

# INTRODUCTION AND PROBLEM TO BE SOLVED

## IBM Data Science Certification Capstone Project

### 1. Introduction

#### 1.1 Background

Dublin is the capital and largest city of the Republic of Ireland and is situated on Ireland's East coast, within the province of Leinster. Dublin is known as the technology hub of Europe, giving home to many top firms such as Google, Airbnb, Facebook and Accenture.

Being a Consultant within the Technology and Applied Intelligence field I have recently decided to emigrate from my current home in Johannesburg, South Africa to Dublin, Ireland - but much like Johannesburg, Dublin is incredibly varied amongst its different areas (or Postal Codes) and a number of factors may change depending on where one chooses to live within Dublin including:

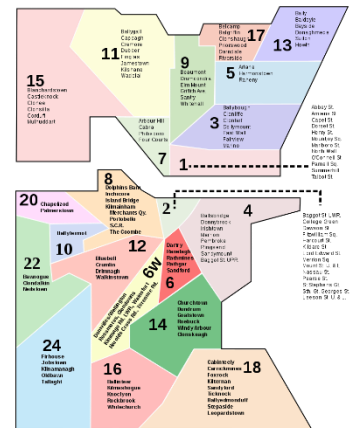
- Venues and general surrounds - the area may be more nature focussed with many parks, or perhaps have a more arts or dining focus
- Housing - the price of housing may vary wildly depending on area
- The vibe – What is Dublin without Pubs and music? An area may have lots of pubs or be a quiet residential area
- There may be many other factors that may come into play such as schools, proximity to work, malls, golf courses etc, depending on one's priorities

Dublin is made up of 18 distinct Postal Codes which make up the various areas of Dublin. These include [1]:

**Table 1: List of Postal Codes in Dublin**

Northside	Southside
Dublin 1 (D1)	Dublin 2 (D2)
Dublin 3 (D3)	Dublin 4 (D4), Dun Laoghaire Rathdown
Dublin 5 (D5)	Dublin 6 (D6), Dun Laoghaire Rathdown
Dublin 7 (D7)	Dublin 6W (D6W), South Dublin
Dublin 9 (D9)	Dublin 8 (D8)
Dublin 11 (D11), Fingal	Dublin 10 (D10)
Dublin 13 (D13), Fingal	Dublin 12 (D12)
Dublin 15 (D15), Fingal	Dublin 14 (D14), Dun Laoghaire Rathdown
Dublin 17 (D17), Fingal	Dublin 16 (D16), Dun Laoghaire Rathdown
	Dublin 18 (D18), Dun Laoghaire Rathdown
	Dublin 20 (D20)
	Dublin 22 (D22)
	Dublin 24 (D24)

**Dublin Postal Districts**



## 1.2 Problem

Given the fact that I don't know Dublin's various areas at all and have never even visited the country before, choosing exactly where to live is a challenging task. I do however know Johannesburg well - hence I would like my new home in Dublin to be similar in style, and have a similar feel and surroundings to Morningside, Johannesburg, but also be within 10Km of Dublin City centre where I'll be working. Given that I am coming from South Africa, with a current average exchange rate of around R20 to the Euro, it should also be within an area that has house prices in the region of no more than €400 000 – €500 000 but cheaper if possible and preferably be an area with a great Irish vibe (ie. Have great pubs and music) so that I can experience Ireland at its best. This project will therefore aim to utilise data, and various analytical and Data Science techniques to aid in making that decision.

## 1.3 Interest and Value

Beyond merely giving value to myself in a personal capacity, there are approximately 23,000 emigrants [1] from South African annually, and as many as 258 million people living outside of their country of birth as of 2018 [2]. Very often these people will leave to their new country knowing very little about it, and simply 'wing it' along the way. As such, a similar approach to the one taken in this report can be taken for any location in the world.