

The idea first struck me when I was sitting in a car on my way back from a family dinner one Saturday. Staring out the side window, I watched as we drove past street light after street light, and I wondered, as any curious teenager would, “is there a more efficient way of placing street lights?”

In order to research this topic, first I had to make sure there is an optimum position. I built a mathematical model and did some calculations, which then lead to my hypothesis that there should be a “best” position for street lighting. The next question was what is the optimum position of street lights? To do this, I built my own model of street lighting in a physics lab and experimented with it. From the experiments, I realised my scope was too broad; there were way too many variables. I had to go back to increase the limitations. After constantly refining my investigation, I finally narrowed my scope into what I had ultimately chosen to focus on in my extended essay.