TOP 10 NEIGHBORHOODS FOR FAMILIES WITH KIDS IN CALGARY

APPLIED DATA SCIENCE CAPSTONE PROJECT

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Introduction

➢ 185 neighborhood communities in Calgary as of 2019

➢ Objective – determine Top 10 neighborhoods in Calgary for families with kids

➢ Selection criteria – crime levels, childcare facilities, schools, medical centers, libraries, popular venues

Data

➢Main data for this project will be taken from an official government website data.calgary.ca. Below are some links to the data that will be used in this project:

➢Community Boundaries

➢Census by Community in 2018

➢Community Crime and Disorder Statistics

➢School Locations

➢Calgary School Ranking

➢Child Care Services 1

➢Child Care Services 2

➢Community Services

➢School ranking statistics is obtained from https://www.fraserinstitute.org/.

➢Popular venues information is obtained from http://foursquare.com/.
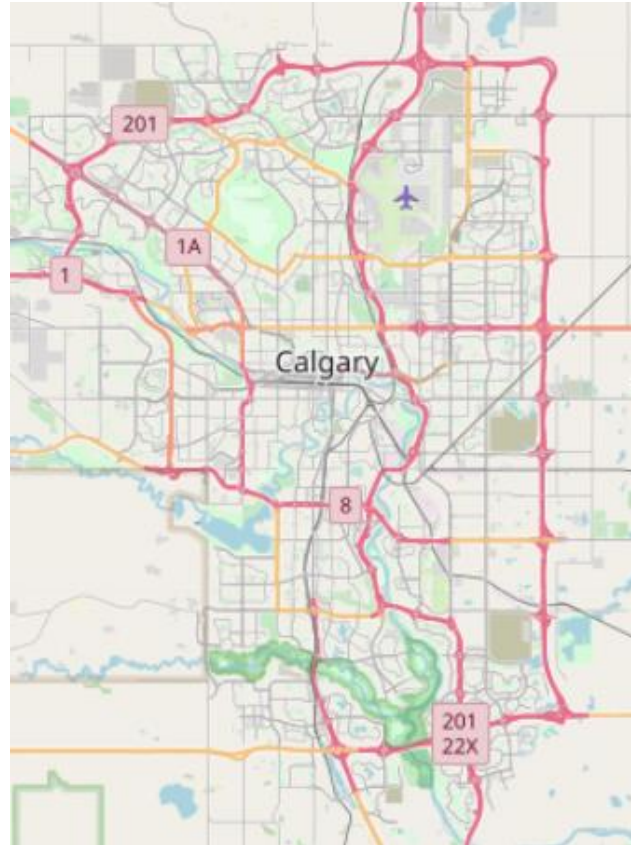
Calgary map

