

Emelyn Venturini
FIU student

My Job Experience Report: FDOT Internship

Introduction

I am Emelyn Venturini and I'm a senior civil engineering student at Florida International University. My interest has always been in engineering due to my love for math and science. However, after this working experience, now I can say that I love engineering due to engineering itself and due to the real world work that goes behind it and that I was able to experience throughout this internship.

My internship experience at the Florida Department of Transportation started on May 3rd 2014 and finished 300 work hours later leaving me with an immense amount of knowledge, learning experiences, and growing opportunities that I will forever appreciate.



My experience was based on the FDOT at District 4 on the Traffic Operations Department. I was left in charge of Yujing Xie better known as Tracey, the Assistant Traffic Operations Engineer who was very clear when she explained to me that my job was going to be based on assisting different engineers on creating projects, reports and filing systems. She also told me that I was going to be involved in attending different meetings to get a feel of what the department deals with, as well as to learn how to do traffic analysis, operations analysis, and safety analysis. On the course of the 300 hours I can happily say I certainly covered all of the tasks Tracey mentioned and that now I have the experience and ability to understand many aspects referring to transportation engineering. Throughout the report I will explain with detail my participation in all the tasks mentioned above.

Lastly, it is also really important for me to introduce and later elaborate on the amount of things I learned on the bi-weekly sessions of lessons that Mr. Mark Plass, the District Traffic Operations Engineer, was kind enough to give me. Mark Plass always found time to give me lessons on very important traffic and transportation aspects such as traffic signals, safety studies, business plans, storm evacuation procedures, and many more. He was always making sure to push my thinking limits to the maximum by challenging me to come up with different solutions or reports that showed my problem-solving ability as well as my capacity to think outside the box.

Jobs performed:

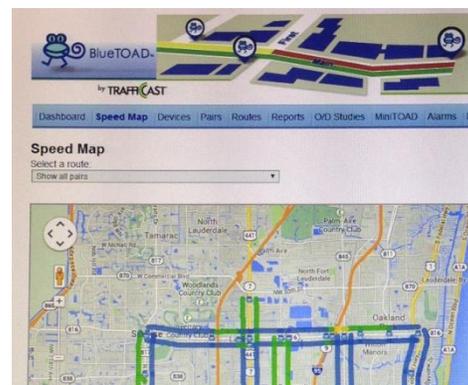
1. Creation of Filing System

My first job at the FDOT was a little discouraging at first. I was excited to start and get right into the engineering stuff but the task of creating a filing system came along and I had to deliver. I was in charge of numerating filing cabinets in a way that it would be easy for the whole department to find the studies and reports they created and had to store. I decided to organize them by state road section number and to scan them and file them electronically as well. It was a long and tedious job, but along the way I learned the importance of having a well organized and working filing system and that I needed to start with this job to understand how crucial it is for a department to be able to find their documents easily and effectively.

2. Railroad Monitoring and Traffic Analysis at the TMC

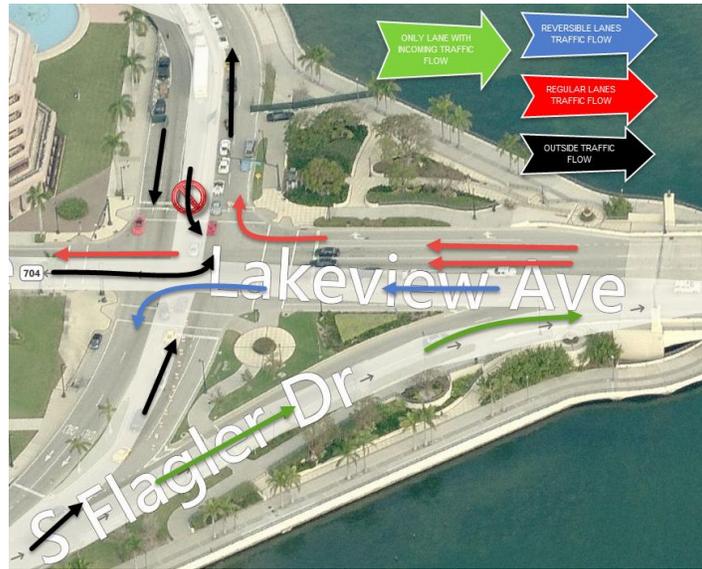
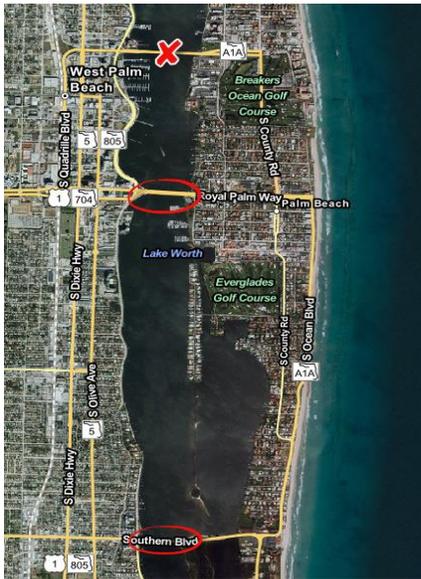


