Cyclistic Bike Share Company

Analysis of Rider Usage
2019

Agenda

- Introductions
- Purpose
- Data and analysis
- Recommendations
- Questions

Purpose

- Future company success depends on maximizing annual membership revenues
- Aim: Assist the marketing team with determining how different rider groups used Cyclistic bikes over the 2019 year

Analysis Overview

1. CSV files imported into R for 2019
2. Data cleaning and transformation
3. Descriptive Analysis
   a. Summary statistic computation
4. Visualizations
   a. Bar charts
   b. Box and whisker plots
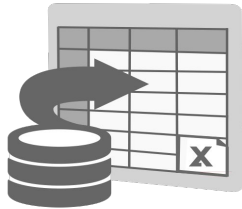
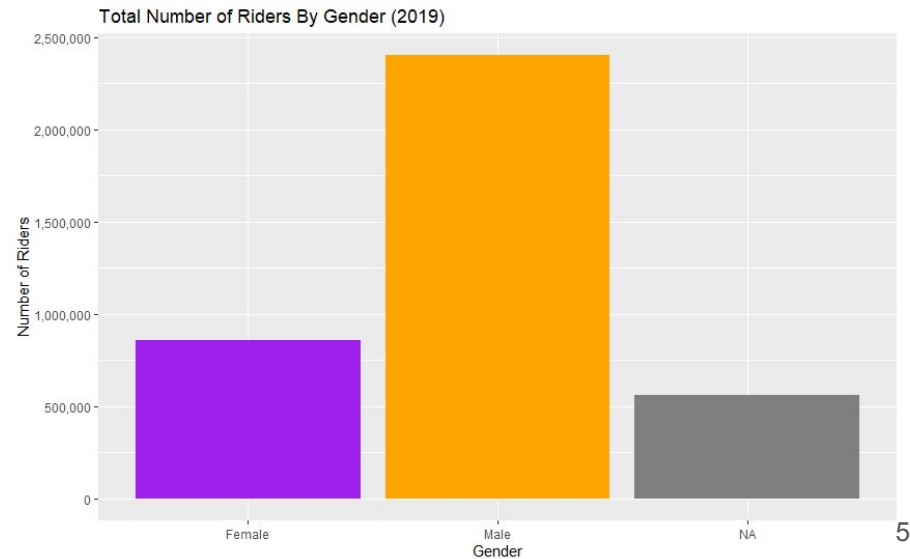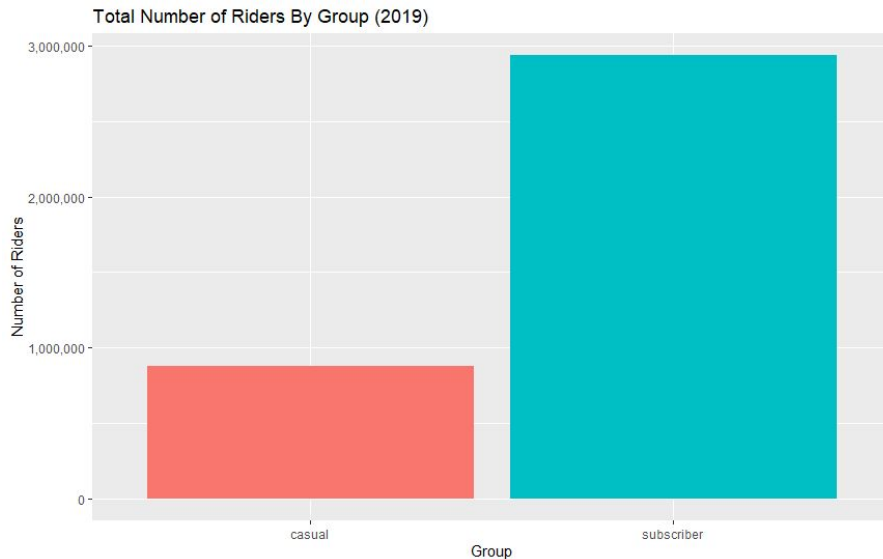| Min.	1st Qu.	Median
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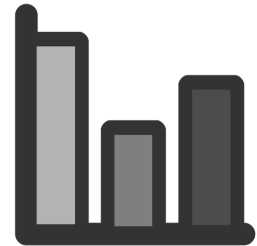
Annual Usage By Rider Group

