**Group 3 Project Proposal: 🚲 Toronto Bike Share 2024 🚲**

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**Project Objectives:**

This project aims to analyze Toronto’s Bike Share activity in 2024 to uncover key trends that can inform urban planning decisions, particularly the potential expansion of bike lane infrastructure.

**Rationale:**

By analyzing these aspects, this project will provide valuable insights into how, when, and where people are using Toronto’s Bike Share program, ultimately supporting evidence-based decisions for future cycling infrastructure investments.

1. Seasonal Trends in Biking Volume:
   * Identify fluctuations in bike usage throughout the year, comparing peak and off-peak seasons.
   * Analyze daily and hourly ridership patterns to determine high-demand periods, especially during commute hours.
2. Average Time Spent Biking:
   * Calculate the average trip duration across different user groups (casual vs. annual members).
   * Compare trip duration variations across different seasons and times of the day.
3. Key Bike Share Routes and Destination Hotspots:
   * Map where bike share trips originate and where they end to identify popular routes.
   * Determine the busiest bike stations and corridors with the highest traffic.
   * Assess differences in bike usage across residential, commercial, and recreational areas.
4. Urban Planning Insights for Future Bike Lane Development:
   * Highlight areas where increased bike traffic suggests a need for additional bike-friendly infrastructure.
   * Provide data-driven recommendations to the City of Toronto for optimizing bike lane expansion based on ridership trends.

**Methodology:**

* + pandas, matplotlib, numpy, and SciPy
  + seaborn (possibly)

**Reference sources:**

1. “bikeshare-ridership-2024” retrieved from: <https://open.toronto.ca/dataset/bike-share-toronto-ridership-data/>
2. “PBSC: urban solutions” retrieved from: <https://tor.publicbikesystem.net/ube/gbfs/v1/en/station_status>
3. “PBSC: urban solutions” retrieved from: <https://tor.publicbikesystem.net/ube/gbfs/v1/en/station_information>