Transportation Intern Program
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Over the past six summers the Center for Local Government Technology (CLGT) at Oklahoma State University has placed thirty-six students from transportation related degree programs in paid summer internships with local government agencies and private companies through its Transportation Intern Program (TIP). Funded by CLGT's Local Technical Assistance Program (LTAP), the Southern Plains Transportation Center (SPTC), and donations made to the College of Engineering, Architecture and Technology (CEAT), TIP has offered internship opportunities to students with city engineering and public works departments, metropolitan planning organizations, Circuit Engineering Districts, county transportation districts, tribal transportation departments and with private consultants and businesses.

While TIP has fulfilled the common goal of most intern programs in that it has provided students with relevant, real-world work experience that relates to their education, the program has had several other positive results as well. CLGT's LTAP and TTAP programs have for decades advocated and taught progressive principles and approaches to the planning, maintenance and construction of local and tribal government transportation systems with the objective of there being a more efficient and effective use of tax-payer's money by these agencies. The work that students have done through the Transportation Intern Program over the years has enabled several government agencies to put these principles into practice. Another objective of the Transportation Intern Program was to expose students to service with local and tribal government transportation agencies with the hope that they would become interested in employment with these agencies after graduation. It has often been difficult for many of these agencies to attract graduates for employment either because of their unfamiliarity with the agencies and their mission or because of the agencies rural locations. TIP has been successful in this regard in that several of the interns have gone to work for their hosting agencies after graduation. Other interns, while not directly hired by their hosting agencies, have become employed with firms that provide services for local and tribal governments.

During the summer of 2015 the following students interned with the listed agencies:

Brandon Everhart, Civil and Environmental Engineering, Oklahoma State University, Circuit Engineering District #8, Enid, OK,

Mohammed Moursey, Civil and Environmental Engineering, Oklahoma State University, City of Miami, Miami, OK

Alanna Clark, Civil and Environmental Engineering, Oklahoma State University, Circuit Engineering District #1/Guy Engineering, Tulsa, OK,

Yun Zhao, Geography, Oklahoma State University, City of Stillwater, Stillwater, OK

Amanda Yamaguchi, Architectural Urban Studies, University of Oklahoma-Tulsa, **Indian Nations Council on Governments**, Tulsa, OK.

Ryan White, Chemical Engineering, Oklahoma State University, **Thunderhead Testing, LLC**, Tulsa, OK,

The student interns are required to deliver an end of internship presentation and a bi-weekly reports detailing their activities and accomplishments. Below is a typical report submitted by Brandon Everhart who interned with Circuit Engineering District #8 in Enid, Oklahoma:

Transportation Intern Program

Bi-Weekly Progress Report

Intern Name: Brandon Everhart

Local Government Agency: CED #8

Reporting Period: 6/8-6/19

Describe in detail the activities performed during this two-week period:

Coming back to work on Monday was fun. After working on miscellaneous duties in the morning, I got to accompany Clay, the new inspector, to Alva to do some concrete crushes at the CED8 shop. Clay was going to get further tips and training by the experience inspector, Cap. The tests we conducted were 7-day compression tests, and they were for the same samples he and I compiled the week prior in the Kay county bridge project. While I was there, I was able to hit two birds with one stone by compiling further missing forms and files for my auditing project.

For Tuesday, I worked on my office duties and got caught up. On Wednesday, I got lucky again and was able to assist Jason and Donnie all day. Their agenda for that day was to do some on-site meetings and initial brainstorming for two new projects Noble County. The first project was a request for the CED to design a new asphalt parking lot to replace the existing dirt one for Perry's fairgrounds, and the second project was a proposed project for county road connecting HW64 to Billings. For the fairground project, we met with the county commissioner who was doubly acting representative for the Fairgrounds Board and the county itself. While Donnie and the commissioner talked budget and feasibility, Jason and I inspected the current drainage situation, which also needed improvement, and did some preliminary surveying and estimating. We also looked up easements in the county clerk's office for both of the projects while in Perry. For the Billings' road project, we visited and scoped out the proposed first phase of the project. Several issues became apparent and complicated the design. Billing's has an awful sidewalk system, and current ODOT procedure requires that all projects that require construction that run through towns to address sidewalks as well. This would increase the price tag significantly, but an alternative would be to simply repave the streets, which is something engineers do not want to do because of its inferior lifespan. Billings/Noble County already has a independent project going on the same county road done that the CED was tasked to redesign but on a different stretch, so there isn't really an option to abandoned the project, which is something counties' consider often. So Billings, ODOT, Noble County, and the CED will have to continue talks about the budget.

