



# AN E-SCOOTER BUSINESS

# Best locations to clutter e-scooter

- This project aims at analysing Calgary traffic data (Pedestrian and Bike) and using FourSquare's API to determine the best locations to place E-Scooters to maximize customer satisfaction and profit.

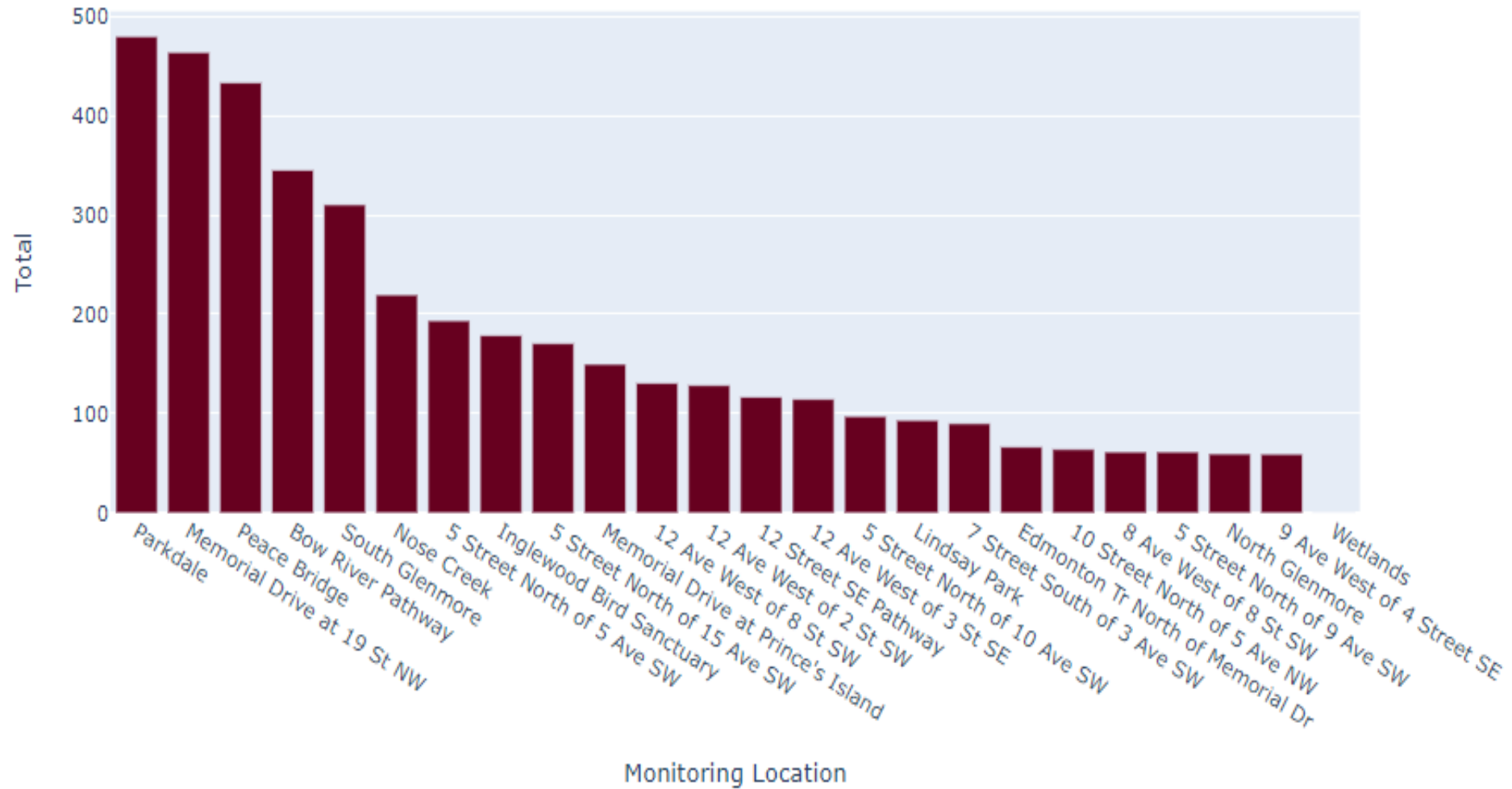
# Data acquisition (Data Sources)

