1 Project Proposal

In this globalized world, a lot of people spend their treasures time on the road. The travelling time is usually hard to control, especially by air. It is very difficult to predict the travelling time by air since the flights could be delayed due to various reasons such as weather condition, air carrier, security, aircraft arriving late, etc.

Let us consider Mike's situation. Mike is a businessman, who is going to city C from city A for a very important meeting. However, there is no direct flight from city A to city C. He has to stop in either city B1 or city B2. He could be on time for the meeting by either route if the all flights are on schedule. Since he has some unfinished work, he could only leave the night before the meeting. He wants to know if transiting in city B1 is more likely to bring him to city C on time compared to transiting in city B2. Or it could be my friend Ginas problem. Gina is studying in city A, and she always flies back home to city C for holidays. She had once experienced a 3 hours delay of her first flight from city A to city B. That made her unable to catch her second flight from city B to city C. It was an awful experience, but she is not sure if there was very unusual. This time, she is not sure if she should consider to book an earlier flight from city A to city B.

In this project, we aim to help people who has to make a stop in their travelling. We will look at the arriving time for their first flight and the departure time for their second flight. If there is a delay in arriving time for their first flight, is it possible for them to catch their second flight.

2 Data source

The data is obtained from a public website.

Link to data: `http://www.transtats.bts.gov/`

3 Brief Analysis

Jack wants to travel from Boston(BOS) to Charlottesville(CHO) for his brother's wedding. He could stop in one of the three cities: Atlanta(ATL), Chicago(ORD), or New York(LGA).

Taking the case of transiting in ATL as an example, we will consider both the arrival delay of flight from BOS to ATL and the departure delay from ATL to CHO (e.g. figure 1). It should be noted that this plot does not take the air carrier in to account. If there are more than two air carriers that could fly from BOS to ATL, which is true in this case, we might prefer one of the air carrier that has least chance of delay.

Another plot that would be interested to look at the is the average delay time from BOS to ATL, and ATL to CHO. If there is always a delay from ATL to CHO while the flights from BOS to ATL is on average quite on schedule, then one might need not consider taking a flight that arrives ATL earlier in order to catch the next flight. In figure 2, we assume that there is a seasonal trend for all flights, and we look at the difference between the two delay times will be informative for one who is transiting at ATL.

4 Plots

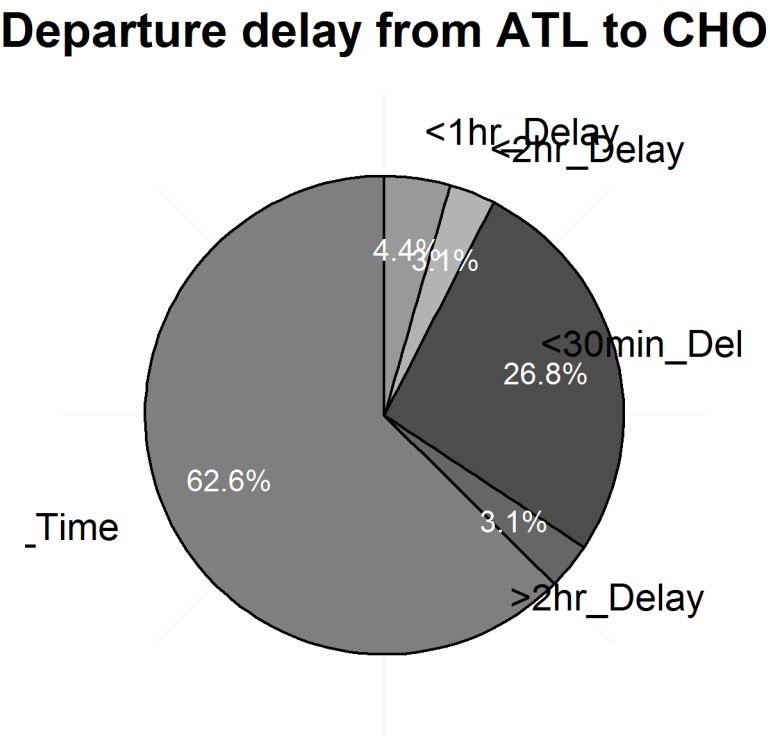

Figure 1: figure 1

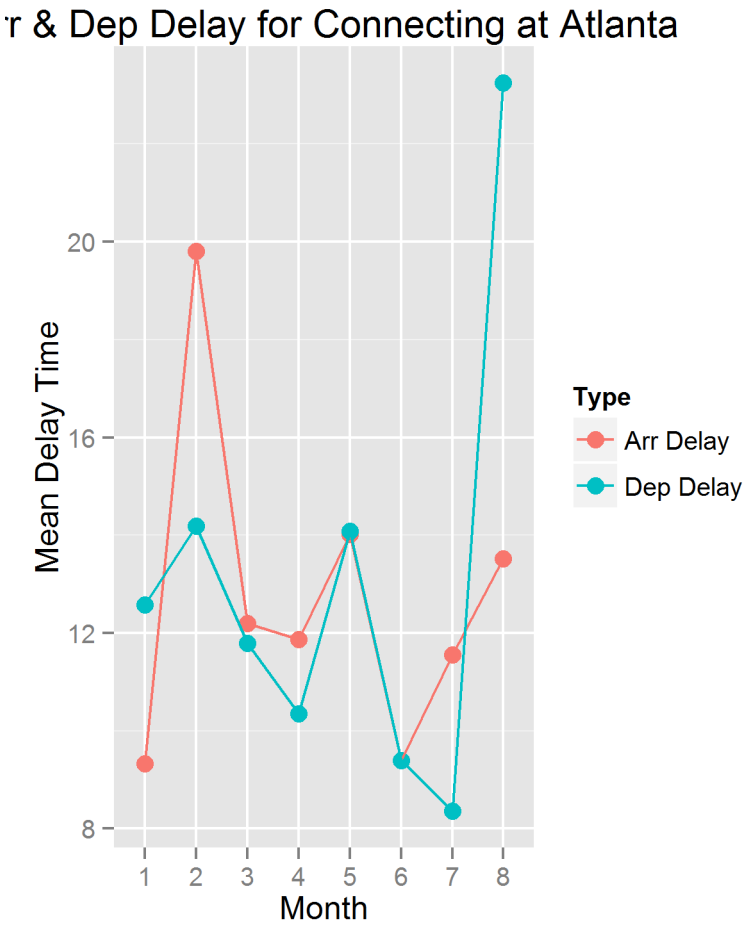

Figure 2: figure 2