Assignment Summary Document

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# Problem Statement

To analyze the impact of COVID 19 lockdowns on the air quality index during the month of April 2021 near three air quality monitoring stations, namely Mandir Marg, Delhi – DPCC (77.201064323640779, 28.636429), Chandni Chowk, Delhi – IITM (77.227234, 28.656756) and Loni, Ghaziabad – UPPCB (77.278792, 28.757294), present in the Delhi, India region.

# Solution Summary

Air quality index in a region can be dependent on multiple factors. Among them, forest cover, industries and highways are the factors which I have considered as driving factors. The assumptions behind the considerations are as follow.

1. Highways are directly linked to human mobility. Dense network of highways is linked with more pollution.
2. Industrial activity is often known to cause pollution in the nearby environment.
3. Forest covers are sinks which can soak in pollution.

The dataset collected is AQI data of the three regions mentioned in the problem statement from the CPCB platform. Apart from the ground data, Landsat 8 aerosol images is also collected during lockdown period (17th to 24th april) and a no lockdown period (1-9th april).