

# Citi Bike Data Analysis Project

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# Objective

The goal of this project is to help Citi Bike stakeholders understand their customer base to:

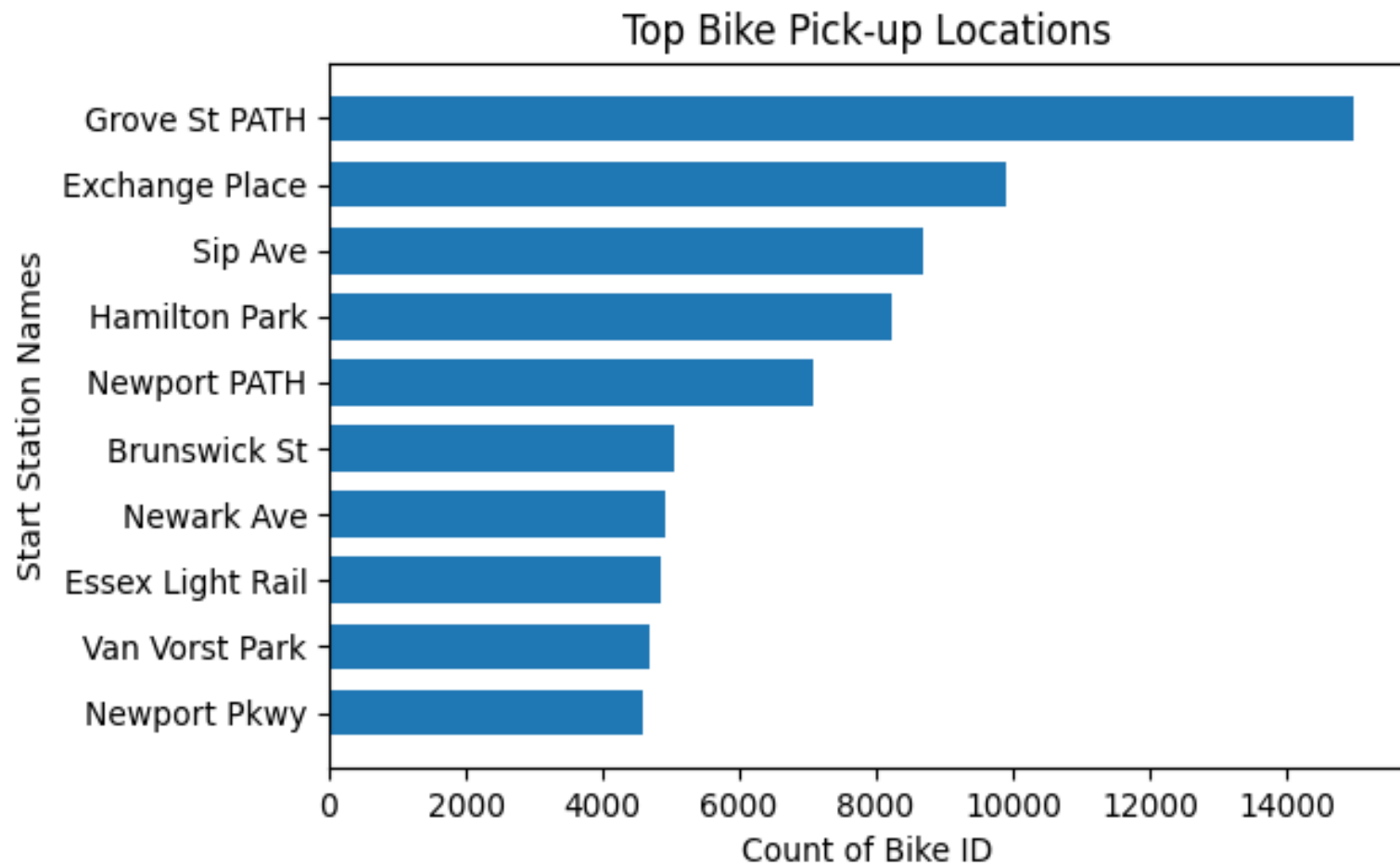
- Meet growing demands for bike use
- Know what factors impact patronage
- Help their marketing department know what groups to target
- Increase sales (profit)

