

# 2014 MATC Summer Internship Program



Taylor Reinsch

Sponsored by: Dr. Aemal Khattak

This summer I have had the opportunity to work at the Nebraska Transportation Center with Dr. Aemal Khattak. I have been helping Dr. Khattak with his research into highway rail grade crossings. Through this internship, I have been able to gain valuable field experience and apply many of the concepts that I learned in class.

Most of my time during this internship has been spent reviewing videos for Dr. Khattak. The videos that I was reviewing were of highway rail grade crossings mainly at 35<sup>th</sup> and Cornhusker Highway, and 27<sup>th</sup> and Saltillo Road. From these videos, I would record the number of passenger vehicles and trucks that passed in an hour, the number of these vehicles that were stopped, and for how long they were delayed. From this data I was able to calculate the percentage of passenger vehicles and trucks that were stopped by a train, the ratio of time of train occupation to number of cars delayed, and other calculations. This was a chance to apply the formulas and calculations that I learned during my Introduction to Highway Engineering class and Statistics classes.

There were a few days throughout the summer that I was able to go out into the field. Dr. Khattak, Chris Lefrois, Dr. Khattak's other intern Kyle McLaughlin, and I went to the highway rail grade crossing at 35<sup>th</sup> and Cornhusker. There, we set up the trailer with a camera in order to record drivers' behaviors—specifically whether the drivers are using cell phones or other distracted driving behavior. I was surprised by the number of violations that I observed. We set up the camera to record between 7:30 a.m. and 11:30 a.m. This was the best time to record because the sun shined directly into the front windshield. During the rest of the day the sun is too high, and the driver is obscured by shadow. This gives us a good four hours of video to review each day. Only going four hours a day also allows the car batteries that power the camera to last much longer than it should have. After the video had been recorded, we retrieved the DVR

device from the trailer and downloaded the video. Downloading even a small video can take several minutes and a four hour video can take several hours. Once the video has been reviewed and the data has been recorded and analyzed, Dr. Khattak had me write up a report on what I had found. I think that the experience of writing this report could be applied to future projects throughout my career.

This summer I gained invaluable experience in the field of transportation engineering that I will be able to take with me throughout the rest of my career. I was also able to build relationships with people knowledgeable about the industry and learn about it from them. Finally, I've been able to apply much of the knowledge that I have learned in the classroom to real-world situations.