On Thursday, I got to learn some cool engineering tricks. Jason taught me how they do summary of pay items, and tasked me to do the pay items for drainage structures, signs, asphalt layers, and more for the same Helena project that started me off in my first week. These pay items would go in on the first few pages on the initial design plans and all future ones, and they are vital for the bid process. In

addition, Jimmy taught me how to do the steel piling engineering calculations for the furnished piles on bridge projects.

On Friday, I shadowed Tyler and Donnie on the field with some bridge inspections and road flooding concerns. We first went to a rural road cube structure that is designed to allow water to pass OVER it during a flood (which is weird to me). Someone reported that water was flowing under the road structure, which is a scary indicator that water is eroding under the structure rather than flowing over it as designed. After inspecting it, Donnie and Tyler conclude that water is indeed getting under the structure and will need to be filled with some flow-able fill. Afterwards, we scoped out some future bridge projects on rural dirt county roads and got some measurements for the existing large cross drains.


The following Monday and Tuesday I worked in the office. I continued working on pay summaries, audits, footprints, and other fun intern errands. Wednesday was the monthly CED8 meeting in Alva, and I spent a large chunk of the day in Alva. This particular meeting was very interesting because they discussed recent legislation that just passed that directly affects the CED's and counties. The recent bills limited funding from local motor vehicle taxes in a way that would take away funding growth after several years due to the cap limit and there were other clauses that went over my head. On a better note, data compiled from the legislative debates that happened earlier in the month and from an ending fiscal quarter was presented. Majority was presented by Randy Robinson, the head director of all CEDs, and although he brought heated tidings, he also made sure to display news that CED8 was currently one of the best performing districts in the state. I thought it all was pretty awesome. After the meeting, everybody broke up into smaller meetings and I went to pursue some inspectors for more files for my audits. Afterwards, the engineering guys and I went out to visit one of Tyler's newly completed bridge projects. It was so new, that it still was closed off to all who respected the modest detour signs leading up to it. Also, it was Randy's 66th birthday, wow!


Left to right: Randy Robinson (Director of CED), Max Hess (President of CED8), Tyler Schroder (P.E.), Donnie Head (Head Manager)

For Thursday and Friday, I stayed in the office and continued to work on what needed to be worked on. The week was mostly spent in the office, and I attempted to make sure I was as much an asset I could be to all in the office.

How does this experience relate to your education?

The concrete tests were very enjoyable, because I already have a grasp of what concrete entails for civil engineers through the classes of R/C design and Structures. I’ ve heard of concrete classification, compression tests, fresh tests, slump, and so on, and now I finally was able to apply what I learned with what I actually have done. My concrete crush sample was a shear crack, and I can sort of understand that!

The business in Noble County was very informative day. I learned how look up easements and land rights in the county clerk’ s office, which is a great thing to know because that process applies to every county clerk office in the nation. I expect I will be using this know-how for many future projects in my career.

Working all day in the office lately has been a great learning experience. I’ m regularly getting lectures about various engineering aspects that spring board off of everyday conversation, questions stemming from my office work, and peering into the active projects that engineers are working on. For example, I learned how to do steel piling sheets, which utilize the Gates equation, and was shown how to do traffic striping calculations by hand. In addition, I learned how to format summary of pay items. The summary of pay items will be a great tool to have in my belt, because no doubt I will be compiling endless budget estimation packets in my future career, no matter the field of civil engineering. There are plenty of invaluable bits of information I am learning every day in the office.

The monthly CED was very eye opening. They talked about politics in a way I haven't heard it before: from the perspective of governmental agencies directly influenced by legislation. Just like there are political parties in larger assemblies of government, the political parties relevant to them are drawn between politicians who fight for the bigger cities and suburbs in mind and the politicians who fight for the smaller towns and counties in mind. I always was interested in working in government at any level, preferably upwards of state and federal. I realize that politics and legislation are going to be a big aspect of my job should I continue this path.

For more information about the Transportation Intern Program contact Douglas Wright, Director, CLGT at 405-744-6049 or email at douglas.wright@okstate.edu