# Key Questions

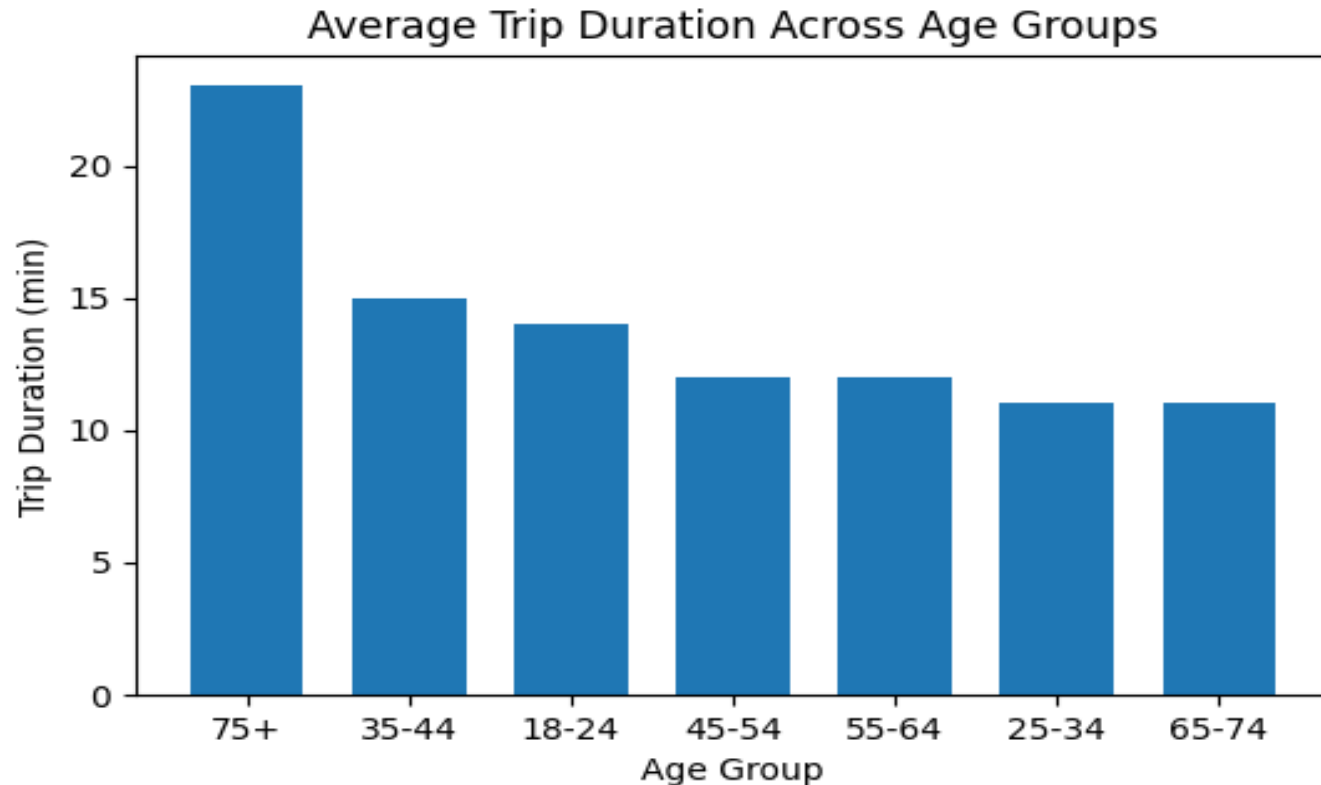
- What are the most popular pick-up locations across the city for Citi Bike rental?
- How does the average trip duration vary across different age groups, and over time?
- What time of the year does Citi Bike record the highest bike patronage?
- How does bike rental vary across the user groups (one-time users vs. long-term subscribers) on different days of the week?
- Do factors like weather and user age impact the average bike trip duration?