Subscribers are ~3x more common than casual users

Males are ~2.5x more common riders than females

More than 500,000 riders do not report gender

Total Number of Riders By Group (2019)

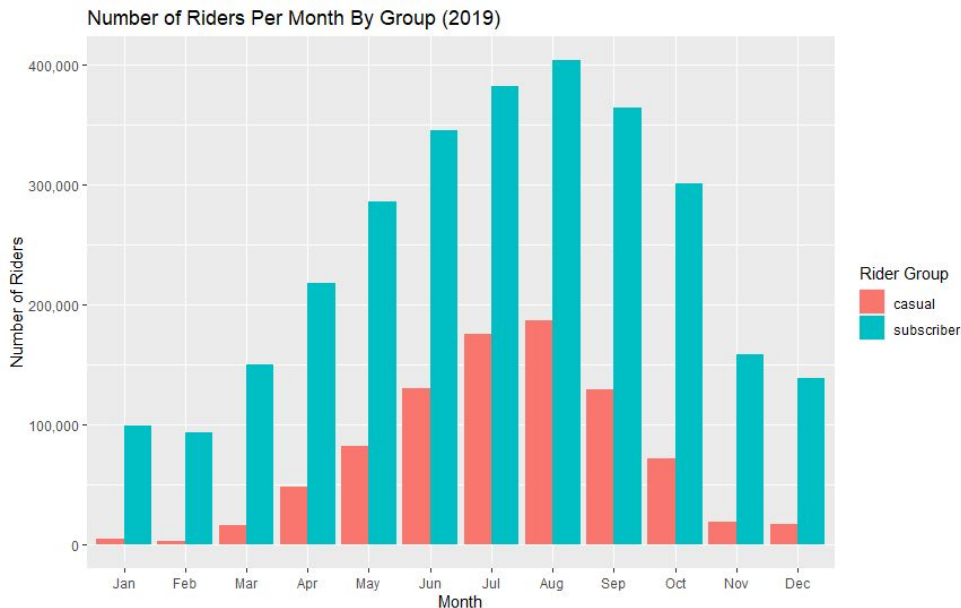Total Number of Riders By Gender (2019)

Monthly Usage By Member Group

Lowest bike usage in the winter

Increasing usage through the spring

Peak usage during mid-late summer

High, but declining usage during early fall

Number of Riders Per Month By Group (2019)
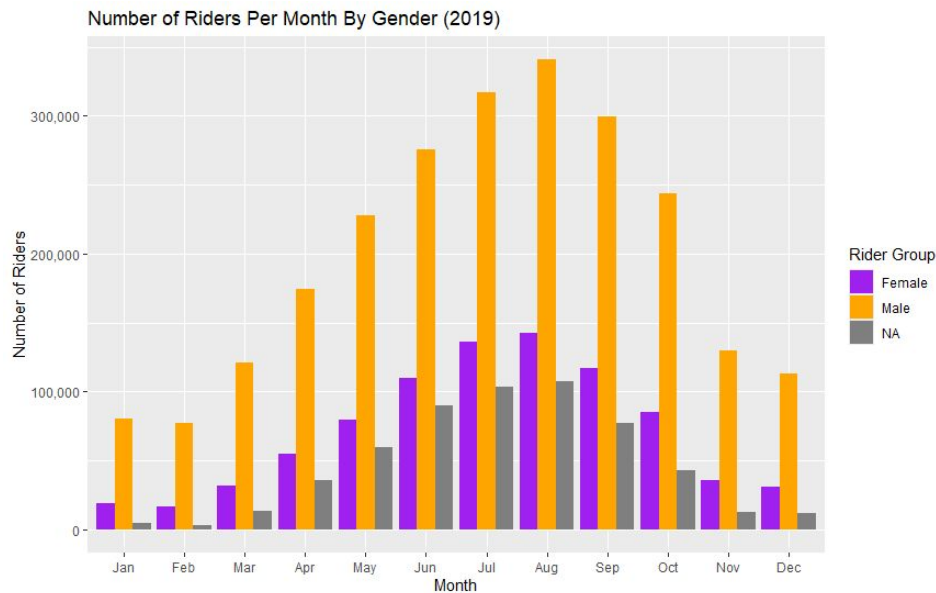
Monthly Usage By Gender

