Citi Bike Data Analysis

By Clem Mordi

Project Goal:

- *To better understand the behavior of Citi Bike's customer base (both one-time users and subscribers) and how they use Citi Bikes*

- *This will help us to:*

  - *Identify where more bikes should be installed*
  - *Create targeted marketing campaigns that will appeal to different customer segments*

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?

- Which age group rents the most bikes?

- How does bike rental vary across the two user groups (one-time users vs long-term subscribers) on different days of the week?

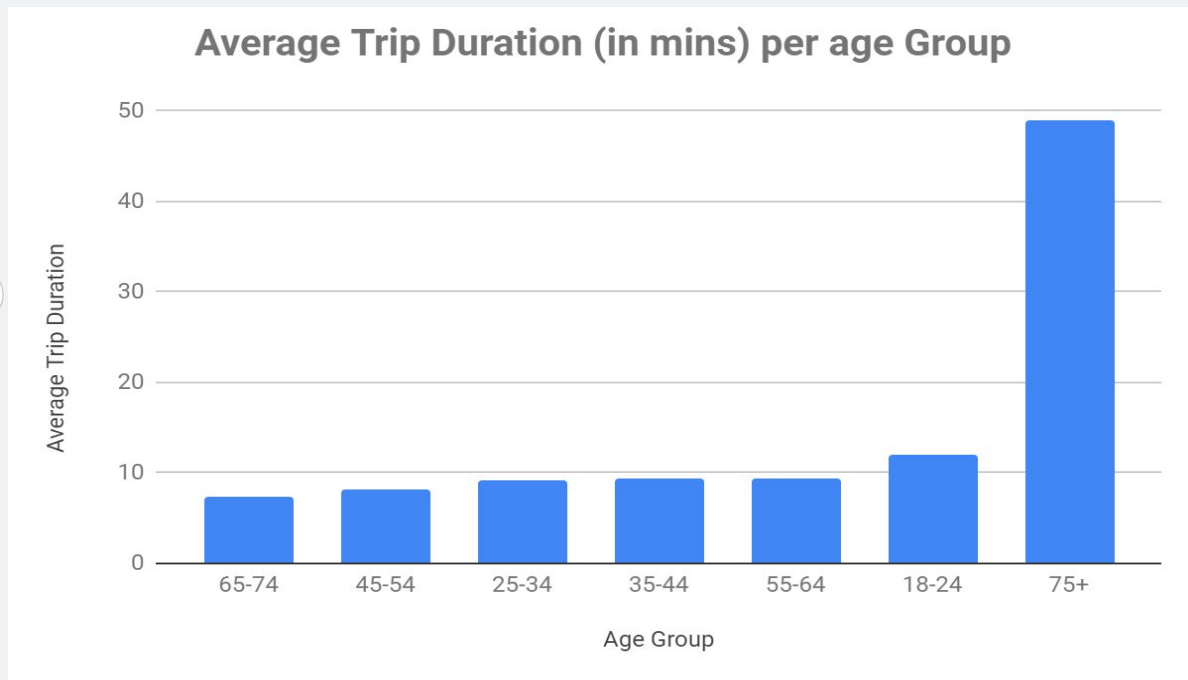- Does the factor of user age impact the average bike trip duration?

