**Phenomenon 1: Casual Riders Take Longer Trips Than Members**

**Overview:**  
Our analysis reveals that **casual riders consistently take longer bike trips than annual members**, across all times of day and station locations.

**🔍 Supporting Visualizations:**

* **Bar Chart: Average Trip Duration by User Type**

<https://public.tableau.com/app/profile/avenika.amaradasa/viz/AvgTripDurationbyUserType_17483419586480/AvgTripDurationbyUserType>

Casual users take significantly longer trips on average (often 2–3x longer) compared to members. This suggests different ride intentions—members use bikes for short commutes; casual users explore or take leisure rides.

* **Trip Duration Distribution (In minutes)**

<https://public.tableau.com/app/profile/avenika.amaradasa/viz/TripDurationinMins/TripDurationinMins>

The histogram shows a higher frequency of short-duration trips among members, while casuals exhibit a longer tail, indicating many long rides, some even over an hour.

* **Top Popular Stations by User Type**

<https://public.tableau.com/app/profile/avenika.amaradasa/viz/Popularstationbyusertype/PopularStartStationbyUserType>

Members tend to start trips near transit hubs and residential areas, while casuals frequently start rides near tourist areas or waterfronts. This reinforces the idea that casual users ride for recreation.

* **Hour of the Day vs. User Type (Heatmap)**

<https://public.tableau.com/app/profile/avenika.amaradasa/viz/Hourofthedayvs_UserType/HourofthedayVs_UserType>

Members ride most during weekday rush hours (8 AM and 5–6 PM), aligning with work commutes. Casuals peak around mid-afternoon and weekends, reflecting leisure activity.

**📌 Conclusion:**

This behavioral divergence suggests the Citi Bike system supports **two distinct populations**—daily commuters and recreational riders. City planners could consider:

* Expanding **casual-use infrastructure** near parks and scenic areas.
* Enhancing **member-use efficiency** during peak commute hours (e.g., station balancing, dedicated bike lanes).

Phenomenon: <https://public.tableau.com/app/profile/avenika.amaradasa/viz/Phenominon1/Phenominon1>

Story 1: <https://public.tableau.com/app/profile/avenika.amaradasa/viz/Story1_17483417794720/Story1>

**📈 Phenomenon 2: Unusual Surge in Ridership During March 2025**

**Overview:**  
Compared to January and February 2025, **March saw a dramatic surge in total ridership**, especially among casual users.

**🔍 Supporting Visualizations:**

* **Line Chart: Monthly Trip Volume**

<https://public.tableau.com/app/profile/avenika.amaradasa/viz/MonthlyTripVolume/MonthlyTripVplume>

March trip volume nearly **doubled** from February, signaling a sharp seasonal or event-driven change. This jump was much larger than the typical month-to-month variation.

* **Line Chart: Monthly Growth by User Type**

<https://public.tableau.com/app/profile/avenika.amaradasa/viz/MonthlyGrowthbyUserType/MonthlyGrowthbyUserType>

Both members and casuals contributed to the surge, but casual rider growth was far more pronounced. This could reflect warmer weather, Spring Break tourism, or a marketing campaign.

* **Bar Chart: Top Start Stations in March**

<https://public.tableau.com/app/profile/avenika.amaradasa/viz/Top10StartStationsinMarch/Top10StartStationsinMarch>

Many of the most-used stations in March are near popular destinations like **Exchange Place, Grove St, and Newport Pkwy**, suggesting a leisure or tourist-driven trend.

* Map – Rider Start Station Map

<https://public.tableau.com/app/profile/avenika.amaradasa/viz/RiderStartStationMap/RiderStartStationMap>

**📌 Conclusion:**

The March surge highlights how **seasonality and urban events** affect ridership. This insight can help Citi Bike:

* **Forecast demand** more accurately in spring and summer months.
* **Scale inventory or staffing** in high-traffic areas during these periods.
* Consider **targeted promotions** for casual riders during key tourism seasons.

**Final Recommendations:**

* Enhance **station balancing** to support both short commuter and long recreational trips.
* Use **seasonal trends** to drive planning for resource allocation, maintenance, and promotional efforts.
* Consider **infrastructure adjustments** (e.g., increasing docks in parks or transit-heavy zones) to accommodate growing demand.