CITI BIKE DATA ANALYSIS

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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:

  o   Identify where more Bike should be installed
  o   Create targeted marketing campaigns that will appeal to different customer segments
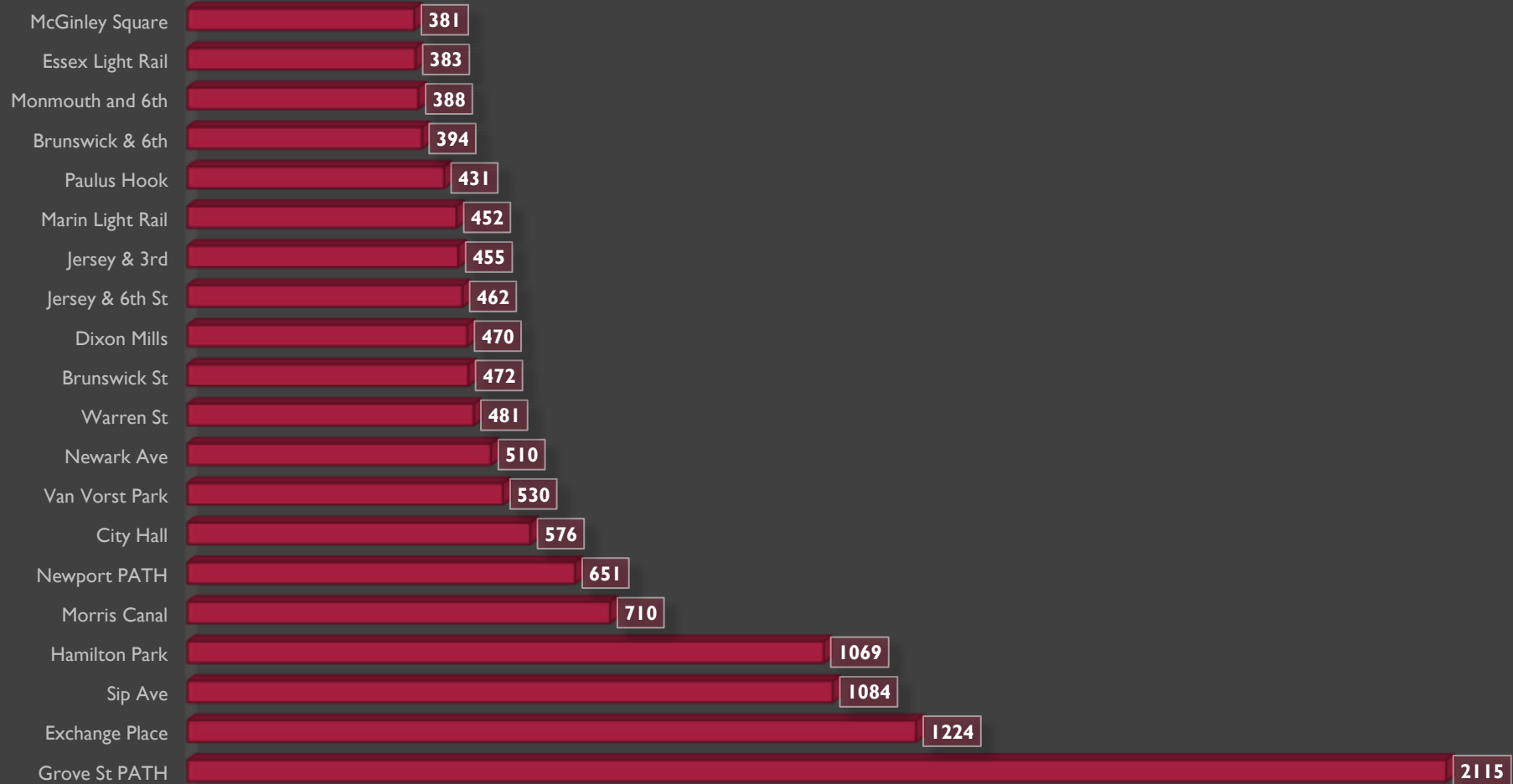
Key Questions:

