Capstone Project – Delhi Population Control

Data based suggestions, to Indian Government by Uday Pratap Singh, to control Delhi population growth.

INTRODUCTION

Delhi, officially the **National Capital Territory of Delhi** (**NCT**), is a city and a union territory of India containing New Delhi, the capital of India. It is bordered by Haryana (Gurugram, Faridabad, Jhajjar and Sonipat) on three sides and by Uttar Pradesh (Gautam Budh Nagar, Ghaziabad and Baghpat) to the east. As of 2016, recent estimates of the metro economy of its urban area have ranked Delhi either the most or second-most productive metro area of India. Delhi is the second-wealthiest city in India after Mumbai and is home to 18 billionaires and 23,000 millionaires. Delhi ranks fifth among the Indian states and union territories in human development index. Delhi has the second-highest GDP per capita in India.

However, Delhi is also one of the most polluted cities in India. Delhi faces many other issues too. One of the main root causes is its huge population. Delhi had an estimated 2016 population of over 26 million people, making it the world's third-largest urban area according to United Nations. Increased rate of population growth in Delhi is a matter of concern (Shown in Figure below). Delhi also has huge population of daily or frequent visitors, which makes the situation worse. This is already showing result as shortage of resources, increase in pollution, system breakdowns, etc.
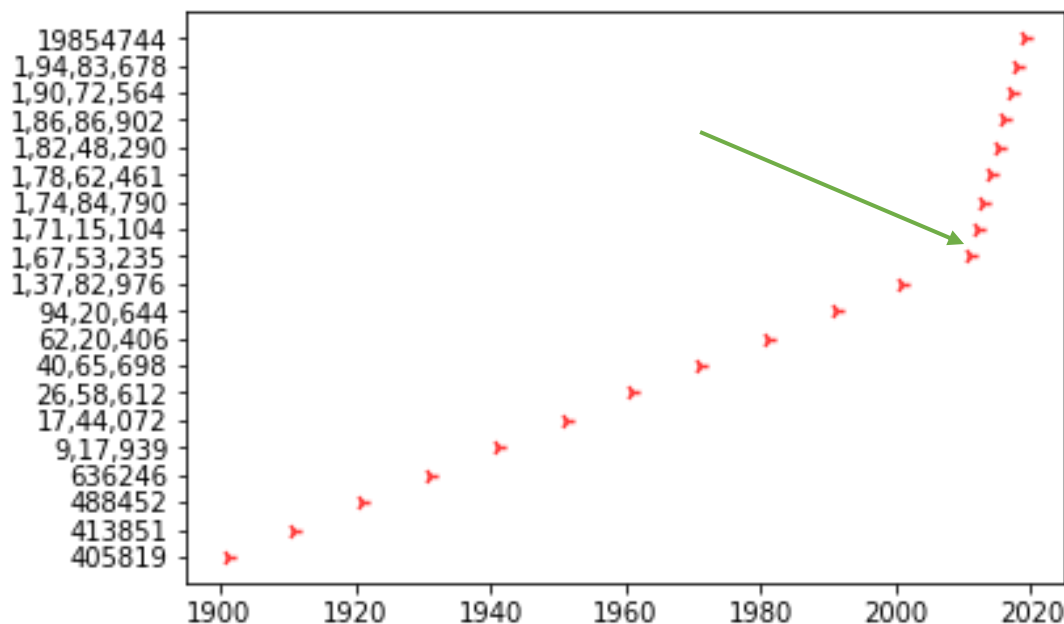

Figure: **Year**   vs   **Population of Delhi**

In the above plot, we can clearly see how population has increased over time and slope slope of the plot increased tremendously for past few years.

METHODOLOGY

There are mainly 2 kind of population in Delhi, that significantly contributes to pollution and other issues:

- Who are resident of Delhi. These are further of 2 kind:

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    - Who are by birth, resident of Delhi.
    - who have moved to Delhi for Job or Business.
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- Who regularly visit Delhi.

    One thing common in all of above is that they have some incentive to live in or visit Delhi: whether it is career, or best quality health care service of AIIMS, or anything else. Problem of Delhi can be solved if we can provide these incentive, at much more convenient location outside Delhi, to above mentioned population.

In this project, we will utilize our data to examine some most popular incentive that people get in Delhi, and well do nearby area of Delhi perform on those incentive. We will try to find out where the scope for those incentives lies, nearby to Delhi.

In the process, we will use location plots on maps to compare performance of Delhi vs nearby areas on particular incentive. We will also use some bar charts to compare numeric data.

DATA

In order to accomplish this goal, locations a data of places in Delhi and and nearby cities will be needed. We will use Foursquare services to gain data of various places in Delhi and nearby areas, in order plot them on map.

'https://data.gov.in/' is a Government of India website that provide opensource data to public. We will utilize this website to gain insights on employers in India, and Hospitals in National Capital Region. We will also use Wikipedia, 'https://propstory.com', and www.mca.gov.in to gain data on hospitals education sector and companies registered in India.

Our data will finally be in 4 splits: foursquare database of Railway, foursquare database of Institutions of National Importance, a csv file of area wise distribution of prominent hospitals, and a csv file of state wise distribution of active companies.