



The Battle of Neighborhood Final Project:

Ideal local to open Indoor Play Center in the
Greater Melbourne

PRABIN SHILPAKAR

In this project we will analyze children's population density of each city council, availability of indoor Kids activities centers in the neighborhood, and identify the possible location where the demand is higher for children play center.

- PROJECT GOAL

Introduction

Melbourne metropolitan or the Greater Melbourne is the second most populous city in Australia and the capital of the State of Victoria. The city is extended to 9,993 km² consisting of 31 municipalities also known as Local government area (LGA) or city councils. This vibrant and multi-cultural city is the home to 5 million population. It is also a sports capital of Australia. It hosts major annual international sport events such as the Australian Open, the Melbourne Cup, and the Australian Grand Prix. Melbourne is highly rated for entertainment, tourism, and sport. It is also a research and education hub of Australia. Melbourne is ranked at top 10 world's most livable city for a decade. That's why the city attracts thousands of migrants from around the world annually. So, the city becomes the major economic hub of Australia and an important financial center of the world.



Business Idea :

Indoor play centers are becoming popular in the Greater Melbourne communities, especially among the parents who have toddlers and young kids. Since, indoor playground facilities are safer and can be utilized at any weather condition, parents love to bring their children and letting them have fun and be happy. So, for somebody who love kids or passionate about making children happy, starting an indoor play center that can assure safety, affordability, and entertaining, can be an ideal business choice. As with any business to survive and earn profit in the competitive environment, a detail market study is essential.