Figure1. Calgary map

Neighborhood data

Table1. Dataframe with neighborhood data

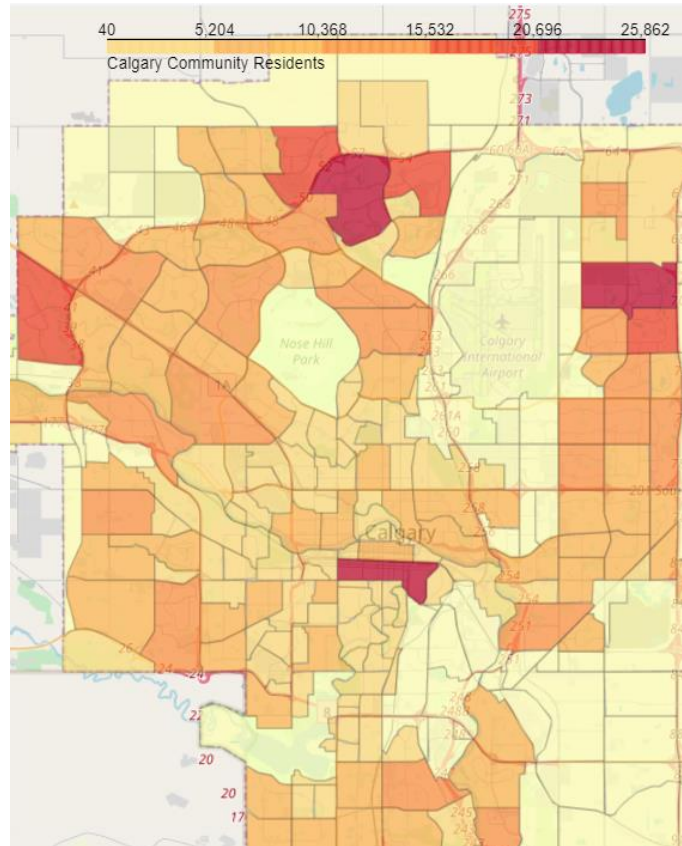|	CLASS	Neighborhood	SECTOR	longitude	latitude	location	RES_CNT
0	Residential	WALDEN	SOUTH	-114.032588	50.870404	(50.870404086764, -114.032588132238)	5619.0
1	Residential	SETON	SOUTHEAST	-113.947448	50.873700	(50.873700102522, -113.947448012477)	325.0
2	Residential	ELBOYA	CENTRE	-114.073623	51.012993	(51.012992811701, -114.073623214314)	1773.0
3	Residential	PENBROOKE MEADOWS	EAST	-113.947522	51.045863	(51.045862962128, -113.947521923773)	8399.0
4	Residential	SCENIC ACRES	NORTHWEST	-114.217279	51.112684	(51.11268371431, -114.217278698422)	8090.0
5	Residential	RANCHLANDS	NORTHWEST	-114.183601	51.119163	(51.119162901014, -114.183600822859)	7566.0
6	Residential	PARKHILL	CENTRE	-114.065552	51.018181	(51.018180719934, -114.065552361144)	1693.0
7	Residential	SOUTHVIEW	EAST	-113.997338	51.034156	(51.034156041566, -113.997337917561)	1858.0
8	Residential	THORNCLIFFE	NORTH	-114.068777	51.103100	(51.103099775816, -114.068776977212)	8849.0
9	Residential	UNIVERSITY OF CALGARY	NORTHWEST	-114.129917	51.075012	(51.075012406449, -114.129916783917)	2431.0
10	Residential	HOUNSFIELD HEIGHTS/BRIAR HILL	CENTRE	-114.105730	51.063203	(51.063202934696, -114.105730241375)	2971.0
11	Residential	FOREST LAWN	EAST	-113.969933	51.037846	(51.037846220404, -113.969932540436)	7895.0
12	Residential	NORTH HAVEN	NORTH	-114.087941	51.097005	(51.097004668982, -114.087941023986)	2376.0

Population and Crime levels

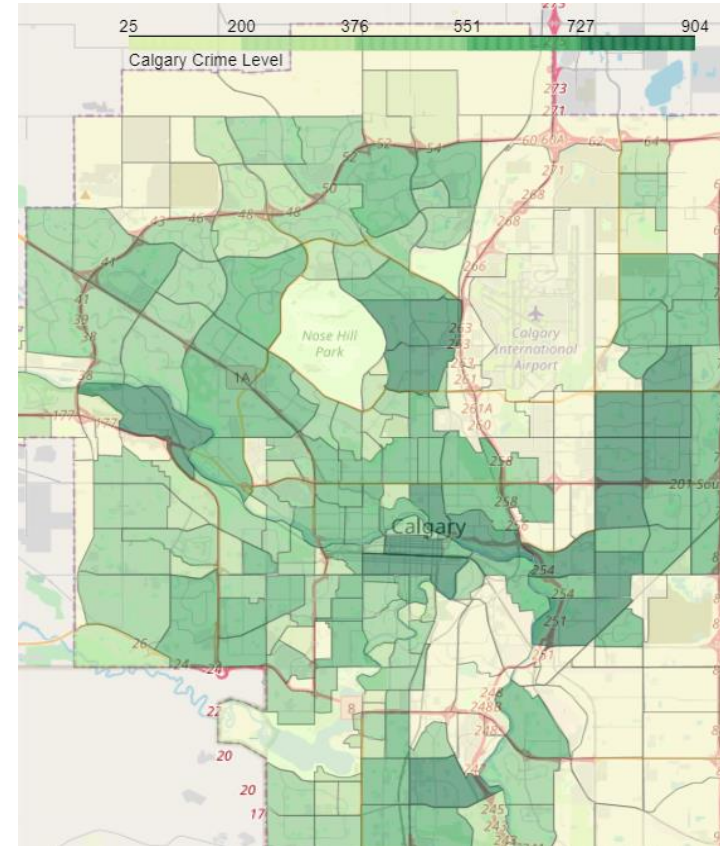Figure2. Calgary population by neighborhood