- 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 bike?
- How does the rental vary across the two user groups (one-time users vs subscribers) on different day of the week?
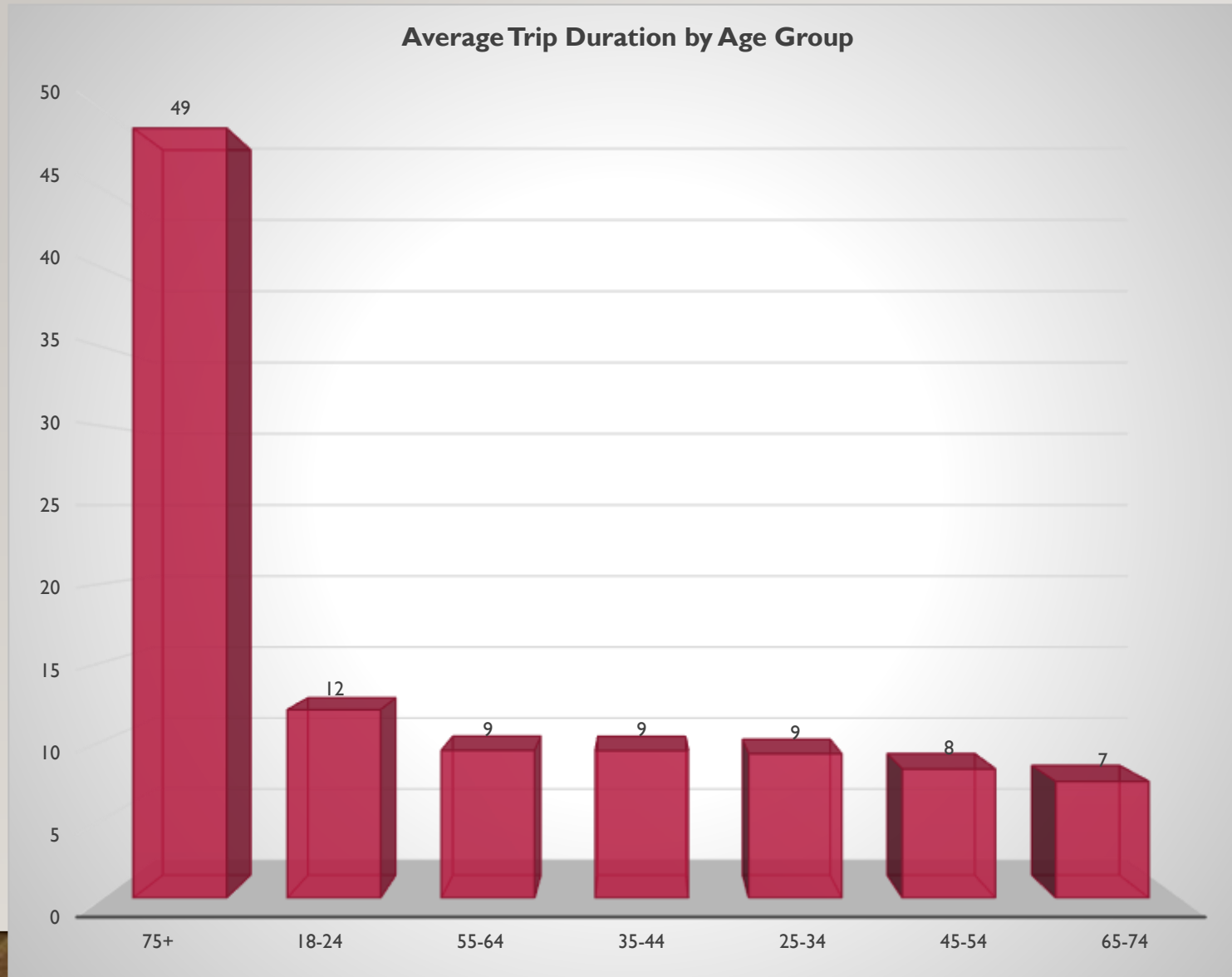- Does the factor of user age impact the average bike trip duration?