My second job lasted 3 weeks working twice a week at the TMC (Transportation Management Center). This was a very nice experience because I got to work at the TMC on the operations room in which hundreds of screens showing the traffic are displayed and it's a very exciting environment. At the TMC I was able to use and learn traffic and monitoring tools such as Bluetoad and Sunguide to monitor and report how the railroad crossings are affecting the traffic on Broward Blvd, Sunrise Blvd, and Oakland Park Blvd. At the end I made a report concluding that the railroad crossings are mostly not longer than 2 minutes and that they only affect traffic as much as a traffic light, and that for the crossings longer than 5 minutes they should make sure to alert people on the dynamic message signs they have along the roads.



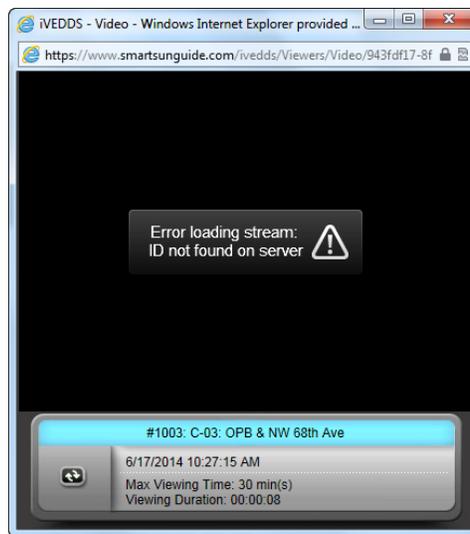
3. Storm Evacuation Plans

This assignment was one given to me by Mark Plass for me to put my thinking cap on and come up with possible solutions for the storm evacuation plans of the Town of Palm Beach due that we entered hurricane season. The trick of these plans was the fact that the most travelled bridge out of the 3 bridges connecting the island to the mainland was closed undergoing major repairs. I created a very detailed 10 page report that impressed Mark Plass showing the different possibilities that existed in case of hurricane evacuation, which involved using the two bridges left but reversing their lanes to have more lanes coming out of the island than lanes coming into the island.



4. Quality Check Report on Broward County's iVEEDS

On this assignment I was in charge of checking all the arterial iVEEDS (cameras) because they were having problems loading and streaming with good quality. I needed to open the cameras and evaluate their performance to later write a report explaining specifically what the problem on each iVEED was so that technicians could find a solution for them.