Similar usage patterns to previous slide

Males show steepest increasing and decreasing trends

Female usage is similar to male, but with less steep trends

Non-reporting users represent ~60-70% of female usage

Peak usage occurs in August ± 2 months

Number of Riders Per Month By Gender (2019)
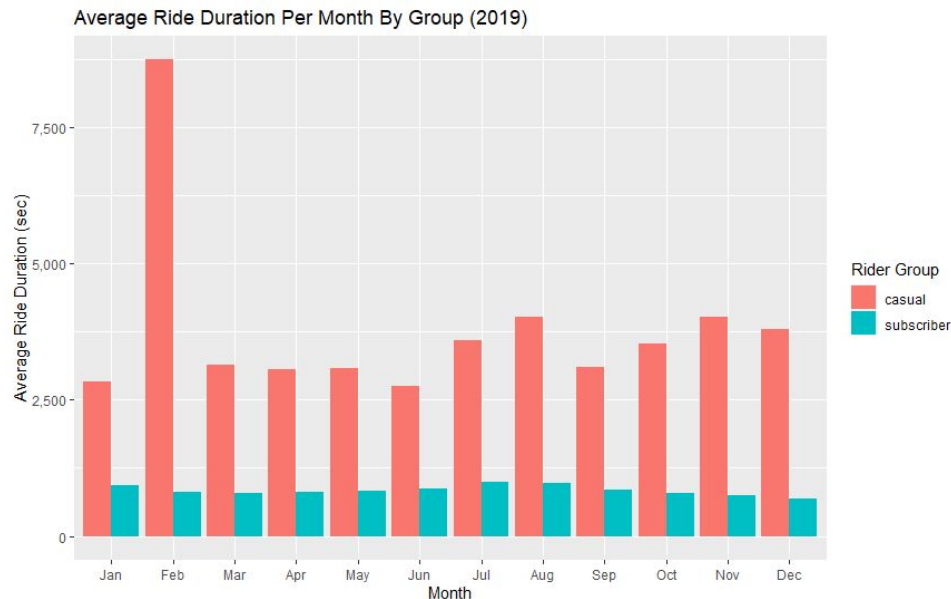
Monthly Average Ride Duration By Group

Consistent subscriber duration

Casual duration > 2x subscriber duration and less consistent

February showed very long durations (extreme outliers skewing the data)
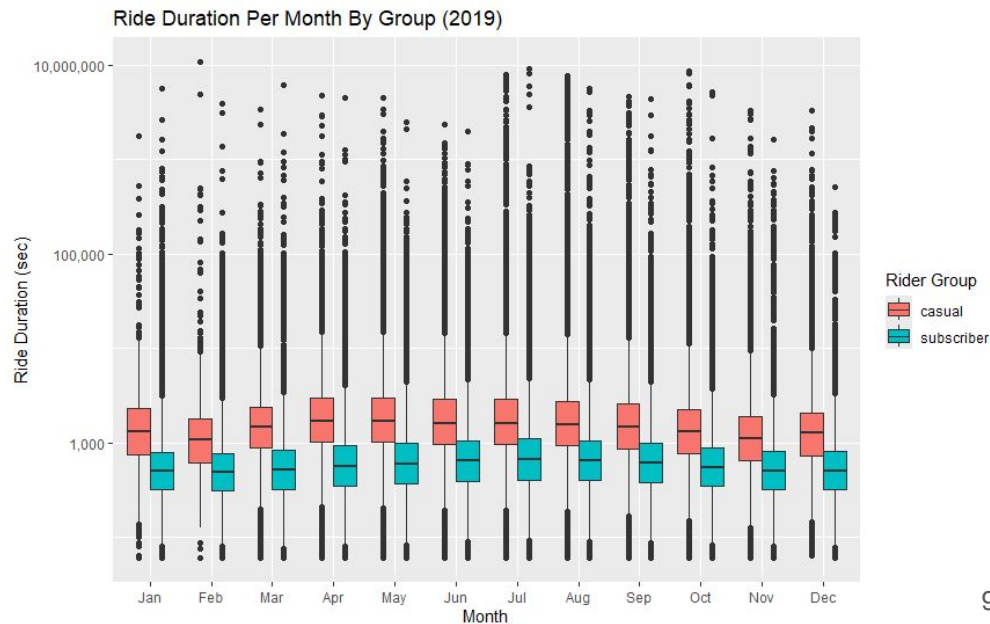
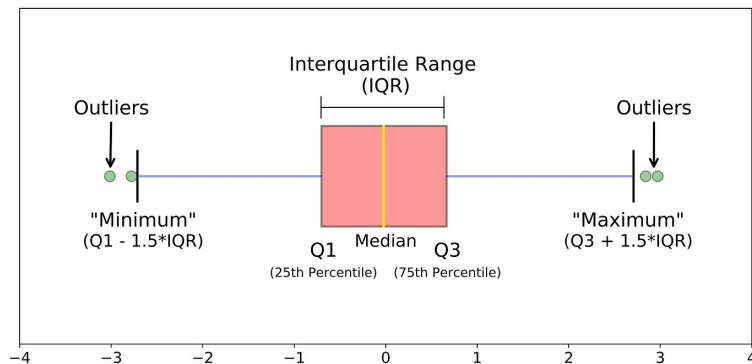Subscribers likely riding with little idle time