Finding and Insights

1. WHAT ARE THE MOST POPULAR PICK-UP LOCATIONS ACROSS THE CITY FOR CITI BIKE RENTAL?
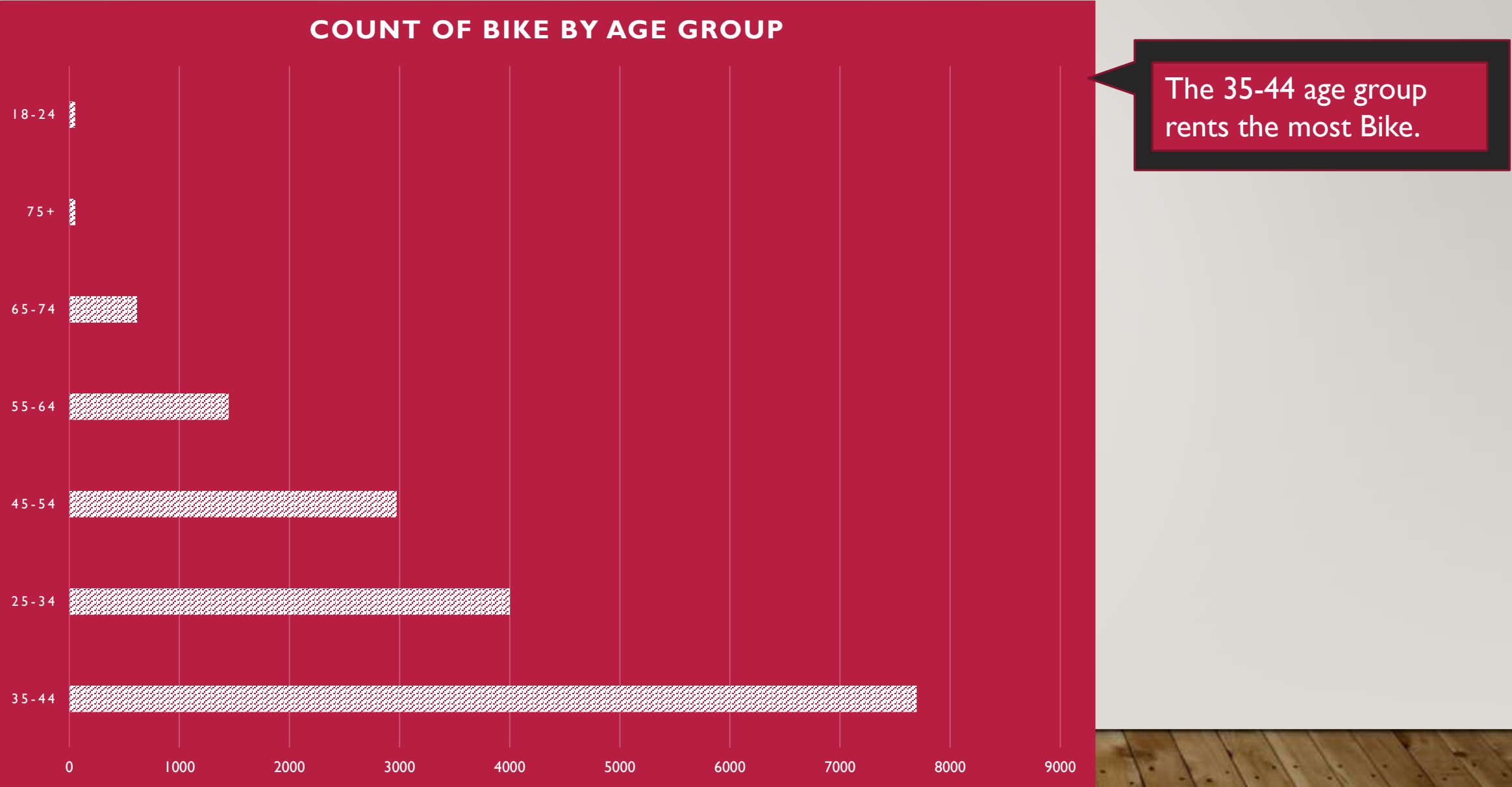
COUNT BY STATION NAME

Station Name	Count
McGinley Square	381
Essex Light Rail	383
Monmouth and 6th	388
Brunswick & 6th	394
Paulus Hook	431
Marin Light Rail	452
Jersey & 3rd	455
Jersey & 6th St	462
Dixon Mills	470
Brunswick St	472
Warren St	481
Newark Ave	510
Van Vorst Park	530
City Hall	576
Newport PATH	651
Morris Canal	710
Hamilton Park	1069
Sip Ave	1084
Exchange Place	1224
Grove St PATH	2115