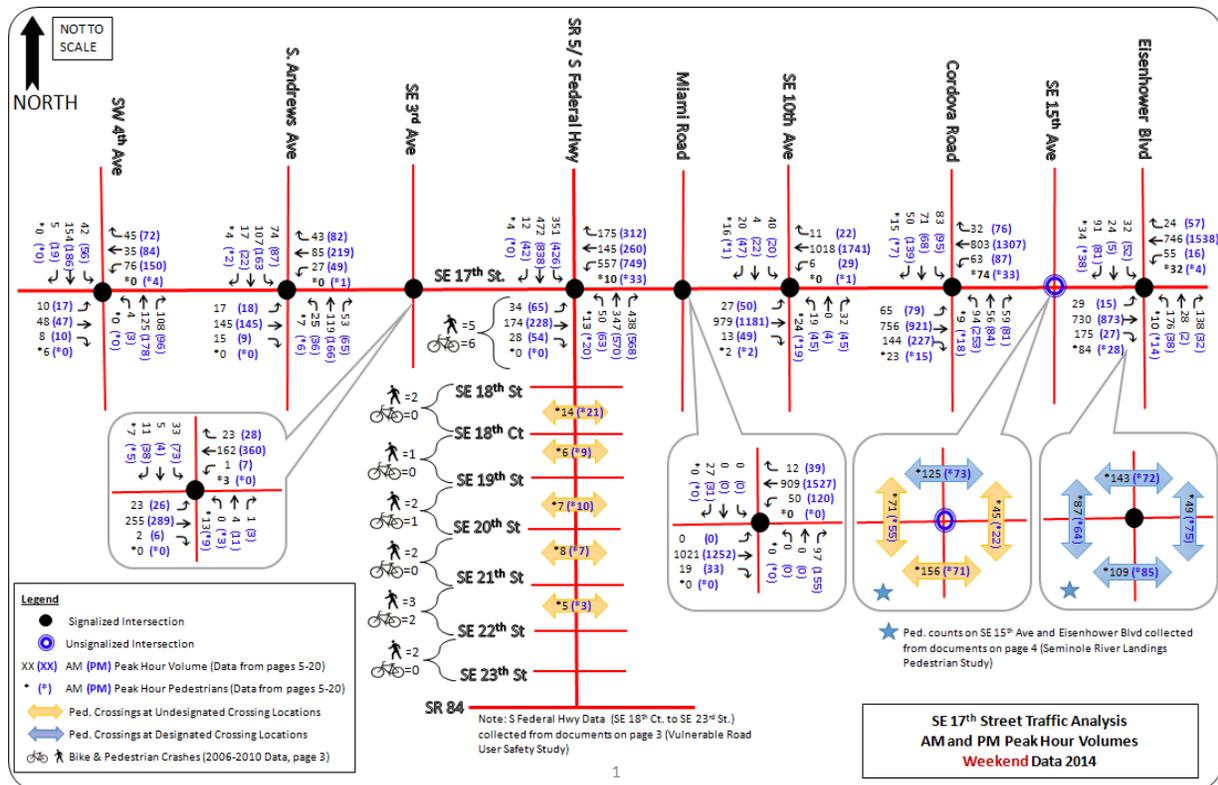


5. Mid-Block Crosswalk Analysis Report

On this job they taught me how to create a report from scratch replying to the request from the City of Fort Lauderdale for the placement of a pedestrian signal crosswalk at mid-block. The Traffic Operations department is in charge of reviewing this requests, analyze the guidelines, field review, studies and data to recommend the placement of the pedestrian signal or deny it. In this case one of the engineers provided me with all the analysis and field reviews as well as the explanation of why this specific case this request was going to be accepted. With all this information I was in charge of developing the report successfully and turning it in for revision to later correct it and process it.

6. SE 17th Street Traffic Volume Maps

I was instructed to design a map in which I could depict all the amount of data we gathered on 17th Street. All this data was gathered to find different options of signalization due to high traffic volumes. Mark asked to me find the best way to fit everything on one map for the designers and engineers to be able to visualize the data instead of just reading it during their planning meeting. I designed and came up with the map below. The job was a great design experience because I had to call in various little favors of help in order to learn and successfully complete the task. In conclusion, even though it was a very tedious and detailed job, I loved to experience a little of design during my internship.



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7. Field Work: MVDS Check

My last job as an intern at the FDOT, before my 300 hours were up was on the field. I was assigned to help a PE trainee to visually and manually count how many cars would pass through a MVDS point in a 15 minute period. There were around 20 MVDS points that we had to cover and we did this the whole day, station by station, because we had to submit our counts and later confirm if they were working or not due to the fact that they were not sending reasonable car counts to our system. It was exhausting having to spend all day outside in the how summer of Miami, but at the same time it was an amazing experience to understand transportation and car counting devices as well as to understand the field work experience.



Meetings and Learning experiences:

