO SHOW RELATIONSHIPS BETWEEN DISTRICTS AND ITS PET RELATED VENUES

# MAPS 1

Map of Pet Related Venues in São Paulo

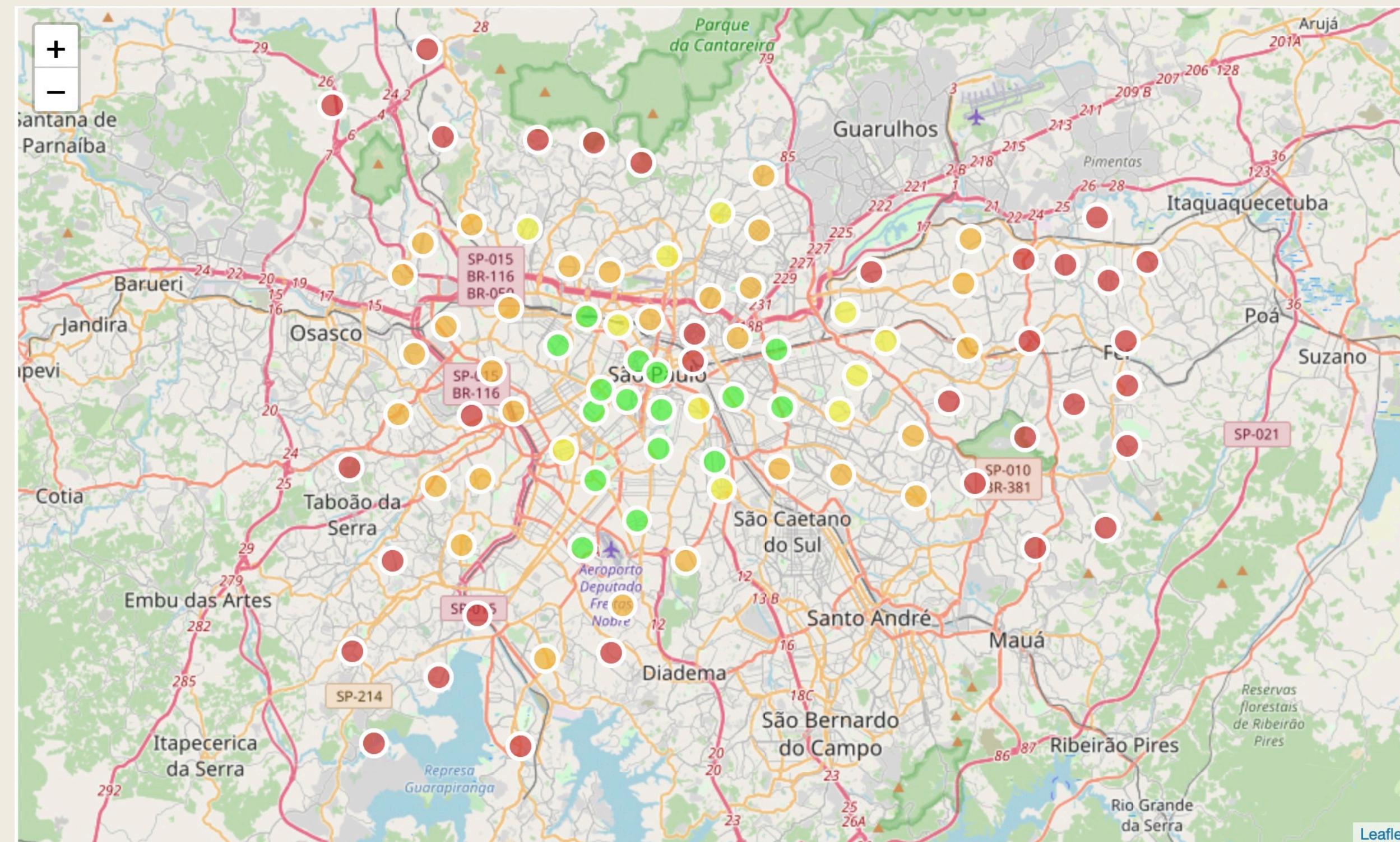


Map of the Districts of São Paulo

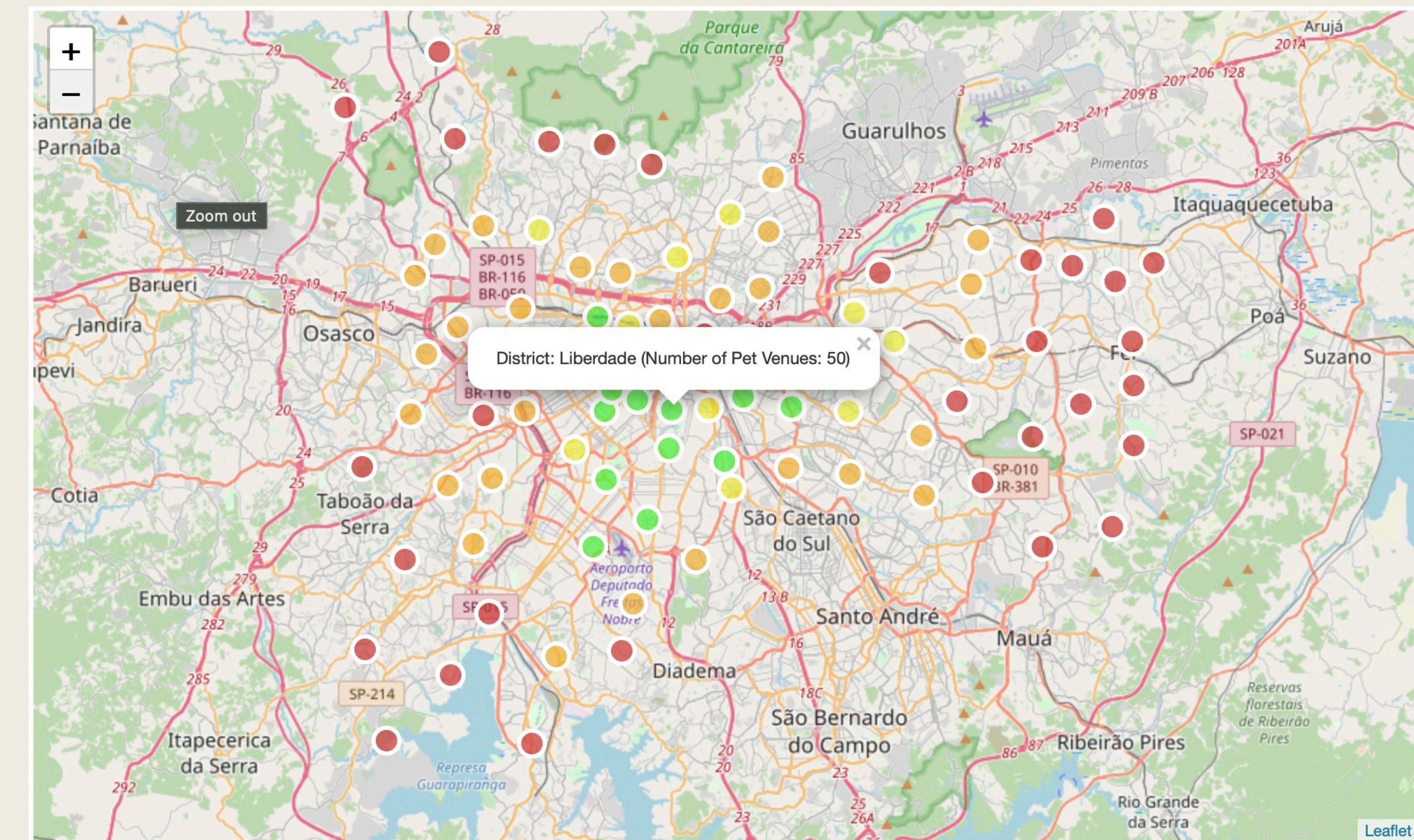


# MAPS 2

# Map of the Districts of São Paulo colored by number of venues



# Map of the Districts of São Paulo colored by number of venues with popped up information



# Analysing the maps

- The closer to downtown the more number of pet related venues;
- Moving away from downtown the number of pet related venues gets lower;
- São Paulo has a great arrangement of places that have relation to pets;
- New entrepreneurs with the intention to start a pet business should keep eye on districts that have low number of pet related venues to have less competition;

Districts with greater purchasing power tend to have more options for those who have pets.



# Conclusion

- Pet Market keeps growing every year in Brasil;
- This project achieved its objective on showing the Pet Market for the city of São Paulo with a clear and defined view of the situation;
- This project aimed to help the population and businesses on knowing the distribution for Pet venues in the city and helping them to decide to more information when looking for a place to live or starting a business;

