Analyzing Ottawa's Entertainment Landscape to Combat the "Boring City" Stereotype

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***Abstract*—To address the typical stereotype of Ottawa as a boring city, this study aims to identify gaps within Ottawa's local entertainment landscape. We believe this negative perception is caused by an uneven distribution of entertainment venues, a lack of diverse entertainment options beyond "common visits" like tourist landmarks, and an insufficient amount of public transportation access. Therefore, our data-driven analysis of venue location, public transportation networks, and population densities reveal underserved areas and inform policymakers of sectors that require further urban development. Our methodology consists of the collection of several datasets. Custom OC Transpo data was collected to understand the public connectivity of Ottawa entertainment hubs. The 2021 Statistics Canada Census data was used for insights into Ottawa's population density, and distributions of existing entertainment hotspots collected via Google's Places API was used to find underserved areas. Our analysis utilizes geospatial techniques, such as clustering with H3 indexing and the Getis-Ord statistic to identify imbalances in transportation, entertainment, or population over the city of Ottawa. Furthermore, an open-access geospatial tool was developed to visualize these points of interest. Our findings indicate that certain areas, such as Central Orleans, Findlay Creek, and Carlingwood, contain adequate public transit and high population density but lack a diverse range of entertainment options. This research ultimately seeks to provide data-driven recommendations to strategically enhance entertainment options, improve urban planning, and positively transform Ottawa's image for the city's Night Mayor and planners.**

***Index Terms*—Local Tourism, Ottawa, Geospatial, Entertainment, Mapping, Public Transportation, H3 indexing, Web Scrapping, Big Data**

I. Introduction/Motivation

Ottawa, the capital of Canada, has frequently been referred to as "The City That Fun Forgot" [21] This distinction of Ottawa as a 'boring' city is a sentiment that resonates with many local residents. This frustration highlights several critical issues that contribute to its boring entertainment landscape. As the nation's capital, the city is dubbed dull because it is a hub for the federal government. To add, Ottawa's nightlife scene has been criticized for having few entertainment options and an early curfew as compared to other neighbouring cities like Toronto or Montreal. Due to numerous factors like a cold climate and poor accessibility to transportation connections, the city has endured a negative reputation when it comes to its entertainment offerings. Since the COVID-19 Pandemic, the city has seen many closures and departures of local businesses and entertainment spots ultimately decreasing the amount of things to do around the city [28].

The research question of this study aims to understand how entertainment options are concentrated within the city and which areas experience barriers in accessing venues and transportation. To investigate this further, entertainment options across Ottawa will be plotted and analyzed in terms of their locations. They will also be observed in relation to accessibility in terms of access via OC Transpo bus services. By comparing different neighbourhoods across the city, the study aims to identify gaps within underserved areas that prevent residents from accessing entertainment offerings due to reasons like weak public transit connectivity. The goal of this paper is to highlight locations for entertainment venues throughout the city to make entertainment more accessible and appealing to neighbourhoods with diverse needs. These insights will challenge Ottawa's reputation by identifying new opportunities for entertainment and expanding its industry with a particular focus on underserved areas.

This article uses data from Reddit surveys, OC Transpo, Google Maps API, and Statistics Canada's 2021 Census to analyze data on public sentiment, public trans-

portation services, the geographic landscape of Ottawa and the demographic distribution throughout the city. Several forums on social media platform Reddit were assessed to understand public perceptions of Ottawa's entertainment industry. OC transpo data was collected to get an idea about bus routes and stations servicing varying neighbourhoods within the city. Then, population data from the census was plotted visually using Google Maps into several interactive population, entertainment, and transportation heatmaps to highlight the points spatially to evidence a comprehensive analysis. The findings are based on data collected over a four month period between January and April 2025. To emphasize, the findings from the research are primarily focused on identifying potential spaces for entertainment developments in the future rather than observing the types of entertainment that may occupy those spaces.