Figure3. Crime incidents number by neighborhood

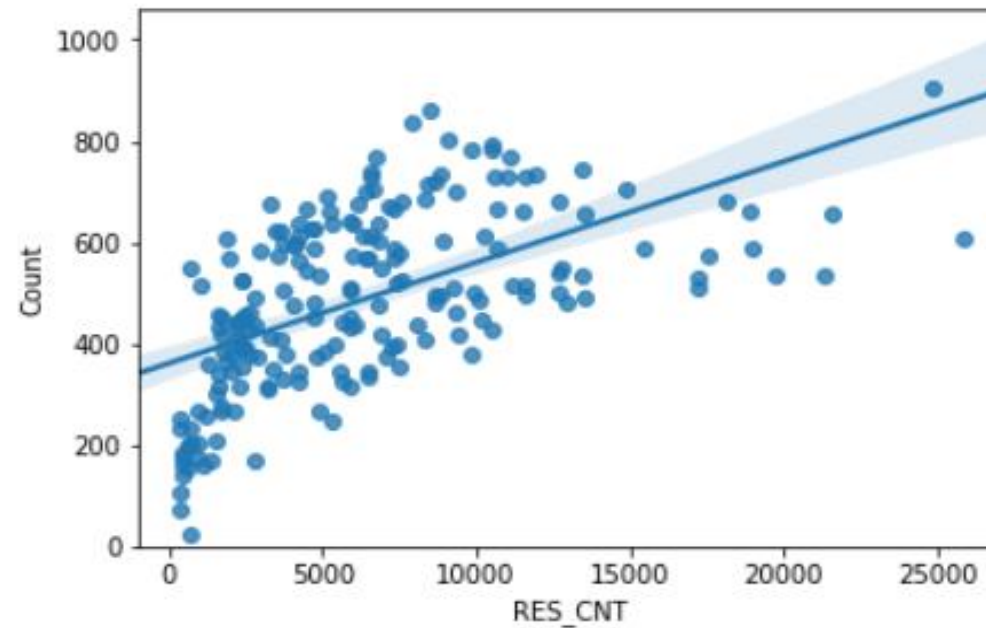# Correlation between population and crime level in each neighborhood

Figure4. Correlation between population and number of crime incidents in each neighborhood

Neighborhoods with low crime density

Table2. Neighborhoods with low crime density (<0.05)

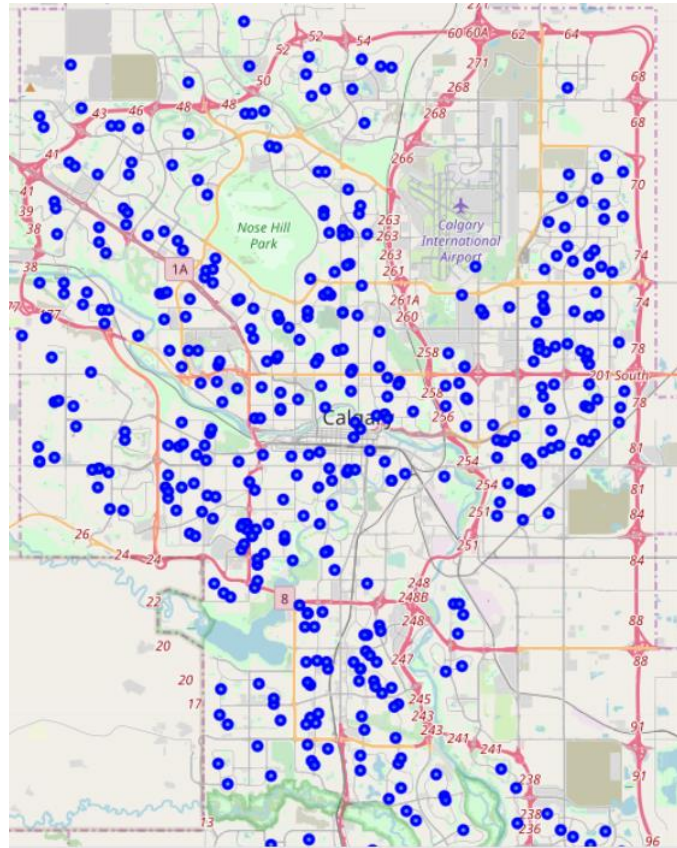|	Neighborhood	Count	RES_CNT	crime_density
0	BELTLINE	903	24887.0	0.036284
20	MARTINDALE	704	14905.0	0.047232
27	MCKENZIE TOWNE	679	18186.0	0.037336
35	TARADALE	663	18929.0	0.035026
37	SADDLE RIDGE	658	21567.0	0.030510
38	SIGNAL HILL	655	13488.0	0.048562
52	PANORAMA HILLS	610	25861.0	0.023588
59	CRANSTON	589	18980.0	0.031033
62	EDGEMONT	587	15442.0	0.038013
66	COVENTRY HILLS	575	17527.0	0.032807
75	DOUGLASDALE/GLEN	549	12769.0	0.042995
78	BRIDLEWOOD	539	12708.0	0.042414