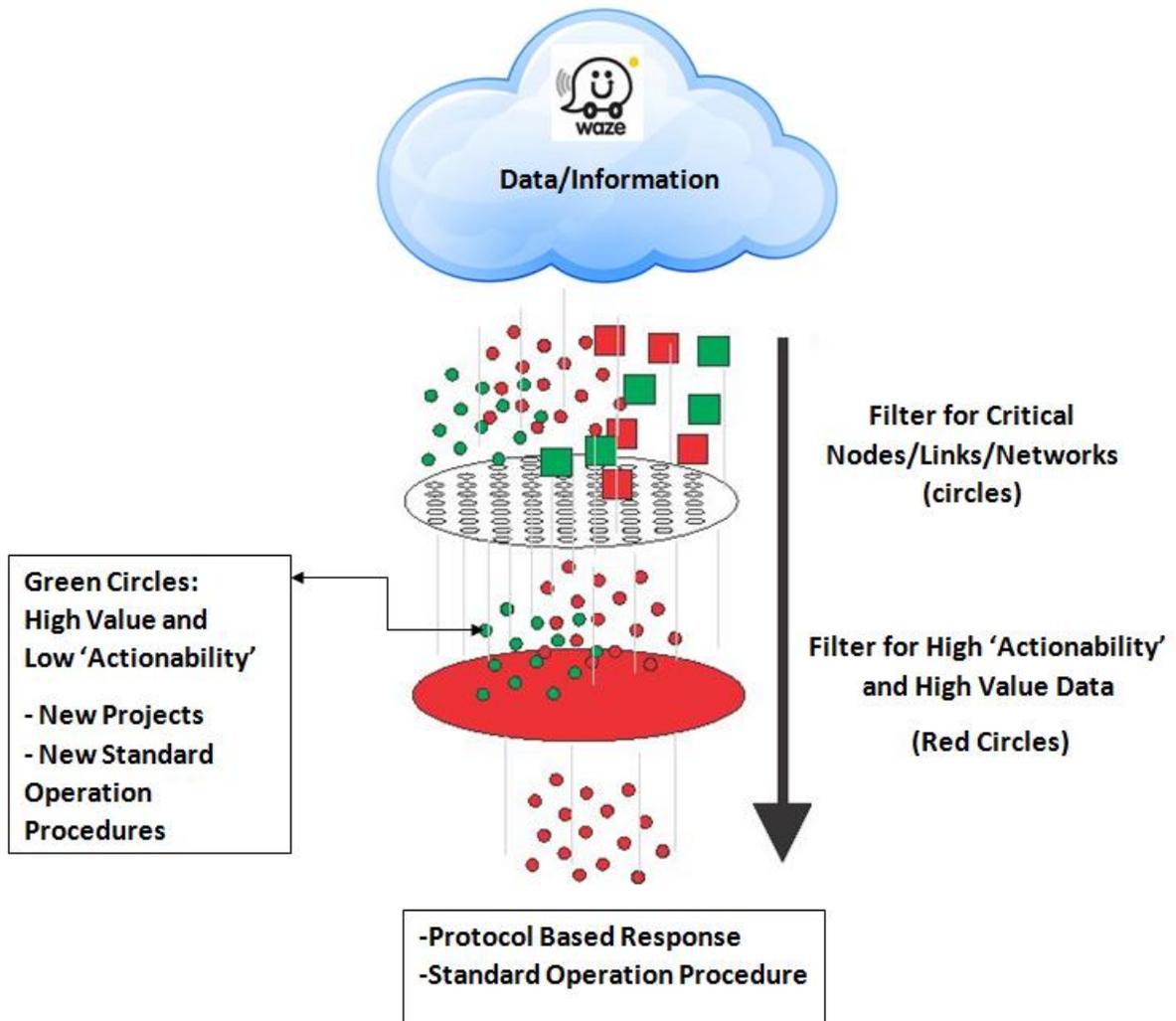
1. Traffic Signals Lessons by Mark
2. Listener Participation Meetings
 - Hollywood Blvd. Roundabout Congestion Meeting
 - I-95 Interchange Meeting
 - Access Management Meeting

3. Integrating Waze into FDOT Operations Project

- This particular task came from Mark to me as another thinking cap project. We discussed this new routing application called Waze and how it could benefit the FDOT after their new contract. We were planning creative meetings with some more experienced colleagues on the topic, so therefore he had me create a diagram to express our current ideas and to obtain feedback from them. I delivered the diagram below and everybody was happy because the very confusing point we were trying to make was very clearly and visually delivered.

Integrating Waze into TMC Operations:

Filtering System



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Overall Summary:

Overall, I feel like my experience at the FDOT was an amazing first realization on how my life is going to be like once I graduate. Being able to do the most basic jobs such as scanning and filing helped me realize the importance of being organized in a work environment, being able to help professional engineers and offer my knowledge and ideas was a true sense of accomplishment for me. Furthermore, learning so many new things while helping engineers to create reports or to collect data on the field or at the TMC was exactly what I was looking for in my first internship experience. Aside from all the engineering knowledge that I captured in every single task already mentioned above, I also got to understand the importance of a good working environment. My co-workers were amazing and I think it is crucial to have nice, helpful, honest and hard-working people around you; it truly makes you want to look forward to working and challenging yourself. Most importantly, I have to appreciate how lucky I was that in my first work experience I had the best boss that anybody could ask for. I am completely thankful to Mark for being so challenging and encouraging as a boss. He always made sure to visit everybody in their cubicle to tell them how much of a good job they did or to simply know how their day is going. Finally, I just want to express my gratitude to FIU for offering me this amazing growing opportunity that definitely changed my life and made a huge impact on my professional path.