

1. Challenge

In order to shorten commutes, save gas, reduce emissions and enhance the mental well-being of residents of Virginia we need to work with VDOT to better time traffic signals to maximize efficiency. The ability to track vehicle, pedestrian and bicycle traffic and adapt traffic control to increase traffic flow while ensuring multimodal safety is critical and possible given the advancement in technology. My cell phone hardware has the video and processing power to easily solve this problem. Why hasn't it been done?

2. Selection

We're storytelling for the tool to convey the need for Smart Traffic Controls. The section of the class describing how executives sit in an office all day waiting to hear something that compels them motivated me to try an approach which I have never used, but thought I could learn something from trying a new technique. The notion that presenters only get 20% of a person's attention during their pitch impacted me to try using storytelling to inspire, "to make this challenge a cause".

3. Application

At the next Fairfax County Transportation Advisory Committee meeting, I would like to submit the following (fictitious) story:

No one knew why Daniel Q Schneider killed himself in the early morning hours on July 10, 2020. He was found in his car with a bullet in his head, in his driveway after his work shift was over. Daniel was a good man, honest and hard-working. What could have possibly driven him to this point? He had always been interested in technology, had lots of computers, electronic toys, video games, even a 3D printer. The last was the catalyst for his ultimate demise having produced the 3D gun that ended his life. His family was aware of his mental downward slide but had no idea of the depths of his despair. He had recently landed a good job at Amazon, he was busy and productive. For the last 3 months he had been delivering essentials (and a few luxury items) to law abiding, isolating residents of Northern Virginia. It was respectable work, even lauded from time to time in the news. Some people even said thank you.

After an extra long day due to unexpected toilet paper production and Clorox wipes availability, Daniel was asked by his boss, Dick, if he would stay late on a Friday night to load 3 trailers with these essentials. Of course Daniel said yes. At midnight, at the end of his 10 hour shift, 7 days straight and another 2 extra hours of unloading, Daniel was able to get in his car and drive the 40 minute (at rush hour this would be a 90 minute commute) home. On the way, he got a call from Dick. Like a fool, he answered it. "Would he come to work Saturday and Sunday?" Two of his coworkers could not make it. One had just tested positive for COVID-19, the other was going to protest at the White house. Daniel said no. His boss encouraged him with thinly veiled threats and the promise of having to clean the latrines. Daniel acquiesced.

Out of overwhelming frustration, tears emerged in Daniel's eyes. How much more could he take? He stopped at a red light and collected himself, blew his nose, wiped his eyes, did breathing exercises, found a good song on the radio and eventually focused on the road. He noticed no one was there. Had anyone ever been there? Why was the light still red? Should he run it? No. His nephew was killed by a frustrated driver running a red light that took too long to change, Daniel would not sink that low. He waited. Still no one came. Eventually, the light changed. Daniel drove .36 miles to the next light which was yellow and turning red. He stopped. One car came out of the side street. The light remained red for 85 more seconds, an eternity at 12:39AM on an empty street in Fairfax, VA. Green. Daniel floored it, hoping to make the next light just before his house. No Dice, .7 miles later his last traffic light was red. Again, one car passed, the light remained red, Daniel saw RED. He was livid, beyond consoling and unable to cope. 55 seconds later when the light turned green Daniel accelerated to 95 miles an hour, drove .2 miles to his driveway and took his own life. Senseless. If only there had been adaptive smart-traffic lights installed; Daniel and many others could have been saved.

4. Insight

Given the limitless creativity of storytelling, I decided to try something out of character for me. It was a blast! I thoroughly enjoyed the process. I have so little hope of actually seeing smart-traffic lights come to fruition, that

the ability to add humor and sarcasm to the situation makes up for my fear of ultimate rejection. It gave me the motivation to give it a try and see it through, even if I might not have the nerve to use it. It enlightened me to look for stories of the people who will benefit from an efficient traffic flow. Stories may be the key to motivating decision makers to approve (and fund) a traffic trial.

I found this course to be very well organized, interesting and even more helpful with the use of this assignment. I like how it often refers to the WhatIsWhatIfWhatWowsWhatWorks graph because that is incredibly useful and easy to remember. I am still in the WhatIs phase, but keeping that in mind helps me see that I have 3 more steps to go through...and not to mix them up. Thank you!

5. Approach

An alternative approach is the Learning Launch for a clinical trial at a test intersection to determine real life data and improvement potential. Being able to show the wasted time from every road direction at initial installation. Then compare that to an automated, adaptive light to demonstrate the benefit. Analysis of pedestrians and bicycles would help understand the need to develop safe algorithms at crossings, and to encourage fuel efficient modes of transportation. The reason to do a learning launch is to demonstrate that the hardware exists, the software will communicate with existing systems, that efficiency can be increased at the simplest intersection. Once we prove all the pieces are in place, we can expand. Seeing the flow of a highly efficient intersection will benefit us all. Drivers will be more content, the EPA will have better emissions and pollution tests, employers will be able to hire people from farther away, politicians can use it as a campaign promise/delivery, police will not have to pull over frustrated and unstable drivers and most importantly, Daniel would still be with us.