II. Literature Review

The research focuses on specific residential areas of Ottawa and recognizes that they are underserved in terms of entertainment infrastructure. While the downtown city core is considered throughout the analysis, the primary focus is on identifying suburban areas as potential places for diversifying entertainment options evenly across the city. Existing literature like the report by the Canadian Urban Institute [17] suggests that downtown's entertainment industry has historically remained a priority for the city council due to its numerous entertainment options for both residents and tourists and immense economic success. The report highlights how downtown Ottawa is home to about 20 parks and greenspaces, 11 museums, and 14 arts and cultural spaces [17]. To visualize the spatial distribution of these activities, these venues were plotted visually on an entertainment difference map of Ottawa. Based on this, the entertainment map indicated that several prominent attractions like the Rideau Canal Skateway, the Byward Market, and multiple art galleries, and museums were heavily concentrated within the city's core [19]. These venues are unique to Ottawa as they provide key historical and cultural experiences yet they can only be accessed within the city. The findings from the heat maps indicate that many residents must travel from other areas to the city centre to access Ottawa's notable entertainment options. Another concern stemming from this involves access to the public transit system particularly in terms of the distribution and demands of different populations across the city.

Similar to trends observed in other big cities like Toronto and Montreal, the city of Ottawa hired a 'Nightlife Commissioner, also called the 'night mayor' in response to criticisms regarding the city's dull entertainment offerings [21]. As reported by CBC [21], "City council approved its "nightlife economy action plan" in May 2023. It included the new role of nightlife commissioner to give locals and tourists alike more to do between the hours of 6 p.m. and 6 a.m. The original job posting listed a salary just under $112,000". Mathieu Grondin was hired as the night mayor specifically to improve Ottawa's nightlife scene, concentrated in areas like the downtown core and Byward Market. In accordance with the nightlife economy action plan, it is a priority to support local businesses and bars. Although the City of Ottawa has allocated part of it's entertainment budget to a night mayor and improving the entertainment scene in Downtown Ottawa, there are little efforts being made outside of the busy city core. In an interview with Grondin, he expressed an interest in developing the urban entertainment scene across rural and suburban areas in Ottawa, calling for more diverse and inclusive offerings all around.

This study seeks to provide Ottawa's city council with an agenda of new recommendations aimed at expanding the city's entertainment industry beyond the downtown core. Focusing on the city's residential areas allows for the development of more diverse non-traditional forms of entertainment that can be tailored to fit the needs of various neighbourhoods around Ottawa.

III. Methodology

A. Forum Sentiment Analysis

Before diving into the analysis of the Ottawa, it was important to get an idea of Ottawa's sentiment in its tourism industry. In order to accomplish this, a sentiment analysis was performed on the r/Ottawa subreddit using transformer based models [20], [27]. In order to collect a large enough dataset and to gather it for free, an open-source tool called ArcticShift [4] was used. ArcticShift is a user friendly web application that pulls all Reddit comments and posts from the beginning of Reddit's creation to the present day. All of the data originates from Academic Torrents and datadumps collected from Reddit user u/RaiderBDev [12].

Utilizing this tool we collected a total of $\sim$305 thousand Reddit posts and $\sim$6.51 million comments from r/Ottawa. Next, a neutrally balanced keyword list was defined to filter this huge collection in order to gather posts relevant to the topic of local tourism [33]. Using this keyword list, we looked through the entire collection of posts/comments and removed texts that didn't contain

any of the keywords. Furthermore, the remaining collection of data was cleaned via lower-casing and white spaces were removed.

Although this Reddit data was initially shaped with many key and values, the fields we kept for our analysis were the creation time of the post or comment, whether the post has a gold award, the text of the post or comment, the link ID of a comment to a parent post, a score which is expressed as (post/comment upvotes – post/comment downvotes), and finally a potential description of the post or comment. After this cleaning process, we ended up with 5712 posts & 123661 comments.

When performing sentiment analysis, we decided to utilize a range of methods, we used transformer models like XLNet [32], BERT based models like RoBERTa-Base & RoBERTa-Large [23], and lexicon/rule-based methods like NTLK's VADER analyzer [22].

Furthermore, for each of our analysis methods, we did not weight each post or comment uniformly, each post/comment was given a score, where the absolute value of a post or comment's score gave it more weight.

$$S = \sum_{i:l_i^+} (|S_i| + 1) - \sum_{i:l_i^-} (|S_i| + 1)$$

To calculate the total sentiment of Ottawa we created this formula as our metric/evaluator, where s_i equates to the score of post i, l^+ represents posts or comments with a positive score and l^- denotes posts with negative scores.

Based on our quick analysis of Ottawa sentiment on our local tourism industry, we might draw the conclusion that local residents of Ottawa might view our tourism in a positive light.

