



For the Fall 2018 semester, I was an intern at the Volpe Center in the Transportation Human Factors Division.

The Volpe Center was established in 1970 by the United States Department of Transportation (USDOT). The mission of the center is to advance transportation innovation for the public good. By taking a multidisciplinary and multimodal approach, Volpe provides technical excellence and innovation for its various sponsors, including many agencies in the Department of Transportation.



The driving simulator is housed in the Human Factors laboratory.



The Volpe Center is located in Kendall Square (Cambridge, MA).

I worked on multiple projects as a member of the Transportation Human Factors Division.

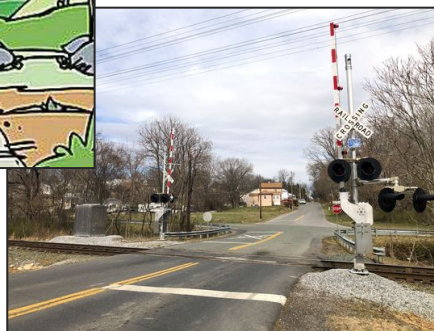
- The first project involved studying the effect of potential countermeasures to “rubbernecking” behavior.
- The second project focused on studying the behavior of drivers when crossing defective highway grade railroad crossings.

For both of these projects, I worked on creating scenarios in the driver simulator to run participants through. Creating these scenarios involved:

- Storyboarding potential scene designs using Microsoft PowerPoint
- Building approved scenes in Internet Scene Assembler (ISA) with roadways, trees, signage, buildings, etc.
- Adding sensors to the scene to set start and end locations, ambient traffic levels, and specific scenario controls (stoplights, trains, sounds, etc.)
- Publishing scenarios to run participants



Example of a highway grade crossing (below)



Rubbernecking: staring at something of interest while driving, often an accident (above)

I learned a great deal during my time at Volpe this semester. Primary, I learned what human factors work can look like in industry. It was exciting to see how the skills I have learned at Tufts will help me in my career and how I will continue to grow these skills. For example, my class experience with experimental design helped me understand how to design the driving simulator experiments for participants. To expand this knowledge, my peers at Volpe helped me better understand and implement a counterbalanced design. Also, I learned how to develop scenes and use JavaScript code to control scenario aspects in ISA. My time at Volpe this semester was rewarding and educational.