- ([https://en.wikipedia.org/wiki/List\\_of\\_postal\\_codes\\_of\\_Canada:\\_T](https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_T)) – To retrieve postal codes, borough, Latitude and Longitude data.
- (<https://data.calgary.ca/Transportation-Transit/Pedestrian-Traffic-Count/nz3v-2tau>) – To retrieve pedestrian traffic count.
- (<https://data.calgary.ca/Transportation-Transit/Bike-Traffic-Count/pubj-un4t>) – To retrieve bike traffic count.
- (<https://developer.foursquare.com>) – To retrieve the top venues or hotspots in Calgary.

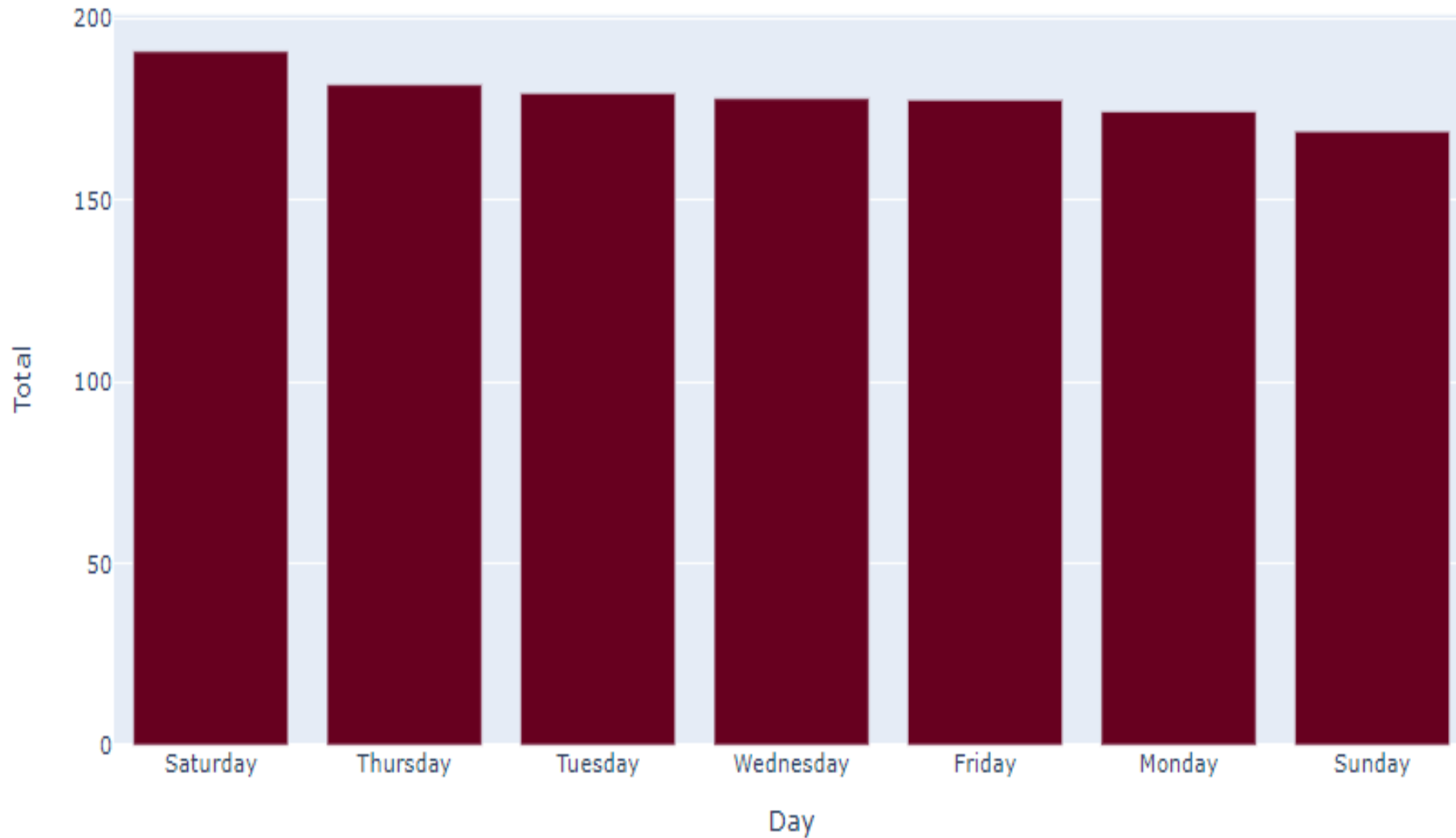
# Data Cleaning

- NAN values were dropped from the data
- Columns containing timestamps were aggregated and segmented for better understanding.
- Missing location data (Lat and Long) were obtained using Geolocator.