Model	Posts Score	Comments Score
VADER	74257	279847
RoBERTa-Large	48633	-17841
RoBERTa-Base	8040	-141770
XLNet-Reddit	119388	380917

Based on this data, we pivoted to looking at clusters of Ottawa that might be underserved rather than looking at Ottawa as a whole, while r/Ottawa might indicate positive sentiment, there is a heavy bias since many of the people engaging on the subreddit might not be residents of Ottawa. Moreover, there might be survivorship bias where positive posts and comments will get more up votes and thus a higher score, while negative sentiment comments won't get as much recognition and fade off into obscurity [30].

B. Dataset Collection

After a sentiment analysis of Ottawa's local tourism landscape, we needed to collect data on how we could evaluate the city with more specificity. Therefore we collected three datasets. Public Transit Data and Local Entertainment locations were custom collections and census data was available online for download.

1) OC Transpo Data: Firstly, we created a custom dataset from scraping OC Transpo bus data using the City's General Transit Feed API [26], the data was requested by the minute from January 31st, 2025 to February 7th, 2025. Each request gave the location of every OC Transpo Bus in Ottawa, the script we designed pulled this data every minute and saved the payload as a compressed json.tar.gz file. Additionally, each file was named after the epoch time it was requested [31]. In terms of the shape of the data, each payload contained the coordinates of each bus along with its current speed and bearing, there were other details that we did not use such as whether the bus was or was not active, or whether the bus was currently at a bus stop [26]. In total ~5 GB of text data was collected, amounting to 2,191,157 bus trackings.

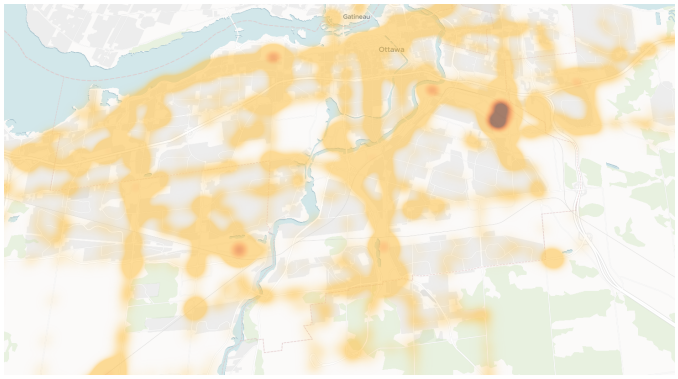

Fig. 1. Heatmap of OC Transpo bus density

2) Local Entertainment Data: Secondly, another custom dataset was collected using Google Map's Nearby Request API [9] and Google My Maps [13]. To start, Google Map's Nearby Request API can look for points of interest (POI) within a certain radius of a defined coordinate, using this we collected the coordinates of places label in a list of keywords defined in Appendix 1. Finally, we imported these points into Google My Maps and systematically filtered out POIs that did not fit

into any of the entertainment categories. Based on our criteria, a couple other places we filtered out included inactive POIs or POIs located in a residential home. In the end, a total of 195 local entertainment spots were collected and used in our final analysis.

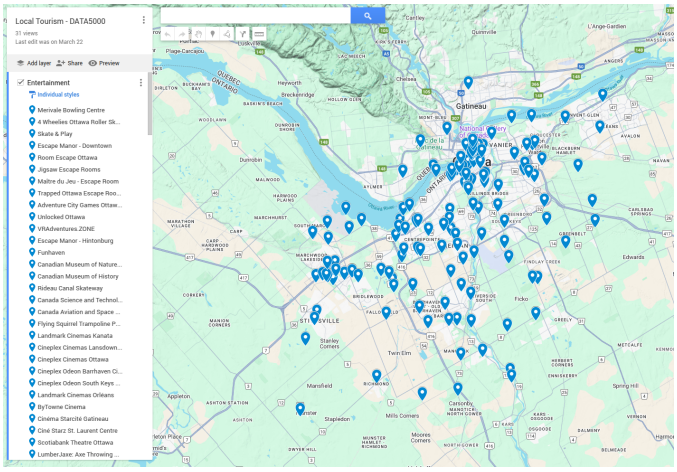

Fig. 2. A collection of filtered entertainment spot in the City of Ottawa on Google My Maps

