



Summer of 2018
MATC Internship Experience

By
Rodrigo Quintero-Paez

My spring semester was coming to an end and the only thing on my mind was “what am I going to do this summer?”. I needed to do something that would help me grow in the engineering world and could let me gain experience in a workplace. I decided to apply for this internship from the MATC program that my advisor told me about, but I was skeptical that I would get it since I am not far advanced into my core classes. So when I got the call saying that the City of Omaha would like to have me as their design intern for the Transportation Department I was beyond excited for this great opportunity.

I was nervous at the beginning, but everyone at the office was welcoming and understanding, making it easier for me to get adjusted and start working. I mostly worked under PE II Krista Wassennar and Design Division Manager Gayle Sturdivant. They were the ones that assigned my tasks and kept tabs on me during the summer to make sure that I was doing okay, or if I needed help, and provided guidance through projects. For the first couple of weeks I spent most of my time attending all sorts of meetings, from plan reviewing, project updates, and public meetings. For me, this was probably one of the most important experiences from the internship because it showed me a side of engineering that I knew existed but did not know how much work goes into it. The outcome of a project boils down to meetings and coordination strategies that sometimes happen years before the public gets to see that outcome. It was amazing for me to be able to attend those meetings and see how project managers handle all the different interests and views from the participating companies.

The first project that I worked on was a lane reconfiguration on Leavenworth Street from 13th Street to 7th Street. The desired outcome was to be able to put bike

lanes on both the north and the south side of Leavenworth through the corridor, as well as parallel parking on the south side and a mixture of parallel and forty five degree angled parking on the north side. This model was determined through a study from Felsburg Holt & Ullevig. What I had to do was use AutoCAD Civil 3D to put the model together and make sure that all the project requirements were met, like lane widths, bike lane widths, curb radii, taper measurements, etc. It was relatively simple but, I was initially unaware of all of the specifications and rules that the design needed to follow, so I had to go back and read books and guides like the “Manual on Uniform Traffic Control Devices” or “A Policy on Geometric Design of Highways and Streets”, so that I could deliver a proper project. In addition to drawing up the road, I had to review the existent conditions of the ADA (Americans with Disabilities Act) ramps throughout the length of the corridor, and report back to Bob Boyd so that the sidewalk improvement plan could be updated. Currently, the design is being reviewed and soon it will be sent to HDR so that some minor modifications can be made to their design, since they have a project on a location within the corridor of the City’s project.

The second project that I worked on with assistance from PE II Jeffery Babcock was to come up with some concepts for an access road between Tranquility Park Road and 120th Street parallel to West Maple Road. The purpose of this road would be to alleviate traffic congestion on the intersection of West Maple Road & 120th Street that result from vehicles attempting to leave the parking lot of Tranquility Park Soccer Complex. The road would go from the parking lot and be parallel to Maple and exit on Tranquility Park Road, giving drivers the opportunity to choose a different route. Working on this project I learned a lot from Jeff Babcock on how to develop a concept

for a road, taking into consideration the grading of the area, the space availability, queue lengths, etc. I recently finished an early concept for the road that is now being reviewed, and since this project is still in the early stages both in planning and funding aspects, I am waiting to see if it will be approved for the near future.

The two projects that were mentioned previously were my main projects during the internship. In between those two projects, I was given resources, materials, and books so that I could study more about what was being done at the office at the time. I improved my AutoCAD abilities and worked with other software that make the life of an engineer easier. I cataloged some project drawings into the city database and visited a construction site as well so that I could actually see a project that the Design office worked on to a completion. This project was the repaving of Blondo Street & 168th. I also started working with another MATC intern, Pavel, in a project for 60th Street & L Street, but currently the project is on Traffic's side; this project consists on finding an alternative for the intersection since it is one of Omaha's most accident prone areas because of both the drivers and the existing design.

I was also able to attend public meetings for the 13th Street project. Olsson Associates is working in conjunction with the city to improve the 13th Street corridor for all modes of transportation, but since this area is both residential and commercial, the public needed to be heavily involved in all of the decisions made. This is one of those experiences that I will take from this internship, the amount of public interaction that engineers participate in, and, more importantly, the manner in which these meetings are conducted. This internship at the Public Works Department has shown me all the different faces of engineering.

Overall, this internship at the City of Omaha Public Works Department Design Division has been an incredible experience where I learned countless and valuable information that I am sure I will never forget and will be valuable for my future engineering practice. One of the most important moments from this internship was the talks that I had with both Krista and Gayle. In those talks, I would discuss where I was at during a certain project, what I needed from them, and what I would want to learn more about. Most importantly, in those talks they told me that they wanted me to, when the summer was over, leave with a sense of accomplishment and a project under my name. This being my first internship or real hands-on experience related to engineering, hearing that kind of support made me appreciate this opportunity even more and be extremely thankful towards those who helped me during the summer. To those coworkers that I could talk to about soccer or movies, those that asked about my country and family, those that helped me or guided me through a project, I want to say thank you and hope that our paths cross again one day. Also I would like to personally thank Krista Wassennar and Gayle Sturdivant, for putting up with me this whole summer and answering all of my numerous questions. Last but not least, I would like to express my gratitude towards the MATC program for believing in me and granting me the pleasure of being part of this program.