Findings & Insights

1. What are the most popular Citi Bike pick-up locations?

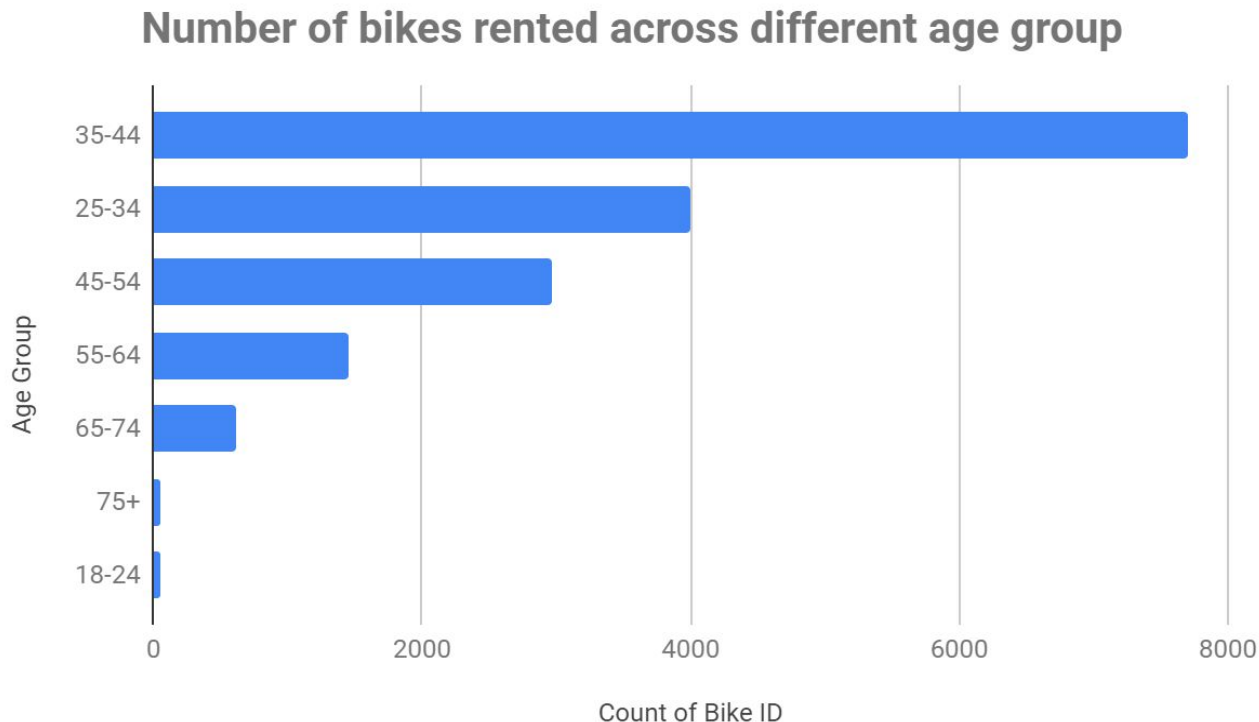The most popular pick-up station for NY Citi Bikes

2. How does the average trip duration vary across different age groups?
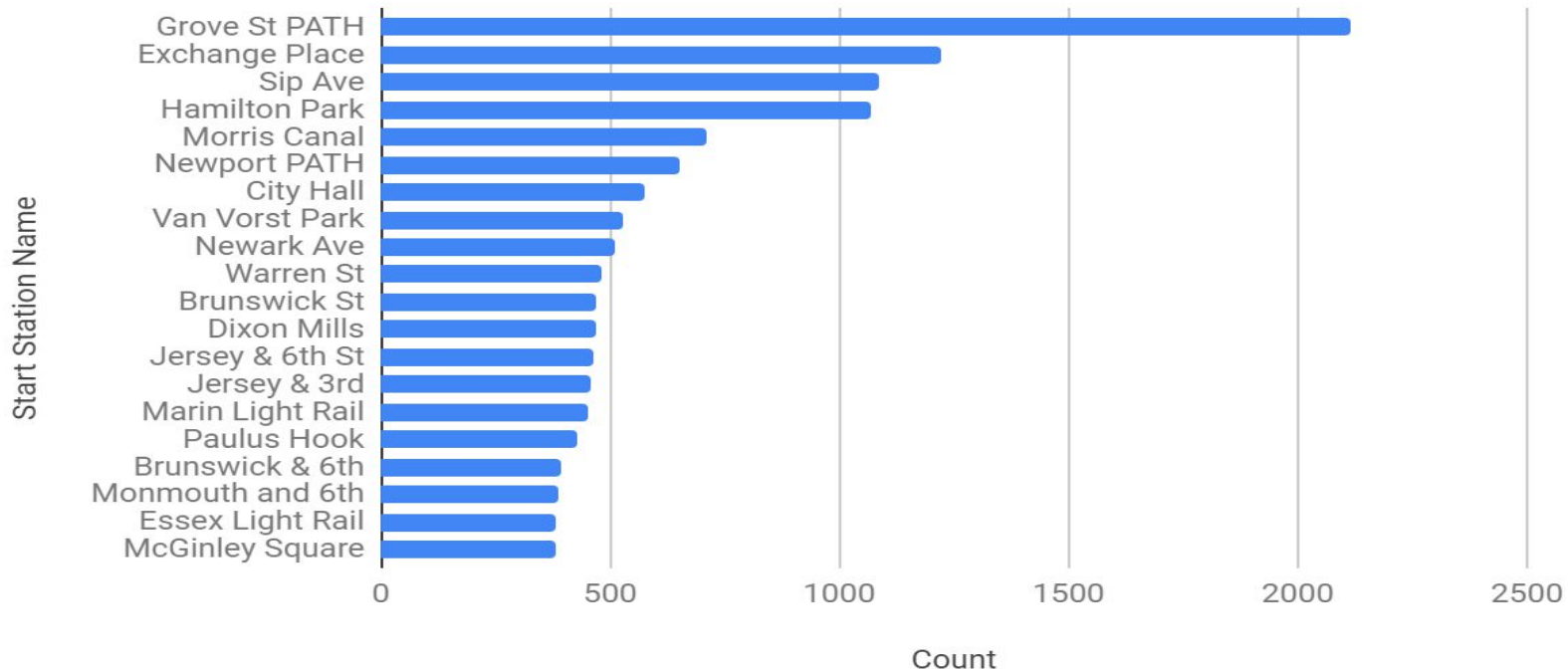
Average Trip Duration (in mins) per age Group