3) Ottawa Population Data: The last dataset employed was Statistics Canada's 2021 Census Data [1]. This dataset was publicly available and sorted by Dissemination Area (DA), DAs are small, relatively stable geographic units composed of one or more adjacent dissemination blocks with an average population of 400 to 700. It is the smallest standard geographic area for which all census data are disseminated [2]. This file was downloadable as a 739,278 KB CSV file, containing around ∼58000 DAs, however this CSV contained a lot of additional non-relevant information, therefore after filtering it for only the ID of each area, the longitude, the latitude, and the population count of each DA, the file was reduced to 2.49 MB, thus making it easier to render and visualize on mapping software Fig.3.

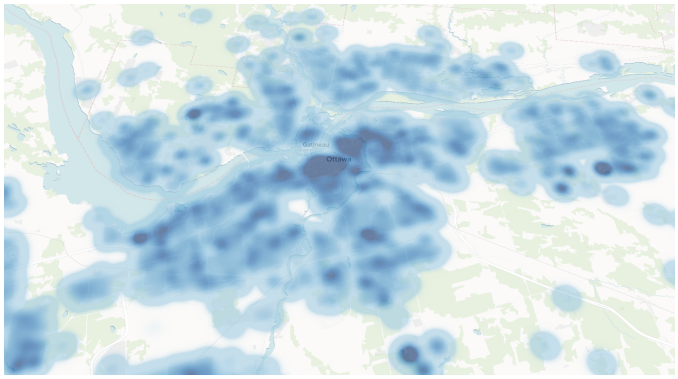

Fig. 3. Population Density in Ottawa by Dissemination Block

IV. Analysis

A. Fundamental Heatmaps

After data collection and pre-processing, we plotted each of the three datasets (transportation, entertainment, and population) onto a map using Deck GL [6]. The heatmap uses Kernel density estimation (KDE) [29] to estimate the probability density function of a random variable. Thus allowing for a smooth continuous representation of the underlying distribution of data points regardless of how far or close a user is zoomed into the map. Each point of the transportation and entertainment dataset was given uniform weights Fig.1, while each point of the population DA was given a weight equal to its population count in their respective area Fig.3.

B. Comparative Data via Difference Maps

As further quantitative analysis, we calculated difference maps between each of the datasets (entertainment vs population, entertainment vs transportation, transportation vs population). In order to accomplish this, we first discretized each of the datasets into bins using H3 indexing, the default resolution (the size of the hexagonal bins) was set to eight [7]. Each singular data point in the transportation and entertainment sets increased a bin count by 1 while each dissemination area overlapping a bin increased the bin count by the population size at that area (between 400 and 700 persons). Next the absolute difference was calculated between each of the hexagons located in the same area and an arbitrary scaling factor/hyper-parameter was applied to increase the diversity in the gradient color, thus aiding in visualization.

C. Hotspot Detection

Looking at the maps, tiles range in colors between yellow and red, where red represents areas of large

difference. Hexagons of dark red represent one of two things depending on the datasets compared.

Entertainment vs Population

- There are a lot of entertainment options in this general location, but the population density is low.
- The population count in this area if very high, but there are little to no entertainment options.

Entertainment vs Public Transportation

- There are a lot of entertainment options in this area, but public transportation rarely visit this location.
- The buses visit this location very frequently, however, there is nothing to do entertainment-wise.

Population vs Public Transportation

- Public transportation comes here often, but the population density is low.
- Public transportation rarely visits this region, even through the population density is populous.

Furthermore, each of the top K (default=10) hexagons/bins of greatest difference were marked with white dot indicators. This K value can be adjusted using URL query strings (ie. "?topK=20") [18]. These white dots allowed us to hone in on areas that require the most attention, based on this collection of areas, further qualitative analysis was performed. Some common top K areas within the Ottawa area include:

- Carlingwood
- Le Plateau-Mont-Royal
- Leitrim
- Findlay Creek
- Southern Barrhaven
- Bell Corners
- Central Orleans
- North West of Rocky Point
- Porter's Key

