

CITE Transportation Talk

Caleb Olfert: Watt Transportation in a Sustainable World

For the Watt “Transportation in a Sustainable World” Student Award, Caleb Olfert submitted a paper titled, “Incorporating the Effect of Special Events in to Continuous Count Site Selection for Pedestrian Traffic”. This paper documented research performed with the University of Manitoba to develop a continuous pedestrian monitoring program in downtown Winnipeg. Using passive infrared sensors, 45-two week long counts were conducted to characterize how pedestrian traffic behaves on a daily and weekly basis in complex urban environments. The purpose of this monitoring effort was to strategically identify locations for permanent data collection in 2016 and onward.

The characteristics of pedestrian traffic was interesting, particularly at the time of special events hosted at Winnipeg’s downtown arena. This arena frequently hosts sporting events and concerts adding up to 15,000 pedestrians to the downtown area with a common destination. The research found significantly large increases in evening pedestrian traffic on evenings with special events and that the influence of events decreases with distance from the arena. A metric called the evening proportion ratio was used to quantify this influence at each count site and was used to categorize the downtown area into two spatial traffic pattern groups. Within each group, four passive infrared pedestrian counters were installed to continuously monitor traffic volumes.

Since this research was completed, Caleb has continued his M.Sc. studies in transportation engineering at the University of Manitoba. His research focusses on active transportation traffic monitoring, seeking ways to leverage short-duration and continuous counts for engineering applications. Caleb anticipates to graduate early 2018.