

US EPA ARCHIVE DOCUMENT

EPA GRO Summer Internship Final Report

Lean and the Environment

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This summer, I was graciously placed in a GRO internship in the EPA Region 4 Headquarters in Atlanta, GA. I worked in the Office of Pollution Prevention and Innovation (OPPI), a small section of the Office of Policy and Management. My project advisor was Pam Swingle, and my mentor was Suganthi Simon.

Through this project, I helped to produce material for OPPI's website and for websites of our partners. Apart from the main body of my project, I also learned about Pollution Prevention and helped prepare for Pollution Prevention Week, September 20-24. This event allows OPPI to reach out to the other 6,000 Federal employees in the Sam Nunn Atlanta Federal Center in which they work. At beginning of summer, it was challenging trying to define the project I was doing, and figuring out how to find enough work to do, but not too much! I asked my mentor plenty of questions and eventually, the project took shape.

The purpose of my project was to learn about Lean and create materials to help inform others. The idea of Lean comes from Lean Manufacturing, as invented by Toyota. The tools and methods of Lean Manufacturing cut out steps in the manufacturing process that don't add value to the final product. These Lean ideas, however, may be applied to many areas besides manufacturing, including office work. I spent time investigating materials on and beyond EPA's website, talking with my mentor, communicating with contacts from organizations that had used Lean tools to change one of their processes during a Lean event, and reading a book about systems thinking. Using this information and my mentor's guidance, I created a PowerPoint presentation about Lean, four case studies about organizations' experiences with Lean, and a white paper with information and further resources on including environmental waste reduction as part of Lean.

The case studies I wrote showed that Lean events can be extremely effective at reducing both economic and ecological costs. One small company saved over \$100,000 per year as a result of the event, all while greatly reducing its ecological impact.

My Lean and the Environment project presented the opportunity to use my skills while simultaneously refining them. Working on this project gave me the chance to use and improve my hand at writing the materials, as well as using Word to format them. My skill at Internet research was practiced while gathering information about Lean and about sustainability practices, such as electricity and water conservation, reduce-reuse-recycle, and green buildings. I had great fun using Excel coupled with the engineering skill of finding a number of ballpark figures from respectable online sources and translating them into a more meaningful form (e.g., how many flights of stairs would I have to climb to make enough electricity to power a compact fluorescent light bulb (CFL) vs. an incandescent bulb for a minute?).

I also had a chance to practice and refine my skills of communication while researching for the case studies through clear, decisive emails, friendly yet productive phone calls, and face-to-face meetings. My organizational skills were needed and developed while working on a project that often felt nebulous and many-headed. I enjoyed creating and tweaking systems for keeping track of a long to-do list, a busy schedule, and an endless influx of emails.

One of the greatest benefits of this internship was the opportunity to experience using all these skills in an office setting – and succeeding. This experience will make me much more confident

of my own ability in any office-related jobs I encounter in the future. It also gives me, for the first couple of weeks at a new job, a basic model for what an office-type job might look like, replacing the blank that I had when I walked into my office this summer.

Being at EPA this summer has entrenched me yet more deeply in my environmentalist views, and in believing that what EPA does is vitally important. I think that many people at EPA are working very hard for that mission. A lot of employees I have met I have been very impressed by, and I have loved being around, because we dream the same dreams. Seeing how fluidly people will involve themselves in others' projects after hearing about them at a meeting invigorates me.

EPA can be really good at collaboration, but it can also harbor a lot of us-them mentality. I have not personally met people who I found apathetic, but I have met a lot of people who have been embittered by the feeling that other people are apathetic here. When I went to a conference where the P2 offices from various regions met, I think that almost nothing got done for around six hours. Not because people were not trying! But people are so passionate, that they think they are among the few who really know what is going on, and that people who disagree with them are probably wrong. It might be that there are apathetic people holding EPA back, but the instances I have observed of people passionately refusing to dialogue with one another are at least as much of an issue.

Almost everyone has been extremely friendly and welcoming to me, and has encouraged me to do things that will aid in my own development, and not just get "intern work" done. I have loved going on field trips and getting to learn about Lean, as well as lots of other subjects that popped up. It has been great to have the opportunity to learn so much, even while out of school for the summer!

Beyond learning about Lean and other subjects, I also learned about myself. I really do love being around people; I cannot get enough of working cooperatively with people, calling people on the phone, or getting emails. I also really enjoy problem-solving, especially using the aid of a software program (at the end of the school year, I did not realize I would miss Excel and use it whenever I had the chance over the summer!). That was further confirmation that I belong in the engineering field.

Arguably the most important discovery was that I should not permanently work in an office full-time! I loved getting out of the cubicle (or better, the building) and doing things and talking with people, and really disliked feeling trapped in a cube under the buzz of fluorescent lights – no matter how energy efficient. This internship has also grown and solidified the conviction that sustainability is important to me, and that whatever I do, it will need to involve this somehow. For example, I am probably going to keep a lot of the materials that I made about sustainability so that I do not forget any of the ways that I can put what I have learned into practice this school year.

I was bored sometimes from sitting in a cubicle, but besides that, it could not have been better. The subject matter I was working with was fascinating to me, and the people in my office were wonderful and supportive. I learned a lot. I am extremely grateful to have had this opportunity.

I remember reading recommendations from previous Fellows to invest in people, and I agree. Beyond that, I would tell future GRO Fellows, "Don't let yourself get frustrated in the beginning when you haven't yet quite figured out what's going on, and don't pass up an opportunity to learn about something if you are curious."