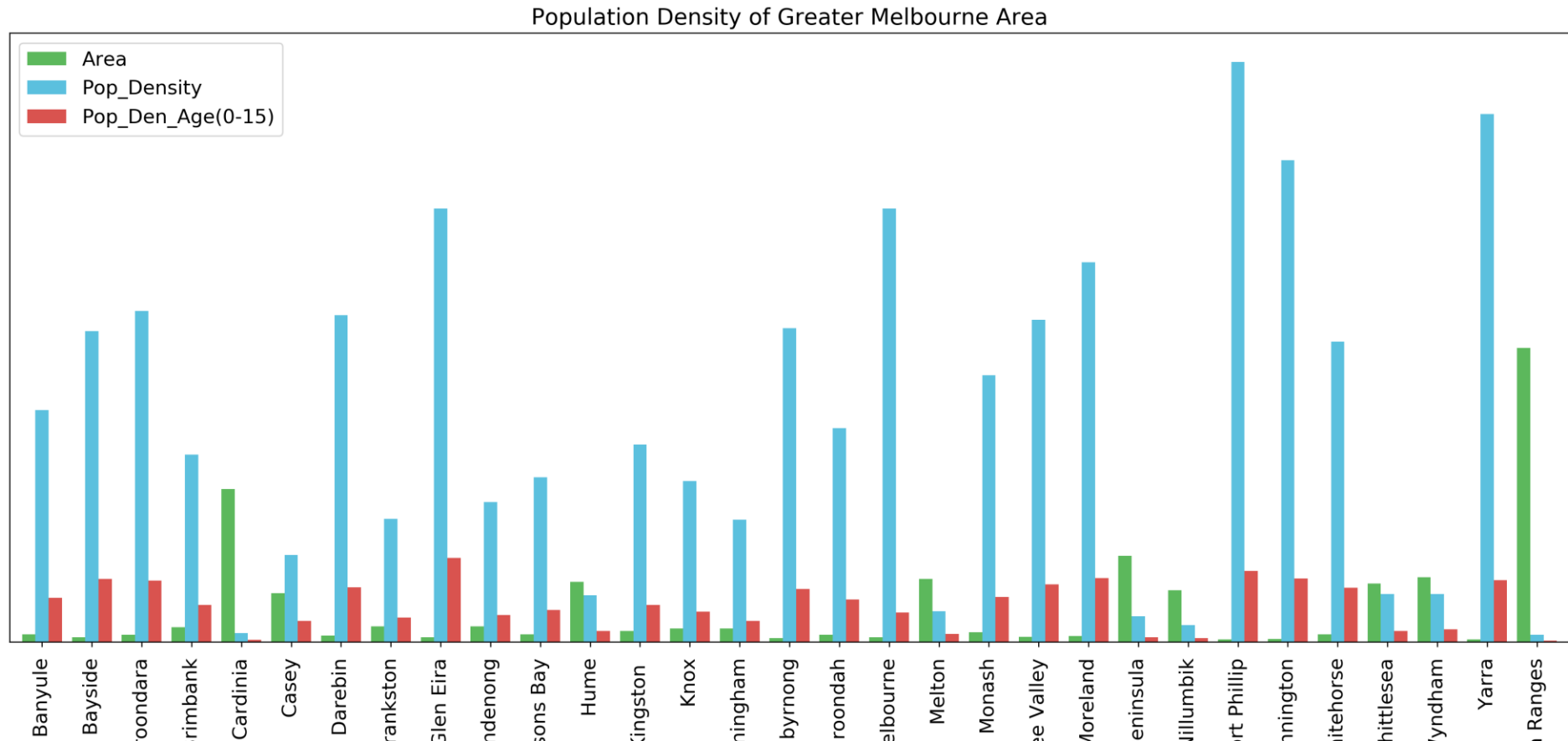


Target Audience:

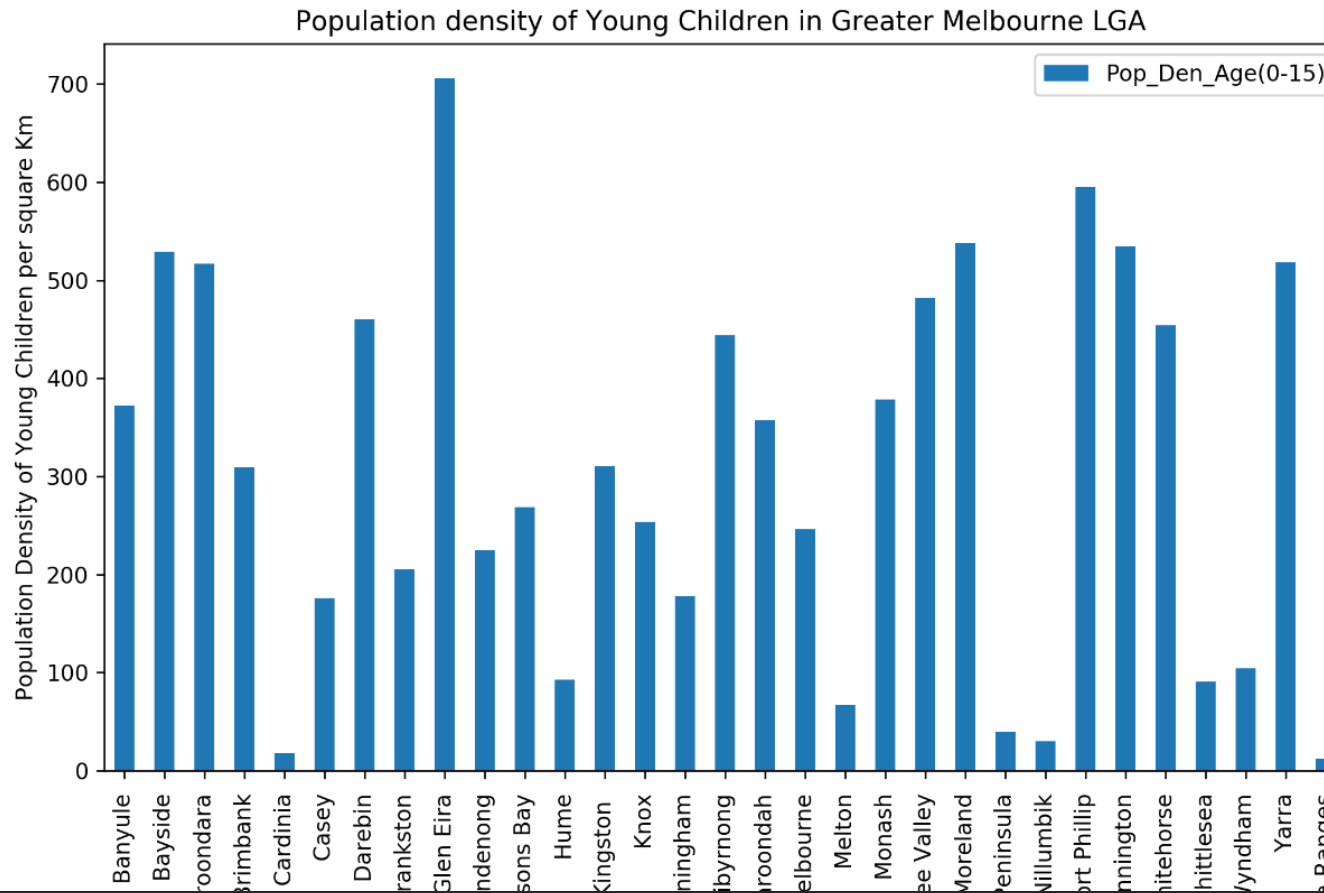
The outcome of this project should be beneficial to anyone, who are thinking about starting new business that focus children or wanting to expand the already established indoor play center at new location. As a Data scientist my objective is to locate and recommend an ideal location in the neighborhood of the Greater Melbourne area to start a new indoor Play Center. In this project we will analyze children population density of each city council, availability of indoor playground facilities in the neighborhood, and identify the possible location where the demand is higher for children play center.