Analysis of Calgary Schools
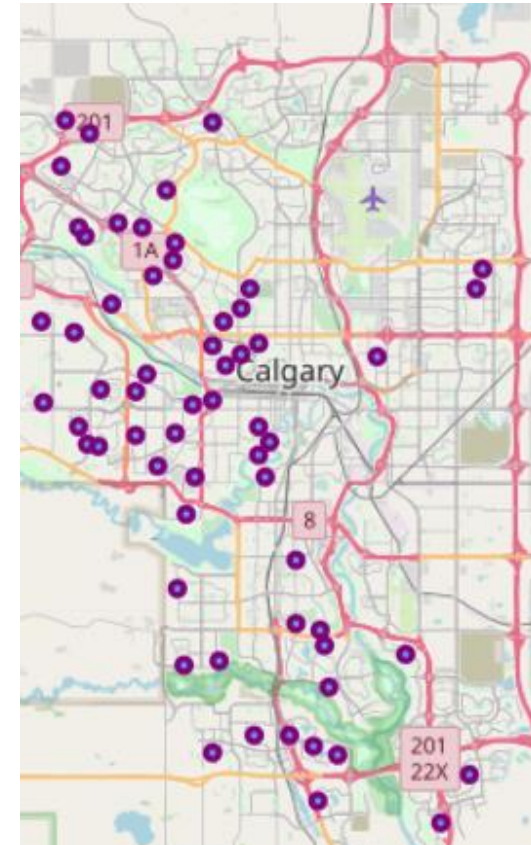

Figure5. Location of schools in Calgary

Figure6. Location of top-ranking schools in Calgary

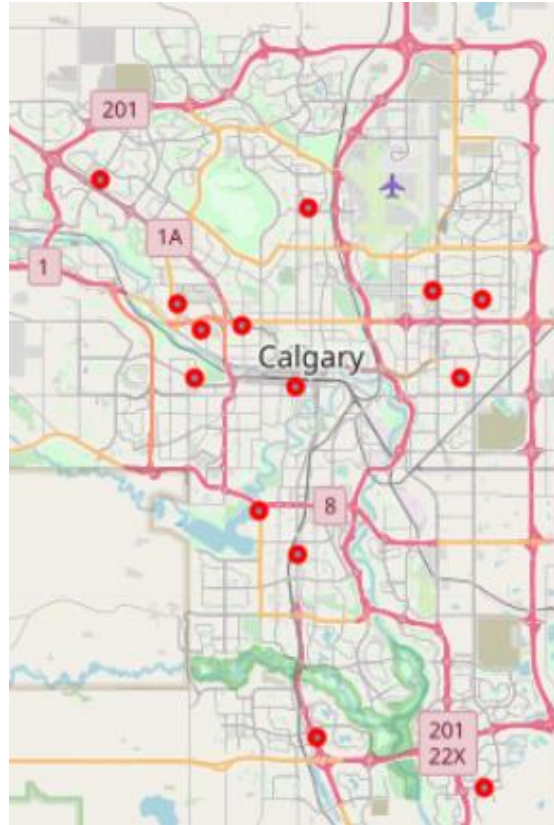# Analysis of Calgary Services

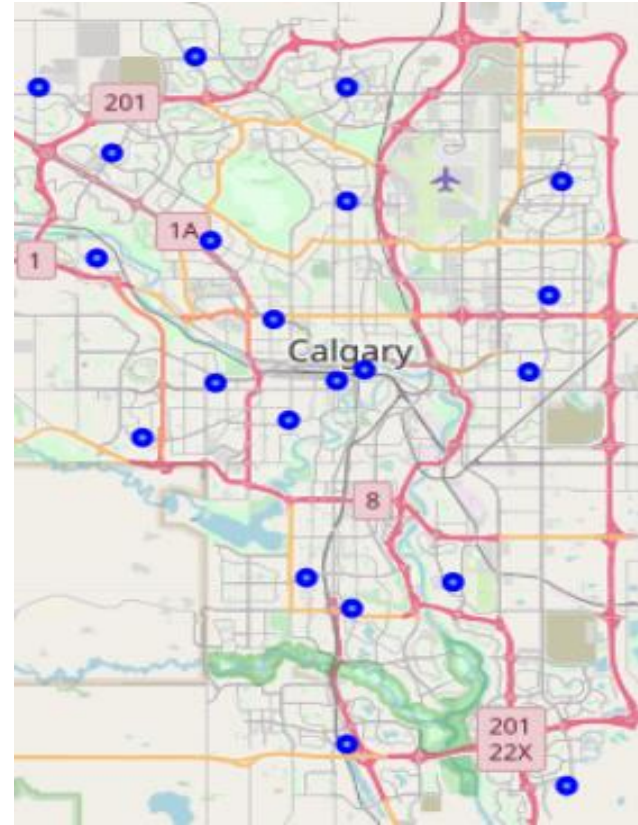

Figure7. Location of medical facilities in Calgary

Figure8. Location of libraries in Calgary

Analysis of Popular venues in each neighborhood using Foursquare API

Table4. Dataframe with 5 most common venues for each neighborhood

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	ABBEYDALE	Filipino Restaurant	Convenience Store	Café	Sandwich Place	Food & Drink Shop
1	ACADIA	Burger Joint	Furniture / Home Store	Business Service	Sandwich Place	Clothing Store
2	ALBERT PARK/RADISSON HEIGHTS	Restaurant	Sandwich Place	Pharmacy	Liquor Store	Light Rail Station
3	ALTADORE	Dog Run	Ice Cream Shop	Sandwich Place	Sporting Goods Shop	Breakfast Spot
4	APPLEWOOD PARK	Arts & Crafts Store	Warehouse Store	Coffee Shop	Park	Liquor Store
5	ARBOUR LAKE	Fast Food Restaurant	Coffee Shop	Café	Bank	Breakfast Spot
6	ASPEN WOODS	Coffee Shop	Restaurant	Asian Restaurant	Mexican Restaurant	Pharmacy
7	AUBURN BAY	Burger Joint	Water Park	Grocery Store	Pizza Place	Zoo
8	BANFF TRAIL	Coffee Shop	Hotel	Park	Liquor Store	Breakfast Spot
9	BANKVIEW	Sandwich Place	Pub	Mexican Restaurant	Vietnamese Restaurant	Indian Restaurant
10	BAYVIEW	Gas Station	Breakfast Spot	Park	Other Great Outdoors	Grocery Store
11	BEDDINGTON HEIGHTS	Coffee Shop	Playground	Pharmacy	Sandwich Place	Grocery Store

Result – Top 10 neighborhoods in Calgary for families with kids

