

Case Study - Cyclistic Bikes

A Data Analytics project (Oct 2025)

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Cyclistic Bike-Share

Goal: Maximize annual memberships by converting casual riders to annual members.

Pricing Plans:

- Single-ride or full-day passes - Casual Riders
- Annual memberships - Annual members

Lily Moreno, director of marketing, believes that maximizing the number of annual memberships will be key to future growth.

The question to ASK:

How can the digital marketing team at Cyclistic convert casual riders into annual members by analyzing differences in their riding behavior?

Available dataset

12 months of bike trip data:

-> 2025_09 to 2024_10

The each month data has around **1M entries**. It consists of ride_id, start_station_name, start_time, end_time etc.

- The data is made available by Motivate International Inc under the Data Science license.

(The dataset has a different company name because Cyclistic is a fictional company, used only for this project)

Processing Dataset

- Cleaning data by removing duplicates and trimming whitespaces.
- Created a new column, **ride_length**. The values are populated by calculating the difference between the end_time and start_time.
- Introduced a **day_of_week** column to determine which day of the week each ride started.

=CHOOSE(WEEKDAY(A2), "Sunday", "Monday", "Tuesday",
"Wednesday", "Thursday", "Friday", "Saturday")

Processing Dataset (contd.)

- Created a Pivot Table to get **average ride times**, for each day of the week, for both casual riders and annual members.

For e.g.;

2025_04 dataset:

	A	B	C	D	E	F	G	H	I
1	Average - ride	day of week							
2	member_cat	Friday	Monday	Saturday	Sunday	Thursday	Tuesday	Wednesday	Total Result
3	casual	00:21:05	00:23:20	00:23:57	00:26:04	00:18:15	00:19:24	00:16:19	00:21:30
4	member	00:11:16	00:11:17	00:12:16	00:12:46	00:10:50	00:10:53	00:10:49	00:11:19
5	Total Result	00:14:18	00:14:32	00:16:53	00:18:07	00:12:41	00:12:55	00:12:08	00:14:19

Analysis of the dataset

- Except for the winter months, the **average ride time** for *casuals riders* is almost **double** that of *annual members*.

	A	B	C	D	E	F	G	H	I
1	Average - ride	day of week							
2	member_casual	Friday	Monday	Saturday	Sunday	Thursday	Tuesday	Wednesday	Total Result
3	casual	00:21:05	00:23:20	00:23:57	00:26:04	00:18:15	00:19:24	00:16:19	00:21:30
4	member	00:11:16	00:11:17	00:12:16	00:12:46	00:10:50	00:10:53	00:10:49	00:11:19
5	Total Result	00:14:18	00:14:32	00:16:53	00:18:07	00:12:41	00:12:55	00:12:08	00:14:19

Analysis of the dataset (contd.)

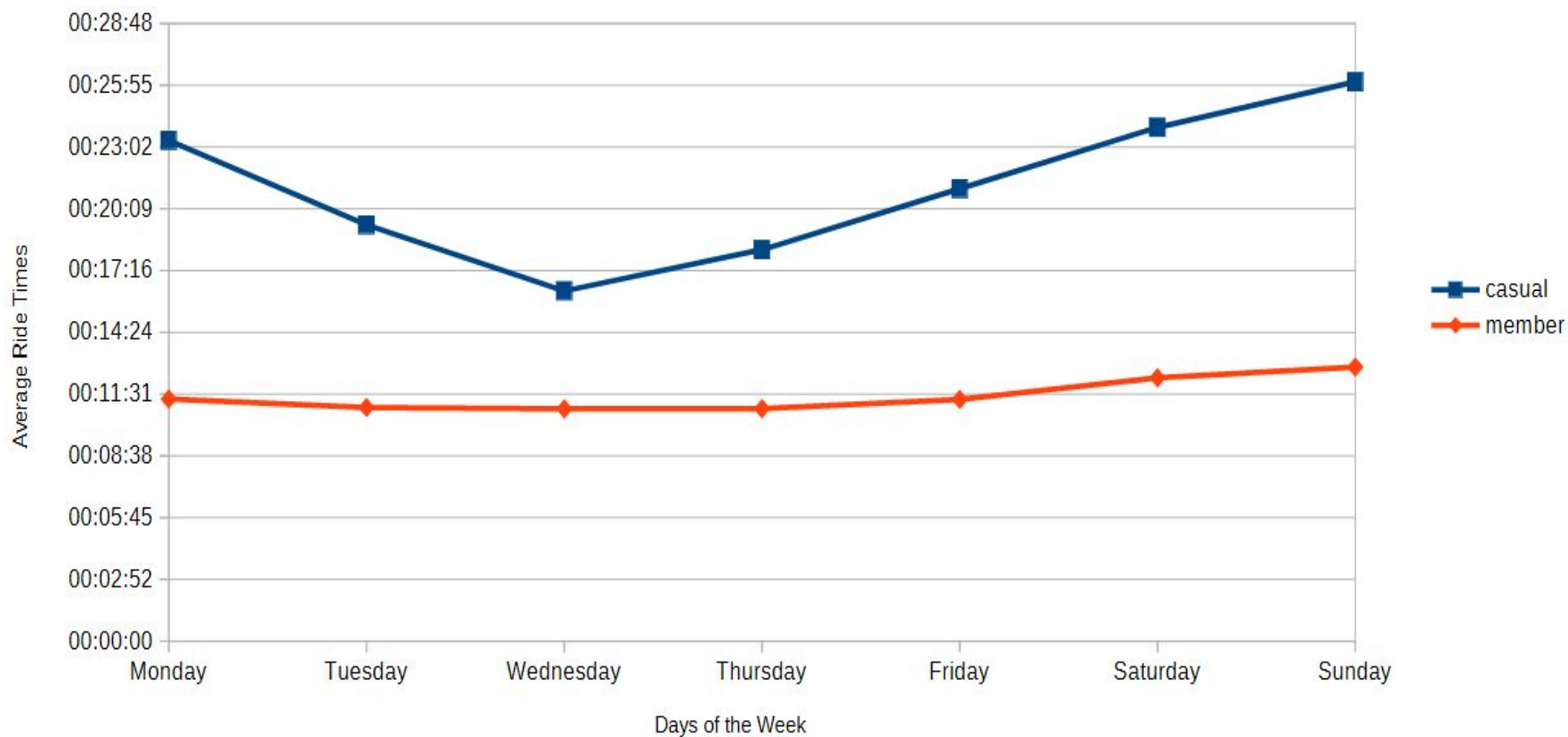
- Among the **casual riders**, the activity is considerably **higher** on the **weekends**.