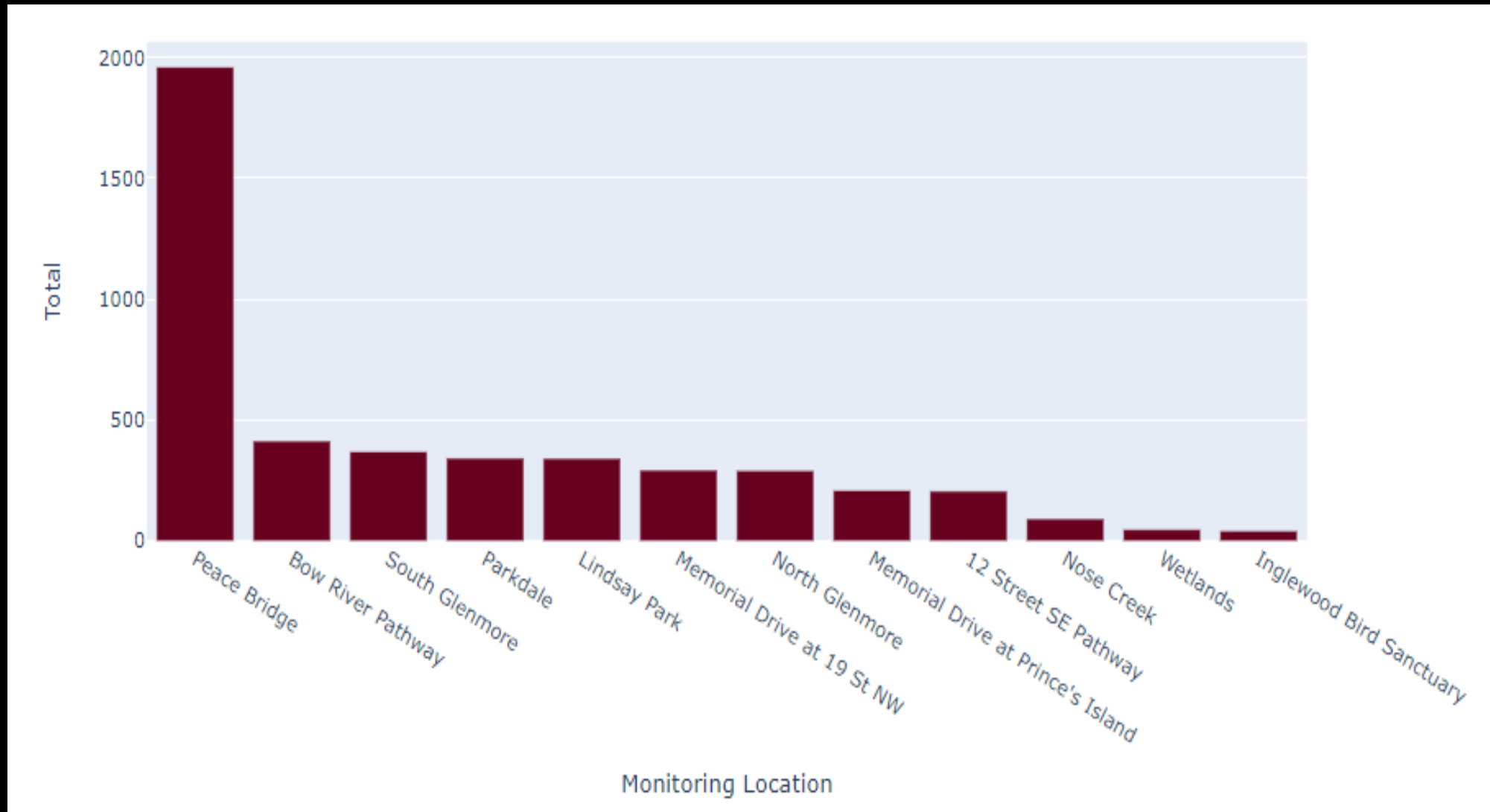
# Top biking traffic locations