Data

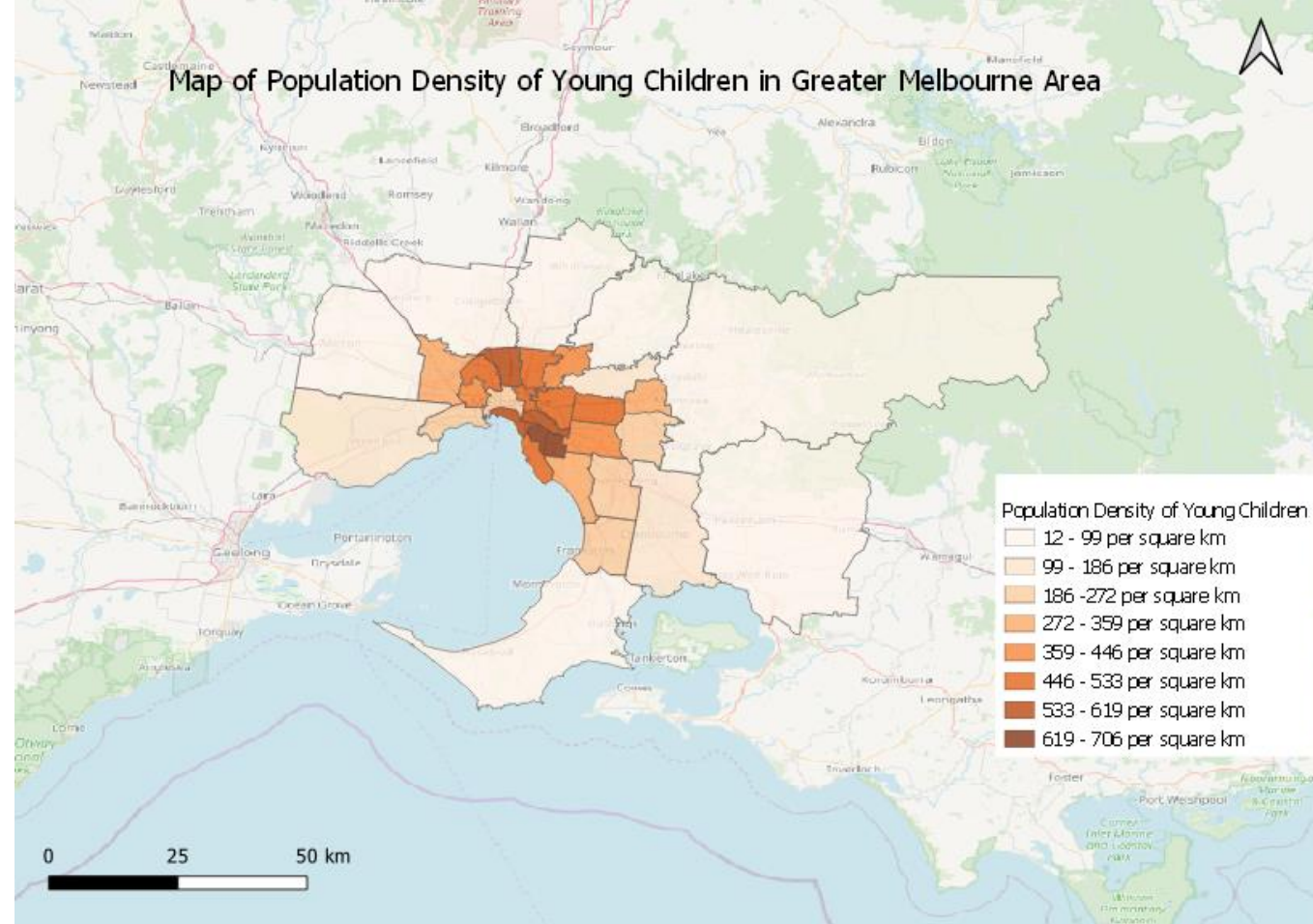
1. **Data1: Location data that contains Lat/Long and area of LGA of Melbourne**
2. **Data2: Census data that contains population statistics of Melbourne**
3. **Data3: Neighborhood venues from Foursquare API for market analysis**



