# CALGARY E-SCOOTER

#### Introduction

City of Calgary, Canada recently announced that E-Scooters will be back in the city this summer 2021, and it will be operated by two companies Bird Canada and Neuron, both companies will provide and maintain 1500 E-Scooters altogether.

This project aims at analyzing Calgary's location data, Calgary's traffic data (Pedestrian and Bike) and using FourSquare's API to determine the best locations to place these 1500 E-Scooters, to maximize customer usage and profit.

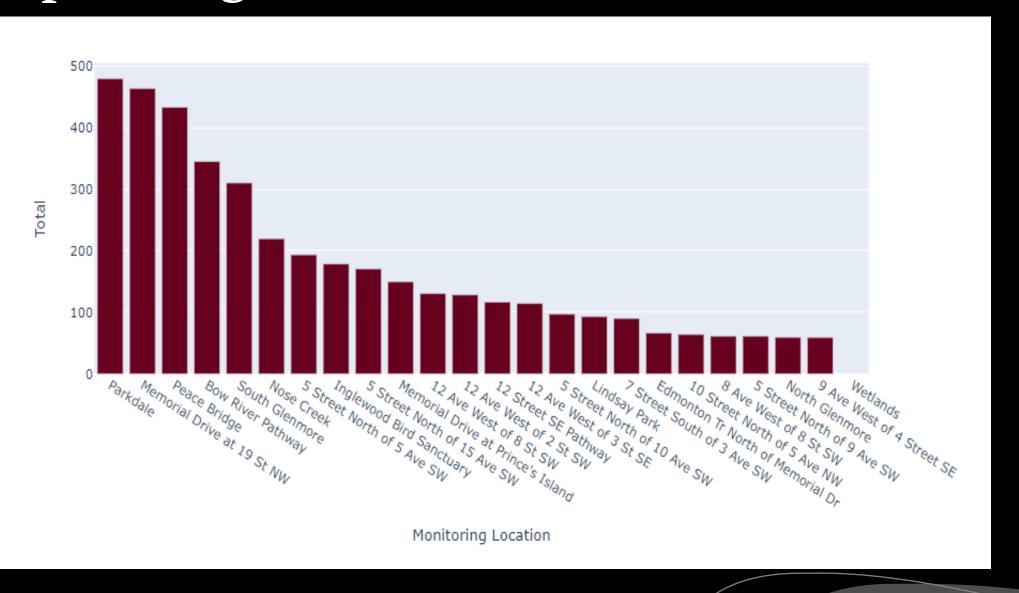
### Data acquisition (Data Sources)

- (<a href="https://en.wikipedia.org/wiki/List">https://en.wikipedia.org/wiki/List</a> of postal codes of Canada: T) To retrieve postal codes, borough, Latitude and Longitude data.
- (<a href="https://data.calgary.ca/Transportation-Transit/Pedestrian-Traffic-Count/nz3v-2tau">https://data.calgary.ca/Transportation-Transit/Pedestrian-Traffic-Count/nz3v-2tau</a>) To retrieve pedestrian traffic count.
- (<a href="https://data.calgary.ca/Transportation-Transit/Bike-Traffic-Count/pubj-un4t">https://data.calgary.ca/Transportation-Transit/Bike-Traffic-Count/pubj-un4t</a>) To retrieve bike traffic count.
- (<a href="https://developer.foursquare.com">https://developer.foursquare.com</a>) To retrieve the top venues or hotspots in Calgary.