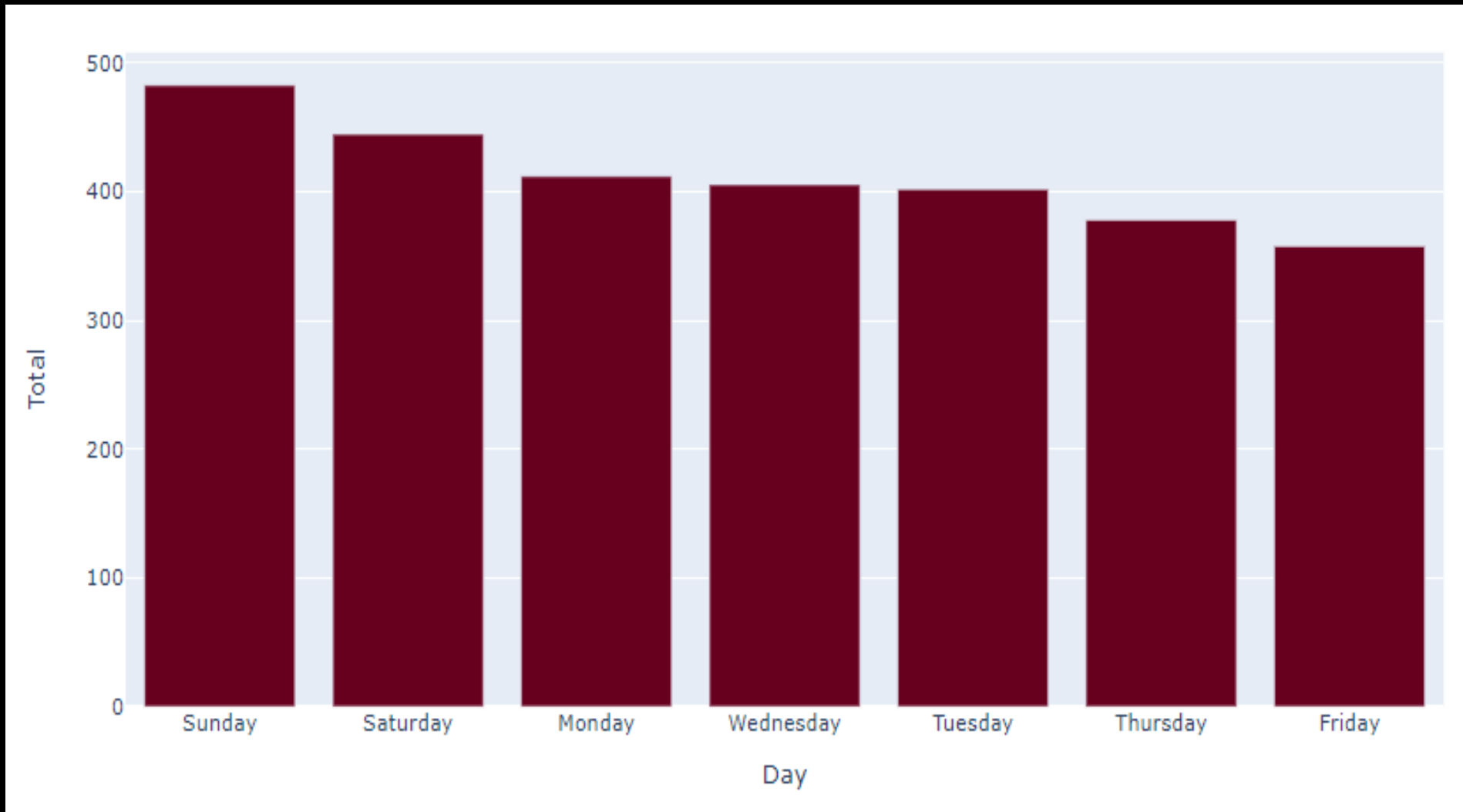
# Top biking traffic days



# Top pedestrian traffic locations