Display of distribution of Population Density and Area comparison of 31 LGA



Population Density of Young Children in 31 LGA



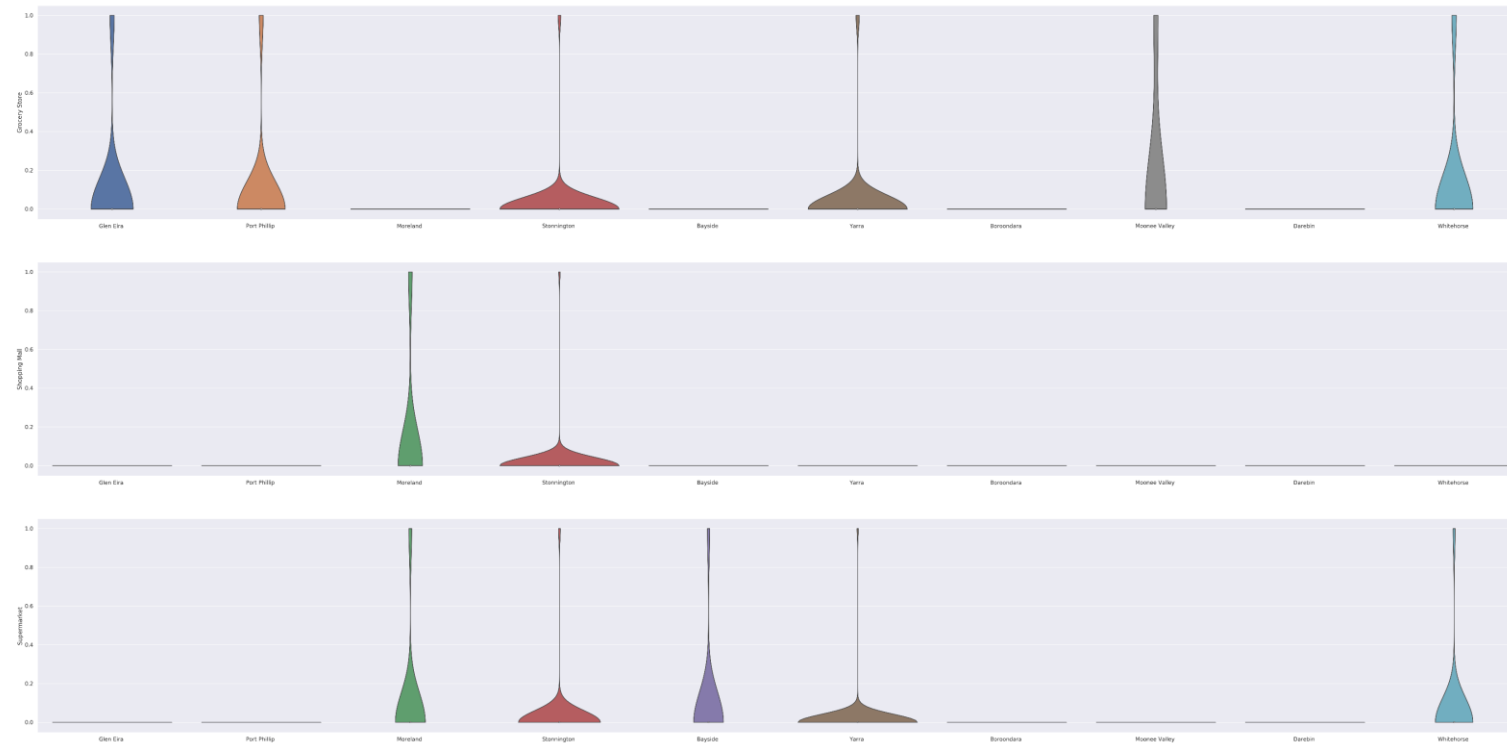
Result shows that 'Glen Eira' is the city with the highest population density of young children in the Greater Melbourne area, follows by 'Port Phillip', 'Moreland', 'Stonnington', and 'Bayside'.

