**Coursera Capstone**

**IBM Applied Data Science Capstone**

**Solving the problem of the right location for metro bus stations in Los Angeles**

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**Introduction/Business Problem:**

**Over the last decade, both Los Angeles County’s sprawling Metro system and smaller lines have hemorrhaged bus riders as passengers have fled for more convenient options — mostly, driving.Dropping ridership follows years of complaints about bus routes that are rarely as fast or reliable as driving and often require long waits, multiple transfers and delays in rush-hour traffic. More recently, a surge in the region’s homeless population has sparked concerns about safety and sanitation.**

**Ridership has fallen on almost all local bus systems, including routes in Santa Monica, the San Gabriel Valley, the Antelope Valley and Orange County, mirroring a national slump in bus ridership.**

**Metropolitan Transportation Authority buses, which carry most of the county’s bus riders, have lost nearly 95 million trips over a decade, according to federal data. The 25% drop is the steepest among the busiest transit systems in the United States and accounted for the majority of California’s transit ridership decline. The bus exodus poses a serious threat to California’s ambitious climate and transportation goals. Reducing traffic congestion and greenhouse gas emissions will be next to impossible, experts say, unless more people start taking public transit. Now, transportation officials and advocates are puzzling over how to transform the humble bus into something more than a last resort.**

**That will require attracting some of the 14 million Southern California residents who rarely, if ever, set foot on a bus or train. Fewer than 3% of residents take more than 25% of the region’s transit trips. The vast majority of riders are Latino or black, studies show, with no access to a car and little time to lobby for better service.**

**Data:**

**The use of foursquare API to better cluster neighborhoods can improve the bus system in LA. That way, we can correlate data from where people reside and how far the bus stop is from thor place of residence in order to decrease commute time and increase bus usage. I will do this by using data from wikipedia.** [**https://en.wikipedia.org/wiki/List\_of\_Los\_Angeles\_Metro\_Busway\_stations**](https://en.wikipedia.org/wiki/List_of_Los_Angeles_Metro_Busway_stations)