

2014 MATC Internship Program



MID-AMERICA
TRANSPORTATION CENTER

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My Summer 2014 Internship

This summer marked the beginning of my professional civil engineering career. Through the amazing learning opportunity that an internship provides, I was able to get glimpse of what the professional world is like and gain practical experience at a time that is critical in my college career. This summer I was given the honorable opportunity of interning at the City of Omaha – Public Works Department, alongside some of the brightest minds in Omaha.

Prior to starting this internship, I had had no work experience in the engineering field whatsoever. Besides what I had learned in the two years of college I had been engaged in up until then, I had a very limited understanding of what transportation engineering, or engineering in general, for that matter, was all about. So I must admit that coming in here with a feeling that I lacked the required knowledge to be awarded this position made somewhat apprehensive. I simply did not know what to expect from my boss, my coworkers, or the tasks I would be assigned. Would I be able to complete them all without struggling too much? How many questions could I keep asking my coworkers until it began to annoy them? These questions wouldn't leave my mind until I started my new job.

On my first day of work, I realized these questions were mere reflections of my nervousness and all my overall performance would depend on is my willingness and desire to learn, rather than my current knowledge and skills. After all, this is an internship and that is what it is all about: learning. During the first few hours of my first day, I was given a thorough explanation of what the basics of traffic engineering as well as other related fields and how it is applied in a professional setting, as well as a tour of the whole office. My first impression was that the people I would be working with were extremely dedicated to their jobs and willing to pass on their knowledge to a newcomer. Now another question ran through my mind: Where do I start?

Seeing co-workers always busy with their work, I was not sure if they would the time to even assign me any tasks that would be helpful to them. Since they had not had an intern in quite a few years, they were not used to having one around and were not sure how use my time to their advantage. However, soon everyone realized there many ways they could take advantage of my time here while exposing me to their jobs and was given my very first task: setting up a camera on 19th Street and Harney Street for a turning movement count.

Unfortunately, this task did not go as well as I expected, given it was a fairly simple task, due to the location I chose for the camera: a sign post right in front of the Omaha Civic Center, the building the mayor works in. Because the camera I used requires it to be connected to a large battery, we received many calls about a “suspicious” device being placed in front of the mayor’s building. This eventually served as lesson for me as I would be doing many other counts in the future.

In my second week, my boss thought it would be a good idea for me to join the Traffic Maintenance Facility where all of our technicians work for five days. At first, I was not exactly sure what the purpose of me spending time there was because, naively enough, I did not understand what knowledge I would gain as an engineer from being exposed to the technical side of what is done here. Later, I would realize that some of the most valuable knowledge I acquired during all my internship came from those five days. Among the many areas I was exposed to during my time there were signal maintenance and inspection, the painting of pavement markings, sign post installation and removal, and crosswalk tape installation. I even got to program a detection camera for a newly converted intersection.

Back in the office, my knowledge was expanded every day with the various tasks I was given throughout the summer. I never realized there were some many different types of traffic

counts that could be done. Not only did I perform turning movement counts like the ones I learned about in Intro to Highway Engineering, but I also got to work on delay studies, spot speed studies, and drive-thru studies. Delay studies were done when we received a request for the installation of a left turn arrow at a left turn bay whose current configuration is “protect-permissive only” due to heavy traffic on the opposing direction and vast amounts of drivers wanting to turn left. Spot speed studies were conducted with a radar gun when it was needed to verify the current behavior of drivers a particular point of a street. The drive-thru studies I worked on were part of a task that one of the Civil Engineers was assigned that involved changing the minimum stacking requirement for drive-in banks, due to banks complaining about a reduction in the amount of customers using their drive-thru, possibly due to online banking.

Other tasks included generating collision diagrams and inventorying speed bumps. The best part of working on collision diagrams was the fact that I was able to familiarize myself with AutoCAD a little better. These diagrams served as a schematic drawings that showed every collision that occurred at a given intersection during a period of time of usually four years. The speed bump inventory was done because we currently have 366 speed bumps in the city of Omaha and none of them can be found in our GIS database, which is an extremely useful tool for managing all of our possessions.

After three months of being exposed to the world of traffic engineering, I feel I have acquired a tremendous amount of experience that will not only allow me to me to see engineering in a new way, but also the world. What I learned over the past three months will serve as an important foundation for my future engineering career and will provide the basis for that which will guide me through most of my career: my own engineering judgment.