All these city councils are the neighboring city of central Melbourne. So, it is no surprise that the population density is higher in these LGA. This means these are the location where the demand for Indoor Play Center is higher.

City	Area	Pop_Density	Pop_Den_Age(0-15)
Glen Eira	38.6906	3641.07	705.86
Port Phillip	20.7092	4870.44	594.90
Moreland	50.9519	3190.42	537.70
Stonnington	25.6514	4047.81	534.24
Bayside	37.2111	2609.09	528.82
Yarra	19.5425	4434.28	518.41
Boroondara	60.1774	2778.97	516.77
Moonee Valley	43.1386	2704.56	481.75
Darebin	53.4711	2743.89	460.27
Whitehorse	64.2800	2521.44	454.03

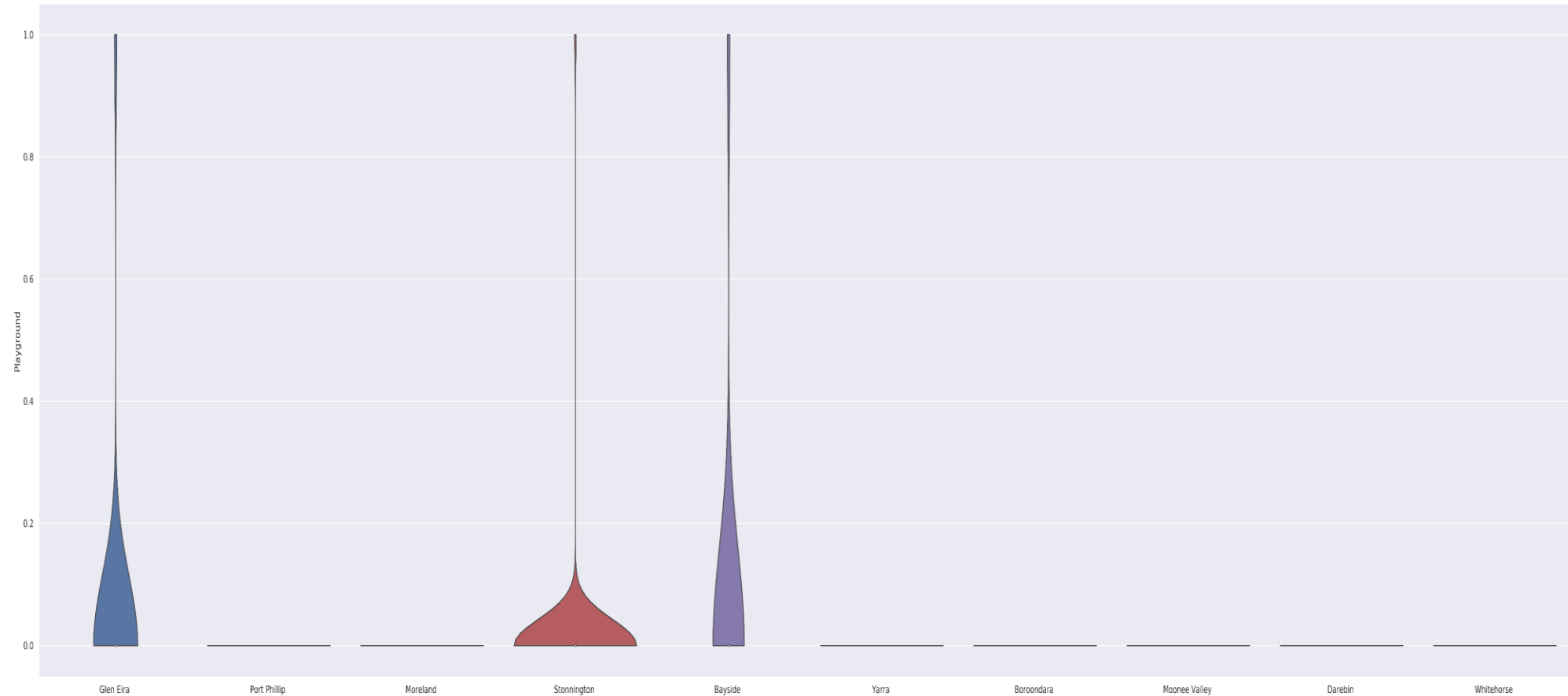
Top 10 Cities based on Population density of young children age between 0 to 15 years

Frequency distribution of the 3 venues categories for each neighborhood (click to enlarge)