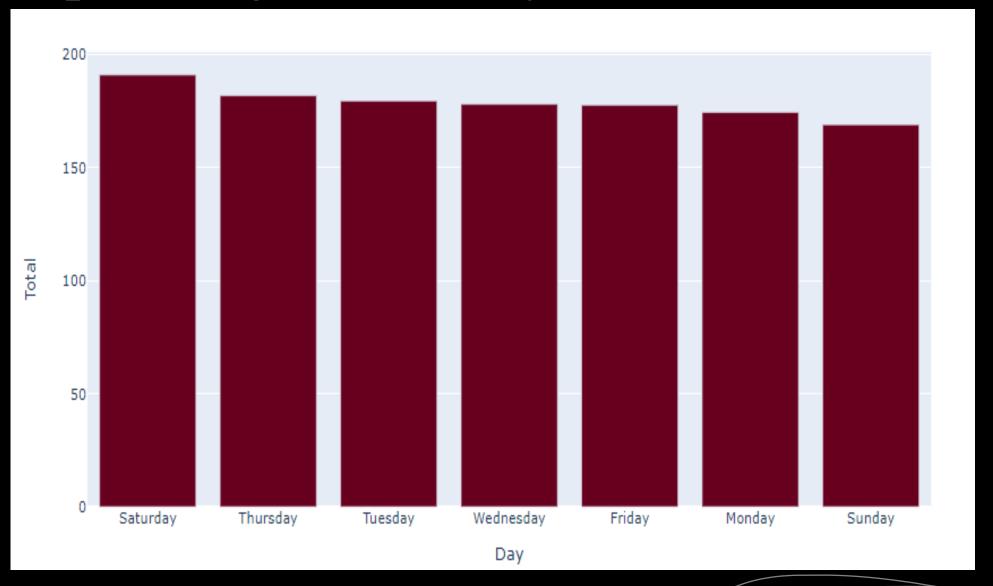
## Data Cleaning

- 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.