Casual usage likely includes idle time

Average Ride Duration Per Month By Group (2019)

Monthly Ride Duration Variability

Casual variability higher than subscriber

Both groups showed a large number of outliers

Ride Duration Per Month By Group (2019)
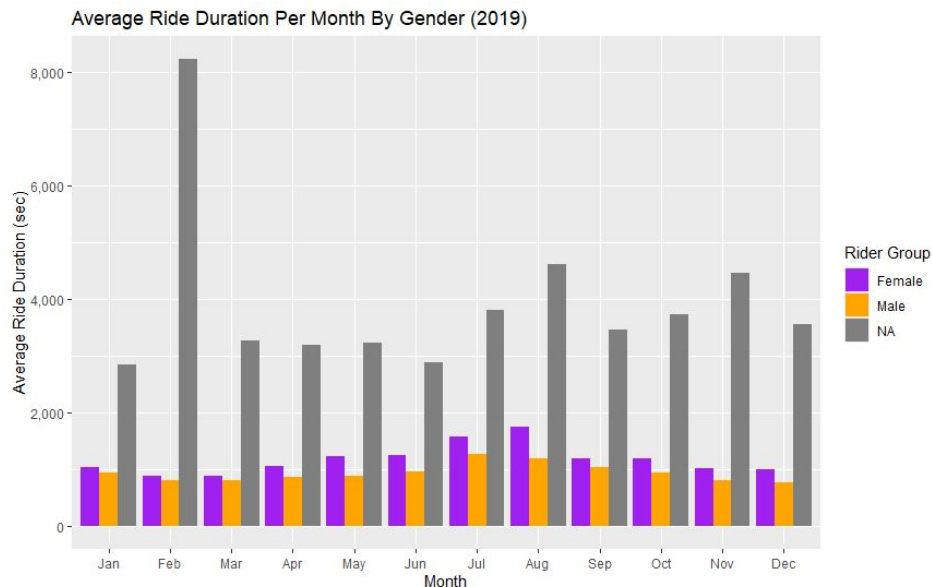
Monthly Average Ride Duration By Gender

