

My MATC Internship



Omaha - Council Bluffs
Metropolitan Area
Planning Agency

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As an intern for the Metropolitan Area Planning Agency (MAPA), I had the opportunity to attend meetings for, and work on, several different projects. These projects included the Metropolitan Travel Improvement Study (MTIS), the Long Range Transportation Plan 2040, and Heartland 2050's "Close the Gap" Project. Although the meetings were the most interesting to me as an engineering student, my typical work day consisted of writing reports for various studies MAPA is required to perform and updating several of their projects' databases.

One of the first reports I worked on was the 2016 Crash Report for MAPA's region, which includes Douglas County, Sarpy County and parts of western Pottawattamie County. My job was to use the data and statistics compiled by several members of MAPA's staff and compile a report that could explain the common types and causes of crashes that occurred, along with how different kinds of crashes could be avoided. This report was reviewed by several members of MAPA's staff and required some group effort in order to complete it to the best of my ability. This process gave me a greater appreciation for how technical writing can impact the professional world.

Besides the report writing, I worked on several different project databases. Part of MAPA's job description is working with local jurisdictions on federal grants, so my job was to update the region's Transportation Improvement Plan (TIP) database with all of the local projects. This involved getting in contact with engineers and planners in each jurisdiction of MAPA's area, then reading through and recording the projects listed in their Five Year Plans. Once that was completed, I began working on the Land Use Allocation for 2016. This project took several weeks, and, while it wasn't related to

transportation engineering, it gave me a real appreciation for the contributions of planners and statisticians.

The last couple of projects I worked on were more closely related to transportation engineering and allowed me a lot more freedom to figure out each problem on my own. The first project required me to calculate the environmental impact of biker's commutes in the MAPA region and comparing them to automobile commutes. The second project was much longer and more intensive. It involved comparing the vehicle miles traveled and people miles traveled of buses and cars along bus routes. Since most of this data had not been compiled and was not compatible, this required a lot of time and effort on my part, along with several very large Excel workbooks.

A few weeks into my internship, MAPA's office began a massive renovation. The first day consisted of moving furniture and cleaning which, of course, culminated in a pizza party. That afternoon, most of the people in the office, including myself, moved down to the basement to work. For the next two weeks, thirteen of us spent the day in the basement in little pods of computers, like an elementary school classroom. This was much more fun than when I was upstairs, where my desk was farther away from the action, and allowed me to get to know my coworkers a little better. The renovation also led to several fun company events, including Pancake Day, Kolache Day, and a lunch spent watching one of my coworkers star in an episode of HGTV's *Tiny House Hunters*.

The first meeting I attended was for MTIS, a joint project conducted by MAPA, HDR, and NDOT. MTIS is a long-term project which looks at the population growth of the metropolitan area and current traffic and transit data to decide what changes will need to be made over the next few decades. During this meeting, engineers from NDOT

and HDR discussed alternatives for intersections along highways and interstates in the Metropolitan area, including I-80 and West Dodge road based on a program that modeled how cars will act based on the potential trips that occur during peak traffic hours.

This meeting was extremely interesting to me, as a student preparing to enter the engineering workforce. Instead of working only with numbers or looking at a specific design assigned by a professor, I got to see what transportation engineers do in the wild. Most of the meeting was discussion based, with engineers throwing out ideas for entrances and exits to interstates, access roads, and bridges to find the best solution for the traffic model used. The courses I have taken so far had prepared me to understand the more technical terms that were used during the discussions, but until I experienced it, I had no idea what to expect from this kind of professional meeting.

I also was able to attend a smaller meeting with representatives from MAPA, Metro and the Sarpy County Chamber of Commerce. This meeting focused on attempting to improve public transit in Sarpy County, and helping several of the larger employers who have difficulties getting employees that rely on public transit on a day-to-day basis. There were also several smaller meetings and brainstorming sessions, the goal of which was to convince the different jurisdictions within Sarpy County of the importance of public transit for their future and thinking of different ways they can improve their infrastructure and transportation systems as their county ages.

During my time at MAPA, I was fortunate enough to attend one of MAPA's board meetings, and a meeting of MAPA's Council of Officials. Many of the meetings themselves were run by the mayors of Bellevue and La Vista, but other mayors and city

officials from MAPA's area were also in attendance. During the board meeting, I got to listen to a presentation on equity within the Metropolitan area, and changes in demographics that are projected over the next few decades that coincide with MAPA's Heartland 2050 project. This presentation was extremely interesting and showed me just how important engineering is to society and how large of an impact an engineer and transportation engineering can have on a community.

The MAPA's Council of Officials meeting was very similar to the board meeting and included a lot of basic business and voting on MAPA's yearly budget and financial plans. After the business part of the meeting was over, the mayor of Bellevue and MAPA's coordinators had arranged for us to tour the new STRATCOM building at Offutt Air Force Base. This required a lot of preparation, since everyone in attendance had to pass a background check before they would be allowed on base or into the new, restricted building. The tour itself was an amazing experience. I learned a lot about structural engineering, since the building is designed to withstand many different forms of attack and the sublevels have added layers of security built into the very walls.

Overall, I think working at MAPA was an amazing experience for me. I got to learn more about day to day office life and the inner workings of project funding with local governments. The planners in the office were very interesting to work with and showed me several new ways to look at engineering. I had a lot of fun this summer, and I would recommend the MAPA office to other engineering students in the future.