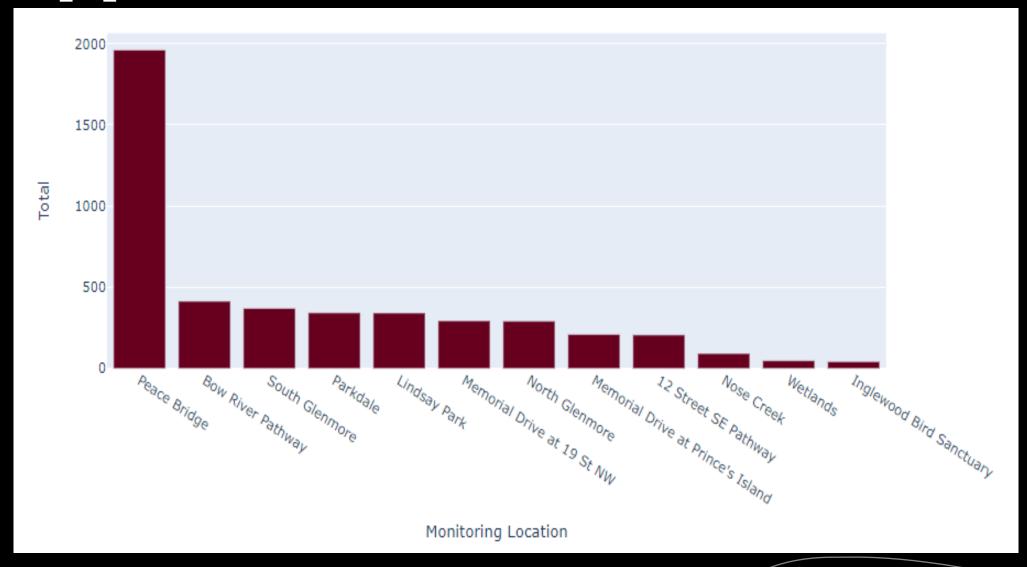
## Top biking traffic locations



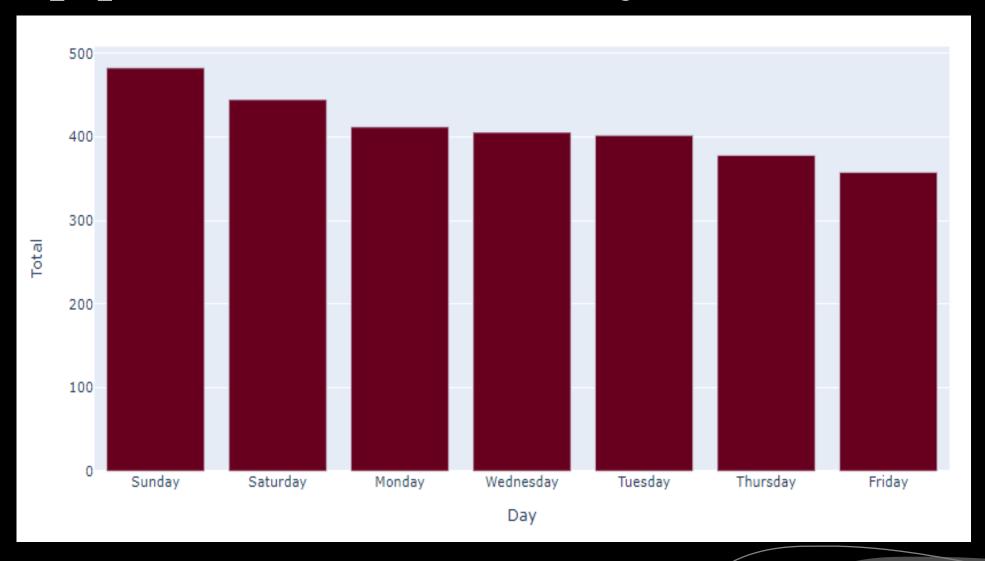
## Top biking traffic days



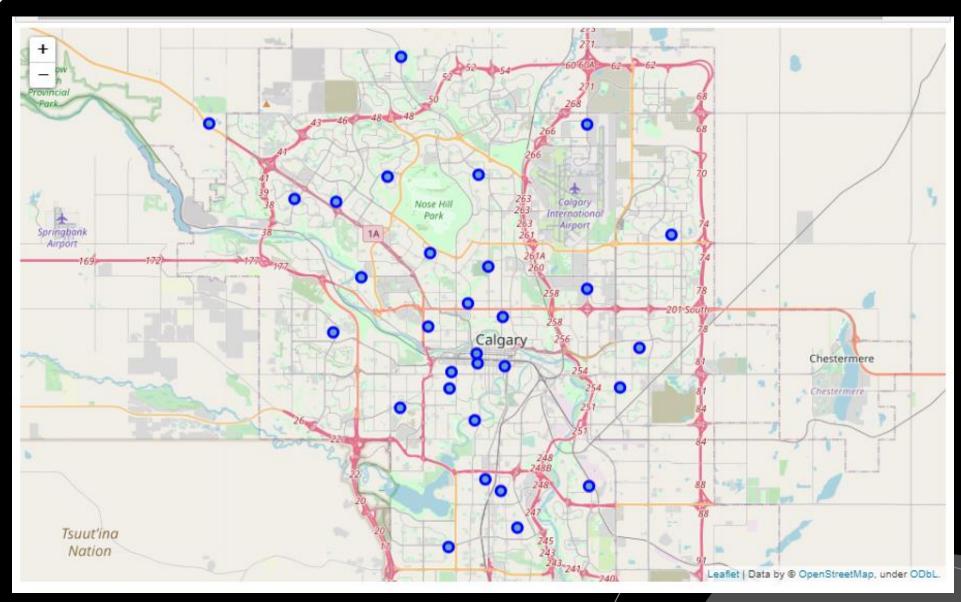
## Top pedestrian traffic locations



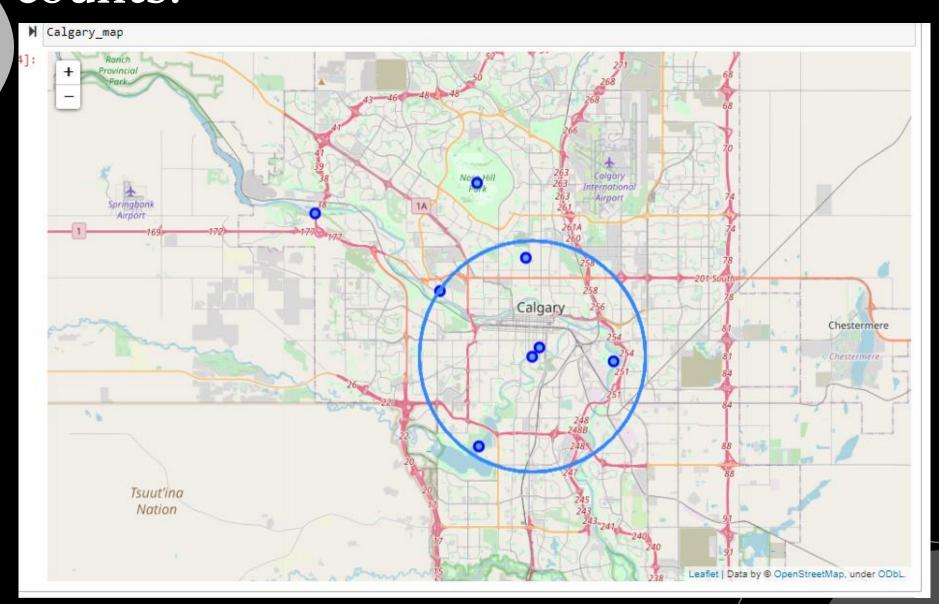