Table4. Top 10 neighborhoods in Calgary for families with kids - 5 most common venues

Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
ACADIA	Burger Joint	Furniture / Home Store	Business Service	Sandwich Place	Clothing Store
ARBOUR LAKE	Fast Food Restaurant	Coffee Shop	Café	Bank	Breakfast Spot
BOWNESS	Arts & Crafts Store	Garden Center	Bar	Coffee Shop	Hardware Store
DALHOUSIE	Liquor Store	Bank	Miscellaneous Shop	Chinese Restaurant	Shopping Mall
DOUGLASDALE/GLEN	Vietnamese Restaurant	Fast Food Restaurant	Gift Shop	Golf Course	Other Repair Shop
EDGEMONT	Trail	Gas Station	Gym	Asian Restaurant	Fried Chicken Joint
SPRINGBANK HILL	Grocery Store	Martial Arts Dojo	Indian Restaurant	Spa	Coffee Shop
HIDDEN VALLEY	Intersection	Arts & Crafts Store	Gym / Fitness Center	Park	Coffee Shop
STRATHCONA PARK	Liquor Store	Kids Store	Gas Station	Grocery Store	Bank

Discussion

➢Overall, Calgary is a safe place to live.

➢Top priority were daycares and schools. Need to find a better data on daycares.

➢Top ranking schools are mostly located in the western neighborhoods, probably because that part of the city is older

Conclusion and Future considerations

Analysis of crime level, population, daycares, schools, medical centers, libraries ad popular venues in Calgary neighborhoods helped to determine top 10 communities for families with kids.

This project can be further improved by adding more criteria and analyzing more data, such as availability of public transportation, grocery stores and supermarkets in each neighborhood etc. Another idea is to find data on average rental price for each neighborhood and perform an analysis of the effect of certain criteria on the rental price.