**Documentations For Ride Sharing Data Analysis**

**Metrics Definitions:**

* Cancellation Rate in % = (Total Cancelled Rides + Total No-Show Rides) / Total Number of Rides \* 100
* Completion Rate in % = (Total Completed Rides / Total Number of Rides) \* 100
* No-Show Rate in % = (Total Number of No-show rides / Total Number of Rides) \* 100

**Assumptions Made:**

* Cancellations are only like to be caused either by Price or Driver’s Ranking
* Preference was indicated by the frequency use by returning and frequent users but not new users.
* Average as a fairer means of ranking, so as to take into account the number of rides.

**Executive Summary:**

* From the Scatter plots showing correlation between the Driver’s Experience and Completion rate/Ratings, it is evident that there is no obvious relationship between the driver’s experience and any of the two measures (R2 Value significantly close to zero in both cases).
* There are only slight variations in the Average fare per ride type as all values fall withing a range of $59.83 - $61.20 with less than 2.25% variation among average fare per vehicle type.
* Surge pricing has had quite an impact on revenue, accruing an average $60.46 per ride almost the same as the revenue accrued when no surge price was applied ($60) despite having 6018 rides less. Contribution to overall revenue is expected to increase exponentially.
* Credit Card Payment seem to be the most frequently used, taking up approximately 50% of all transaction methods used throughout the month.
* On Average, relative to clear weather, it takes no longer to arrive in a foggy weather condition, 2% less time in a rainy weather, 4% less time in the Snow and 4% more time to arrive in a thunderstorm.
* Traffic levels do not significantly affect fare amounts as average fare amount ranges between $59.20 to about $60.50 across all traffic levels.
* The most popular pickup/drop-off locations include: Downtown - Financial District (238 Rides), Airport – Financial District (232 Rides), Midtown – Financial District (229 Rides), and Midtown – Mall (229 Rides). This makes Financial District the most popular drop-off zone.
* Sundays have about 6% less ride orders. Other weekdays have evenly distributed ride orders with Thursdays and Saturdays at the forefront with 1413 ride orders each.
* Sedan Rides are more preferred by regular and returning users

**Action Recommendations Based on findings:**

* Surge Pricing should be persisted as it has a potential for long term profitability.
* More drivers should be assigned to hot pickup zones.
* Credit Card payment method should be optimized further for fast and seamless transactions.
* Sedan Ride prices could be increased since they have greater demand.
* More drivers should be made available on Thursdays and Saturdays to increase order probability.