## Top pedestrian traffic days



# City of Calgary's map and its different neighborhoods

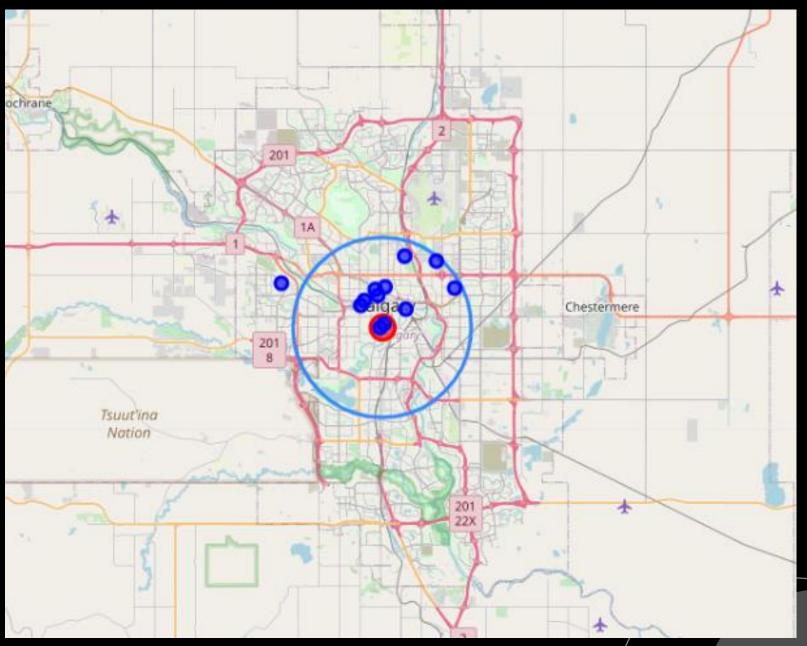


## Top Spots based on Pedestrian and Bike counts.



Water bodies noticed within proximity to these top spots.