(The casual riders use the bike-share system for personal use during the weekends more than for work in the weekdays.

This gives us an insight on how we can market to the casual riders)

Average Ride Times through the week

For April 2025



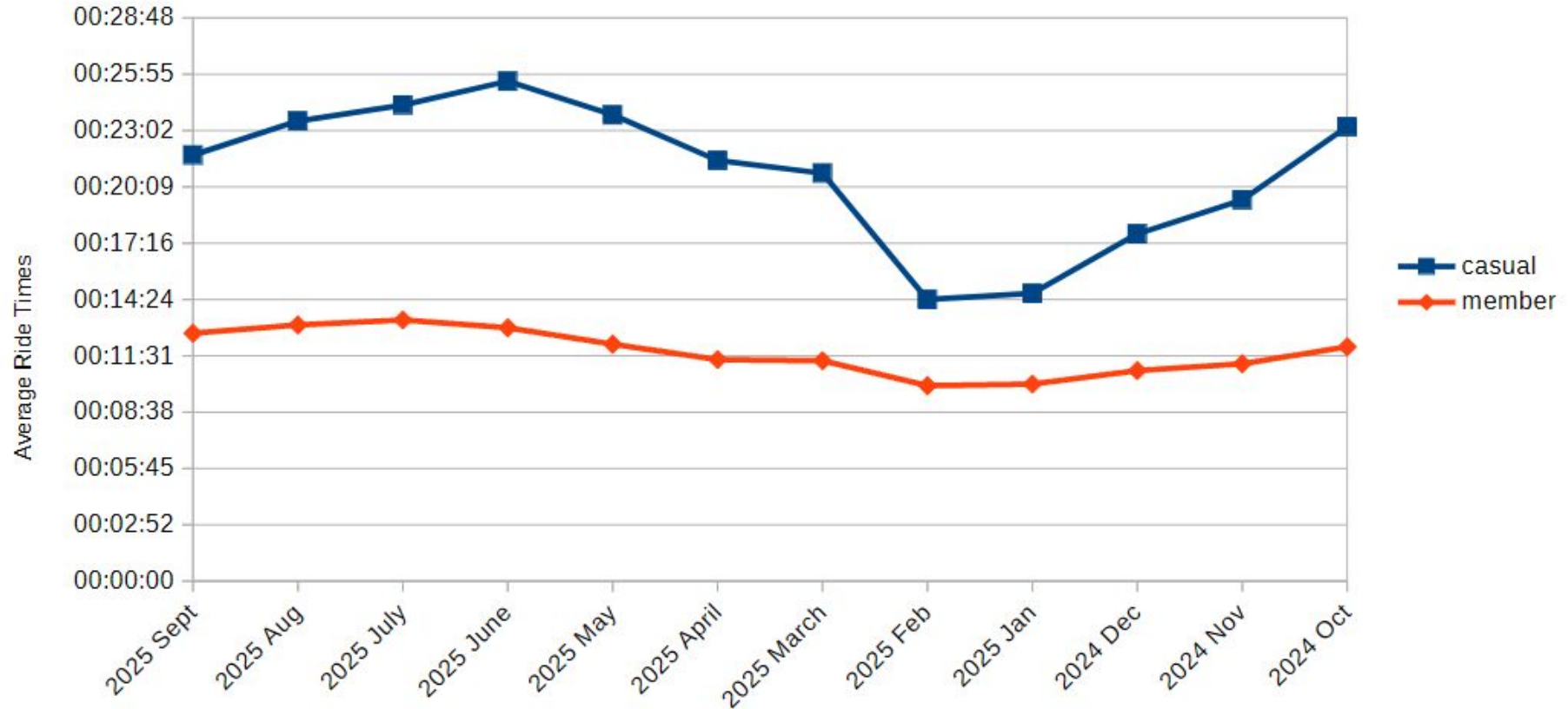
Analysis of the dataset (contd.)