# Insights

# 1. Most popular Citi Bike pick-up stations

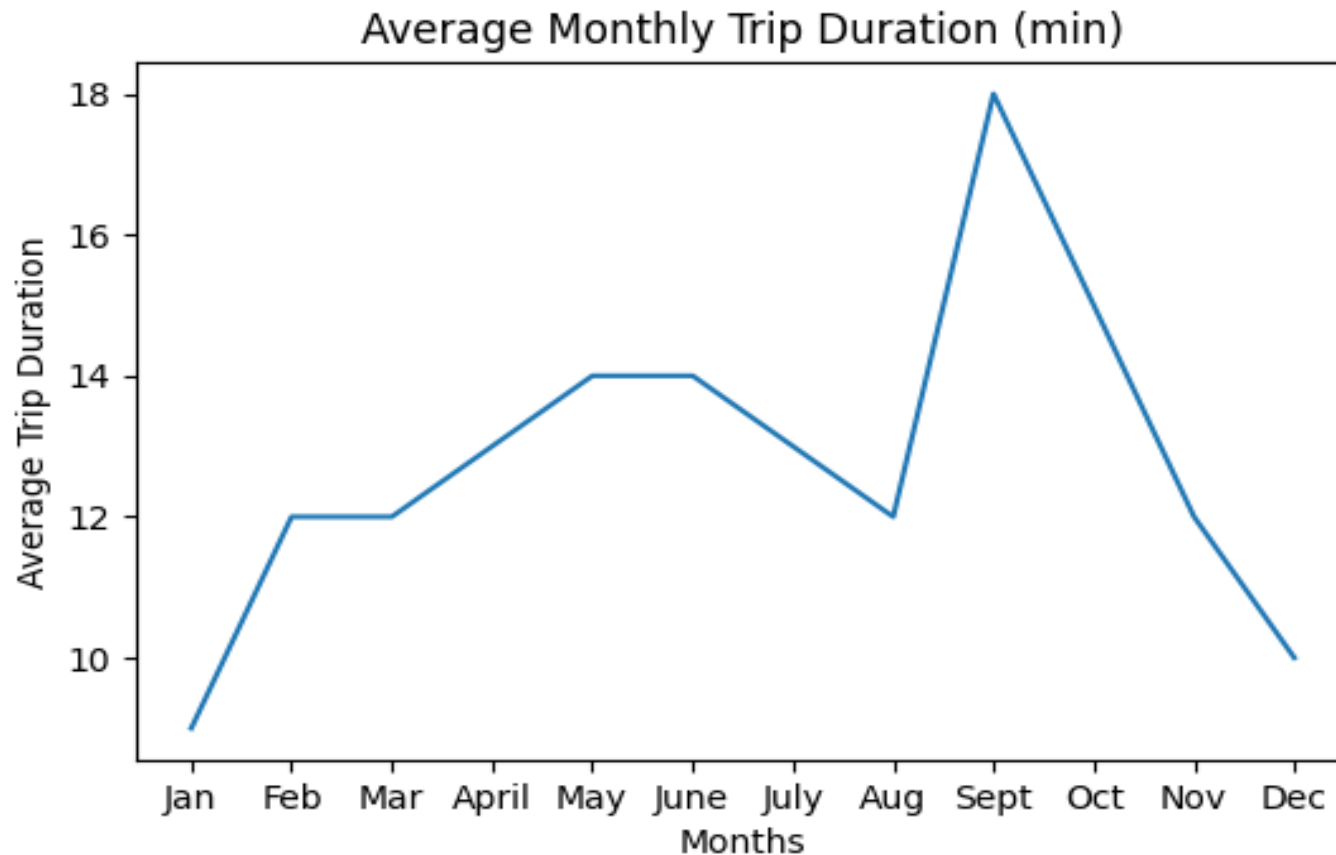


## 2. Variation of average trip duration across different age groups



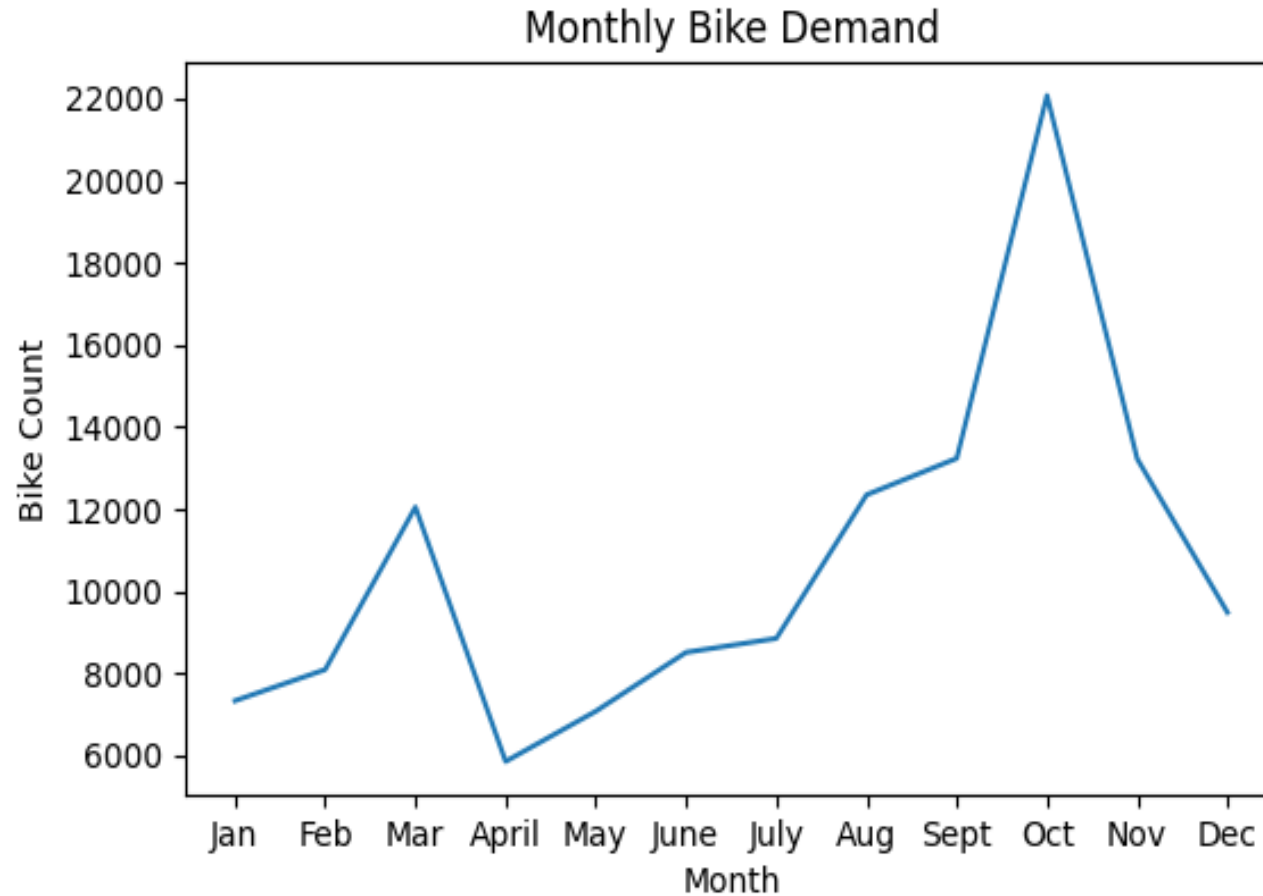
On the average, **75+** years old customers spend more time on the bike, while age groups 25-34 and 65-74 take the shortest trip

## 2. Variation of average trip duration over time



The longest trip duration happens in **September** and the shortest in **January**.

