Project Proposal

Group 1:
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Project Title:
Analyzing Bicycle Theft Trends in Toronto

Objective:

1. **Daily Bicycle Theft Distribution Analysis (Line Chart):** The first research objective focuses on understanding the daily patterns of bicycle theft incidents. We will analyze data to determine which days of the week experience higher or lower rates of bicycle theft. A Line Chart titled "Bike Stolen - By Day of the Week" will be used to visually represent these trends. This analysis will help identify if certain days are more vulnerable to theft and can inform strategies for increased vigilance or security measures on specific days.

2. **Monthly Bicycle Theft Variation (Bar Chart):** The second research objective involves examining the monthly fluctuations in bicycle theft occurrences. By aggregating data on a monthly basis, we aim to identify seasonal or monthly patterns in bicycle theft incidents. The findings will be presented in a Bar Chart labeled "Bike Stolen - By Month." This analysis will offer insights into whether certain months exhibit higher rates of theft and can guide targeted preventive actions during specific periods.

3. **Long-term Bicycle Theft Trends (Bubble Charts):** The third research objective delves into long-term trends of bicycle theft over the span of multiple years. Bubble Charts will be employed to illustrate these trends in a visual format under the title "Bike Stolen - By Years." This analysis will help in identifying any overarching patterns or shifts in bicycle theft over time. Understanding long-term trends is crucial for developing comprehensive strategies to combat bicycle theft.

Introduction:

As cycling gains popularity in Toronto, the issue of bicycle theft emerges as a significant concern. This project aims to explore and analyze bicycle theft patterns in the city using data from the Toronto Police Service. By dissecting incident reports, we aim to identify trends and contributing factors. Our goal is to provide actionable insights for enhanced safety and informed urban planning.

These research objectives aim to provide a detailed understanding of bicycle theft patterns on a daily, monthly, and long-term basis. The visual representations through Line Charts, Bar Charts, and Bubble Charts will make the findings accessible and actionable for stakeholders, including law enforcement, city planners, and the cycling community.

Dataset:
We'll utilize GeoJson data of Bicycle Thefts from the last five years, sourced from the Toronto Police Service. This dataset contains location information.

Inspiration:
Understanding bicycle theft patterns can guide safety improvements for cyclists and inform urban planning, including secure bike storage and infrastructure enhancements.

Visual Representation:
Our analysis will be presented using maps with marker clusters and pop-ups, graphs (bar, line, pie), and zoom features for effective data communication.