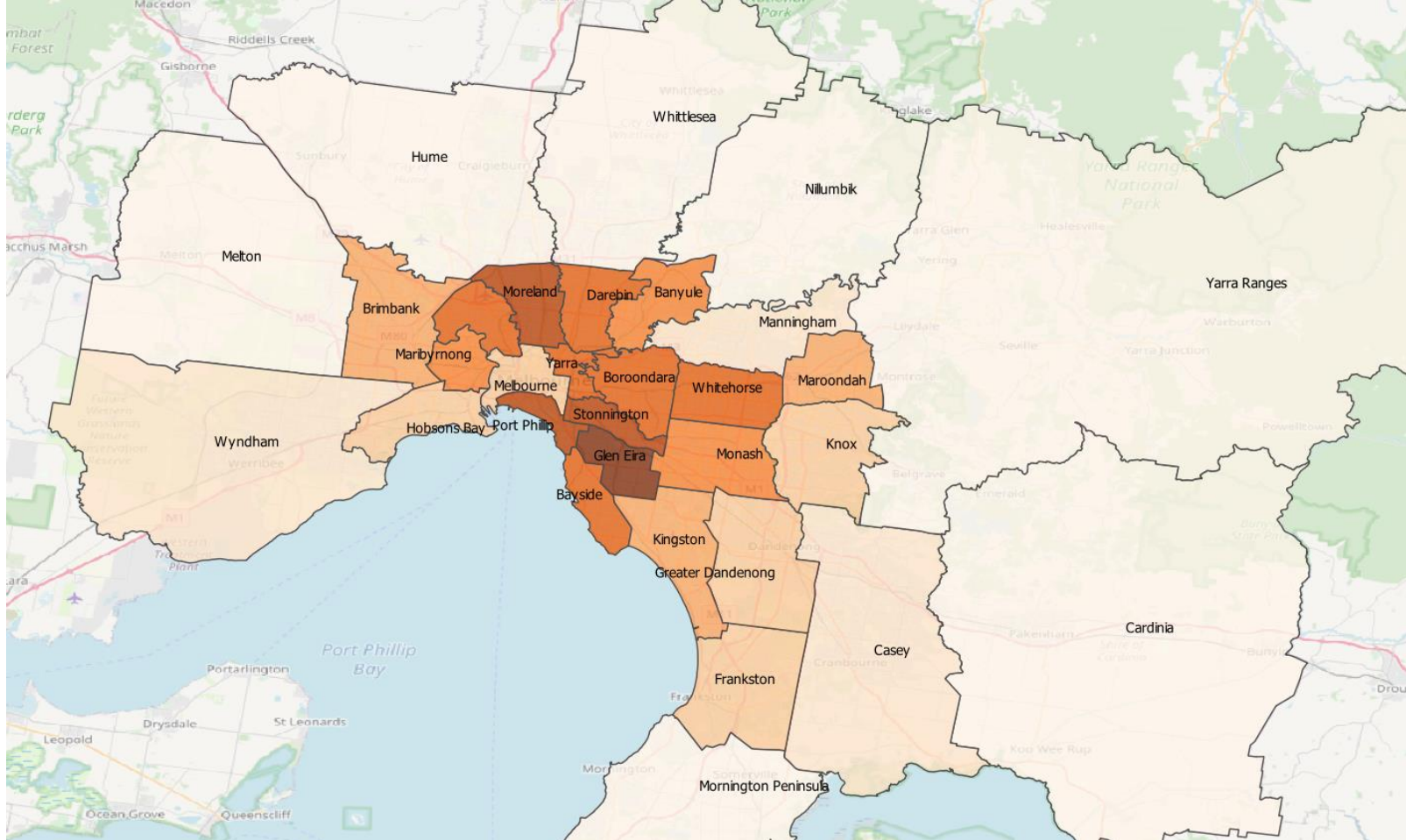


The violin plot shows that City of Stonnington has higher frequency of 3 venues follows by Moreland, Yarra, Glen Eira, and Port Phillip. Second, step is to see if there are any Playground or Kids Activities Center in these cities.

Frequency of Playground in each neighborhood



It shows that Stonnington, Glen Eira, and Bayside and some playground. So, these are already proven to be a place with children activities centers.



Conclusion:

Stonnington city council is an ideal location to open the Indoor Play Center

Top 5 population density of young children among all Local Government Area of Greater Melbourne.

Our second best choice is Moreland, follows by Glen Eira, Port Phillip, and Bayside.

Thank you

