Title: Optimizing Urban Parking Space Allocation: A Case Study
Link To Kaggle Notebook: https://www.kaggle.com/rahulkumarraykurmi/geo-visualization

Introduction:
As cities continue to grow, urban planners face the challenge of managing limited resources efficiently. One critical aspect is the availability and distribution of parking spaces. In this case study, we delve into the realm of parking space analysis to evaluate the distribution and identify areas with parking shortages within a bustling city.

Problem Statement:
The primary objective is to assess the distribution and availability of parking spaces, encompassing both street parking and dedicated parking lots. The focus is on understanding areas within the city that experience parking shortages, thereby enabling urban planners to make informed decisions for optimizing parking space allocation.

Dataset Details:
The dataset for this analysis comprises GeoJSON or shapefiles containing information about parking spaces. It includes data on both street parking and dedicated parking lots, providing a comprehensive view of the city's parking infrastructure.

Methodology:

Data Collection:

Obtain GeoJSON or shapefiles containing detailed information about parking spaces.
Include relevant attributes such as location coordinates, parking capacity, and restrictions.

Data Preprocessing:
Clean the dataset to remove any inconsistencies or inaccuracies.
Standardize data formats and units for uniform analysis.

Spatial Analysis:
Utilize Geographic Information System (GIS) tools to visualize the spatial distribution of parking spaces.
Identify clusters of parking spaces and assess their proximity to high-traffic areas.

Statistical Analysis:
Conduct statistical analysis to determine the average parking space occupancy rates in different parts of the city.
Identify areas with consistently high or low parking space availability.

Predictive Modeling:
Explore the use of predictive modeling to forecast future parking space demand.
Consider factors such as population growth, development projects, and economic trends.

Recommendations:
Propose recommendations for optimizing parking space allocation in areas with shortages. Suggest potential locations for new parking infrastructure based on the analysis.

Benefits:
Efficient Resource Allocation:
By understanding the current distribution and occupancy rates, urban planners can allocate resources more efficiently.

Improved Urban Mobility:
 Optimizing parking space allocation contributes to reduced traffic congestion and improved overall urban mobility.

Informed Decision-Making:
Data-driven insights enable city officials to make informed decisions about infrastructure development and urban planning.

Conclusion:
This case study demonstrates the importance of parking space analysis in addressing the challenges posed by urbanization. By leveraging geospatial data and advanced analytical techniques, cities can enhance their parking infrastructure, leading to a more sustainable and livable urban environment.