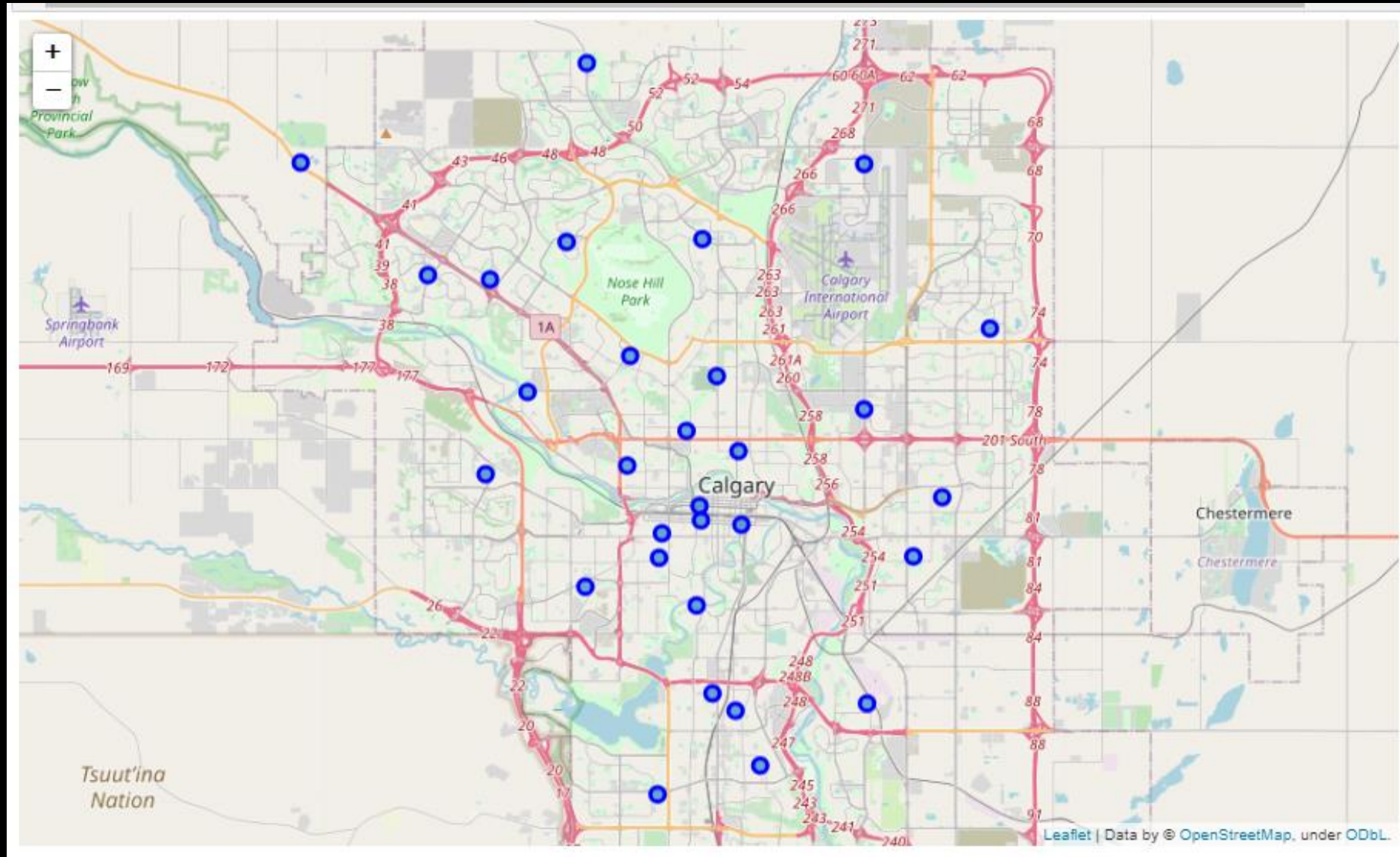


# Top pedestrian traffic days





# City of Calgary's