65-74,and 45-54 age groups have the least average trip duration.

Meanwhile, the 75+ age group has the highest trip duration on average with a wide margin between them and the 18-24 age group that trails as the second highest on average

3. Which age group rents the most bikes?

Number of bikes rented across different age group

Age groups (y-axis, top to bottom): 35-44, 25-34, 45-54, 55-64, 65-74, 75+, 18-24

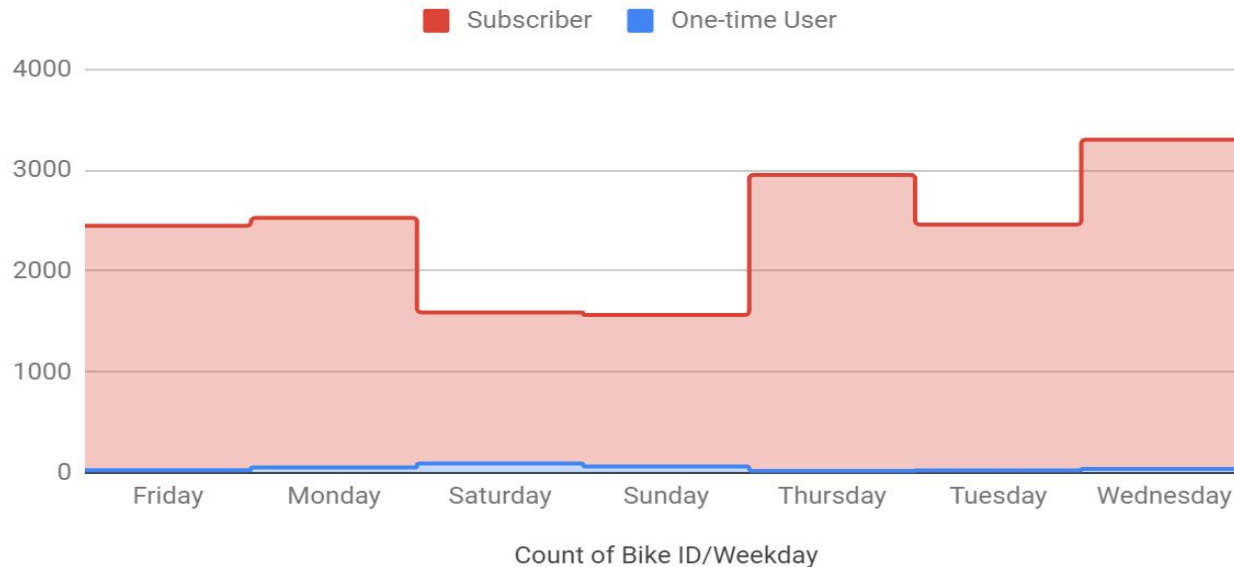X-axis: Count of Bike ID — 0, 2000, 4000, 6000, 8000

While the 75+ age group seemingly engages the most trip duration on average, the viz reveals that the 35-44 age group rents the most bikes in NY Citi Bikes

Meanwhile, the 75+ and 18-24 age groups rent the least bikes

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4. How does bike rental vary across the two user groups (one-time users vs long-term subscribers) on different days of the week?

**Number of bikes rented by one-time users and subscribers on different days of the week**

■ Subscriber   ■ One-time User

4000	
3000	
2000	
1000	
0	

Friday   Monday   Saturday   Sunday   Thursday   Tuesday   Wednesday

Count of Bike ID/Weekday

One-time users are most likely to rent bikes during weekends

Long-term subscribers rent bikes every day of the week, but have reduced bike rental activities at weekends(Saturdays and Sundays).