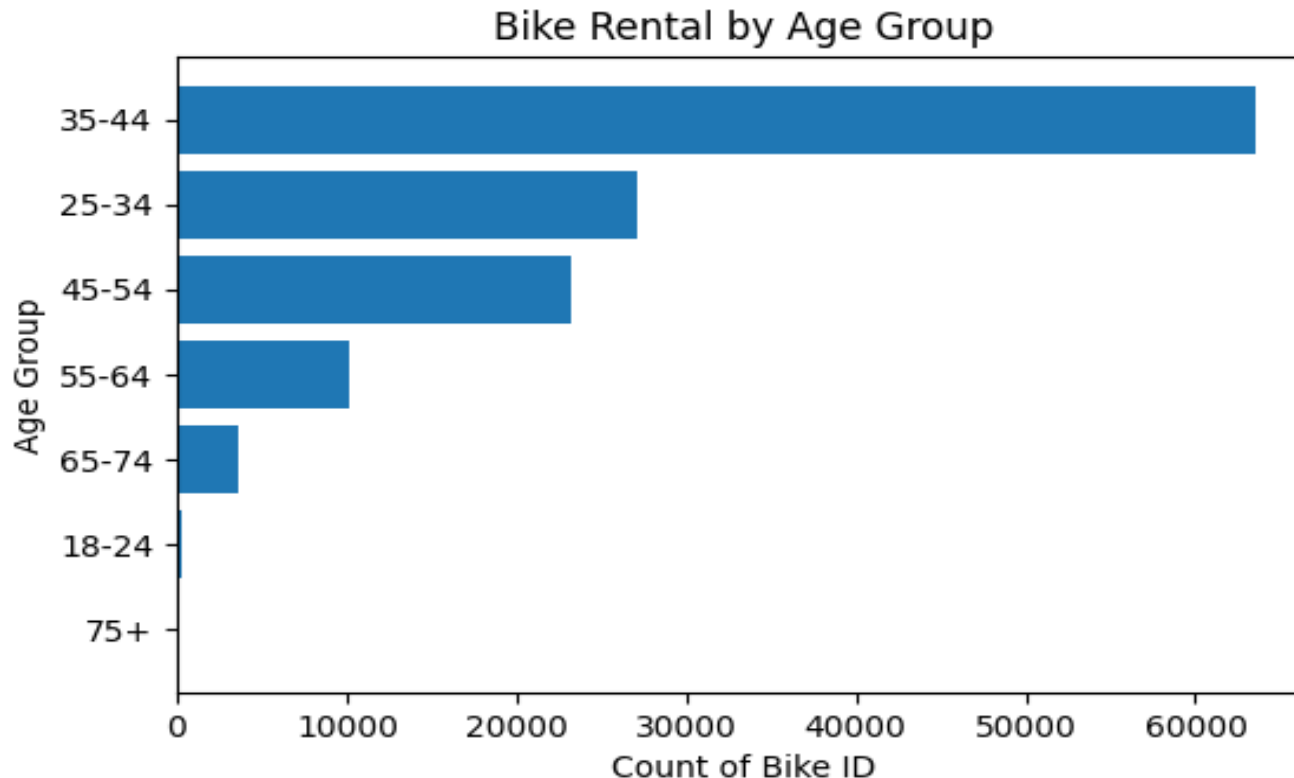
### 3. Variation in demands over time



Bike demand rise to its peak in **October**

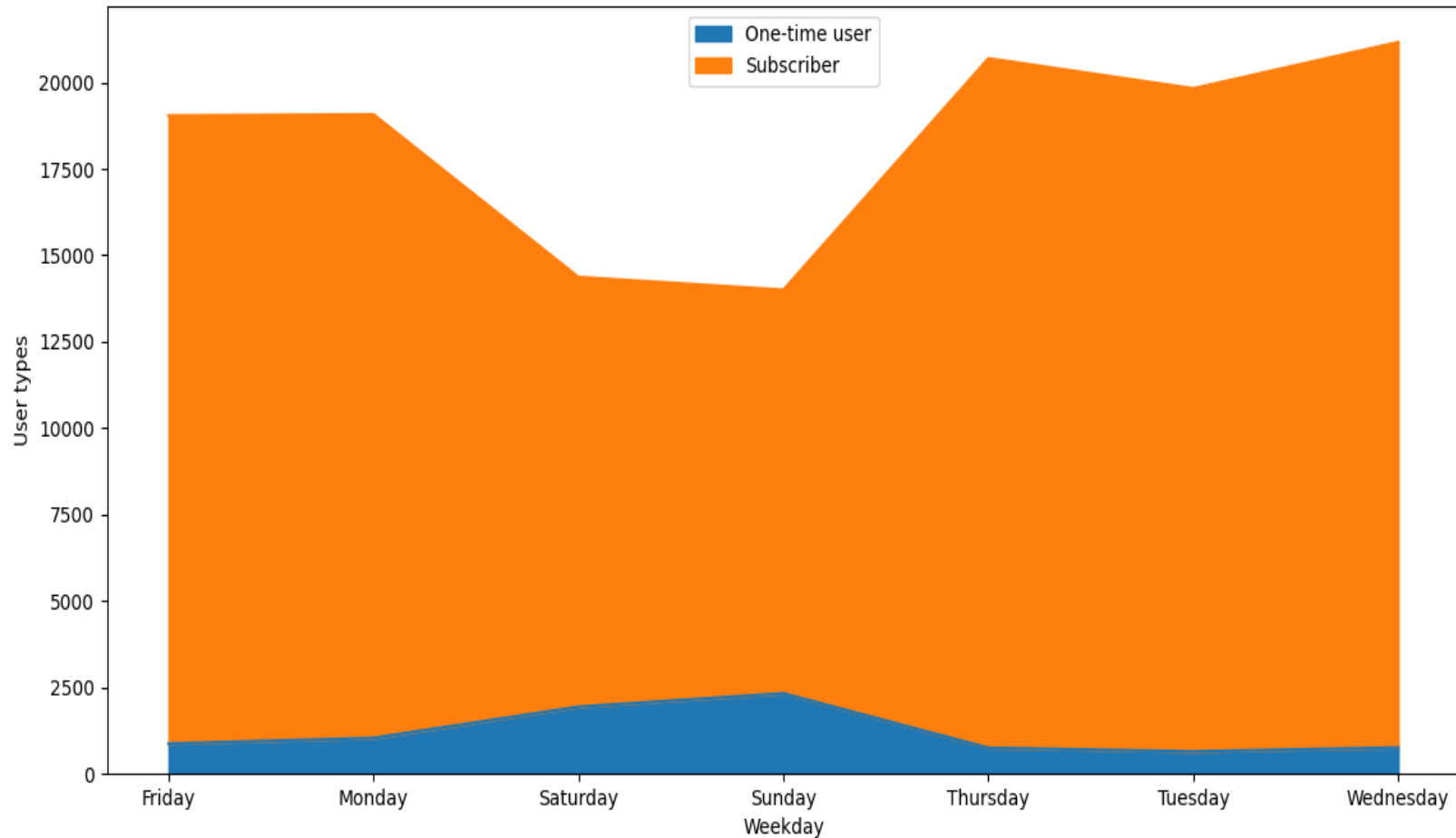


## 4. Bike rental across age group



Age group **35-44** rents the most bike followed by 25-34. Patronage at the lowest amongst **75+** and **18-24** age groups

