

# Investigation of Housing Price to District Amenities in Central London

## Coursera Capstone Project Final Report

### 1. Introduction

Central London has seen its real estate prices constantly rise since 1995 with only minor correction during this timeframe. It is therefore increasingly more difficult for young professionals to afford mortgages to buy properties to get onto the property ladder. This situation thus increases the amount of time these people will be renting in properties that are farther away from their workspace hence increasing daily commute time and stress. The following report aims to investigate the rise in housing prices in central London against the spur of local amenities by district. The objective is to provide a quantitative analysis of districts wherein housing price are undervalued compared to other similar districts with a similar amenities density. The typical target audience for this report are:

- Young professional buyers working in central London
- Investors looking for a good investment in central London
- Businesses looking for opportunities to open new shops in London
- Advertisement agencies looking for promotion opportunities

### 2. Business Problem

The rising price of real estate in central London is straining potential young first time buyers to look for properties farther away from their typical workplace in central London increasing their commute time and stress. Also the rising prices are making increasingly more difficult for investors to find properties with a good ROI making the decision of whether to buy or hold onto the capital more blurred than in the past. Small businesses are also finding increasingly more difficult renting and opening shops in high street venues, thus pushing these farther away from ideal hotspots where their customers might be. The following report aims to narrow the problem of property search by identifying districts housing prices which are undervalued compared to the average housing price in other parts of the city using different metrics such as: local amenity density, local restaurant density, multi-ethnic restaurant density and office amenity density.

The main objective of this report is to provide an analysis to the correlation of prices with respect to the above metrics to make a more informed investment decision.

*Disclaimer: All suggestions and results shown in this report are purely informative and is by no means an actionable investment opportunity more detailed analysis is required. The author takes no*

*responsibility in any loss from investment decision from the following paper. Have a good read.*

### **3. Data Description**

- Location data of local amenities in London is obtained from the [Foursquare API sandbox](#). This will be used to retrieve data regarding the most frequent and popular amenities by type for each neighbourhood and use this data to train the machine learning algorithm.
- Housing Data index will be scraped from the [London Datastore](#) and other sources affiliated regarding housing price data and district boundaries coordinates.
- Price data is web-scraped from Foxton public available data in London and used to assign market value price data to each of the neighbourhoods in London.
- London postcodes and neighbourhood data has been web-scraped from the [wikipedia page](#), this will be used to identify and categorise each neighbourhood in London.

### **4. Methodology**

### **5. Results**

### **6. Discussion**

### **7. Conclusion**

Future work Access to TFL (Transport for London) and national railway services, distance to high street venues and proximity to recreational locations.