map and its different neighborhoods

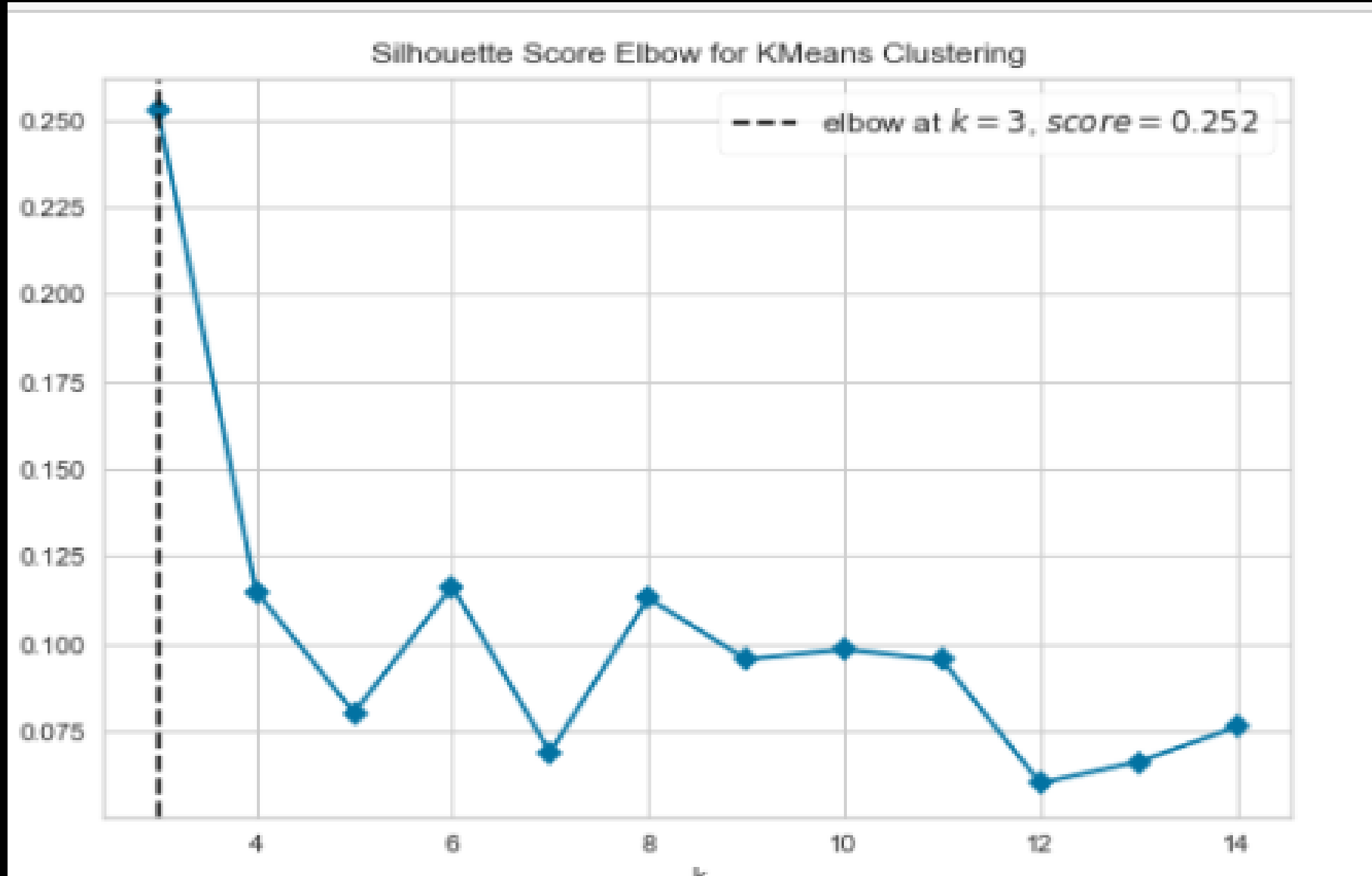