2. HOW DOES THE AVERAGE TRIP DURATION VARY ACROSS DIFFERENT AGE GROUPS?
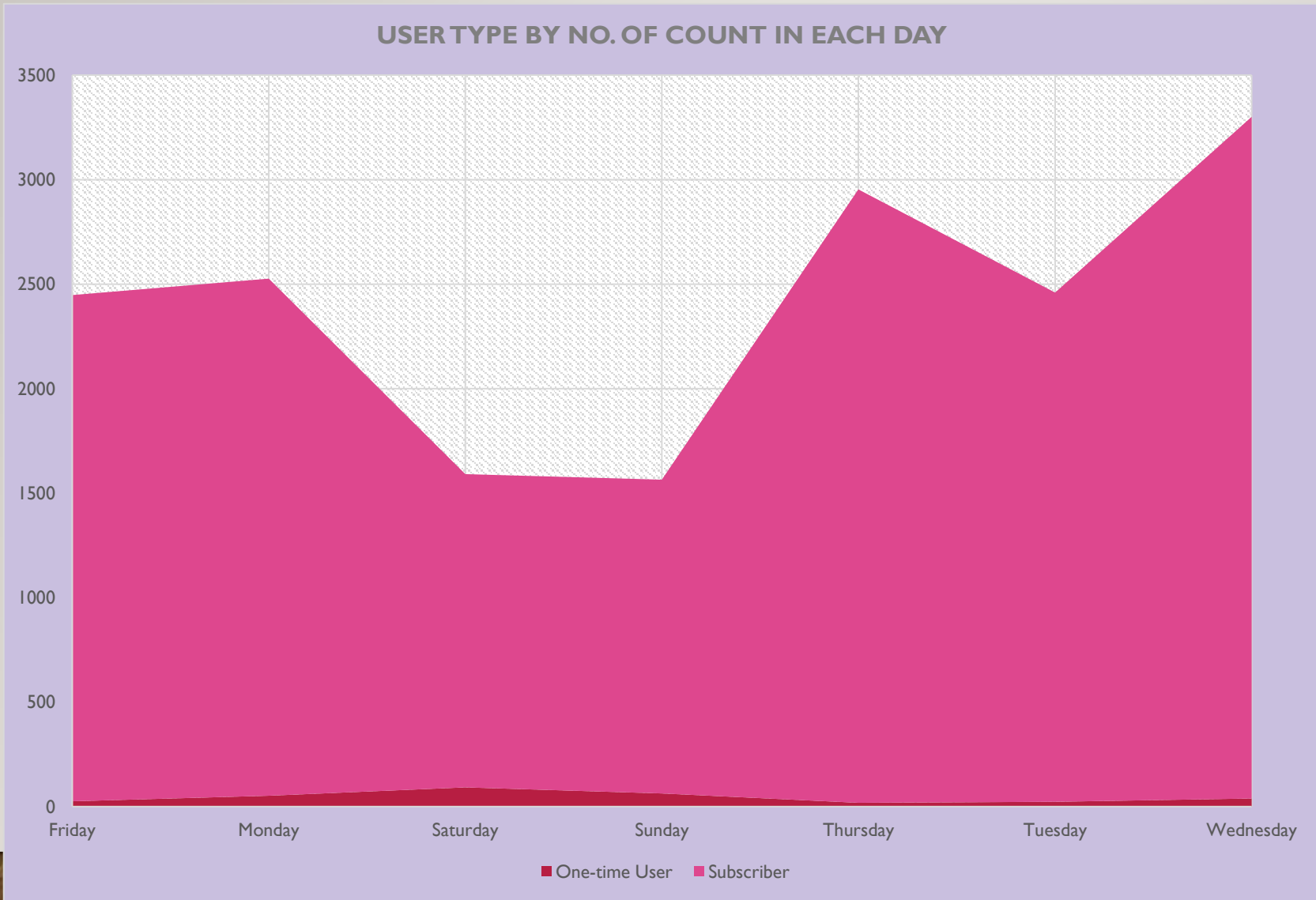
Average Trip Duration by Age Group

The 75+ age group take the longest time on trips compared to the other age groups. The other age groups take considerable and almost similar duration on their trip.

4. HOW DOES THE RENTAL VARY ACROSS THE TWO USER GROUPS (ONE-TIME USERS VS SUBSCRIBERS) ON DIFFERENT DAY OF THE WEEK?

USER TYPE BY NO. OF COUNT IN EACH DAY

- The one-time users take more Bike on weekends than during the weekdays. While the Subscribers took less bike during the weekends than during the weekdays.
- Also, the subscribers took the most Bike even during weekends.

