**REPORT**

1. According to order created time, I created a new feature that divided orders hours in 4 different groups to focus on busy hours and its effects on delivery duration.
   1. Night, Midnight, Morning, and Daytime
2. I have created a new feature as an unassigned orders which is difference between total outstanding orders and total onshift dasher to see its impact on the model
3. I have created a new feature as a Store Speed from average delivery duration of each store. I categorized them in 3 groups (fast, normal, slow)
4. 1am-5am is the busies hours for outstanding orders
   1. Average outstanding orders in these hours 83.13
   2. Average OnShift dasher in these hours 61.67
   3. Even if all orders are accepted by the onshift dasher, there are still average 22 outstanding orders remain unaccepted.
   4. To reduce unaccepted orders and reduce delay for the delivery, the number of onshift dasher should be increased between these hours.
5. 2nd busiest hours for orders 5am-6am and 7pm-9pm
   1. Average outstanding orders in these hours 42.16
   2. Average OnShift dasher in these hours 33.36
   3. Even if all orders are accepted by the onshift dasher, there are still average 9 outstanding orders remain unaccepted.
   4. To reduce unaccepted orders and reduce delay for the delivery, the number of onshift dasher should be increased between these hours.
6. When I check total outstanding orders and total onshift dashers all hours
   1. Average outstanding orders 59.13
   2. Average OnShift dasher 45.80
   3. Even if all orders are accepted by the onshift dasher, there are still average 13 outstanding orders remain unaccepted.
   4. To reduce unaccepted orders and reduce delay for the delivery, the number of onshift dasher should be increased.
7. I believe some extra features would improve the model, such as
   1. Having styles of stores such as Pizza Restaurant, Fast Food, Casual, Café, can improve prediction
      1. There are 6743 unique stores. It is difficult to get meaningful results related to delivery duration.
      2. Since some stores are slower than others
      3. Stores reactions to orders are directly related to total delivery duration
   2. How many dashers didn’t accept the order? We can get more meaningful inside of the total delivery time. It might be related
      1. Total payment to dasher (base payment and tip)
      2. Total Distance store to customer
      3. Traffic at the moment
      4. Stores (slower ones not preferred)
      5. Current dasher location to store
   3. Canceled orders by dashers after accepting the order. This info can provide us meaningful insights of the slower restaurants, since not ready orders more likely to be canceled (dasher doesn’t want to wait longer)
   4. Having Dasher IDs can improve prediction, since each dasher has different approach to orders.