# Neighborhoods and Venues from FourSquare API

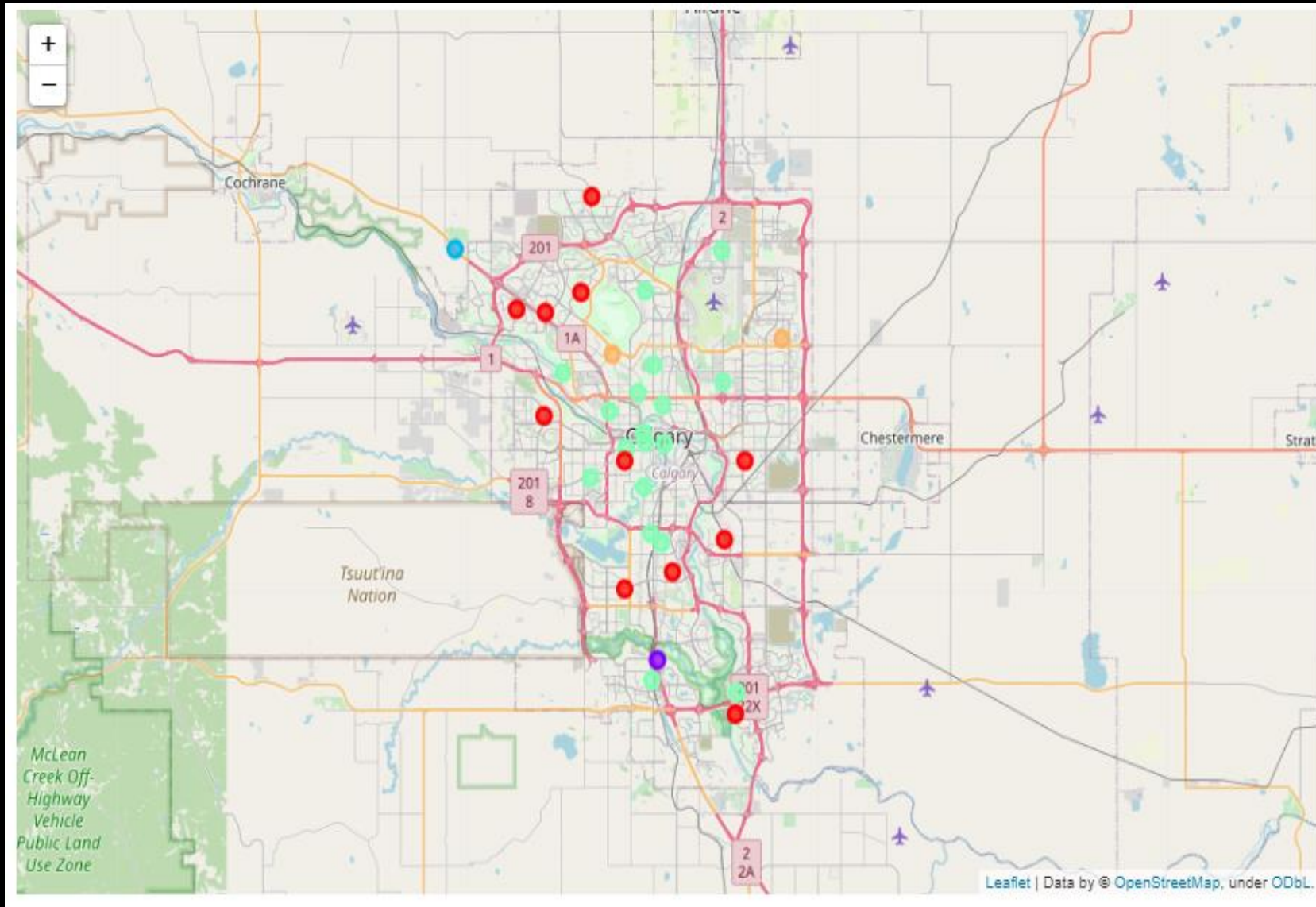
Out[76]:

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	Braeside, Cedarbrae, Woodbine	Ice Cream Shop	Hockey Rink	Gym	Convenience Store	Pharmacy	Gas Station	Pizza Place	Coffee Shop	Pub	Yoga Studio
1	Brentwood, Collingwood, Nose Hill	Dog Run	Electronics Store	Yoga Studio	Food Truck	Dim Sum Restaurant	Diner	Donut Shop	Dry Cleaner	Falafel Restaurant	Fast Food Restaurant
2	Bridgeland, Greenview, Zoo, YYC	Fast Food Restaurant	Noodle House	Steakhouse	Pizza Place	Falafel Restaurant	Restaurant	Sandwich Place	Chinese Restaurant	Seafood Restaurant	Brewery
3	City Centre, Calgary Tower	Coffee Shop	Mediterranean Restaurant	Bakery	Sushi Restaurant	Sporting Goods Shop	Camera Store	Pizza Place	Pub	Restaurant	Sandwich Place
4	Connaught, West Victoria Park	Brewery	Yoga Studio	Camera Store	Gourmet Shop	Italian Restaurant	Donut Shop	Middle Eastern Restaurant	Moroccan Restaurant	Coffee Shop	Pizza Place

# Silhouette Score for K-Means Clustering



# Map showing different Clusters



# Examining the Clusters: Top venues in Cluster\_4

	Venue	Neighborhood
0	Coffee Shop	3
1	Hotel	2
2	American Restaurant	1
3	Bank	1
4	Brewery	1
5	Burger Joint	1
6	Curling Ice	1
7	Deli / Bodega	1
8	Fast Food Restaurant	1
9	Food Court	1
10	Park	1
11	Pub	1
12	Sporting Goods Shop	1
13	Vietnamese Restaurant	1
14	Wine Shop	1

Top venues include:

- Coffee Shop
- Parks
- Restaurant
- Food/Burger spot
- Wine shops and Pubs

# Conclusion

- Useful hindsight were obtained from the analysis, including traffic peak time, peak locations, peak days, top venues spots etc.
- K-means clustering didn't give a satisfactory performance; therefore, I would recommend using other clustering techniques such as DBSCAN or Hierarchical clustering and see if result improves.