Consistent male duration

Female duration consistent except for late summer months

Female & male durations peak in JUL-AUG

Undeclared gender > combined female and male duration every month

February showed extreme duration deviation for undeclared gender

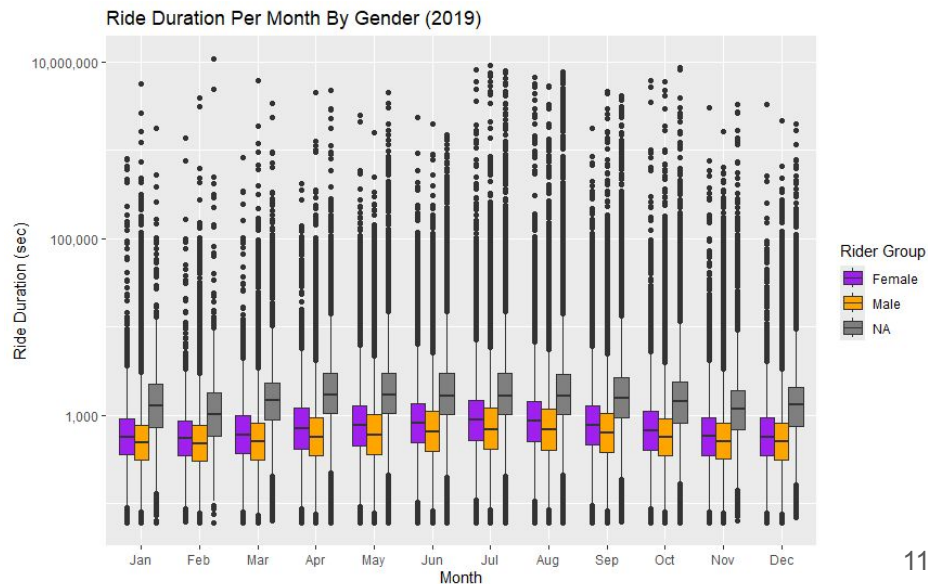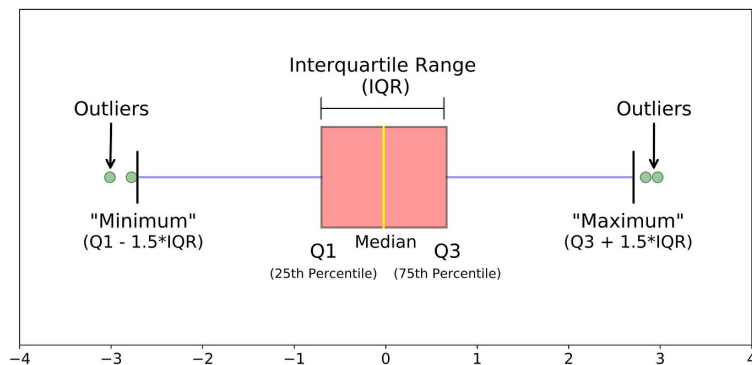Average Ride Duration Per Month By Gender (2019)

Monthly Ride Duration Variability (Gender)

Undeclared gender group had highest outlier count

Males showed lowest variability

Female & male variability relatively consistent over the year

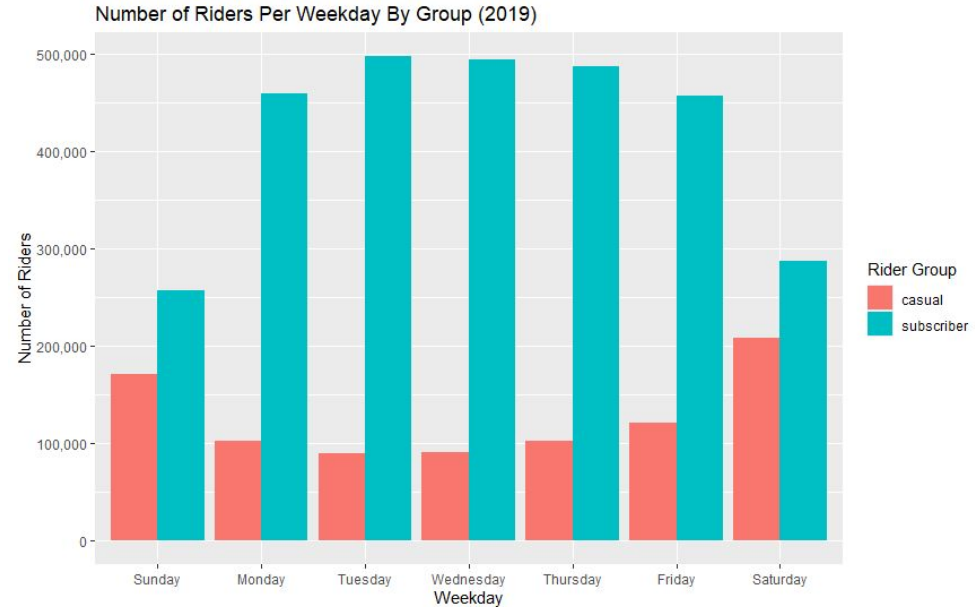Ride Duration Per Month By Gender (2019)