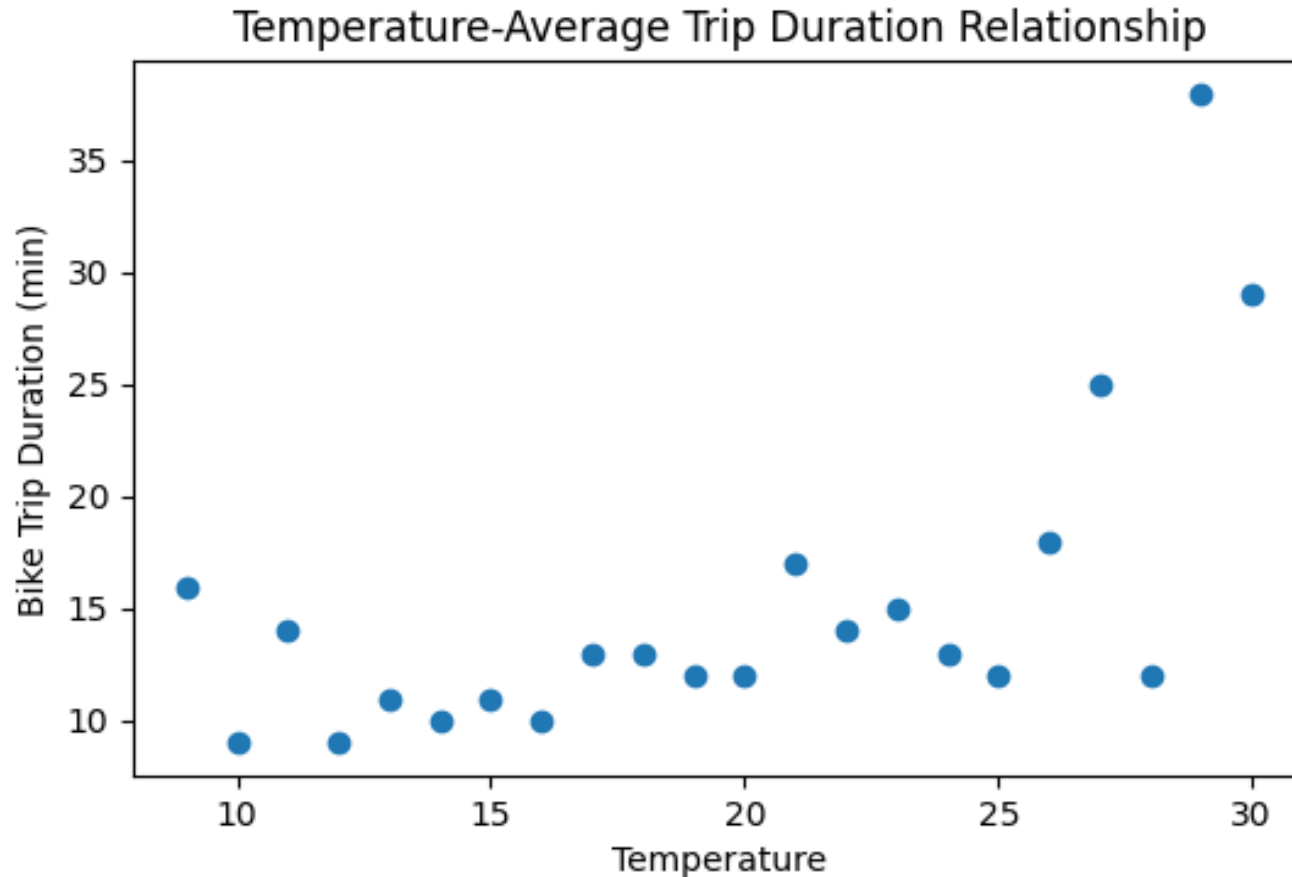
## 5. How bike rental varies between one-time users and subscribers



Bike users are mostly **subscribers**.

