Stat 602

Sungrim Lee, Kyungjin Cho

Project Proposal

*[The group members of this final project would be Sungrim Lee and Kyungjin Cho from Stat 602 - Lec 002.]*

1. Intro

For the final project, our group has chosen to experiment the difference of driving time it takes from Hilldale to Capitol, Madison, WI. As students in UW-Madison experiencing the traffic every weekday, we were genuinely curious about the time it takes to drive to work in Madison. Since a lot of people with personal vehicles in Madison reside in hilldale, we set the starting point as hilldale. We set the destination point as the State Capitol due to the fact that a lot of firms are located there. Our question of interest would be ***“Will there be a significant difference in time it takes to drive to the State Capitol from Hilldale depending on the specific time during the weekday?”***

2. Experimental Design

Our group will set driving time taken to Capitol from Hilldale as a response variable (in minutes), and a treatment variable will be time slots separated by three different times (e.g. Morning, Afternoon, Midnight). However, during a weekday, driving time taken can be affected by different days. Hence, in order to remove this controllable nuisance factor, we will block this factor by measuring the driving time for each three day (Monday, Wednesday, Friday, not weekend) per week. If time is allowed, this experiment could be replicated twice. To make this experiment feasible, Randomized Complete Block Design will be used.

3. Justification for Chosen Experimental Design.

We decided to use Randomized Complete Block Design since our nuisance factor is controllable, as mentioned above, by blocking this factor with driving on different weekdays. This way, we are able to eliminate the effect on our treatment of interest. Our response variable, driving time, is also quantitative and is possible to measure. Finally, we decided to replicate our experiment so that the precision of the experiment would increase.