

“MATC Summer Internship”

By: David Stuart

During my MATC summer internship I had the opportunity to work for the Metropolitan Area Planning Agency (MAPA) in the transportation division. During this internship I had the opportunity to improve my problem solving and people skills, learn about transportation and planning for a major metropolitan area, see how professionals deal with budgeting and time sensitive issues, and many more things.

To begin with, the majority of my time was divided up into three major projects. The first few weeks of the summer were spent completing the Highway Performance Monitoring System portion that MAPA was responsible for. HPMS is a collection of public roadway sections that are monitored on a yearly basis. My main job was to rate the roadway on a scale of 0 to 5 with 5 being perfect pavement with no defects and 0 being undrivable. This was based on a specific set of criteria looking for different types of defects and deterioration in the pavement and judging how severe each defect was. The most interesting part of this job was being able to see how much worse the roads were compared to the last year's ratings, especially because the metro area suffered a particularly hard winter. Needless to say, the scores decreased significantly across the board.

My second major responsibility was to work on MAPA's travel time delay study. This study consists of driving a series of 44 routes in the MAPA 5 county region with a GPS device in my car. These routes must be completed every half hour during the peak hours of the work week from 6:45-8:45 AM and 4:00-6:00 PM. I drove using the floating car technique so as to

represent the median traffic flow. Once back at the office, I used Geographic Information Systems (GIS) software to analyze how long each route took and where the most signal delay was coming from. Once all the routes were completed I compiled a map of all major streets, highways and freeways in the metro area showing where congestion was located. These maps can now be used when planning which areas of Omaha have the most urgent need for improvement.

The final main responsibility I had this summer was to set up traffic counters at locations for which the Nebraska Department of Roads did not have a recent count. Data was especially important this year since it was a census year.

Overall this internship was a great experience and I would highly recommend it to anyone interested in the field of transportation engineering. I can now better understand what it means to work with professionals to meet a deadline, how to problem solve with computer software, and how to seek help when I run into a dead-end. The people I've met and the experiences I've had here at MAPA are invaluable to an undergraduate trying to get started in the field of transportation engineering, and I have no doubt they have helped to lay the foundation of a successful professional career.