D. Web Application

In order to visual all of this data, we created an open access application [18], The basic framework was designed using the React library to aid in modularity [11], the application was written in Typescript and bundled using Vite [16]. The geospatial visualization library Deck GL was used to help with visualizing big chunks of data [6]. Moreover, Loaders GL helped process the massive amounts of data in different formats such as CSV and GeoJSON files [8]. In terms of clustering data points into bins and calculating difference maps, Uber's H3Geo library was used for H3 indexing [7]. Next, to render a visualization of the world map along with tiling optimization, Maplibre was integrated with the application to handing displaying tiles at different zoom lengths along with rendering and hiding tiles inside and outside the user's view port [24]. Furthermore, TailwindCSS and HyperUI were used to design basic UI components such as buttons and legends, TailwindCSS allowed for rapid styling while HyperUI provided starter components [3], [14]. To add, Github housed our application along with Vercel for deploying the website to the internet [5], [15]. Finally, outside of the application, Python scripts along with the tabular manipulation library Pandas aided in data cleaning [10], pre-processing, and re-shaping. This reshaping process included removing irrelevant fields in 2021 Canada Census Data or converting JSON public transit data into CSV files with only fields of relevance. Overall, these technologies were used to build the application and users can explore this at the website **https://map.spawns.dev** and the source code can be found at **https://github.com/JustinZhang17/lauriault**.

V. Results

Based on the data from the heatmaps, three Ottawa neighbourhoods: Central Orleans, Findlay Creek, and Carlingwood were identified as underserved areas in terms of entertainment. These areas shared similar characteristics, making them ideal candidates for entertainment development in the future. The heatmaps singled out these neighbourhoods due to their darker colour concentration. The population map highlighted that the regions had a medium to high population concentration. According to the transportation difference maps, they were well served due to established OC transpo routes. The entertainment difference maps maintained that the three suburbs had relatively less entertainment options as compared to other areas like downtown Ottawa. Despite being underserved in terms of entertainment options, the population, transportation, and entertainment data indicate that they make for strong suitors for future development. They also represent diversity throughout Ottawa because they are all geographically dispersed residential areas with variations in demographics and socioeconomic factors like age, income and other indicators from the 2021 census. Therefore, each neighbourhood exerts unique demands, demonstrating the need for more varied entertainment venues across the city.

VI. Limitations and Ethical Considerations

This study has several limitations that are essential in addressing prior to implementing these recommenda-

tions. The first is the potential for human error and bias to influence these results. Although the recommendations are based on evidence, there is potential that the data collected from the Reddit forums and surveys could reflect user bias based on the participant's preferences. Despite collecting data from multiple Reddit forums with diverse users, the majority of users expressed similar views about Ottawa being boring. This could indicate an over-representation of specific opinions throughout threads. It is unclear whether the participants of the survey were local residents, or foreigners living outside of Ottawa which may skew the results. Another limitation is the ethical consideration regarding the use of publicly available survey data. While this information was collected from public forums, the participants may not be aware of the extent to which their data is informing this study. Since consent was not explicitly requested prior to being used for this study, there is a strong reliance on the assumption that participants posting their information via Reddit surveys defaults to their implicit consent. In the future, there will be increased transparency and accountability to ensure that citizens are formally informed about participating in this study. There will be a stronger emphasis on a more ethical approach to data collection to ensure that participants are voluntarily involved in the research. This will guarantee that diverse residents from varying neighbourhoods are consulted throughout the process to ensure that numerous perspectives are considered. This will allow for a more fair representative sample of Ottawa residents which will indicate entertainment options that best-suit their needs. By addressing these limitations, this will help reduce potential biases and safeguard participants' privacy in accordance with ethical standards for research.

Another potential limitation in the data collection process was the subjectivity regarding the classification of what is considered an entertainment option. Google was the main tool that was used to collect data on entertainment options within the city. It has a built-in function that categorizes various activities under entertainment to make it easier for people to find activities to do. For instance, things like bars, bowling alleys, movie theatres were categorized as 'entertainment' in Ottawa. However, while plotting these points it became apparent that Google's classification criteria differed from other non-traditional forms of what constituted 'entertainment'. As a result, a secondary list of activities was created and were cross referenced with the researcher's own classification of entertainment options across the city. Although nearly 200 data points were plotted, it is possible that certain venues and activities were unintentionally overlooked and not plotted on the entertainment heat maps, ultimately influencing the data and results.