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5. Do factors like weather and age impact the average bike trip duration?

Comparison of Trip duration in mins and temperature
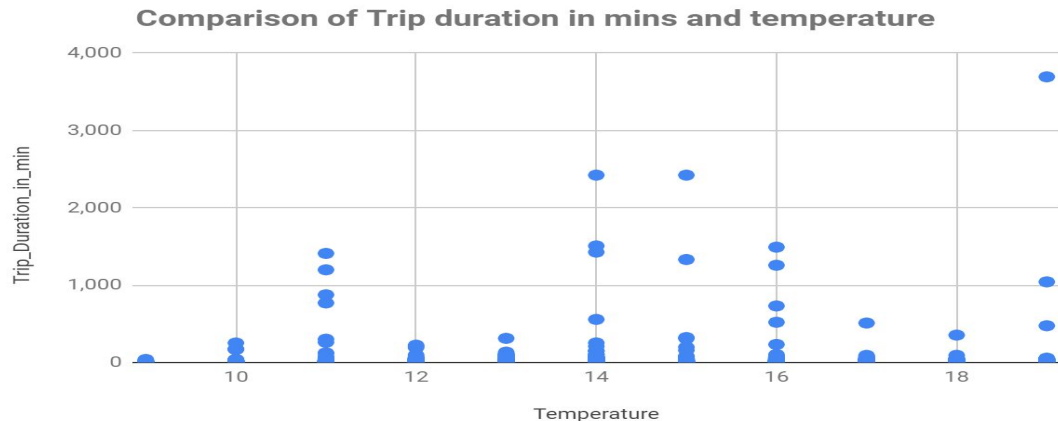
There is no vivid correlation between the weather and the trip duration

comparison of trip duration in mins and age
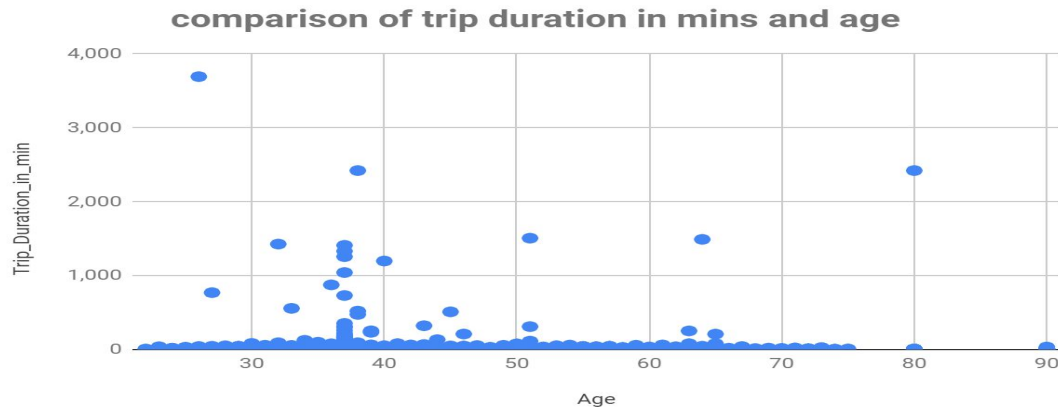
There is no relationship between the user age and trip duration

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Summary

Summary of findings:

- ***Top 5 pick-up locations for bikes:***

  - *Grove St Path, Exchange Place, Sip Ave, Hamilton Park, & Morris Canal*

- ***Customer base:***

  - *35-44 years old customers rented the most bikes*
  - *18-24 years customers rented the least bikes, yet they take the second longest trip (on average)*
  - *Long-term subscribers are the majority of Citi Bikes customer base and the are more active on weekdays*
  - *One-time users are more active at weekends*

- ***Citi Bike customer behavior:***

  - *75+ year old customers take the longest average trips, but rent the least bikes*
  - *65-74 and 25-34 year olds take the shortest trips on average*

Actions & Recommendations

Recommended actions:

Product recommendations:

- *Install more bikes at Grove St Path, Sip Ave, Newport Path, Newark Ave, Van Vorst Park*

Marketing recommendations:

- *The Citi Bike customer base is mostly Long-term subscribers, aged between 35-44 years, who are most active on weekdays. This tells us that they are probably people who live in New York and use Citi Bikes to commute. Marketing and advertising campaigns should therefore target this particular demographic.*

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Thank you!

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