Weekday Rider Count By Group

Causal group higher on weekends vs work week

Subscriber group highest during work week vs weekends

Subscribers are highest every day

Number of Riders Per Weekday By Group (2019)
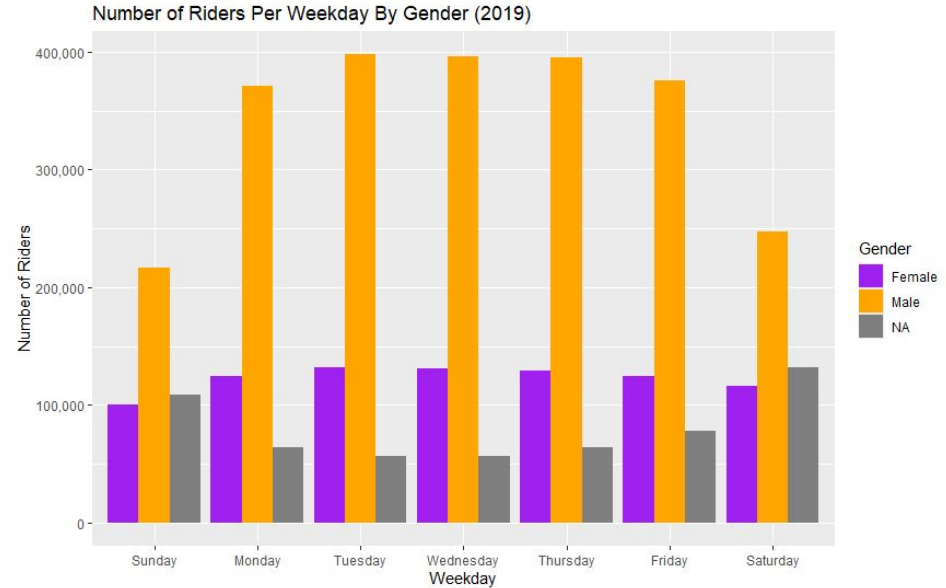
Weekday Rider Count By Gender

Male highest every day

Male highest on work week vs weekend

Female most consistent—negligible difference weekday vs weekend

Undeclared gender higher on weekend than week day.

Weekdays have consistent count regardless of group

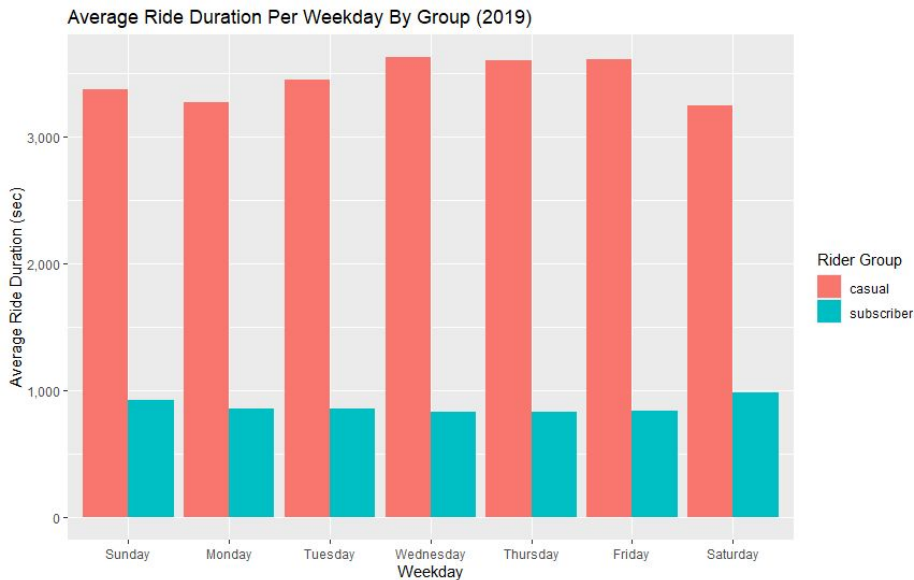Number of Riders Per Weekday By Gender (2019)