It is worth mentioning that the project did not undergo a legal consultation or review. While several areas of Ottawa were identified as potential spots for development in the future, they have not been reviewed based on zoning bylaws. An intensive review including an overview of the city's zoning laws is still required in terms of assessing the validity of these spaces as ideal spots for entertainment venues. In addition, it remains unknown if these areas are currently occupied by forests or greenbelts, or are owned by the Federal Government, which could restrict construction. Furthermore, the physical terrain of these regions has not been considered yet due as the study primarily relies on tools like Google maps to plot the data, meaning there have been no on-site visits made yet. However, the environmental impact of future developments remains a top priority and will be carefully considered to minimize destruction. Addressing underserved communities can improve accessibility in the future through specific urban planning decisions.

Should Ottawa's city council implement these recommendations, a variety of stakeholders including policy-makers, business owners, construction companies, and more will need to be consulted in the process to ensure compliance with policies and regulations. These recommendations will also be assessed in relation to factors like the public's input, the city's entertainment budget, zoning bylaws, environmental and ethical concerns and other factors like crime rates within various neighbourhoods which will influence the development of future projects.

VII. Future Implications

This study highlights several implications for urban planners in Ottawa, specifically focusing on transforming Ottawa's entertainment landscape. By identifying gaps within the entertainment and transportation sectors, the research provides new opportunities to efficiently utilize space in a way that accommodates the needs of various demographics. While the study currently reflects a broad demographic including young adults, children, the elderly, future studies can be tailored to focus on specific demographics like young adults or families which would provide more insight into their unique entertainment demands. In addition, since the OC Transpo was randomly collected over the period of one week between January and April 2025, we will ensure that there is

more data sampled throughout random times of the year. This will diversify the results to better inform the study and account for external factors like seasonal changes, special events throughout the year, changes in traffic and routes, and more.

This approach accounts for a variety of barriers to access promoting inclusivity by ensuring that diverse entertainment options align with varying population's needs. Overall, this study can help city planners create more stimulating options for its residents. By leveraging the data, results, and population maps, the city's infrastructure can be improved, fostering the creation of new attractions and improving accessibility for residents. This could lead to greater sense of happiness and pride for citizens and overall improved quality of life. As a result, the city's entertainment landscape may shift from being viewed as 'boring' to an exciting one. This transformation can potentially boost the local economy through the expansion of businesses, creation of jobs.

VIII. Conclusion

In conclusion, this study has reviewed the geographical distribution, concentration, and accessibility of entertainment venues across Ottawa in an effort to transform the capital's lasting reputation as the "Most Boring City in Canada". By examining demographic data in relation to public bus routes and general attitudes towards the city, the research critiically identifies gaps in Ottawa's entertainment industry. The findings of this study provide valuable insights into urban planning decisions aimed at improving accessibility, connectivity, and infrastructure in underserved areas of Ottawa. Through an analysis of data from Reddit threads, OC Transpo bus services, and Statistics Canada's 2021 Census, and Google Maps APIs, a more critical understanding of the challenges were revealed. By focusing on underserved areas with lower engagement from the city and overall less entertainment options, the data highlights key findings for future developments. Rather than focusing resources on the types of entertainment industries that could populate Ottawa, this study efficiently recognizes potential physical spots around the city in efforts of making a more inclusive and engaging environment for locals and tourists. The success of this work relies on the collaboration between data scientists, policymakers, and city planners and other stakeholders. This interdisciplinary approach demonstrates how the integration of diverse fields can contribute to enhancing the quality of life in Ottawa. Ultimately, these insights aim to challenge Ottawa's 'boring' global image by creating diverse cultural offerings.

IX. Appendix

A. Appendix 1 Entertainment Categories

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Escape Rooms
VR Locations
Kid Gymnasium Hubs
Museums
Skateways/Skate Rinks
Trampoline Parks
Movie Theatres
Axe Throwing
Art Hubs (ie. Pottery painting)
Billards
Farms
    (ie. Saunders Farm,
         Berry Picking)
Beaches/LakesW
Nature Trails
Golf & Mini golf
Casinos
Parks
Comedy Clubs
Karaoke Bars
Country Clubs
Sporting/Recreation Locations/Clubs
    (ie. Curling, Tennis,
         Rock Climbing, Boxing,
         Fencing, Bowling)
Gallaries (Art)
Shopping hubs (ie. Bayshore, Byward)
Gardens
Government Buildings
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