## Pathways in Calgary within the top spot



# List of Calgary pathways and their most common venues

|    | Neighborhood                             | 1st Most<br>Common<br>Venue | 2nd Most<br>Common<br>Venue | 3rd Most<br>Common<br>Venue | 4th Most<br>Common<br>Venue | 5th Most<br>Common<br>Venue       | 6th Most<br>Common<br>Venue       | 7th Most<br>Common<br>Venue       | 8th Most<br>Common<br>Venue | 9th Most<br>Common<br>Venue            | 10th Most<br>Common<br>Venue      |
|----|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------|--|-----------------------------------|
| 0  | 9th Avenue<br>Pathway<br>Underpass       | Italian<br>Restaurant       | Restaurant                  | Café                        | Grocery<br>Store            | Miscellaneous<br>Shop             | Music Store                       | Diner                             | Pizza Place                 | Hookah Bar                             | Pub                               |
| 1  | Bow River<br>Pathway                     | Coffee<br>Shop              | Sandwich<br>Place           | Pub                         | Café                        | Sushi<br>Restaurant               | Hotel                             | Gym /<br>Fitness<br>Center        | Grocery<br>Store            | Korean<br>Restaurant                   | Park                              |
| 2  | Coach Hill<br>Pathways                   | Gas Station                 | Trail                       | Convenience<br>Store        | Bar                         | Pizza Place                       | Vietnamese<br>Restaurant          | History<br>Museum                 | Gym /<br>Fitness<br>Center  | Discount<br>Store                      | Eastern<br>European<br>Restaurant |
| 3  | Elbow River<br>Pathway                   | Coffee<br>Shop              | Bakery                      | Cosmetics<br>Shop           | French<br>Restaurant        | Italian<br>Restaurant             | Gym /<br>Fitness<br>Center        | Pharmacy                          | Karaoke<br>Bar              | Japanese<br>Restaurant                 | Wine Bar                          |
| 4  | Elbow River<br>Pathway-4th St<br>Sw      | Coffee<br>Shop              | Gym /<br>Fitness<br>Center  | Bakery                      | Cosmetics<br>Shop           | Japanese<br>Restaurant            | French<br>Restaurant              | Italian<br>Restaurant             | Pharmacy                    | Park                                   | Karaoke Bar                       |
| 5  | Nose Creek<br>Pathway                    | Trail                       | Wine Shop                   | Fried<br>Chicken<br>Joint   | Discount<br>Store           | Eastern<br>European<br>Restaurant | Electronics<br>Store              | Escape<br>Room                    | Factory                     | Falafel<br>Restaurant                  | Fast Food<br>Restaurant           |
| 6  | Pathway Burgers<br>& Momos               | Vietnamese<br>Restaurant    | Brewery                     | Hotel                       | Rental Car<br>Location      | Gastropub                         | Escape<br>Room                    | Sports Bar                        | Factory                     | Sandwich<br>Place                      | Fast Food<br>Restaurant           |
| 7  | Pathways Dental<br>Clinic                | Coffee<br>Shop              | Gym                         | Italian<br>Restaurant       | Breakfast<br>Spot           | Dim Sum<br>Restaurant             | Restaurant                        | Fast Food<br>Restaurant           | Chinese<br>Restaurant       | Seafood<br>Restaurant                  | Brewery                           |
| 8  | Prince's Island<br>Park pathway<br>SW    | Pub                         | Coffee Shop                 | Italian<br>Restaurant       | Breakfast<br>Spot           | American<br>Restaurant            | Wine Shop                         | Eastern<br>European<br>Restaurant | Pizza Place                 | Paper /<br>Office<br>Supplies<br>Store | Middle<br>Eastern<br>Restaurant   |
| 9  | Rebel Insignia @<br>Bow River<br>Pathway | Park                        | Playground                  | Lake                        | Café                        | French<br>Restaurant              | Eastern<br>European<br>Restaurant | Electronics<br>Store              | Escape<br>Room              | Factory                                | Falafel<br>Restaurant             |
| 10 | Sunnyside<br>Pathway                     | Park                        | Playground                  | Restaurant                  | Scenic<br>Lookout           | Trail                             | Fried<br>Chicken Joint            | Vietnamese<br>Restaurant          | Poke Place                  | Athletics &<br>Sports                  | Bubble Tea<br>Shop                |
|    |  |                             |                             |                             |                             |                                   |                                   |                                   |                             |  |                                   |

#### Results and Discussion

- Peak Ped and Bike hrs = 2pm 8pm
- Peak Ped days are; Sundays, Saturdays, and Mondays
- The top locations for E-Scooter are locations in close proximity with waterbodies (Lakes, Rivers etc).

## Top locations to place E-Scooters

- 1) Bow River Pathway
- 2) Prince's Island Park pathway SW
- 3) Elbow River Pathway-4th St Sw
- 4) 9th Avenue Pathway Underpass
- 5) Pathway Burgers & Momos

#### Conclusion

Five (5) feasible locations were selected using Calgary's location data, FourSquare API and Calgary's Pedestrian and Bike data.

With the proposed locations, both companies have a better chance at having more users, because the locations are the most visited in the city, and not the busiest. The locations also have cool venues that attract people too.