Weekday Average Ride Duration By Group

Casual highest every day

Casual > 3x subscriber

Casual highest Wed-Fri

Subscriber very slightly higher on weekend

Average Ride Duration Per Weekday By Group (2019)
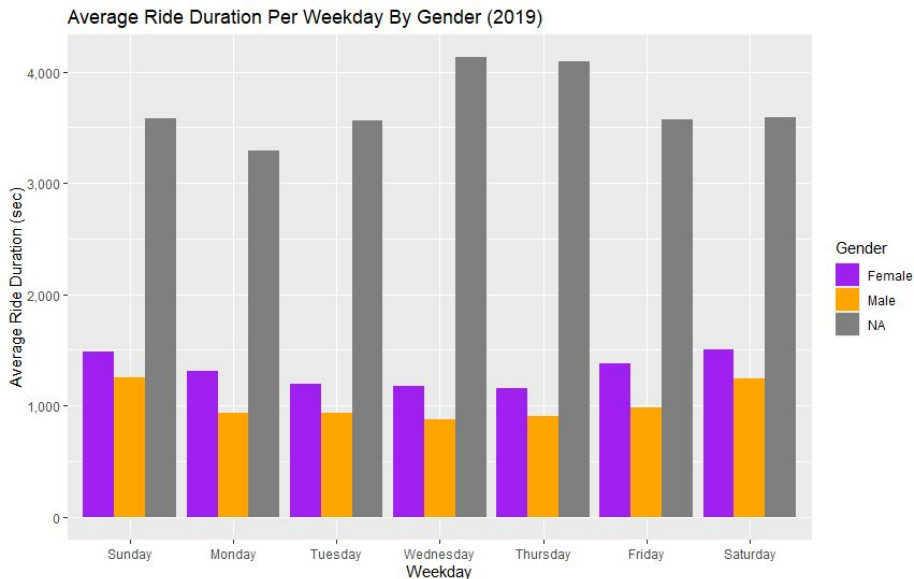
Weekday Average Ride Duration By Gender

Undeclared (NA) higher each day than female & male combined

Male lowest each day

Undeclared highest Thu-Fri

Female highest on weekend and lowest Tue-Thu

Male highest on weekend, but consistent during workweek

Average Ride Duration Per Weekday By Gender (2019)

Gender
Female
Male
NA

Average Ride Duration (sec)

Weekday

15

Most Commonly Used Stations

22 stations in common between the top 25 starting and ending

Station 35 has the highest usage of ~600 stations

Station Usage, Trip Start (2019)

Station Usage, Trip End (2019)
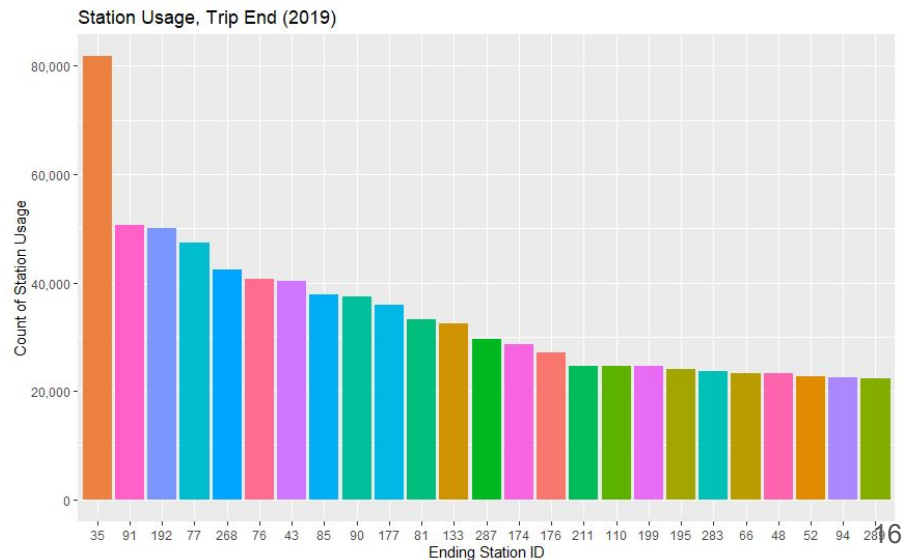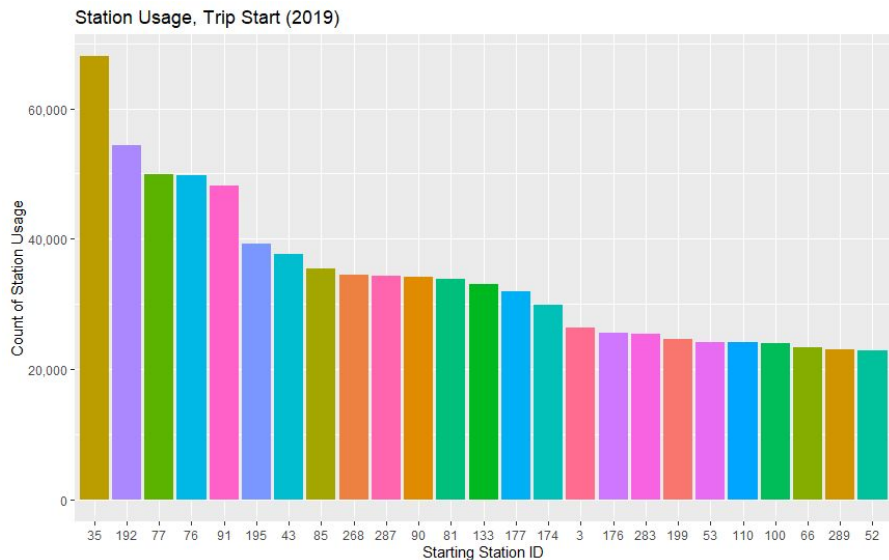
Most Common Routes