5. DOES THE FACTOR OF USER AGE IMPACT THE AVERAGE BIKE TRIP DURATION?

Trip_Duration_in_min By Age
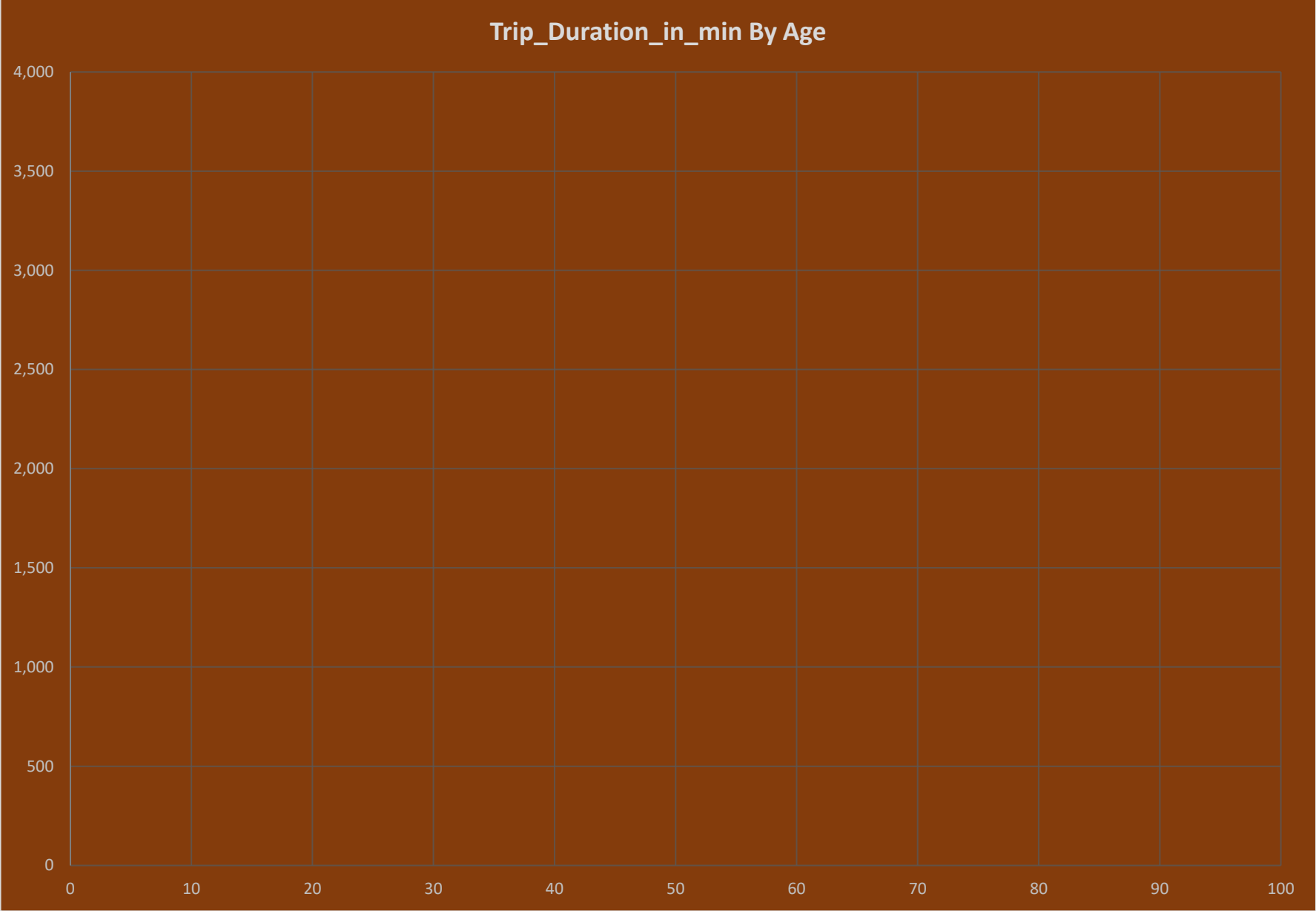
The user age does not have much relationship with the trip duration though there are rare cases of high trip duration within the age of 25 and 34.

SUMMARY

SUMMARY OF FINDINGS:

- Top 10 pick-up locations for bikes:
  - o   Grove St PATH, Exchange Place, Sip Ave, Hamilton Park, Morris Canal, Newport PATH, City Hall, Van Vorst Park and Newark Ave.

- Customer base:
  - o   The main customer of New York Citi Bike are the subscribers especially those in the age group of 35-44

- Citi Bike customer behavior:
  - o   The 75+ age group takes the longest trip duration while the 65-74 age group takes the shortest trip duration.

ACTIONS AND RECOMMENDATIONS

RECOMMENDED ACTIONS:

Product recommendations:

- Upgrade and install more Bike at Grove St PATH, Exchange Place, Sip Ave, Hamilton Park, Morris Canal, Newport PATH, City Hall, Van Vorst Park and Newark Ave for better experience.

- Start a motorcyclist service which will convey the 75+ age group to their destination.

Marketing Recommendations:

- The Citi Bike customer base is mostly subscriber user type aged between 35-44, who are most active during the 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.

- Make a weekly or monthly special gift for Subscribers.

THANK YOU!

NOTE:

The New York Citi Bike dataset has 17 columns which included Start Time, Stop Time, Start Station ID, Start Station Name, End Station ID, End Station Name, Bike ID, User Type, Birth Year, Age, Age Groups, Trip Duration, Trip-Duration-in-min, Month, Season, Temperature, Weekday.