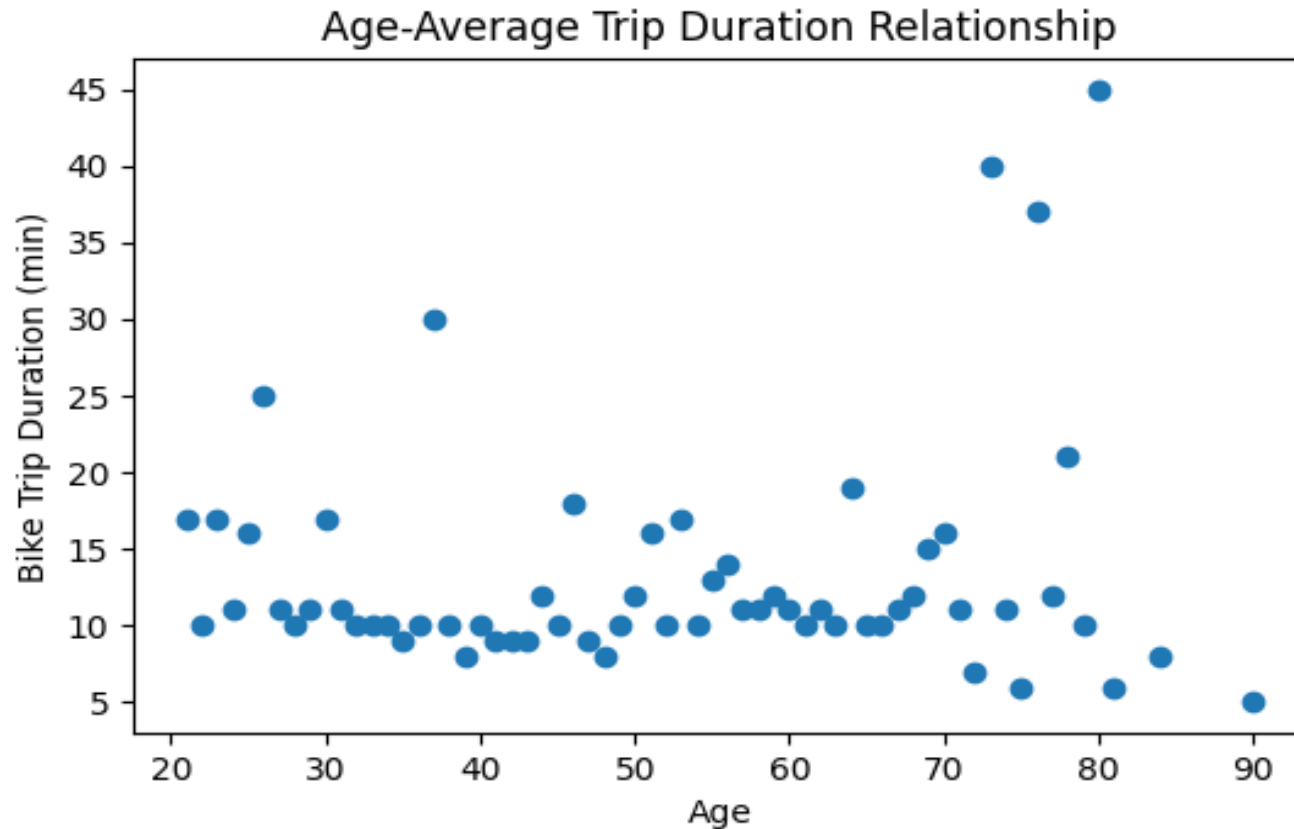
Subscribers rent more during the **week**, while one-time users rent more on **weekends**

## 6. Does weather impacts average bike trip?



Bike trip duration **increases** with **increasing** temperature.  
Temperature has about 60% impact on average trip duration.

## 6. Does user age impacts average bike trip?



User age does **not** impact the average bike trip taken. The user age/average bike trip relationship is weak.

# Summary of findings

- **Top bike pick-up stations:**

Grove St Path, Exchange Place, Sip Ave, Hamilton Park, Newport Path, Brunswick St, Newark Ave, Essex Light Rail, Van Vorst Park, Newport Pkwy

- **Citi Bike customers:**

- Users age 35-44 years old rent bike the most. 75+ year olds rent the least.
- Most bike users are subscribers who rent more during the week and less active on weekends.
- One-time users patronize more on weekends.

- **Customer behavior:**

- 75+ year olds ride the longest on average followed by 35-44 year olds
- Users rent more bikes and take the longest average trips in September-October months and when temperatures are warmer.

# Recommendations

- **Product recommendations:**

- More bikes should be install at the top 5 pick-up locations of Grove St Path, Exchange Place, Sip Ave, Hamilton Park, Newport Path
- More bikes should be provided to meet the sharp increase in bike demands during the summer and autumn months.

- **Marketing recommendations:**

- Long-term subscribers in the 35-44 age group should be targeted for marketing promotions, as they rent the most bikes.
- Unique incentives could be provided on weekends to turn one-time users, who are active on weekends, into subscribers.

Thank You