4 routes have substantially higher usage

Slowly declining trend in route usage outside the top 4 routes

Top 25 Routes Used (2019)
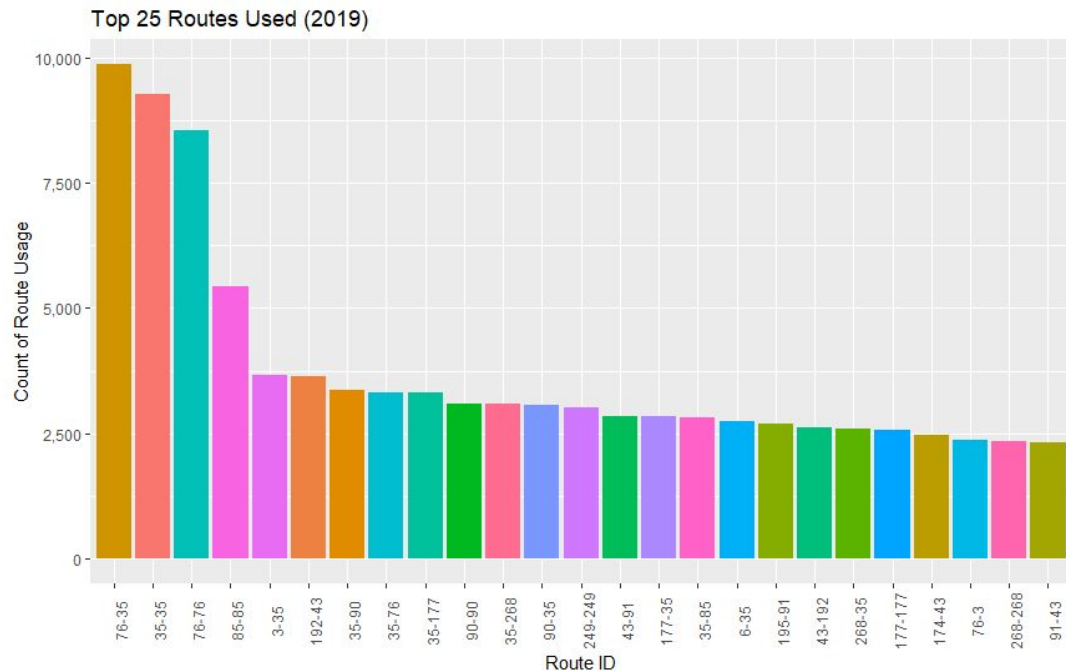
Additional Considerations

Assessment of behavior by rider age cohort is needed (data are available)

Rideable type information needed to asses upright versus recumbent bike usage

Post-ride survey information for future riders could help better understand rider behavior

Questions?