- During **winter** months, the activity is **lower** among both casual riders and annual members. This can be observed in the months of **December, January,** and **February**.
- During these months, the activity among casual riders does **not fluctuate** too much through the week. (In the example, average ride times for January 2025 are within a particular range, except for Saturday)

Average - ride	day of week							
member ca	Friday	Monday	Saturday	Sunday	Thursday	Tuesday	Wednesday	Total Result
casual	00:12:53	00:13:25	00:17:42	00:12:59	00:14:01	00:15:34	00:15:32	00:14:42
member	00:10:02	00:09:11	00:10:36	00:10:31	00:10:06	00:10:26	00:09:52	00:10:04
Total Result	00:10:33	00:09:47	00:12:12	00:11:01	00:10:44	00:11:10	00:10:53	00:10:52

Average Ride Times over the last 12 months

Casual members vs Annual members

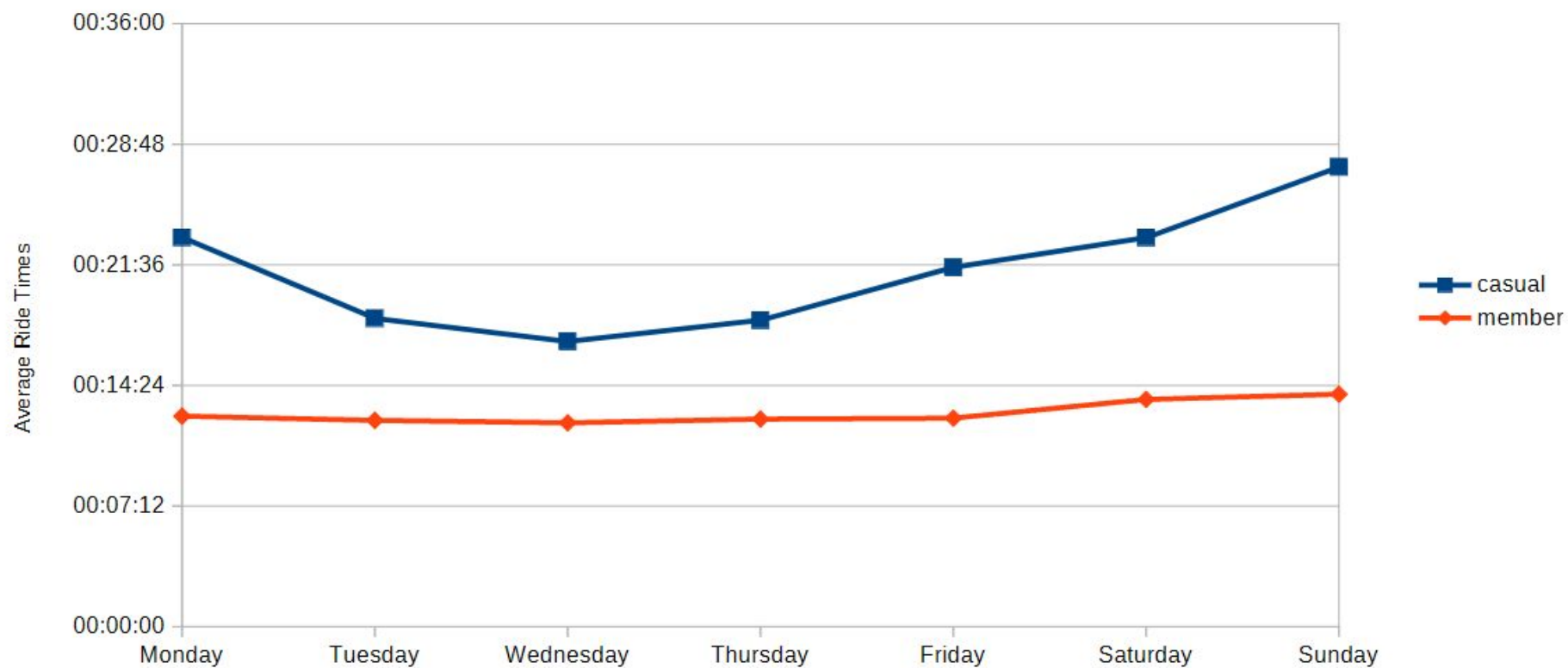


Analysis of the dataset (contd.)

- Among the annual members, activity does not reduce too much during the winter.
- Even during other months, average ride time during weekends only increases by ~ 1 min.

Average Ride Times through the week

For September 2025



Recommendations

- We can introduce a **weekend-only annual pass** that allows the casual riders to try out the benefits of an annual memberships.
- Since most casual riders use Cyclistic for personal use, mostly during weekends, we can create **marketing campaigns targeting travelling casuals** who like to explore.
- We can create promos and offers for winter months (like a **winter pass**) to let casual riders try **tri-monthly bundles** with an option to upgrade to an annual membership.